Dryinidae of the Neotropical region (Hymenoptera: Chrysidoidea)

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Abstract

An updated revision of Neotropical Dryinidae is presented. Seven subfamilies, 23 genera and 502 species are treated. Descriptions, geographic distribution, known hosts, natural enemies and type material of each species are presented, together with illustrations of the main morphological characters and keys to the subfamilies, genera and species. Complete lists of references concerning the Neotropical Dryinidae and their hosts are given. A new genus Peckius Olmi & Virla, gen. nov. (type species Peckius insularis Olmi & Virla, sp. nov.) (subfamily Apodryininae) is described. The following eleven new species are described: Anteon xochipalense Olmi & Virla, sp. nov. (Mexico, Guerrero), Deinodryinus levigatus Olmi & Virla, sp. nov. (Peru, Lamabayque), Deinodryinus xanthonotatus Olmi & Virla, sp. nov. (French Guiana), Dryinus semiruber Olmi & Virla, sp. nov. (Argentina, Corrientes), Dryinus valess Olmi & Virla, sp. nov. (Dominican Republic, Pedernales), Dryinus xanthopus Olmi & Virla, sp. nov. (French Guiana), Megadryinus cacoonis Olmi & Virla, sp. nov. (Brazil, São Paulo), Gonatopus isabelensis Olmi & Virla, sp. nov. (Ecuador, Galapagos Islands), Gonatopus villamilensis Olmi & Virla, sp. nov. (Ecuador, Galapagos Islands), Neodryinus mayamus Olmi & Virla, sp. nov. (Honduras), and Peckius insularis Olmi & Virla, sp. nov. (Ecuador, Galapagos Islands). The following new synonymies are presented: Deinodryinus kawensis Olmi 2011b (April) (=D. caxiuanha Coelho, Aguier & Engcl, 2011 (June), syn. nov.); Dryinus gibbosus Olmi, 1984 (=D. multicarinaris Coelho, Aguier & Engcl, 2011, syn. nov.); Dryinus striatus (Fenton, 1927) (=D. sinopensis Olmi, 1984, syn. nov.; =D. cerensis Olmi, 2004a, syn. nov.); Gonatopus Ljungth, 1810 (=Trichogonatopus Kieffer, 1909, syn. nov.); Eucamptonyx dromedarius (Cameron 1888) (=E. hansoni Olmi, 1991, syn. nov.); Haplogonatopus hernandezii Olmi, 1984 (=H. crucianus Olmi, 1986, syn. nov.). The following new combinations are proposed: Eucamptonyx dromedarius (Cameron, 1888), comb. nov. (from Gonatopus); Gonatopus goiasensis (Olmi 1991), comb. nov. (from Trichogonatopus); G. hispidus (Olmi 1984), comb. nov. (from Trichogonatopus); G. longinoi (Olmi, 1998d), comb. nov. (from Trichogonatopus); G. marinoae (Virla, 1997), comb. nov. (from Trichogonatopus); G. neotropicus (Olmi, 1984), comb. nov. (from Trichogonatopus); G. raptor (Fenton, 1927), comb. nov. (from Haplogonatopus); G. rubri-
ceps (Kieffer, 1909), **comb. nov.** (from Trichogonatopus); *G. stellaris* (Virla, 1997), **comb. nov.** (from Trichogonatopus). The male of *Crovettia brasiliana* Olmi 1984, is described for the first time.

**Key words:** taxonomy, revision, Neotropical region, descriptions, hosts, distribution, type material, keys, depositories

**Introduction**

Dryinidae (Hymenoptera: Chrysidoidae) are parasitoids of Hemiptera Auchenorrhyncha (Guglielmino & Olmi 1997, 2006, 2007; Guglielmino et al. 2013).

The first dryinid species described from the Neotropical region is *Metanteon aeri*a (Walker 1839). Its holotype is a nice chelate female collected by Charles Darwin in Chile during his famous trip by HMS Beagle. Later Cameron (1888), in his “Biologia Centrali-Americana”, and Ashmead (1894, 1895) completed the literature on the Neotropical Dryinidae printed during the nineteenth century.

The species of Dryinidae present in the Neotropical zoogeographical region were studied in the first half of 1900 by few researchers (Arlé 1935; Ashmead 1900; Bartlett 1939; Bruch 1915; Fenton 1921, 1924, 1927; Kieffer 1904; 1905a, 1905b, 1906, 1909, 1911b, 1912, 1914; Kieffer & Marshall 1904–06; Ogloblin 1932, 1938; Richards 1936, 1947, 1948). The Kieffer’s world monograph of Dryinidae (1914) should be considered the most important contribution of that time to the knowledge of Neotropical species. However, afterwards, studies on Neotropical Dryinidae did not have substantial progresses mainly because of the confusion existing in the systematics. The previous attempt of Kieffer to give order to the family obtained few results, mainly because the descriptions and keys to species in Kieffer’s monograph are almost completely unrealiable.

The first important attempt to create a workable systematics of Dryinidae was that of Richards (1939, 1953) mainly related to the British species. After Kieffer, one of the authors (Olmi) was the first researcher (and still unique) trying to give order to the dryinid taxonomy on a modern world basis. His world monograph (Olmi 1984) included all species known at that time in a system of subfamilies and genera that also today represents the base of all studies on Dryinidae. In Olmi’s world monograph (1984) 213 species, belonging to six subfamilies and 24 genera, were recognized in the Neotropical region.


The other Neotropical countries were less studied than Argentina, with the exception of Costa Rica, where the number of known species is larger (Olmi 1993a). In Mexico, after the first description of a dryinid species by R. Perkins (*Dryinus mexicanus* (R. Perkins 1907)), the dryinid fauna was investigated at first by Vega (1989a, 1989b, 1989c) and Vega & Barbosa (1990), followed by Moya-Raygoza (1990, 1993, 1994, 2007), Moya-Raygoza et al. (2004, 2006), Moya-Raygoza & Olmi (2010) and Moya-Raygoza & Trujillo Arriaga (1993a, 1993b). In Colombia the knowledge of the dryinid fauna received a big impulse thanks to the work of Fernando Fernández and Michael Sharkey. They collected a lot, giving to one of the authors (Olmi) the possibility to describe many new species (Olmi 1998d, 2004a, 2011b). The same Fernández published with Olmi a paper on the dryinid fauna of Colombia (Fernández & Olmi 1999). In Paraguay Garcete-Barrett collected large series of dryinids. They were studied by Olmi (1996a, 1998d). The same Garcete-Barrett summarized the knowledge of dryinids from Paraguay in some papers (Garcete-Barrett 2001; Garcete-Barrett & Olmi 1996). In Brazil, the studies on Dryinidae were made mainly by Olmi (1984, 1986, 1987a, 1991, 1993c, 1995e, 1998d, 2003, 2004b, 2010, 2011a), though in the last years some researchers have collected a lot (Coelho et al. 2011). In addition, Loiácono & Margária (2002) have presented a catalogue of Diapriidae of Brazil, indicating two species of Ismarinae (*Ismarus neotropicus* Masner, 1976, and *I.*
varicornis Masner, 1976) as parasitoids of Dryinidae, with no further remarks (Ismarinae are known in Europe to parasite Anteoninae and Aphelopinae). In French Guiana, large collections of Dryinidae were made mainly by Alain Pauly, Yves Braet and Philippe Cerdan. The specimens collected by them were studied by Olmi (1991, 1998d, 1999e, 2004a) (see also Braet & Cerdan 2001). In Costa Rica, large impulse to the collections was given by Paul Hanson. He collected a lot, giving to one of the authors (Olmi) the possibility to describe many new species (1993a, 1991, 1995a, 1998d, 2006). In Panama, Cameron (1888) was the first researcher studying Dryinidae. More recently, Roberto Cambra and Diomedes Quintero collected a lot of Dryinidae, studied mainly by Olmi (2003) and Cambra (Cambra et al. 2012). In Cuba, studies on dryinids were conducted by Alayo (1974), Richards (1969), Grillo Ravelo (1994) and in more recent years by Julio A. Genaro and Eduardo Portuondo Ferrer (Genaro & Portuondo 1997). In Nicaragua, many collections of Dryinidae were made by Jean-Michel Maes (1989, 1999), with discovery of new species described by Olmi (1992b). A catalogue of the Neotropical dryinids was published by Olmi et al. (2000).

The knowledge of the Neotropical dryinids is scattered in tens of small papers. This situation makes difficult the work of researchers that need to study single species or large groups of Neotropical dryinids. This is the main reason explaining why the authors decided to publish an updated monograph on Neotropical Dryinidae, summarizing the scattered data present in the literature and adding the numerous unpublished data fruit of the research of the last years.

PLATE 1. Sculptures: A. Punctate; B. Granulated; C. Reticulate rugose; D. Striate. (From Olmi 1984).

Material and methods

The descriptions follow the terminology used by Olmi (1984, 1994b, 1999b). The measurements reported are relative, except for the total length (head to abdominal tip, without the antenna), which is expressed in millimetres.
In the descriptions POL is the distance between the inner edges of the lateral ocelli; OL is the distance between the inner edges of a lateral ocellus and the median ocellus; OOL is the distance from the outer edge of a lateral ocellus to the compound eye; OPL is the distance from the posterior edge of a lateral ocellus to the occipital carina; TL is the distance from the posterior edge of an eye to the occipital carina.

The sculpture of the dryinids may be punctate (Plate 1A), granulated (Plate 1B), reticulate rugose (Plate 1C) or striate (Plate 1D) (Olmi 1984, 1999b; Xu et al. 2013).

In the figures of male genitalia the right half was usually removed.

The maxillary and labial palpi are borne usually on special lobes of the stipes and prementum respectively. These lobes, named “palpigers”, may look like a basal segment of the palp. The question as to whether in Dryinidae the basal segment of the palpi really is a palpiger or a true joint is not discussed in the present paper. According to R. Perkins (1905) “in many forms there can be no doubt that it is a true moveable joint (as can easily be seen by watching a species under the microscope, as it recovers from narcosis)”. In the present monograph, the first basal segment of the palpi is always considered a true joint. In case of uncertainty, note that all palps are geniculated, i.e. bent like an elbow (the only exception is the unisegmented palp). The elbow is situated always between the second and the third segment in maxillary palpi and between the first and the second segment in labial palpi, so that people can count easily the number of segments by adding respectively two or one to the number of segments situated distally to the elbow. The only exceptions are in the palpal formulas 2/1 or 2/2, where there is no elbow (unisegmented labial palp) or the elbow is situated between the first and the second segment in maxillary palp.

To complete the present paper the types of all Neotropical species of dryinids were examined, in addition to many specimens sent for identification or collected personally by the authors. All specimens quoted in this book were checked personally by at least one of the authors.

The material studied in the present book is deposited in following collections:

AEIC American Entomological Institute, Gainesville, Florida, USA.
AMNH American Museum of Natural History, New York, USA.
ANSP Academy of Natural Sciences, Philadelphia, Pennsylvania, USA.
BCUCB Division of Biological Control, Agricultural Experiment Station, University of California, Berkeley, California, USA.
BIOECO Museo de Historia Natural “Tomas Romay”, Santiago de Cuba, Cuba.
BMNH The Natural History Museum, London, United Kingdom.
BPBM Bernice P. Bishop Museum, Honolulu, Hawaii, USA.
CAS California Academy of Sciences, San Francisco, California, USA.
CIRAD CIRAD, Montpellier, France.
CMNH The Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, USA.
CNC Canadian National Collection of Insects, Ottawa, Canada.
CSU Department of Bioagricultural Sciences and Pest Management, Colorado State University, Fort Collins, Colorado, USA.
DBGMG Departamento de Biologia Geral, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil.
DBUSU Department of Biology, Utah State University, Logan, Utah, USA.
DEI Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany.
DEMU Department of Entomology, Mississippi State University, Drawer EM, Mississippi, USA.
DETAM Department of Entomology, Texas A. & M. University, College Station, Texas, USA.
DEUCD Department of Entomology, University of California, Davis, California, USA.
DEUCR Department of Entomology, University of California, Riverside, California, USA.
DEUK Department of Entomology, College of Agriculture, University of Kentucky, Lexington, Kentucky, USA.
DEUW Department of Entomology, University of Wageningen, The Netherlands.
DFAS Department of Food and Agriculture, Sacramento, California, USA.
DJBC Department of Zoology and Entomology, University of KwaZulu-Natal, Pietermaritzburg, South Africa (Denis J. Brothers’ collection).
EBUC Escuela de Biología, Universidad de Costa Rica, San Pedro de Montes de Oca, Costa Rica.
EGVC Eduardo G. Virala’s collection, c/o PROIMI, San Miguel de Tucumán, Argentina.
EMBR EMBRAPA collection, Teresina, Piauí, Brazil.
FSAE Faculté des Sciences Agronomiques de l’Etat, Gembloux, Belgium.
FSCA Florida State Collection of Arthropods, Division of Plant Industry, Florida Department of Agriculture, Gainesville, Florida, USA.
GPC  Guido Pagliano’s collection, Torino, Italy (now in MRSNT).
GPJC  George Poinar’s collection, c/o Department of Entomology, Oregon State University, Corvallis, Oregon, USA.
IAVH  Instituto Alexander von Humboldt, Santafé de Bogotá, Colombia.
IEUP  Istituto di Entomologia agraria dell’Università, Portici, Italy.
IFML  Instituto y Fundación Miguel Lillo, Universidad Nacional de Tucumán, San Miguel de Tucumán, Argentina.
IIS  Instituto de Investigaciones Entomológicas Salta, Salta, Argentina. (now partly deposited in the entomological collection of the Universidad Nacional de Salta, Salta, Argentina).
INHS  Illinois Natural History Survey, Insect Collection, Champaign, Illinois, USA.
IRSN  Institut Royal de Sciences Naturelles de Belgique, Bruxelles, Belgium.
IZAM  Instituto de Zoología Agrícola, Facultad de Agronomía, Maracay, Venezuela.
JSC  Joachim Scheven’s amber collection, Hofheim am Taunus, Hessen, Germany.
JVC  Jürgen Velten’s amber collection, Idstein, Germany.
MCBV  Museu de Biologia, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil.
MCZ  Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA.
MEFL  Museo de Entomología “Francisco Luis Gallego”, Medellín, Colombia.
MEL  Museo Entomológico, Leon, Nicaragua.
MNHNH  Museo Nacional de Historia Natural, Ciudad de La Habana, Cuba.
MNHNP  Museo Nacional de Historia Natural del Paraguay, San Lorenzo, Paraguay.
MNHNS  Museo Nacional de Historia Natural, Santiago, Chile.
MOE  Musee d’Histoire Naturelle, Genève, Switzerland.
MTC  Michael von Tschirnhaus’ collection, Falkultät Biologie, Universität Bielefeld, Bielefeld, Germany (now partly deposited in DEI).
MTC  Michel von Tschirnhaus’ collection, Falkultät Biologie, Universität Bielefeld, Bielefeld, Germany (now partly deposited in DEI).
MUSM  Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima, Peru.
MZUS  Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil.
NCIPE  Natural History Museum, University of Kansas, Lawrence, Kansas, USA.
NCIP  National Collection of Insects, Pretoria, South Africa.
NHMLA  Natural History Museum of Los Angeles County, Los Angeles, California, USA.
OLL  Oberösterreichisches Landesmuseum, Linz, Austria.
PAC  P. Alayo’s collection, Ciudad de la Habana, Cuba.
PMA  Provincial Museum of Alberta, Edmonton, Alberta, Canada.
RHC  Robert D. Haines’ collection, Visalia, California, USA.
RNHLC  Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands.
SMNS  Staatliches Museum für Naturkunde, Stuttgart, Germany.
UB  University of Bologna, Bologna, Italy.
The questions as to whether the Embolemidae and the Dryinidae really constitute separate families and what are the relations of these families to other Hymenoptera are not discussed in the present monograph.

In the geographic distributions, countries are in capitals. The studied specimens were collected mainly by sweeping, Malaise traps and yellow pan traps (YPT). In some cases they were reared from parasitized hosts. Because of this kind of collections, the association of the very different opposite sexes is to be considered tentative, except the not many cases of association confirmed by rearings (reared specimens are listed and specifically indicated in examined material paragraphs).

Mexico includes states belonging to two zoogeographical regions, Nearctic and Neotropical. There are some transition areas located mainly where the northern and central upland slopes down towards the sea and the southern lowlands. In these areas, species of both regions can be present. In this book Nearctic species collected in the transition Mexican states are also treated to give a more complete idea of the situation at the northern borders of the Neotropical region.

Taxonomy

Dryinidae Haliday, 1833

Proctotrupii Latreille 1805: 226 (partim).
Dryini Haliday 1833: 273.
Dryinoidae Förster 1856: 20; 1861: XXXIX.
Dryinini Thomson 1860: 175.
Dryininae Cameron 1888: 440.
Anteonidae Kieffer 1911a: 108.
Anteoninae Kieffer 1914: 7; Fenton 1918: 258.

Type genus. Dryinus Latreille, 1804, by monotypy.

Diagnosis. Hymenoptera Chrysidoidae with antenna 10-segmented, inserted on flat or concave surface below middle of head, with torulus less than its width far from aboral margin of clypeus; head in lateral view concave or slightly convex anteriorly; female protarsus usually provided of one chela, with fifth segment laterally protruding and one claw enlarged; female protarsus less commonly unmodified (in 91 of 1734 world species).

Distribution. Worldwide.

World species. 1758 species are known, 502 in the Neotropical region (including three species incertae sedis).
World genera. Forty-nine genera are known, twenty-three in the Neotropical region.
World subfamilies. Fourteen subfamilies are known, seven in the Neotropical region.

Key to the subfamilies of the Neotropical Dryinidae

**Females**

1. Protarsus not chelate (Plates 2A, B, 8A, 13) .......................................................... 2
   – Protarsus chelate (Plates 2H, I, J, K, L, 48 A, B, 79 A, B) ........................................ 3
2. Head hypognathous (Plate 2B): clypeus as long as, or smaller or slightly broader than eyes (Plates 2C, 7C, D); face and part of clypeus without strong median raised carina (Plate 2C), with or without normal frontal line ................. 1. Aphelopinae R. Perkins
   – Head prognathous (Plate 2E); clypeus about twice as broad as eyes (Plate 2D, F); face and part of clypeus with one strong median raised carina (Plate 2D) .................................................. 2. Erwiniinae Olmi & Guglielmino
3. Ocelli absent (Plate 2H) .............................................................................................. 7. Apodyrininae Olmi
   – Ocelli present (Plate 2I, L) ...................................................................................... 4
4. Chela without rudimentary claw (Plate 3A) .............................................................. 3. Anteoninae R. Perkins
   – Chela with rudimentary claw (Plate 3B) .................................................................. 5
5. Midleg without tibial spurs (formula 1/0/1 or 1/0/2) (Plate 2J) .................................. 6. Gonatopodinae Kieffer
   – Midleg with one tibial spur (formula 1/1/1 or 1/1/2) (Plate 2K) ................................ 6
6. Lateral region of prothorax continuous with mesopleuron; epicnemium concealed (Plate 4A) .................. 4. Bocchinae Richards
   – Lateral region of prothorax not continuous with mesopleuron; epicnemium exposed (Plate 4B) .................. 5. Dryininae Haliday

**Males (unknown in Erwiniinae)**

1. Fully winged; fore wing with only costal cell enclosed by pigmented veins (Plate 8B); occipital carina complete ........................................ 1 Aphelopinae R. Perkins
   – Fully winged, or micropterous, or brachypterous, or apterous; fore wing of fully winged forms with costal and 1–2 further basal cells clearly enclosed by pigmented veins (Plate 5C; as in plate 13C); occasionally fore wing with only costal cell clearly enclosed by pigmented veins, but then occipital carina absent (in some males of Gonatopodinae) .......................................................... 2
2. Always fully winged; fore wing with costal and median cells clearly enclosed by pigmented veins (as in plate 13C); occipital carina complete .......................................................... 1. Aphelopinae (only few males of Crovettia Olmi)
   – Fully winged, or rarely micropterous, or brachypterous, or apterous; fore wing of fully winged forms with costal, median and submedian cells clearly enclosed by pigmented veins (Plate 5C, D, E); occasionally only costal cell clearly enclosed by pigmented veins, but then occipital carina absent (in some males of Gonatopodinae) .................................................. 3
3. Mandible never with one intermediate rudimentary tooth; usually with four teeth progressing larger from anterior one to posterior (Plate 6A) .......................................................... 4
   – Mandible with one-four teeth (Plate 6B, D, E); quadridentate mandible always with an intermediate rudimentary tooth (Plate 6C) ...................................................................................... 5
4. Fore wing with metacarpus as long as, or longer than pterostigma (Plates 5E, 136 A, B) .............. 5. Dryininae Haliday (only *Thaumatodryinus* R. Perkins)
   – Fore wing with metacarpus absent, or shorter than pterostigma (Plates 5F, 20D, 34C, 48D) ........ 3. Anteoninae R. Perkins
5. Lateral region of prothorax continuous with mesopleuron; epicnemium concealed ..................... 5. Bocchinae Richards
   – Lateral region of prothorax not continuous with mesopleuron; epicnemium exposed .................. 6
6. Mesosternum distinct, not fused with mesopleura (Plate 6F); basivolsella with a lateral distal process parallel to distivolsella and reaching at least the same level of distivolsella distal apex (Plate 218G) ................ 7. Apodyrininae Olmi
   – Mesosternum fused with mesopleura and not distinct (Plate 6G); basivolsella completely situated down distivolsella distal apex (Plates 86A, 143C) ...................................................................................... 7
7. Occipital carina present, complete or incomplete (Plate 5C); dorsal process of paramere absent (Plate 7B) .......................................................... 5. Dryininae Haliday
   – Occipital carina absent (Plate 5D); occasionally present and complete, but then dorsal process of paramere present (Plate 7A) .................. 6. Gonatopodinae Kieffer

**I. Subfamily Aphelopinae R. Perkins, 1912**

*Aphelopini* Kieffer 1914: 214.
*Biaphelopinae* Olmi 1984: 94 (synonymized by Olmi 1996c); Olmi 1993a: 188.

**Type genus.** *Aphelopus* Dalman, 1823, by monotypy at the time of the description of Aphelopinae by R. Perkins (1912).
**Diagnosis.** Female (Plates 2A, B, 8A, 13A, B): Fully winged; head hypognathous; occipital carina complete; ocelli present; face and partly clypeus without strong median raised carina; clypeus normally large, about as wide as, or smaller or slightly wider than eyes; antenna without rhinaria; palpal formula 5/2, 5/3, 6/2 or 6/3; fore wing usually with only costal cell enclosed by pigmented veins (Plate 8A), occasionally also median cell enclosed by pigmented veins (Plate 13A, B); fore wing with stigmal vein and pterostigma (Plates 8A, 13A, B); course of fore wing veins not marked by dark stripes; hind wing (Plates 8A, 13A, B) hyaline, with costal cell, without dark medial longitudinal stripe; protarsus not chelate; tibial spurs 1/1/2.

PLATE 3. A: Chela of *Anteon yanegai* Olmi; B: chela of *Haplogonatopus hernandezae* Olmi (a, arolium; e, enlarged claw; s, segment 5 of protarsus; r, rudimentary claw).

PLATE 4. Part of mesosoma and side of head of *Bocchus* sp. (A: female, C: male), and *Dryinus* sp. (B: female, D: male); a, propleuron; e, epicnemium; p, pronotum; s, scutum; t, tegula.

*Male* (Plates 2A, B, 8B, 14A, B): Fully winged; occipital carina complete; palpal formula 5/2, 5/3, 6/2 or 6/3; fore wing usually with only costal cell enclosed by pigmented veins (Plate 14A), occasionally also median cell enclosed by pigmented veins; fore wing with stigmal vein and pterostigma (Plates 8B, 14A, B); course of fore wing veins not marked by dark stripes; hind wing (Plates 8B, 14A) hyaline, with costal cell, without dark medial longitudinal stripe; protarsus not chelate; basivolsella completely located down distivolsella distal apex (Plates 9C, 15C); tibial spurs 1/1/2.

**Distribution.** Worldwide.

**Hosts.** Membracidae and Cicadellidae Typhlocybinae (Guglielmino & Olmi 1997, 2006).

**World species.** Ninety species are known, 22 in the Neotropical region.

**World genera.** Two genera are known, both in the Neotropical region.
PLATE 5. A–G. Males (from Olmi 1984). A, B. Crovettia sp. Length 3.0 (A), 2.5 mm (B). C. Dryinus sp. Length 2.9 mm. D. Gonatopus sp. Length 2.5 mm. E. Thaumatodryinus sp. Length 1.9 mm. F. Anteon sp. Length 2.5 mm. G. Bocchus sp. Length 2.5 mm.

Key to the genera

Females and males

1  Fore wing with stigmal vein regularly curved (Plates 2A, B, 8A, B); epistomal suture located below the imaginary line joining antennal toruli (Plate 7C) .......................................................... 1. Aphelopus Dalman
   – Fore wing with stigmal vein straight (Plate 14A), or forming an angle between the proximal and distal parts (Plate 13A, B); epistomal suture located at same level of antennal toruli (Plate 7D) .................................................. 2. Crovettia Olmi
PLATE 6. A–E. Different mandibles in Dryinidae (from Olmi 1984). Ventral side of mesosoma in males of Apodryinus sp. (F) and Dryinus sp. (G) (e, epicnemium; m, mesosternum).

PLATE 7. Male genitalia in Gonatopus sp. (A) and Dryinus sp. (B). a, aedeagus (=penis); b, distal lobe of volsella (=distivolsella); c, basal lobe of volsella (=basivolsella); d, paramere; e, dorsal process of paramere; f, basal ring. Head in frontal view of Aphelopus sp. (C) and Crovettia sp. (D) (from Olmi 1984).

1. Genus Aphelopus Dalman, 1823


Type species. Dryinus atratus Dalman 1823, by subsequent designation of Westwood (1840).

Diagnosis. Female: Fully winged (Plates 2A, B, 8A); epistomal suture located below imaginary line joining antennal toruli (Plate 7C); occipital carina complete; antenna without rhinaria; palpal formula 5/2; fore wing with only costal cell enclosed by pigmented veins, with pterostigma (Plates 2A, B, 8A, B) and stigmal vein regularly curved (Plate 2B); course of fore wing veins not marked by dark stripes; hind wing (Plates 2A, 8A) hyaline, with costal cell, without dark medial longitudinal stripe; protarsus not chelate; tibial spurs 1/1/2.

Male: Fully winged (Plate 8B); epistomal suture located below imaginary line joining antennal toruli (Plate 7C); occipital carina complete; palpal formula 5/2; fore wing with only costal cell enclosed by pigmented veins.
(Plate 8B), with pterostigma and stigmal vein regularly curved; course of fore wing veins not marked by dark stripes; hind wing hyaline, with costal cell, without dark medial longitudinal stripe; basivolsella completely located down distivolsella distal apex (Plate 9B,C); tibial spurs 1/1/2.

**Distribution.** Worldwide.

**Hosts.** Cicadellidae Typhlocybinae (Guglielmino & Olmi 1997, 2006).

**World species.** Seventy seven species are known, 12 in the Neotropical region.

**Remarks.** Larvae of *Aphelopus* were described by Buyckx (1948) and Ponomarenko (1975b).

### Extant Neotropical species

Eleven extant species are known.

### Key to the extant species

**Females and males**

1. Head with frontal line complete ................................................................. 2
   - Frontal line absent, or incomplete ......................................................... 3
2. Mesosoma totally black or brown ................................................................. 4
   - Mesosoma partly testaceous or yellow-whitish ........................................ 5
3. Scutum at least partly testaceous, or whitish, or yellow ........................................ 6
   - Scutum completely black, or brown, or black-reddish, or brown-reddish ........... 7
4. Body completely whitish, except dorsal surface of propodeum brown and antenna almost totally darkened *A. diaphanus* Olmi
   - Body at least partly dark, differently coloured ....................................... 8
5. Propodeum reddish, or brown-reddish ......................................................... 9
   - Propodeum black ................................................................................... 10
6. Notauli reaching at least 0.5 length of scutum ........................................... 11
   - Notauli reaching approximately 0.3 length of scutum ................................ 12
7. Scutellum at least partly testaceous or yellow-whitish .................................. 13
   - Scutellum completely brown .................................................................... 14
8. Notauli reaching approximately 0.4–0.5 length of scutum ............................... 15
   - Notauli reaching approximately 0.3 length of scutum ................................ 16
9. Notauli almost absent, slightly visible only near anterior margin of scutum ...... 17
   - Notauli reaching at least 0.4 length of scutum ......................................... 18
10. Notauli reaching at least 0.5 length of scutum ........................................... 19
11. Notauli reaching approximately 0.65–0.75 length of scutum; basivolsella of male with outer process (Plate 11A, B) .................. 20
   - Notauli reaching approximately 0.4–0.5 length of scutum; basivolsella of male without outer process (Plate 9B, 10B) ........ 21
12. Ocelli very broad (OOL much shorter than greatest breadth of lateral ocelli) .......... 22
   - Ocelli small (OOL as long as, or longer than greatest breadth of lateral ocelli) .... 23

1. *Aphelopus alvarenganus* Olmi, 1984

(*Plate 9A*)


**Description.** Female. Fully winged; length 1.9–2.0 mm. Head testaceous, except mandible, clypeus and anterior region of face whitish (in female from Honduras, 15°05.49'N 86°44.17'W, head almost completely whitish, except two brown spots on temple); antenna brown, except segments 1–2 testaceous; scutum testaceous; scutellum and metanotum brown; propodeum black; metasoma brown; legs testaceous-whitish. Antenna clavate; antennal segments in following proportions: 5:4:6:6:6:5:5:5:9. Head dull, granulated; frontal line absent; occipital carina complete; POL = 5.5; OL = 4; OOL = 3; OPL = 2; TL = 2. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum with dorsal surface reticulate...
rugose; posterior surface reticulate rugose, except central granulated area. Fore wing hyaline, without dark transverse bands. Tibial spurs 1/1/2.

**Male.** Fully winged; length 2.0 mm. Colour of male like that of female. Antenna filiform; antennal segments in following proportions: 4.5:4.5:6:6:6:6:6:6:6:9. Head dull, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 4; OOL = 4; OPL = 1.5; TL = 2. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.4–0.5 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, except central granulated area. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 9A) provided of 1 subdistal bristle and with outer process. Tibial spurs 1/1/2.

**Material examined.**


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Costa Rica, Guatemala, Honduras, Panama, Venezuela.

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2. **Aphelopus diaphanus** Olmi, 1984


**Description. Female.** Fully winged; length 1.7–1.9 mm. Head totally whitish; antenna of holotype whitish, except segments 5–8 brown; antenna of specimen from Costa Rica, S. Rosa National Park, completely whitish; mesosoma of holotype whitish, with dorsal surface of propodeum brown; in specimen from Costa Rica, S. Rosa National Park, mesosoma whitish, except metanotum and margins of scutellum brown; metasoma and legs whitish. Antenna clavate; antennal segments of holotype in following proportions: 4:4:4.5:5:5:5:5:4.5 (last two antennal segments missing). Head dull, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 4; OOL = 3; OPL = 3; TL = 2.5. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.**

**Type:** ♀ holotype: PANAMA: Canal Zone, Pipeline Road, Gamboa (RNHL). Other material: COSTA RICA: Guanacaste, S. Rosa National Park, 1 ♀ (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Panama.

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3. **Aphelopus diffusus** Olmi, 1984

(Plate 9B)

*Aphelopus albopictus* Ashmead: Ashmead 1895: 787; Ashmead 1900: 235 (misid.).


**Description. Female.** Fully winged; length 1.6–2.2 mm. Head black, or reddish, or testaceous, or reddish-dark; mandible and clypeus whitish, or testaceous, or black; face usually with more or less wide whitish spot; antenna
brown, occasionally except segments 1–2 testaceous; mesosoma and metasoma black, or reddish, or reddish-dark (in specimen from Costa Rica, 16 km W Guápiles, pleura testaceous); legs testaceous; occasionally metafemur and metatibia brown. Antenna clavate; antennal segments in following proportions: 4:4:5:6:7:8:8:8:7:5:10. Head dull, granulated; frontal line absent; occipital carina complete; POL = 7; OL = 3; OOL = 4; OPL = 1; TL = 2; OOL and OPL longer than greatest breadth of posterior ocelli. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.5 length of scutum (occasionally 0.4). Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. In specimen from Brazil, Victoria—Epirito Santo, head testaceous-whitish except vertex partly brown; antenna brown, except segments 1–3 testaceous; mesosoma black, except propodeum, lateral regions of pronotum and anterior half of mesopleuron testaceous-whitish; metasoma brown; legs whitish.

Tibial spurs 1/1/2.

Male. Fully winged; length 1.6–2.2 mm. Male holotype with head brown, except mandible, clypeus, gena and anterior half of face testaceous-whitish and vertex partly black; antenna testaceous; mesosoma and metasoma brown; legs yellow. In other specimens head black, or reddish, or testaceous, or reddish-dark; mandible and clypeus whitish, or testaceous, or black; face usually with more or less wide whitish spot; antenna brown; occasionally antennal segments 1–2 testaceous; mesosoma and metasoma black, or reddish, or reddish-dark; legs testaceous; occasionally hind femora and hind tibiae brown. Antenna filiform; antennal segments of male holotype in following proportions: 5:4:6:7:8.5:8:8:8:11.5; antennal segments of other specimens in following proportions: 4.5:4.5:6:6:6:6:6:6:7:6:6:7. Head dull, granulated; frontal line absent (also in male holotype); occipital carina complete; POL = 7; OL = 3; OOL = 3; OPL = 2; TL = 2.5; greatest breadth of posterior ocelli about as long as OL. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching usually 0.5 length of scutum (male holotype 0.4). Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 9B) provided of 2 subdistal bristles, without outer process. Tibial spurs 1/1/2.


Fully winged; length 1.6–2.2 mm. Male holotype with head brown, except mandible, clypeus, gena and anterior half of face testaceous-whitish and vertex partly black; antenna testaceous; mesosoma and metasoma brown; legs yellow. In other specimens head black, or reddish, or testaceous, or reddish-dark; mandible and clypeus whitish, or testaceous, or black; face usually with more or less wide whitish spot; antenna brown; occasionally antennal segments 1–2 testaceous; mesosoma and metasoma black, or reddish, or reddish-dark; legs testaceous; occasionally hind femora and hind tibiae brown. Antenna filiform; antennal segments of male holotype in following proportions: 5:4:6:7:8.5:8:8:8:11.5; antennal segments of other specimens in following proportions: 4.5:4.5:6:6:6:6:6:6:7:6:6:7. Head dull, granulated; frontal line absent (also in male holotype); occipital carina complete; POL = 7; OL = 3; OOL = 3; OPL = 2; TL = 2.5; greatest breadth of posterior ocelli about as long as OL. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching usually 0.5 length of scutum (male holotype 0.4). Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 9B) provided of 2 subdistal bristles, without outer process. Tibial spurs 1/1/2.
DRYINIDAE OF THE NEOTROPICAL REGION

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**Distribution.** Antigua, Argentina, Bahamas, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Ecuador, Grenada, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Trinidad and Tobago, Uruguay, Venezuela.

### 4. *Aphelopus fentoni* Olmi, 1984


**Description. Female.** Fully winged; length 1.8–2.1 mm. Head yellow-whitish, except ocellar region and occiput brown; antenna brown, except segments 1–3 testaceous; mesosoma brown-black, except propleuron, scutum and scutellum testaceous; in female from Costa Rica, Monteverde, mesopleuron and metapleuron testaceous; metasoma brown; legs testaceous; in a female of Panama, Chiriquí, scutum yellow-hitish, except anterior half brown; scutellum yellow-whitish, except median region brown; metanotum yellow-whitish, except anterior half brown; propodeum black, pro- and metapleuron yellow-whitish; mesopleuron yellow-whitish, except brown spot; legs yellow-whitish. Antenna clavate; antennal segments in following proportions: 6:4.5:5:5:4.5:4.5:4:4:4:6. Head dull, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 3.5; OOL = 3; OPL = 2.5; TL = 2.5. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: Santa Catarina, Nova Teutonia, 27°11’S 52°23’W, 30.VIII.1937, F. Plaumann leg. (BMNH). **Other material:** COSTA RICA: Puntarenas, Monteverde, 1 ♀ (AMNH).
5. *Aphelopus jamaicanus* Olmi, 1984

*(Plate 9C)*


**Description.** *Female.* Fully winged; length 1.2–1.3 mm. Head black or brown-reddish, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black or brown-reddish; metasoma brown; legs testaceous, except hind femur and hind tibia brown or darkened. Antenna clavate; antennal segments in following proportions: 4:3.5:3:3:2.5:2.5:2.5:4.5. Head dull, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 3; OOL = 2; OPL = 2; TL = 2.5. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum shiny, unsculptured, or slightly granulated. Metanotum shiny, unsculptured. Propodeum without transverse or longitudinal keels; dorsal surface reticulate rugose; posterior surface reticulate rugose, except central smooth and shiny area. Fore wing hyaline, without dark transverse bands. Tibial spurs 1/1/2.

*Male.* Fully winged; length 1.6–1.9 mm. Head testaceous-dark, except mandible, clypeus and anterior region of face whitish; antenna testaceous; scutum testaceous or testaceous-dark; scutellum and metanotum brown; propodeum black or testaceous-reddish; metasoma brown-testaceous; legs testaceous. Antenna filiform; antennal segments in following proportions: 3:4.5:5:6:6.5:6.7:6.5:7:7:8.5. Head dull, granulated; frontal line absent; occipital carina complete; POL = 5.5; OL = 4; OOL = 3.5; OPL = 1; TL = 2. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum dull, slightly granulated. Propodeum with dorsal surface reticulate rugose; posterior surface completely reticulate rugose, with two longitudinal keels. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 9C) provided of one subdistal bristle, without outer basal process. Tibial spurs 1/1/2.

**Material examined.** *Type:* ♂ holotype: JAMAICA: Hardwar Gap (CNC).


*COLOMBIA:* Valle Department, Municipio Candelaria, Finca San Luis, 1010 m (FSCA).

*COSTA RICA:* Cartago, Braulio Carrillo National Park, 400 m (AEIC); Guanacaste, NW of Volcán Orosí, Cerro El Hacho, 300 m (AMNH); Guanacaste, 9 km S of Santa Cecilia, Estación Pitilla, 700 m (AMNH); Guanacaste, 20 km SW Cañas, Enrique Jimenez Nuñez Experimental Station, 5–17.XI.1991. Malaise trap, A.S. Menke leg., 2♂♂ (USNM); Limón, Siquirres, La Lola Experimental Farm (AEIC); Limón, 4 km NE of Bribri, 50 m (AMNH); Puntarenas, NE of Quepos, C. Nara (DBUSU); Puntarenas, Golfo Dulce Forest Reserve, 10 km W of Piedras Blancas, 100 m (AMNH); S. José, Escázú (AEIC, DBUSU); S. José, Ciudad Colón, 800 m (AMNH). CUBA: Jardín Botánico of Santiago, IV.1993, E. Portuondo leg. (BIOECO).

*DUTCH ANTILLES:* Curação Island, Coral Specht, 3 km E of Willemstad (AMNH).

*HONDURAS:* Francisco Morazán, Macuelizo, Tumabula, 13°58′N 87°05′W (ZIL); Yoro, Palo de Comba, 15°11′N 87°39′W (ZIL); Atlantida Department, Departamento de Atlantida, Tela, 15°43′N 87°27′W, 31.VIII.1995, Malaise trap in lowland rain forest, R. Cave leg. (ZIL). MEXICO: Morelos, Cuautla, 30.XI.1907–30.I.1908, A. Koebele leg., No. 2609, 1♂ (USNM); Veracruz, Córdoba (USNM).

*PARAGUAY:* Canindeyú Department, Bosque Mbaracayú Nat. Reserve, Jejú-mí (MNHP); San Pedro Department, Yagua Rete Forest, Rio Verde, Hwy. 3 E of Santa Rosa, 23°81′S 56°13′W, 180 m (NHMLA). PUERTO RICO: San Lorenzo, 8.IX.1985 (AMNH, NHMLA).


**Hosts.** Unknown.

**Distribution.** Argentina, Colombia, Costa Rica, Cuba, Dutch Antilles, Honduras, Jamaica, Mexico, Panama, Paraguay, Puerto Rico, Uruguay, Venezuela.
6. **Aphelopus leucopus** Kieffer, 1906

(Plate 10A)


**Description. Female.** Fully winged; length 1.2–1.6 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous, except metatibia brown. Antenna clavate; antennal segments in following proportions: 4:4:4.5:4:4:3.5:3.5:3.5:6. Head dull, granulated; frontal line absent; occipital carina complete; POL = 6; OL = 3; OOL = 2.5; OPL = 3.5; TL = 3. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, shortly present near anterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Tibial spurs 1/1/2.

**Male.** Fully winged; length 1.6 mm. Head black, except mandible, clypeus and gena whitish; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs whitish, except club of metatibia brown. Antenna filiform; antennal segments in following proportions: 4:3:4:4:4.5:4.5:5:5:5:5:5:7. Head dull, granulated; frontal line incomplete, only present near clypeus; occipital carina complete; POL = 5.5; OL = 3; OOL = 2.5; OPL = 3; TL = 2.5. Scutum dull, granulated. Notauli incomplete, shortly present near anterior margin of scutum. Scutellum and metanotum shiny, smooth, unsulptured. Propodeum completely reticulate rugose. Fore wing with a small dark spot beneath pterostigma. Male with basivolsella (Plate 10A) provided of two subdistal bristles, without outer process. Tibial spurs 1/1/2.

Menke leg., 4♂, 2♀ (USNM); Limón, 7 km SW of Bribri, 50 m (AMNH). DUTCH ANTILLES: Curaçao Island, Willemstad (DBUSU). GUATEMALA: Sacatepéquez, Antigua, 1500–1600 m, VII.1980, N.L.H. Krauss leg., 1♀ (CNC). HONDURAS: Yoro, Palo de Comba, 15°11′N 87°39′W (ZIL). MEXICO: Chiapas, Palenque (RDHC); Chiapas, Tapachula (AMNH); Jalisco, Felipe Carrillo P.to (DBUSU); Tabasco, Teapa, II.1904, Godman-Salvin leg., 1♀ (BMNH). PERU: Huánuco, Tingo Maria (DFAS).

Hosts. Unknown.

Distribution. Argentina, Costa Rica, Dutch Antilles, Guatemala, Honduras, Mexico, Peru.

(Plate 10B)


Description. Male. Fully winged; length 1.4–1.6 mm. Head brown-reddish, except ventral side, mandible, clypeus and anterior margin of face testaceous; antenna testaceous, except segments 4–10 darkened; mesosoma brown-reddish; metasoma brown-reddish; legs testaceous. In specimen from Paraguay, Jejui-mí, head black, except mandible and clypeus testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown. Antenna filiform; antennal segments in following proportions: 4:4:5:6:7:7:7:7:10. Head dull, granulated; frontal line absent; occipital carina complete; ocelli very broad; POL = 5.5; OL = 3; OOL = 1.5; OPL = 1; TL = 1; greatest breadth of posterior ocelli longer than OOL (3.5:1.5). Scutum and scutellum dull, granulated. Notauli incomplete, reaching approximately 0.5 length of scutum. Metanotum shiny, smooth, unsculptured. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and granulated. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 10B) provided of two subdistal bristles, without outer basal process. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Brazil, Paraguay.

8. *Aphelopus surinamensis* Olmi, 1984
(Plate 10C)


Description. Female. Fully winged; length 1.5–1.7 mm. Head totally testaceous; antenna totally testaceous, or brown, except segments 1–3 testaceous; mesosoma testaceous, except metanotum and propodeum brown; occasionally metanotum testaceous; occasionally mesosoma testaceous, except dorsal surface of propodeum brown; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 4.5:3.5:4.5:5.5:5.5:4.5:5.5:5.5:5.5. Head dull, granulated; frontal line only present near clypeus; occipital carina complete; ocelli very broad; POL = 5.5; OL = 3; OOL = 1.5; OPL = 1; TL = 3. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum dull, completely reticulate rugose. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 10B) provided of two subdistal bristles, without outer basal process. Tibial spurs 1/1/2.

Male. Fully winged; length 1.6–1.7 mm. Head whitish, except ocellar region and vertex darkened; antennae brown, except segments 1–3 testaceous; mesosoma testaceous-darkened, except ventral and lateral regions of thorax whitish; metasoma brown-testaceous; legs testaceous. Antenna filiform; antennal segments in following proportions: 4.5:5:4.5:5:5:3.5:4.5:4.5:5.5. Head dull, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 3.3; OOL = 3; OPL = 3; TL = 2.5. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.65 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 10C) provided of 2 subdistal bristles, without outer basal process. Tibial spurs 1/1/2.

Hosts. Unknown.

Distribution. Bahamas, Dominican Republic, Panama, Peru, Saint Vincent, Suriname and Nearctic Region (USA).

9. Aphelopus trinitatis Olmi, 1984
(Plate 11A, B)


Aphelopus tropicalis Olmi 1984: 76, part (paratype from Trinidad, Arima Valley, misid).

Description. Female. Fully winged; length 1.6–2.6 mm (usually 1.6–1.9 mm; specimens from Colombia, 05°05’N 75°25’W, 2.5–2.6 mm). Head black, except mandible and clypeus whitish or testaceous; face with more or less wide whitish spot; antenna brown, except segments 1–2 or 1–3 testaceous; mesosoma and metasoma black; legs testaceous; occasionally meso- and metatibia, meso- and metafemur and metatarsus brown. In specimen from Costa Rica, Palo Verde, head, mesosoma and metasoma totally brown-reddish. In female from Panama, 08°41.915’N 82°26.803’W, 14.1.2012, head yellow-testaceous, except occiput brown; mesosoma yellow-whitish, except scutum brown-reddish, scutellum, metanotum and propodeum black. Antenna clavate; antennal segments in following proportions: 4:3.5:4.5:6:6:7:6:5:7. Head dull, granulated; frontal line absent; occipital carina complete; POL = 6; OL = 3; OOL = 3.5; OPL = 3; TL = 3. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.65–0.75 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Tibial spurs 1/1/2.

Male. Fully winged; length 1.6–2.6 mm (usually 1.6–2.0 mm; specimens from Colombia, 05°05’N 75°25’W, 2.5–2.6 mm; holotype 2.0 mm). Head black, except mandible and clypeus whitish or testaceous; face with more or less wide whitish spot; antenna brown, except segments 1–2 or 1–3 testaceous; mesosoma and metasoma black; legs testaceous; occasionally meso- and metatibia, meso- and metafemur and metatarsus brown.Holotype with head brown, except mandible, clypeus, gena and anterior half of face testaceous-whitish; antenna testaceous, except segments 5–10 brown; mesosoma and metasoma brown; legs yellow. Antenna filiform; antennal segments in following proportions: 6:6:8:8:9:8:9:8:9. Antennal segments of holotype in following proportions: 3:5:4:4:6:6:5:5:5:7. Head dull, granulated; frontal line absent; occipital carina complete; POL = 6; OL = 4; OOL = 3; OPL = 3; TL = 3; greatest breadth of posterior ocelli shorter than OOL (2:3). Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.65–0.75 length of scutum (in holotype about 0.75). Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Tibial spurs 1/1/2.
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PLATE 11. A–D. Male genitalia. A. *Aphelopus trinitatis*, holotype; B: volsella of *A. trinitatis*, from 1 mi N El Punto (Mexico); C. *A. tropicalis*, from 8.4 mi SW Filo de Caballo (Mexico); D. *A. tschirnhausi*, holotype. Scale bar 0.09 mm for A and B, 0.08 mm for C, 0.07 mm for D.

**Material examined.** Types: ♂ holotype: TRINIDAD AND TOBAGO: Trinidad, St. George, Chaguaramas Bay, 16.VII.1976, J.S. Noyes leg. (BMNH); Thirty-three paratypes: ARGENTINA: Tucumán, Horco Molle, paratypes (CNC). BRAZIL: Santa Catarina, Nova Teutonia, 27°51’S 52°23’W, 19.V.1937, F. Plaumann leg., 1♂ (BMNH); same locality label, 1.VII.1937, 1♂ (BMNH); same locality label, 9.VI.1938, 1♀ (BMNH); same locality label, 10.VII.1937, 1♂ (BMNH); same locality label, 19.V.1938, 1♀ (BMNH); same locality label, XI.1937, 1♂ (BMNH); same locality label, further paratypes (AMNH, CNC); Distrito Federal, Cabeço do Veado, Estação Florestal, paratypes (CNC). COLOMBIA: Valle Department, Municipio La Cumbre, Hacienda La Maria, paratype (AMNH). ECUADOR: Azuay, Tarqui, 1♂ (AMNH); Azuay, Portete de Tarqui, 1♂ (AMNH); Carchi, Tulcán, 1♂ (AEIC); Carchi, Tufino, Volcan Chiles, 1♂ (AEIC); Carchi, Troya, 1♂ (AEIC); Loja Province, Loja, 1♂ (AEIC); Napo, Papallacta, 10500’, paratypes (AEIC); Pichincha, along road from Quito to S. Domingo de los Colorados, 1♂ (AMNH). GRAND CAYMAN: Georgetown, paratype (CNC). MEXICO: Chiapas, S. Cristobal de las Casas, paratypes (AMNH, CNC); Chiapas, Bochil, Yerba Buena, paratype (CNC); Tabasco, Teapa, II.1904, Godman–Salvin leg., 1♂ (BMNH). TRINIDAD AND TOBAGO: Trinidad, S.ta Margarita, Curepe, 16–22.VI.1972, Malaise trap, B.R. Pitkin leg., 1♂ (BMNH). ARGENTINA: Buenos Aires, J.C. Paz, 5.I.1959, 2.II.1959, A. Ogloblin leg., 15 specimens (FCNM); Buenos Aires, Bella Vista, 20.I.1959, 5.III.1959, A. Ogloblin leg., 2 specimens (FCNM); Jujuy Province, Jujuy, 17.X.1939, A. Ogloblin leg., 1 specimen (FCNM); La Pampa, Guatrache, 9.XII.1933, A. Ogloblin leg., 1 specimen (FCNM); Misiones, Loreto, 25.V.1928, 28.VIII.1929, 28.IX.1929, 7.X.1930, 30.VIII.1930, 10.XII.1930, 18.VII.1931, 7.XI.1931, 17.VIII.1933, 23.VII.1936, A. Ogloblin leg., many specimens (FCNM); Misiones, Loreto (27°19’S 55°32’W), 21–24.VII.06, Malaise trap, 2♂; Triapitsyn leg. (DEUCR); Misiones, Dos de Mayo, 2.XII.1964, 2.XII.1964, 5.XII.1964, A. Ogloblin leg., 12 specimens (FCNM); Misiones, Aristóbulo del Valle, 20.XII.1959, A. Ogloblin leg., 2 specimens (FCNM); Misiones, Yerbal Viejo, 16.IV.1930, A. Ogloblin leg., 1 specimen (FCNM); Salta, Rosario de Lerma (DFAS); Salta, Yacochuya, 1950 m, 1–15.XII.1970, Malaise trap, Willink, Stange & Terán leg. (IFML); Tucumán, Horco Molle (MCZ); Tucumán, San Miguel de Tucumán, 18.VIII.1995, reared from *Empoasca kraemeri* Ross & Moore, E.G. Virla reared (Virla & Olmi 1998b; Virla 2000a); Tucumán, Tapia (26°33’54S–65°17’22W), 17–19.III.07, Malaise trap, 2♂♂, Heraty leg. (DEUCR); Salta, 40 Km N Cachi, 24°51’S 66°09’W, 2700 m, along Road 40, 16.I.2012, M. Halada leg., 1♀ (OLL). BELIZE: Belize (USNM). BOLIVIA: Cochabamba Department, Cochabamba (DBUSU);
Padcaya-Camargo, 2800–3200 m (PMA). BRAZIL: Rio de Janeiro, Guanabara, Represa do Rio Grande (PMA); São Paulo, Serra da Bocaina (PMA); São Paulo, Ribeirão Pires (USNM). CHILE: Santiago Province, Quebrada de la Plata, Maipú, 33°30'S 70°55'W (CAS); Santiago-Cordillera, Reserva Rio Clarillos (FSCA); Nuble, Termas road, 60 km SE of Chillan, 1300 m (CNC). COLOMBIA: Valle Department, 10 km S of Dagua, near Santa Maria, tropical rain forest (FSCA); Valle Department, 10 km W of Cali, Peñas Blancas, 1750 m (FSCA); 35 km E of Bogotá, Paloma de Guz Verde, 3550–3700 m (BPBM); Caldas, 05°05'N 75°25'W, 3300–3500 m (AEIC). COSTA RICA: Alajuela, 20 km S of Upala (DBUSU); Alajuela, Cacao, S. Pedro de la Tigr, 200 m (AMNH); Alajuela (PMA); Alajuela, Alajuela Experimental Station (DETAM); Cartago, Braulio Carrillo National Park, 400 m (PMA); Guanacaste, S. Rosa Park (AEIC); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Guanacaste, Palo Verde, 7–12.VI.1988, dry forest, Malaise trap, B.V. Brown leg., 1♂ (PMA); Heredia, Varla Blanca, Finca Georgina, 2100 m (AMNH); Limón, 16 km W of Guápiles, 400 m (AMNH); Limón, 4 km N of Bribri, 50 m (AMNH); Puntarenas, 6 km S of San Vito de Jaba, Las Cruces, Jardin Botánico Wilson, 1200 m (AMNH); Puntarenas, Monteverde (DEUCD); S. José, San Antonio de Escazú, 1300 m (AMNH, EBUC); S. José, Escázu (AEIC, DBUSU); S. José, Ciudad Colon, 800 m (AMNH); S. José, Zurquí de Moravia, 1600 m (AMNH); S. José, Zurquí de Moravia, 10°05'N 84°02'W, 1600 m (NHMLA); S. José, San Pedro, UCR Campus, 1200 m (ZIL), CUBA: Cienfuegos, Soledad (MCZ); Baracoa, Arroyo Blanco, VII.1994, E. Portuondo leg. (BIOECO). DOMINICA: South Chiltern Estate (USNM). DOMINICAN REPUBLIC: Pedernales Province, Sierra Bahoruco, 26 km N Cabo Rojo, 730 m, VII.1990, L. Masner leg., 1♀ (PMA). ECUADOR: Napo, El Chaco, 2000 m (PMA); Napo, Papallacta, 10500' (MSU); Napo, Baeva (ZIL); Napo, Reventador (ZIL); Napo, Huahua Sumaco, Lm 45 on Hollin-Loreto road (DFAS); Napo, Ten, 500 m (PMA); Napo, Oyacachi, 00°22'S 78°08'W, 3000 m, 29.III–15.IV.1996, Malaise trap, P. Hibbs leg. (NHMLA); Pichinchina, Non-Tandayapa Road, 1900 m (ZIL); Tungrahua, Baños, 1500 m, 14.II.2002, M. Halada leg., 1♀ (OLL). EL SALVADOR: Cerro Verde, 6800' (CAS). GUATEMALA: Las Escobas Department, Izabal (PMA); Quiche, 4 km W of Rio Blanco, 4000' (PMA); Guatemala City (DBUSU); Zacapa Department, Above San Lorenzo, 1800–2000 m (PMA); Zacapa Department, San Lorenzo (PMA); San Marcos, San Antonio, Sactepequez, 2500 m (PMA); Quetzaltenango Department, Zunil, Fuentes Georginas, 2200 m (PMA); Jalapa Department, 3 km S of Jalapa, 4600' (CNC). HONDURAS: Roatan (USNM); Francisco Morazán Department, Macuelizo, Tatumula, 13°58'N 87°05'W (ZIL); Francisco Morazán Department, San Antonio de Oriente, Uyuca, 6.III.1997, C. Hansson leg. (ZIL); Yoro, Palo de Comba, 15°11'N 87°39'W (ZIL); Yoro, Pico Pijol, 2200 m (ZIL); Olanchao, La Muralla National Park, 15°05.49'N 86°44.17'W, 4–7.VII.2002, D. Yanega leg., 1♂ (DEUCR). JAMAICA: Portland Parish, Paradise (FSCA). MEXICO: Chiapas, La Trinitaria, 24 km E San Cristobal, 2000 m, 28.VIII.1991, R.W. Jones leg., 1♀ (DETAM); Chiapas, San Cristobal, San Felipe, 7200', 25–30.VII.1990, Malaise trap, Robert W. Jones leg., 1♂ (DETAM); Chiapas, S. Cristobal de las Casas (BPBM, PMA); Chiapas, 9 mi SW of San Cristobal (PMA); Colima, 9 mi NE of Comala (DETAM); Guerrero, 6 mi E of Xochipala (DETAM); Guerrero, 6 mi NE of Tixtla (DETAM); Jalisco, Guadalajara (DBUSU, USNM); Jalisco, Tecaltichtle, Rancho La Quinta, 5600' (DEUCD); Michoacan, 13 mi E of Zitacuaro (BCUCB); Michoacan, 29 mi W of Morelia (BCUCB); Oaxaca, Llano de las Flores (DETAM); Oaxaca, 1.1 mi W of El Tule, 5400' (DETAM); Oaxaca, Yaqui Royals, 13.VII.1994, G. Gorth leg., 1♂ (DEUCR); Oaxaca, 1 mi N El Punto, 17.VII.1987, R. Wharton leg., 1♂ (DETAM); Quintana Roo, Isla Mujeres (DBUSU); Veracruz, Baeja (ZIL); Veracruz, 4 km W of Orizaba (DBUSU); Veracruz, Orizaba, canyon below Hotel Fiesta Cascada, 22.VII.1988, R. Jones leg., 1♂ (DETAM); Veracruz, Orizaba, Crawford leg., 2♂ (USNM); Oaxaca, Comaltepec, La Esperanza, 17°62'N 96°37'W, 1600 m, XII.2008, Malaise trap in forest, A.L. Garcia leg., 5♀ (OLL). PANAMA: Bocas del Toro, Parque Int. La Amistad, Wekso-Teribe, 50 m, 17–24.X.1999, A. Santos leg. (MIGBF); Bocas del Toro, Humedales de San San Nat. Park, 25–28.X.1999, A. Santos leg. (MIGBF); Chiriquí, Respingo, 5.2 km E Cerro Punta, 2450 m, 4.VII.1996, Gillogly & Schaffner leg., 1♂ (DETAM); Chiriquí, Boquete Trail (DBUSU); Chiriqui, 2 km W of Cerro Punta, 1700 m (AEIC); Chiriquí, 8 Km S Boquete, 08°41.915'N 82°26.803'W, 2700', 1–14.II.2012, Malaise trap, F.D. Parker & T.D. MacIntyre leg., 1♂ (UCFC); same locality label, 14.I.2012, 1♂, 4♀ (UCFC); Darién, Darién National Park, Pirre, Estación Rancho Frío, 80 m, yellow trap, 7–16.XI.2000, R. Cambra & A. Santos leg. (MIGBF); Herrera, Ocu, 15.VII.1981 (AMNH); Kuna Yala, San Blas, Ustupo, Rio Abudi, 6–12.XII.1999, P. González leg. (MIGBF); Panamá, Parque Nat. Metropolitan, 24.VIII–3.IX.1999, A. Santos & P. González leg. (MIGBF); Panamá, Las Cumbres (PMA); Veraguas, Coiba National Park, Coiba Island, Cerro La Equis, 25.VII–4.VIII.1998, Malaise trap, R. Cambra & A. Santos leg. (MIGBF); Veraguas, Coiba National Park, Coiba Island, Camp. Playa Hermosa, 2.XII.1998, R. Cambra
& A. Santos leg. (MIGBF); Veraguas, Coiba National Park, Coiba Island, Coiba Biological Station, 11.III.1998, yellow trap, R. Cambra & A. Santos leg. (MIGBF). PARAGUAY: Cordillera, Caacupé, Jack Norment Camp, 16.I.1994, B. Garcete leg., 1♀ (MNHN); Cordillera, Naranjo, Barrio San José, 25°32.193'S 57°03.226'W, 292 m, 6–7.XI.2004, Yellow Pan Trap in forest edge, B. Garcete & J. Jara leg., 1♀ (MNHN); S. Pedro, General Resquín, Naranjito, 1.I.1994, B. Garcete leg., 1♂ (MNHN); Central, Asunción, Jardín Botánico, 22.X:1993, B. Garcete leg., 1♂ (MNHN); Canindeyú, Bosque Mbaracayú Natural Reserve, Jejui-mi (MNHN). PERU: Apurímac, 5 mi N of Andahuaylas (CAS); Cajamarca, Cutervo, 24.I.2007, Malaise trap, M.E. Irwin & G. Anton leg., 1♂ (UCFC); Cusco, Quillabamba (PMA); Cusco, near Aguas Caliente, Machu Picchu (PMA); Huánuco, Tingo Maria (PMA); Madre de Dios, Puerto Maldonado (PMA); Ucayali, Jct. Rio Callaria and Rio Ucayali, 88 km N of Pucallpa, Tacshitea (PMA). PUERTO RICO: Anasco District (USNM). SURINAME: Marowijne Province, 80 km E of Paramaribo on Albina Hwy. (PMA); Brokopondo Province, Brownsberg (PMA). TRINIDAD AND TOBAGO: Tobago, 1 mi ESE of Adelphi, in secondary forest (FSCA); Trinidad, Arima Valley, Simla Field Station (FSCA); Trinidad, Curepe, S.ta Margarita, Circular Road (CNC). VENEZUELA: Aragua, 2 km N of Occumare de la Costa (USNM); Aragua, H. Pittier National Park, La Trilla, 100 m (IZAM); Aragua, H. Pittier National Park, km 19 Maracay-Choroní road, 1300 m (AMNH); Bolivar, Los Piñiguanos, 600 m (IZAM); Lara, near Cubrito, 1500 m, 23.VIII.1992, maxinet cloud forest, L. Masner leg., 1♂ (PMA); Trujillo, Mosquy, 1500 m (IZAM); Yacambú (AEIC, AMNH); Yacumo, 1200 m (PMA); Zulia, El Tucucu, 200 m, primary rain forest (PMA); Miranda, Los Teques (DBUSU); Mérida St., Mérida, La Montana Sta., 2436 m (PMA); Mérida, Tabay (AEIC); Mérida, Mucui, near Tabay, 2300 m (USNM); Sucre, Caserio Guayana (IZAM).


**Distribution.** Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grand Cayman, Guatemala, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, Puerto Rico, Suriname, Trinidad and Tobago, Venezuela.

10. *Aphelopus tropicalis* Olmi, 1984
(Plate 11C)


**Description.** Female. Fully winged; length 1.8–2.2 mm. Head black, except mandible and clypeus whitish; face and malar space completely black in female holotype (in some specimens from Costa Rica face mostly testaceous); antenna brown; occasionally antennal segment 1 testaceous; mesosoma and metasoma black; legs testaceous; occasionally legs testaceous, except metacoxa, club of metabasal and metatibia brown; occasionally club of profemur darkened. Antenna clavate; antennal segments in following proportions: 5:5:7:8:9:9:7:7:11. Head dull, granulated; frontal line complete; occipital carina complete; POL = 7; OL = 4; OOL = 4; OPL = 2.5; TL = 3. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.6–0.9 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Tibial spurs 1/1/2.

Male. Fully winged; length 1.8–2.2 mm. Head black, except mandible and clypeus whitish; in specimens from Mexico, 6.4 mi SW of Filo de Caballo, gena and anterior surface of face, near clypeus, whitish; antenna brown; occasionally antennal segment 1 testaceous; mesosoma and metasoma black; legs testaceous; occasionally legs testaceous, except metacoxa, club of metabasal and metatibia brown; occasionally club of profemur darkened. In specimen from Argentina, Cantera, head and mesosoma brown. Antenna filiform; antennal segments in following proportions: 5:5:9:8:8:8:7:9. Head dull, granulated; frontal line complete; occipital carina complete; POL = 7; OL = 4; OOL = 4; OPL = 2.5; TL = 3. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.6–0.9 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 11C) provided of two subdistal bristles, without outer process. Tibial spurs 1/1/2.
Material examined. Types: ♀ holotype: ECUADOR: Chimbó, 30 mi SW of Alausí (CAS). Paratypes: CHILE: Aysen, Puerto Ibanez, 1♂ (AEIC). ECUADOR: Pichincha, Ascázubi-Pifo, 2♀♀ (AEIC, AMNH). Other material: ARGENTINA: La Rioja, Santa Cruz, Malaise trap, 1.02.02, Fidalgo leg., 1♀ (IFML); Misiones, Iguazu National Park, Cantera, 200 m, 8.XII.1990–6.I.1991, forest edge, Malaise trap, S. & J. Peck leg., 1♀ (PMA); Salta, Rosario de Lerma (DFAS). BOLIVIA: Tarija, Padaya-Camargo, 2800–3200 m (AEIC). BRAZIL: Pernambuco, Caruari, 900 m (PMA). COSTA RICA: Limón, 4 km N of Bribri, 50 m (AMNH); Puntarenas, San Gerardo, 2200 m (CNC); S. José, Escazú (AEIC, DBUS); Puntarenas, San Antonio de Escazú, 1300 m, 25.III–9.IV.1984 (AMNH, EBUC, NAMUK); Puntarenas, 16 km S of Empalme, Cerro de la Muerte, 2600 m (AMNH); Puntarenas, 20 km S of Empalme, Cerro de la Muerte, 2800 m (AMNH); Puntarenas, 09°36’N 83°44’W, 3200 m, km 95 Hwy. 2 (CNC, PMA). ECUADOR: Napo, Huahua Sumaco, km 45 Hollin-Loreto road (DFAS); Pichincha, near La Unión del Toachi, Otongachi, 1–30.V.2003, G. Onore leg., 1♀ (MOLC). GUATEMALA: El Quiché, 5 km S of Chichicastenago, 2000 m (ZIL); Sacatepéquez, Antigua, 1500–1600 m, VII.1980, N.L.H. Krauss leg., 1♀ (CNC). HONDURAS: Francisco Morazán Department, Cerro de Apalagua, 13°57’N 87°05’W, 14.III.1996, R. Cave leg. (ZIL); Yoro, Paló de Comba, 15°11’N 87°39’W (ZIL); Olancha, La Muralla National Park, 15°05.49’N 86°44.17’W, 4–7.VII.2002, D. Yanega leg., 1♂ (DEUCR). MEXICO: Guerrero, 2.1 mi NE of Cacahuamilpa (DETAM); Guerrero, 6.4 mi SW of Filo de Caballo, 9000’, 8.vii.1987, Woolley & Zolnerowich leg., 3♀♀ (DETAM); Guerrero, 5 mi SW Filo de Caballo, 17.VII.1984, Carroll, Schaffner & Friedlander leg., 1♂ (DETAM); Oaxaca, Llano de las Flores (DETAM); Veracruz, Jalapa (MSU). PANAMA: Panamá, Las Cumbres (PMA); Panama, Las Cumbres (PMA); Chiriquí, 2 km W of Cerro Punta, 1700 m (AEIC); Chiriquí, 8 Km S Boquete, 08°41.915’N 82°26.803’W, 2700’, 1–14.II.2012, Malaise trap, F.D. Parker & T.D. MacIntyre leg., 1♀ (UCFC); same locality label, 5.I.2012, 1♂, 2♀♀ (UCFC); same locality label, 14.I.2012, 1♀ (UCFC). VENEZUELA: Tabay (AEIC).

Hosts. Unknown.

Distribution. Argentina, Bolivia, Brazil, Chile, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Panama, Venezuela.

Remarks. A paratype of A. tropicalis from Trinidad, Arima Valley (AMNH)(Olmi 1984) belongs to Aphelopus trinitatis Olmi

11. Aphelopus tschirnhausi Olmi, 2011

(Plate 11D)

Aphelopus tschirnhausi Olmi 2011b: 44.

Description. Female. Fully winged; length 2.3 mm. Head testaceous-whitish, except vertex brown; antenna brown, except segments 1–2 testaceous; mesosoma testaceous-whitish, except scutum, scutellum, metanotum, metapleuron, propodeum and dorsal side of pronotum black; metasoma brown. In a Female from Panama, Chiriquí, mesosoma black, except propleuron, lateral regions of prothorax and anterior third of mesopleuron yellow-whitish. Legs testaceous, except last tarsal segments of fore- and midleg and segments 2–5 of hind leg brown. Antenna clavate; antennal segments in following proportions: 5:5:7:9:5:9:5:9:6:5:6:6:7. Head dull, granulated; frontal line complete; occipital carina complete; POL = 6; OL = 4; OOL = 4; OPL = 3.5; TL = 2; greatest breadth of posterior ocelli shorter than OPL (2.5:3.5). Scutum and scutellum dull, granulated. Notauli incomplete, reaching approximately 0.7 (left)–0.8 (right) length of scutum. Metanotum shiny, unsculptured. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area granulated. Fore wing hyaline, without dark transverse bands. In specimen from Brazil, A. Chavez-Espirito Santo, head testaceous-whitish, except vertex partly brown; antenna brown, except segment 1 and part of 2 whitish; mesosoma with ventral part testaceous-whitish, except one brown spot on mesopleuron; dorsal part of mesosoma black, except scutum testaceous-whitish, black near anterior margin; metasoma brown; legs whitish; notauli reaching about 0.5 length of scutum, total length 2.2 mm. Tibial spurs 1/1/2.

occipital carina complete; POL = 5.5; OL = 4; OOL = 3; OPL = 2; TL = 3; greatest breadth of posterior ocelli as long as OPL. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.5 length of scutum. Scutellum and metanotum shiny, unsculptured. In a male from Panama, Chiriqui, mesosoma black, except propleuron and lateral regions of prothorax yellow-whitish; mesopleuron testaceous, with small brown spot; metapleuron black, except anterior third testaceous. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area smooth and shiny. Fore wing hyaline, without dark transverse bands. Male with basivolsella (Plate 11D) provided of two subdistal bristles, without outer process. Tibial spurs 1/1/2.

**Material examined.** Type: ♂ holotype: DOMINICAN REPUBLIC: Puerto Plata, along road from La Cumbre pass to amber mine La Toca, 19°32.55'N 70°30.02'W, 794–807 m, 16.IV.1996, M. Von Tscharnhaus leg. (MOLC).


**Hosts.** Unknown.

**Distribution.** Brazil, Dominican Republic, Panama.

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**Fossil Neotropical species**

One species is known.

**12. Aphelopus poinari Olmi, 1998**

(Plate 12A, B)


**Description.** Female (Plate 12A, B). Fully winged; length 1.6 mm. General shape of extant *Aphelopus*. Colour apparently testaceous, with head darkened, antennal segments 4–10 darkened, scutellum and dorsal surface of propodeum brown, metasoma darkened. Antenna 10-segmented, slightly clavate, longer than head (40:14) (length of head measured from occipital carina behind ocelli to anterior margin of face); antennal hairs not distinct; antennal segments in following proportions: 3:3,5:3,5:3,5:3,5:4:4:4:7. Head slightly convex, apparently granulated; clypeus and mandible not distinct; occipital carina complete; occiput excavated; frontal line not distinct; eye normally bulging; POL = 5; OL = 3; OOL = 2; OPL = 3; TL = 2; posterior margin of head in dorsal view slightly excavated. Pronotum not visible in dorsal view (as in all extant *Aphelopus* females). Scutum dull, apparently granulated, longer than scutellum (11:5). Notauli apparently incomplete, reaching apparently approximately 0.7 length of scutum. Sculpture of scutellum and metanotum not distinct. Metanotum shorter than scutum (3:5). In lateral view scutellum and metanotum are slightly swollen. Propodeum reticulate rugose, apparently without longitudinal or transverse keels; propodeum longer than metanotum (16:3) and shorter than metasoma (16:25). Fore wing hyaline, without dark transverse bands, with only costal cell enclosed by pigmented veins. Shape of fore wing and pterostigma similar to that of extant *Aphelopus*. Marginal cell open. Stigmal vein regularly curved, as in extant *Aphelopus*. Pterostigma longer than broad (11:4). Stigmal vein shorter than pterostigma (7:11). Shape of hind wing like that of extant *Aphelopus*. Hind wing hyaline, without dark transverse bands. Metasoma with short petiole, as in extant *Aphelopus*. Maxillary palpi apparently 5-segmented. Labial palpi not distinct. Fore leg not chelate. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype (No. H-10-122): DOMINICAN REPUBLIC: amber from an unknown mine (GPJC).

**Hosts.** Unknown.

**Distribution.** Dominican Republic.
Remarks. Only known from Oligo-Miocene amber from Dominican Republic (15–40 MYA). This inclusion comes from one of the following mines: “La Toca” or “Palo Alto”.

PLATE 12. Aphelopus poinari, holotype. Ventral (A) and dorsal view (B). Length 1.6 mm.

2. Genus Crovettia Olmi, 1984


Type species. Crovettia theliae (Gahan 1918), by original designation.

Diagnosis. Female: Fully winged (Plate 13A, B); epistomal suture located at same level of antennal toruli (Plate 7D); occipital carina complete; antenna without rhinaria; palpal formula 5/2, or 5/3, or 6/2, or 6/3; fore wing with only costal cell enclosed by pigmented veins or with costal and medial cells completely enclosed by pigmented veins (Plate 13A, B); fore wing with pterostigma present and stigmal vein straight, or forming an angle between the proximal and distal parts (Plate 13A, B); course of fore wing veins not marked by dark stripes; hind wing (Plate 13A) hyaline, with costal cell, without dark medial longitudinal stripe; protarsus not chelate; tibial spurs 1/1/2.

Male: Fully winged winged (Plate 14A, B); epistomal suture located below imaginary line joining antennal toruli (Plate 7D); occipital carina complete; palpal formula 5/2, or 5/3, or 6/2, or 6/3; fore wing with only costal cell enclosed by pigmented veins (Plate 14A) or with costal and medial cells completely enclosed by pigmented veins; fore wing with pterostigma present and stigmal vein straight (Plate 14A), or forming an angle between the proximal and distal parts; course of fore wing veins not marked by dark stripes; hind wing (Plate 14A) hyaline, with costal cell, without dark medial longitudinal stripe; basivolsella completely located down distivolsella distal apex (Plate 17A, B); tibial spurs 1/1/2.


Hosts. Membracidae (Guglielmino & Olmi 1997).

World species. Fifteen species are known, ten in the Neotropical region.

Biology. Species of Crovettia are known for their completely endophagous parasitism and poliembriony. Their biology was studied in Nearctic species (Matausch 1909, 1911; Kornhauser 1916, 1917, 1919; Gahan 1918).
PLATE 13. Female of Crovettia sp. Dorsal (A) and lateral (B) view. Length 2.4 mm.

PLATE 14. Male of Crovettia sp. Dorsal (A) and lateral (B) view. Length 2.6 mm.

Key to the species

Females and males

1. Antenna partly pectinate (Plate 16B) ................................................................. C. huggerti Olmi
   – Antenna filiform or clavate (Plates 13A, 14A) ................................................................. 2
2. Fore wing with one dark transverse spot beneath pterostigma ........................................ C. hansoni (Olmi)
   – Fore wing hyaline, without dark spots ................................................................. 3
3. Fore wing with distal part of stigmal vein as long as, or longer than proximal part (Plate 13A, B) ........................................ 4
   – Fore wing with distal part of stigmal vein much shorter than proximal part (Plate 14B), or stigmal vein straight and with distal apex broadened (Plate 14A) ................................................................. 5
4. Head reticulate rugose and granulated ........................................................................ C. barbara Olmi
   – Head completely granulated, not reticulate rugose ................................................. C. neotropica Olmi
5. Scutellum reticulate rugose ......................................................................................... 6
1. Crovettia barbara Olmi, 1984
(Plate 15A)


Description. Female. Fully winged; length 1.5–1.9 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous, except tarsi and protibia brown. Antenna clavate; antennal segments in following proportions: 8:4:3:2.5:3:3:3:3:4:5. Head dull, granulated and reticulate rugose, less strongly reticulate rugose than in male (occasionally areolae very slight); fronto line incomplete; occipital carina complete; POL = 6; OL = 3; OOL = 4; OPL = 1.5; TL = 2. Scutellum dull, granulated, reticulate rugose only near anterior margin. Notauli absent. Scutellum dull, granulated. Metanotum and propodeum dull, completely reticulate rugose. Propodeum without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (6:4). Tibial spurs 1/1/2.

Male. Fully winged; length 1.8 mm. Head black, except mandible testaceous; antenna brown; mesosoma and metasoma black; legs brown. Antenna slightly clavate; antennal segments in following proportions: 8:4:3:2.5:3:3:3:3:4:5:3:3. Head dull, granulated and reticulate rugose; fronto line complete; occipital carina complete; POL = 6; OL = 3; OOL = 4; OPL = 2; TL = 2.5. Scutum dull, granulated, with numerous areolae near anterior margin. Notauli absent. Scutellum dull, granulated. Metanotum and propodeum dull, completely reticulate rugose. Propodeum without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein more than twice as long as proximal part (7:5:3). Genital armature in Plate 15A. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Argentina, Bolivia, Brazil, Costa Rica, Honduras, Panama, Paraguay, Peru, Venezuela.
2. Crovettia brasili ana Olmi, 1984
(Plate 15B)


Description. Female. Fully winged; length 1.7–1.8 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; occasionally antenna testaceous, except segment 10 darkened; mesosoma and metasoma black; legs brown, except tarsi testaceous. Antenna clavate; antennal segments in following proportions: 8:5:3:3:4:3:5:3.5:3.5:3.5:5. Head dull, granulated; frontal line incomplete; occipital carina complete; POL = 7; OL = 4; OOL = 4.5; OPL = 2; TL = 2. Scutum dull, granulated, reticulate rugose only near anterior margin. Notauli incomplete, only present near anterior margin of scutum. Scutellar usually dull, granulated; occasionally scutellar shiny, finely punctate, unsulptured among punctures. Metanotum shiny, smooth, unsulptured. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:4). Tibial spurs 1/1/2.

Male (described here for the first time; in Olmi 1998d, there are the drawings of the male genitalia, but no descriptions). Fully winged; length 2.0 mm. Head black, except mandible testaceous. Antenna, mesosoma, metasoma and legs black. Antenna filiform; antennal segments in following proportions: 8:5:5.5:5.5:5.5:5.5:5.5:5.5:5.5:5.8. Head dull, granulated; frontal line incomplete; occipital carina complete; POL = 10; OL = 4; OOL = 5; OPL = 3; TL = 6. Scutum dull, almost completely granulated, reticulate rugose only near anterior margin. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum dull, granulated. Metanotum rugose. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:6). Genitalia in Plate 15B. Tibial spurs 1/1/2.

Blancas, 700 m (PMA); Cartago, Cerro de la Muerte, Villa Mills, 3000 m, in forest of Quercus costaricana (AMNH); Cartago, Paraíso, XI.1965, N.L.H. Krauss leg., 1♀ (USNM); Guanacaste, Volcán Cacao, Cerro Pedregal, 1000 m (AMNH); Guanacaste, SW of Volcán Cacao, Estación Mendo, 1100 m (AMNH); Guanacaste, W side of Volcán Cacao, Arenales (AMNH); Guanacaste, W side of Volcán Cacao, Sotobosque, 1300 m (AMNH); Limón, 4 km NE of Bribri, 50 m (AMNH); Puntarenas, San Vito de Coto, Brus, 1200 m (CNC); S. José, km 66 Hwy. 2, 2400 m (AEIC); S. José, km 95 Hwy. 2, 09°36’N 83°44’W, 3200 m (CNC, PMA); S. José, Cartago-S. José Road, Cerro de la Muerte, 3000 m, paramo (AMNH, EBUC); S. José, 20 km S of Empalme, Cerro de la Muerte, 2800 m, females and males (AMNH); S. José, Cerro de la Muerte, 3400 m, 30.VIII.1986 (CNC); S. José, Cartago-S. José Road, 16 km SE of Empalme, 2600 m (AMNH); S. José, Braulio Carrillo National Park, 9.5 km E of tunnel, 1000 m (AMNH).

HONDURAS: Francisco Morazán, Parque Nacional La Tigra, 14°15’N 87°05’W (ZIL). MEXICO: Chiapas, S. Cristobal de las Casas (PMA). VENEZUELA: Aragua, Rancho Grande, 1500 m, 1♀ (IZAM); Mérida, La Aguada Station (PMA); Mérida, La Montana Station, 2436 m (PMA).

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Costa Rica, Honduras, Mexico, Venezuela.

3. *Crovettia colombiana* Olmi, 1984


**Description. Female.** Fully winged; length 2.5 mm. Head black, except mandible testaceous; antenna, mesosoma and metasoma black; legs brown, except protibia testaceous. Antenna clavate; antennal segments in following proportions: 9:6:8:7:6:5:4.5:4.5:4.5:6. Head dull, granulated, with very slight irregular keels; frontal line incomplete; occipital carina complete; POL = 7.5; OL = 4; OOL = 8; OPL = 3; TL = 5. Scutum dull, granulated, reticulate rugose only near anterior margin. Notauli hardly visible, incomplete, reaching approximately 0.5 length of scutum. Scutellum dull, granulated. Metanotum dull, reticulate rugose. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:8). Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: COLOMBIA: Putumayo, 01°10’N 07°05’W (CNC).

**Hosts.** Unknown.

**Distribution.** Colombia.


(Plate 15C)


**Description. Female.** Fully winged; length 1.9–2.4 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except coxae black. Antenna clavate; antennal segments in following proportions: 8:4.5:4.5:4.5:4.5:4:4.5:3.5. Head dull, granulated, except vertex reticulate rugose and face sculptured by numerous longitudinal keels; frontal line almost complete, shortly not present in front of anterior ocellus; occipital carina complete; POL = 7; OL = 4; OOL = 4.5; OPL = 2; TL = 2. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli absent. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; areolae of dorsal surface broader than those of posterior surface. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (2:7). Fore wing usually with only costal cell enclosed by pigmented veins; rarely however also median cell enclosed by pigmented veins. Tibial spurs 1/1/2.

**Male.** Fully winged; length 2.1 mm. Head black, except mandible testaceous. Antenna testaceous. Mesosoma black. Metasoma brown. Legs testaceous, except coxae and clubs of femora partly brown. Antenna filiform; antennal segments in following proportions: 5:5:7:7:6.5:6:6:5.5:5.5:7.5. Head dull; anterior half of face reticulate
rugose; posterior half of face and vertex granulated and strongly sculptured by numerous parallel longitudinal keels; frontal line incomplete, only present in anterior third of face (frontal line present also on clypeus, crossing it medi ally); occipital carina complete; POL = 6; OL = 3; OOL = 9; OPL = 7; TL = 6. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli absent. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface very excavated between metapleuron. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2.8). Fore wing with two cells (costal and median) completely enclosed by pigmented veins. Genital armature in Plate 15C. Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype: SURINAME: Saramacca, Ralleighvallen Natural Reserve, Foengoe Island, 22–31.I.1985, A.T. Finnamore leg. (PMA). Other material: COSTA RICA: Guanacaste, 3 km SE Rio Naranjo (DBUSU); San José, Escazu (AMNH, DBUSU). ECUADOR: Sucumbios, Sacha Lodge, 00°30’S 76°30’W, 270 m, 27.VIII–10.IX.1995, Malaise trap, Peter Hibbs leg., 1 ♀, 1 ♂ (CNC); same locality label, 00°05’S 76°05’W, 290 m (AMNH, NHMLA).

Hosts. Unknown.


5. Crovettia hansoni (Olmi, 1991)


Description. Female. Fully winged; length 1.7–2.6 mm. Head black, except mandible testaceous; antenna brown, except segments 1, 2 and part of 3 testaceous; mesosoma black; metasoma brown; legs yellow, except meso- and metacoxa and club of meso- and metafemur brown; occasionally all coxae partly brown and metatibia darkened. Antenna slightly clavate; antennal segments in following proportions: 7:5:6:6:6:5.5:5.5:8. Head dull, swollen, granulated and reticulate rugose (occasionally granulated and not rugose); frontal line thin and complete; occipital carina complete; in holotype POL = 3; OL = 2; OOL = 6; OPL = 4; TL = 4.5; in other specimen POL = 3; OL = 1; OOL = 6; OPL = 4; TL = 3.5. Mandible with three teeth. Scutum, scutellum and metanotum dull, granulated and reticulate rugose. Notauli absent or very hardly and shortly visible near anterior margin of scutum. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing with one dark transverse spot beneath pterostigma; distal part of stigmal vein shorter than proximal part (3:7.5). Tibial spurs 1/1/2.

Male. Unknown (the male described by Olmi (1998e) is really a female).


Hosts. Unknown.


6. Crovettia huggerti Olmi, 1996

(Plate 16A, B)


Description. Male. Fully winged; length 1.4–1.6 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs brown, except tarsi and meso- and protibia testaceous. Antenna partly pectinate, with segments 4–7 showing a lateral process (Plate 16B); antennal segments in following proportions: 4:3.5:4.3:3.5:3.5:3.5:3.5:6. Head shiny, granulated and reticulate rugose; frontal line complete; occipital carina complete; POL = 5.5; OL = 2.5; OOL = 5; OPL = 2; TL = 4. Mandible with three teeth progressing larger from anterior one to posterior (Plate 6D). Palpal formula 6/3. Scutum dull, reticulate rugose and partly granulated. Notauli absent. Scutellum and metanotum dull, reticulate rugose and granulated. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (1.5:4). Genital armature in Plate 16A. Tibial spurs 1/1/2.

Female. Unknown.

Hosts. Unknown.

Distribution. Costa Rica, Ecuador, Peru.

PLATE 16. A, C, D. Male genitalia. B. Antenna. A. Crovettia huggerti, holotype; B. Male of C. huggerti, holotype; C. C. neotropica, holotype; D. C. plaumanniana, holotype. Scale bar 0.04 mm for A and C, 0.26 mm for B, 0.06 mm for D.

7. Crovettia neotropica Olmi, 1984
(Plate 16C)


Description. Female. Fully winged; length 1.4–1.6 mm. Head black, except mandible testaceous-brown; antenna brown; mesosoma and metasoma black; legs brown, except tarsi and protibia testaceous. Antenna clavate. Head dull, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 2.5; OOL = 3; OPL = 2.5; TL = 3. Scutum dull, granulated and with numerous areolae near anterior margin. Notauli absent. Scutellum and metanotum dull, granulated. Propodeum reticulate rugose; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly longer than proximal part (4.5:4). Tibial spurs 1/1/2.

Male. Fully winged; length 1.4–1.6 mm. Head black, except mandible testaceous-brown; antenna brown; mesosoma and metasoma black; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 5.5:4:4:4:4:3:3:5.5. Head dull, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 2.5; OOL = 3; OPL = 2.5; TL = 3. Scutum dull, granulated and with numerous areolae near the anterior margin. Notauli absent. Scutellum and metanotum dull, granulated. Propodeum reticulate rugose; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly longer than proximal part (4.5:4). Male genitalia in Plate 16C. Tibial spurs 1/1/2.

Material examined. Types: ♂ holotype: BRAZIL: Santa Catarina, Nova Teutonia, 19.IX.1949, F. Plaumann leg. (BMNH); Paratype: same locality label as holotype, 27°11’S 52°23’W, XI.1935, 1♀ (BMNH). Other
**material:** ARGENTINA: Misiones, Loreto Experimental Station, 7.X.1929, A. Ogloblin leg., 1 ♀ (FCNM); Misiones, Dos de Mayo, 4.XII.1964, A. Ogloblin leg., 2 specimens (FCNM). BRAZIL: Espírito Santo, 44 km NNE Linhares, Sooretama Reserve, IBAMA, 19°03’S 40°08’W, 17–24.X.1999 (MNHN); Espírito Santo, 40 km NNE Linhares, 19°08’S 40°05’W, 10–17.X.1999 (MNHN). COSTA RICA: Alajuela, 2 km W of Dos Rios, Finca San Gabriel, 600 m (AMNH); Guanacaste, SW of Volcán Cacao, Estación Mengo, 1100 m (AMNH); Limón, 4 km N of Bribri, 50 m (AMNH); Puntarenas, Monteverde (AMNH). ECUADOR: Pichincha, 47 km S of Santo Domingo de los Colorados, Rio Palenque Station, 25.V.1975 (CNC).

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Costa Rica, Ecuador.

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**PLATE 17.** A, B. Male genitalia. C, D. Stigmal vein. A. Crovetta nigra, holotype. B. C. wilkersoni, holotype. C. C. nigra, holotype. D. C. wilkersoni, holotype. Scale bar 0.04 mm for A and B; 0.08 mm for C and D.

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**8. Crovetta nigra (Olmi, 1993)**  
(Plate 17A, C)


**Description. Female.** Fully winged; length 1.6 mm. Head black, except mandible brown; antenna brown; mesosoma black; metasoma brown; legs brown. Antenna clavate; antennal segments in following proportions: 7:5.5:2.5:4:3.5:4:4:3.5:6. Head dull, granulated; frontal line incomplete, only present in front of anterior ocellus; occipital carina complete; POL = 7.5; OL = 4; OOL = 4; OPL = 1.5; TL = 3. Scutellum dull, granulated, reticulate rugose only near anterior margin. Notauli incomplete, very short, hardly and shortly visible only near anterior margin of scutum. Scutellum dull, granulated. Metanotum dull, reticulate rugose. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein straight and with distal apex broadened (Plate 17C). Tibial spurs 1/1/2.

**Male.** Fully winged; length 1.2–1.7 mm. Head black, except mandible testaceous; antenna testaceous-darkened; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 7:3:2.5:2.5:2.5:3:3:3.5:3:6. Head dull, granulated, with or without numerous irregular short keels; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 3; OPL = 1; TL = 1.5. Mandible with three teeth progressing larger from anterior one to posterior. Scutellum dull, granulated,
with hardly visible irregular short keels. Notauli incomplete, slightly shortly visible only near anterior margin of scutum. Scutellum dull, granulated. Metanotum dull, rugose. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; stigmal vein straight and with distal apex broadened (Plate 17C). Genital armature in Plate 17A. Tibial spurs 1/1/2.

Material examined. Type: ♂ holotype: COSTA RICA: Guanacaste, S. Rosa National Park, 1–22.VI.1985, I. D. Gauld leg. (BMNH). Other material: HONDURAS: Francisco Morazán, La Tiga National Park, 14°15′N 87°05′W, 9.IV.1996, Malaise trap in oak/pine cloud forest, R. Cave leg. (AMNH, ZIL). COSTA RICA: Guanacaste, W side of Volcán Cacao (AMNH); Guanacaste, Volcán Cacao, Cerro Pedregal, 1000 m (AMNH); Puntarenas, Montevede (AMNH, DEUCD); Puntarenas, Montevede Reserve, 1500 m, II.1980, cloud forest, W. Mason leg., 1♂, 1♀ (CNC). PANAMA: Chiriquí, Fortuna, 08°44′N 82°15′W, 1050 m (RNHL); Chiriquí, 8 Km S Boquete, 08°41.915′N 82°26.803′W, 2700′, 14.I.2012, Malaise trap, F.D. Parker & T.D. MacIntyre leg., 3♂♂ (UCFC); same locality label, 1–14.II.2012, 1♀, 5♂♂ (UCFC); Darién, Darién National Park, Pirre, Rancho Frio, 900 m, 21.III–4.IV.2000, Malaise trap, Cambra, Santos & Bermúdez leg. (MIGBF).

Hosts. Unknown.

9. Crovetta plaumanniana Olmi, 1984
(Plate 16D)


_Biaphelopus neotropicus_ Olmi 1995e: 9 (synonymized by Olmi 1996c); type locality: Peñas Blancas (Alajuela, Costa Rica).

Description. Female. Fully winged; length 2.2 mm. Head black, except mandible testaceous; antenna brown, except segments 1–5 testaceous; mesosoma and metasoma black; legs brown, except tarsi and tibiae testaceous; occasionally legs completely testaceous. Antenna clavate; antennal segments in following proportions: 8:6:5:5:3:4:3:5:4:6:5. Head dull, granulated and reticulate rugose; frontal line incomplete; occipital carina complete; POL = 9; OL = 5; OOL = 8; OPL = 8; TL = 5. Scutellum dull, completely reticulate rugose. Notauli absent. Scutellum and metanotum dull, completely reticulate rugose. Occasionally scutellum granulated, not rugose. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:5). Fore wing usually with only costal cell enclosed by pigmented veins; rarely however also median cell enclosed by pigmented veins. Tibial spurs 1/1/2.


Material examined. Types: ♀ holotype of _C. plaumanniana_ : BRAZIL: Santa Catarina, Nova Teutonia (CNC); ♀ holotype of _B. neotropicus_ : COSTA RICA: Alajuela, Cord. Tilaran, Peñas Blancas, 700 m, II.1987, P.H. Hanson leg. (AMNH). Paratype of _C. plaumanniana_: BRAZIL: same locality label as holotype, 10.VI.1937, F. Plaumann leg., 1♂ (BMNH). Other material: BRAZIL: São Paulo, Serra da Bocaina, 1650 m, XI.1968 (CNC). COSTA RICA: Alajuela, NE Dos Rios, Finca La Selva, 400 m (AMNH); Alajuela, 20 km S of Upala (DBUSU); Alajuela, Cafè, Chiles de Aguas Zarcas, 300 m (AMNH); Alajuela, Cord. Tilaran, Peñas Blancas, 700 m, II.1987, P. H. Hanson leg., many specimens (CNC, PMA); Guanacaste, S. Rosa National Park (AEIC, AMNH); Guanacaste, NW Volcán Orosí, Cerro El Hacho, 300 m (AMNH); Guanacaste, W side Volcán Cacao, Sotobosque, 1100 m (AMNH); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Guanacaste, 14 km S of Cañas (DBUSU); Guanacaste, 20 km SW Cañas, Enrique Jimenez Nuñez Experimental Station, 5–17.XI.1991, Malaise trap, A.S. Menke leg., 1♂ (USNM); Heredia, La Selva Biological Station, 10°26′N 84°01′W, 50–150 m, 1.III.1994.

Distribution. Brazil, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Panama, Peru, Venezuela.

Remarks. *Crovettia plaumanniana* Olmi structurally resembles *C. nearctica* Olmi (present in the Nearctic region).


(Plate 17B, D)


Description. Male. Fully winged; length 1.4 mm. Completely brown-reddish. Antenna filiform; antennal segments in following proportions: 6:3:2.5:2.2:2.2:2.5:2.2:2.5:2.5:2.5:2.5:2.5:2.2:2.5. Head dull, granulated; frontal line absent; occipital carina complete; POL = 4; OL = 2; OOL = 4; OPL = 0.5; TL = 1. Palpal formula 5/2. Scutum dull, granulated. Notauli absent. Scutellum dull, granulated. Metanotum dull, rugose. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; stigmal vein short and straight, not curved (Plate 17D). Genital armature in Plate 17B. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Colombia.
II. Subfamily Erwiniinae Olmi & Guglielmino, 2010

Erwiniinae Olmi & Guglielmino 2010a: 57.

**Type genus.** *Erwinius* Olmi & Guglielmino 2010, by monotypy and original designation.

**Diagnosis.** Female (Plate 18A, B): Fully winged; head prognathous (Plate 18B); occipital carina incomplete; ocelli present; face and partly clypeus with one strong median raised carina (Plate 18A); clypeus very large, about twice as wide as eyes (Plate 18A); palpal formula 4/2; antenna without rhinaria; fore wing with two basal cells (costal and median) enclosed by pigmented veins (Plate 18A, B) and with stigmal vein and pterostigma present (Plate 18A, B); fore wing without other complete veins (except those surrounding costal and median cell), their course not being marked by dark stripes; hind wing (Plate 18A, B) hyaline, with costal cell, without a dark medial longitudinal stripe; protarsus not chelate (Plate 18A, B); tibial spurs 1/1/2.

*Male:* Unknown.

**Distribution.** Neotropical.

**Hosts.** Unknown.

**World species.** Type species only.

**World genera.** One genus is known.

3. Genus *Erwinius* Olmi & Guglielmino, 2010

*Erwinius* Olmi & Guglielmino 2010a: 58.

**Type species.** *Erwinius prognatus* Olmi & Guglielmino 2010, by monotypy and original designation.

**Diagnosis.** Female: same of subfamily. *Male:* Unknown.

**Distribution.** Neotropical.

**Hosts.** Unknown.

**World species.** Type species only.

1. *Erwinius prognatus* Olmi & Guglielmino, 2010

(Plate 18)

*Erwinius prognatus* Olmi & Guglielmino 2010a: 59.

**Description.** Female. (Plate 18A, B). Fully winged; length 3.1–3.4 mm. Completely brown. Antenna clavate, without rhinaria; antennal segments in following proportions: 20:7:22:9:8:6:6:6:6:8. Head prognathous, shiny, smooth, unsculptured, with sparse very long hairs; clypeus very large, about twice as wide as eyes (Plate 18A); frontal line complete, in anterior third of face and posterior third of clypeus produced in raised carina (Plate 18A); occipital carina incomplete, partly not present on ventral side near gena and mouth; occiput and ventral side very excavated; posterior margin of mouth straight (Plate 18D); POL = 5; OL = 2; OOL = 11; OPL = 5; TL = 14; temple much longer than eye (14:10); greatest breadth of posterior ocelli shorter than POL (3:5); mandible very strong, with three teeth progressing larger from anterior one to posterior (Plate 18C). Palpal formula 4/2. Pronotum much shorter than scutum (6:17), crossed by one transverse furrow; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures, with sparse very long hairs. Notauli incomplete, reaching about 0.4 length of scutum. Propodeum shiny, smooth, very slightly granulated, without transverse or longitudinal keels; posterior surface with central area slightly excavated, strongly punctate. Mesopleuron and metapleuron shiny, smooth, very slightly granulated. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein shorter than proximal part (6:10). Fore leg not chelate, with femur strongly broadened (Plate 18A, B), broader that meso- and metafemur. Tibial spurs 1/1/2. Metatibia with two spurs, first very long and the second short and hardly visible.

*Male:* Unknown.

**Material examined.** Types: ♀ holotype: ECUADOR: Napo, Reserva Ethnica Waorani, 1 km S Onkone Gare
Camp, 00°39.10'S 76°26.0'W, 220 m, 6.X.1994, insecticidal fogging of mostly bare green leaves, some with covering of lichenous or bryophytic plants in terre firme forest, at Trans 10, Sta. 9, Project MAXUS, Lot 888, T.L. Erwin et al. leg. (USNM). Paratypes: same locality label as holotype, 2♀♀ (CNC, MOLC).

**Hosts.** Unknown.

**Distribution.** Ecuador.

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**III. Subfamily Anteoninae R. Perkins, 1912**


**Diagnosis.** **Female:** Fully winged, occasionally brachypterous or micropterous; occipital carina complete; mandible quadridentate, with teeth progressing larger from anterior one to posterior (Plate 6A); antenna without tufts of long hairs and without rhinaria; ocelli present; palpal formula 6/3; pronotal tubercle present; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 2 I, L); fore wing with stigmal vein and pterostigma (Plate 2 I, L); protarsus chelate (Plate 2 I, L); chela without rudimentary claw (Plate 3A); protrochanter short and broad; tibial spurs 1/1/2.

**Male:** Fully winged (Plate 20D), rarely brachypterous; occipital carina complete; mandible quadridentate, with teeth progressing larger from anterior one to posterior (Plate 6A); palpal formula 6/3; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 5F); fore wing with stigmal vein and pterostigma (Plates 5F, 20D, 34C); fore wing with metacarpus shorter than pterostigma (Plate 5F); basivolsella completely located down distivolsella (Plates 21D, 26B); tibial spurs 1/1/2.

**Distribution.** Worldwide.


**World species.** Five hundred and ninety nine species are known, 187 in the Neotropical region.

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**PLATE 18:** Holotype of *Erwinius prognatus*. A, B. Dorsal (A) and lateral (B) view. Length 3.2 mm. C. Mandible. D. Head in ventral view.
**World genera.** Seven genera are known, four in the Neotropical region.


### Key to the genera

#### Females

1. Inner side of enlarged claw with one row of at least four bristles (Plate 81C) ........................................ 4. *Metanteon* Olmi
   - Inner side of enlarged claw with only one–two bristles or peg-like hairs located proximally (Plates 26A, 34B, 42C) .................. 2
2. Inner side of enlarged claw with proximal prominence not bearing bristles (Plate 49D), with one–two short bristles or peg-like hairs located further distally than proximal prominence (Plates 40A, 72 A, E) .................. 2. *Deinodryinus* R. Perkins
   - Inner side of enlarged claw with proximal prominence bearing one long bristle (Plates 21C, 23A–C) ........................... 3
3. Fore wing with distal part of stigmal vein as long as, or longer than proximal part (Plate 79A, B); occasionally distal part of stigmal vein slightly shorter than proximal part, but then propodeum without strong transverse keel between dorsal and posterior surface ........................................... 3. *Lonchodryinus* Kieffer
   - Fore wing with distal part of stigmal vein much shorter than proximal part (Plate 2L); occasionally distal part of stigmal vein slightly shorter than proximal part, but then propodeum with strong transverse keel between dorsal and posterior surface . . . . . .......................................................... 1. *Anteon* Jurine

#### Males

1. Fore wing with pterostigma four or more than four times as long as broad (Plate 48C, D), occasionally less than four times as long as broad, but then paramere with branch wrapping penis (Plates 54E, 55A) .................. 2. *Deinodryinus* R. Perkins
   - Fore wing with pterostigma less than four times as long as broad (Plates 5F, 79C); paramere usually without branch wrapping penis (Plates 21D, 28D) .................................................. 2
2. Fore wing with distal part of stigmal vein much shorter than proximal part (Plates 5F, 20D, 34C); occasionally slightly shorter, or as long as, or longer than proximal part, but then propodeum with strong transverse keel between dorsal and posterior surface .................................. 1. *Anteon* Jurine
   - Fore wing with distal part of stigmal vein as long as, or longer than proximal part (Plate 79C), occasionally slightly shorter than proximal part, but then propodeum with strong transverse keel between dorsal and posterior surface ........................................ 3
3. Paramere with one dorsal process (Plate 81F) ........................................ 4. *Metanteon* Olmi
   - Paramere without dorsal process (Plate 80A) ........................................ 3. *Lonchodryinus* Kieffer

### 4. Genus *Anteon* Jurine, 1807


*Antaeon* Haliday 1833: 275, invalid emend.

*Dryinus* Latreille: Walker 1837: 413.

*Chalogynus* Haliday 1838: 518 (synonymized by Kieffer in Kieffer & Marshall 1905); type species: *Chalogynus infectus* (Haliday in Walker 1837), by subsequent designation of Muehebeck & Walkley 1951 (designation of *Ch. gaullei* by Kieffer 1914 invalid, because the type was not an originally included species); R. Perkins 1907: 48; Kieffer 1914: 172; Berland 1928: 162; Richards 1937: 118; J. Perkins 1976: 18.


*Neochohologynus* R. Perkins 1905: 60 (synonymized by R. Perkins 1907); type species: *Neochohologynus typicus* R. Perkins 1905, by original designation.


*Lasiantheon* Kieffer 1913b: 300 (synonymized by Muehebeck & Walkley 1951); type species: *Lasiantheon rubrifrons* (Kieffer 1905), by subsequent designation of Muehebeck & Walkley 1951; Kieffer 1914: 197.

*Xenanteon* Kieffer 1913b: 300 (synonymized by Richards 1939); type species: *Xenanteon reticulatum* (Kieffer 1905), by subsequent designation of Richards 1939; Kieffer 1914: 197.

*Liodryinus* Kieffer 1913b: 300 (synonymized by Richards 1953); type species: *Liodryinus doddi* (Kieffer 1911b), by original designation.
**Type species.** *Anteon jurisneum* Latreille 1809, by subsequent monotypy.

**Diagnosis.** Female: Fully winged (Plate 2L); rarely brachypterous; occipital carina complete; palpal formula 6/3; antenna without rhinaria; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 2L); fore wing with stigmal vein and pterostigma (Plate 2L); distal part of stigmal vein much shorter than proximal part (Plate 2L), occasionally slightly shorter, as long as, or longer than proximal part; propodeum with transverse keel between dorsal and posterior surface (Plate 2L); protarsus chelate (Plate 2L); inner side of enlarged claw with proximal prominence bearing one long bristle (Plates 23C, 39A); tibial spurs 1/1/2.

Male: Fully winged (Plates 5F, 34C); rarely brachypterous; occipital carina complete; vertex of head usually without two oblique keels connecting posterior ocelli to occipital carina; palpal formula 6/3; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 5F); fore wing with stigmal vein and pterostigma (Plate 5F); distal part of stigmal vein much shorter than proximal part (Plate 5F), occasionally slightly shorter, as long as, or longer than proximal part; pterostigma less than four times as long as broad (Plate 5F); propodeum usually with transverse keel between dorsal and posterior surface; paramere without inner branch wrapping penis (Plates 36D, 43A); tibial spurs 1/1/2.

**Distribution.** Worldwide.

**Hosts.** Cicadellidae (Guglielmino & Olmi 1997 2006, 2007) (including Eurymelinae (=Eurymelidae, sensu Xu et al. 2013)).

**World species.** Four hundred and twenty-three species are known, 72 in the Neotropical region.

**Remarks.** Larvae of *Anteon* were described by Ponomarenko (1975b).
12. Pronotum raised into transverse carina between anterior and posterior half (Plate 37E) ........................................... A. paraguayense Olmi
13. Pronotum not raised into transverse carina between anterior and posterior half (Plate 46D) ........................................... A. victor Olmi
14. Posterior surface of propodeum without longitudinal keels ................................................................. 14
15. Posterior surface of propodeum with two longitudinal keels, occasionally with numerous longitudinal keels ............. 30
16. Fore wing hyaline, without dark transverse bands ......................................................................................... 15
17. Fore wing with one–two dark transverse bands or spots .................................................................................. 26
18. Pronotum and head at least partly reddish, or testaceous, or whitish .......................................................... 24
19. Head completely granulated, not reticulate rugose, not sculptured by numerous irregular keels or areolae ................ 17
20. Head granulated and reticulate rugose, or sculptured by numerous areolae or longitudinal keels ...................... 18
21. Segment 5 of protarsus basal part very large, forming obtuse angle with distal part (Plate 47D) .................... A. yanegai Olmi
22. Segment 5 of protarsus basal part smaller and about parallel to distal part (Plate 46A) ................................. 19
23. Pronotum not crossed by transverse raised carina (Plate 38B) ........................................................................... 20
24. Pronotum crossed by strong transverse raised carina (Plates 19B, 45F) ......................................................... 23
25. Scutum without raised transverse carina between anterior and posterior half (Plate 37E); enlarged claw very long, with distal a ................................................................. 27
26. Scutum with anterior region smooth; posterior half of scutum dull, rugose, punctate, with irregular striae A. panamense Olmi
27. Scutum with anterior region smooth; posterior half of scutum dull, rugose, punctate, with irregular striae .......... 28
28. Head at least partly testaceous, or brown-reddish; occasionally head black, with mandible and clypeus testaceous; notauli reaching about 0.3–0.4 length of scutum ........................................ 25
29. Scutum with anterior region smooth; posterior half of scutum dull, rugose, punctate, with irregular striae A. jamaicanum Olmi
30. Posterior surface of pronotum shorter than half of scutum ............................................................................. 22
31. Head with OPL shorter than OL ......................................................................................................................... 22
32. Head with OPL longer than OL .......................................................................................................................... 22
33. Posterior surface of pronotum shorter than half of scutum ............................................................................ A. molle Olmi
34. Posterior surface of pronotum longer than half of scutum ............................................................................. A. parkeri Olmi
35. Pronotum with posterior surface as long as, or longer than half of scutum (Plate 19B) ............................ A. albittarse (Cameron)
36. Pronotum with posterior surface much shorter than half of scutum (Plate 45F) ........................................ A. triste Olmi
37. Posterior surface of pronotum without dorsal lobes; posterior surface of propodeum usually dull, completely reticulate rugose, or granulated, or sculptured by transverse keels, rarely unsculptured, shiny and smooth ............................................................... 27
38. Head shiny, unsculptured, or punctate and without sculpture among punctures ........................................ A. noyesi Olmi
39. Head dull, granulated ........................................................................................................................................... A. surinamense Olmi
40. Posterior surface of propodeum with anterior half smooth, granulated and posterior half sculptured by transverse keels; prothorax reddish ................................................................. A. caraibicum Olmi
41. Posterior surface of pronotum completely reticulate rugose ............................................................................... 29
42. Pronotum with posterior surface as long as, or longer, or slightly shorter than half of scutum .......... A. albittarse (Cameron)
43. Pronotum with posterior surface much shorter than half of scutum .......................................................... A. triste Olmi
44. Pronotum forming two dorsal lobes near posterior margin ............................................................................. 31
45. Pronotum not forming two dorsal lobes ........................................................................................................... 34
46. Posterior surface of propodeum strongly sculptured by numerous longitudinal keels ................................. A. diabolus Olmi
47. Posterior surface of propodeum with only two longitudinal keels ................................................................. 32
48. Head punctate, unsculptured among punctures, not granulated ..................................................................... 32
49. Head completely granulated, or granulated and slightly irregularly rugose .................................................. 33
50. Posterior surface of propodeum with median area rugose ............................................................................. A. bolivianum Olmi
51. Posterior surface of propodeum with median area unsculptured, smooth .................................................. A. surinamense Olmi
52. Pronotum with raised transverse carina between anterior and posterior surface (Plates 24A, 42F) ............. 35
53. Pronotum without raised transverse carina between anterior and posterior surface (as in Plate 38B) .......... 38
54. Anterior surface of pronotum approximately as long as posterior surface (Plate 42F); enlarged claw very long, with distal apex ................................................................. A. propodeale (Fenton)
55. Anterior surface of pronotum much shorter than posterior surface (Plate 24A); enlarged claw shorter, with distal apex inserted in group of distal lamellae, when the chela is closed (Plates 24C, 36A, 39A) ................................. 36
56. Head with OPL approximately three times as long as POL ................................................................................. 36
57. Head with OPL approximately as long as, or slightly longer, or slightly shorter than POL ............................ 37
58. Head completely reticulate rugose, then face without numerous parallel longitudinal keels; occasionally head completely sculptured by many subparallel longitudinal keels, including vertex behind ocellar triangle ...................................................... A. chiriquense (Cameron)
59. Head reticulate rugose, with anterior half of face sculptured by numerous parallel longitudinal keels .......... A. pectinicornene Olmi
60. Scutum completely sculptured by numerous longitudinal keels ....................................................................... A. sculptum Olmi
61. Scutum not sculptured by longitudinal keels; rarely with few lateral longitudinal striae located near parapsidal furrows ................................................................. A. vivax Olmi
62. Head completely punctate, unsculptured among punctures ......................................................................... 39
63. Head at least partly granulated or reticulate rugose ....................................................................................... 40
40. Head completely granulated, not reticulate rugose ........................................... 41
   – Head completely or partly reticulate rugose .................................................. 42
41. Notauli reaching approximately 0.75 length of scutum; frontal line complete ........ 41
   – Notauli shorter, reaching approximately 0.2 length of scutum; frontal line incomplete, only visible in front of anterior ocellus. A. evansi Olmi
   – A. zuequianum Olmi
42. Posterior surface of pronotum sculptured by strong transverse keels .................... 43
   – Posterior surface of pronotum rugose or smooth, not sculptured by strong transverse keels .......................... 43
43. Body totally testaceous, with petiole brown .................................................... 44
   – Body at least partly black or brown ............................................................... 44
44. Prothorax testaceous-reddish ................................................................. A. dulceolens Olmi
   – Prothorax black, at most with lateral margins reddish or testaceous ................. A. habile Olmi

Males (unknown in the species not present in the key to the males)

1. Posterior surface of propodeum with two longitudinal keels .................................. 2
   – Posterior surface of propodeum without longitudinal keels .................................. 29
2. Antenna pectinate .............................................................................. A. pectinicorne Olmi
   – Antenna filiform .................................................................................. 5
3. Face completely sculptured by numerous longitudinal keels; frontal line complete .... A. pectinicorne Olmi
   – Face completely reticulate rugose, without longitudinal keels; frontal line absent .......... 4
4. Paramere with distal inner pointed process (Plate 36D) ......................................... 4
   – Paramere without distal inner pointed process (Plate 43A) .................................. A. rogersi Olmi
5. Head with anterior half of face testaceous-reddish; posterior half of face black .. A. noyesi Olmi
   – Head black or brown, at most with mandible, clypeus, gena and anterior margin of face testaceous-reddish ..... 6
6. Paramere without distal inner pointed process (Plates 35F, 43C); at most with distal inner rounded process (Plates 34D, 42B) 7
   – Paramere with distal inner pointed process (Plates 22C, 25B) .................................. 23
7. Head with anterior half of face sculptured by longitudinal striae .......................... 8
   – Head with anterior half of face not sculptured by longitudinal striae ......................... 10
8. Posterior surface of propodeum with median region smooth and unsculptured .......... A. noyesi Olmi
   – Posterior surface of propodeum with median region rugose or granulated and rugose ..... 9
9. Antenna filiform, with segments 3 and 4 not produced into dorsal slight pointed apophysis (Plate 21B); clypeus rounded, slightly prominent (Plate 21A) .... A. bolivianum Olmi
   – Antenna slightly pectinate, with segments 3 and 4 produced into dorsal slight pointed apophysis (Plate 22B); clypeus very prominent, almost rectangular (Plate 22A) .......... A. housseni Olmi
10. Head completely granulated ............................................................................. A. hortense Olmi
11. Head reticulate rugose, or punctate and unsculptured among punctures .......... 11
12. Head completely or partly reticulate rugose ...................................................... 12
   – Head completely punctate and unsculptured among punctures, not reticulate rugose .......... 22
13. Scutum completely reticulate rugose .................................................................. 22
   – Scutum granulated, or completely, or almost completely, or mostly punctate and unsculptured among punctures; occasionally scutum punctate and with part of anterior surface rugose .... 13
14. Scutum completely granulated ........................................................................... 13
   – Scutum completely, or almost completely, or mostly punctate and unsculptured among punctures; occasionally scutum punctate and with part of anterior surface rugose .................. 14
15. Posterior surface of propodeum with median area as rugose as lateral areas ........ 15
   – Posterior surface of propodeum with median area smooth and shiny ..................... 20
16. Clypeus chisel shaped (Plate 29C) ........................................................................ A. guadeloupense Olmi
   – Clypeus not chisel shaped ............................................................................. 17
17. Paramere with large inner branch wrapping penis (Plate 43B) ............................ A. romeroi Olmi
   – Paramere without large inner branch wrapping penis (Plates 28A, 42A) ............ 18
18. Clypeus black ................................................................................................. 18
   – Clypeus reddish-dark ............................................................................. A. pauaemoni Olmi
19. Fore wing with one dark spot beneath pterostigma ............................................. A. plumbeum Olmi
   – Fore wing hyaline, without dark spots ............................................................ A. plumbeum Olmi
20. Posterior surface of propodeum with median and lateral areas smooth .......... A. haggerti Olmi
   – Posterior surface of propodeum with median area smooth and lateral areas rugose ...... 21
21. Region of head behind ocellar triangle not excavated; scutum completely smooth, finely punctate and unsculptured among punctures; antennal segment 9 approximately three-four times as long as broad .................................. A. gracile Olmi
   – Region of head behind ocellar triangle excavated; scutum only partly punctate and unsculptured among punctures, rugose near anterior margin and with anterior half of lateral areas rugose; antennal segment 9 less than three times as long as broad .......... A. nicolasi Olmi & Virla
22. Paramere approximately as long as penis (Plate 46F) .................................................. A. vivax Olmi
   – Paramere much shorter than penis (Plate 45A) .................................................. A. slanskyae Olmi
23. Head smooth, punctate, unsculptured among punctures .............................................. 24
   – Head completely granulated or partly reticulate rugose; occasionally also with numerous longitudinal keels on face .................................................. 25
24. Notauli short, reaching approximately 0.2 length of scutum; fore wing with dark spot beneath pterostigma . . . . . . . . . . . . . . . . A. beieri Olmi
   – Notauli long, reaching approximately 0.6 length of scutum; fore wing hyaline, without dark spots or dark bands .................................................. 28
25. Head completely granulated, not rugose ........................................................................ 26
   – Head completely or mostly reticulate rugose; occasionally also with numerous longitudinal keels on face .................................................. 27
26. Distal inner pointed process of paramere with apical margin not serrate (Plate 29A) .......... 27
   – Distal inner pointed process of paramere with apical margin serrate (Plate 38D) .......... 28
27. Posterior surface of propodeum with median area rugose; scutum with posterior half slightly granulated and anterior half punctate and unsculptured among punctures; clypeus chisel shaped (Plate 29C) A. guadeloupense Olmi
   – Posterior surface of propodeum with median area laterally rugose and medially smooth; scutum completely punctate and unsculptured among punctures, not granulated; clypeus not chisel shaped (Plate 24B) A. chiriquense (Cameron)
28. Scutum granulated ........................................................................................................ 30
   – Scutum punctate, unsculptured among punctures .................................................... 31
29. Scutum completely reticulate rugose, or completely or mostly granulated ...................... 32
   – Scutum unsculptured, or punctate and unsculptured among punctures; at most scutum with only anterior margin rugose .................................................. 33
30. Scutum completely reticulate rugose .............................................................................. 34
31. Paramere without distal inner pointed process (Plate 43C) .............................................. A. rugiscutum Olmi
   – Paramere with distal inner pointed process (Plate 19D); apical margin of this process completely or partly serrate (Plate 19D) A. albitarse (Cameron)
32. Distal apex of paramere broadly hollowed out (Plate 27A) ............................................. A. dykeae Olmi
   – Distal apex of paramere not broadly hollowed out (Plates 25C, 31B) ......................... 33
33. Paramere much shorter than penis (Plate 31B) .............................................................. 34
   – Paramere as long as, or slightly shorter than penis (Plate 25C) ..................................... 35
34. Vertex of head with two oblique keels from posterior ocelli to occipital carina .......... 36
   – Vertex of head without two oblique keels from posterior ocelli to occipital carina .......................... 37
35. Distal region of paramere with numerous papillae (Plate 25C) A. desantisii Viria
   – Distal region of paramere without papillae (Plate 27D) ............................................. 38
36. Paramere without distal inner process (Plate 31C) .......................................................... 39
   – Paramere with distal inner process (Plates 19D, 40D, E) ............................................. 40
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– Face without two lateral keels located near orbits and directed towards antennal toruli ............ A. molle Olmi

1. Anteon albitarse (Cameron, 1888)
(Plate 19)

Dryinus albitarsis Cameron 1888: 447.
Anteon annulicornis Brues 1905: 185 (synonymized by Olmi 1991); type locality: Mexico.
Mesodryinus albitarsis (Cameron): Kieffer 1914: 33.

Description. Female. Fully winged; length 1.8–3.0 mm. Head black, except mandible testaceous or partly black; antenna testaceous, except segments 6–10, or 9–10, or only 10 black (occasionally segments 2–4 brown and 8–10 brown-dark; occasionally antenna totally testaceous); mesosoma and metasoma black; legs testaceous, except all coxae or only metacoxa partly black, club of meso- and metemferm brown (occasionally club of profemur also brown), meso- and metapleura brown; occasionally legs brown, except tarsi testaceous. Antenna clavate; antennal segments in following proportions: 12:6:7:5:4:5:5:5:7. Head dull, granulated, smooth; occasionally face reticulate rugose; occasionally (in specimen from Costa Rica, 20 km S Upala) head completely unsculptured, except for short transverse keels across three frontal longitudinal keels; frontal line complete; face with two longitudinal keels around orbits directed towards antennal toruli; occipital carina complete; POL = 6; OL = 4; OOL = 6; OPL = 5; TL = 6; occasionally POL = 7; OL = 4.5; OOL = 5.5; OPL = 5; TL = 5. Pronotum dull, granulated, with numerous transverse keels on anterior half; in small specimens pronotum more strongly granulated; in large specimens pronotum smoother and slightly granulated, or completely unsculptured (as in A. annulicornis); pronotum forming raised transverse carina between anterior and posterior half (Plate 19B); posterior surface as long as, or longer than half of scutum (7.5:17 or 7.5:15); pronotal tubercle reaching tegula. Scutum dull, smooth, granulated; occasionally scutum unsculptured. Notauli absent, or very short and shortly present near anterior margin of scutum. Scutellum and metanotum smooth, shiny, unsculptured, or slightly punctate. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels; occasionally posterior surface partly smooth; in large specimen from Cuba, Sierra Maestra, posterior surface almost completely smooth, except some transverse and irregular striae. Mesopleuron and anterior half of metapleuron dull and rugose; posterior half of metapleuron shiny, smooth, unsculptured. Fore wing with one–two dark transverse bands; occasionally fore wing completely hyaline, without dark transverse bands (in specimen from Argentina, Loreto); distal part of stigmal vein much shorter than proximal part (2.5:8). Protarsal segments of holotype of A. albitarse in following proportions: 6:2:3:5:16; Protarsal segments of holotype of A. annulicornis in following proportions: 20:8:8.5:22:46; Protarsal segments of specimen from Bolivia, Chulumani, in following proportions: 5:1.5:3:8:20. Enlarged claw (Plate 19A, C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 19A, C) with one–two rows of approximately 12 lamellae; distal apex with approximately 17 lamellae; occasionally lamellae forming long row extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Fully winged; length 1.8–2.4 mm. Head black, except mandible testaceous; antenna totally black, or brown, except segment 1 testaceous; mesosoma and metasoma black; occasionally metasoma brown; legs black or
Anteon albitarse. A–C. Chelae. B. Prothorax in lateral view. D. Male genitalia. A. Female from Mexico (holotype of A. annulicornis). B. Female from 96.5 km SW Tuxtepec (Mexico). C. Holotype. D. Male from Zurquí de Moravia (Costa Rica). Scale bar 0.09 mm for A, 0.32 mm for B, 0.12 mm for C, 0.10 mm for D.

Material examined. Types: ♀ holotype of D. albitarsis: GUATEMALA: Panajachel, 600 ft., Champion leg., P. Cameron collection (BMNH); ♀ holotype of A. annulicornis: MEXICO (no further localities) (ANSP). Other material: ARGENTINA: Misiones, Loreto (FCNM). BELIZE: Corozal District, Sarteneja, Xcopen Milpa Farmland, 18°13.203′N 88°13.852′W, 8 ft., 10.XII.2009, C. Schüepp leg., 1♂ (NHMB). BOLIVIA: La Paz, Chulumani, 1700 m, 27.III.1979, M. Cooper leg., 1♀ (BMNH); S. Fermin (MCZ); La Paz, along Coroico-Chulumani road (MCZ). BRAZIL: Minas Gerais, Poços de Caldas (PMA). COLOMBIA: Valle Department, Cali (CAS). COSTA RICA: Alajuela, Carrizal, 1800 m (EBUC); Alajuela, 20 km S of Upala (DBUSU); Alajuela, Cord. Tilaran, Peñas Blancas, 700 m (PMA); Guanacaste, S. Rosa Park (AEIC); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Guanacaste, SW of Volcán Cacao, Estación Mengo, 1100 m (AMNH); Guanacaste, NW of Volcán Orosi, Cerro El Hacha, 300 m (AMNH); Heredia, La Selva Biological Station, 10°43′N 84°00′W, 50–150 m, 1.III.1994 (NHMLA); Limón, 16 km W of Guápiles, 400 m (AMNH); Puntarenas, Monte Verde Reserve (PMA); San José, Zurquí de Moravia, 1600 m (AMNH, DBUSU); San José, Zurquí de Moravia, 10°05′N 84°02′W, 1600 m (NHMLA); San José, Escazú (AEIC, DBUSU). CUBA: Sierra Maestra, 2700–3500′, 10–20.VII.1922 (AMNH). ECUADOR: Pichincha, Along Quito-S. Domingo de los Colorados road (AEIC). GUATEMALA: Zacapa Department, San Lorenzo (CNC). HONDURAS: Cortés, Cusco National Park, 5 km N of Buenos Aires, 15°29′N 83°13′W (ZIL); Olancho, La Muralla National Park, 15 N of La Unión, 15°07′N 86°45′W (ZIL); Olancho, La Muralla National Park, 15°05′49″N 86°44′17″W, 1480 m, 4–7.VII.2002, D. Yanega leg., 1♂, 1♀ (DEUCR). MEXICO: Campeche, 6 mi E of Xpujil, Chicanna Ruins, 700 ft. (PMA); Chiapas, S. Cristobal de las Casas (CNC); Chiapas, 3.9 mi SW of Ocosingo, 3500′ (PMA); Hidalgo, Hwy 105, 2.7 mi N of Tlanchinol, 5000′ (CAS); Jalisco,
Puerto Vallarta (DBUSU); Oaxaca, Tuxtepec, Vista Hermosa (AEIC, AMNH); Quintana Roo, Felipe Carrillo Pto (DBUSU); Veracruz, Jalapa, 15.XI.1963 (USNM); MEXICO: Oaxaca, Comaltepec, La Esperanza, 17°62’N 96°37’W, 1600 m, XII.2008, Malaise trap in forest, A.L. Garcia leg., 1 ♀ (OLL). NICARAGUA: Jinotega (MEL). PANAMA: Bocas del Toro, Parque Int. La Amistad, Wekso-Teribe, 50 m, yellow pan trap, 17–24.X.1999, A. Santos leg. (MIGBF); Chiriquí, Las Lagunas (PMA); 2 km W of Cerro Punta, 1700 m (AEIC); Chiriquí, Parque I. La Amistad, 5.II.1994, yellow trap, A. Rodriguez leg. (MIGBF); Chiriquí, 4 km E Santa Clara, 1125 m, 5.VII.1996, Gillogly & Schaffner leg., 1 ♀ (DETAM); Chiriquí, Finca La Suiza, 8°39’N 82°12’W, 1220 m, 16.VII.2000, FIT, H. Howden leg., 1 ♀ (CNC); Chiriquí, 8 Km S Boquete, 08°41.915’N 82°26.803’W, 2700’, 1–14.II.2012, Malaise trap, F.D. Parker & T.D. MacIntyre leg., 1 ♀, 12 ♂♂ (UCFC); same locality label, 14.I.2012, 1 ♀, 1 ♂ (UCFC); same locality label, 5.I.2012, 1 ♂ (UCFC); Veraguas, Santa Fé, Alto de Piedra, 23–24.III.1999, yellow trap, A. Santos & L. de Gracia leg. (MIGBF). TRINIDAD AND TOBAGO: Trinidad, St. George, St. Augustine (AMNH, BMNH). URUGUAY: Col. 11 km, E of Ruta 21, Reducto (CAS). VENEZUELA: Yacambú (AMNH).


**Hosts**: Unknown.

**Distribution**: Argentina, Belize, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Trinidad and Tobago, Uruguay, Venezuela and Nearctic region (Mexico, USA).

**Remarks**: In borderlands between the Neotropical and Nearctic regions, the female of *A. albitarse* can be confused with that of Nearctic *A. funestum* (Perkins 1907). Usually the females of the two species may be distinguished by the fore wing (hyaline in *funestum*, very darkened in *albitarse*).

2. *Anteon amazonicum* Olmi, 1996

*(Plate 20A)*


**Description. Male.** Fully winged; length 2.5 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous, except stalk of metafemur and part of metatibia darkened. Antenna filiform; antennal segments in following proportions: 9:4:5:5:5:5:5:5:5. Head convex, shiny, smooth, punctate, unsculptured among punctures; frontal line absent; occipital carina complete; vertex with two short keels connecting posterior ocelli to occipital carina; POL = 5; OL = 3; OOL = 3; OPL = 2.5; TL = 3. Scutum, scutellum and metanotum hairy, shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.6 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface strongly reticulate rugose; posterior surface slightly rugose, with two longitudinal keels, median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:7). Paramere (Plate 20A) with distal inner pointed process. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined. Type:** ♂ holotype: PERU: Loreto, Iquitos, Barillal, 10.II.1984, L. Huggert leg. (ZIL).

**Hosts**: Unknown.

**Distribution**: Peru.

3. *Anteon beierli* Olmi, 1996

*(Plate 20B, C)*


**Description. Male.** Fully winged; length 1.4–1.8 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs testaceous, except meso- and metafemur...
PLATE 20. A–C. Male genitalia. D. Male of Anteon sp. in dorsal view (length 2.5 mm.). A. Anteon amazonicum, holotype. B. Anteon beierli, paratype. C. Paramere of Anteon beierli, holotype. Scale bar 0.12 mm for A, 0.4 mm for B and C.
and meso- and metatibia brown. Antenna filiform; antennal segments in following proportions: 9:4:4.5:4.5:4.5:4.5:4:5:4:4.5:8. Head shiny, smooth, finely punctate, unsculptured among punctures; face with two lateral keels around orbits directed towards antennal toruli; frontal line complete; occipital carina complete; vertex with two short keels connecting posterior ocelli to occipital carina; POL = 4; OL = 2.5; OOL = 3.5; OPL = 1.5; TL = 2. Scutum, scutellum and metanotum shiny, smooth, unsculptured or finely punctate and unsculptured among punctures. Notauli hardly visible, incomplete, reaching approximately 0.2 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas rugose and median area shiny, slightly rugose. Fore wing hyaline, with one dark spot beneath pterostigma; distal part of stigmal vein much shorter than proximal part (2:6). Paramere (Plate 20B, C) with distal inner process. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Ecuador, French Guiana.

4. Anteon bolivianum Olmi, 1984
(Plate 21)


Description. Female. Fully winged; length 2.5–3.1 mm. Completely testaceous-reddish. Antenna clavate; antennal segments in following proportions: 11:5:5:3:2:5:7:7:6:9. Head dull, granulated, not reticulate rugose, without keels; frontal line absent; POL = 5; OL = 3.5; OOL = 9; OPL = 5; TL = 6; occipital carina complete. Pronotum shiny, smooth, unsculptured, crossed by transverse impression; posterior surface about twice as broad as long, with two prominent dorsal lobes separated by median furrow; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two hardly visible longitudinal keels and median and lateral areas shiny and slightly rugose. Fore wing crossed by two dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:9). Protarsal segments in following proportions: 7:3:3:8:21. Segment 5 of protarsus (Plate 21C) with basal part much shorter than distal part. Enlarged claw (Plate 21C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 21C) with two rows of approximately 40 lamellae; distal apex with about 17 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 2.12 mm. Head black, except mandible, clypeus and anterior margin of face testaceous; antenna brown, except segments 1–3 testaceous; mesosoma black; metasoma brown; legs testaceous. Antenna filiform (Plate 21B); antennal segments in following proportions: 9:5:5:5:5:5:6:5:5:5:5:7. Head dull, granulated, with anterior half of face sculptured by many thin longitudinal striae (Plate 21A); frontal line complete; clypeus rounded and little prominent (Plate 21A); occipital carina complete; POL = 7; OL = 3; OOL = 4; OPL = 2.5; TL = 5. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, with two longitudinal keels and median area slightly rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:8). Paramere without distal inner pointed process (Plate 21D). Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype: BOLIVIA: Beni Department, Rio Itenez, mouth of Rio Baures (AMNH). Other material: ARGENTINA: Misiones, Loreto (FCNM); Tucumán, Horco Molle (AMNH, MCZ).

Hosts. Unknown.

Distribution. Argentina, Bolivia.
PLATE 21. Anteon bolivianum. Head (A) and antennal segments 1–5 (B) of male from Horco Molle (Argentina). C. Chela of holotype. D. Male genitalia of specimen from Horco Molle (Argentina). Scale bar 0.24 mm for A, 0.28 mm for B, 0.15 mm for C, 0.12 mm for D.

PLATE 22. Anteon bousemani, holotype. Head (A), antennal segments 1–6 (B) and male genitalia (C). Scale bar 0.21 mm for A, 0.28 mm for B, 0.08 mm for C.

5. Anteon bousemani Olmi, 1998
(Plate 22)


Description. Male. Fully winged; length 2.2 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma black; metasoma brown-black; legs brown, except tarsi and protibia testaceous. Antenna slightly pectinate, with segments 3 and 4 produced into slight dorsal apophysis (Plate 22B); antennal...
segments in following proportions: 9:4.5:4:4:5:6:5.5:5.5:8. Head dull, granulated and reticulate rugose, with anterior half of face sculptured by many thin parallel and longitudinal striae; face with two lateral longitudinal keels around orbits and directed towards antennal toruli; frontal line absent; clypeus very prominent, almost rectangular (Plate 22A); occipital carina complete; POL = 7; OL = 4; OOL = 5; OPL = 4; TL = 3. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.4 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two complete longitudinal keels, lateral areas strongly reticulate rugose and median area granulated and slightly rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:7). Paramere (Plate 22C) with distal inner rounded process. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Type: ♂ holotype: URUGUAY: Tacuarembo, 40 km NW Tacuarembo, 2–9.II.1963, J.K. Bouseman leg. (AMNH).

**Hosts.** Unknown.

**Distribution.** Uruguay.

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**PLATE 23. A–C. Chelae of holotypes. A. *Anteon caraibicum*. B. *A. catarinense*. C. *A. compactum*. Scale bar 0.2 mm for A, 0.17 mm for B, 0.15 mm for C.**

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6. **Anteon caraibicum** Olmi, 1987
(Plate 23A)


**Description. Female.** Fully winged; length 4.0 mm. Head reddish, except darkened ocellar spot; antenna testaceous, except segment 10 darkened; prothorax reddish; rest of mesosoma black, except reddish spot on scutum and mesopleuron near tegula and lateral regions of propodeum reddish; metasoma brown; legs testaceous, except clubs of femora, meso- and metatibia, metacoxa and metatarsus brown. Antenna clavate; antennal segments in following proportions: 13:7:6:5:4:5.5:5:5.5:5.5:7.5. Head dull, granulated; face with two lateral keels from inner margin of eye to subocular sulcus and with some transverse keels near frontal line; frontal line complete; POL = 6; OL = 4; OOL = 6; OPL = 5; TL = 5; occipital carina complete. Pronotum dull, granulated, with transverse median carina between anterior and posterior half; posterior surface shorter than scutum (7:17); pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli absent. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface without longitudinal keels, with anterior half smooth and granulated, and posterior half sculptured by transverse keels. Mesopleuron and metapleuron smooth, granulated. Fore wing crossed by two dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:10). Protarsal segments in following proportions: 5:2:4:5:17. Enlarged claw (Plate 23A) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 23A) with two rows of approximately 19 lamellae; distal apex with about seven lamellae. Tibial spurs 1/1/2.
Male. Unknown.

Material examined. Type: ♀ holotype: JAMAICA: Blue Mts., Whitfield Hall (MCZ).

Hosts. Unknown.

Distribution. Jamaica.

7. *Anteon catarinense* Olmi, 2010
(Plate 23B)

*Anteon catarinense* Olmi 2010: 18; Olmi 2011a: 5.

Description. Female. Fully winged; length 2.4–3.1 mm. Head black, except mandible testaceous; antenna totally testaceous, occasionally with dorsal side of segments 5–10 slightly darkened; mesosoma black; metasoma brown; fore leg testaceous; midleg testaceous, except part of coxa and club of femur brown (occasionally only club of femur brown); hind leg testaceous, except part of coxa, club of femur and tibia brown. Antenna clavate; antennal segments in following proportions: 8:5:4.5:4:4:4:4:4:6.5. Head shiny, smooth, finely punctate, unsculptured among punctures, occasionally partly very slightly granulated; frontal line incomplete, only present in posterior half of face; POL = 4; OL = 3; OOL = 3.5; OPL = 3; TL = 5; greatest breadth of posterior ocelli shorter than OOL (2.5:3.5); occipital carina complete. Pronotum rugose, transversely striate, with posterior surface shorter than scutum (7:13); posterior surface of pronotum broader than long; pronotal tubercle reaching tegula. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.1–0.3 length of scutum (0.3 in the holotype). Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas (occasionally median area partly smooth and shiny). Fore wing hyaline, not crossed by dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:7). Protarsal segments in following proportions: 6:2:2:3:10. Segment 5 of protarsus (Plate 23B) with basal part much longer than distal part (7:3). Enlarged claw (Plate 23B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 23B) with two rows of six peg-like hairs and some hairs; distal apex with 9–14 lamellae (nine in holotype). Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

8. *Anteon chiriquense* (Cameron, 1888)
(Plate 24)

*Dryinus chiriquensis* Cameron 1888: 447.
*Neodryinus chiriquensis* (Cameron): Kieffer 1914: 32.
*Anteon yon* Olmi 1987a: 400 (synonymized by Olmi 1991); type locality: Yacambú (Venezuela).

Description. Female. Fully winged; length 3.6–6.0 mm. Head black, except mandible testaceous; antenna completely testaceous, or with segments 6–9 or 6–10 dark; mesosoma black; metasoma testaceous, or brown-testaceous; legs testaceous, except stalk of metafemur dark; occasionally metacoxa basally black. Antenna clavate. Head dull, hairy, completely reticulate rugose (in specimen from Costa Rica, Peñas Blancas, head completely sculptured by numerous subparallel longitudinal keels, including face and vertex); clypeus square-shaped, not rounded; frontal line absent; occipital carina complete; POL = 5; OL = 3; OOL = 7; OPL = 6 or 4; TL = 9. Pronotum hairy, smooth, punctate, with raised transverse carina between anterior and posterior surface (Plate 24A); anterior surface much shorter than posterior surface; posterior surface with sides not rounded, but raised into.
longitudinal carinas; occasionally posterior surface with one incomplete median keel; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.25 length of scutum (in specimen from French Guiana, Montagne des Chevaux, notauli absent). Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose, with areolae very large showing granulated internal surface; posterior surface with two longitudinal keels and median and lateral areas smooth, shiny; occasionally only median area smooth and lateral areas rugose. Mesopleuron and metapleuron shiny and smooth. Fore wing with two dark transverse bands; occasionally fore wing completely yellowish or darkened; distal part of stigmal vein much shorter than proximal part (4:13). Protarsal segments in following proportions: 8:4:4:10:24. Segment 5 of protarsus (Plate 24C) with basal part shorter than distal part. Enlarged claw (Plate 24C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 24C) with two rows of approximately 18 lamellae; distal apex with approximately five lamellae. Tibial spurs 1/1/2.

PLATE 24. _Anteon chiriquense_. A. Pronotum of holotype in lateral view. B. Head of female from 16 km W Guápiles (Costa Rica). C. Chela of holotype. D. Male genitalia of specimen from Jardín Botánico Wilson (Costa Rica). Scale bar 0.34 mm for A, 0.52 mm for B, 0.17 mm for C, 0.1 mm for D.

**Male.** Fully winged; length 2.5–2.7 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous. Antenna filiform; antennal segments in following proportions: 11:7:6:5:5:6:6:7:11. Head dull, reticulate rugose; clypeus not chisel shaped (Plate 24B) frontal line absent; occipital carina complete; POL = 7.5; OL = 4; OOL = 6; OPL = 5; TL = 5. Scutum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.4 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas rugose and median area shiny, laterally rugose and with median smooth region. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:10). Paramere with distal inner pointed process (Plate 24D). Tibial spurs 1/1/2.

**Material examined.** Types: ♀ holotype of _D. chiriquensis_: PANAMA: Chiriquí, Chiriquí Volcano, Champion leg., P. Cameron collection (BMNH); ♂ holotype of _A. yon_: VENEZUELA: Yacambú (AEIC). Other material: BOLIVIA: Bení, Rio Mamoré, 10 km E of San Antonio (AMNH). BRAZIL: Mato Grosso, Sinop, 12°31'S 55°37'W (AEIC); Pará, Melgaço, Caxiuanã, trail at igarapé Curuá, 17–20.XI.2003, 23–26.XI.2003, YPT, A.P. Aguiar & J. Dias leg., 2♀♀ (Coelho et al. 2011) (MPEG); Rio de Janeiro, Guanabara, Represa do Rio Grande (PMA); Santa Catarina, Nova Teutonia (CNC). COLOMBIA: Valle Departamento, Peñas Blancas (FSCA). COSTA RICA: Alajuela, 20 km S of Upala (DBUSU); Alajuela, Cord. Tilaran, Peñas Blancas, 700 m, 11.IV.1986, PT, A. Forsyth leg., 2♀♀ (PMA); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Limón,

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Tortuguero National Park, 0 m (AMNH); Limón, 16 km W of Guápiles, 400 m (AMNH); Puntarenas, Golfo Dulce Forest Reserve, 10 km W of Piedras Blancas, 100 m (AMNH, EBUC); Puntarenas, Golfo Dulce Forest Reserve, 24 km W of Piedras Blancas, 200 m (AMNH); Puntarenas, 6 km S of San Vito de Jaba, Las Cruces, Jardín Botánico Wilson, 1200 m (AMNH); Puntarenas, Manuel Antonio National Park (PMA); Carara Biological Reserve, Estación Quebrada Bonita, 50 m (AMNH); San José, Escazú (DBUSU); San José (DBUSU). ECUADOR: Esmeralda, 11 km SE of San Lorenzo, La Chiquita (PMA); Orellana, Tiputini Biodiversity Station, 00°37.55’S 76°08.39’W, 216 m, 6.II.1999, canopy, fogging bare leaves, T. Erwin et al. leg., 2♀♀ (USNM); Pichinchá, 15 km E of Sto. Domingo de los Colorados, Tinalandia, 2000’ (CNC). FRENCH GUIANA: Régina, Montagne de Kaw, near km 14 SE of Cayenne, 04°58’N 54°10’W, 174 m (NHMLA); Roura, Montagne des Chevaux, 4.XII.2011, Malaise trap, SEAG leg., 1♀ (FSAE). PANAMA: Colón, Canal Zone, Barro Colorado Island (AMNH); Colón, Canal Zone, Barro Colorado Island, 09°09’N 79°51’W (RNHL); Darién, Darién National Park, Pirre, Rancho Frio, 80 m, 21.III–4.IV.2000, 7–16.XI.2000, yellow trap, Cambra, Santos & Bermudez leg. (MIGBF); Panamá, Parque Nat. Metropolitano, 24.VIII–3.IX.1999, yellow trap, A. Santos & P. González leg. (MIGBF); Chiriquí, 8 Km S Boquete, 08°41.915’N 79°56.803’W, 2700’, 1–14.II.2012, Malaise trap, F.D. Parker & T.D. Maclntyre leg., 2♂♂ (UCFC); same locality label, 1♂ (UCFC); Panamá, Chilibre, Chagres National Park, Campo Chagres, yellow trap, 24–28.I.2000, A. Santos leg. (MIGBF); Veraguas, Santa Fé, Altos de Piedra, 13–17.IX.1999, Malaise trap, A. Santos & P. González leg. (MIGBF). **Nearctic region**: USA: Arizona, Cochise Co., Portal, 30.VIII.1987, H. & M. Townes coll, 1♂ (AEIC).

**Hosts.** Unknown.

**Distribution.** Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Panama, Venezuela and Nearctic region (USA).

(Plate 23C)


**Description. Female.** Fully winged; length 3.0–3.1 mm. Head black, except mandible testaceous; antenna testaceous, except segments 5–10 or 6–10 brown; mesosoma and metasoma black; legs black, except trochanters, procoxa, pro- and mesotarsus and protibia testaceous. Antenna clavate; antennal segments in following proportions: 14:6:4:3.5:6:5:5:6:5.5:8. Head dull, granulated and reticulate rugose; frontal line complete; face with two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 6.5; OL = 4; OOL = 6; OPL = 7; TL = 6. Pronotum dull, granulated and rugose; posterior surface shorter than scutum (7:17); pronotal tubercle reaching tegula. Scutum dull, strongly granulated. Notauli incomplete, faintly and shortly visible near anterior margin of scutum. Scutellum shiny, smooth, unsulptured. Metanotum unsulptured, except median surface rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, with one dark spot beneath pterostigma; distal part of stigmal vein shorter than proximal part (5:8). Protarsal segments in following proportions: 9:2:3:1:1:11. Enlarged claw (Plate 23C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 23C) with two rows of approximately 12 lamellae; distal apex with about three lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Costa Rica, Honduras, Mexico, Panama.
10. *Anteon conterminum* Olmi, 1984
(Plate 25A)


**Description.** *Male.* Fully winged; length 2.0–2.1 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma and metasoma black; legs brown, except tarsi testaceous, protibia and profemur partly testaceous. Antenna filiform; antennal segments of holotype in following proportions: 10:4.5:4.5:5:5:5:5:5 (antennal segment 10 missing). Head dull, granulated and reticulate rugose and granulated; frontal line complete; face with two longitudinal keels around orbits directed towards antennal toruli; occipital carina complete; POL = 5.5; OL = 3; OOL = 4; OPL = 2.5; TL = 3. Scutum, scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures. Notauli incomplete, faintly and shortly visible near anterior margin of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (1:7). Paramere with distal inner pointed process (Plate 25A). Tibial spurs 1/1/2.

*Female.* Unknown.

**Material examined.** Type: ♂ holotype: BRAZIL: Santa Catarina, Nova Teutonia (CNC). Other material: ARGENTINA: Misiones, Loreto (FCNM).

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil.

![PLATE 25. A–C. Male genitalia of holotypes. A. *Anteon conterminum*. B. *A. deltae*. C. *A. desantisi*. Scale bar 0.09 mm for A, 0.1 mm for B, 0.23 mm for C.](image)

(Plate 25B)


**Description.** *Male.* Fully winged; length 2.0 mm. Head black, except mandible testaceous; antenna testaceous, except segments 2–10 darkened; mesosoma black; metasoma brown-dark; legs testaceous. Antenna filiform; antennal segments of holotype in following proportions: 10:5:6:7:7:5:5 (antennal segments 8–10 missing). Head dull, hairy, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 3; OOL = 7; OPL = 3.5; TL =
5. Scutum shiny, with anterior surface slightly granulated and posterior surface unsulptured. Notauli incomplete, reaching approximately 0.5 length of scutum. Scutellum shiny, unsulptured. Metanotum dull, reticulate rugose. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticate rugose, with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:11.5). Paramere with distal inner pointed process (Plate 25B). Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina.


(Plate 25C)


**Description.** Male. Fully winged; length 3.0–3.5 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma black; metasoma brown-dark; legs testaceous, except mesofemur, metacoxa, metafemur and metatibia brown. Antenna filiform; antennal segments in following proportions: 15:7.5:7.5:8.5:8.9:8.5:9:8:11.5. Head dull, hairy, completely reticulate rugose; face with two lateral keels around orbits directed towards antennal toruli; frontal line complete; face sculptured by transverse keels from frontal line to lateral frontal keels; occipital carina complete; vertex with two oblique keels from posterior ocelli to occipital carina; POL = 8.5; OL = 5; OOL = 8; OPL = 5.5; TL = 4.5. Scutum dull, completely granulated. Notauli incomplete, reaching approximately 0.4 length of scutum. Scutellum shiny, unsulptured. Metanotum dull, reticate rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:10). Paramere without distal inner pointed process (Plate 25C), with numerous papillae on inner side. Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina.

13. *Anteon diabolum* Olmi, 1993

(Plate 26A)


**Description.** Female. Fully winged; length 2.9–3.2 mm. Head testaceous-reddish, except black ocellar spot; antenna testaceous, except segments 9–10 black; prothorax testaceous; rest of mesosoma black, except mesopleuron partly testaceous and scutum and scutellum partly testaceous-reddish; metasoma brown, except distal apex testaceous; fore leg testaceous, except club of femur and tarsus brown; mid- and hind leg brown. Antenna clavate; antennal segments in following proportions: 12:5.5:6:3.5:3.5:4.5:7:7:6:10. Head shiny, smooth, finely punctate, unsulptured among punctures; frontal line absent; face with two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 6; OL = 3.5; OOL = 6; OPL = 5; TL = 7. Pronotum shiny, smooth, unsulptured, crossed by strong transverse impression, with two strong dorsal lobes near posterior margin;
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posterior surface transverse, much shorter than scutum (4:14); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli absent. Propodeum dull, with strong transverse keel between dorsal and posterior surface; dorsal surface strongly sculptured by numerous short longitudinal keels; posterior surface shiny, sculptured by numerous longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmatic vein shorter than proximal part (7:10). Protarsal segments in following proportions: 7:3:3:7:18. Enlarged claw (Plate 26A) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 26A) with three rows of approximately 34 lamellae; distal apex with about ten lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Ecuador.

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**PLATE 26.** A, C. Chelae of holotypes. B. Male genitalia of holotype. A. Anteon diabolum. B. A. dominicanum. C. A. dulcicolum. Scale bar 0.43 mm for A and C, 0.11 mm for B.

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(Plate 26B)


**Description.** Male. Fully winged; length 2.3–3.0 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 11:6:9:5:8:7:5:8:7:7:11. Head dull, completely reticulate rugose; frontal line absent; occipital carina complete; POL = 9; OL = 5; OOL = 10; OPL = 5; TL = 4. Scutum dull, completely reticulate rugose. Notauli incomplete, reaching approximately 0.2 length of scutum. Scutellum shiny, smooth, punctate, unsculptured among punctures. Metanotum rugose. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, with two longitudinal keels, lateral areas rugose and median area almost completely smooth and unsculptured. Fore wing hyaline, without dark transverse bands (in specimen from Dominican Republic, Loma Quita Espuela, fore wing with small brown spot beneath pterostigma); distal part of stigmatic vein shorter than proximal part (4:12). Paramere without distal inner pointed process (Plate 26B). Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Types: ♂ holotype: DOMINICAN REPUBLIC: Pedernales, 21 km N Cabo Rojo,

**Hosts**: Unknown.  
**Distribution**: Dominican Republic.

(Plate 26C)


**Description. Female.** Fully winged; length 2.0–2.2 mm. Head brown or brown-black, except mandible, clypeus, gena and anterior region of face testaceous-reddish; antenna yellow-testaceous; prothorax reddish; rest of mesosoma brown or brown-reddish, except pleura and posterior margin of propodeum testaceous-reddish; metasoma brown; legs yellow-testaceous. Antenna clavate; antennal segments in following proportions: 10:5:7:6:5:5:5:5:8. Head shiny, almost smooth, slightly reticulate rugose; frontal line complete; POL = 5; OL = 3; OOL = 3; OPL = 4; TL = 3; occipital carina complete. Pronotum shiny, not forming a transverse median carina between anterior and posterior surface; anterior surface smooth, unsculptured; posterior surface shorter than scutum (6:11), reticulate rugose, except posterior half unsculptured; pronotal tubercle reaching tegula. Scutum shiny, smooth, finely punctate, unsculptured among punctures; in specimen from Brazil, Sete Lagos, lateral regions of scutum partly slightly rugose. Notauli incomplete, reaching approximately 0.5 length of scutum (0.7 in specimen from Costa Rica, Peñas Blancas). Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:8). Protarsal segments in following proportions: 6:2:2:5:12. Enlarged claw (Plate 26C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 26C) with two rows of approximately 18–27 lamellae; distal apex with about eight lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.  

**Hosts**: Unknown.  
**Distribution**: Argentina, Brazil, Costa Rica, Venezuela.  
**Remarks.** *Anteon dulcicolum* is very similar to *A. translucens* Olmi; the only difference is the colour (totally yellow testaceous in *A. translucens*; partly brown or black in *A. dulcicolum*).

(Plate 27A)

*Aanteon dykeae* Olmi, in Schüepp & Olmi 2012: 54.

**Description. Male.** Fully winged; length 2.7 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma black; metasoma brown; legs testaceous, except club of profemur partly brown, mesotibia partly brown, metacoxa, club of metafemur and metatibia partly black. Antenna hairy, filiform, with segment 3 triangular; antennal segments in following proportions: 10:6:6:5:5:5:5:6:8. Head dull, granulated and
Anteon dykeae; frontal line complete; face with two lateral keels around orbits directed towards antennal toruli; vertex with tracks of two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 9; OL = 5; OOL = 6; OPL = 5; TL = 4; greatest breadth of posterior ocelli about as long as TL. Scutum dull, granulated, except anterior margin rugose. Notauli incomplete, reaching about 0.25 length of scutum. Scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (2:8). Paramere with distal apex broadly hollowed out and without distal inner pointed process (Plate 27A). Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Type: ♂ holotype: BELIZE: Corozal District, Sarteneja, La Isla Road Forest, 18°20.115'N 88°7.713'W, 8 ft., 17.XII.2009, Low semi-deciduous forest, Malaise trap 1, C. Schüepp leg. (NHMB).

Hosts. Unknown.

Distribution. Belize.

PLATE 27. A, D. Male genitalia. B, C. Chelae. A. Anteon dykeae, holotype. B. A. evansi, holotype. C, D. A. ferale, holotype (C) and paratype (D). Scale bar 0.12 mm for A, 0.11 mm for B, 0.18 mm for C, 0.03 mm for D.

17. Anteon evansi Olmi, 1987
(Plate 27B)


Description. Female. Fully winged; length 2.6 mm. Head black, except mandible testaceous; antenna brown, except segments 6–10 testaceous; mesosoma and metasoma black; legs testaceous. Antenna clavate; antennal segments in following proportions: 10:5:5:4.5:4.5:4:4:4:4:7. Head dull, completely granulated; frontal line complete; POL = 4; OL = 4; OOL = 5.5; OPL = 4.5; TL = 6; occipital carina complete. Pronotum shiny,
transversely striate, with anterior surface approximately as long as posterior surface; pronotal tubercle reaching tegula. Scutum shiny, slightly granulated. Notauli incomplete, reaching approximately 0.75 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:8). Protarsal segments in following proportions: 6:2.5:3.8:17. Enlarged claw (Plate 27B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 27B) with one row of approximately 20 lamellae; distal apex with about five lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: JAMAICA (MCZ).

Hosts. Unknown.

Distribution. Jamaica.

18. Anteon ferale Olmi, 1993
(Plate 27C, D)


Description. Female. Fully winged; length 1.6–3.7 mm. Head black, except mandible testaceous; antenna testaceous, except segments 6–10 black; mesosoma and metasoma black; legs testaceous. Antenna clavate; antennal segments in following proportions: 20:8:7:7:5:7.5:7:7:10. Head dull, granulated; frontal line complete; face with two lateral keels around orbits directed towards antennal toruli; vertex with two oblique keels connecting posterior ocelli to lateral frontal keels and with two further oblique keels connecting posterior ocelli to occipital carina; in large specimens face sculptured by strong transverse keels from frontal line to lateral frontal keels; in small specimens above transverse keels absent and face slightly reticulate rugose; occipital carina complete; POL = 7; OL = 4; OOL = 6; OPL = 8; TL = 8. Pronotum shiny, raised into transverse carina between anterior and posterior surface; posterior surface slightly rugose, shorter than scutum (7:21); pronotal tubercle reaching tegula. Scutum shiny, slightly granulated. Notauli incomplete, shortly visible near anterior margin of scutum. Scutellum shiny, smooth, unsculptured. Metanotum rugose. Propodeum dull, reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (4:11). Protarsal segments in following proportions: 12:2.5:2.5:4:12. Enlarged claw (Plate 27C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 27C) with inner margin straight and two rows of approximately 19 lamellae; distal apex with two long lamellae. In specimen from Peru, 13°09.55’S 72°32.42’W, segment 5 of protarsus with two rows of about 24 lamellae extended continuously to distal apex. Tibial spurs 1/1/2.

Male. Fully winged; length 2.7–3.2 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma black; metasoma brown; legs testaceous, except metacoxa partly black and club of metafemur brown. Antenna filiform; antennal segments in following proportions: 17:7:6:6:7:8:5:5:7:10. Head dull, granulated; frontal line complete; face with two lateral keels around orbits directed towards antennal toruli; face also sculptured by transverse keels from frontal line to two lateral frontal keels; vertex with two oblique keels connecting posterior ocelli to lateral frontal keels and with two further oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 3.5; OOL = 5; OPL = 6; TL = 4. Scutum shiny, slightly granulated. Notauli incomplete, shortly visible near anterior margin of scutum. Scutellum shiny, smooth, unsculptured. Metanotum dull, rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:10). Paramere without distal inner pointed process (Plate 27D). Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Ecuador, Peru, Venezuela.

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**PLATE 28.** A–C. Male genitalia of holotype. A. *Anteon gauldense*. B. *A. gracile*. C. *A. hortense*. Scale bar 0.06 mm for A and B, 0.07 mm for C.

(Plate 28A)


**Description.** Male. Fully winged; length 1.4–2.1 mm. Head black, except mandible testaceous and clypeus reddish-dark; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs testaceous, except meso- and metatibia and metafemur darkened. Antenna filiform; antennal segments in following proportions: 8:4.5:6.5:4.5:5.5:5.5:5.5:9. Head shiny, punctate, unsculptured among punctures; anterior half of face rugose; occasionally also vertex rugose; occasionally head completely very slightly reticulate rugose; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 4.5; OPL = 2; TL = 2.5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3–0.4 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (2:7). Paramere with inner rounded distal process (Plate 28A) Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Types: ♂ holotype: COSTA RICA: Guanacaste, 9 km S Santa Cecilia, Estación Pitilla, 700 m, Malaise trap, IV.1989 (AMNH). Paratypes: same locality label as holotype, V.1989, 2 ♀♀ (AMNH). Other

Hosts. Unknown.

Distribution. Brazil, Costa Rica, Paraguay.

(Plate 28B)


Description. Male. Fully winged; length 1.6–2.1 mm. Head black, except mandible testaceous (in specimen from Colombia, 03°49.16’S 70°15.40’W, clypeus testaceous); antenna testaceous; mesosoma and metasoma black; legs testaceous, except clubs of femora and meso- and metatibia darkened and occasionally coxae black; occasionally legs totally testaceous. Antenna filiform; antennal segments in following proportions: 7:5:5:4:5:5:5:5:8; segment 9 approximately 3–4 times as long as broad. Head dull, completely reticulate rugose; frontal line complete; occipital carina complete; POL = 5; OL = 2; OOL = 4; OPL = 2; TL = 1. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum; in specimen from Colombia, 03°49.16’S 70°15.40’W, notauli reaching about 0.3 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area shiny, smooth, almost completely unsculptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:6). Paramere (Plate 28B) without distal inner pointed process. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Argentina, Colombia, Costa Rica, Peru.

(Plate 29A–C)


Description. Male. Fully winged; length 1.8–2.4 mm. Head black, except mandible testaceous; antenna testaceous (in specimen from Venezuela, Yacambo, antenna darkened); mesosoma and metasoma black; legs testaceous. Antenna filiform; antennal segments in following proportions: 8:5:5:5:5:5:5:5:5:8. Head dull, reticulate rugose, with anterior half of face sculptured by many longitudinal keels; clypeus chisel shaped (Plate 29C); occipital carina complete; POL = 7; OL = 4; OOL = 4; OPL = 3; TL = 4. Scutum shiny, punctate, unsculptured among punctures, with posterior half slightly granulated. In specimen from Venezuela, Yacambo, scutum completely punctate and unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:9). Paramere with distal inner pointed or rounded process (Plate 29A, B). Tibial spurs 1/1/2.
Female. Unknown.


Hosts. Unknown.

Distribution. Guadeloupe, Venezuela.

PLATE 29. A, D. Male genitalia. B. Paramere. C. Head. D. Chela. A, C. Anteon guadeloupense, holotype. B. A. guadeloupense, male from Venezuela, Yacambo. D. A. habile, holotype. E. A. huggerti, holotype. Scale bar 0.12 mm for A and B, 0.21 mm for C, 0.08 mm for D and E.

(Plate 29D)


Description. Female. Fully winged; length 2.0–2.6 mm. Head black, except mandible testaceous; antenna testaceous (in specimen from Venezuela, 19 km NW Las Cruces, antenna brown); mesosoma and metasoma black; legs testaceous (in specimen from Venezuela, 19 km NW Las Cruces, legs brown). Antenna clavate; antennal segments in following proportions: 9:5:9:6:5:6:5:8. Head shiny, strongly punctate, unsculptured among punctures; anterior half of face reticulate rugose; ocellar region with few irregular folds; frontal line absent; occipital carina complete; POL = 6; OL = 3.5; OOL = 6; OPL = 5; TL = 8. Pronotum without raised transverse carina between anterior and posterior surface; anterior surface rugose; posterior surface scutaneous, unsculptured among punctures, about as long as anterior surface; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.25 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing completely hyaline, or with slight dark spot beneath pterostigma; distal part of stigmal vein shorter than proximal part (4.5:9). Protarsal segments in following proportions: 8:2:2.5:6:16. Enlarged claw (Plate 29D) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 29D) with one row of approximately 20 lamellae; distal apex with about eight lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Hosts. Unknown.

Distribution. Guatemala, Mexico, Venezuela.

(Plate 28C)


Description. Male. Fully winged; length 1.5–2.2 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs testaceous, except metatarsus, metatibia and metatibial darkened. In specimen from Colombia, Peñas Blancas, body totally reddish-darkened. Antenna filiform; antennal segments in following proportions: 7:4:5:5:5:5:4:5:7. Head slightly granulated; frontal line absent; occipital carina complete; POL = 3.5; OL = 2; OOL = 4; OPL = 2; TL = 3. Scutum shiny, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.4 length of scutum. Scutellum and metanotum shiny, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area almost completely smooth, only partly rugose. Fore wing hyaline, with dark spot beneath pterostigma; distal part of stigmal vein shorter than proximal part (3:7). Paramere without distal inner pointed process (Plate 28C). Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Types: ♂ holotype: COSTA RICA: Puntarenas, 6 km S of San Vito de Jaba, Las Cruces, Jardín Botánico Wilson, 1200 m, Malaise trap, V.1988, P. Hanson leg. (AMNH). Paratype: COSTA RICA: San José, Braulio Carrillo National Park, Administrative Building, 1600 m, Malaise trap, V–VI.1988, P. Hanson leg., 1♂ (AMNH). Other material: COLOMBIA: Valle Department, Peñas Blancas (AMNH, FSCA).

Hosts. Unknown.

Distribution. Colombia, Costa Rica.

(Plate 29E)


Description. Male. Fully winged; length 1.4–2.6 mm. Head black, except mandible testaceous; antenna testaceous, except segments 3–10 or 8–10 darkened; mesosoma black; metasoma brown; legs totally brown or totally testaceous; occasionally legs brown, except tarsi testaceous. Antenna filiform; antennal segments in following proportions: 7:3:3:2.5:3.5:3.5:3.5:5; antennal segment 9 less than twice as long as broad (3.5:2.5). Head dull, reticulate rugose, with areolae very broad; frontal line absent; occipital carina complete; POL = 5; OL = 3; OOL = 3; OPL = 2; TL = 4. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.4 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels and lateral and median areas shiny, smooth, unsculptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (1.5:5). Paramere (Plate 29E) without distal inner pointed process. Tibial spurs 1/1/2.

Female. Unknown.

Hosts. Unknown.
Distribution. Colombia, Costa Rica, Peru.

PLATE 30. A, D. Male genitalia. B, C. Chelae. A. Anteon huybenszi, holotype. B. A. iguaquense, holotype. C. A. jamaicanum, holotype. D. A. jamaicanum, paratype. Scale bar 0.08 mm for A, 0.11 mm for B and C, 0.07 mm for D.

(Plate 30A)


Description. Male. Fully winged; length 2.4 mm. Head black, except mandible testaceous; antenna black; mesosoma and metasoma black; legs brown, except coxae partly testaceous. Antenna filiform; antennal segments in following proportions: 13:7:10:10:9:9:8.5:7:12. Head dull, reticulate rugose; frontal line absent; occipital carina complete; POL = 6; OL = 3; OOL = 7; OPL = 3; TL = 5. Scutum shiny, smooth, punctate, unsculptured among punctures, rugose near anterior margin. Notauli incomplete, reaching approximately 0.6 length of scutum. Scutellum shiny, smooth, unsculptured. Metanotum dull, reticulate rugose. Propodeum reticulate rugose, with slight transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:14). Paramere (Plate 30A) with distal inner pointed process. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Type: ♂ holotype: ECUADOR: Loja, 15 km E Loja, m 2750, 23.II.1988, M. Huybensz leg. (AMNH).

Hosts. Unknown.

Distribution. Ecuador.
26. *Anteon iguaquense* Olmi, 2004 (Plate 30B)

*Anteon iguaquense* Olmi 2004a: 150.

**Description.** *Female.* Fully winged; length 2.9 mm. Head black, except mandible testaceous; antenna testaceous, except segments 1–2, part of 3 and 10 brown; mesosoma black; metasoma brown; legs testaceous, except metacoxa partly black and clubs of meso- and metafemur partly brown. Antenna clavate; antennal segments in following proportions: 13:7:8:6:5:5:5:5:5:7.5. Head shiny, smooth, slightly granulated; frontal line absent; POL = 7; OL = 3; OOL = 6.5; OPL = 5; TL = 6.5; occipital carina complete. Pronotum with posterior surface shiny, smooth, hairy, punctate, unsculptured among punctures, slightly rugose on sides; posterior surface of pronotum very short and transverse, much shorter than scutum (5:18); posterior surface of pronotum much broader than long; prontal tubercle reaching tegula. Scutum shiny, smooth, slightly granulated. Notauli incomplete, reaching approximately 0.2 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, not crossed by dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:10). Protarsal segments in following proportions: 7:2.5:2.5:4:12. Segment 5 of protarsus (Plate 30B) with basal part much longer than distal part (4:5). Enlarged claw (Plate 30B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 30B) with two rows of approximately 15 lamellae; distal apex with nine lamellae. Tibial spurs 1/1/2.

*Male.* Unknown.

**Material examined.** Type: ♀ holotype: COLOMBIA: Boyacá Department, SFF Iguaque, Cabaña, Carrijal, 5°25’N 73°27’W, 2855 m, Malaise trap N. 614, 1–23.IX.2000, P. Reina leg. (IA VH).

**Hosts.** Unknown.

**Distribution.** Colombia.

27. *Anteon jamaicanum* Olmi, 1984 (Plate 30C, D)


**Description.** *Female.* Fully winged; length 2.2–2.6 mm. Head black, except mandible, clypeus and anterior half of face testaceous; antenna brown, except segment 1 testaceous; mesosoma black (in specimens from Costa Rica pronotum partly testaceous-reddish); metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 10:5:8:7:6:5:5:5:5:6:8. Head dull, reticulate rugose and with many longitudinal keels; face without lateral keels around orbits and directed towards antennal toruli; in specimens from Costa Rica (in AMNH) face partly reticulate rugose and not sculptured by longitudinal keels; frontal line absent; occipital carina complete; POL = 5.5; OL = 4; OOL = 5.5; OPL = 3; TL = 5. Pronotum with anterior surface dull, rugose, striate; posterior surface shiny, smooth, not rugose, shorter than scutum (7:13); prontal tubercle reaching tegula. Scutum with anterior half smooth, shiny, unsculptured; posterior half dull, punctate, rugose, with irregular striae. Notauli very short, only present near anterior margin of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (4:8). Protarsal segments in following proportions: 7:2.5:3:9:18. Segment 5 of protarsus (Plate 30C) with basal part shorter than distal part. Enlarged claw (Plate 30C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 30C) with two rows of approximately 26 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

*Male.* Fully winged; length 1.6–2.0 mm. Head black, except mandible testaceous; antenna testaceous-brown; mesosoma and metasoma black; legs testaceous. Antenna filiform; antennal segments in following proportions: 8:3:6:5:5:5:5:5:5:5:5:5:5:5:5:8. Head dull, reticulate rugose and granulated; POL = 4.5; OL = 3; OOL = 4; OPL = 2; TL = 2; frontal line complete; occipital carina complete. Scutum, scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures. Notauli incomplete, short, reaching at most 0.3 length of scutum.
Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:7). Paramere (Plate 30D) without distal inner pointed or rounded process. Tibial spurs 1/1/2.

**Material examined.** Type: ♀ holotype: JAMAICA: Hardwar Gap (CNC). Paratype: same locality label as holotype, 1♂ (CNC). Other material: COSTA RICA: Alajuela, 20 km S Upala (DBUSU); Guanacaste, 3 km SE Rio Naranjo (DBUSU); Guanacaste, W side Volcán Cacao, Sotobosque, 1100 m (AMNH); Guanacaste, SW Volcán Cacao, Estación Mengo, 1100 m (AMNH); Puntarenas, 6 km S of San Vito de Jaba, Las Cruces, Jardín Botánico Wilson, 1200 m (AMNH). ECUADOR: Napo, Baeza, 2000 m (CNC). MEXICO: Jalisco, Chamela (DBUSU).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Ecuador, Jamaica, Mexico.

### 28. *Anteon limonense* Olmi, 1991
(Plate 31A)


**Description. Male.** Fully winged; length 1.5–2.1 mm. Head black, except mandible testaceous; antenna brown, except segment 1 or segments 1–2 testaceous; mesosoma black; metasoma brown; legs brown, except tarsi testaceous; occasionally protibia testaceous; occasionally legs totally brown. Antenna filiform; antennal segments in following proportions: 10:5:6:5:5:6:5:5:5:6:8. Head shiny, with face and vertex sculptured by irregular keels; face with two lateral keels around orbits directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 3.5; OPL = 3; TL = 3.5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; in specimen from Costa Rica, Las Alturas Biological Station, fore wing with one dark spot beneath pterostigma; distal part of stigmal vein much shorter than proximal part (2:6.5). Paramere (Plate 31A) with distal inner pointed process provided of serrate apical margin. Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Costa Rica, Honduras, Panama.

### 29. *Anteon mayanum* Olmi, 1991
(Plate 31B)


**Description. Male.** Fully winged; length 1.8 mm. Head black, except mandible testaceous; antenna black; mesosoma and metasoma black; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 9:4:4:5:4:5:5:5:5:6.5. Head dull, completely reticulate rugose; frontal line complete; occipital carina complete; POL = 7; OL = 3; OOL = 5; OPL = 3; TL = 3. Scutum shiny, almost completely granulated, except anterior third, punctate and unsculptured among punctures. Notauli incomplete, reaching approximately 0.2 length of scutum. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum reticulate rugose, with strong transverse keel between dorsal and
posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:6). Paramere (Plate 31B) much shorter than penis, without distal inner pointed process. Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Guatemala.

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**PLATE 31.** A–C. Male genitalia. D. Chela. A. *Anteon limonense*, holotype. B. *A. mayanum*, holotype. C. *A. micros*, specimen from Mexico, Guadalajara. D. *A. micros*, holotype. Scale bar 0.06 mm for A and B, 0.05 mm for C, 0.08 mm for D.

30. *Anteon micros* Olmi, 1984

(Plate 31C, D)


**Description.** Female. Fully winged; length 1.6–1.9 mm. Head black, except mandible testaceous; antenna black; mesosoma and metasoma black; legs brown, except tarsi and protibia yellow. Antenna clavate; antennal segments in following proportions: 7:3:3:3:2.5:3:3:4:5. Head dull, completely granulated; frontal line absent in holotype, complete in other specimens; occipital carina complete; POL = 5; OL = 3; OOL = 3; OPL = 4; TL = 4. Pronotum dull, granulated, with posterior surface shorter than scutum (4:10) and more than twice as broad as long (15:4); pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.25–0.30 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (2:5). Protarsal segments in following proportions: 5:2:2:3.5:9. Enlarged claw (Plate 31D) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 31D) with two rows of approximately eight lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.
Male. Fully winged; length 1.5 mm. Head black, except mandible testaceous; antenna brown; mesosoma and metasoma black; legs brown, except tarsi, protibia, distal extremities of femora and proximal extremities of meso- and metatibia testaceous. Antenna filiform; antennal segments in following proportions: 6:4:4:4:4:5:4:5/6. Head dull, completely strongly granulated; POL = 5.5; OL = 3; OOL = 4; OPL = 3; TL = 3; frontal line absent; face with median longitudinal furrow; occipital carina complete. Pronotum short and rugose. Scutum dull, granulated, with anterior third granulated and rugose. Notauli incomplete, reaching approximately 0.5 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein much shorter than proximal part (2:5). Paramere (Plate 31C) without distal inner pointed process. Tibial spurs 1/1/2.


Distribution. Cuba, Guadeloupe, Guatemala, Mexico, Nicaragua, Venezuela.

31. Anteon minusculum Olmi, 1987
(Plates 32A, 33A)


Description. Male. Fully winged; length 0.9–1.5 mm. Reddish or brown-reddish, except antenna and legs testaceous. Antenna filiform; antennal segments in following proportions: 4.5:3:3.5:3.5:3.5:3.5:3.5:3.5:3.5:5. Head shiny, smooth, unsculptured, or finely punctate and unsculptured among punctures; frontal line absent; occipital carina complete; POL = 3.5; OL = 2; OOL = 2; OPL = 1.5; TL = 2. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli incomplete, reaching approximately 0.3–0.5 length of scutum. Propodeum reticulate rugose, with slight transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein much shorter than proximal part (2:4). Paramere (Plate 32A) without distal inner pointed process. In specimen from Costa Rica, Arenales, paramere with small rounded inner distal process (Plate 33A). Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil, Costa Rica, Dutch Antilles, Ecuador, Panama, Peru, Trinidad and Tobago.

Remarks. Anteon minusculum is one of the smallest known species of dryinids.
PLATE 32. Male genitalia. A. *Anteon minusculum*, holotype. B. *A. mirificum*, specimen from Costa Rica, 6 km NE San Jerónimo de Moravia. C. *A. molle*, specimen from Mexico, San Cristobal de las Casas. Scale bar 0.03 mm for A, 0.06 mm for B and C.

32. *Anteon mirificum* Olmi, 1991
(Plates 32B, 34A)


**Description.** Female. Fully winged; length 1.9–2.0 mm. Head black, except mandible testaceous; antenna testaceous, except segments 5–10 brown; mesosoma black; metasoma brown; legs brown, except tarsi testaceous. Antenna clavate; antennal segments in following proportions: 7:3:3:2.5:3:3:3:3:5.5. Head dull, granulated; face with two lateral keels around orbits directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 4.5; OL = 3; OOL = 4; OPL = 3; TL = 4. Pronotum dull, rugose, raised into a transverse carina, with posterior margin smooth and shiny; posterior surface shorter than scutum (4:11) and as long as anterior surface; pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.2 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, with one dark spot beneath pterostigma; distal part of stigmal vein shorter than proximal part (2:5). Protarsal segments in following proportions: 4:1.5:1.5:2:8. Enlarged claw (Plate 34A) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 34A) with two rows of approximately nine lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 1.4–2.1 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs testaceous; occasionally legs brown, except trochanters, tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 8:4:6:7:7:7:6:6:7. Head dull, with face sculptured by many irregular longitudinal keels; vertex and lateral areas of

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face reticulate rugose; occasionally face granulated and sculptured by many transverse keels; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 5; OPL = 3.5; TL = 5. Scutum shiny, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum shiny, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2.5:8). Paramere without distal inner pointed process (Plate 32B). Tibial spurs 1/1/2.

**Material examined.** Types: ♀ holotype: COSTA RICA: Puntarenas, 6 km S of San Vito de Jaba, Las Cruces, Jardín Botánico Wilson, 08°48'N 82°58'W, 1200 m, XII.1988, Malaise trap, Paul Hanson leg. (AMNH). Twelve paratypes: COSTA RICA: Guanacaste, 9 km S of Santa Cecilia, Estación Pitilla, 700 m, IV.1989, Malaise trap, Jan Gauld leg. (AMNH); Puntarenas, Corcovado National Park, E of Sirena, 50 m, 4.VIII.1989, Malaise trap, Paul Hanson leg. (AMNH, EBUC); Puntarenas, Carara Biological Reserve, Estación Querbrada Bonita, 50 m, V–VI.1989, Malaise trap, Paul Hanson leg. (AMNH); Puntarenas, Golfo Dulce Forest Reserve, 10 km W of Piedras Blancas, 100 m, II–III.1989, Malaise trap, Paul Hanson leg. (AMNH); Puntarenas, Golfo Dulce Forest Reserve, 24 km W of Piedras Blancas, 200 m, III–IV.1989, Malaise trap, Paul Hanson leg. (AMNH); S. José, Carr. Carrillo, 6 km NE of San Jeronimo de Moravia, 1500 m, 12.V.1988, Paul Hanson leg. (AMNH). Other material: COSTA RICA: Alajuela, Tilaran, Peñas Blancas, 700 m (PMA); Cartago, NE of Jabillos, Río Chitaria, 750 m, 28.IV.1988, Paul Hanson leg. (EBUC); Guanacaste, 3 km SE of Río Naranjo (DBUSU); Heredia, La Selva Research Station (DBUSU); Puntarenas, Coto Brus, San Vito de Coto, 1200 m (CNC); S. José, Zurqui de Moravia, 10°05'N 84°02'W, 1600 m (NHMLA). DUTCH ANTILLES: Bonaire Island, 2 km N of Kralendijk (AEIC). GUATEMALA: 5 km E of Antigua Guat., 1780 m (ZIL). HONDURAS: Olancho, La Muralla National Park, 15 km N of La Unión, 15°07'N 86°45'W (ZIL); Yoro, Palo de Comba, 15°11'N 87°39'W, 22.VIII.1995, Malaise trap in mid elevation secondary forest, R. Cave leg. (ZIL). PANAMA: Bocas del Toro, Parque Int. La Amistad, Wekso-Teribe, 50 m, 17–24.X.1999, Malaise trap, A. Santos leg. (MIGBF); Veraguas, Santa Fé, Altos de Piedra, 13–17.XI.1999, Malaise trap, A. Santos & P. González leg. (MIGBF); Veraguas, Coiba National Park, Coiba Island, 6.III.1998, yellow trap, R. Cambra & A. Santos leg. (MIGBF); Chiriquí, 8 Km S Boquete, 08°41.915'N 82°26.803'W, 2700', 1–14.II.2012, Malaise trap, F.D. Parker & T.D. MacIntyre leg., 1 ♀ (UCFC).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Dutch Antilles, Guatemala, Honduras, Panama.

### 33. Anteon molle Olmi, 1984
(Plates 32C, 33B, 34B)


**Description.** Female. Fully winged; length 1.7–2.6 mm. Head black, except mandible testaceous; antenna completely brown, or yellow; occasionally antenna testaceous, except segments 6–10 darkened; mesosoma and metasoma black; legs completely yellow; occasionally legs testaceous, except metacoxa basally brown. Antenna clavate; antennal segments in following proportions: 10:6:9:9:8:8:8:8:10. Head dull, granulated and with many areolae and longitudinal keels; occasionally head completely reticulate rugose; frontal line complete; occipital carina complete; POL = 4.5; OL = 3; OOL = 7; OPL = 4; TL = 5.5. Pronotum dull, granulated, rugose, sculptured by transverse keels; surface near posterior margin smooth; posterior surface of pronotum shorter than scutum (5:14); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures; occasionally scutum slightly granulated or slightly rugose. Notauli incomplete, reaching approximately 0.3 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:9). Protarsal segments in following proportions: 9:2.5:3.5:5.5:15. Segment 5 of protarsus (Plate 34B) with basal part slightly shorter than distal part. Enlarged claw (Plate 34B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 34B) with one row of approximately 37 lamellae; distal apex with about five lamellae. In two females from Mexico, 17°62'N 96°37'W, head granulated and reticulate rugose, scutum strongly granulated and notauli very short, hardly
visible near anterior margin of scutum. In four females from Mexico, 17°62’N 96°37’W, head granulated and sculptured by many irregular longitudinal keels and notauli very short, hardly visible near anterior margin of scutum. Tibial spurs 1/1/2.

PLATE 33. Male genitalia. A. *Anteon minusculum*, from Costa Rica, Arenales. B. *A. molle*, from Costa Rica, Cerro Pedregal. C. *A. panamense*, from Belize, 18°20.507’N 88°9.688’W. D. *A. pectinicorne*, from Mexico, Huixtla. Scale bar 0.04 mm for A, 0.09 mm for B, 0.06 mm for C, 0.13 mm for D.

**Male.** Fully winged; length 1.9–2.0 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous, except coxae and clubs of femora partly brown. Antenna filiform; antennal segments in following proportions: 8:4:5:6:6:5:6:8. Head shiny, with face sculptured by many longitudinal keels and vertex behind posterior ocelli reticulate rugose; face without lateral keels around orbits; occasionally longitudinal keels of face hardly visible, then face completely reticulate rugose; frontal line usually absent, occasionally incomplete or complete; occipital carina complete; POL = 5.5; OL = 2.5; OOL = 6; OPL = 3; TL = 4. Scutum, scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures; anterior region of scutum near pronotum rugose. Notauli incomplete, reaching approximately 0.25 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface dull, reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:7). Paramere with distal inner pointed (Plate 32C) or rounded process (Plate 33B), without dorsal proximal membranous process. Tibial spurs 1/1/2.

**Material examined.** **Types:** ♀ holotype: MEXICO: Chiapas, San Cristobal de las Casas (CNC). Fourteen paratypes: COLOMBIA: Cauca Valley, Cali (AMNH). MEXICO: Chiapas, San Cristobal de las Casas (AMNH, CNC); Sinaloa, El Palmito (AMNH, CNC); Sinaloa, Concordia (AMNH, CNC). **Other material:** COLOMBIA: Valle Department, Peñas Blancas (FSCA). COSTA RICA: Alajuela, 20 km S Úpalpa (DBUSU); Alajuela, Cord. Tilaran, Peñas Blancas, 700 m (PMA); Guanacaste, S. Rosa Park (AEIC); Guanacaste, SW Volcán Cacao, Estación Mingo, 1100 m (AMNH); Guanacaste, Volcán Cacao, Cerro Pedregal, 1000 m (AMNH); Guanacaste, W side Volcán Cacao, Sotobosque, 1100 m (AMNH); Guanacaste, Monteverde (PMA); Guanacaste, 14 km S of Cañas (DBUSU); Guanacaste, 28 km NW of Cañas (CNC); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Limón, Guápiles, Los Diamantes, 200 m (AMNH); Limón, 16 km W of Guápiles, 400 m (AMNH); Limón, 7 mi N of Guacimo (DBUSU); Puntarenas, 6 km S of San Vito de Jaba, Las Cruces, Jardín Botanico Wilson, 1200 m (AMNH, EBUC); San José, Pan-Am Hwy, 14 rd. N of San Isidro de General, 1600 m (NHMLA); San José, Zurqui de Moravia, 1600 m (AMNH); San José, Zurqui de Moravia, 10°05’N 84°02’W, 1600 m (NHMLA); San José, Escacú (AEIC). CUBA: Pinar del Rio Prov., Mariel, VI.1968 (MNHNH); Pinar del Rio Prov., Sierra del Rosario, IX.1968 (MNHNH). ECUADOR: Loja, Campamento Santa Anna, 1200 m (AMNH); Manta, Monte Cristi (ZIL); Pichincha, Nono-Tandayapo Road, 1900 m (ZIL). GUATEMALA: 50 km S of Guatemala City, Cerro
Redondo, 1050–1200 m (BPBM); Sacatepequez, San Antonio, San Marcos, 2500 m (PMA). HONDURAS: Olancho, La Muralla National Park, 15°05.49’N 86°44.17’W, 1480 m, 4–7.VII.2002, D. Yanega leg., 7♂♂ (DEUCR); Yoro, Palo de Comba, 15°11’N 87°39’W (ZIL); Olancho, La ENA (ZIL). MEXICO: Campeche, 10 km W of Xpuhil, 300 m (PMA); Chiapas, San Cristobal de las Casas (PMA); Distrito Federal, 12 mi W of Texcoco, 2300 m (DEUCR); Guerrero, 6 mi E of Xochipala (DETAM); Guerrero, 10 km SW Xochipala, 1500 m, 14.VII.1992, oak/tropical deciduous forest, R.S. Anderson leg., 1♀ (DEUCR); Jalisco, 9 mi SW of Autlan (BCUCB); Oaxaca, 26 km E of Valle Nacional, 1220 m (PMA); Oaxaca, 4.4 mi S of San Gabriel, Hwy. 131, Mixtepec, 2500 ft. (DEUCM); Veracruz, Orizaba (MCZ); Veracruz, Hwy. 131, 3 mi S of Altotonga, 7700’, 20.VIII.1982 (CAS); Oaxaca, Comaltepec, La Esperanza, 17°06’N 96°37’W, 1600 m, XII.2008, Malaise trap in forest, A.L. García leg., 6♀♀ (OLL). PANAMA: Darién, Darién National Park, Pirre, Rancho Frio, 80 m, 21.III–4.IV.2000, yellow trap, Cambra, Santos & Bermudez leg. (MIGBF); Chiriquí, Boquete Trail (DBUSU); Chiriquí, 2 km W of Cerro Punta, 1700 m (AEIC); Colón, Canal Zone, Barro Colorado Island (DEUCR); Veraguas, Coiba National Park, Coiba Island, Coiba Biological Station, yellow trap, 11.III.1998, R. Cambra & A. Santos leg. (MIGBF); Veraguas, Coiba National Park, Coiba Island, Campam. Las Salinas, yellow trap, 2.VIII.1998, R. Cambra & A. Santos leg. (MIGBF); Veraguas, Santa Fé, Altos de Piedra, 13–17.XI.1999, Malaise trap, A. Santos & P. González leg. (MIGBF). VENEZUELA: Merida, Hacienda El Alto, Manzano Alto, 1600 m, cloud forest (FSCA); Merida, Merida-Sta. Rosa, 1800 m, 11.V.1981, screen sweeping, L. Masner leg., one female (CNC); Cojedes, El Pao, Higueralot, 08°49’N 68°02’W, 376 m, 3–10.V.1995 (AMNH, IZAM); Trujillo, Mosquey, 1500 m, 23.XII.1993 (IZAM).

**Hosts.** Unknown.

**Distribution.** Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Honduras, Mexico, Panama, Venezuela.

![PLATE 34. A, B. Chelae of holotypes. C. Male holotype in lateral view (length 2.0 mm). D. Male genitalia of holotype. A. *Anteon mirificum*. B. *A. molle*. C, D. *A. nicolasi*. Scale bar 0.1 mm for A, 0.08 mm for B, 0.07 mm for D.](image)

**34. Anteon nicolasi** Olmi & Virla, 2004

*(Plate 34C, D)*

**Description. Male.** Fully winged (Plate 34C); length 2.0 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous and segment 2 testaceous-brown; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous, meso- and metacoxa partly black. Antenna filiform, hairy; most of antennal hairs approximately as long as breadth of antennal segments; antennal segments in following proportions: 7:4:3:3.5:4:4.5:4:5:7. Head dull, completely granulated and reticulate rugose; frontal line absent; occipital carina complete; POL = 6; OL = 2.5; OOL = 4.5; OPL = 2.5; TL = 4.5. Scutum shiny, finely punctate, unsculptured among punctures; anterior fourth of scutum rugose; anterior half of lateral regions of scutum rugose. Notauli incomplete, reaching approximately 0.5 length of scutum. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface dull, reticulate rugose, with two longitudinal keels, median area shiny and smooth, unsculptured and lateral areas rugose and dull. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (1.5:7). Paramere with distal inner rounded process (Plate 34D). Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina.

### 35. Anteon nigrolucens Olmi, 1991
(Plate 35A, B)


**Description. Female.** Fully winged; length 3.1 mm. Head black, except mandible testaceous; antenna testaceous, except segments 7–10 brown; mesosoma black; metasoma brown; legs testaceous, except metacoxa partly black. Antenna clavate; antennal segments in following proportions: 13:6:6:5:5.5:5.5:5.5:5.5:5:8; antennal segment 5 slender, about twice as long as broad (5:2.5) (Plate 35B). Head dull, strongly granulated; face with two lateral keels around orbits and directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 6; OL = 3; OOL = 8; OPL = 3.5; TL = 6. Pronotum dull, not raised into transverse carina, granulated; posterior surface shorter than scutum (5:17); pronotal tubercle reaching tegula. Scutum dull, strongly granulated. Notauli incomplete, reaching approximately 0.2 length of scutum. Scutellum and metanotum shiny, slightly granulated. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:9). Protarsal segments in following proportions: 7:3:3:4:11.5. Segment 5 of protarsus (Plate 35A) with basal part much longer than distal part. Enlarged claw (Plate 35A) longer than segment 5 of protarsus, with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 35A) with inner side straight, with two rows of approximately 20 lamellae without interruption to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: COSTA RICA: San José, Cartago-San Isidro road, 20 km S Empalme, 2800 m, X.1988, Malaise trap, P. Hanson leg. (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica.

### 36. Anteon nigrorubrum Olmi, 1984
(Plate 35C)


**Description. Female.** Fully winged; length 1.2–2.4 mm. Head black, except mandible testaceous (in specimen from Mexico, 33 mi S of Nautla, clypeus testaceous); antenna testaceous; mesosoma black, except prothorax red;
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metasoma and legs testaceous. Antenna clavate; antennal segments in following proportions: 7:3.5:4:3.5:3.5:3.5:4:4:6. Head dull, granulated and with many more or less distinct fine longitudinal striae; face with two lateral keels around orbits and directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 5; OL = 2.5; OOL = 4.5; OPL = 2.5; TL = 4. Pronotum dull, granulated, hairy, sculptured by transverse keels; posterior surface of pronotum shorter than scutum (7:10); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, very slightly punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.50–0.65 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (1:6). Protarsal segments in following proportions: 5:1:5:3:5:10. Segment 5 of protarsus (Plate 35C) with basal part shorter than distal part. Enlarged claw (Plate 35C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 35C) with one row of approximately 23 lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Cicadellidae: in Mexico (Chiapas): unidentified Cicadellidae feeding on grass.

Distribution. Bahamas, Cuba, Mexico, Trinidad and Tobago.

37. Anteon noyesi Olmi, 1984
(Plate 35D–F)


Description. Female. Fully winged; length 2.5–3.4 mm. Colour very variable, from totally testaceous or testaceous-ferruginous to more or less partly black or brown. Head totally testaceous, or testaceous-reddish, or with broad black spot on vertex and face; antenna completely testaceous, or with segments 7–10, or 8–10 or 9–10 brown or darkened; prothorax completely testaceous, or testaceous-reddish, or with black stripes; scutum completely testaceous, or testaceous-reddish, or with sides and anterior half black; scutellum and metanotum testaceous or testaceous-reddish; occasionally scutellum reddish-dark; occasionally sides of scutellum and metanotum blackish; occasionally scutellum and metanotum totally black; propodeum testaceous, or testaceous-reddish, or black; occasionally propodeum black, except mesopleuron and metapleuron testaceous; occasionally mesopleuron and metapleuron black, with reddish spots; metasoma testaceous, or brown-reddish. Antenna clavate; antennal segments of holotype of A. noyesi in following proportions: 10:7:6:4:3.5:5:7:6:6:9; antennal segments of holotype of A. grisselli in following proportions: 10:7:7:5:4:5:9:9:9:14; antennal segments of holotype of A. lobatum in following proportions: 11:6:6:4:4:6:7:7:7:9. Head shiny, smooth, hairy, slightly punctate, unsculptured among punctures; occasionally face with numerous longitudinal striae; face with two longitudinal keels around orbits directed towards antennal toruli; frontal line absent or indistinct; occipital carina complete; holotype of A. noyesi with POL = 5; OL = 3; OPL = 5; TL = 6; holotype of A. lobatum with POL = 6; OL = 3; OOL = 7; OPL = 5; TL = 6; holotype of A. grisselli with POL = 8; OL = 4.5; OOL = 7; OPL = 8; TL = 8. Pronotum shiny, smooth, unsculptured or slightly punctate; posterior surface shorter than scutum (5:16 in the holotype of A. grisselli; 4:20 in the holotype of A. noyesi), with two strong dorsal transverse lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli absent, or faintly visible near anterior margin of scutum. Propodeum shiny, with strong transverse keel between dorsal and posterior surface; dorsal surface completely reticulate rugose, or with few areolae; posterior surface completely smooth and unsculptured, without longitudinal keels; occasionally (as in holotype of A. lobatum) posterior surface with two complete longitudinal keels, median area smooth and lateral areas rugose or smooth; in other specimens posterior surface with two incomplete longitudinal keels. Mesopleuron and metapleuron smooth, shiny, unsculptured. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (4.10, or 4.5:9, or 4:9). Protarsal segments of holotype of A. noyesi in following proportions: 7:2.5:3:5:14; Protarsal segments of holotype of A. lobatum in following proportions: 3:2.3:5:14; Protarsal segments of holotype of A. grisselli in following proportions: 6:5.2:5:2.5:5:15. Segment 5 of protarsus (Plate 35D, E) with basal part shorter than distal part. Enlarged claw (Plate 35D, E) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 35D, E) with two rows of approximately 24–31 lamellae; distal apex with about 5–6 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 1.0–2.0 mm. Head black, except mandible, clypeus and anterior half of face testaceous-reddish; occasionally head black, except mandible, clypeus, gena and anterior margin of face testaceous-reddish; occasionally head black, except only mandible testaceous; antenna brown, except segments 1–2 or 1–3 testaceous; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 9:5.5:5:4.5:5:5:6:5:5:5:10. Head shiny, with anterior half of face sculptured by numerous longitudinal striae; posterior half of face strongly punctate and unpunctured among punctures; occasionally posterior half of face granulated; vertex reticulate rugose, or granulated, or punctate and unsculptured among punctures; frontal line absent; occipital carina complete; POL = 8; OL = 4; OOL = 5; OPL = 2; TL = 4. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3–0.5 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels and median area shiny, smooth and not rugose. In specimen from Panama, Chiriqui, collected on 1–14.II.2012, posterior surface of propodeum with median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:5). In specimen from Venezuela, km 32 of Maracay-Choroní Road, fore wing with one dark spot beneath pterostigma. Paramere without distal inner pointed process (Plate 35F). Tibial spurs 1/1/2.

holotype of *A. grisselli*: USA: Florida, Alachua Co., Gainesville, Doyle Conner Bldg., 18–24.VIII.1975, pan trap (Moericke trap), E.E. Grissell leg. (FSCA). Paratypes of *A. noyesi*: BRAZIL: Amazonas, 1 ♀ (AEIC). TRINIDAD AND TOBAGO: same locality label as holotype, VIII.1976, 1 ♀ (AMNH). Other material: BRAZIL: Maranhão, São Luís Island, Foresta Sacavém, 30.IX.1992, yellow pan trap, R. Cambra leg. (MIGBF); Pará, Município Melgaço, Caxiuaña, Trilha Igarapé, Curua, 14–17.XI.2003, YPT, A.P. Aguiar & J. Dias leg., 1 ♀ (MZUS) (Coelho et al. 2011). COLOMBIA: Valle Department, Central de Anchicaya, 30 km E of Buenaventura, 560 m (FSCA); Valle Department, Atuncela (FSCA); Caquetá, Chiribiquete National Park, Puerto Abeja, 250 m, 24.1–1.II.2000, C. Arenas leg. (IAYH). COSTA RICA: Alajuela, 20 km S Upala (DBUSU); Alajuela, Café, Chiles de Aguas Zarcas, 300 m (AMNH); Guanacaste, W side of Volcán Cacao, Arenales, 900 m (AMNH); Guanacaste, NW Volcán Orosí, Cerro El Hacha, 300 m (AMNH, EBUC); Guanacaste, 3 km SE of Río Naranjo (DBUSU); Puntarenas, Golfo Dulce Forest Reserve, 24 km W of Piedras Blancas, 200 m (AMNH, EBUC); Puntarenas, Golfo Dulce Forest Reserve, 10 km W of Piedras Blancas, 100 m (AMNH); Puntarenas, 10 km W of Golfo Dulce (CNC); Corcovado National Park, E of Sirena, 50 m (AMNH); Puntarenas, Monteverde, 1400 m (AMNH); Puntarenas, Carara Biological Reserve, Estación Quebrada Bonita, 50 m (AMNH); Puntarenas, Golfito (AEC); Puntarenas, Osa Peninsula, Rincón, 08°43’S 83°30’W, VI.1998, Malaise trap, B. Brown leg., 1 ♂ (DEUCR); Puntarenas, Osa Peninsula, Puerto Jimenez, 10 m, X.1990, I. Gauld & K. Gaston leg., 1 ♂ (BMNH). ECUADOR: Sucumbios, Sacha Lodge, 00°05’S 76°05’W, 290 m (NHMLA). FRENCH GUIANA: Nouragues Scientific Station, Pararé, VII.2009, 1 ♂ (MOLC). HONDURAS: La Ceiba, 19.VIII.1916 (USNM). MEXICO: Jalisco, Chamela (DBUSU); Jalisco, Careyes (DBUSU). PANAMA: Colón, Portobelo National Park, San Antonio, 16–29.II.2000, Malaise trap, P. González & A. Santos leg. (MIGBF); Darién, Darién National Park, Pirre, Rancho Frío, 80 m, 21.III–4.IV.2000, yellow trap, Cambra, Santos & Bermudez leg. (MIGBF); Darién, Darién National Park, Estación INRENARE, Cruce de Mono, 5–28.II.1993, yellow trap, R. Cambra & J. Coronado leg. (MIGBF); Panamá, Soberania National Park, Camino Plantación, 25–29.VIII.1999, yellow trap, A. Santos & P. González leg. (MIGBF); Panamá, Parque Nat. Metropolitano, yellow trap, 24.VIII–3.IX.1999, A. Santos & P. González leg. (MIGBF); Chiriquí, 8 Km S Boquete, 08°41.915’S 82°26.803’W, 2700’, 1–14.II.2012, Malaise trap, F.D. Parker & T.D. MacIntyre leg., 2 ♂♂ (UCFC); same locality label, 14.I.2012, 2 ♂♂ (UCFC); same locality label, 5.I.2012, 1 ♂ (UCFC); Veraguas, Coiba National Park, Coiba Island, Cerro La Torre, 7.III.1998, yellow trap, R. Cambra & A. Santos leg. (MIGBF). VENEZUELA: Aragua, H. Pittier National Park, km 32 of Maracay-Choroní road, 1100 m, 15.IV.1994 (IZAM); Merida, Hacienda El Alto, Manzano Alto, 1600 m, cloud forest (FSCA); Sucre, Cerro Humo, Las Melenas, 9.7 km NW Irapa, 10°41’N 82°37’W, 800 m, 11.V.1993 (IZAM). Nearctic region: USA: Florida, Collier Co., Naples, 15–30.VII.1987, Malaise trap, V. Gupta leg., 1 ♂ (CNC); Florida, Alachua Co., Gainesville (PMA); Florida, Orange Co., Rock Springs Run State Reserve, 19.V.1995 (UCFC); Georgia, Mc Intosh Co., Sapelo Island (PMA).

Hosts. Unknown.

Distribution. Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Honduras, Mexico, Panama, Trinidad and Tobago, Venezuela and Nearctic region (USA).

38. *Anteon nycteum* Olmi, 1984

(Plate 36A)


Description. Female. Fully winged; length 3.4 mm. Head black, except mandible and clypeus testaceous, anterior region of face reddish and one reddish spot between posterior ocelli and occipital carina; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa basally black. Antenna clavate; antennal segments in following proportions: 11:9:8:8:8:8:8:8:8:11. Head shiny, with face completely reticulate rugose; vertex smooth, not reticulate rugose, punctate, unsculptured among punctures, with numerous parallel median striae connecting anterior ocellus to occipital carina; face with two lateral keels around orbits and directed towards antennal toruli; frontal line absent; face with median longitudinal furrow connecting anterior ocellus to clypeus;
occipital carina complete; POL = 3.5; OL = 5.5; OOL = 8; OPL = 12; TL = 9. Pronotum shiny, with strong transverse impression between anterior and posterior surface; anterior surface much shorter than posterior surface (8:17); pronotum with raised transverse carina between anterior and posterior surface; posterior surface smooth, shiny, slightly punctate, unsculptured among punctures, except some transverse striae near transverse carina; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area shiny and smooth. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (6:14). Protarsal segments in following proportions: 11:3:4:10:22. Segment 5 of protarsus (Plate 36A) with basal part shorter than distal part. Enlarged claw (Plate 36A) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 36A) with two rows of approximately 28 lamellae; distal apex with about six lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BRAZIL: Mato Grosso, Sinop, 12°31’S 55°37’W (AEIC).

Hosts. Unknown.

Distribution. Brazil.

PLATE 36. A, B. Chelae of holotypes. C, D. Male genitalia of holotypes. A. Anteon nycteum. B. A. oliveirai. C. A. oranianum. D. A. palanquense. Scale bar 0.14 mm for A, 0.18 mm for B, 0.06 mm for C, 0.07 mm for D.

39. *Anteon oliveirai* Olmi, 1984
(Plate 36B)


Description. Female. Fully winged; length 4.0 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous. Antenna clavate; antennal segments in following proportions: 19:9:10:7:8:7:7:10. Head shiny, irregularly sculptured by folds; vertex behind ocelli slightly granulated, with irregular folds and two tracks of oblique keels connecting posterior ocelli to occipital carina; face with two lateral keels around orbits and directed towards antennal toruli; frontal line
complete; occipital carina complete; POL = 6.5; OL = 4; OOL = 6; OPL = 6.5; TL = 3. Pronotum shiny, with strong transverse impression between anterior and posterior surface; anterior part of posterior surface with raised transverse carina; posterior surface shiny, sculptured by irregular folds, shorter than scutum (7.5:19); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Fore wing with one narrow dark transverse band beneath pterostigma; distal part of stigmal vein shorter than proximal part (6:10). Protarsal segments in following proportions: 11:2:3:3:11.5. Segment 5 of protarsus (Plate 36B) with basal part much longer than distal part. Enlarged claw (Plate 36B) with proximal prominence bearing one long bristle. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: holotype: BRAZIL: Minas Gerais, S. Barbara, Serra do Caraça (AEIC).

Hosts. Unknown.

Distribution. Brazil.

40. Anteon oranianum Olmi, 1987
(Plate 36C)


Description. Male. Fully winged; length 1.6–1.7 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma and metasoma black; legs testaceous. Antenna filiform; antennal segments in following proportions: 8:5:6:7:6:6:6:6. Head shiny, with central region of face punctate and unsculptured among punctures; vertex and lateral regions of face reticulate rugose; frontal line complete; occipital carina complete; POL = 4; OL = 2.5; OOL = 5.5; OPL = 3; TL = 4. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.4 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2.5:8). Paramere (Plate 36C) without distal inner pointed process, with distal apex slender. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil, Costa Rica, Ecuador, Panama.

41. Anteon palanquense Olmi, 1991
(Plate 36D)


Description. Male. Fully winged; length 2.0–2.7 mm. Head black, except mandible testaceous; antenna black; mesosoma and metasoma black; legs brown, except tibiae and tarsi testaceous. Antenna pectinate, with segments 3–7 produced into dorsal apophysis; antennal segments of holotype in following proportions: 9:5:5:4:4:5:5 (segment 10 missing). Head shiny, reticulate rugose; clypeus chisel shaped; frontal line absent; occipital carina complete; POL = 6; OL = 4; OOL = 5; OPL = 4; TL = 5. Scutum, scutellum and metanotum shiny, smooth, finely
punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.25 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, median area shiny, smooth, unsculptured, and lateral areas reticulate rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:9). Paramere (Plate 36D) with distal inner pointed process. Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Brazil, Costa Rica, Ecuador, Panama, Venezuela.

### 42. *Anteon panamense* Olmi, 1984
(Plates 33C, 37A–C)


*Anteon rosanum* Olmi 1987a: 399 (synonymized by Olmi 1991); type locality: S. Rosa Park (Guanacaste, Costa Rica).

*Anteon araripense* Olmi 1991: 192 (synonymized by Olmi 1998e); type locality: Serra do Araripe (Ceará, Brazil); Olmi 1998e: 158.

**Description.** Female. Fully winged; length 1.8–3.0 mm. Colour very variable, from totally testaceous (var. *araripense*) to more or less partly black or brown (var. *panamense*). Head totally testaceous, or black, except mandible and clypeus testaceous; occasionally head black, except anterior half of face testaceous and temple reddish-dark; ventral side of head testaceous; antenna completely testaceous, or brown, except segments 1–5 and partly 6 testaceous; in many specimens from Brazil, Caxiuaña, deposited in MZUS, face reticulate rugose, without evident longitudinal striae or keels. Mesosoma totally testaceous, or black, except anterior margin of pronotum reddish-dark; occasionally mesosoma testaceous, except propodeum brown; occasionally mesosoma black, except prothorax reddish; occasionally mesosoma black, except scutum reddish; metasoma testaceous; legs testaceous. Antenna clavate; antennal segments of holotype of *A. panamense* in following proportions: 8:4:6:6:4:4:4:4:8; antennal segments of holotype of *A. araripense* in following proportions: 8:4:6:5:5:5:5:5:6. Head dull, granulated and with many longitudinal and irregular keels or striae on face and vertex (occasionally face rugose, without longitudinal striae); frontal line complete; occipital carina complete; holotype of *A. panamense* with POL = 4.5; OL = 3; OOL = 4; OPL = 2; TL = 4; holotype of *A. araripense* with POL = 4; OL = 2; OOL = 4; OPL = 2; TL = 4. Pronotum dull, rugose, smooth near posterior margin; posterior surface of pronotum shorter than scutum (5:10); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3–0.4 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:8 or 3:10); in specimen from Brazil, Caxiuaña, deposited in MZUS, fore wing with a very weak dark spot beneath pterostigma. Protarsal segments of holotype of *A. panamense* in following proportions: 6:1.5:2:5:11; Protarsal segments of holotype of *A. araripense* in following proportions: 6:2:3:5:12. Segment 5 of protarsus (Plate 37A, B) with basal part slightly shorter than distal part. Enlarged claw (Plate 37A, B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 37A, B) with one–two rows of approximately 26–30 lamellae; distal apex with three–five lamellae. Tibial spurs 1/1/2.
Male. Fully winged; length 1.1–1.7 mm. Head black, except mandible and clypeus testaceous; antenna black; mesosoma black; metasoma brown; legs testaceous. In small specimen (1.2 mm) from Brazil, 62 km S Ariquemes, colour totally brown-testaceous. Antenna filiform; antennal segments in following proportions: 5:4:5:5:5:5:5:5:5:6.

Head shiny, smooth, unsculptured, except vertex reticulate rugose and granulated; frontal line absent; occipital carina complete; POL = 4; OL = 2; OOL = 4; OPL = 2; TL = 3. In specimens from Belize, 18°20.507'N 88°9.688'W, and Costa Rica, Peñas Blancas and La Selva, lateral areas of face sculptured by some longitudinal striae (occasionally hardly visible). Scutum, scutellum and metasternum shiny, smooth, unsculptured. Notauli incomplete, reaching approximately 0.2–0.5 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface dull, reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:5). Paramere (Plate 37C) usually without distal inner process, rarely with small distal inner rounded process (Plate 33C). Tibial spurs 1/1/2.

43. *Anteon paraguayense* Olmi, 1987
(Plate 37D, E)

**Description. Female.** Fully winged; length 3.1–3.3 mm. Head black, except mandible testaceous; antenna black, except segments 1–3 or 1–4 testaceous (1–3 in holotype); mesosoma and metasoma black; fore leg testaceous; mid- and hind leg of holotype black, except tarsus testaceous; mid- and hind leg of specimen from Paraguay, 23°24.137’S 56°30.336’W, testaceous, except club of metafemur brown. Antenna clavate; antennal segments in following proportions: 16:6:6:5:5:5:5:5:8. Head dull, granulated, irregularly reticulate rugose in holotype, strongly and regularly reticulate rugose in specimen from Paraguay, 23°24.137’S 56°30.336’W; frontal line complete; face with two lateral keels around orbits directed towards antennal toruli; occipital carina complete; holotype with POL = 7; OL = 3; OOL = 5; OPL = 7; TL = 5; in specimen from Paraguay, 23°24.137’S 56°30.336’W, POL = 9; OL = 5; OOL = 6; OPL = 7.5; TL = 5; greatest breadth of posterior ocelli shorter than OL (4:5). In specimen from Paraguay, 23°24.137’S 56°30.336’W, vertex behind ocellar triangle with two tracks of oblique longitudinal keels connecting posterior ocelli to occipital carina. Pronotum dull, crossed by transverse raised carina between anterior and posterior surface (Plate 37E); anterior surface granulated; posterior surface rugose, shorter than scutum (7:20); pronotal tubercle reaching tegula. Scutum shiny, granulated. Notauli incomplete, reaching approximately 0.25–0.30 length of scutum. Scutellum shiny, smooth, finely punctate, unsculptured among punctures. Metanotum rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, with a dark transverse band beneath pterostigma; distal part of stigmal vein shorter than proximal part (3:8). Protarsal segments in following proportions: 8:2:3:5:10. Enlarged claw (Plate 37D) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 37D) with two rows of approximately 9–16 lamellae (16 in holotype); distal apex with two lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: PARAGUAY: San Pedro, Cororo-Rio Ypane, Malaise trap (CAS).

**Hosts.** Unknown.

**Distribution.** Paraguay.

44. *Anteon parkeri* Olmi, 1998

*(Plate 38A, B)*


**Description. Female.** Fully winged; length 3.0 mm. Head black, except mandible testaceous; antenna testaceous, except segment 10 darkened; mesosoma black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 14:6:9:9:8:6:5:6:5:10. Head shiny, reticulate rugose; frontal line complete; face without lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 6; OL = 4; OOL = 6; OPL = 4.5; TL = 6. Pronotum dull, not crossed by transverse raised carina between anterior and posterior surface (Plate 38B); pronotum reticulate rugose, except smooth and unsculptured posterior margin; posterior surface shorter than scutum (10:17); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, shortly visible near anterior margin of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:10). Protarsal segments in following proportions: 8:3:3:7:17. Enlarged claw (Plate 38A) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 38A) with one row of approximately 38 lamellae; distal apex with about five lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: COSTA RICA: Guanacaste, 3 km SE Rio Naranjo, 8–15.VI.1992, F.D. Parker leg. (CAS).

**Hosts.** Unknown.

**Distribution.** Costa Rica.
PLATE 38. A. Chela of holotype. B. Prothorax of holotype in lateral view (length 0.27 mm). C, D. Male genitalia of holotypes. A, B. Anteon parkeri. C. A. paucum. D. A. paulense. Scale bar 0.16 mm for A, 0.05 mm for C, 0.07 mm for D.

45. Anteon paucum Olmi, 1991
(Plate 38C)


Description. Male. Fully winged; length 1.5–1.8 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous; occasionally legs testaceous, except clubs of femora and tibiae darkened. Antenna filiform; antennal segments in following proportions: 6:5:6:6:6:6:6:5:5:7. Head dull, completely irregularly rugose; frontal line absent; occipital carina complete; POL = 4; OL = 2.5; OOL = 4; OPL = 3; TL = 3. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.4 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:6). Paramere (Plate 38C) without distal inner pointed process. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil, Costa Rica, Mexico.
46. *Anteon paulense* Olmi, 1991  
(Plate 38D)


**Description.** *Male.* Fully winged; length 2.2 mm. Head black, except mandible brown-testaceous; antenna brown; mesosoma and metasoma black; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 10:5:5:5.5:5.5:6:5:5:8.5. Head dull, completely reticulate rugose; clypeus not chisel shaped; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 4; OPL = 2; TL = 2. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.2 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:7). Paramere (Plate 38D) with distal inner pointed process; apical margin of above process serrate. Tibial spurs 1/1/2.

*Female.* Unknown.

**Material examined.** Type: ♂ holotype: BRAZIL: São Paulo, Boraceia Field Station, Casa Grande, 12.II.1976, T. Rogers leg. (FSCA).

**Hosts.** Unknown.

**Distribution.** Brazil.

47. *Anteon pectinicorne* Olmi, 1987  
(Plates 33D, 39A–C)


**Description.** *Female.* Fully winged; length 2.9–4.2 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black, except lateral regions of pronotum testaceous; metasoma brown; legs testaceous, except stalk of metafemur brown. Antenna clavate; antennal segments in following proportions: 18:7:5.5:3.4:6:7:6.5:9. Head shiny, hairy, reticulate rugose, with anterior half of face sculptured by numerous parallel longitudinal keels; occasionally surface among above keels sculptured by areolae; clypeus square shaped, not rounded; frontal line absent; face with two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 5; OL = 4.5; OOL = 7; OPL = 5; TL = 8. Pronotum hairy, crossed by transverse raised carina between anterior and posterior surface; pronotum shiny, smooth, punctate, unsculptured among punctures; posterior surface much longer than anterior surface (15:6), approximately as long as scutum (17:18); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, faintly and shortly visible near anterior margin of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two complete longitudinal keels and median and lateral areas shiny, smooth, unsculptured. Fore wing hyaline, with two dark transverse bands; distal part of stigmal vein shorter than proximal part (4:12). Protarsal segments in following proportions: 7:3.5:3:5:11:25. Enlarged claw (Plate 39A) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 39A) with two rows of approximately 25 lamellae; distal apex with about ten lamellae. Tibial spurs 1/1/2.

*Male.* Fully winged; length 2.6–3.2 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa and club of metafemur brown. Antenna pectinate (Plate 39B), with segments 3–7 produced into dorsal apophysis; antennal segments in following proportions: 10:7:5.5:5.5:7:7:7:12. Head reticulate rugose, with face sculptured by longitudinal keels; clypeus chisel shaped; occipital carina complete; POL = 8; OL = 5; OOL = 8; OPL = 6; TL = 7; vertex with two keels connecting posterior ocelli to occipital carina. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.20–0.33 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose;
posterior surface with two longitudinal keels, lateral areas reticulate rugose and median area shiny, smooth and usually unsculptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (5:10). Paramere (Plate 39C) without distal inner process; in specimen from Mexico, Huixtla, paramere with some papillae on inner side (Plate 33D). Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Brazil, Costa Rica, Guatemala, Honduras, Mexico, Panama and Nearctic region (USA).

PLATE 39. A, D. Chelae. B. Antenna of male holotype (length 1.5 mm). C. Male genitalia of holotype. A. *Anteon pectinicorne*, specimen from Costa Rica, 3 km SE Rio Naranjo. B, C. *A. pectinicorne*. D. *A. perniciosum*. Scale bar 0.11 mm for A and C, 0.14 mm for D.

(Plate 39D)


**Description.** Female. Fully winged; length 3.4 mm. Head black, except mandible testaceous; antenna brown;
mesosoma and metasoma black; legs testaceous, except hind coxae partly black. Antenna clavate; antennal segments in following proportions: 15:7:14:10:10:9:8:13. Head dull, with face sculptured by many longitudinal keels and vertex punctate, unsculptured among punctures; frontal line absent; occipital carina complete; POL = 5; OL = 2.5; OOL = 10; OPL = 6; TL = 9. Pronotum punctate, unsculptured among punctures, with posterior margin unsculptured; posterior surface shorter than scutum (8:19); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.4 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein shorter than proximal part (10:15). Protarsal segments in following proportions: 11:3:3:5:5:16. Enlarged claw (Plate 39D) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 39D) with two rows of approximately 18 lamellae; distal apex with about eight lamellae. Tibial spurs 1/1/2.

**Male.**

**Material examined.** Type: ♀ holotype: COSTA RICA: San José, 20 km S Empalme, Cerro de la Muerte, 2800 m, Malaise trap, V–VI.1989, P. Hanson leg. (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica.

49. *Anteon pilicorne* Ogloblin, 1938

(Plates 40, 41).

*A. pilicornis* Ogloblin 1938: 39.

*A. mexicanum* Olmi 1984: 499 (synonymized by Olmi 1991); type locality: S. Cristobal de las Casas (Chiapas, Mexico).


**Description.** Female. Fully winged; length 1.9–3.6 mm. Head black, except mandible testaceous; antenna completely testaceous, or brown, except segments 1–3 testaceous; mesosoma and metasoma black; legs completely testaceous, or with metacoxa and clubs of femora partly brown. Antenna clavate; antennal segments in following proportions: 10:5:5:4:4:4:5:5:5:6.5; antennal segment 5 slightly longer than broad (6:4) (Plate 40B). Head dull, granulated and reticulate rugose; occasionally face with few areolae and vertex mostly smooth; occasionally face granulated and almost completely without areolae; frontal line complete; occipital carina complete; POL = 5.5; OL = 3.5; OOL = 6; OPL = 4; TL = 4. Pronotum dull, granulated, sculptured by transverse keels, with posterior surface shorter than scutum (6:12); pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli indistinct, faintly visible only near the anterior margin of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein shorter than proximal part (2:6). Protarsal segments in following proportions: 5:2:2:5:9:5. Segment 5 of protarsus (Plate 40A) with basal part longer than distal part. Enlarged claw (Plate 40A) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 40A) with two rows of approximately 6–14 lamellae; distal apex with 3–8 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 1.8–3.4 mm. Head black, except mandible testaceous; antenna completely testaceous, or brown, except segment 1 testaceous; mesosoma and metasoma black; legs black, except tarsi testaceous; occasionally legs testaceous, except coxae and occasionally clubs of femora partly brown (occasionally also tibiae brown). Antenna filiform; antennal segments of male paratype of *A. mexicanum* in following proportions: 9:5:5:5:5:5:5:5:7; in other specimens antennal segments in following proportions: 14:6:6:6:7:7:5:6:5:9. Head dull, granulated and reticulate rugose; face sculptured by two longitudinal keels around orbits and directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 5; OPL = 3; TL = 3.5. Scutum dull, granulated, occasionally rugose near anterior margin. Notauli indistinct, faintly visible near anterior margin of scutum; occasionally notauli reaching approximately 0.3–0.4 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior...
surface; dorsal surface reticulate rugose; posterior surface dull, reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (1.5:6). Paramere with or without distal inner pointed or rounded process (Plate 40C, D, E) (see remarks), with large inner band along entire paramere usually presenting many small and short bristles (Plate 40C, D, E), without dorsal proximal membranous process. Tibial spurs 1/1/2.

**PLATE 40. Anteon pilicorne.** A. Chela. B. Antenna. C–E. Male genitalia. A. Female from Mexico, San Cristobal de las Casas (holotype of *A. mexicanum*). B. Female from Argentina, Moreno (length 1.2 mm). C, E. Parameres of male from Argentina, Burzaco. D. Male from Mexico, San Cristobal de las Casas (paratype of *A. mexicanum*). Scale bar 0.11 mm for A, 0.08 mm for C, 0.05 mm for D and E.

**PLATE 41. Anteon pilicorne* Ogloblin attacking Cicadellidae.** A. Larval sac on *Balclutha rosea* (Scott) (length of leafhopper 4.6 mm), B. Larval sac on *Dalbulus maidis* (DeLong & Wolcott) (length of leafhopper 4.8 mm).

leg., 1♂ (BMNH); Buenos Aires, Moreno (AMNH, IIS); Buenos Aires, J.C. Paz, 25.XI.1939, A. Ogloblin leg. (FCNM); Misiones, Loreto, I.2001, Malaise trap, Fidalgo leg., 1♂ (IFML); Salta, Yacocchuaya, 1950 m, 1–15.XII.1968, Malaise trap, Willink, Stange & Terán leg. (IFML); Tucumán, Los Nogales, reared from Balclutha rosea (Scott), parasitized host collected 12.III.2009, dryinid adult emerged 5.IV.2009, Moya-Raygoza, Virla & Espinosa leg., 1♀ (EGVC) (Virla et al. 2011); Tucumán, San Miguel de Tucumán, PROIMI laboratory, reared in lab from Dalbulus maidis (DeLong & Wolcott), parasitized host collected 6–7.IV.2009, dryinid adult emerged 6.V.2009, 1♀ (Virla et al. 2011). BELIZE: Corozal District, Sarteneja, Blackpackers Farmland, 18°20.721’N 88°9.266’W, 8 ft., 17.XII.2009, C. Schüepp leg., 1♂ (NHMB). BRAZIL: Distrito Federal, Cabeça do Veado, Estação Florestal (AMNH, CNC); São Paulo, Serra da Bocaina, São José do Barreiro (MCZ); São Paulo (PMA). COLOMBIA: Valle Department, Peñas Blancas (FSCA). COSTA RICA: Guanacaste, S. Rosa Park (AEIC, AMNH); Guanacaste, 14 km S of Cañas (DBUSU); Guanacaste, SW Volcán Cacao, Estación Mengo, 1100 m (AMNH); Limón, Cahuita, 23–25.XII.1988 (USNM); Puntarenas, Monteverde, 10°18’N 84°48’W, 1400 m (NHMLA); Puntarenas, Monteverde Reserve, 1500 m, cloud forest, II.1980, W. Mason leg., 1♂ (CNC); Puntarenas, S. Vito, 08°42’N 83°00’W (MCZ); Puntarenas, Reserva Natural Absoluta Capo Blanco, 09°35’N 85°06’W, 16–17.II.2009, J.S. Noyes leg., 1♀ (BMNH); S. José, San Antonio de Escazú, 1300 m (AMNH); S. José, Braulio Carrillo National Park, 9.5 km E of tunel, 1000 m (AMNH); S. José, 16 km S of Empalme, Cerro de la Muerte, 2600 m (AMNH); S. José, Escazú (AMNH). GUATEMALA: Huehuetznango, 20 km NE of Todos Santos, Cuchumatán (AEIC); Zacapa, Below San Lorenzo, 750 m (PMA); Quetzaltenango Zunil, Fuentes Geoginas, 2200 m (PMA). HONDURAS: Yoro, Palo de Comba, 15°11’N 87°39’W (ZIL). MEXICO: Campeche, 6 mi E. of Xpuhil, Chicanna Ruins (PMA); Colima, Manzanillo (MCZ); Guerrero, 11.2 mi N of Iguala (DETAM); Jalisco, 31 mi N of Barra de Navidad (DBUSU); Jalisco, Puerto Vallarta (DBUSU); Jalisco, Chamela (DBUSU); Jalisco, Chamela Biological Station, 2–9.VII.1993, Wharton & Sharkey leg., 1♀ (DETAM); Michoacan, 15 mi SE of Morelia, 8.19.X.1938, L.J. Lipovsky leg. (NAMUK); Veracruz, Orizaba (MCZ); Veracruz, 3 mi E of Huatusco (DETAM). NICARAGUA: Leon, Cerro Negro (PMA); Oaxaca, Comaltepec, La Esperanza, 17°62’N 96°37’W, 1600 m, XII.2008, Malaise trap in forest, A.L. Garcia leg., 1♀ (OLL). PANAMA: Chiriquí, La Fortuna Dam, 1200 m (PMA); Chiriquí, 2 km W of Cerro Punta, 1700 m (AEIC); Chiriquí, 15 km NW of Hato del Volcán, 1200 m, 24–31.V.1977 (CNC). PERU: Cusco, near Agua Caliente, Machu Picchu (PMA). VENEZUELA: Tabay (AEIC, AMNH); Yacambú (AEIC); Tachira, 55 km NE of San Cristobal (CNC); Merida, Sta. Rosa, 2000 m (CNC).

**Hosts.** Cicadellidae Deltocephalinae (Virla et al. 2011): in Argentina: Balclutha rosea (Scott) and Dalbulus maidis (DeLong & Wolcott) and Balclutha rosea (Scott).

**Distribution.** Argentina, Belize, Brazil, Colombia, Costa Rica, Guatemala, Jamaica, Mexico, Nicaragua, Panama, Peru, Venezuela.

**Remarks.** In Argentina larval sacs located on hosts’s thorax (Virla et al. 2011) (Plate 41A, B). The distal inner rounded process visible in paramere of A. mexicanum and not present in A. pilicornus is only the result of the crushing of paramere.

50. *Anteon plaumanni* Olmi, 1984

(Plate 42A, B)


**Description.** Male. Fully winged; length 2.0–2.1 mm. Head black or brown, except mandible testaceous; antenna testaceous, occasionally darkened; mesosoma black or brown-reddish; metasoma black; legs testaceous. Antenna filiform; antennal segments in following proportions: 9:5:7:6:6:6:6:6:9. Head completely reticulate rugose; occasionally head strongly punctate, with punctures very large, similar to areolae; frontal line complete; face with two lateral longitudinal keels around orbits directed towards antennal toruli; occipital carina complete. In specimens from Panamá, Chiriquí, head weakly granulated, with some hardly visible areolae or irregular keels. POL = 5; OL = 3; OOL = 5; OPL = 2.5; TL = 2. Scutum shiny, smooth, slightly punctate, unsculptured among punctures, reticulate rugose near the anterior margin. Notauli incomplete, reaching approximately 0.3–0.5 length of scutum. Scutellum and metanotum shiny, smooth, slightly punctate, unsculptured among punctures. Propodeum
with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface dull, reticulate rugose, with two longitudinal keels and median area as rugose as lateral areas. In specimen from Mexico, Chamela Biological Station, posterior surface of propodeum with two incomplete longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:7). Paramere without distal inner pointed process (Plate 42A), without dorsal membranous process; occasionally paramere with distal inner rounded process (Plate 42B). Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Ecuador, Jamaica, Mexico, Panama, Paraguay, Venezuela.

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PLATE 42. A, B. Male genitalia of holotypes. C. Male genitalia of a specimen from Panamá, Fortuna. D. Chela of holotype. E. Closed chela of specimen from Ecuador, Sacha Lodge. F. Prothorax in lateral view of holotype (length 0.18 mm). A, B. *Anteon plaumanni*. C. A. *plumbeum*. D, E, F. A. *propodeale*. Scale bar 0.07 mm for A, 0.08 for B and C, 0.21 mm for D, 0.15 mm for E.

51. **Anteon plumbeum** Olmi, 1993

(Plate 42C)

*Anteon plumbeum* Olmi 1993c: 34; Olmi et al. 2000: 149.
Description. Male. Fully winged; length 2.0 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma and metasoma black; legs testaceous, except clubs of femora, meso- and metatibia brown. Antenna filiform; antennal segments in following proportions: 11:5.5:6:5:5:5:5:5:5:5:5:5:8.5. Head shiny, with face finely punctate, unsulptured among punctures; face with two lateral keels around orbits directed towards antennal toruli; frontal line complete; vertex shiny, with few irregular keels on temple and among ocelli; vertex also with two short oblique keels from posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 5; OPL = 3; TL = 4. Scutum and scutellum shiny, smooth, finely punctate, unsulptured among punctures. Notauli incomplete, only shortly visible near anterior margin of scutum. Metanotum dull, partly rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, with one dark spot beneath pterostigma; distal part of stigmal vein much shorter than proximal part (3:7). Paramere (Plate 42C) with distal inner rounded process. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Ecuador.

52. Anteon propodeale (Fenton, 1927)  
(Plate 42D–F)


Description. Female. Fully winged; length 1.9–2.2 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except stalk of metafemur and metatibia brown. In specimen from Ecuador, Sacha Lodge, antennal segments 9–10 darkened and club of meso- and metafemur and meso- and metatibia brown. Antennal segments 7–10 darkened in specimen from Panama, Rio Luis. Antenna clavate; antennal segments in following proportions: 11:5:4:4:4:4:6:8. Head shiny, smooth, hairy, unsulptured; face with two lateral longitudinal keels around orbits and directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 5; OPL = 3.5; TL = 3.5. Pronotum hairy, very shiny and smooth, unsulptured, convex and raised into transverse carina between anterior and posterior half (Plate 42F); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum very shiny and smooth, unsulptured. Notauli absent. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels and median area shiny, smooth, without areolae, with short keels near margins; lateral areas sculptured by broad areolae. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (2:6). Protarsal segments in following proportions: 4:1.5:2:4:10. Segment 5 of protarsus (Plate 42D, E) with basal part approximately as long as distal part. Enlarged claw (Plate 42D, E) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 42D, E) with two rows of approximately 13–14 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil, Ecuador, Panama.

53. Anteon rogersi Olmi, 1991  
(Plate 43A)

Description. Male. Fully winged; length 2.6 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous. Antenna pectinate, with segments 3–6 produced into dorsal apophyses; antennal segments in following proportions: 12:8:6:6:7:7:8:8:13. Head dull, completely reticulate rugose; clypeus chisel shaped; frontal line absent; occipital carina complete; POL = 8; OL = 6; OOL = 7; OPL = 6; TL = 5. Scutum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas rugose and median area smooth, shiny and unsculptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (7:14). Paramere (Plate 43A) without distal inner pointed process. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Brazil.

54. Anteon romeroi Olmi, 1999
(Plate 43B)


Description. Male. Fully winged; length 2.2–2.6 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs testaceous, except stalk of metafemur brown and metatibia darkened. Antenna filiform; antennal segments in following proportions: 12:6:6:5:5:6:5:5:5:5:5:8. Head completely reticulate rugose; face laterally with two short longitudinal keels along orbits; frontal line complete; occipital carina complete; POL = 7; OL = 3; OOL = 5; OPL = 3; TL = 4. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two complete longitudinal keels and median area as rugose as lateral areas. Fore wing with one dark transverse band located beneath pterostigma; distal part of stigmal vein much shorter than proximal part (3:9). Paramere (Plate 43B) with large inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Venezuela.

55. Anteon rugiscutum Olmi, 1991
(Plate 43C)


Description. Male. Fully winged; length 2.2–2.3 mm. Head black, except mandible brown; antenna brown; mesosoma black; metasoma brown; legs brown, except trochanters, protibia and pro- and mesotarsus testaceous. Antenna filiform; antennal segments in following proportions: 12:7:7:6:6:6:6:6:9. Head dull, completely reticulate rugose; frontal line complete; occipital carina complete; POL = 7; OL = 3; OOL = 5; OPL = 3; TL = 4. Scutum dull, granulated and reticulate rugose. Notauli incomplete, reaching approximately 0.2–0.3 length of scutum. Scutellum shiny, unsculptured. Metanotum dull, rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, with dark spot beneath pterostigma; distal part of stigmal vein shorter than proximal part (4:9). Paramere without a distal inner pointed process (Plate 43C). Tibial spurs 1/1/2.
Female. Unknown.

**Material examined.** Type: ♂ holotype: COSTA RICA: San José, Braulio Carrillo National Park, Administrative Building, 1600 m, Malaise trap, V–VI.1988, P. Hanson leg. (AMNH). Other material: COSTA RICA: Puntarenas, Monteverde, Finca Canada, 1500 m, 1–5.VI.1988, Malaise trap, B.V. Brown leg., 1♂ (PMA).

Hosts. Unknown.


PLATE 43. Male genitalia of holotypes. A. *Anteon rogersi*. B. *A. romeroi*. C. *A. rugiscutum*. Scale bar 0.08 mm for A, 0.1 mm for B, 0.07 mm for C.

56. *Anteon rusticum* Olmi, 1996

(Plate 44A)


**Description.** Male. Fully winged; length 2.4–2.9 mm. Head black, except mandible testaceous; antenna black; mesosoma and metasoma black; legs testaceous, except meso- and metacoxa, clubs of meso- and metafemur, metatibia brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 11:5.4:5:5:5:5:5:5:5:8. Head dull, completely strongly reticulate rugose; face with two lateral keels around orbits directed towards antennal toruli; frontal line complete and irregular; occipital carina complete; POL = 8; OL = 4; OOL = 6; OPL = 6; TL = 3. Scutum dull, strongly or weakly granulated, occasionally (in specimens from Venezuela, Yacambu National Park) with surface near anterior margin rugose. Notauli incomplete, reaching approximately 0.25 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (2:7). Paramere (Plate 44A) without a distal inner process. Tibial spurs 1/1/2.

Female. Unknown.

**Material examined.** Type: ♂ holotype: COSTA RICA: Guanacaste, 14 km S Cañas, 12–14.XI.1990, F.D. Parker leg. (CAS). Other material: VENEZUELA: Lara, Yacambu National Park, 1000 m, 22.VIII.1992, maxinet, cloud forest trail, L. Masner leg., 5♂♂ (PMA).
Hosts. Unknown.


PLATE 44. A, E. Male genitalia of holotypes. B, C. Chelae of holotypes. D. Chela of female from Mexico, Rancho Loma Bonita. A. Anteon rusticum. B. A. sculptum. C. A. semirubrum. D, E. A. sharkeyi. Scale bar 0.05 mm for A and E, 0.09 mm for B, 0.07 mm for C, 0.10 mm for D.

57. Anteon sculptum Olmi, 1991
(Plate 44B)


Description. Female. Fully winged; length 2.0–2.3 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 10:6:7:5:6:5.5:5:8. Head dull, completely reticulate rugose (in specimen from Costa Rica, Monteverde, head with face completely sculptured by many irregular longitudinal keels, granulated among keels); frontal line absent; face without lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 6; OL = 3; OOL = 5; OPL = 3; TL = 4. Pronotum dull, not raised into transverse carina between anterior and posterior surface; posterior surface much shorter than scutum (2:13); pronotal tubercle reaching tegula. Scutum shiny, completely sculptured by numerous longitudinal and parallel keels. Notauli not distinct among keels of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:9). Protarsal segments in following proportions: 7:2:2:4:5:11. Enlarged claw (Plate 44B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 44B) with two rows of approximately 19 lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: COSTA RICA: Guanacaste, SW of Volcán Cacao, Estación Mengo, 1100 m, 1988–1989 (AMNH). Other material: COSTA RICA: Puntarenas, Monte Verde Reserve (PMA); Puntarenas, Monteverde, 1700 m, 28.V–1.VI.1988, stunted forest, Malaise trap, B.V. Brown leg., 1♂ (PMA); San José, Pan-Am Hwy, 14 rd. mi N of San Isidro de General, 1600 m (NHMLA); San José, Zurqui de Moravia,
Anteon semirubrum Olmi, 1991
(Plate 44C)

Description. Female. Fully winged; length 3.6 mm. Head totally testaceous-reddish; antenna testaceous; prothorax black, except posterior margin of pronotum reddish; rest of mesosoma black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 1:2:5:5:5:7:7:7:7:7:10. Head dull, with face reticulate rugose; vertex sculptured by slight irregular and longitudinal striae; frontal line absent; POL = 4; OL = 4; OOL = 7; OPL = 9; TL = 7; occipital carina complete. Pronotum hairy, with posterior surface flat and sculptured by strong transverse keels; posterior surface shorter than scutum (13:20); pronotal tubercle reaching tegula. Scutum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas rugose and median area partly smooth and partly as rugose as lateral areas. Fore wing hyaline, with one small dark spot beneath pterostigma; distal part of stigmal vein much shorter than proximal part (6:12). Protarsal segments in following proportions: 10:3:4:10:21. Enlarged claw (Plate 44C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 44C) with two rows of approximately 35 lamellae; distal apex with about eight lamellae. Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype: COSTA RICA: Puntarenas, 6 km S San Vito de Jaba, Las Cruces, Jardín Botánico Wilson, 1200 m, Malaise trap, VI–VII.1988, P. Hanson leg. (AMNH).


Anteon sharkeyi Olmi, 1995
(Plate 44D, E)

Description. Female. Fully winged; length 1.8–3.0 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 7:4:4:4:3:5.3:5:3.5:3.5:5.5. Head granulated and with many irregular longitudinal striae; frontal line absent; occipital carina complete; POL = 4; OL = 2.5; OOL = 3; OPL = 2; TL = 3; greatest breadth of posterior ocelli shorter than OL (1.5:2.5). Pronotum with posterior surface partly dull, hairy, reticulate rugose, and partly shiny, smooth and unsculptured; posterior surface of pronotum much shorter than scutum (4:8), broader than long; pronotal tubercle reaching tegula. Scutum shiny, smooth, finely punctate, unsculptured among punctures and in some areas very slightly granulated. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (1.5:5). Protarsal segments in following proportions: 5:1.5:2:3:10. Segment 5 of protarsus (Plate 44D) with basal part about as long as distal part.
Enlarged claw (Plate 44D) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 44D) with one row of approximately 23 lamellae; distal apex with three lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 1.2–1.7 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 or only 1 testaceous; mesosoma black; metasoma brown; legs testaceous; occasionally procoxa and club of profemur darkened. Antenna filiform, hairy; antennal segments in following proportions: 6:4:4:5:5:5:5:6:6:5:6:5. Head dull, granulated; in specimen from Mexico, Rancho Loma Bonita, head very slightly granulated and with some areas unsculptured; in specimen from Honduras, Palo de Comba, head granulated and with broad unsculptured area in front of anterior ocellus; frontal line absent; occipital carina complete; POL = 4; OL = 2.5; OOL = 5; OPL = 2; TL = 3. Scutum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.25–0.30 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface dull, reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein much shorter than proximal part (3:7). Paramere (Plate 44E) without distal inner process. Tibial spurs 1/1/2.

**Material examined.** Type: ♂ holotype: GUATEMALA: Zacapa, Below San Lorenzo, 750 m, XI.1986, M. Sharkey leg. (PMA).


**Hosts.** Cicadellidae (Guglielmino & Olmi 2006); in Mexico (Quintana Roo): *Graminella comata* (Guglielmino & Olmi 2006; Moya-Raygoza & Olmi 2010).

**Distribution.** Argentina, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico.

### 60. *Anteon slanskyae* Olmi, 1987

(Plate 45A)


**Description.** Male. Fully winged; length 1.9 mm. Head black, except mandible testaceous; antenna testaceous, except segments 3–10 darkened; mesosoma and metasoma black; legs testaceous, except meso- and metatibia and meso- and metatibial darkened. Antenna filiform; antennal segments in following proportions: 9:6:6:6:5:5:5:6:6:9. Head shiny, smooth, punctate, unsculptured among punctures; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 4; OPL = 2; TL = 3. Scutum and scutellum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum. Metanotum rugose. Propodeum reticulate rugose, with a transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein much shorter than proximal part (3:8). Paramere (Plate 45A) without distal inner pointed process. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Type: ♂ holotype: ECUADOR: Pichincha, about 15 km SE Santo Domingo de los Colorados, Tinalandia (CAS).

**Hosts.** Unknown.

**Distribution.** Ecuador.
PLATE 45. A. Male genitalia of holotype. B–E. Chelae of holotypes. F. Prothorax in lateral view of female paratype (length 0.19 mm). A. *Anteon slanskyae*. B. *A. surinamense*. C. *A. topali*. D. *A. translucens*. E, F. *A. triste*. Scale bar 0.08 mm for A, 0.16 mm for B and C, 0.12 mm for D, 0.10 mm for E.

61. *Anteon surinamense* Olmi, 1984
(Plate 45B)


**Description.** Female. Fully winged; length 2.6–3.2 mm. Head and antenna testaceous; mesosoma testaceous, except posterior margin of metanotum and median area of propodeum brown; metasoma and legs testaceous. In two specimens from Mexico, Xpu-Há, colour of body testaceous, except antennal segment 10, dorsal region of propodeum and part of axillae brown. In specimen from Guatemala, 13 km NW Machaquilá, antenna testaceous, except segments 8–10 black; mesosoma testaceous-reddish, except ventral side of propleuron, part of mesothoracic axilla, posterior margin of metanotum, dorsal surface of propodeum and median area of posterior surface of propodeum black. Antenna clavate; antennal segments in following proportions: 12:6:5:4:3:7:8:8:7:9. Head dull, granulated, with very slight keels on anterior region of face (in specimen from Guatemala, 13 km NW Machaquilá, head with face weakly reticulate rugose); frontal line absent; face with two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 8; OL = 4; OOL = 10; OPL = 6; TL = 9. Pronotum shiny, smooth, crossed by a transverse impression; posterior surface shorter than scutum (9:18), about twice as broad as long, with two dorsal transverse lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli indistinct, faintly and shortly visible near anterior margin of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose. In holotype, posterior surface of propodeum without longitudinal keels and with median area shiny, smooth, unsculptured. In specimen from Mexico, Xpu-Há, posterior surface of propodeum with two complete longitudinal keels and median area shiny, smooth, unsculptured; in further specimen from Mexico, Xpu-Há, posterior surface of propodeum with some incomplete and irregular keels. In specimen from Paraguay, 23°24.137'S 56°30.336'W, posterior surface of propodeum with two complete longitudinal keels and median area shiny, smooth, unsculptured. Fore wing hyaline, with two dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:11). Protarsal
segments in following proportions: 9:3.5:4:9:23. Enlarged claw (Plate 45B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 45B) with two rows of approximately 26–37 lamellae; distal apex with about 8–12 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Guatemala, Mexico, Paraguay, Suriname.

62. Anteon topali Olmi, 1992
(Plate 45C)


Description. Female. Fully winged; length 2.7–3.2 mm. Head black, except mandible testaceous; antenna testaceous, except segments 6–10 brown; prothorax testaceous-reddish; rest of mesosoma black; metasoma brown; legs testaceous, except meso- and metatibia darkened. In specimen from Argentina, Moreno, legs testaceous, except meso- and metatibia, meso- and metafemur and metacoxa darkened. Antenna clavate; antennal segments in following proportions: 10:5:5:4:6:7:5:7:6.5:11. Head dull, granulated, with face reticulate rugose and granulated; frontal line absent; face with two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 7; OL = 4; OOL = 6; OPL = 7; TL = 9. Pronotum dull, granulated, with two dorsal lobes near posterior margin; posterior surface shorter than scutum (7:14); protanotal tubercle reaching tegula. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum shiny, unsculptured. Metanotum dull, rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (4.5:10). Protarsal segments in following proportions: 8:2.5:3:4:14. Enlarged claw (Plate 45C) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 45C) with two rows of approximately 24–29 lamellae; distal apex with about 5–8 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina.

63. Anteon translucens Olmi, 1991
(Plate 45D)


Description. Female. Fully winged; length 1.9–2.0 mm. Totally testaceous, except petiole brown. Antenna clavate; antennal segments in following proportions: 8:5:5:5:4:4.5:4.5:5:7. Head shiny, completely reticulate rugose; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 4; OPL = 2; TL = 1.5. Pronotum rugose, with strong transverse raised carina between anterior and posterior surface; anterior surface slightly longer than posterior surface (5:4); posterior surface shorter than scutum (4:11); protanotal tubercle reaching tegula. Scutum shiny, smooth, unsculptured, except some lateral areolae near tegula. Notauli incomplete, reaching approximately 0.6 length of scutum. Scutellum shiny, smooth, unsculptured. Metanotum rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and
median area as rugose as lateral areas. Fore wing hyaline, with one dark transverse band beneath pterostigma; distal part of stigmal vein shorter than proximal part (3:8). Protarsal segments in following proportions: 6:2:2.5:4:11. Enlarged claw (Plate 45D) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 45D) with two rows of approximately 24 lamellae; distal apex with about five lamellae. Tibial spurs 1/1/2.

**Male. Unknown.**


**Hosts.** Unknown.

**Distribution.** Costa Rica, Jamaica, Panama.

64. *Anteon triste* Olmi, 1991

(Plate 45E, F)


**Description. Female.** Fully winged; length 2.2–3.1 mm. Head black, except mandible testaceous; antenna testaceous, except segments 6–10 or only 10 brown; mesosoma black; metasoma brown; legs testaceous, except meso- and metafemur and meso- and metatibia darkened. Antenna clavate; antennal segments in following proportions: 12:5:5:4:5:6:6:5:5:8. Head dull, granulated and reticulate rugose; occasionally head mostly granulated, with tracks of areolae and slight keels on face; face with two lateral longitudinal keels along orbits and directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 5.5; OL = 2.5; OOL = 5; OPL = 3.5; TL = 4.5. Pronotum dull, raised (Plate 45F) or not (in holotype) into transverse carina; pronotum strongly rugose, except posterior margin smooth, shiny and unsculptured; posterior surface much shorter than scutum (3:14); pronotal tubercle reaching tegula. Scutum dull, granulated, reticulate rugose near anterior margin, with irregular keels on entire surface. Notauli incomplete, shortly visible near anterior margin of scutum. Scutellum shiny, smooth, unsculptured. Metanotum partly rugose and partly smooth. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; occasionally fore wing with one-tow dark spots beneath pterostigma (in specimen from Costa Rica, 3 km SE Rio Naranjo, fore wing with two dark spots); distal part of stigmal vein much shorter than proximal part (3:7). Protarsal segments in following proportions: 6:1.5:2:4:10. Enlarged claw (Plate 45E) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 45E) with basal part as long as, or longer than distal part, with two rows of 11–15 long lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.

**Male. Unknown.**

**Material examined. Types:** ♀ holotype: COSTA RICA: San José, Zurquí de Moravia, 1600 m, II.1989, P. Hanson leg. (AMNH). Paratypes: same locality label as holotype, 1♀ (AMNH); COSTA RICA: Guanacaste, SW Volcán Cacao, Estación Mengo, 1100 m, 1♀ (AMNH); Guanacaste, NW Volcán Orosí, Cerro El Hacha, 300 m, 1♀ (AMNH). **Other material:** COSTA RICA: Guanacaste, 3 km SE Rio Naranjo (DBUSU); Puntarenas, Monteverde, 1500 m (CNC); San José, Escazú (DBUSU). GUATEMALA: Sacatepéquez, Volcán Agua, above Antigua, 1700 m (PMA); Sacatepéquez, San Antonio, San Marcos, 2500 m (PMA). PANAMA: Chiriquí, 4 km N Santa Clara, Cerro Pelota, 5000’ (AEIC). VENEZUELA: Bolívar, 10 km E Kavanagen Gran Sabana, 1400 m (PMA); Trujillo, Guaramacal National Park, 2200 m, selva nublada, 15.VII.1992 (IZAM); Trujillo, Mosquen, 1500 m (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Guatemala, Panama, Venezuela.
PLATE 46. A, B. Chelae of holotypes. C. Paramere of male from Mexico, 10 km SW Xochipala. D. Prothorax in lateral view of female paratype (length 0.36 mm). E. Chela of specimen from Costa Rica, Cerro de la Muerte. F. Male genitalia of holotype. A. Anteon tucumanense. B, D. A. victor. C, E, F. A. vivax. Scale bar 0.11 mm for A, 0.18 mm for B, 0.09 mm for C, 0.13 mm for E, 0.07 mm for F.

65. Anteon tucumanense Olmi & Virla, 2008 (Plate 46A)

Anteon tucumanense Olmi & Virla 2008: 159.

Description. Female. Fully winged; length 2.4 mm. Head black, except mandible testaceous; antenna testaceous, except segments 7–10 darkened; mesosoma black, except anterior margin of pronotum testaceous-brown; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 12:5:5:4:4:5:5:5:5:7. Head granulated and with many irregular slight areolae; frontal line complete; occipital carina complete; POL = 7; OL = 4; OOL = 5; OPL = 4; TL = 5; greatest breadth of posterior ocelli much shorter than OL (1:4). Pronotum dull, granulated and crossed by numerous transverse keels; posterior surface of pronotum much shorter than scutum (4:15), broader than long; pronotal tubercle reaching tegula. Scutum dull, smooth, granulated. Notauli incomplete, reaching approximately 0.2 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein much shorter than proximal part (2:6). Protarsal segments in following proportions: 4:2:2:4.5:12. Segment 5 of protarsus (Plate 46A) with basal part slightly longer than distal part (7:5). Enlarged claw (Plate 46A) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 46A) with two rows of 17 lamellae without interruption to distal apex. Tibial spurs 1/1/2.

Male. Unknown.

Distribution. Argentina.

66. *Anteon victor* Olmi, 1987  
(Plate 46B, D)


Description. Female. Fully winged; length 3.2–4.4 mm. Head black, except mandible yellow-testaceous; antenna testaceous, except segments 7–10 darkened; in female from Argentina, Loreto, antenna testaceous, with segments 9–10 darkened; in female from Brazil, Boracea, antenna brown, with segments 1–3 testaceous; in specimen from Mexico 11.5 mi E Morelia, antenna testaceous, except segments 6–10 brown; mesosoma black; metasoma black or brown; legs yellow-testaceous; in female from Brazil, Boracea, legs testaceous, except club of meso- and metafemur and meso- and metatibia brown. Antenna clavate; antennal segments in following proportions: 17:7:9:8:6:6:6:6:6:8. Head granulated and reticulate rugose; frontal line complete; occipital carina complete; POL = 6; OL = 4; OOL = 7; OPL = 6; TL = 5. Pronotum (Plate 46D) reticulate rugose, with posterior surface shorter than scutum (8:20 in holotype; 3:18 in specimen from Mexico, 11.5 mi E Morelia); pronotal tubercle reaching tegula. Scutum shiny, smooth, very slightly granulated in type material (strongly granulated and partly rugose in specimen from Brazil, Boracea; strongly granulated and sculptured by irregular keels in specimen from Mexico, 11.5 mi E Morelia).

Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum shiny, smooth, unsulptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:10). Protarsal segments in following proportions: 11:3:3:3:12. Segment 5 of protarsus (Plate 46B) with basal part much longer than distal part. Enlarged claw (Plate 46B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 46B) with two rows of approximately nine lamellae; distal apex with two lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil, Mexico, Venezuela.

67. *Anteon vivax* Olmi, 1984  
(Plate 46C, E, F)


Description. Female. Fully winged; length 2.7–3.1 mm. Head black, except mandible, clypeus, gena and anterior third of face testaceous; occasionally vertex and occiput testaceous; in specimen from Ecuador, Nono-Tandayapa Road, head totally black, except mandible testaceous; antenna testaceous, except segments 9–10 or 3–10 darkened; mesosoma and metasoma black; occasionally posterior half of pronotum and posterior half of scutum testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 11:6:13:12:11:10:9:8:11. Head shiny, smooth, punctate, unsulptured among punctures; frontal line incomplete, only present in posterior half of face; occipital carina complete; POL = 5; OL = 2; OOL = 6; OPL = 4; TL = 7. Pronotum with posterior surface smooth, punctate, unsulptured among punctures, shorter than scutum (8:14); pronotal tubercle reaching tegula. Scutum shiny, smooth, punctate, unsulptured among punctures. Notauli incomplete, reaching approximately 0.25
length of scutum. Scutellum and metanotum smooth, shiny, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (8:12). Protarsal segments in following proportions: 10:3:3:8:17. Enlarged claw (Plate 46E) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 46E) with two rows of approximately 48 lamellae; distal apex with a group of approximately 2 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 1.5–2.6 mm. Head black, except mandible testaceous; occasionally head brown; antenna totally brown, or with segments 1–2 testaceous; occasionally antenna totally testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa basally brown. Antenna filiform; antennal segments in following proportions: 8:6:7:7:7:7:6:5:9; occasionally second antennal segment 0.5 as long as segment 1. Head shiny, punctate, unsculptured among punctures; frontal line absent; face without two longitudinal keels around orbits directed towards antennal toruli; occipital carina complete; POL = 5; OL = 3; OOL = 5.5; OPL = 2.5; TL = 4. Scutum, scutellum and metanotum slightly punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.2–0.3 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, with two longitudinal keels and median area as rugose as lateral areas; occasionally median area of posterior surface smooth and unsculptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (3:7). Paramere without distal inner pointed process (Plate 46F) and without dorsal proximal membranous process. In specimen from Mexico, 10 km SW Xochipala, inner side of paramere with mosaic drawing (Plate 46C). Tibial spurs 1/1/2.

Material examined. Type: ♂ holotype: MEXICO: Chiapas, San Cristobal de las Casas (CNC). Other material: COSTA RICA: S. José, Cartago-San Isidro Road, 16 km SE Empalme, 2600 m (AMNH); S. José, 20 km S Empalme, Cerro de la Muerte, 2800 m (AMNH, EBUC). ECUADOR: Napo, Huahhua Sumaco, km 44 on Hollin-Loreto Road (DFAS); Pichinch, Nono-Tandayapa Road, 1900 m (ZIL). GUATEMALA: Zacapa, San Lorenzo, 2200 m (PMA). MEXICO: Chiapas, San Cristobal de las Casas, 1♂ (AMNH); Chiapas, 100 km SE Palenque (AEIC); Guerrero, 10 km SW Xochipala, 1500 m, 14.VII.1992, oak/tropical deciduous forest, R.S. Anderson leg., 1♂ (PMA); Oaxaca, Comaltepec, La Esperanza, 17°62’N 96°37’W, 1600 m, XII.2008, Malaise trap in forest, A.L. García leg., 1♀ (OLL). PANAMA: Chiriquí, 2 km W Cerro Punta, 1700 m (AEIC). SURINAME: Saramacca District, Voltzberg Nat. Reserve, Foengoe Island (CNC).

Hosts. Unknown.

Distribution. Costa Rica, Ecuador, Guatemala, Mexico, Panama, Suriname.

68. Anteon willinki Virla, 1998
(Plate 47A)


Description. Male. Fully winged; length 1.6–1.9 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma black; metasoma brown; legs brown, except profemur and tarsi testaceous; occasionally legs testaceous-reddish, except tarsi testaceous. Antenna filiform; antennal segments in following proportions: 11:4:3:5:4:5:5:5:5:4:5.8. Head dull, hairy, granulated, occasionally slightly rugose; frontal line complete; occipital carina complete; POL = 7.5; OL = 4; OOL = 6; OPL = 1.5; TL = 4.5. Scutum shiny, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3–0.4 length of scutum. Scutellum and metanotum shiny, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface granulated and without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (4:8). Paramere with long distal inner rounded process (Plate 47A). Tibial spurs 1/1/2.

Female. Unknown.

Hosts. Unknown.

Distribution. Argentina, Paraguay.

PLATE 47. A, B, C. Male genitalia. D, E. Chelae of holotypes. A. Anteon willinki, holotype. B. A. yacambui, paratype. C. A. xochipalense, holotype. D. A. yanegai. E. A. zurquiamum. Scale bar 0.06 mm for A, 0.07 mm for B, 0.05 mm for C, 0.12 mm for D, 0.08 mm for E.

69. Anteon xochipalense Olmi & Virla, sp. nov.
(Plate 47C)

Description. Male. Fully winged; length 1.6 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma black; metasoma brown; legs brown. Antenna filiform; antennal segments in following proportions:8:5:5:7:7:6:6:5:6:7. Head dull, with vertex granulated and reticulate rugose; face granulated and sculptured by many irregular longitudinal striae; frontal line complete; occipital carina complete; POL = 4; OL = 2; OOL = 5; OPL = 3; TL = 4; greatest breadth of posterior ocelli about as long as OL. Scutum shiny, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum shiny, punctate, unsculptured among punctures. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands or spots; distal part of stigmal vein shorter than proximal part (2:8). Paramere with distal inner pointed process (Plate 47C). Tibial spurs 1/1/2.
Female. Unknown.

Material examined. Types: ♂ holotype: MEXICO: Guerrero, 10 km SW Xochipala, 1500 m, 14.VII.1992, oak/tropical deciduous forest, R.S. Anderson leg. (PMA).

Hosts. Unknown.

Distribution. Mexico.

Etymology. This species is named after the collection locality, near Xochipala.

### 70. Anteon yacambui Olmi, 1987
(Plate 47B)


**Description. Male.** Fully winged; length 1.7–3.0 mm. Head black, except mandible testaceous; antenna black; mesosoma and metasoma black; fore leg brown, except coxa, trochanter, tibia and tarsus testaceous; midleg brown, except coxa and trochanter testaceous; hind leg s brown. Antenna filiform; antennal segments in following proportions: 15:7:9:8:8:8:8:8:11. Head dull, reticulate rugose; frontal line absent or complete; occipital carina complete; POL = 7; OL = 4; OOL = 7; OPL = 4; TL = 5. Scutum dull, punctate and granulated. Notauli incomplete, reaching approximately 0.3 length of scutum. Scutellum and metanotum shiny, punctate, unsculptured among punctures. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, with one dark spot beneath pterostigma; distal part of stigmal vein shorter than proximal part (3:11). Paramere with distal inner pointed process (Plate 47B). Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Venezuela.

### 71. Anteon yanegai Olmi, 2005
(Plate 47D)


**Description. Female.** Fully winged; length 2.6–3.3 mm. Head black, except mandible testaceous; antenna testaceous, except segments 7–10 slightly darkened; mesosoma black; metasoma testaceous-brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 13:7:9:9:8:7.5:8:8:11. Head completely granulated and sculptured by many irregular longitudinal keels; face and vertex partly reticulate rugose; face without lateral longitudinal keels along the orbits and directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 7; OL = 4.5; OOL = 7; OPL = 4; TL = 5; greatest breadth of posterior ocelli shorter than OL (3:4.5). Pronotum with posterior surface dull, hairy, reticulate rugose, except posterior third smooth, shiny and unsculptured; posterior surface of pronotum longer than half of scutum (11:16), much broader than long; pronotal tubercle reaching tegula. Scutum shiny, smooth, finely punctate, unsculptured among punctures. In specimen from Mexico, 7 mi W Chilapa, scutum slightly granulated and with some slight tracks of transverse folds. Notauli incomplete, reaching approximately 0.3 length of scutum. In specimen from Mexico, 7 mi W Chilapa, notauli reaching about 0.25 length of scutum. Scutellum shiny, smooth, unsculptured, with transverse row of punctures parallel and close to posterior margin. Metanotum shiny, smooth, unsculptured, with rugose median area. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels, completely reticulate rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:16). Protarsal segments in following proportions: 9:3:3.5:9:19. Segment 5 of protarsus (Plate 47D) with basal part large, forming obtuse angle with distal part. Enlarged claw (Plate 47D) with proximal prominence bearing one long bristle, with outer side
provided of one row of hairs (hairs almost completely absent in specimen from Mexico, 7 mi W Chilapa). Segment 5 of protarsus (Plate 47D) with one row of 17 long lamellae (27 in specimen from Mexico, 7 mi W Chilapa); distal apex with three lamellae (six in specimen from Mexico, 7 mi W Chilapa). Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Types: ♀ holotype: HONDURAS: Olancho, La Muralla National Park, 15°05.49’N 86°44.17’W, 1480 m, 4–7.VII.2002, D. Yanega leg. (DEUCR). Paratypes: same locality label as holotype, 3 ♀♀ (two in DEUCR, one in MOLC). **Other material:** MEXICO: Guerrero, 7 mi W Chilapa, 16.VII.1984, J.B. Woolley leg., 1 ♀ (DETAM).

**Hosts.** Unknown.

**Distribution.** Honduras, Mexico.

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### 72. Anteon zurquianum Olmi, 2005

(Plate 47E)


**Description.** Female. Fully winged; length 2.5 mm. Head black, except mandible and part of clypeus testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 11:5:9:8:7:6:5:6:5:6:5:9. Head completely granulated; face without lateral longitudinal keels along orbits and directed towards antennal toruli; frontal line incomplete, only visible in front of anterior ocellus; occipital carina complete; POL = 4; OL = 2; OOL = 5; OPL = 3; TL = 4. Pronotum with posterior surface dull, hairy, reticulate rugose; posterior surface of pronotum short and transverse, much shorter than scutum (6:15), much broader than long; pronotal tubercle reaching tegula. Scutum dull, smooth, slightly granulated, with few striae near parapsidal furrows. Notauli incomplete, reaching approximately 0.2 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing with one slight dark transverse band beneath pterostigma; distal part of stigma vein much shorter than proximal part (4:11). Protarsal segments in following proportions: 9:2:3:7:16. Segment 5 of protarsus (Plate 47E) with basal part much shorter than distal part (55:95). Enlarged claw (Plate 47E) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 47E) with two rows of approximately 48 lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: COSTA RICA: San José, Zurquí de Moravia, 1600 m, II.1994, Paul Hanson leg. (UWIM).

**Hosts.** Unknown.

**Distribution.** Costa Rica.

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### Species of Anteon removed from the list of Neotropical Dryinidae

1. **Anteon clavatum** Olmi & Currado, 1979


In the original description (Olmi & Currado 1979a), the collecting locality is wrongly reported as “Liangtelau”, and doubtfully placed in Brazil, while it is in Borneo, as remarked by Olmi (2008b). Even though the precise location of “Liangtelau” is still unidentified, it should be close to Pulo Laut (=Pulau Laut = Laut Island), a large island off the southeastern coast of Borneo (Kota Baru Regency, South Kalimantan Province, Indonesia), as clearly reported by Gribodo (1892: 270): “.. *quando ricevetti da Borneo (Liangtélau cioè nelle vicinanze di Pulo Laut) tre esemplari ..*” [. when I received from Borneo (Liangtélau namely near Pulo Laut) three specimens ..”](Penati & Olmi 2012) (Xu *et al.* 2013).
5. Genus *Deinodryinus* R. Perkins, 1907


*Trisanteon* Kieffer 1913a: 300 (synonymized by Olmi 1984); type species: *Trisanteon hirticornis* (Kieffer 1911b), by monotypy and original designation; Kieffer 1914: 196.

*Electrodryinus* Ponomarenko 1975c: 126 (synonymized by Olmi 1984); type species: *Electrodryinus areolatus* Ponomarenko 1975c, by monotypy.


Type species. *Deinodryinus paradoxus* R. Perkins 1907, by subsequent designation of Muesebeck & Walkley 1951.

**Diagnosis.** Female (Plate 48A, B): macropterous (Plate 48A, B), or micropterous (not present in the Neotropical region); palpal formula 6/3; occipital carina complete; vertex of head frequently with two strong oblique keels connecting posterior ocelli to occipital carina; pronotum with distinct anterior collar and posterior disc (Plate 48A); in macropterous females fore wing usually with distal part of stigmal vein longer than proximal part (as in Plate 48B), less frequently as long as, or shorter than proximal part (Plate 48A); enlarged claw with inner proximal prominence not bearing bristles (Plate 49A), with one–two bristles or peg-like hairs located further distally than proximal prominence (Plates 50B, 52B); tibial spurs 1/1/2.

Male (Plate 48C, D): always macropterous (even with female micropterous) (Plate 48C, D); palpal formula 6/3; vertex of head frequently with two strong oblique keels connecting posterior ocelli to occipital carina; antennal hairs usually much longer than breadth of segments (Plate 48D), less frequently shorter than breadth of segments;
fore wing usually with distal part of stigmal vein longer than proximal part (Plate 48C), less frequently as long as,
or shorter than proximal part; fore wing usually with pterostigma four or more than four times as long as broad;
paramere without dorsal process, usually with one more or less large inner branch wrapping penis (Plates 58E, F, G,
71B), less frequently with one reduced inner branch (Plates 61D, 66A, 78B); tibial spurs 1/1/2.
Distribution. Worlwide.
World species. One hundred and fifty five species are known, 112 in the Neotropical region.
Remarks. Fossil species of Deinodryinus were described by Olmi et al. (2010) and Guglielmino & Olmi
(2011).

Key to the species
Females (unknown in the species not present in the key to the females)
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Head completely smooth, granulated or unsculptured, not rugose, without areolae or keels, except for frontal line . . . . . . . . . 2
Head more or less rugose, with areolae or keels, never completely smooth. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 11
Notauli reaching approximately 0.5–0.7 length of scutum . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
Notauli almost reaching posterior margin of scutum . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9
Mesosoma almost totally or mostly black. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4
Mesosoma totally or mostly testaceous or testaceous-reddish . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 7
Propodeum without transverse keel between dorsal and posterior surface; fore wing hyaline, without dark transverse bands. . .
. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .D. cooperi Olmi
Propodeum with transverse keel between dorsal and posterior surface; fore wing with one-two dark transverse bands . . . . . . 5
Posterior surface of pronotum strongly granulated and rugose. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. morae Virla
Posterior surface of pronotum punctate, unsculptured among punctures . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 6
Posterior surface of pronotum with margins rounded (Plate 65B); prothorax almost totally black; head testaceous, except vertex and temple black . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. napensis Olmi
Posterior surface of pronotum with margins sharp (Plate 62F); prothorax totally testaceous; head testaceous, except ocellar triangle, occipital carina and antennal scrobe brown . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .D. kawensis Olmi
Posterior surface of propodeum shiny, smooth, unsculptured. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. sorenssoni Olmi
Posterior surface of propodeum more or less rugose . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 8
Propodeum with strong transverse keel between dorsal and posterior surface. . . . . . . . . . . . . . . . . . . . . . . . . . .D. elegans Olmi
Propodeum without strong transverse keel between dorsal and posterior surface . . . . . . . . . . . . . . . . . . . . . . D. speciosus Olmi
Body totally testaceous, at most with petiole black . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. diaphanus Olmi
At least propodeum black . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 10
Pronotum totally or almost totally testaceous-reddish . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. nigrorufus Olmi
Pronotum totally or almost totally black . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. iphias Olmi
Segment 5 of protarsus with distal part very long and forming right angle with rest of segment (Plates 59A, 70A) . . . . . . . . 12
Segment 5 of protarsus with distal part short (Plate 59D) or less frequently long, but then never forming right angle with rest of
segment (Plates 60D, 64A) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 13
Head reticulate rugose, with three median and longitudinal keels connecting anterior ocellus to clypeus; vertex of head with
two strong complete oblique keels connecting posterior ocelli to occipital carina; posterior surface of propodeum reticulate
rugose, not smooth . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. pilosifrons Fenton
Head not reticulate rugose, with one frontal line connecting anterior ocellus to clypeus, four frontal longitudinal keels not connecting anterior ocellus to clypeus and located on sides of frontal line and many short longitudinal keels on vertex; vertex of
head with two incomplete oblique keels not connecting posterior ocelli to occipital carina, but reaching about half length of
OPL; posterior surface of propodeum strongly punctate, not reticulate rugose . . . . . . . . . . . . . . . . . . . . . . D. hubertianus Olmi
Fore wing totally hyaline or totally darkened, without dark transverse bands . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 14
Fore wing with one-two dark transverse bands or spots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 22
Head without two strong oblique keels connecting posterior ocelli to occipital carina . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 15
Head with two strong oblique keels connecting posterior ocelli to occipital carina. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 17
Notauli almost reaching posterior margin of scutum . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. minor Olmi
Notauli reaching approximately 0.6–0.7 length of scutum . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 16
Segment 5 of protarsus with distal part approximately twice or more than twice as long as basal part (Plate 60D) . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .D. insanus Olmi
Segment 5 of protarsus with distal part less than twice as long as basal part (Plate 59D) . . . . . . . . . . . . . . D. iguaquensis Olmi
Face with three median longitudinal keels; notauli almost reaching posterior margin of scutum . . . . . . . . . . . . . . . . . . . . . . . 18
Face with one-two median longitudinal keels; notauli reching at most 0.7 length of scutum . . . . . . . . . . . . . . . . . . . . . . . . . . 19
Disc of pronotum black; segment 5 of protarsus double-S shaped (Plate 63C) ; segment 4 of protarsus slightly longer than segment 1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . D. maximus Olmi

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Disc of pronotum testaceous; segment 5 of protarsus not double-S shaped (Plate 78H); segment 4 of protarsus about twice as long as segment 1 ........................................... D. xanthototatus Olmi & Virla sp. nov.

19. Face with one median longitudinal keel connecting anterior ocellus to clypeus ....................................................... 20
18. Face with two median longitudinal keels connecting anterior ocellus to clypeus ....................................................... 21

20. Notauli reaching approximately 0.7 length of scutum; mesosoma mostly testaceous-reddish ........................................ D. montezumai Olmi
21. Notauli reaching approximately 0.5 length of scutum; mesosoma almost totally black ........................................... D. brounfieldi Olmi

21. Notauli at most reaching 0.3 length of scutum; vertex of head smooth, without keels in addition to two oblique keels connecting posterior ocelli to occipital carina ........................................ D. bicolor (Olmi & Currado)
22. Antennal segment 3 slightly shorter than segment 1 ........................................... 23
23. Antennal segment 3 as long as, or longer than segment 1 ........................................... 24

23. Vertex of head behind ocelli reticulate rugose ........................................... D. melanocephalus (Camereron)
24. Vertex of head behind ocelli smooth, punctate and with short furrows, not reticulate rugose ................................ D. florii Olmi
25. Posterior surface of propodeum almost completely smooth, or with smooth central region finely punctate and unsculptured among punctures ........................................... 25

25. Posterior surface of propodeum completely rugose, dull, sculptured by keels or areolae ........................................... 55
26. Vertex of head with two strong oblique keels connecting posterior ocelli to occipital carina (keels complete or almost complete (rarely incomplete and reaching at least mid-length of OPL); occasionally region behind posterior ocelli sculptured by numerous longitudinal keels (then two keels considered oblique keels) ........................................... 26
27. Vertex of head without two oblique keels connecting posterior ocelli to occipital carina (occasionally keels present, then incomplete and not reaching mid length of OPL) ........................................... 45

27. Posterior surface of pronotum rugose, with numerous irregular transverse keels ........................................... 27
28. Notauli reaching approximately 0.65–0.75 length of scutum ........................................... D. actuosus Olmi
29. Notauli almost reaching posterior margin of scutum ........................................... 29
30. Face with three median longitudinal keels ........................................... D. ashei Olmi
31. Face without three median longitudinal keels, with or without frontal line ........................................... D. finnamorei Olmi

31. Mesosoma black ........................................... D. noyesii Olmi
32. Mesosoma totally or mostly testaceous-reddish ........................................... D. atlanticus Olmi

32. Posterior surface of propodeum with two strong longitudinal keels and one strong transverse keel surrounding smooth and shiny central area ........................................... 32
33. Posterior surface of propodeum without longitudinal keels; occasionally with two longitudinal keels, then area surrounded by keels not completely smooth, but rugose, except central smooth area ........................................... 33
34. Face with three median longitudinal keels, in addition to two lateral keels located around orbits ........................................... D. actius Olmi
35. Face completely reticulate rugose, with one incomplete frontal keel and two lateral keels located around orbits D. hibbsii Olmi
36. Head totally black ........................................... 34
37. Head totally or mostly testaceous-reddish or brown-reddish ........................................... 42
38. Mesosoma totally black ........................................... 35
39. Mesosoma at least partly testaceous or brown-reddish ........................................... 37

39. Segment 5 of protarsus with distal apex very short, without one very long distal lamella (Plate 69B) ................................ D. peruvianus Olmi
40. Segment 5 of protarsus with distal apex very long and one very long distal lamella (Plates 56E, 59E) ........................................... 36
41. Notauli almost complete, almost reaching posterior margin of scutum ... D. incicus Olmi
42. Notauli reaching about 0.6 length of scutum ........................................... D. erwini Olmi
43. Pronotum with two strong transverse dorsal lobes ........................................... 38
44. Pronotum without two strong transverse dorsal lobes (Plate 51C, D) ........................................... 39
45. Mesosoma testaceous; head with numerous longitudinal keels on face and vertex ........................................... D. fluviatilis Olmi
46. Mesosoma black, with prothorax testaceous-reddish; head reticulate rugose; vertex only with two complete oblique keels connecting posterior ocelli to occipital carina; face with two lateral keels along orbits and three median longitudinal keels ........................................... D. validus Olmi
47. Notauli reaching approximately 0.65–0.75 length of scutum ........................................... D. actuosus Olmi
48. Notauli almost complete, almost reaching posterior margin of scutum ........................................... 40

49. Vertex of head behind and on sides of posterior ocelli reticulate, unsculptured among punctures, not reticulate rugose ........................................... 40
50. Vertex of head behind and on sides of posterior ocelli punctate, unsculptured among punctures, not reticulate rugose ........................................... 41
51. Face with three median longitudinal keels ........................................... D. peruvianus Olmi
52. Face with one median longitudinal keel ........................................... D. atlanticus Olmi
53. Pronotum with two prominent transverse dorsal lobes ........................................... D. fluviatilis Olmi
54. Pronotum without transverse lobes ........................................... 43
55. Pronotum, scutum, scutellum and metanotum totally black ........................................... D. colombianus Olmi
56. Pronotum, scutum, scutellum and metanotum totally or mostly testaceous or testaceous-reddish ........................................... 44
57. Posterior surface of propodeum completely smooth and unsculptured, not rugose ........................................... D. casca Olmi

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– Posterior surface of propodeum dull, rugose, at most with small smooth central area .................................................. D. atlanticus Olmi
45. Region of head behind ocelli smooth, punctate, unsculptured among punctures and without keels .................................. 46
– Region of head behind ocelli at least partly rugose, sculptured by few or numerous longitudinal keels .................. 52
46. Prothorax totally or mostly black ................................................................. 47
– Prothorax totally or mostly testaceous ...................................................... 50
47. Face without areolae, with only few longitudinal keels; pronotum with two very prominent dorsal transverse lobes; pronotum black, with dorsal lobes and pronotal tubercle whitish .................................................. D. albopictus Olmi
– Face reticulate rugose, occasionally with longitudinal keels; pronotum without dorsal lobes or with slightly prominent dorsal transverse lobes; pronotum totally black. ................................................. 48
48. Face without longitudinal keels, strongly punctate, with punctures very broad, resembling areolae; enlarged claw with two peg-like hairs (Plate 68D) .................................................. D. pegnai Olmi
– Frons reticulate rugose and with longitudinal keels; enlarged claw with one peg-like hair (Plates 50D, 57E) ............ 49
49. Segment 4 of protarsus more than twice as long as segment 1; posterior surface of propodeum with anterior half smooth and posterior half rugose .......................................................... D. goiasensis Olmi
– Segment 4 of protarsus less than twice as long as segment 1; posterior surface of propodeum almost completely smooth .................................................. D. amoenus Olmi
50. Mesothorax, metathorax and propodeum testaceous .......................................................... D. townesi Olmi
– Mesothorax, metathorax and propodeum black ........................................... 51
51. Head with POL approximately twice as long as OL ........................................ D. pseudoamoena Olmi
– Head with POL approximately as long as OL ........................................... D. multicolor Olmi
52. Notauli thin, reaching approximately 0.50–0.65 length of scutum; dorsal lobes of pronotum more prominent .................. 53
– Notauli deep, almost reaching posterior margin of scutum; dorsal lobes of pronotum less prominent .................. 54
53. Pronotum almost totally reddish or yellow; notauli reaching approximately 0.65 length of scutum ..... D. bilobus (Fenton)
– Pronotum mostly black; notauli reaching approximately 0.5 length of scutum .................................................. D. biloboides Olmi
54. Face with three median longitudinal keels; region of head behind ocelli sculptured by numerous longitudinal keels; posterior surface of propodeum smooth, not reticulate rugose, unsculptured .................................................. D. insignis Olmi
– Face only with one frontal line; region of head behind ocelli almost completely punctate and unsculptured among punctures, except few short keels and two incomplete oblique keels directed from posterior ocelli to occipital carina, but not reaching occipital carina; propodeum almost completely reticulate rugose, only with small smooth area finely punctate .................................................. 55
– Head with deep transverse furrow joining posterior edges of posterior ocelli .................................................. D. pseudobilobus Olmi
– Head without deep transverse furrow joining posterior edges of posterior ocelli .................................................. 56
56. Posterior surface of pronotum approximately twice as broad as long1 and with two strong transverse lobes .......................... 57
– Posterior surface of pronotum approximately as broad as long, or less than twice as broad as long, and without dorsal lobes, or with slight parallel lobes (lobes never transverse) .................................................. 59
57. Region of head behind posterior ocelli with numerous longitudinal keels; pronotum totally testaceous-reddish .................................................. 58
– Region of head behind posterior ocelli punctate or reticulate rugose, without longitudinal keels .................. 59
58. Prothorax completely or mostly black; notauli reaching approximately 0.5 length of scutum .......................... D. nigrolabrus Olmi
– Prothorax totally reddish or partly reddish and partly black; notauli reaching approximately 0.65–0.80 length of scutum .......................... D. vagans Olmi
– Posterior surface of pronotum completely rugose, or reticulate rugose, or granulated, or with transverse or longitudinal keels .................................................. 60
59. Posterior surface of pronotum completely or almost completely smooth, punctate, unsculptured among punctures .................................................. 61
– Head with OOL approximately twice as long as POL ........................................... 62
– Head with OOL more than twice as long as POL ........................................... 64
61. Frontal line absent ............................................................... D. costaricanus Olmi
– Frontal line distinct and complete .................................................. 62
62. Fore wing with distal part of stigmal vein as long as, or longer than proximal part .................................................. D. darioensis Olmi
– Fore wing with distal part of stigmal vein shorter than proximal part .................................................. 63
63. Scutum granulated; notauli almost reaching posterior margin of scutum; region of head behind ocelli without two oblique keels connecting posterior ocelli to occipital carina .................................................. D. politus Olmi
– Scutum punctate, unsculptured among punctures; notauli reaching approximately 0.5 length of scutum; region of head behind ocelli with two incomplete keels directed towards occipital carina, but not reaching it .................................................. D. pluvialis Olmi
64. Head almost smooth, not reticulate rugose, with complete frontal line and two little distinct lateral keels on face .................................................. 65
– Head more or less reticulate rugose, or sculptured by numerous longitudinal keels .................................................. 67
65. Mesosoma totally black ............................................................... D. pluvialis Olmi
– Mesosoma mostly testaceous ............................................................... 66
66. Fore wing with one dark transverse band beneath pterostigma .................................................. D. claripes Olmi
– Fore wing with two dark transverse bands .................................................. D. rivularis Olmi
67. Scutum strongly or indistinctly granulated .................................................. 68
– Scutum punctate, unsculptured among punctures .................................................. 70
68. Mesosoma testaceous; notauli almost reaching posterior margin of scutum .................................................. D. woldai Olmi
– Mesosoma black; notauli reaching approximately 0.70–0.75 length of scutum .................................................. 69
Segment 5 of protarsus with one very long distal lamella (Plate 76E); segment 4 of protarsus more than twice as long as segment 1; face granulated and sculptured by many indistinct irregular longitudinal keels, without frontal line.

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Segment 5 of protarsus without one very long distal lamella (Plate 65C); segment 4 of protarsus less than twice as long as segment 1; face granulated and sculptured by many irregular longitudinal keels, in addition to three median longitudinal and parallel keels connecting ocelli to Clypeus. D. nigricans (Cameron)

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Region of head behind posterior ocelli without two oblique keels connecting posterior ocelli to occipital carina.  71
Region of head behind posterior ocelli with two oblique keels connecting posterior ocelli to carina.  72

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Posterior surface of pronotum reticulate rugose. D. parkeri Olmi
Posterior surface of pronotum slightly granulated. D. incacicus Olmi

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Body mostly reddish or testaceous. D. acteus Olmi
Body almost completely black. D. chiapensis Olmi

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Region of head behind posterior ocelli without two oblique keels connecting posterior ocelli to occipital carina; segment 5 of protarsus with one very long distal lamella (Plate 59E). D. incacicus Olmi
Region of head behind posterior ocelli with two complete or incomplete oblique keels connecting posterior ocelli to occipital carina; segment 5 of protarsus without one very long distal lamella (Plates 52E, 58H).  74

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Head sculptured by numerous longitudinal keels, not reticulate rugose. D. bolivianus Olmi
Head completely, or mostly, or partly reticulate rugose; occasionally head with few longitudinal keels.  75

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Region of head behind posterior ocelli completely or mostly reticulate rugose.  76
Region of head behind posterior ocelli not reticulate rugose.  80

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Prothorax reddish.  77
Prothorax black.  84

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Head completely or mostly testaceous or reddish.  78
Head mostly black.  79

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Notali almost reaching posterior margin of scutum (Plate 71E). D. porteri Olmi
Notali shorter (Plate 77C). D. trinidadi Olmi

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Face completely black, with one distinct longitudinal median keel. D. guanacastei Olmi
Face partly black, with three distinct median longitudinal keels. D. rapax Olmi

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Region of head behind posterior ocelli punctate, unsculptured among punctures.  81
Region of head behind posterior ocelli strongly sculptured by longitudinal keels.  84

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Head completely testaceous-reddish. D. croceus Olmi
Head mostly black.  82

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Mesothorax and metathorax testaceous-reddish. D. asper Olmi
Mesothorax and metathorax black.  83

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Head mostly strongly punctate, unsculptured among punctures, with some areolae and irregular keels on lateral regions of face; notauli almost reaching posterior margin of scutum. D. saltensis Olmi
Head completely reticulate rugose, except region behind posterior ocelli almost completely punctate and without sculpture among punctures; notauli reaching about 0.8 length of scutum. D. mauseri Olmi

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Prothorax black. D. schlingeri Olmi
Prothorax testaceous-reddish. D. alexandreae Olmi

Males (unknown in the species not present in the key to the males)

1. Antennal hairs shorter than breadth of segments  2
   Antennal hairs as long as, or much longer than breadth of segments (Plate 48D)  10
2. Head smooth, not rugose, without areolae or keels.  3
   Head at least partly rugose, reticulate rugose or with keels.  4
3. Notauli complete, posteriorly separated; paramere with large inner branch wrapping penis (Plate 66A). D. nigroviridis Olmi
   Notauli incomplete, reaching approximately 0.5–0.6 length of scutum; paramere with distal inner pointed process (Plate 58C), without large branch wrapping penis. D. hansonii Olmi
4. Paramere with reduced inner branch (Plates 61D, 78B).  5
   Paramere with large inner branch wrapping penis (Plates 69A, 72C, 75A).  6
5. Face sculptured by numerous longitudinal keels. D. vagans Olmi
   Face reticulate rugose. D. irwini Olmi
6. Inner branch of paramere subapical (Plate 75A).  7
   Inner branch of paramere apical (Plates 69A, 72C).  9
7. Head with vertex behind ocellar triangle sculptured by longitudinal keels. D. sculptus Olmi
   Head with vertex behind ocellar triangle strongly punctate, not sculptured by longitudinal keels.  8
8. Notauli reaching approximately 0.80–0.95 length of scutum; posterior surface of propodeum rugose, with small central smooth and shiny area. D. carpentii Olmi
   Notauli reaching approximately 0.5 length of scutum; posterior surface of propodeum completely smooth and shiny.  8
– Posterior surface of propodeum rugose and dull. ........................................... D. pseudobilobus Olmi
10. Paramere much shorter than penis (Plates 52A, 67D, 68B) ........................................... 11
– Paramere as long as, or slightly shorter, or slightly longer than penis (Plates 57C, 58J) ........ 21
11. Head more or less smooth, completely punctate and without sculpture among punctures, at most with longitudinal keels, not reticulate rugose ........................................... 12
– Head completely or partly reticulate rugose ........................................... 14
12. Head with two oblique keels connecting posterior ocelli to occipital carina; face with longitudinal keels; paramere with broad inner branch wrapping penis (Plate 52A) ........................................... D. bicolor (Olmi & Currado)
– Head without two oblique keels connecting posterior ocelli to occipital carina; face without longitudinal keels; paramere with reduced (Plate 68B) or broad (Plate 67D, E) inner branch .......... 13
13. Paramere with reduced inner branch (Plate 68B) ........................................... D. paulensis Olmi
– Paramere with broad inner branch (Plate 67D, E, F) ........................................... D. paranaus Olmi
14. Paramere without inner branch wrapping penis (Plate 55D) ........................................... D. croceus Olmi
– Paramere with inner branch wrapping penis (Plates 54E, 57D, 67B, 78G) ......................... 15
15. Inner branch of paramere located in proximal region of paramere (Plates 54E, 57D) ........ 16
– Inner branch of paramere located in distal region or in whole inner side of paramere (Plates 67B, 78G) ........................................... 17
16. Notauli complete, posteriorly separated; vertex of head with two oblique keels connecting posterior ocelli to occipital carina; occipital carina without deep furrow behind occellar triangle ........................................... D. cocanus Olmi
– Notauli incomplete, reaching approximately 0.7 length of scutum; vertex of head without two oblique keels connecting posterior ocelli to occipital carina; occipital carina with deep furrow behind occellar triangle ........................................... D. gilli Olmi
17. Fore wing hyaline, without dark transverse bands or spots; posterior surface of propodeum with median smooth area ........................ 18
– Fore wing crossed by one–two dark transverse bands; posterior surface of propodeum completely reticulate rugose ............................ 19
18. Inner side of paramere with numerous papillae (Plate 67B) ........................................... D. papillatus Olmi
– Inner side of paramere without papillae (Plate 78G) ........................................... D. wasbaueri Olmi
19. Inner side of paramere with numerous papillae (Plate 67B) ........................................... D. papillatus Olmi
– Inner side of paramere without papillae (Plates 67A, 74A) ........................................... 20
20. Posterior surface of propodeum without longitudinal keels; head with face not sculptured by two median longitudinal keels ........................................... D. panamensis Olmi
– Posterior surface of propodeum with two longitudinal keels; head with face sculptured by two median longitudinal keels ........................................... D. rufipilosus Olmi
21. Paramere without inner branch, or with very reduced inner branch (Plates 57C, 58J, 78A) ........................................... 22
– Paramere with large inner branch wrapping penis (Plates 76D, 58E, F, G) ......................... 35
22. Head smooth, completely granulated or punctate, without areolae or keels, except occasionally for few short keels located near antennal toruli ........................................... 23
– Head at least partly rugose, with areolae or/and keels ........................................... 26
23. Occipital carina deeply excavated behind occellar triangle ........................................... 24
– Occipital carina not excavated behind occellar triangle ........................................... 25
24. Paramere with distal reduced inner branch not provided of papillae (Plate 58J) ................. 26
– Paramere with medial reduced inner branch provided of many papillae (Plate 57C) .......... 27
25. Head granulated ........................................... D. iphias Olmi
– Head punctate; unsculptured among punctures ........................................... D. tucumanensis Olmi
26. Notauli at least reaching 0.75 length of scutum ........................................... 27
– Notauli at most reaching 0.6 length of scutum ........................................... 28
27. Head mostly punctate, unsculptured among punctures, with two oblique keels located in anterior half of face and limiting area sculptured by one single transverse keel or by few areolae ........................................... 29
– Head with at least anterior half of face reticulate rugose, or sculptured by numerous parallel and longitudinal keels; occasionally head completely reticulate rugose ........................................... 28
28. Inner side of paramere with numerous papillae (Plate 63A) ........................................... 29
– Inner side of paramere without papillae (Plates 60A, 69D) ........................................... 31
29. Head with face sculptured by numerous parallel longitudinal keels ............................... D. iussenhopi Olmi
– Head with face completely reticulate rugose ........................................... 30
30. Head punctate and unsculptured among punctures; face almost completely reticulate rugose, without longitudinal keels; vertex of head without two oblique keels from posterior ocelli to occipital carina ........................................... D. papillatus Olmi
– Head completely reticulate rugose; face with three median longitudinal keels; vertex of head with two oblique keels from posterior ocelli to occipital carina ........................................... D. inermis Olmi
31. Inner branch of paramere located in proximal region of paramere (Plate 69D, E) ............. D. petersoni Olmi
– Inner branch of paramere located in distal or subdistal region of paramere (Plate 60A); occasionally paramere without inner branch (Plate 60B) ........................................... D. inermis Olmi
32. Posterior surface of propodeum without longitudinal keels ........................................... 33
– Posterior surface of propodeum with strong longitudinal keels ........................................... 34
33. Face completely reticulate rugose; paramere with small distal membranous band (Plate 56C) ........................................... D. elegans Olmi
– Face smooth, granulated, not rugose, with strong complete frontal line; paramere with small proximal membranous band (Plate 62C) ........................................... D. latifrons Olmi
34. Paramere with distal inner pointed process (Plate 55F) ........................................... D. cuczama Olmi
11. Paramere without distal inner pointed process (Plate 62A). ................................. D. itenezi Olmi
35. Head without two oblique keels connecting posterior ocelli to occipital carina; vertex of head behind posterior ocelli never reticulate rugose ................................................................. 36
  - Head with two strong oblique keels connecting posterior ocelli to occipital carina (occasionally keels little distinct or reduced to tracks along areolae of reticulate rugose vertex); occasionally vertex behind posterior ocelli with many longitudinal keels (then two keels considered oblique keels connecting posterior ocelli to occipital carina) ................................. 42
36. Head completely smooth, granulated or finely punctate (then granulated or unsculptured among punctures); head not reticulate rugose ................................................................. 37
  - Head at least with anterior region of face reticulate rugose ......................................... 40
37. Notauli almost reaching posterior margin of scutum; occipital carina without deep furrow behind ocellar triangle ................................................................. D. paraunas Olmi
  - Notauli reaching 0.50–0.75 length of scutum; occipital carina with deep furrow behind ocellar triangle ......................... 38
38. Scutum granulated ................................................................. D. sovirensi Olmi
  - Scutum punctate, unsculptured among punctures .................................................. 39
39. Paramere with subapical inner branch (Plate 72D, E). ................................................. D. reali Olmi
  - Paramere with apical inner branch (Plate 55A) ...................................................... D. costaricanus Olmi
40. Scutum granulated and with slight irregular striae present on entire surface ............. D. setosus Olmi
  - Scutum punctate, unsculptured among punctures .................................................. 41
41. Notauli almost complete, almost reaching posterior margin of scutum; posterior surface of propodeum dull, reticulate rugose ................................................................. D. inciscus Olmi
  - Notauli reaching about 0.4 length of scutum; posterior surface of propodeum shiny, smooth, finely punctate, unsculptured among punctures ................................................. D. levigatus Olmi & Virla, sp. nov.
42. Paramere with inner branch located in proximal region (Plates 65F, G, 73D, 74E). 43
  - Paramere with inner branch located in apical (Plate 71B) or subapical region (Plate 58E, F, G), or located on whole length of paramere (Plate 76D) ................................. 47
43. Head with POL approximately twice as long as OL ................................................. 44
  - Head with POL slightly longer than OL .................................................................. 45
44. Posterior surface of propodeum dull, completely reticulate rugose ................. D. nigrolobatus Olmi
  - Posterior surface of propodeum with edian area shiny and smooth and with surrounding areas reticulate rugose ......................... D. rorida Olmi
45. Inner branch of paramere very long and longitudinal (Plate 74E) ......................... D. saltensis Olmi
  - Inner branch of paramere short and transverse (Plates 58B, 77A) ......................... 46
46. Distal apex of inner branch of paramere rounded (Plate 58B) ................................. D. guanacastesi Olmi
  - Distal apex of inner branch of paramere not rounded (Plate 77A) ......................... D. tinamia Olmi
47. Face with two median longitudinal keels (region between keels showing some transverse folds, not reticulate rugose) .................. 48
  - Face with or without two distinct median longitudinal keels (in case of two median longitudinal keels, region between them always reticulate rugose); occasionally face sculptured by numerous longitudinal keels ......................... 50
48. Fore wing with distal third darkened; posterior surface of propodeum completely reticulate rugose ..................... D. chiapasi Olmi
  - Fore wing hyaline, without dark transverse bands; posterior surface of propodeum with median region smooth, punctate, unsculptured among punctures......................... D. peruvianus Olmi
49. Paramere with long and narrow subapical inner branch (Plate 69C) ..................... D. persimilis Olmi
  - Paramere with inner branch located on entire length of paramere (Plate 61C) .......... D. phiia Olmi
50. Antennal segment 3 approximately as long as segment 1, or shorter than segment 1 .......................................................................................................................... 51
  - Antennal segment 3 longer than segment 1 .............................................................. 55
51. Notauli almost reaching posterior margin of scutum; head strongly reticulate rugose ................................................................. 52
  - Notauli reaching approximately 0.5–0.6 length of scutum; head not reticulate rugose, or less strongly reticulate rugose .................. 53
52. Paramere with subapical inner branch (Plate 58E, F, G) ......................................... D. hirticornis (Kieffer)
  - Paramere with inner branch located on entire length of paramere (Plate 76D) .......... D. tidwelli Olmi
53. Face laterally with two strong keels located near orbits and directed towards antennal toruli; ................................................................. D. caveli Olmi
  - Face laterally without keels directed towards antennal toruli .................................. 54
54. Face reticulate rugose; inner branch of paramere subapical (Plate 74B) .......... D. rugifrons Olmi
  - Face granulated, not reticulate rugose; inner branch of paramere apical (Plate 71B) .......................................................................................................................... 56
55. Posterior surface of propodeum with median area more deeply excavated than lateral areas ................................................................. 56
  - Posterior surface of propodeum with median area not more deeply excavated than lateral areas ................................................................. 57
56. Head with POL twice or almost twice as long as OL ............................................. D. colombianus Olmi
  - Head with POL slightly longer than OL .................................................................. 58
57. Face without longitudinal keels and without frontal line ........................................ D. latens Olmi
  - Face at least with complete or incomplete frontal line; in few species, face with two–three median and longitudinal keels; occasionally face completely sculptured by numerous longitudinal keels ................................................................. 58
58. Face with transverse furrow located in front of anterior ocellus and laterally reaching two lateral furrows located along orbits (Plate 76B) (furrows marking limits of square shaped rugose frontal area divided into two halves by frontal line) ................................................................. D. subtiliatrons Olmi
  - Face without transverse furrow located in front of anterior ocellus; at most with groove less broad or little broader than anterior ocellus and not reaching laterally orbits (Plate 77E) .......................................................................................................................... 59

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59. Paramere with inner branch located on entire length of paramere (Plate 57A) ........................................ 60
– Paramere with apical or subapical inner branch (Plates 49E, 66E, 77F) .................................................. 61
60. Face completely sculptured by numerous longitudinal keels ................................................................. D. fluviatilis Olmi
– Face reticulate rugose, with two median longitudinal keels and two keels around orbits ......................... D. tidwelli Olmi
61. Notauli reaching approximately 0.7–0.9 length of scutum (Plate 77C) .................................................. D. trinidadi Olmi
– Notauli almost reaching posterior margin of scutum (Plate 66C) ............................................................. 62
62. Distal part of stigmal vein approximately as long as proximal part, or shorter than proximal part .......... D. noyesi Olmi
– Distal part of stigmal vein longer than proximal part ............................................................................... 63
63. Posterior surface of propodeum without longitudinal keels ................................................................. D. benianus Olmi
– Posterior surface of propodeum with two longitudinal keels ................................................................. D. aequalis Olmi

1. Deinodryinus achterbergi Olmi, 1984
(Plate 49A)


Description. Female. Fully winged; length 4.2–4.3 mm. Head black, except mandible, clypeus and most part of face testaceous; ventral side of head black; antenna testaceous, except segments 8–10 brown; mesosoma black; metasoma brown; legs testaceous, except metacoxa partly black, stalk of metafemur brown and distal apex of metatibia brown. Antenna clavate; antennal segments in following proportions: 14:7:19:13:9:8:8:7:11. Head shiny, completely reticulate rugose; face with three median longitudinal keels, in addition to two lateral keels around orbits; vertex behind ocellar triangle reticulate rugose and with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 11; OPL = 10; TL = 9. Pronotum hairy, crossed by anterior transverse impression; posterior surface shiny, smooth, finely punctate, unsculptured among punctures, with two slight parallel lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose; posterior surface with two longitudinal keels and one anterior transverse keel surrounding a smooth area. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (16:11). Protarsal segments in following proportions: 11:3:7:15:30. Enlarged claw (Plate 49A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 49A) with two rows of approximately 29 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: PANAMA: Canal Zone, Pipeline Road, Gamboa (RNHL).

Hosts. Unknown.

Distribution. Panama.

2. Deinodryinus actuosus Olmi, 1984
(Plate 49B–D)


Description. Female. Fully winged; length 4.4–4.7 mm. Colour very variable. Head black, except mandible, clypeus and more or less wide frontal area testaceous; occasionally temple with two reddish spots; occasionally head totally testaceous-reddish; in specimen from Mexico, 19.3 km N of Ocozocoautla, head almost totally black, except mandible and clypeus testaceous; antenna testaceous, except segments 7–10 or 8–10 brown; mesosoma testaceous-reddish, except furrows between scutum and scutellum, scutellum and metanotum, metanotum and propodeum darkened; usually anterior region of scutum darkened; occasionally scutum almost totally darkened; occasionally propleuron black and pronotum testaceous-reddish, except black spots on lateral regions; occasionally metanotum and propodeum black, mesopleuron testaceous-reddish, except some black regions, metapleuron black, except distal extremity testaceous-reddish, scutum testaceous-reddish, except median region darkened; in specimen from Mexico, 19.3 km N of Ocozocoautla, mesosoma black, except testaceous nuances on lateral regions of
pronotum; metasoma brown-reddish; legs testaceous, except club of meso- and metafemur partly brown, metatibia and occasionally also mesotibia brown. Antenna slightly clavate; antennal segments in following proportions: 13:6:18:10; 9:9:10:10; 9:9:10:10:10; TL = 13. Pronotum (Plate 49B, C) dull, rugose; posterior surface about as broad as long, with numerous transverse keels; pronotal tubercle reaching tegula. In specimen from Mexico, 16°48'N 92°12'W, posterior surface of pronotum completely smooth, punctate, unsculptured among punctures. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.65–0.75 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose; posterior surface rugose, without longitudinal keels. In specimen from Guatemala, San Lorenzo, posterior surface of propodeum with central completely smooth and unsculptured area. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (20:16). Protarsal segments in following proportions: 13:3:8:13:30. Enlarged claw (Plate 49D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 49D) with two rows of approximately 26 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2. In specimen from Mexico, 2 mi S Carapan, head black, except mandible and clypeus testaceous; antenna testaceous, except segments 7–10 darkened; mesosoma testaceous-reddish, except two brown spots on anterior collar of pronotum and mesoaxilla black; metasoma brown; fore leg testaceous, except coxa black and distal ex tremity of femur brown; mid- and hind leg brown, except proximal tarsi and half of metafemur testaceous, meso- and metacoxae black. In specimens from Guatemala (San Lorenzo), Mexico (7 mi SSW Colima and 2 mi S Carapan), posterior surface of propodeum with central completely smooth and unsculptured area.

Male. Unknown.

Material examined. Types: ♀ holotype: MEXICO: Chiapas, San Cristobal de las Casas, 7200' (CNC). Paratypes: same locality label as holotype, 3♀♀ (2 in AMNH, 1 in CNC). Other material: ARGENTINA: La Rioja, Anililaco, 1–28.II.2001, Yellow Pan Trap, Fidalgo leg., 1♀ (IFML). COSTA RICA: Guanacaste, 700 m (AMNH). GUATEMALA: Zacapa, San Lorenzo, 1800 m (CNC). MEXICO: Chiapas, Laguna Belgica Park, 19.3 km N of Ocozocautla, 12.VI.1991, 970 m, J. Ashe leg. (NAMUK); Chiapas, Montebello (PMA); Chiapas, San Cristobal de las Casas, 7200', many specimens (PMA); Chiapas, 12 km SW of Ococingo, 16°48'N 92°12'W, 1250 m, 26.VII.1991 (OLL); Colima, 7 mi SSW Colima along Hwy. 110, 9.VII.1984, J. Woolley leg., 1♀ (DETAM); Jalisco, Chamela Biological Station, 11.VII.1989 (NAMUK); Michoacan, 2 mi S Carapan, 1♀ (DETAM); Veracruz, Fortín de las Flores-Sumidero, Planta de la Cerveza, Ing. Daniel Rábago Reserve, 2500–3000 ft. (FSCA). PANAMA: Chiriquí, 3.5 km NE Santa Clara, 1450 m, 5–7.VII.1996, Gillogly & Schaffner leg., 1♀ (DETAM).

Hosts. Unknown. Distribution. Argentina, Costa Rica, Guatemala, Mexico, Panama.

3. Deinodryinus aequalis Olmi, 1984
(Plate 49E)


Description. Male. Fully winged; length 3.2–4.2 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma black; occasionally scutum with reddish nuances; metasoma brown; legs brown, except tarsi testaceous; occasionally legs testaceous, except coxae brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 15.9:20:10:11:13.12:12:12:14. Head dull, reticulate rugose; face completely reticulate rugose; vertex punctate, unsculptured among punctures; region behind ocellar triangle reticulate rugose, or punctate and unsculptured among punctures, with two oblique keels connecting posterior ocelli to occipital carina; frontal line complete; occipital carina complete; POL = 5; OL = 3.5; OOL = 11; OPL = 6; TL = 8. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels and median area slightly rugose and almost
smooth; median area anteriorly surrounded by transverse keel; occasionally median area strongly rugose. Fore wing with one slight dark transverse band beneath pterostigma; distal part of stigmal vein longer than proximal part (17:15). Paramere (Plate 49E) with large distal inner branch wrapping penis. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Types: ♂ holotype: BRAZIL: São Paulo, Serra da Bocaina, São José do Barreiro (AEIC). Paratypes: same locality label as holotype, 5♂ (3 in AEIC, 2 in AMNH). Other material: BRAZIL: São Paulo, Serra da Bocaina (PMA). COLOMBIA: Valle, Central de Anchicaya, 30 km E Buenaventura, 560 m (FSCA). ECUADOR: El Oro, Puyango (AMNH); Napo, Misahualli (ZIL); Sucumbios, Sacha Lodge, 00°05’S 76°05’W, 290 m, 21.XI–1.XII.1994 (NHMLA). VENEZUELA: Mérida, Hacienda El Alto, Manzano Alto, 1600 m, cloud forest (FSCA).

**Hosts.** Unknown.

**Distribution.** Brazil, Colombia, Ecuador, Venezuela.

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4. *Deinodyrinus albopictus* Olmi, 1984

(Plate 50A, B)


**Description. Female.** Fully winged; length 4.6–6.0 mm. Head black, except mandible and clypeus testaceous; antenna brown, except segments 1–3 testaceous; occasionally antenna totally testaceous; mesosoma black, except posterior tubercle and dorsal lobes of pronotum whitish; metasoma and legs testaceous; occasionally metacoxa and meso- and metatibia partly darkened. Antenna clavate; antennal segments in following proportions: 16:8:29:17:13:12:10:10:11. Head shiny, with face sculptured by some longitudinal keels; vertex behind ocellar triangle punctate, unsculptured among punctures, without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4.5; OL = 2.5; OOL = 12; OPL = 13; TL = 13. Pronotum shiny, smooth, finely punctate, unsculptured among punctures, crossed by strong transverse impression; posterior surface about twice as broad as long, with two prominent dorsal and transverse lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete,
reaching approximately 0.8 length of scutum; in specimen from Bolivia, Rio Itenez opposite Costa Marques, notauli very thin and hardly visible. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface shiny and smooth. Fore wing with two slight dark transverse bands; distal part of stigmal vein shorter than proximal part (14:20). Protarsal segments in following proportions: 14:3.5:10:17:37. Enlarged claw (Plate 50B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 50B) with two rows of approximately 45–47 lamellae; distal apex with about 10–13 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 4.4 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous, except stalk of metafemur and distal extremities of meso- and metatibia darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 15:8:22:13:12:12:9:9:10. Head with face reticulate rugose; temple and vertex punctate, unsculptured among punctures; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; frontal line complete; occipital carina complete; POL = 6; OL = 3; OOL = 10; OPL = 11; TL = 8. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum without transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface shiny and smooth, unsculptured, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (15:18). Paramere (Plate 50A) with large inner branch wrapping penis. Tibial spurs 1/1/2.

**Material examined.** Type: ♀ holotype: BRAZIL: Bahia, Encruzilhada (AEIC). **Other material:** BOLIVIA: Beni, Rio Itenez opposite Costa Marques (Brazil), 1–3.IX.1964, 7–9.IX.1964, Bouseman and Lussenhop leg., 1 ♀, 1 ♂ (AMNH).

**Hosts.** Unknown.

**Distribution.** Bolivia, Brazil.

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**PLATE 50.** A. Male genitalia. B–E. Chelae of holotypes. A. *Deinodryinus albopictus*, male from Bolivia, Rio Itenez. B. *D. albopictus*. C. *D. alexandrae*. D. *D. amoenus*. E. *D. ashei*. Scale bar 0.03 mm for A, 0.23 mm for B, 0.24 mm for C, 0.19 mm for D, 0.22 mm for E.
5. *Deinodryinus alexandrae* Olmi, 1984  
(Plate 50C)


**Description. Female.** Fully winged; length 6.0 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna black, except segments 1–4 testaceous; mesosoma black, except prothorax testaceous-reddish; metasoma black; fore leg testaceous, except tarsi brown; mid- and hind leg black. Antenna clavate; antennal segments in following proportions: 18:8:30:23:16:15:13:13:12:15. Head shiny, with face reticulate rugose and sculptured by longitudinal keels; vertex behind ocellar triangle with numerous longitudinal keels, including two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 4; OOL = 16; OPL = 13; TL = 15. Pronotum shiny, smooth, crossed by strong transverse impression; posterior surface about as broad as long, with two dorsal parallel longitudinal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface reticulate rugose, dull. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (22:19). Protarsal segments in following proportions: 11:4:11:17:42. Enlarged claw (Plate 50C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 50C) with two rows of approximately 29 lamellae; distal apex with about 13 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: ECUADOR: Napo and Coca Rivers (AEIC).

**Hosts.** Unknown.

**Distribution.** Ecuador.

(Plate 50D)


**Description. Female.** Fully winged; length 5.0–5.6 mm. Head black, except mandible testaceous; occasionally anterior region of face and clypeus testaceous; antenna testaceous, except segments 6–10, or 7–10, or 8–10 dark; mesosoma and metasoma black; legs totally testaceous; occasionally mid- and hind leg black. Antenna slightly clavate; antennal segments in following proportions: 17:9:27:20:18:16:15:15:13:16. Head shiny, with face sculptured by many longitudinal keels and some areolae; temple punctate, unsculptured among punctures; vertex behind ocellar triangle punctuate, unsculptured among punctures, without two oblique keels connecting posterior ocelli to occipital carina; occasionally surface behind ocellar triangle partly rugose; occipital carina complete; POL = 4; OL = 3; OOL = 11; OPL = 10; TL = 12. Pronotum shiny, hairy, anteriorly crossed by strong transverse impression; posterior surface of pronotum finely punctate, unsculptured among punctures, with two dorsal transverse lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum reticulate rugose, except posterior surface almost completely smooth, finely punctate, unsculptured among punctures. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein shorter than proximal part (15:19). Protarsal segments in following proportions: 12:3:9:16:35. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 50D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 50D) with three rows of approximately 52 lamellae; distal apex with about 16 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

Hosts. Unknown.

Distribution. Argentina, Brazil.

7. Deinodryinus ashei Olmi, 2003
(Plate 50E)


Description. Female. Fully winged; length 5.9 mm. Head black, except anterior half of face, clypeus, mandible and gena testaceous-reddish; antenna testaceous, except segments 8–10 brown; mesosoma black, except pronotum testaceous-reddish; petiole black; metasoma brown; for leg testaceous, except distal apex of coxa, trochanter and proximal apex of femur slightly darkened; midleg brown-black, except distal half of tibia and tarsus testaceous; hind leg brown-black, except tibia darkened and tarsus testaceous. Antenna clavate; antennal segments in following proportions: 18:9:23:14:11:12:11:10:12. Head flat, dull, reticulate rugose, with three median longitudinal keels on face; frontal line complete; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 4; OOL = 14; OPL = 11; TL = 16. Pronotum anteriorly crossed by slight transverse impression, dull, covered with dense hairs; posterior surface of pronotum approximately as long as broad, crossed by numerous strong transverse keels; pronotal tubercle reaching tegula. Scutum and scutellum shiny, punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Metanotum dull, smooth, granulated. Propodeum reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface almost completely dull and reticulate rugose, except small central smooth and unsculptured area. Fore wing with two dark transverse bands; distal part of stigmal vein approximately as long as proximal part (17:17). Protarsal segments in following proportions: 15:3:9:14:32. Enlarged claw (Plate 50E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 50E) with three rows of approximately 40 lamellae; distal apex with about 18 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.


8. Deinodryinus asper Olmi, 1984
(Plate 51A)


Description. Female. Fully winged; length 3.6 mm. Head black, except temple reddish; mandible, clypeus and anterior half of face testaceous; antenna testaceous, except segments 8–10 brown; mesosoma testaceous-reddish, except lateral regions of pronotum partly black and propodeum black; petiole black; metasoma brown-testaceous; legs testaceous, except metacoxa partly brown. Antenna slightly clavate; antennal segments in following proportions: 13:7:19:13:9:9:7.5:7.5:7:10. Head with face reticulate rugose, with three median longitudinal keels and two lateral keels around orbits; vertex, temple and region behind ocellar triangle punctate, unsculptured among punctures, with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 10; OPL = 8; TL = 11. Pronotum shiny, hairy, crossed by anterior strong transverse impression; posterior surface about as broad as long, unsculptured, with two slight dorsal lobes parallel to sides of pronotum; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, very finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with dorsal and posterior surface dull, reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (15:13). Protarsal segments in following proportions: 12:3:7:9:29. Enlarged claw (Plate 51A) with one bristle located further distally than proximal prominence. Segment 5 of
protarsus (Plate 51A) with three rows of approximately 36 lamellae; distal apex with about 10 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil.

PLATE 51. A, B. Chelae of holotypes. C, D. Pronotum in lateral (C) and dorsal (D) view (length 0.45 mm). E. Male genitalia of holotype. A. Deinodryinus asper. B. D. atlanticus. C, D. D. atlanticus, female paratype. E. D. benianus. Scale bar 0.23 mm for A, 0.19 mm for B, 0.09 mm for E.

9. Deinodryinus atlanticus Olmi, 1984
(Plate 51B–D)


Description. Female. Fully winged; length 3.1–5.0 mm. Colour very variable. Head black or testaceous-reddish or brown-reddish; occasionally head testaceous-reddish, except large black spot on face and vertex; mandible, clypeus and anterior surface of face usually testaceous; antenna testaceous, except segments 8–10 dark; in specimen from Brazil, Engenheiro Eugenio Lefèvre, face with two irregular longitudinal keels on sides of frontal line. Mesosoma testaceous-reddish or brown-reddish, occasionally with black spots on lateral regions of pronotum, pleura and sutures between scutum and pronotum and between metanotum and propodeum; in specimens from Bolivia, Roboré, and Mexico, 10 km SW Xochipala, mesosoma black, except prothorax testaceous-reddish; in specimen from Mexico, Orizaba, mesothorax, metathorax and propodeum almost completely black, except some reddish spots; in specimen from Mexico, Careyes, prothorax testaceous-reddish, scutum black and head almost totally black; petiole black; metasoma black-testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 16:8:20:12:10:9:9:8:11. Head dull, completely reticulate rugose; face with one complete median
keel; vertex behind ocellar triangle with two hardly visible oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3.5; OL = 3; OOL = 13; OPL = 9; TL = 10. Pronotum (Plate 51C, D) shiny, smooth, not rugose; posterior surface with two slight dorsal lobes parallel to sides of pronotum (Plate 51C, D); pronotal tubercle reaching tegula. In specimen from Paraguay, 21°02’S 61°45’W, posterior surface of pronotum smooth, punctate and with few irregular keels. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface with median area smooth, not rugose. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (13:9), occasionally as long as proximal part (in specimen from Paraguay, 21°12’S 61°39’W). Protarsal segments in following proportions: 12:3:9:13:30; segment 3 of protarsus produced into hook. Enlarged claw (Plate 51B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 51B) with two rows of approximately 23–28 lamellae; distal apex with 14–20 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Distribution. Argentina, Bolivia, Brazil, Costa Rica, Ecuador, Mexico, Nicaragua, Panama, Paraguay.

10. Deinodryinus benianus Olmi, 1984
(Plate 51E)


Description. Male. Fully winged; length 3.2–3.4 mm. Head black, except mandible and anterior margin of clypeus testaceous; antenna testaceous; mesosoma and metasoma black; legs yellow, except meso- and metatibia and metatibia brown. Antenna filiform, with hairs approximately as long as breadth of segments; antennal segments in following proportions: 16:8:21:12:11:11:12:10:12:16. Head shiny, reticulate rugose; face with complete frontal line and two fading incomplete longitudinal and parallel keels; temple and vertex near occipital carina punctate, unsculptured among punctures, not reticulate rugose; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4.5; OL = 3; OOL = 8; OPL = 8; TL = 7. Scutum, scutellum and metanotum shiny, smooth, strongly punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface without longitudinal keels, with median area not more excavated than lateral areas; median area completely rugose or partly smooth. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (14:12). Paramere (Plate 51E) slightly shorter than penis, with large inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Type: ♂ holotype: BOLIVIA: Beni, Rio Itenez (AMNH). Other material: BOLIVIA:
Santa Cruz, Gral. Saavedra Experimental Station (AMNH, FSCA). PERU: Tambopata, 15 km NE of Puerto Maldonado, Cusco Amazónico Reserve, 12°33’S 69°03’W, 200 m, 22.VI.1989 (PMA).

**Hosts.** Unknown.

**Distribution.** Bolivia, Peru.

11. *Deinodryinus bicolor* (Olmi & Currado, 1979)
(Plate 52A, B)


**Description.** Female. Fully winged; length 3.7–5.8 mm. Head black, except mandible yellow; occasionally mandible black; antenna yellow, except segments 6–10 or 7–10 brown-black; occasionally antennal segment 3 brownish and segment 1 with brown dorsal streak; propleuron black; pronotum, scutum, scutellum and metanotum testaceous-reddish; occasionally anterior collar of pronotum black; mesopleuron, metapleuron and propodeum black; occasionally mesopleuron partly red; petiole black; metasoma black or brown; legs totally testaceous; occasionally metacoxa with dorsal basal black spot. In two specimens from Ecuador hind leg with tarsus, tibia and part of femur darkened or blackish. Occasionally mesosoma completely testaceous-reddish, except anterior collar of pronotum blackish and ventral side of mesothorax, metathorax and propodeum black. Antenna clavate; antennal segments in following proportions: 12:7:15:7:7:7:6:5:8. Head shiny, smooth, hairy on face and clypeus, unsculptured; face with one keel around orbits and two longitudinal parallel keels connecting ocellar region to clypeus (occasionally not reaching clypeus); vertex behind ocellar triangle slightly excavated, with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 15; OPL = 15; T = 15. Pronotum shiny, smooth, finely punctate, with lateral surfaces strongly hairy. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli incomplete, reaching approximately 0.3 length of scutum. Mesopleuron and metapleuron shiny, smooth, unsculptured. Propodeum hairy, with dorsal surface reticulate rugose and areolae very wide; posterior surface shiny, smooth, unsculptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part. Protarsal segments in following proportions: 9:2.5:5:8:19. Enlarged claw (Plate 52B) with two bristles further distally than proximal prominence. Segment 5 of protarsus (Plate 52B) with three rows of approximately 25–34 lamellae; distal apex with about 40 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 3.5 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa basally brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 11:7:11:10:11:10:10:8:12. Head shiny; face with two lateral keels around orbits and two median longitudinal keels; face slightly rugose among the keels; vertex punctate, unsculptured among punctures, with some deep furrows around ocelli; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 9; OPL = 9; T = 10. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface shiny and smooth. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly longer than proximal part (12:11). Paramere (Plate 52A) much shorter than penis, with broad inner branch. Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Brazil, Colombia, Ecuador, French Guiana, Peru.
PLATE 52. A. Male genitalia. B–E. Chelae of holotypes. A. *Deinodryinus bicolor*, male from Peru, Quincemil. B. *D. bicolor*. C. *D. biloboides*. D. *D. bilobus*. E. *D. bolivianus*. Scale bar 0.14 mm for A, 0.28 mm for B, 0.23 mm for C, 0.29 mm for D, 0.30 mm for E.

12. *Deinodryinus biloboides* Olmi, 1984

(Plate 52C)


**Description.** Female. Fully winged; length 5.0–5.8 mm. Head black, except mandible, clypeus and malar space testaceous; antenna testaceous, except segments 6–10 brown; mesosoma black, except dorsal side of propleuron and lateral margins of pronotum testaceous; pronotal tubercle partly testaceous; dorsal lobes of pronotum whitish; metasoma reddish; legs testaceous, except metacoxa, meso- and metabibia and meso- and metafemur partly black. In specimen from Colombia, Caño Mata-Mata, head and mesosoma totally black, except only mandible testaceous. Antenna clavate; antennal segments in following proportions: 23:7:45:20:20:16:12:12:11:13. Head dull, reticulate rugose; face reticulate rugose, with a complete frontal line; vertex behind ocellar triangle with numerous longitudinal keels, without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 6; OL = 3; OOL = 18; OPL = 13; TL = 12. Pronotum dull, alutaceous, crossed by anterior strong transverse impression; pronotal tubercle reaching tegula; posterior surface with two very prominent dorsal transverse lobes. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli thin, incomplete, reaching approximately 0.5 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels, with median area smooth and shiny, not rugose. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (22:28). Protarsal segments in following proportions: 18:8:18:24:54. Enlarged claw (Plate 52C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 52C) with two rows of approximately 40 lamellae; distal apex with about 25 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

Hosts. Unknown.
Distribution. Bolivia, Colombia.

13. *Deinodryinus bilobus* Fenton, 1927
(Plate 52D)


Description. Female. Fully winged; length 4.0–6.9 mm. Head black, except mandible, clypeus and anterior region of face testaceous; occasionally head black, except only mandible testaceous; antenna testaceous, except segments 6–10 or 7–10 brown; mesosoma black, except prothorax testaceous-reddish, excluding pronotal tubercle black; occasionally prothorax yellow, except anterior collar and pronotal tubercle brown; occasionally prothorax black, except pronotal tubercle, posterior margin and lateral regions testaceous; metasoma brown-reddish; legs testaceous, except black spots on meso- and metacoxa, stalk of metafemur black, tarsi and meso- and metatibia brown. Antenna clavate; antennal segments in following proportions: 20:10:30:14:14:11:11:10:11. Head dull, hairy, rugose, with numerous longitudinal keels; face with three incomplete median longitudinal keels, without keels around orbits; occipital carina complete; POL = 5; OL = 3; OOL = 15; OPL = 13; TL = 10. Pronotum shiny, hairy, smooth, unsculptured, crossed by anterior transverse impression; pronotal tubercle reaching tegula; posterior surface with two lateral distinct dorsal lobes. Scutum, scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Notauli thin, incomplete, reaching approximately 0.65 length of scutum. Propodeum reticulate rugose, except posterior surface smooth, shiny, finely punctate. Mesopleuron and metapleuron shiny, smooth, unsculptured. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (15:23). Protarsal segments in following proportions: 7:3:7:12:26. Enlarged claw (Plate 52D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 52D) double-S shaped, with two rows of approximately 33 lamellae; distal apex with about ten lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.
Distribution. Brazil, French Guiana.

(Plate 52E)


Description. Female. Fully winged; length 5.0 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna testaceous, except segments 9–10 brown; mesosoma black; metasoma and legs testaceous. Antenna slightly clavate; antennal segments in following proportions: 15:8:20:13:10:7:7:7:9. Head dull, hairy, sculptured by numerous longitudinal keels; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 2.5 OOL = 13; OPL = 9; TL = 9. Pronotum shiny, crossed by strong transverse impression; posterior surface flat, smooth, finely punctate, unsculptured among punctures; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.75 length of scutum. Propodeum reticulate rugose; dorsal surface with wide areolae; posterior surface with smaller areolae, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (20:14). Protarsal segments in following proportions: 12:3:8:13:32. Segment 3 of protarsus produced
into hook. Enlarged claw (Plate 52E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 52E) with two rows of approximately 32 lamellae; distal apex with about 27 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: BOLIVIA: Beni, Rurenabaque, 270 m, 24–26.VII.1979, M. Cooper leg. (BMNH).

**Hosts.** Unknown.

**Distribution.** Bolivia.

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**PLATE 53.** A, E–G. Male genitalia. B, C. Chelae of holotypes. D. Head in frontal view of female holotype (width 0.8 mm). A. *Deinodryinus carpens*, holotype. B. *D. broomfieldi*. C. *D. cascus*. D, G. *D. cavei*, male paratype from Costa Rica, 3 km SE Rio Naranjo. E. *D. cavei*, holotype. F. *D. cavei*, paratype from Honduras. Scale bar 0.13 mm for A, 0.22 mm for B, 0.25 mm for C, 0.09 mm for E and G, 0.11 mm for F.
15. *Deinodryinus broomfieldi* Olmi, 2010
(Plate 53B)

*Deinodryinus broomfieldi* Olmi 2010: 15.

**Description. Female.** Fully winged; length 3.8 mm. Head black, except mandible and clypeus testaceous; antenna testaceous, except segments 7–10 brown; mesosoma black, except posterior margin of pronotum testaceous; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 12:7:14:9:8:7:5:7:7:7:9. Head dull, granulated; face with complete frontal line and two lateral longitudinal keels around orbits and directed towards antennal toruli (surface between keels granulated and sculptured by short irregular transverse keels and large punctures); vertex behind ocellar triangle with some oblique keels connecting posterior ocelli to occipital carina (few keels not reaching occipital carina); occipital carina complete; POL = 2; OL = 3; OOL = 7; OPL = 10; TL = 8; greatest breadth of posterior ocelli as long as OL. Pronotum dull, hairy, rugose and strongly sculptured by numerous transverse keels; posterior surface shorter than broad (10:20), shorter than scutum (10:21); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (6:10). Protarsal segments in following proportions: 8:2:5:12:21. Enlarged claw (Plate 53B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 53B) with two rows of approximately 30 lamellae; distal apex with about four lamellae, among which one very long. Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Peru.

16. *Deinodryinus carpens* Olmi, 1984
(Plate 53A)


**Description. Male.** Fully winged; length 3.2–3.7 mm. Completely black, except protibia testaceous. Antenna filiform, with hairs much shorter than breadth of segments; antennal segments in following proportions: 12:8:17:11:11:10:9:9:11. Head shiny, punctate, unsculptured among punctures; face with numerous longitudinal keels; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 6; OL = 3.5; OOL = 9; OPL = 8; TL = 7. Scutum shiny, smooth, strongly punctate, mainly on anterior half, unsculptured among punctures. Notauli incomplete, reaching approximately 0.80–0.95 length of scutum. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels, with small shiny and smooth central area. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Paramere (Plate 53A) with subdistal inner branch wrapping penis. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined. Types:** ♂ holotype: BRAZIL: São Paulo, Serra da Bocaina, São José do Barreiro (AMNH). Paratypes: same locality label as holotype, 4♂♂ (2 in AEIC, 2 in AMNH). **Other material:** ARGENTINA: Misiones, Loreto, 20.X.1930 (FCNM).

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil.

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DRYINIDAE OF THE NEOTROPICAL REGION  Zootaxa 3792 (1) © 2014 Magnolia Press · 127
17. *Deinodryinus cascus* Olmi, 1984  
(Plate 53C)


**Description. Female.** Fully winged; length 5.0 mm. Head testaceous-reddish, except brown ocellar spot, occipital carina black and ventral side of head almost totally black; antenna testaceous, except segment 10 darkened; pronotum testaceous-reddish, except anterior surface and lateral regions partly black; scutum, scutellum and metanotum testaceous-reddish; propodeum black, except median area of posterior surface testaceous-reddish; metasoma black; legs testaceous, except meso- and metacoxa and club of meso- and metasternum partly black. Antenna slightly clavate; antennal segments in following proportions: 16:8:20:15:11:12:10:9:12. Head shiny, slightly reticulate rugose; face with two fading keels around orbits and two fading median longitudinal and parallel keels; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 4; OOL = 13; OPL = 12; TL = 14. Pronotum shiny, smooth, hairy, finely punctate, unsculptured among punctures; posterior surface about as long as broad; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.65 length of scutum. Propodeum reticulate rugose, except posterior surface shiny, smooth, not rugose, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (14:10). Protarsal segments in following proportions: 11:4:9:25:44. Enlarged claw (Plate 53C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 53C) with three rows of approximately 43 lamellae; distal apex with about eight lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: MEXICO: Chiapas, San Cristobal de las Casas (CNC).

**Hosts.** Unknown.

**Distribution.** Mexico.

(Plate 53D, F, G)


**Description. Male.** Fully winged; length 2.5–3.1 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous, except coxae partly black, last tarsal segment brown, metafemur brown, distal half of metatibia brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 11:7:11:7:8:7:5:7:8:6:5:9.5. Head (Plate 53D) with face dull, granulated and almost completely rugose and with irregular keels, in addition to two keels around orbits and directed towards antennal toruli; frontal line complete; face near anterior ocellus smooth, granulated, not rugose, without irregular keels; temple granulated, with few transverse keels; region behind ocellar triangle rugose and with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; each ocellus externally delimited by deep furrow; POL = 6; OL = 3; OOL = 6; OPL = 6; TL = 6.5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.6 length of scutum, very deep in anterior half of scutum, narrow and fading in posterior half. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels, with areolae smaller than those of dorsal surface. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Paramere (Plate 53F, G) with subdistal inner branch wrapping penis. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined. Types:** ♂ holotype: HONDURAS: Yoro, Palo de Comba, 15°11’N 87°39’W, Malaise trap in mid elevation secondary forest, 27.IX.1995, R. Cave leg. (ZIL). Paratypes: HONDURAS: Olancho, La Muralla National Park, 15 km N La Unión, 15°07’N 86°45’W, Malaise trap in high elevation rain forest, R. Cave leg., IV.1995, 2♂♂ (AMNH, ZIL); same locality label, II.1995, 1♂ (ZIL). **Other material:** PANAMA: Chiriquí, 8 Km
19. *Deinodryinus chiapasi* Olmi, 1984  
(Plate 54A, B)


**Description.** *Female.* Fully winged; length 5.6–5.9 mm. Head black, except mandible, clypeus and anterior region of face testaceous-reddish; antenna testaceous, except segments 7–10 or 9–10 brown; mesosoma black, except pronotal tubercle and lateral region of pronotum testaceous; metasoma black; legs testaceous, except metacoxa, metatibia and club of metafemur partly black. Antenna slightly clavate; antennal segments in following proportions: 15:9:21:14:12:11:10:8:10. Head shiny, reticulate rugose; face with two-three median keels, in addition to two lateral keels around orbits; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; head of holotype with POL = 5; OL = 4; OOL = 14; OPL = 12; TL = 15; in specimen from Mexico, S. Cristobal de las Casas, OL = 4; OOL = 12. Pronotum dull, reticulate rugose and with irregular keels; posterior surface about as broad as long; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.75 length of scutum. Propodeum dull, reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing with two dark transverse bands. Protarsal segments in following proportions: 12:4:7:15:32. Enlarged claw (Plate 54B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 54B) with two rows of approximately 38 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

*Male.* Fully winged; length 3.9–4.2 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa partly black and club of metafemur partly brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 12:7:18:13:13:13:12:13:15. Head reticulate rugose; face with two median keels, in addition to two lateral keels around orbits (surface of two median keels sculpurated by transverse folds); region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 6; OL = 3; OOL = 11; OPL = 9; TL = 12. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing with distal third darkened; distal part of stigmal vein shorter than proximal part (12:14). Paramere (Plate 54A) with distal inner branch wrapping penis. Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Brazil, Costa Rica, Mexico.

20. *Deinodryinus claripes* Olmi, 1984  
(Plate 54C, D)


**Description.** *Female.* Fully winged; length 4.4 mm. Head and antenna testaceous; mesosoma testaceous, except anterior collar and lateral regions of pronotum, scutum, propodeum and part of metapleuron black; metanotum brown; metasoma testaceous, with dorsal side black; legs testaceous. Antenna slightly clavate; antennal segments
in following proportions: 9:5:15:11:10:9:10:9:11. Head shiny, granulated; face with slight frontal line and two lateral longitudinal keels; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3.5; OL = 4.5; OOL = 11; OPL = 10; TL = 8. Pronotum partly hairy, with anterior surface rugose; posterior surface slightly broader than long (26:22) (Plate 54D), flat, without dorsal lobes, smooth, granulated, with numerous short longitudinal keels near posterior margin; pronotal tubercle reaching tegula. Scutum shiny, slightly granulated. Notauli almost complete, almost reaching posterior margin of scutum. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum dull, reticulate rugose; dorsal surface reticulate rugose and with some longitudinal keels; posterior surface dull, reticulate rugose, without longitudinal keels. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein about as long as proximal part. Protarsal segments in following proportions: 45:9:21:85:117. Enlarged claw (Plate 54C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 54C) with two rows of approximately 50 lamellae; distal apex with about eight lamellae, one of which very long. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: GUYANA: Essequibo (ZMK).

**Hosts.** Unknown.

**Distribution.** Guyana.

**PLATE 54.** A, E, G. Male genitalia. B, C, F, H. Chela of holotypes. D. Pronotum of holotype in dorsal view (length mm). A. *Deinodryinus chiapasi*, male from Mexico, San Cristobal de las Casas. B. *D. chiapasi*. C, D. *D. claripes*. E. *D. cocanus*. F. *D. colombianus*. G. *D. colombianus*, paratype from Colombia, Tame. H. *D. cooperi*. Scale bar 0.17 mm for A and E, 0.25 mm for B, 0.24 mm for C, 0.18 mm for F, 0.15 mm for G, 0.12 mm for H.

**21. Deinodryinus cocanus Olmi, 1987**

(Plate 54E)


**Description.** Male. Fully winged; length 3.2 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa brown. Antenna filiform, with hairs longer than
breadth of segments; antennal segments in following proportions: 13:8:12:10:9:10:10:9:11. Head shiny, reticulate rugose; face reticulate rugose and with two median longitudinal keels, in addition to two keels around orbits; region of vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 11; OPL = 11; TL = 12. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli complete, posteriorly separated; minimum distance between notauli as long as POL. Propodeum dull, completely reticulate rugose, without longitudinal or transverse keels. Fore wing with distal half darkened; distal part of stigmal vein shorter than proximal part (9:12). Paramere (Plate 54E) with long inner proximal branch. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Type: ♂ holotype: ECUADOR: Napo, Napo River, Coca (CNC).

**Hosts.** Unknown.

**Distribution.** Ecuador.

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### 22. *Deinodryinus colombianus* Olmi, 1984

(Plate 54F, G)


**Description. Female.** Fully winged; length 4.0–5.0 mm. Head testaceous-reddish; occasionally ocellar triangle black; antenna totally testaceous, occasionally with segments 8–10 darkened; occasionally only antennal segment 10 dark; mesosoma black; metasoma testaceous-dark; legs testaceous, except coxae partly black; occasionally legs testaceous, except metacoxa, stalk of metafemur and distal half of metatibia darkened. Antenna filiform; antennal segments in following proportions: 15:7:17:13:10:8:8:8:8:10. Head shiny; face with three median longitudinal keels, in addition to two lateral keels around orbits and numerous transverse keels; vertex behind ocellar triangle punctate, unsculptured among punctures, with two oblique keels connecting posterior ocelli to occipital carina; temple punctate, unsculptured among punctures; occipital carina complete; POL = 3; OL = 3; OOL = 12; OPL = 10; TL = 10. Pronotum hairy, shiny, crossed by anterior transverse impression; posterior surface finely punctate, unsculptured among punctures, smooth, with two small dorsal longitudinal lobes parallel to sides of pronotum; prontal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface almost completely smooth, finely punctate; occasionally posterior surface with two longitudinal keels and numerous areolae, with smooth central area. Fore wing with one two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (15:14). Protarsal segments in following proportions: 12:3:8:13:33. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 54F) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 54F) with two rows of about 26 lamellae; distal apex with about 18 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 2.8–3.1 mm. Head black, except mandible and part of clypeus testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa brown. Antenna filiform; antennal hairs much longer than breadth of antennal segments; antennal segments in following proportions: 10:6:10:9:9:9:8:8:11. Head shiny, reticulate rugose; face with three median longitudinal keels, in addition to two lateral keels around orbits; vertex with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 11; OPL = 9; TL = 10. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose; posterior surface with two complete longitudinal keels and median area strongly transversely striate and anteriorly delimited by anterior transverse keel. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein slightly shorter than proximal part (10:11). Paramere (Plate 54G) with large and long distal inner branch wrapping penis. Tibial spurs 1/1/2.

Research Station (DBUSU). TRINIDAD AND TOBAGO: Trinidad, Curepe (AMNH, PMA); Trinidad, Curepe, CIBC Laboratory grounds (CNC); Trinidad, Arima Valley, Simla Research Station (DBUSU, FSCA).

Hosts. Unknown.

Distribution. Brazil, Colombia, Costa Rica, Mexico, Trinidad and Tobago, Venezuela.

23. *Deinodryinus cooperi* Olmi, 2010
(Plate 54H)

*Deinodryinus cooperi* Olmi 2010: 16.

Description. Female. Fully winged; length 3.6 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna testaceous; mesosoma black, except posterior margin of pronotum testaceous; metasoma brown; legs testaceous, except metacoxa partly black. Antenna clavate; antennal segments in following proportions: 10:6:18:10:9:8:7:6:9. Head smooth, completely granulated; frontal line absent; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 6; OPL = 6; TL = 7; greatest breadth of posterior ocelli shorter than OL (2:3). Pronotum with posterior surface flat, slightly broader than long (15:12), shorter than scutum (12:15); pronotum rugose and transversely striate, with posterior margin smooth and unsculptured; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.6 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly longer than proximal part (14:12). Protarsal segments in following proportions: 10:2:4:15:23. Enlarged claw (Plate 54H) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 54H) with two rows of approximately 46 lamellae; distal apex with about ten lamellae, among which one very long. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Ecuador.

(Plate 55A–C)


Description. Female. Fully winged; length 2.4–3.6 mm. Completely testaceous. Occasionally face, vertex of head and anterior margin of scutum darkened. Antenna clavate (Plate 55B); antennal segments in following proportions: 9:5:11:6:5:5:5:5:5:7. Head dull, granulated; frontal line absent; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 2.5; OOL = 6; OPL = 5; TL = 6. Pronotum dull, rugose; posterior surface about as broad as long, rugose. Scutum, scutellum and metanotum shiny, smooth, unsculptured, occasionally granulated. Notauli incomplete, reaching approximately 0.75 length of scutum. Propodeum reticulate rugose, without longitudinal and transverse keels. Fore wing with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (10:6). Protarsal segments in following proportions: 8:1.5:3:9:16. Enlarged claw (Plate 55C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 55C) with two rows of approximately 25 lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.
PLATE 55. A, D, F. Male genitalia. B. Antenna of female (length 1.2 mm). C, E. Chelae. A. Deinodryinus costaricanus, paratype. B. D. costaricanus, female from Colombia, 3°26’N 76°48’W. C. D. costaricanus, holotype. D. D. croceus, paratype. E. D. croceus, holotype. F. D. cuzcanus, holotype. Scale bar 0.1 mm for A, 0.09 mm for C, 0.14 mm for D, 0.24 mm for E, 0.12 mm for F.

Male. Fully winged; length 2.2–2.8 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous. Antenna filiform; antennal hairs longer than breadth of antennal segments; antennal segments in following proportions: 12:7:12:8:8:9:9:9:9:13. Head shiny, smooth, finely punctate and granulated, occasionally completely granulated; frontal line absent; vertex without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete, excavated behind ocellar triangle; POL = 5; OL = 2.5; OOL = 7; OPL = 6; TL = 5. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.50–0.75 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein about as long as proximal part. Paramere (Plate 55A) with large and long distal inner branch wrapping penis and provided of many papillae. Tibial spurs 1/1/2.

Hosts. Unknown.

Distribution. Belize, Brazil, Colombia, Costa Rica, Ecuador, Mexico, Nicaragua, Panama, Peru.

25. *Deinodryinus croceus* Olmi, 1984
(Plate 55E, D)


Description. Female. Fully winged; length 5.0 mm. Testaceous-reddish, except metasoma black and antennal segments 9–10 brown. Antenna clavate; antennal segments in following proportions: 14:8:17:13:9:9:8:8:8:10. Head shiny, with face and vertex reticulate rugose and with some longitudinal keels; vertex behind ocellar triangle punctate, unsculptured among punctures, not rugose, with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4.5; OL = 3.5; OOL = 13; OPL = 12; TL = 13. Pronotum shiny, crossed by strong transverse impression; posterior surface about as broad as long, shiny, smooth, with two slight dorsal parallel lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; posterior surface reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (14:15). Protarsal segments in following proportions: 12:3:8:15:32. Enlarged claw (Plate 55E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 55E) with two rows of approximately 30 lamellae; distal apex with about 17 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 3.3 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except coxae, clubs of femora and metatibia brown. Antenna filiform; antennal hairs longer than breadth of antennal segments; antennal segments in following proportions: 15:8:15:12:11:11:11:9:12. Head dull, completely reticulate rugose; face without median longitudinal keel, with two lateral keels around orbits; region of vertex behind ocellar triangle with two fading oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 6; OL = 3; OOL = 10; OPL = 9; TL = 13. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface reticulate rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (11:13). Paramere (Plate 55D) without distal inner branch wrapping penis. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Argentina.

(Plate 55F)


Description. Male. Fully winged; length 2.2 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs brown, except tarsi testaceous. Antenna filiform; antennal segments 3–5 triangular, with distal apex broader than proximal extremity; antennal hairs longer than breadth of antennal segments; antennal segments in following proportions: 10:6.5:5.5:5:4:5:6:7:6:10. Head dull, completely reticulate rugose; frontal line absent; face with two lateral keels around orbits; vertex without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 4.5; OOL = 5; OPL = 5; TL = 5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area shiny and
smooth, not rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:11). Paramere (Plate 55F) with distal inner process, without large distal branch wrapping penis. Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Costa Rica, Peru.

27. *Deinodryinus dariensis* Olmi, 2003

(Plate 56A)


**Description.** Female. Fully winged; length 2.6–4.4 mm. Head completely testaceous, except teeth of mandible brown-reddish; in few specimens from Ecuador, 00°37.55'S 76°08.39'W, ventral side of head with two black spots and part of occipital carina black. Antenna of holotype with segments 1–5 testaceous (segments 6–10 missing); antenna of specimens from Ecuador, 00°37.55'S 76°08.39'W, completely testaceous. Mesosoma of holotype testaceous, except two large brown spots on lateral regions of scutum; ventral side of mesothorax and metathorax brown; mesosoma of specimens from Ecuador, 00°37.55'S 76°08.39'W, as in holotype, except dorsal surface of propodeum more or less brown. Petiole black. Metasoma testaceous. Legs of holotype testaceous, except ventral side of meso- and metafemur brown; legs of specimens from Ecuador, 00°37.55'S 76°08.39'W, testaceous, except metacoxa and stalk of metafemur partly brown. Antenna clavate; antennal segments of holotype in following proportions: 13:6:11:16:14 (segments 6–10 missing); antennal segments of specimen from Ecuador, 00°37.55'S 76°08.39'W, in following proportions: 9:5:13:7:6:6:6:6:6:5:6:6:8. Head flat, dull, granulated; face of holotype little distinctly rugose (face not rugose in specimens from Ecuador, 00°37.55'S 76°08.39'W); frontal line complete; face with two lateral little distinct longitudinal keels; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 6; OPL = 7; TL = 5. Pronotum anteriorly crossed by slight transverse impression, dull, covered with dense hairs; posterior surface of pronotum broader than long (22:13), crossed by numerous strong transverse keels; pronotal tubercle reaching tegula. Scutum of holotype dull, granulated; scutum of specimens from Ecuador, 00°37.55'S 76°08.39'W, shiny, very slightly granulated. Notauli incomplete, reaching approximately 0.9 length of scutum in holotype, 0.7 length of scutum in specimens from Ecuador, 00°37.55'S 76°08.39'W. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with a transverse keel between dorsal and posterior surface; posterior surface of propodeum completely dull and reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein of holotype longer than proximal part (16:11); in specimens from Ecuador, 00°37.55'S 76°08.39'W, distal part of stigmal vein as long as proximal part (in other specimens from Ecuador, 00°37.55'S 76°08.39'W, distal part of stigmal vein longer than proximal part). Protarsal segments in following proportions: 11:3:6:18:29. Enlarged claw (Plate 56A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 56A) with two rows of 10 + 28 lamellae; distal apex with four lamellae, among which one very long. Tibial spurs 1/1/2.

**Male.** Unknown.

PLATE 56. A–B, D–G. Chelae of holotypes. C. Male genitalia. A. Deinodryinus dariensis. B. D. diaphanus. C. D. elegans, from Trinidad, St. Augustine. D. D. elegans. E. D. erwini. F. D. finnamorei. G. D. fiorii. Scale bar 0.39 mm for A, 0.18 mm for B, 0.11 mm for C, 0.14 mm for D, 0.22 mm for E, 0.25 mm for F and G.

(Plate 56B)


Description. Female. Fully winged; length 2.4–3.5 mm. Completely testaceous, including petiole; occasionally petiole black and propodeum with brown spots. Antenna clavate; antennal segments in following proportions: 12:6:15:11:10:9:7:7:10. Head shiny, finely punctate, unsculptured among punctures; face slightly granulated, without median and lateral keels; frontal line absent; occipital carina complete; POL = 3; OL = 2; OOL = 8; OPL = 8; TL = 8. Pronotum shiny, smooth, slightly granulated, with an anterior transverse furrow; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured or slightly granulated. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum shiny, slightly reticulate rugose, with sculpture very slight. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (10:11). Protarsal segments in following proportions: 9:2:4:15:24. Enlarged claw (Plate 56B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 56B) with two rows of approximately 40 lamellae; distal apex with about five lamellae, among which one very long. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil.
29. Deinodryinus elegans Olmi, 1984

(Plate 56D, C)


Description. Female. Fully winged; length 3.0–4.7 mm. Head testaceous-reddish or yellow-testaceous, except ocellar region blackish; antenna testaceous-reddish; mesosoma yellow-testaceous, except black spot on lateral regions of pronotum, anterior margins of scutum and metanotum blackish, mesopleuron distally blackened, propodeum black; petiole and metasoma brown-testaceous; legs testaceous-reddish. In specimen from Honduras, 15°05.49’N 86°44.17’W, head black, except mandible, clypeus, part of gena and anterior half of face testaceous. In specimen from Guyana, 1 km N of Kurupukari, head and mesosoma testaceous-reddish, except clypeus, gena, posterior region of propodeum, ventral side of mesothorax black or brown. Antenna clavate; antennal segments in following proportions: 10:6:11:7:6:6:6:6:6:8. Head dull, completely granulated, without areolae or keels; in specimen from Honduras, 15°05.49’N 86°44.17’W, frontal line incomplete and present only in front of anterior ocellus; occipital carina complete; POL = 3; OL = 3; OOL = 7; OPL = 7; TL = 7; vertex without two oblique keels connecting posterior ocelli to occipital carina. Pronotum dull, hairy, with strong anterior transverse impression; posterior surface granulated and with strong transverse keels; pronotal tubercle reaching tegula. Scutum shiny, smooth, usually slightly or strongly granulated, occasionally unsculptured. Notauli incomplete, reaching approximately 0.5–0.7 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmatic vein longer than proximal part (13:9). Protarsal segments in following proportions: 6:2:4:12:19; segment 3 of protarsus produced into hook. Enlarged claw (Plate 56D) with one bristle located further distally than proximal prominence; in specimen from Guyana, 1 km N of Kurupukari, enlarged claw with bristle very short. Segment 5 of protarsus (Plate 56D) with two rows of approximately 39–54 lamellae; distal apex with about six–seven lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 2.3–2.5 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except coxae, clubs of femora and metatibia partly brown or black. Antenna filiform, very hairy; antennal hairs much longer than breadth of antennal segments; antennal segments in following proportions: 10:5:9:6.5:7:6.5:7:6.5:7:5.5:8.5:7.5. Head dull, completely reticulate rugose; face with some irregular keels; vertex with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 7; OPL = 6; TL = 6. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5–0.6 length of scutum. Propodeum reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein approximately as long as proximal part. Paramere (Plate 56C) without large and long distal inner branch wrapping penis, with only reduced distal membranous band. Tibial spurs 1/1/2.


Hosts. Unknown.
**Distribution.** Argentina, Bolivia, Brazil, Costa Rica, Ecuador, Guyana, Honduras, Mexico, Nicaragua, Trinidad and Tobago, Venezuela and Nearctic region (Mexico, Morelos).

(Plate 56E)


**Description. Female.** Fully winged; length 4.6–4.7 mm. Head black, except mandible testaceous; antenna testaceous (in specimen from French Guiana, Saül, antenna testaceous, except segment 1 and segments 8–10 partly darkened); mesosoma black, except lateral margins of pronotum testaceous; metasoma brown; legs testaceous (in specimen from French Guiana, Saül, metacoxa partly black). Antenna clavate; antennal segments in following proportions: 13:7:17:9:8:8:8:8:11. Head slightly convex, shiny, hairless, except anterior half of face, gena and clypeus densely hairy; vertex and temple smooth, unsculptured (in some areas very slightly granulated); face punctate, unscluptured among punctures, with prominent complete frontal line and two strong lateral keels located around eyes and reaching antennal toruli; anterior half of face with many transverse keels (in specimen from French Guiana, Saül, without transverse keels); vertex behind ocellar triangle with two complete oblique keels connecting posterior ocelli to occipital carina (“without two complete oblique keels”, for mistake in original description); occipital carina complete; POL = 4; OL = 4; OOL = 9; OPL = 10; TL = 10; greatest breadth of posterior ocelli shorter than OL (3:4). Pronotum hairy, anteriorly crossed by slight transverse impression, shiny, with anterior surface strongly sculptured by transverse keels; posterior surface smooth, punctate, unscluptured among punctures, except few transverse keels located near anterior transverse impression; posterior surface of pronotum longer than broad (22:14), shorter than scutum (12:22), with lateral margins rounded; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, punctate, unscluptured among punctures. Notauli incomplete, reaching approximately 0.6 length of scutum. Propodeum reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface of propodeum almost completely dull and strongly reticulate rugose, except for very small central area shiny and unscluptured. Fore wing hyaline, with one slightly dark transverse band crossing basal cell; distal part of stigmal vein slightly longer than proximal part (11:10). Protarsal segments in following proportions: 10:3:5:15:27. Enlarged claw (Plate 56E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 56E) with two rows of 16 + 22 lamellae; distal apex with one very long lamella surrounded by about seven shorter lamellae. Tibial spurs 1/1/2.

*Male. Unknown.*

**Material examined. Type:** ♀ holotype: ECUADOR: Napo, Waorani Ethnic Reserve, 1 km S Onkone Gare Camp, 00°39.10’S 76°26’W, 220 m, VI.1994, canopy fogging, T.L. Erwin leg. (CNC). **Other material:** FRENCH GUIANA: Saint-Laurent-du-Maroni, Saül, 17.I.2011, FIT 03/05, SEAG leg., 1 ♀ (FSAE).

**Hosts.** Unknown.

**Distribution.** Ecuador, French Guiana.

(Plate 56F)


**Description. Female.** Fully winged; length 4.1–4.2 mm. Head black, except mandible, clypeus and malar space testaceous. Antenna yellow, except segments 7–10 brown; mesosoma black, except lateral margins of pronotum reddish; metasoma brown-reddish; fore leg brown and partly testaceous; mid- and hind leg brown. In specimen from Colombia, Cabaña Cerro, head black, except temple, face near clypeus and two stripes along orbits reddish. In specimen from Colombia, 5°25’N 73°27’W, temple and anterior half of face testaceous; antenna testaceous, except segments 8–10 brown. In specimen from Colombia, 05°25’12”N 73°27’24”W, antenna black, except segment 1 testaceous. Antenna clavate; antennal segments in following proportions: 14:7:19:9:8:8:6:5:5:8. Head shiny; face reticulate rugose and with some areolae; frontal line complete (incomplete in specimen from Colombia, Cabaña.
Cerro); region behind ocellar triangle smooth, punctate, unsculptured among punctures, with few short keels and two incomplete oblique keels from posterior ocelli to occipital carina, but not reaching occipital carina; occipital carina complete; POL = 4; OL = 3; OOL = 14; OPL = 10; TL = 12. In specimen from Colombia, 05°25’12’’N 73°27’24’’W, head with face completely reticulate rugose, frontal line absent and two complete oblique keels behind ocellar triangle. Pronotum hairy; posterior surface about as broad as long, smooth, finely punctate, unsculptured among punctures; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; posterior surface reticulate rugose, with small smooth and shiny central punctate area. Fore wing with two small dark spots; distal part of stigmal vein longer than proximal part (16:14). Enlarged claw (Plate 56F) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 56F) with three rows of at least 30 lamellae; distal apex with about 15 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Colombia, Peru.

32. Deinodryinus fiorii Olmi, 1987
(Plate 56G)


**Description.** Female. Fully winged; length 4.2 mm. Head testaceous-reddish, except brown wide spot on face and ventral side; antenna and mesosoma testaceous-reddish; metasoma brown; legs testaceous-reddish, except coxae partly brown. Antenna clavate; antennal segments in following proportions: 16:9:15:9:7:7:7:7:6:8. Head with face reticulate rugose and with three median longitudinal keels; vertex (including region behind ocellar triangle) punctate, with short furrows, not rugose, with two very slight oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4.5; OL = 3.5; OOL = 11.5; OPL = 11; TL = 13. Pronotum hairy, shiny, crossed by strong transverse impression; posterior surface about as broad as long, shiny, finely punctate, unsculptured among punctures, with two slight dorsal longitudinal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum completely reticulate rugose, without transverse or longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (13:14). Enlarged claw (Plate 56G) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 56G) with two rows of about 30 lamellae; distal apex with about 26 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: ARGENTINA: Tucumán, Horco Molle (MCZ).

**Hosts.** Unknown.

**Distribution.** Argentina.

33. Deinodryinus fluviatilis Olmi, 1984
(Plate 57A, B)


**Description.** Female. Fully winged; length 4.4–5.0 mm. Head black, except mandible, clypeus, antennal torulus
and part of malar space testaceous; antenna testaceous, except segments 7–10 brown; mesosoma, metasoma and legs testaceous. In specimen from Peru, 15 km NE of Puerto Maldonado, head totally testaceous. Antenna clavate; antennal segments in following proportions: 17:10:28:13:10:9:9:9:11. Head shiny, rugose; face and vertex with numerous longitudinal keels; frontal line complete; region behind ocellar triangle smooth, punctate, partly without keels, with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 4; OOL = 14; OPL = 16; TL = 14. In specimen from Peru, 15 km NE of Puerto Maldonado, region behind ocellar triangle completely sculptured by longitudinal keels. Pronotum hairy, shiny, without sculpture; posterior surface about twice as broad as long, with two prominent dorsal transverse lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface dull, reticulate rugose, with median area smooth and shiny. Fore wing with two dark transverse bands; distal part of stigmal vein about as long as proximal part; in specimen from Peru, 15 km NE of Puerto Maldonado, distal part slightly longer than proximal part (19:16). Protarsal segments in following proportions: 15:4:11:17:41. Enlarged claw (Plate 57B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 57B) with two–three rows of about 23–36 lamellae; distal apex with about 17 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 3.2–3.6 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except meso- and metatibia, clubs of femora and tarsi darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 13:9:21:9:10:10:5:10:13. Head shiny; face and vertex behind ocellar triangle sculptured by numerous longitudinal keels; temple punctate and unsculptured among punctures; occipital carina complete; POL = 6; OL = 3.5; OOL = 9; OPL = 9; TL = 6. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli deep, incomplete, almost reaching posterior margin of scutum. Propodeum dull, reticulate rugose; posterior surface with two irregular longitudinal keels and median area almost completely smooth and shiny. Fore wing slightly completely darkened; distal part of stigmal vein slightly shorter than proximal part (13:16). Paramere (Plate 57A) with large inner branch located on entire length of paramere, tibial spurs 1/1/2.

**Material examined.** Type: ♀ holotype: BOLIVIA: Beni, Rio Mamoré 5 km NW of mouth of Rio Grande (AMNH).

**Other material:** PERU: Tambopata, 15 km NE of Puerto Maldonado, 15–22.VI.1989, 200 m, J. Ashe & R. Leschen leg., flight interception trap, females and males (MOLC, NAMUK).

**Hosts.** Unknown.

**Distribution.** Bolivia, Peru.

34. *Deinodryinus gauldi* Olmi, 1991
(Plate 57C)


**Description.** Male. Fully winged; length 2.5–3.0 mm. Head black, except mandible testaceous (occasionally clypeus with central testaceous spot); antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa black. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 12:6:13:8:9:10:9:9:11. Head shiny, smooth, granulated; frontal line incomplete, only present in anterior third of face; occasionally frontal line absent; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete, deeply excavated behind ocellar triangle; POL = 6; OL = 2.5; OOL = 6; OPL = 4.5; TL = 5.5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures (occasionally scutum very slightly granulated). Notauli incomplete, reaching approximately 0.6–0.7 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface (occasionally keel hardly visible); dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Paramere (Plate 57C) with reduced medial branch provided of many papillae. Tibial spurs 1/1/2.

Female. Unknown.
PLATE 57. A, C, D. Male genitalia. B, E. Chelae of holotypes. A. Deinodryinus fluviatilis, from Peru, 15 km NE Puerto Maldonado. B. D. fluviatilis. C. D. gauldi, holotype. D. D. gilli, holotype. E. D. goiasensis. Scale bar 0.14 mm for A, 0.24 mm for B, 0.12 mm for C and D, 0.25 mm for E.


Hosts. Unknown.

Distribution. Argentina, Belize, Costa Rica, Honduras, Mexico, Paraguay.

35. Deinodryinus gilli Olmi, 1995
(Plate 57D)


Description. Male. Fully winged; length 2.5 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous, except pro- and metacoxa partly black; club of metafemur brown; meso- and metatibia brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 11:7:10:7:6:8:8:8.5:8:10. Head with face dull, reticulate rugose and granulated; frontal line complete; vertex dull, granulated; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete, deeply excavated behind ocellar triangle; POL = 4;
OL = 2; OOL = 6; OPL = 5; TL = 5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli thin, incomplete, reaching approximately 0.7 length of scutum. Propodeum dull, reticulate rugose, without transverse and longitudinal keels; posterior surface completely reticulate rugose. Fore wing with one slight dark spot beneath pterostigma; distal part of stigmal vein about as long as proximal part. Paramere (Plate 57D) with medial inner branch. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Type: ♂ holotype: Panama: Chiriqui, near El Hato del Volcán, 4700 feet, VII.1982, B. Gill leg. (AEIC).

**Hosts.** Unknown.

**Distribution.** Panama.

### 36. Deinodryinus goiasensis Olmi, 1987
(Plate 57E)


**Description.** Female. Fully winged; length 5.0 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma black, except posterior and lateral margins of pronotum reddish; metasoma brown; legs testaceous, except coxae partly black. Antenna slightly clavate; antennal segments in following proportions: 12:7:20:11:9:8:8:7:10. Head shiny, with face partly reticulate rugose and partly sculptured by irregular longitudinal keels; vertex and temple smooth, finely punctate, without sculpture among punctures; region behind ocellar triangle smooth, with some transverse keels crossing furrow located around occipital carina; occipital carina complete; POL = 5; OL = 4; OOL = 12; OPL = 10; TL = 13. Pronotum hairy, shiny, with anterior surface sculptured by transverse keels; posterior surface punctate, without sculpture among punctures. Scutum, scutellum and metanotum shiny, smooth, unsculptured or finely punctate. Notauli incomplete, reaching approximately 0.6 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with anterior half smooth, finely punctate, without sculpture among punctures, and posterior half sculptured by transverse keels. Fore wing with two slight dark transverse bands; distal part of stigmal vein shorter than proximal part (13:16). Protarsal segments in following proportions: 10:2:7:23:38. Enlarged claw (Plate 57E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 57E) with two rows of about 50 lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: BRAZIL: Goiás, 24 km E Formoso, 29.V.1956, F.S. Truxal leg. (NHMLA).

**Hosts.** Unknown.

**Distribution.** Brazil.

### 37. Deinodryinus guanacastei Olmi, 1987
(Plate 58A, B)


**Description.** Female. Fully winged; length 4.4–5.0 mm. Head black, except mandible and clypeus testaceous; antenna brown, except segments 1–4 testaceous; mesosoma black; metasoma brown, except sternite 1 testaceous; legs black, except protibia testaceous. Antenna slightly clavate; antennal segments in following proportions: 14:5:16:11:9:8:7:7:9. Head dull, completely reticulate rugose; frontal line complete; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina (keels hardly visible among areolae); occipital carina complete; POL = 5; OL = 4; OOL = 12; OPL = 10; TL = 10. Pronotum hairy, shiny, punctate, without sculpture among punctures; posterior surface about as broad as long; pronotal tubercle reaching tegula. Scutum shiny, smooth, punctate, without sculpture among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose,
without transverse or longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (12:10). Protarsal segments in following proportions: 8:4:7:10:24. Enlarged claw (Plate 58A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 58A) with two rows of about 17 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 2.5–4.1 mm. Head black, except mandible and clypeus testaceous. In specimen from Venezuela, S.ta Lucia, clypeus totally black; in specimen from Venezuela, 09°43'N 68°08'W, clypeus partly black and partly reddish. Antenna testaceous; mesosoma and metasoma black; legs black, except trochanters, femora, tibiae and tarsi testaceous. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 15:8:18:12:13:14:12:13. Head reticulate rugose; occasionally vertex partly punctate, not rugose; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 4; OOL = 11; OPL = 13; TL = 13. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; occasionally posterior surface with two longitudinal keels; median area usually as rugose as lateral areas, occasionally smooth and shiny. Fore wing hyaline, without dark transverse bands; occasionally with one or two dark transverse bands; distal part of stigmal vein shorter than proximal part (13:15). Paramere (Plate 58B) with large inner branch wrapping penis located in distal or proximal position. Tibial spurs 1/1/2.

**Material examined.**


**Hosts.** Unknown.

**Distribution.** Argentina, Costa Rica, Panama, Paraguay, Venezuela.

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*(Plate 58C)*


**Description.** **Male.** Fully winged; length 3.2 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except pro- and metacoxa partly black. Antenna filiform, with hairs shorter than breadth of segments; antennal segments in following proportions: 11:7:11:10:10:10:9:8:10. Head shiny, smooth, punctate, unsculptured among punctures; frontal line absent; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 8; OPL = 7; TL = 5. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5–0.6 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels, with smal central area smooth and shiny. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (13:9). Paramere (Plate 58C) with distal inner pointed process, without branch wrapping penis. Tibial spurs 1/1/2.
**Female.** Unknown.

**Material examined.** **Type:** ♀ holotype: COSTA RICA: Guanacaste, Cacao Volcano, Cerro Pedregal, 1000 m, Malaise trap, II–IV.1989, Paul Hanson leg. (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica.

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**PLATE 58. A, D, H. Chelae. B, C, E–G, I, J. Male genitalia. A. Deinodryinus guanacastei, holotype. B. D. guanacastei, paratype. C. D. hansonii, holotype. D. D. hibbsi, holotype. E. D. hirticornis, from Mexico, Río de las Ceyas. F, G, D. hirticornis, holotype. H. D. hirticornis, from Brazil, Nova Teutonia (holotype of D. eminens). I. D. horcanus, holotype. J. D. huggerti, holotype. Scale bar 9.29 mm for A, 0.16 mm for B, 0.17 mm for C, 0.19 mm for D, 0.21 mm for E, 0.25 mm for F and G, 0.23 mm for H, 0.24 mm for I, 0.11 mm for J.**

**39. Deinodryinus hibbsi Olmi, 1998**

(Plate 58D)


**Description.** **Female.** Fully winged; length 3.5–3.7 mm. Head black, except mandible, clypeus and malar space testaceous; antenna testaceous, except segments 7–10 brown; mesosoma black, except lateral margins of pronotum testaceous; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna clavate; antennal segments in following proportions: 11:5:13:5:7:5:6:5:4:5:5:7. Head dull, hairy; face reticulate rugose, with incomplete frontal line not present in front of anterior ocellus and with two lateral keels around orbits; temple and vertex behind ocelli smooth, punctate, unsculptured among punctures; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; vertex on sides of oblique keels sculptured by few short longitudinal keels; occipital carina complete; POL = 2; OL = 2; OOL = 10.5; OPL = 9; TL = 7. Pronotum hairy, crossed by strong transverse impression; posterior surface shorter than scutum (10:15), shiny, smooth, punctate,
without sculpiure among punctures; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, without sculpure among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Propodeum with dorsal surface dull, reticulate rugose; posterior surface with two complete longitudinal keels, lateral areas rugose and median area shiny and smooth, unsculptured (median area delimited anteriorly by transverse keel). Fore wing with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (13:11). Protarsal segments in following proportions: 7:2.5:6:10:23. Enlarged claw (Plate 58D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 58D) with three rows of about 32 lamellae; distal apex with about 20 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.


40. Deinodryinus hirticornis (Kieffer, 1911) (Plate 58E–H)

Anteon hirticornis Kieffer 1911b: 231.
Trisanteon hirticornis (Kieffer): Kieffer 1913a: 300; Kieffer 1914: 197.
Deinodryinus eminens Olmi 1984: 217 (synonymized by Olmi 1993c); type locality: Nova Teutonia (Santa Catarina, Brazil); Olmi 1993c: 25.

Description. Female. Fully winged; length 4.6–4.8 mm. Head black, except mandible, clypeus and anterior surface of face testaceous; antenna testaceous; mesosoma black, except prothorax reddish; metasoma brown-black; legs testaceous. Antenna slightly clavate; antennal segments in following proportions: 15:8:20:18:14:13:10:10:13. Head dull, completely reticulate rugose; face with three slight median longitudinal keels, in addition to two lateral keels around orbits; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 4; OOL = 13; OPL = 12; TL = 12. Pronotum hairy, shiny, crossed by strong transverse impression; posterior surface about as long as broad, finely punctate, unsculptured among punctures, with two slight dorsal lobes parallel to lateral margins of pronotum; pronotum reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface dull, reticulate rugose, with two longitudinal keels and median area as rugose as lateral areas. Fore wing with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (13:14). Protarsal segments in following proportions: 12:3:7:12:30. Enlarged claw (Plate 58H) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 58H) with three rows of about 26 lamellae; distal apex with about 15 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 3.2–4.2 mm. Head black, except mandible and clypeus testaceous; occasionally clypeus black; antenna testaceous; mesosoma black; metasoma brown-black; legs testaceous, except coxae, clubs of femora, meso- and metaventia partly black or brown. Antenna filiform; antennal hairs longer than breadth of antennal segments; antennal segments in following proportions: 13:7:13:12:12:11:10:10:12. Head shiny, strongly reticulate rugose; face with two median longitudinal keels; vertex with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 5; OOL = 12; OPL = 11; TL = 12. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose; posterior surface with or without two complete longitudinal keels and a median area reticulate rugose and sculptured by strong transverse keels; rarely median area smooth and shiny. Fore wing hyaline and without dark transverse bands, or with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (10:9). Paramere (Plate 58E, F, G) with large and long distal inner branch wrapping penis, without dorsal proximal membranous process. Tibial spurs 1/1/2.
**Material examined.** Types: ♂ holotype of *A. hirticornis*: MEXICO: Veracruz, Atoyac, May, H.H.S., Godman-Salvin collection 1904 (BMNH); ♀ holotype of *D. eminens*: BRAZIL: Santa Catarina, Nova Teutonia, 11.XI.1944, F. Plaumann leg. (BMNH). Paratype of *D. eminens*: BRAZIL: Minas Gerais, S.ta Barbara, 1♀ (AEIC). **Other material:** ARGENTINA: Misiones, Loreto, 21–25.VIII.2000, Malaise trap, Fidalgo leg., 3♂♂ (IFML); Tucumán, Horco Molle (AMNH). BRAZIL: Bahia, Nova Conquista (AEIC); Bahia, Encruzilhada (CNC); Rondônia, 62 km SE of Ariquemes (DBUSU); Roraima, Serra Grande (DBUSU); Roraima, Surumú (AEIC, AMNH); São Paulo, Teodoro Sampaio (AEIC, AMNH). COSTA RICA: Alajuela, 20 km S of Upala (DBUSU); Guanacaste, 14 km S of Cañas (DBUSU); Guanacaste, S of Cañas Experimental Station (DBUSU); Guanacaste, 20 km SW of Cañas, Enrique Jimenez Nuñez Experimental Station, 5–17.XI.1991, Malaise trap, A.S. Menke leg., 1♀ (USNM); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Guanacaste, 3 km SE of Rio Naranjo, Finca Montezuma (DBUSU); Puntarenas, Golfo Dulce Forest Reserve, 10 km W of Piedras Blancas, 100 m (AMNH, EBUC); Puntarenas, Golfo Dulce Forest Reserve, 24 km W of Piedras Blancas, 200 m (AMNH, EBUC); S. José, 2 km S of Ciudad Colón, 19.XI.1991 (USNM). ECUADOR: Orellana, Coca (=Puerto Francisco de Orellana) (AEIC); Orellana, Confluence of Napo and Coca Rivers (AEIC, AMNH). GUATEMALA: Zacapa, Rio Hondo (PMA). HONDURAS: Yoro, Palo de Comba, 15°11′N 87°39′W (ZIL). MEXICO: Guerrero, 5 mi N of Chilpancingo, 24.VIII.1958 (CNC); Guerrero, 18.2 mi S of Iguala (DETAM); Jalisco, Puerto Vallarta (DBUSU); Jalisco, Chamela (DBUSU); Jalisco, Chamela Research Station, 13–16.VII.1899 (AMNH, DBUSU, NAMUK); Jalisco, Chamela Research Station, Camino “el ardillo”, 440′, 26–31.VII.1996, selva mediana, Malaise trap, Gonzalez & Woolley leg., 1♂ (DETAM); Jalisco, 18 mi N of Barra de Navidad (DBUSU); Jalisco, Careyes (DBUSU); Michoacan, 15 mi W of Distrito Federal on Morelia Hwy., 5.IX.1938 (NAMUK); Nayarit, 8 mi NW of Acaponeta, Rio de Las Cenayas (CAS); Quintana Roo, Felipe Carrillo Puerto (DBUSU); Veracruz, Texolo Falls, 3 km SSE of Xico, 1.I.1982 (NAMUK); Vera Cruz (MSU); Veracruz, Acayucan (DEUCD). PARAGUAY: Central, Capiatá, 3.X.1993, B. Garcete & C. Aguilar leg., 1♂ (MNHN); Concepción, Estancia Santa Herminia, 23°24.137′S 56°30.336′W, 173 m, 2.X–8.XI.2003, forest edge, Malaise trap, B. Garcete leg., 2♂♂ (MNHN).

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Paraguay.

**Remarks.** *Deinodyrus hirticornis* is very similar to the Nearctic species *D. atriventris* (Cresson). In the female the main difference regards the presence of two longitudinal keels on the posterior surface of the propodeum of *D. hirticornis* (in *D. atriventris* no keels are visible).

41. *Deinodyrus horcanus* Olmi, 1987

(Plate 58I)


**Description. Male.** Fully winged; length 3.1–4.4 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except meso- and metacoxa partly black. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 15:9:20:14:12:14. Head shiny, punctate, unsculptured among punctures; face with two oblique keels joining antennal grooves to eyes; region between antennal grooves sculptured by transverse keels or some areolae; occiput with two longitudinal furrows near posterior ocelli; POL = 7; OL = 3; OOL = 12; OPL = 15; TL = 14. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.75–0.80 length of scutum. Propodeum dull, reticulate rugose; posterior surface with two fading longitudinal keels. Fore wing hyaline, without dark transverse bands; occasionally fore wing slightly darkened. Paramere (Plate 58I) with very reduced inner branch. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined. Type:** ♂ holotype: ARGENTINA: Tucumán, Horco Molle (MCZ). **Other material:** ARGENTINA: Misiones, Dos de Mayo (AMNH, IIS); Misiones, Loreto, 19.II.1930 (FCNM). BRAZIL: São Paulo, Teodoro Sampaio (AMNH, PMA). ECUADOR: Sucumbios, Sacha Lodge, 00°05′S 76°05′W, 290 m (NHMLA).

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Ecuador.

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42. *Deinodryinus hubertianus* Olmi, 2011
(Plate 59A, B)

*Deinodryinus hubertianus* Olmi 2011b: 45; Olmi 2012: 34.

**Description.** *Female.* Fully winged; length 7.2 mm. Head black, except mandible, clypeus and small frontal area around antennal toruli testaceous-ferruginous; antenna brown, except segments 1–2 and 8–10 testaceous; mesosoma black, except part of lateral regions of pronotum and part of pronotal tubercle testaceous; metasoma brown; legs brown, except part of trochanters, part of club of metafemur, chela and part of protarsus testaceous. Antenna clavate; antennal segments in following proportions: 22:10:33:18:14:15:12:12:10:13. Head very hairy, shiny; face sculptured by complete frontal line connecting anterior ocellus to clypeus and by four longitudinal keels located on sides of frontal line and not reaching clypeus; vertex with many short longitudinal keels, behind ocellar triangle with two incomplete oblique keels not connecting posterior ocelli to occipital carina, but reaching only about mid length of OPL; posterior half of vertex smooth; occipital carina complete; ocellar triangle slightly convex; POL = 3; OL = 2; OOL = 19; OPL = 20; TL = 20; greatest breadth of posterior ocelli much longer than OL (5:2). Pronotum shiny, hairy, finely punctate and unsculptured among punctures, crossed by anterior transverse impression; posterior surface flat, about as long as anterior surface, slightly shorter than scutum (28:32); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching about 0.8 length of scutum. Propodeum not reticulate rugose; dorsal surface strongly punctate and with two triangular smooth unsculptured areas (Plate 59B); posterior surface completely strongly punctate, without longitudinal keels, with a small central area less punctate. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (26:20). Protarsal segments in following proportions: 17:3:15:24:49. Enlarged claw (Plate 59A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 59A) with two rows of approximately 46 + 19 lamellae; distal apex long, forming right angle with rest of segment, provided of about 22 lamellae. Tibial spurs 1/1/2.

*Male.* Unknown.

**Material examined.** **Type:** ♀ holotype: FRENCH GUIANA: Roura, Montagne des Chevaux, 04°43’N 52°19’W, 50 m, 16.XI.2008, interception trap mounted by SEAG, Hubert and Marc Tussac leg. (MHNG).

**Hosts.** Unknown.

**Distribution.** French Guiana.
43. *Deinodryinus huggerti* Olmi, 1991
(Plate 58J)


**Description.** *Male.* Fully winged; length 1.8–2.1 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs brown, except tarsi and protibia testaceous. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 8:5:7:5:5:6:6:6:5:7.5. Head shiny, finely punctate and slightly granulated; frontal line absent; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete, deeply excavated behind ocellar triangle; POL = 4; OL = 2; OOL = 4; OPL = 4; TL = 3. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum dull, reticulate rugose, without longitudinal or transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein slightly shorter than proximal part (6:7). Paramere (Plate 58J) with small distal inner branch not provided of papillae. Tibial spurs 1/1/2.

*Female.* Unknown.


**Hosts.** Unknown.

**Distribution.** Brazil, Costa Rica, Peru.

**Remarks.** The male of this species is very similar to that of *D. costaricanus*; however, in *D. huggerti* the notauli are shorter and the inner band of paramere is more reduced.

44. *Deinodryinus hymenaeus* Olmi, 1984
(Plate 59C)


**Description.** *Female.* Fully winged; length 3.9–4.2 mm. Head black, with mandible, clypeus and anterior region of face testaceous; antenna brown, except segments 1–2 testaceous; mesosoma testaceous-reddish; petiole black; metasoma brown, except segment 1 testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 14:7:19:10:9:9:7:10. Head shiny; face sculptured by numerous areolae and some longitudinal keels; frontal line present; vertex behind and on sides of ocellar triangle smooth, punctate and unsculptured among punctures, not rugose, with two short oblique incomplete keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 11; OPL = 10; TL = 10. Pronotum shiny, smooth, crossed by strong transverse impression; posterior surface approximately as long as broad, not rugose, unsculptured, with two slight dorsal longitudinal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface with central smooth area. Fore wing with two dark transverse bands; distal part of stigmatic vein approximately as long as proximal part. Protarsal segments in following proportions: 11:2.5:5.5:11:26. Enlarged claw (Plate 59C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 59C) with two rows of approximately 26 lamellae; distal apex with about eight lamellae. Tibial spurs 1/1/2.

*Male.* Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Paraguay.
45. *Deinodryinus iguaquensis* Olmi, 2004

(Plate 59D)

*Deinodryinus iguaquensis* Olmi 2004a: 147.

Description. **Female.** Fully winged; length 4.0–4.6 mm. Head black, except mandible, clypeus and gena testaceous; face black, except small testaceous spot located between antennal toruli near clypeus and two testaceous stripes along orbits; antenna black; mesosoma black, except lateral margins of pronotum and pronotal tubercle testaceous; scutum black, except large medial testaceous spot in posterior half; metasoma testaceous; legs testaceous, except metacoxa basally black. Antenna clavate; antennal segments of holotype in following proportions: 15:8:17:13:12:13:12:11:14. Head slightly convex, shiny; vertex and temple finely punctate, unsculptured among punctures; face strongly punctate, granulated and rugose in holotype; face almost completely punctate and unsculptured among punctures in paratype; frontal line absent (face with complete longitudinal slender furrow on place of keel); face without lateral keels; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 2.5; OOL = 10.5; OPL = 10; TL = 10. Pronotum anteriorly crossed by slight transverse impression, shiny, smooth, punctate, unsculptured among punctures; posterior surface of pronotum approximately as long as broad, shorter than scutum (11:22), with lateral margins rounded; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.7 length of scutum. Propodeum reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface almost completely dull and strongly reticulate rugose, except for very small central area slightly rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (20:13). Protarsal segments of holotype in following proportions: 13:3.5:5.5:9:24. Enlarged claw (Plate 59D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 59D) with two rows of approximately 17–18 lamellae; distal apex with about 15–17 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Colombia.

46. *Deinodryinus incaicus* Olmi, 1984

(Plate 59E, F)


Description. **Female.** Fully winged; length 4.4–4.8 mm. Head completely testaceous; occasionally black, except mandible and clypeus testaceous; occasionally head black, except anterior half of face testaceous; antenna totally testaceous; occasionally segments 6–10 or 7–10 brown; mesosoma totally black; occasionally prothorax totally testaceous; occasionally prothorax black, except margins of pronotum testaceous; metasoma black; legs totally testaceous; occasionally meso- and metacoxa partly black; occasionally coxae, meso- and metatibia, club of meso- and metatibia black. Antenna clavate; antennal segments in following proportions: 14:7:21:11:9:10:8:7:10. Head shiny; face with central area located in front of anterior ocellus sculptured by some longitudinal keels; face without lateral keels; vertex smooth, finely punctate, unsculptured among punctures or slightly or strongly granulated; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina (occasionally with two fading oblique hardly visible keels); in specimen from Paraguay, Naranjo, region behind ocellar triangle sculptured by many short oblique keels; occipital carina complete; POL = 10; OL = 2.5; OOL = 10.5; OPL = 10; TL = 9. In specimen from Brazil, 14°15′50.80″S 59°14′02.05″W, head granulated, except anterior half of face rugose; face with complete frontal line and two lateral keels around orbits. Pronotum shiny, crossed by
strong anterior transverse impression; posterior surface smooth, flat, finely punctate, unsculptured among punctures, without dorsal lobes; occasionally posterior surface slightly granulated; occasionally anterior surface slightly rugose; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum dull, reticulate rugose; dorsal surface with wide areolae; posterior surface with smaller areolae, without longitudinal keels. In two specimens from Paraguay, Naranjo, and Brazil, 14°15'50.80''S 59°14'02.05''W, posterior surface of propodeum almost completely smooth and unsculptured. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (21:17). Protarsal segments in following proportions: 11:2:6:20:33. Enlarged claw (Plate 59E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 59E) with two rows of approximately 52 lamellae; distal apex with about five lamellae, one of which very long. Tibial spurs 1/1/2. In specimen from Brazil, 13°52.04'S 48°23.11'W, face granulated and weakly rugose, with complete frontal line and two lateral keels around orbits; region behind ocellar triangle strongly granulated and with two fading oblique hardly visible keels; posterior surface of propodeum shiny, almost completely smooth and sculptured by circular striae; segments of protarsus in following proportions: 9:3.5:4:15:2.

Male. Fully winged; length 1.9–3.4 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous. Antenna filiform, with hairs much longer than breadth of segments; antennal segments in following proportions: 14:6:15:9:10:10:11:10:11. Head shiny, with face completely reticulate rugose or partly sculptured by longitudinal keels; vertex punctate, unsculptured among punctures or slightly granulated, not reticulate rugose; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; frontal line complete; occipital carina complete; POL = 5.5; OL = 3; OOL = 7; OPL = 7; TL = 5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (12:14). Paramere (Plate 59F) with large inner branch wrapping penis; in specimen from Brazil, 62 km S of Ariquemes, inner margin of paramere serrate. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Argentina, Bolivia, Brazil, Colombia, Costa Rica, Dominica, Ecuador, Mexico, Panama, Paraguay, Venezuela.
Deinodryinus inermis Olmi, 1984
(Plate 60A–C)


Deinodryinus pseudoinermis Olmi 1987a: 378 (synonymized by Olmi et al. 2000); type locality: Hacienda COMELCO (Guanacaste Prov., Costa Rica); Rasmussen & Asenjo 2009: 22.

Description. Male. Fully winged; length 3.4–4.4 mm. Head black, except mandible testaceous; clypeus totally black or partly testaceous; antenna testaceous; mesosoma and metasoma black; legs totally testaceous, or with coxae, clubs of femora and metatibia partly black. Antenna filiform; antennal hairs much longer than breadth of antennal segments; antennal segments in following proportions: 17:8:15:13:14:12:9:11:11:11. Head reticulate rugose; face with three median longitudinal keels; region of vertex behind ocellar triangle with two strong oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 4; OOL = 12; OPL = 11; TL = 11; TL slightly shorter than eye, or 0.5 as long as eye. Surface of head between ocellar region and temple usually reticulate rugose; occasionally smooth, punctate, unsculptured among punctures. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose and with some transverse keels; posterior surface with two hardly visible longitudinal keels, lateral areas reticulate rugose and median area as rugose as lateral areas, or shiny and almost smooth. Fore wing usually hyaline, without dark transverse bands; occasionally fore wing with two dark transverse bands; distal part of stigmal vein about as long as proximal part, or slightly shorter (11:13). Paramere (Plate 60A, B, C) without distal inner branch wrapping penis, with or without small distal lobe sculptured or not by papillae on inner side (Plate 60A, B, C). Tibial spurs 1/1/2.

Female. Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Costa Rica, Ecuador, Honduras, Mexico, Panamá, Peru, Trinidad and Tobago, Uruguay.


(Plate 60D)


**Description. Female.** Fully winged; length 3.2–4.6 mm. Head black, except mandible, clypeus and anterior region of face testaceous (in small specimen (3.25 mm) from Guatemala, Antigua, head totally black, except mandible testaceous); antenna totally testaceous, or with segments 6–10 or 8–10 darkened; mesosoma black, except pronotal tubercle, lateral and posterior margins of pronotum testaceous; occasionally mesosoma totally black; metasoma brown; legs testaceous, except basal region of metacoxa black; occasionally legs testaceous, except clubs of femora black. Antenna clavate; antennal segments in following proportions: 13:8:18:11:9:9:8:8:8:10. Head dull, granulated, with some irregular keels on anterior half of face; frontal line incomplete, only present near clypeus; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 2.5; OOL = 7; OPL = 7; TL = 9. In small specimen (3.2 mm) from Guatemala, Antigua, face completely smooth, with only two longitudinal keels parallel to orbits and directed towards antennal toruli. Pronotum shiny, alutaceous, with numerous transverse keels; posterior surface flat, about as broad as long, shorter than scutum (15:20); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.6 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein longer than proximal part (18:10). Protarsal segments in following proportions: 10:3:6:18:27. Enlarged claw (Plate 60D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 60D) with two rows of approximately 33–47 lamellae; distal apex with four-six lamellae, among which one very long. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type: ♂ holotype: PERU: Cusco, Quillabamba, 26.XII.1983, L. Huggert leg. (PMA).**

**Other material:** ARGENTINA: Misiones, Loreto, 25.XI.1929 (FCNM). GUATEMALA: Antigua, 1500–1600 m, VI.1981 (AMNH).

**Hosts.** Unknown.

**Distribution.** Argentina, Guatemala, Peru.
49. *Deinodryinus insignis* Olmi, 1984  
(Plate 60E)


**Description. Female.** Fully winged; length 4.0–4.6 mm. Head black, except mandible, clypeus, anterior half of face and ventral side testaceous (in specimen from Colombia, Caño Mata-Mata, head black, except mandible, clypeus and malar space testaceous); antenna testaceous, except segments 7–10 brown; mesosoma and metasoma testaceous-reddish (in specimen from Colombia, Caño Mata-Mata, anterior collar of pronotum black); petiole black; legs testaceous, except metacoxa partly black. Antenna clavate; antennal segments in following proportions: 15:8:24:13:9:7:7:7:10. Head dull, completely reticulate rugose and with irregular keels; face with three median longitudinal keels, in addition to two lateral keels around orbits; vertex behind ocellar triangle with numerous longitudinal keels; occipital carina complete; POL = 3; OL = 3; OOL = 12; OPL = 12; TL = 10. Pronotum shiny, smooth, with slight transverse striae on median region, with two dorsal lobes on posterior region; prontal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface smooth and unsculptured; in two specimens from Colombia, Caño Mata-Mata, posterior surface of propodeum only partly smooth. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (24:17). Protarsal segments in following proportions: 12:4:8:12:27. Enlarged claw (Plate 60E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 60E) with two rows of approximately 26 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Bolivia, Brazil, Colombia.

50. *Deinodryinus iphias* Olmi, 1984  
(Plate 61A, B)


**Description. Female.** Fully winged; length 3.6–3.7 mm. Head black, except mandible and clypeus testaceous; occasionally anterior half of face testaceous; antenna brown, except segments 1–3 testaceous; occasionally antenna completely testaceous; mesosoma black, except posterior margin of pronotum testaceous; metasoma black; legs testaceous, except metacoxa and clubs of femora partly brown or black. Antenna clavate; antennal segments in following proportions: 12:7:17:12:10:9:9:10:9:9:10. Head dull, punctate and granulated, smooth; face without median and lateral keels; frontal line absent; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 4; OOL = 8; OPL = 8; TL = 7. Pronotum shiny, anteriorly crossed by strong transverse impression; posterior surface approximately as long as broad, rugose, sculptured by some transverse striae, smooth near posterior margin; prontal tubercle reaching tegula. Scutum shiny, smooth, finely punctate, very slightly granulated. Notauli incomplete, almost reaching posterior margin of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface completely reticulate rugose. Fore wing with two slight dark transverse bands; in specimen from Argentina, Santa Cruz, fore wing hyaline, without dark transverse bands. Distal part of stigmal vein shorter than proximal part (12:15). Protarsal segments in following proportions: 11:3:7:20:27. Enlarged claw (Plate 61A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 61A) with two rows of approximately 39 lamellae; distal apex with about five lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 2.7–3.0 mm. Head black, except mandible testaceous; antenna brown, except segment 1 testaceous; mesosoma and metasoma black; legs testaceous, except pro- and metacoxa partly brown,
metatibia darkened and clubs of femora partly brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 13:7:17:9:10:11:11:11:11:11:13. Head smooth, dull, punctate and granulated, without keels; face without lateral and median keels, except a short keel from eyes to antennal toruli; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; frontal line absent; occipital carina complete; POL = 6; OL = 3; OOL = 8; OPL = 8; TL = 7. Scutum shiny, punctate and slightly granulated. Notauli incomplete, almost reaching posterior margin of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; posterior surface reticulate rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (9:14). Paramere (Plate 61B) with very reduced distal inner branch. Tibial spurs 1/1.


Hosts. Unknown.

Distribution. Argentina, Brazil.

Deinodryinus iphias Olmi, 1991
(Plate 61C)


Description. Male. Fully winged; length 3.1–3.7 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs brown, except articulation, trochanters, tarsi and protibia testaceous. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 13:9:16:10:11:12:12:11:11:13. Head shiny, strongly punctate, unsculptured among punctures; face with two median longitudinal keels, in addition to two keels around orbits (area between median keels and on sides punctate and with transverse folds); region behind ocellar triangle punctate, unsculptured among punctures, with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 8; OPL = 9; TL = 10. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Propodeum dull, without transverse or
longitudinal keels; dorsal surface reticulate rugose; posterior surface reticulate rugose and with a central shiny and smooth area. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (12:14). Paramere (Plate 61C) with large inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Brazil.

52. Deinodyrinus irwini Olmi, 1991
(Plate 61D)

Description. Male. Fully winged; length 3.8 mm. Completely black. Antenna filiform, with hairs shorter than breadth of segments; antennal segments in following proportions: 12:7:11:11:10:9:8:10. Head shiny, with face reticulate rugose and vertex finely punctate and unsulptured among punctures; frontal line almost complete, interrupted in front of anterior ocellus; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 9; OL = 4; OOL = 8; OPL = 8; TL = 10. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsulptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum; minimum distance between notauli longer than greatest breadth of posterior ocelli (10:4). Propodeum dull, reticulate rugose, without transverse or longitudinal keels; posterior surface reticulate rugose, with a small central area smooth, shiny and unsulptured. Fore wing with one small dark transverse band beneath pterostigma; distal part of stigmal vein longer than proximal part. Paramere (Plate 61D) with pointed distal inner branch. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Chile.

53. Deinodyrinus itenezi Olmi, 1984
(Plate 62A)

Description. Male. Fully winged; length 2.0 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except coxae slightly darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 12:7:5:5:5:5:5:5:5:6:11. Head shiny, reticulate rugose; face without longitudinal keels; region behind ocellar triangle with two hardly visible oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 10; OL = 8; OOL = 7; OPL = 6; TL = 5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsulptured among punctures. Notauli incomplete, reaching approximately 0.3 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, median area shiny and smooth and lateral areas rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (3:10). Paramere (Plate 62A) slightly shorter than penis, without large inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Type: ♂ holotype: BOLIVIA: Beni, Río Itenez (AMNH).

Hosts. Unknown.

Distribution. Bolivia.
PLATE 62. A, B, C, D. Male genitalia of holotypes. E. Chela of holotype. F. Pronotum of female holotype in dorsal view. A. Deinodryinus itenezi. E, F. D. kawensis. B. D. latens. C. D. latifrons. D. D. levigatus. Scale bar 0.08 mm for A, 0.19 mm for B, 0.11 mm for C, 0.13 mm for D. 0.14 mm for E, 0.28 mm for F.

54. Deinodryinus kawensis Olmi, 2011
(Plate 62E, F)

Deinodryinus kawensis Olmi 2011b (April): 47; Olmi 2012: 34.
Deinodryinus caxiuana Coelho, Aguiar & Engel 2011 (June 7): 4, syn. nov.; type locality: Caxiuana (Pará, Brazil).

Description. Female. Fully winged; length 3.1–3.9 mm. Head testaceous, except antennal scrobes, ocellar triangle and occipital carina brown; antenna testaceous; prothorax testaceous; rest of mesosoma black, except scutellum, posterior half of median surface of scutum and partly metanotum testaceous; metasoma brown-testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 10:6:16:9:8:7:7:6:8:5. Head smooth, completely granulated; frontal line absent; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete. In type of D. kawensis, head with POL = 2; OL = 3; OOL = 7; OPL = 7; TL = 6; greatest breadth of posterior ocelli about as long as OL. In type of D. caxiuana head with POL = 2; OL = 2; OOL = 8; OPL = 8; TL = 8; greatest breadth of posterior ocelli longer than OL (3:2). Pronotum shiny, with posterior surface flat, approximately as broad as long, almost completely punctate and unsculptured among punctures, with margins sharp (Plate 62F); pronotal tubercle reaching tegula; anterior collar transversely striate. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli incomplete, reaching approximately 0.6 length of scutum. Propodeum with slight transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface rugose, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmatic vein much longer than proximal part (14:8). Protarsal segments in following proportions: 8:2:5:15:24. Enlarged claw (Plate 62E) with one bristle located further distally than proximal prominence. In D. kawensis, segment 5 of protarsus (Plate 62E) with two rows of approximately 21 + 31 lamellae; distal apex with about five lamellae, among which one very long. In D. caxiuana segment 5 of protarsus partly damaged, with two rows of about 34 lamellae; distal apex with three lamellae, among which one very long. Tibial spurs 1/1/2.

Male. Unknown.

**Hosts.** Unknown.

**Distribution.** Brazil, French Guiana.

**Remarks.** *D. caxiuana* is here synonymized with *D. kawensis* following the comparison of the types of both species. The only difference between the two species is the different ratio POL/OL: in *D. kawensis* POL = 2; OL = 3; in *D. caxiuana* POL = 2; OL = 2. The colour is almost like, though the mesopleuron is completely black in *D. kawensis* and partly testaceous in *D. caxiuana*. The chela is similar in both species, though apparently it is different on the basis of the original descriptions: segment 5 of protarsus with one row of about ten lamellae in *D. caxiuana*, two rows of 21 + 31 lamellae in *D. kawensis*. Really however, in the type of *D. caxiuana* the segment 5 of protarsus is damaged and the lamellae are only partly present, but it is possible to count 34 lamellae forming two rows. The authors believe that the above differences do not justify a separation between the two species.

55. *Deinodryinus latens* Olmi, 1991
(Plate 62B)


**Description.** Male. Fully winged; length 4.0–4.5 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except meso- and metacoxa partly brown. In specimen from Argentina, Pocitos, clypeus partly black and partly reddish. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 17:9:21:12:14:14:14:14:12:15. Head shiny, punctate, unsculptured among punctures; anterior half of face reticulate rugose; face without longitudinal keels; frontal line absent; region behind ocellar triangle with two complete or incomplete oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 4; OOL = 13; OPL = 12; TL = 10. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum dull, reticulate rugose, without longitudinal or transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (20:15). Paramere (Plate 62B) with large distal inner branch. Tibial spurs 1/1/2.

Female. Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Paraguay.

56. *Deinodryinus latifrons* Olmi, 1993
(Plate 62C)


**Description.** Male. Fully winged; length 2.6–2.7 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs yellow, except metacoxa partly black and metatibia and club of metafemur brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 10:6:9:7:8:9:8:8:7:10. Head shiny, with face smooth, granulated; frontal line complete; face with furrow around orbits; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital
carina complete; furrow along occipital carina crossed by strong transverse keels; ocellar triangle surrounded by strong areolae; POL = 5; OL = 2; OOL = 7; OPL = 8; TL = 8. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli incomplete, reaching approximately 0.6 length of scutum. Propodeum dull, reticulate rugose, without longitudinal and transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (4:7). Paramere (Plate 62C) with proximal inner reduced branch. Tibial spurs 1/1/2.

Female. Unknown.


Other material: COSTA RICA: Guanacaste, 3 km SE Rio Naranjo (AMNH).

Hosts. Unknown.


57. Deinodryinus levigatus Olmi & Virla, sp. nov.

(Plate 62D)

Description. Male. Fully winged; length 2.4–3.7 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs brown, except articulations and part of trochanters testaceous. Antenna filiform, with hairs much longer than breadth of segments; antennal segments in following proportions: 10:5:10:5:8:8:7:7:7:7:7:7:8. Head shiny, with face completely reticulate rugose and with three weak median longitudinal keels and two lateral keels around orbits; vertex punctate, unsculptured among punctures, not reticulate rugose; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 7; OPL = 7.5; TL = 7; greatest breadth of posterior ocelli about as long as OL. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching about 0.4–0.7 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface shiny, finely punctate, unsculptured among punctures, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (6:9). Paramere (Plate 62D) with large inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Types: ♂ holotype: PERU: Lamabayeque Prov., Lamabayeque, 06°42.86’S 79°54.07’W, 40 m, 9.II.2006, vegetation coastal dunes, Malaise trap, M.E. Irwin & G. Anton leg., 1 ♂ (MUSM). Paratypes: same locality label as holotype, 5 ♂♂ (3 in UCFC, 2 in MOLC); same locality label as holotype, 3.I.2006, 3 ♂♂ (UCFC); same locality label as holotype, 5.I.2006, 2 ♂♂ (UCFC); same locality label as holotype, 3.IV.2006, 3 ♂♂ (MOLC).

Hosts. Unknown.

Distribution. Peru.

Etymology. Levigatus is a Latin adjective meaning smooth (aspect of posterior surface of propodeum).

58. Deinodryinus lussenhopi Olmi, 1998

(Plate 63A)


Description. Male. Fully winged; length 2.7–3.5 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous, except stalk of metafemur darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 14:7:20:10:11:10:5:10:10:14. Head with face sculptured by numerous parallel longitudinal keels; surface among above keels strongly punctate; frontal line complete; temple smooth, punctate, unsculptured among punctures; region behind ocellar triangle sculptured by many longitudinal keels; occipital carina complete; POL = 5; OL = 2.5; OOL = 8; OPL = 9; TL = 6. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum dull, with dorsal surface
Deinodryinus maugeri Olmi, 2008

(Plate 63B)


Description. Female. Fully winged; length 5.4 mm. Head black, except mandible, clypeus and gena testaceous; antenna testaceous, except segments 5–10 brown; prothorax testaceous-reddish; rest of mesosoma black; metasoma testaceous-darkened; legs testaceous, except stalk of metafemur and metatibia brown. Antenna clavate; antennal segments in following proportions: 16:9:24:14:10:9:8:8:11. Head slightly convex, dull, hairy, reticulate rugose, except vertex behind posterior ocelli smooth, punctate, unsculptured among punctures; face with complete frontal line and two strong lateral keels located around eyes and reaching antennal toruli; vertex behind ocellar triangle without two incomplete oblique keels reaching about 0.5 length of OPL; occipital carina complete; POL = 5; OL = 4; OOL = 16; OPL = 15; TL = 17; greatest breadth of posterior ocelli shorter than OL (3:4). Pronotum hairy, anteriorly crossed by slight transverse impression, shiny, with anterior surface slightly sculptured by transverse keels; posterior surface smooth, punctate, unsculptured among punctures; posterior surface of pronotum shorter than broad (18:29), shorter than scutum (18:28), with lateral margins rounded and slightly longitudinally prominent; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Propodeum reticulate rugose, without transverse keel between dorsal and posterior surface; dorsal surface dull, reticulate rugose; posterior surface dull, with two complete longitudinal keels, median area strongly sculptured by many transverse keels and lateral areas almost reticulate rugose. Fore wing hyaline, with two dark transverse bands; distal part of stigmal vein reticulate rugose; posterior surface with two longitudinal keels, lateral areas rugose and median area rugose and with a small central smooth and shiny area. Fore wing slightly darkened; distal part of stigmal vein about as long as proximal part. Paramere (Plate 63A) with inner margin sculptured by many papillae, with reduced inner branch. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Type: ♂ holotype: BOLIVIA: Beni, Río Mamoré, 5 km NW mouth of Río Grande, 1–6.VIII.1965, Bouseman & Lussenhop leg. (AMNH). Paratype: same locality label as holotype, 1♂ (AMNH).

Hosts. Unknown.

Distribution. Bolivia.
slightly longer than proximal part (16:15). Protarsal segments in following proportions: 13:4:11:16:40. Enlarged claw (Plate 63B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 63B) with two rows of 13 + 28 lamellae; distal apex with at least 25 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Guatemala.

60. *Deinodyrinus maximus* Olmi, 1984
(Plate 63C)


Description. Female. Fully winged; length 5.3–7.5 mm. Head black, except mandible, clypeus and anterior surface of face testaceous; antenna brown, except segments 1–3 or 1–5 testaceous; mesosoma and metasoma black; legs testaceous, except part of coxae and clubs of femora black; distal extremity of metatibia brownish. Antenna clavate; antennal segments in following proportions: 25:10:27:20:17:14:14:13:17. Head shiny, finely punctate, unsculptured among punctures; face with three median longitudinal keels connecting anterior ocellus to clypeus; clypeus with median longitudinal keel; face with a strong keel around orbits; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; ocellar triangle with lateral longitudinal furrow; POL = 5; OL = 5; OOL = 18; OPL = 19; TL = 20. Pronotum hairy, shiny, smooth, finely punctate, unsculptured among punctures; pronotum anteriorly crossed by a transverse impression; posterior surface centrally excavated; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Propodeum with dorsal surface reticulate rugose, with two–three rows of areolae in front of posterior surface; posterior surface shiny, smooth, strongly punctate. Mesopleuron with anterior surface dull and strongly punctate; posterior surface shiny and finely punctate. Metapleuron dull and strongly punctate. Fore wing totally darkened, without dark transverse bands; distal part of stigmal vein approximately as long as proximal part. Hind wing totally darkened. Protarsal segments in following proportions: 12:4:6:15:26. Enlarged claw (Plate 63C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 63C) double-S shaped, with one row of about 23 lamellae; intermediate region with group of approximately 22 lamellae; distal apex with group of about nine lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. French Guiana, Peru.

61. *Deinodyrinus melanocephalus* (Cameron, 1888)
(Plate 63D)

*Dryinus melanocephalus* Cameron 1888: 446.
*Bocchus melanocephalus* (Cameron): Kieffer 1914: 46.

around orbits; face with two parallel longitudinal keels connecting ocelli to clypeus (area between keels with fading further median longitudinal keel (frontal line)); vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina strong and complete; POL = 5; OL = 3; OOL = 12; OPL = 9; TL = 11. Pronotum hairy, shiny, smooth, finely punctate, crossed by transverse impression; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.75 length of scutum. Propodeum shiny, sculptured by slight keels, without keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein approximately as long as proximal part (8:5:9). Protarsal segments in following proportions: 12:5:9:14:30. Enlarged claw (Plate 63D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 63D) with two rows of about 34 lamellae; distal apex with about eight lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Types: lectotype ♀ (designated by Olmi 1984): PANAMA: Chiriquí, Chiriquí Volcano, 2–3000 ft., Champion leg. (BMNH). Paralectotypes: same locality label as holotype, 1 ♀ (BMNH); PANAMA: Bugaba, Champion leg., 1 ♀ (BMNH).

**Hosts.** Unknown.

**Distribution.** Panama.

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**62. Deinodryinus minor Olmi, 1984**

(Plate 64A)


**Description. Female.** Fully winged; length 3.6 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma testaceous, except anterior half of pronotum brown; metasoma testaceous; legs testaceous. Antenna slightly clavate; antennal segments in following proportions: 13:7:17:14:12:11:11:11:11:14. Head dull, granulated; face with anterior half rugose, an incomplete frontal line and two slight lateral longitudinal keels; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 4; OOL = 7; OPL = 8; TL = 5. Pronotum shiny, anteriorly crossed by transverse impression, slightly granulated, completely sculptured by strong transverse keels, except small smooth area near posterior margin; posterior surface slightly broader than long (22:20); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (15:17). Protarsal segments in following proportions: 14:3:6:19:30. Enlarged claw (Plate 64A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 64A) with two rows of approximately 41 lamellae; distal apex with about six lamellae, among which one very long. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: BOLIVIA: Beni, Rio Itenez (AMNH).

**Hosts.** Unknown.

**Distribution.** Bolivia.

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**63. Deinodryinus montezumai Olmi, 1996**

(Plate 64B)


**Description. Female.** Fully winged; length 3.4 mm. Head black, except mandible and clypeus testaceous; antenna testaceous, except segment 1 brown; mesosoma testaceous-reddish, except propleuron and part of ventral side of mesothorax and metathorax brown; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 14:7:20:10:7:8:9:9:8:11. Head dull, granulated; face with complete frontal line and two
lateral longitudinal keels around orbits and directed towards antennal toruli; frontal region between the above keels granulated and sculptured by short transverse keels; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 2; OL = 4; OOL = 6; OPL = 9; TL = 7. Pronotum hairy, strongly sculptured by numerous transverse keels; posterior surface shorter than broad (12:21), shorter than scutum (12:22); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.7 length of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface rugose, without longitudinal keels, sculptured by numerous hardly visible transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Protarsal segments in following proportions: 10:2:6:6:26. Enlarged claw (Plate 64B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 64B) with two rows of approximately 33 lamellae; distal apex with about five lamellae, among which one very long. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.


PLATE 64. A–D. Chelae of holotypes. A. Deinodryinus minor. B. D. montezumai. C. D. morae. D. D. multicolor. Scale bar 0.13 mm for A, 0.18 mm for B, 0.12 mm for C, 0.25 mm for D.

64. Deinodryinus morae Virla, 1998
(Plate 64C)


Description. Female. Fully winged; length 2.8–3.4 mm. Head black, except mandible and clypeus testaceous; antenna testaceous, except segment 10 partly darkened; mesosoma black, except pronotal tubercle and lateral margins of pronotum testaceous; metasoma black; legs testaceous, except metacoxa partly brown-dark. Antenna clavate; antennal segments in following proportions: 7:4.5:10:5.5:5.5:4.5:4.5:4.5:4.5:4.5:6. Head dull, smooth, completely granulated; frontal line absent; face hairy; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3.5; OL = 3; OOL = 7; OPL = 6; TL = 9. Pronotum with posterior surface dull, granulated and rugose, shorter than scutum (8:12); pronotal tubercle reaching tegula. Scutum dull, strongly granulated. Notauli incomplete, reaching approximately 0.5–0.7 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, dull, without transverse or longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein about as long as proximal part. Protarsal segments in following proportions: 6:2:3:9:16. Enlarged claw (Plate 64C) with one
bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 64C) with two rows of approximately 43–48 lamellae; distal apex with about 5–10 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina.

65. Deinodryinus multicolor Olmi, 2004
(Plate 64D)


Description. Female. Fully winged; length 5.5 mm. Head black, except mandible, clypeus, gena and anterior region of face testaceous; antenna black, except segment 1 mostly testaceous; prothorax yellow-testaceous, except lateral regions of anterior collar brown; mesothorax, metathorax and propodeum black; metasoma testaceous; legs testaceous, except segments 1, 2 and 5 of meso- and metatarsus partly brown. Antenna clavate; antennal segments in following proportions: 19:10:34:26:20:17:13:12:12:15. Head slightly convex, shiny, hairy; vertex and temple finely punctate, unsculptured among punctures; face strongly sculptured by numerous longitudinal irregular keels; frontal line absent; face without lateral keels; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 4; OOL = 12; OPL = 9; TL = 12. Pronotum hairy, anteriorly crossed by strong transverse impression, shiny, smooth, punctate, unsculptured among punctures; posterior surface transverse, broader than long, shorter than scutum (14:32), with lateral margins prominent, with two strong transverse dorsal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, punctate, unsculptured among punctures. Notauli thin, incomplete, reaching approximately 0.7 length of scutum. Propodeum without transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose, dull; posterior surface shiny, not reticulate rugose, sculptured by numerous circular keels located around smooth central unsculptured area. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein shorter than proximal part (23:29). Protarsal spurs in following proportions: 16:5:9:20:38. Enlarged claw (Plate 64D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 64D) with two rows of approximately 40 lamellae; distal apex with at least 24 lamellae. Tibial spurs 1/1/2. In specimen from Brazil, 23°21.43'S 44°49.22'W, length 4.2 mm; antenna testaceous, except segments 5–10 darkened; posterior surface of propodeum completely shiny, smooth, without sculpture; fore wing with one large dark transverse band beneath pterostigma, in addition to a very small transverse spot beneath basal cells.

Male. Unknown.

Material examined. Type: ♀ holotype: COLOMBIA: Boyacá, SFF Iguaque, La Planada, 5°25.12'N 73°27.24'W, 2850 m, Malaise trap N. 518, 17.VIII–1.IX.2000, P. Reina leg. (IA VH). Other material: BRAZIL: São Paulo, Ubatuba Parque Estadual da Serra do Mar, 23°21.43’S 44°49.22’W, length 4.2 mm; antenna testaceous, except segments 5–10 darkened; posterior surface of propodeum completely shiny, smooth, without sculpture; fore wing with one large dark transverse band beneath pterostigma, in addition to a very small transverse spot beneath basal cells.

Hosts. Unknown.

Distribution. Brazil, Colombia.

66. Deinodryinus napensis Olmi, 1996
(Plate 65A, B)


granulated; frontal line absent; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli
to occipital carina; occipital carina complete; POL = 4; OL = 3; OOL = 9; OPL = 8; TL = 7. Pronotum with
posterior surface flat, approximately as broad as long, almost completely punctate and unsculptured among
punctures, with margins rounded (Plate 65B); pronotal tubercle reaching tegula. Scutum shiny, smooth, very
slightly granulated. Notauli incomplete, reaching approximately 0.7 length of scutum. Scutellum and metanotum
shiny, smooth, unsculptured. Propodeum with slight transverse keel between dorsal and posterior surface; dorsal
surface reticulate rugose; posterior surface rugose, without longitudinal keels. Fore wing with one dark transverse
band beneath pterostigma; distal part of stigmal vein much longer than proximal part (22:14). Protarsal segments in
following proportions: 12:3:6:25:37. Enlarged claw (Plate 65A) with one bristle located further distally than
proximal prominence. Segment 5 of protarsus (Plate 65A) with two rows of approximately 62 lamellae; distal apex
with about seven lamellae, among which one very long. Tibial spurs 1/1/2.

Male. Unknown.

leg. (ZIL).

Hosts. Unknown.

Distribution. Ecuador.

Brazil, Nova Teutonia. G. D. nigrolobatus, paratype from Brazil, Serra Grande. Scale bar 0.17 mm for A and E, 0.34 mm for B,
0.23 mm for C, 1.05 mm for D, 0.16 mm for F, 0.18 mm for G.

67. Deinodryinus nigricans (Cameron, 1888)
(Plate 65C, D)

Dryinus nigricans Cameron 1888: 446.
Plastodryinus nigricans (Cameron): Kieffer 1914: 43.
**Description. Female.** Fully winged; length 4.5 mm. Head black, except mandible and clypeus testaceous; antenna brown-testaceous, except segments 7–10 brown; mesosoma black; metasoma black, except distal apex testaceous; legs brown, except last segment of tarsi testaceous. Antenna clavate; antennal segments in following proportions: 14:9:22:12:9:8:7:8:7:10. Head dull, hairy, granulated, with numerous irregular longitudinal keels; face with three median parallel longitudinal keels connecting ocelli to clypeus, in addition to two lateral keels around orbits; occipital carina complete; POL = 3; OL = 3; OOL = 12; OPL = 11; TL = 12. Pronotum dull, hairy, crossed by slight transverse impression, with numerous irregular short keels; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum dull, smooth, granulated. Notauli incomplete, reaching approximately 0.75 length of scutum. Propodeum shiny, reticulate rugose, with transverse keel between dorsal and posterior surface; posterior surface with two irregular longitudinal keels and median area smooth. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part (20:12); marginal cell very wide (Plate 65D). Fore tarsal segment 1 shorter than segment 4 (9:15). Segment 3 of protarsus produced into hook. Enlarged claw (Plate 65C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 65C) with some rows of approximately 44 lamellae; distal apex with at least 16 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type: ♀ holotype: PANAMA: Chiriquí, Chiriquí Volcano, 3–4000 ft., Champion leg. (BMNH).**

**Hosts.** Unknown.

**Distribution.** Panama.

68. *Deinodryinus nigrolobatus* Olmi, 1984

(Plate 65E–G)


**Description. Female.** Fully winged; length 3.7–4.7 mm. Head black, except mandible testaceous; antenna brown or testaceous darkened; mesosoma completely black; occasionally margins of pronotum testaceous; metasoma black; legs totally testaceous; occasionally metacoxa and club of metafemur partly brown. Antenna slightly clavate; antennal segments in following proportions: 14:7:18:10:9:10:9:9:9:9:14. Head with face reticulate rugose; face without median and lateral keels; vertex behind ocellar triangle smooth, strongly punctate, unsculptured among punctures, without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 3; OOL = 10; OPL = 9; TL = 9. Pronotum shiny, crossed by anterior transverse impression; posterior surface about twice as broad as long, with two strong transverse lobes, with posterior half finely punctate and anterior half strongly transversely striate; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, very finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5 length of scutum. Propodeum reticulate rugose; posterior surface partly reticulate rugose and partly transversely striate. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein slightly shorter than proximal part (14:16). Protarsal segments in following proportions: 10:3:6:10:25. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 65E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 65E) with two rows of approximately 29 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 3.0–4.3 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except coxae and clubs of femora partly black or brown. Antenna filiform, with hairs much longer than breadth of segments; antennal segments in following proportions: 15:8:15:14:13:11:11:9:12. Head shiny, completely reticulate rugose; face with three median longitudinal keels, in addition to two keels around orbits; vertex with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 3.5; OOL = 11; OPL = 6; TL = 10. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. In specimen from Paraguay, Jejui-mi, notauli complete and posteriorly separated. Propodeum completely reticulate rugose; posterior surface reticulate rugose, without longitudinal keels; in specimen from Ecuador, E of S.to Domingo de los Colorados, propodeum with central area of posterior surface smooth and shiny;
in small specimen (3.0 mm) from Paraguay, Jejui-mi, propodeum with central area of posterior surface very slightly rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (13:14). In specimen from Costa Rica, 3 km SE of Rio Naranjo, distal region of fore wing darkened. Paramere (Plate 65F, G) with long subdistal inner branch wrapping penis. Occasionally inner side of distal extremity of paramere with some small papillae (Plate 65F, G). Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Costa Rica, Ecuador, Paraguay, Peru.

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**69. Deinodryinus nigrorufus Olmi, 1984**

(Plate 66A, B)


**Description. Female.** Fully winged; length 3.1–3.2 mm. Head and prothorax testaceous-reddish; antenna testaceous; occasionally antennal segments 3–10 or 4–10 dark; scutum reddish, with or without two lateral brown spots near the anterior margin; scutellum black, occasionally partly or totally reddish; metanotum and propodeum black; mesopleuron and ventral side of mesothorax and metathorax reddish; metapleuron black, except a reddish central spot; metasoma brown; legs testaceous, except metacoxa brown; occasionally club of metafemur and metatibia brown. In specimen from Costa Rica, 3 km SE of Rio Naranjo, head, propleuron and scutum black. In specimen from Chile, NW of Nueva Imperial, head, prothorax and scutum brown-reddish and antennae brown. Antenna clavate; antennal segments in following proportions: 10:5:13:8:7:5:5:6:9. Head dull, smooth, granulated, without areolae or keels; frontal line absent; occipital carina complete; POL = 4; OL = 2; OOL = 10; OPL = 7; TL = 8. Pronotum dull, granulated, with slight anterior transverse furrow; pronotal tubercle reaching tegula. Scutum hairless, shiny, smooth, very slightly granulated. Notauli almost complete, almost reaching posterior margin of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, hairy, reticulate rugose; dorsal surface with wide areolae; posterior surface with small areolae, without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (11:9). Protarsal segments in following proportions: 8:3:5:13:21. Enlarged claw (Plate 66B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 66B) double-S shaped, with two rows of approximately 31 lamellae; distal apex with about four lamellae, among which one very long. Tibial spurs 1/1/2.

**Male.** Fully winged; length 2.8–3.1 mm. Completely black, except legs brown. Antenna not distally thickened, with hairs shorter than breadth of segments; antennal segments in following proportions: 8:6:9:5:10:9:5:9:9:8:9. Head shiny, smooth, finely punctate, unsculptured among punctures; face without median or lateral keels; occipital carina complete; POL = 7; OL = 2; OOL = 6.5; OPL = 5; TL = 5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli complete, posteriorly separated; in specimen from Chilo, 35°01′S 70°48′W, notauli incomplete, but almost reaching posterior margin of scutum. Propodeum dull, reticulate rugose, without longitudinal or transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (9:10). Paramere (Plate 66A) with large and long inner apical branch wrapping penis. Tibial spurs 1/1/2.
Material examined. Types: ♀ holotype: CHILE: Los Lagos, Osorno Province, 10 km E of Puyehue (CAS). Eight paratypes: CHILE: same locality label as holotype, 2♀♀ (AMNH, CAS); Bio-Bio, Arauco Province, Cordillera Nahuelbuta, Pichinahuel, 1.IX.1959, L. Peña leg., 2♀♀ (AMNH, CNC); Bio-Bio, Nuble Province, Cobquecura (CNC); Maule, Caquenes Provinces, Tregualmu (CNC); Santiago Metropolitan Region, W of Santiago, Maipú, Hacienda Rinconada de Lo Cerda, Quebrada La Plata, 33°31’S 70°47’W, 1.I.1967, Stange leg., 1♂ (IFML); Santiago Metropolitan Region, La Reina (AMNH, CNC). Other material: ARGENTINA: Lacar Lake, Pucará, 14.III.1956 (FCNM). CHILE: Araucanía, Cautín Province, Chacamo, NW of Nueva Imperial, 600–700 m, 17–23.II.19581 (USNM); Bio-Bio, Nuble Province, Atacalco, Recinto, 17.XII.1977, L. E. Peña leg., 1♀ (CNC); Bío-Bío, Arauco Province, Chiloé Province, Lemuy Island, 17.II.1999, A. Ugarte leg. (MIGBF); Las Lagos, Chiloé Province, SW of Castro, 42°59’S 73°45’W, 200 m, 7.II.2005, M. Halada leg., 1♂ (OLL); Las Lagos, Chiloe Province, Chiloé Island, 42 km N Castro, 9.II.1985, D. Hollis leg., 1♀ (BMNH); Las Lagos, Chiloé Province, E of Lake Ranco, 2.II.2004, M. Snizek leg., 1♀ (OLL); Maule, Curicó Province, Estero La Palma at Río Teno, 6 km E of Los Quehues, Fundo La Montaña, 35°01’S 70°48’W (CAS); Maule, Linares Province, Cordillera de Parral, Fundo Malcho (CNC); Santiago Metropolitan Region, E of Santiago, El Canelo (MCZ); Valparaíso, Quillota Prov., La Campana National Park, W slope Cerro La Cebra, 32°56.37’S 71°05.11’W, 510 m, 30.XI.2001–28.II.2002, dry sclerophyll forest with *Jubaea chilensis* and *Trichocereus*, FIT, M. Thayer et al. leg., 2♀♀ (AMNH, CNC). COSTA RICA: Guanacaste, 3 km SE of Río Naranjo (AMNH).

Hosts. Unknown.

Distribution. Argentina, Chile, Costa Rica.

70. *Deinodryinus noyesi* Olmi, 1984

(Plate 66C–F)


Description. Female. Fully winged; length 3.2–5.4 mm. Head black, except mandible, clypeus and malar space testaceous; antenna testaceous, except segments 6–10, or 7–10, or 8–10 brown; mesosoma and metasoma black; legs brown, except protibia and protarsus testaceous; occasionally procoxa testaceous. Antenna clavate, with hairs much longer than breadth of antennal segments; antennal segments in following proportions: 13:7:20:8:8:8:7:7:7:9. Head shiny; face with numerous areolae, in addition to three median and two lateral longitudinal keels; occasionally procoxa testaceous. Antenna clavate, with hairs much longer than breadth of antennal segments; antennal segments in following proportions: 13:7:20:8:8:8:7:7:7:9. Head shiny; face with numerous areolae, in addition to three median and two lateral longitudinal keels; occasionally strongly sculptured by areolae and numerous irregular longitudinal keels; vertex behind ocellar triangle with numerous longitudinal keels, including two oblique keels connecting posterior ocelli to occipital carina; temple finely punctate, unsculptured among punctures; occipital carina complete; POL = 3; OL = 3; OOL = 12; OPL = 10; TL = 11. Pronotum hairy, shiny, crossed by anterior transverse impression; posterior surface slightly granulated and with numerous transverse keels mainly on anterior half; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.65 length of scutum. Propodeum reticulate rugose; posterior surface with two incomplete longitudinal keels and smooth median area. Fore wing with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (10.5:8). Protarsal segments in following proportions: 9:2:9:15:34. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 66D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 66D) with two rows of about 30 lamellae; distal apex with about 26 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 3.2–3.4 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa proximally black. Antenna filiform; antennal hairs much longer than breadth of antennal segments; antennal segments in following proportions: 14:6.5:16:10:10:10; 10:10:12. Head reticulate rugose; face with three median longitudinal keels, in addition to two lateral keels around orbits; face with transverse furrow located in front of anterior ocellus, laterally not reaching orbits (furrow less broad than greatest breadth of anterior ocellus); vertex with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 10; OPL = 9;
TL = 7. Scutum, scutellum and metanotum shiny, smooth, strongly punctate, unsculptured among punctures. Notauli almost complete (Plate 66C), almost reaching posterior margin of scutum. Propodeum reticulate rugose; posterior surface reticulate rugose, with two incomplete longitudinal keels and median area usually smooth, not reticulate rugose, with few irregular keels; occasionally median area rugose. Fore wing usually hyaline, without dark transverse bands; occasionally fore wing with two dark transverse bands; distal part of stigmal vein approximately as long as, or slightly shorter than proximal part. Paramere (Plate 66E, F) with large and long distal inner branch wrapping penis. Tibial spurs 1/1/2.

Material examined. Types: ♀ holotype: TRINIDAD AND TOBAGO: Trinidad, St. George Co., Arena Reserve, 3.VIII.1976, J.S. Noyes leg. (BMNH). Twelve paratypes: BOLIVIA: Beni, Rio Itenez, Mouth of Rio Baures (AMNH); Beni, Laranjeiras (AMNH). SURINAME: Paramaribo, Charlesburg, Krepi (RNHL). TRINIDAD AND TOBAGO: Trinidad, S.ta Margarita, Curepe, 16–22.VI.1972, Malaise trap, B.R. Pitkin leg., 1♂ (BMNH). VENEZUELA: Aragua, Ocumare de la Costa (USNM). Other material: ARGENTINA: Misiones, Dos de Mayo (IIS); Misiones, Loreto (FCNM); Salta (NMNH); Salta, Yacochuya, 1950 m, 1–15.I.1969, Malaise trap, Willink, Stange & Terán leg. (IFML); Salta, Urundel, 2.XII.1952 (FCNM); Tucumán, Horco Molle (MCZ). BOLIVIA: Beni, Rio Itenez opposite Costa Marques (Brazil), 1–3.IX.1964 (AMNH); Santa Cruz, Saavedra Agricultural Experimental Station (FSCA); Santa Cruz, Roboré, X. 1959 (NAMUK). BRAZIL: Bahia, Encruzilhada (CNC); Rondônia, Rio Guaporé, Forte Príncipe da Beira (CMNH); São Paulo, Nosi, Guacu (DEUCD); São Paulo, Teodoro Sampaio (AEIC). COLOMBIA: Bolivar, Zambrano, Hacienda Monterey, Bosque “Lata”, 09°45’N 74°49’W (IAVH); Valle, 10 km W of Cali, Peñas Blancas, 1750 m (FSCA). COSTA RICA: Alajuela, Cord. Tilaran, Peñas Blancas, 700 m (PMA); Guanacaste, W side of Volcán Cacao, Arenales, 900 m, 1988–1989, 2♂♂ (AMNH, EBUC); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Limón, Pandora, Estrella Valley (PMA); Puntarenas, Monteverde (DBUSU); Puntarenas, San Vito, 08°42’N 83°00’W (MCZ); Puntarenas, Carara Biological Reserve,
Deinodryinus panamensis Olmi, 1984
(Plate 67A)


Description. Male. Fully winged; length 3.6–4.8 mm. Head black, except mandible and clypeus testaceous; occasionally clypeus black; antenna testaceous, except last segment darkened; mesosoma and metasoma black; legs black, except protibia and protarsus partly testaceous. Antenna filiform, strongly hairy; antennal hairs longer than breadth of antennal segments; antennal segments in following proportions: 21:10:29:17:16:18:18:16:15:20. Head shiny, strongly reticulate rugose; vertex smooth, strongly punctate, not reticulate rugose; face completely reticulate rugose, without longitudinal keels; frontal line absent; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 4; OOL = 15; OPL = 16; TL = 16. Scutum shiny, hairy, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Propodeum completely reticulate rugose, without transverse or longitudinal keels. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmatic vein approximately as long as proximal part. Paramere (Plate 67A) shorter than penis, with large and long subdistal inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Type: ♂ holotype: PANAMA: Colón, Canal Zone, Barro Colorado Island (DEUCD).

Other material: PANAMA: same locality label as holotype, 1 ♂ (AMNH). PERU: Huánuco, Tingo Maria (PMA).

Hosts. Unknown.

Distribution. Panama, Peru.

72. Deinodryinus papillatus Olmi, 1993
(Plate 67B, C)


Description. Male. Fully winged; length 3.1–4.1 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa partly black. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 13:7:19:9:11:10.5:11:10:9:13. Head shiny, smooth, punctate, unsculptured among punctures; face almost completely reticulate rugose, without longitudinal keels; frontal line absent; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 6; OL = 3; OOL = 8; OPL = 9; TL = 8. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.75–0.80 length of scutum. Propodeum dull, reticulate rugose, without longitudinal and transverse keels. Fore
wing hyaline, without dark transverse bands; occasionally fore wing with distal third slightly darkened; distal part of stigmal vein slightly shorter than proximal part (11:12). Paramere (Plate 67B, C) with inner side sculptured by numerous papillae and with inner branch. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Argentina, Costa Rica, Mexico.

PLATE 67. Male genitalia. A. Deinodryinus panamensis, holotype. B. D. papillatus, paratype. C. D. papillatus, holotype. D. D. paranus, holotype. E. D. paranus, male from Bolivia, Buena Vista. F. D. paranus, male from Paraguay, Jejui-mi Scale bar 0.15 mm for A, 0.18 mm for B, 0.17 mm for C, 0.08 mm for D, 0.09 mm for E and F.
73. *Deinodryinus paranus* Olmi, 1984
(Plate 67D–F)


**Description.** Male. Fully winged; length 1.6–2.7 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except stalk of metafemur and distal half of metatibia darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 9:5:7:4:5:5:5:5:6.5. Head shiny, smooth, punctate, unsculptured among punctures; face without median and lateral keels; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 2; OOL = 4; OPL = 4; TL = 3. In specimen from Venezuela, La Trilla, head punctate, granulated among punctures. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli almost complete, almost reaching posterior margin of scutum. In specimen from Paraguay, Jejui-mi, notauli complete and posteriorly separated. Propodeum completely reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (7:8). Paramere (Plate 67D, E) about as long as penis, with broad distal inner branch wrapping penis. In specimen from Paraguay, Jejui-mi, paramere much shorter than penis (Plate 67F). Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Bolivia, Brazil, Paraguay, Venezuela.

74. *Deinodryinus parkeri* Olmi, 1992
(Plate 68A)


**Description.** Female. Fully winged; length 3.6–6.2 mm. Head testaceous-reddish; antenna testaceous, except segment 10 or segments 7–10 darkened; mesosoma black; metasoma testaceous; legs testaceous, except metacoxa partly brown; occasionally legs testaceous, except stalk of metafemur and distal third of metatibia brown. In specimen from Honduras, 15°05.49’N 86°44.17’W, propleuron brown and rest of prothorax testaceous; fore leg testaceous, except coxa brown and club of femur and tarsus partly brown; midleg and hind leg brown, except tarsi partly testaceous. In specimen from Mexico, Jalapa, posterior half of scutum with reddish spot. Antenna clavate; antennal segments in following proportions: 15:6:22:14:13:11:10:10:12.5. Head shiny, with face reticulate rugose; temple and regions behind and on sides of ocellar triangle granulated; frontal line complete; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 2.5; OOL = 12; OPL = 13; TL = 12. Pronotum shiny, with posterior surface shorter than scutum (17:27), about as long as broad, completely reticulate rugose; pronotal tubercle reaching tegula. Scutum shiny, punctate, unsculptured among punctures, or in some areas slightly granulated. Notauli incomplete, reaching approximately 0.7 length of scutum. In specimen from Honduras, 15°05.49’N 86°44.17’W, notauli almost complete. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum dull, reticulate rugose, without transverse and longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (18:19). Protarsal segments in following proportions: 14:3:7:1:22:35. Enlarged claw (Plate 68A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 68A) with two rows of approximately 51 lamellae; distal apex with about six lamellae, among which one very long. Tibial spurs 1/1/2.
Male. Unknown.


**Hosts.** Unknown.

**Distribution.** Costa Rica, Honduras, Mexico, Nicaragua, Panama.

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**PLATE 68.** A, C, D. Chelae of holotypes. B. Male genitalia of holotype. A. *Deinodryinus parkeri.* B. *D. paulensis.* C. *D. pecki.* D. *D. pegnai.* Scale bar 0.22 mm for A, 0.14 mm for B and C, 0.21 mm for D.

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75. *Deinodryinus paulensis* Olmi, 1991

(Plate 68B)


**Description.** Male. Fully winged; length 2.4–3.6 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa partly brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 16:7:21:10:11:13:13:13:13:16. Head shiny, smooth, punctate, unsculptured among punctures; frontal line absent; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete, deeply excavated behind ocellar triangle; POL = 6; OL = 3; OOL = 8; OPL = 8; TL = 7. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, without longitudinal and transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (13:16). Paramere (Plate 68B) with reduced inner branch. Tibial spurs 1/1/2.

Female. Unknown.


**Hosts.** Unknown.

**Distribution.** Brazil.
**76. Deinodryinus pecki Olmi, 1987**
(Plate 68C)


**Description. Female.** Fully winged; length 3.4–3.7 mm. Head black, except mandible, clypeus, gena and anterior region of face testaceous; antenna testaceous, except segments 7–10 or 8–10 brown; mesosoma testaceous, except anterior collar of pronotum and part of propleuron black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 13:7:15:9:8:8:7:7:7:10. Head shiny, alutaceous; face with two median longitudinal keels connecting anterior ocellus to clypeus, in addition to two keels around orbits (area of face between keels alutaceous, unsulptured, except anterior half rugose); vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina (regions of vertex located on sides of oblique keels sculptured by some irregular keels); occipital carina complete; POL = 3; OL = 2; OOL = 9; OPL = 10; TL = 12. Pronotum shiny, hairy, finely punctate, unsulptured among punctures; posterior surface crossed by central furrow; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, unsulptured. Notauli incomplete, reaching approximately 0.7 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, with a central smooth area; areolae of propodeum very large. Mesopleuron and metapleuron shiny, smooth, unsulptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (13:10). Protarsal segments in following proportions: 10:3:5:10:23. Enlarged claw (Plate 68C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 68C) with two rows of approximately 23 lamellae; distal apex with about 11 lamellae. Tibial spurs 1/1/2.

*Male. Unknown.*

**Material examined. Types:** ♀ holotype: PANAMA: Chiriquí, 15 km NW Hato del Volcan (CNC). Other material: COSTA RICA: Alajuela, 20 km S Upala (AMNH); Guanacaste, 3 km SE Rio Naranjo (DBUSU); Limón, 16 km W Guápiles, 400 m (AMNH).

**Hosts.** Unknown.

**Remarks.** The species is named after Dr. Stewart B. Peck (and not after Mr. Oswald Peck, as written by mistake in Olmi 1987d).

**77. Deinodryinus pegnai Olmi, 1984**
(Plate 68D)


**Description. Female.** Fully winged; length 4.5 mm. Head black, except mandible, lateral regions of clypeus and part of malar space yellow; antenna, mesosoma and metasoma black; legs black, except chelae testaceous. Antenna clavate; antennal segments in following proportions: 14:8:20:12:11:9:9:9:11. Head dull, strongly punctate, with punctures very dense and deep, similar to areolae; face without median and lateral longitudinal keels; vertex behind ocellar triangle punctate, not rugose, without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 5; OOL = 10; OPL = 10; TL = 14. Pronotum hairy, shiny, crossed by slight transverse impression; posterior surface smooth, finely punctate, unsulptured among punctures, approximately as long as broad, without dorsal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsulptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface almost completely smooth and shiny. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein longer than proximal part (16:11). Protarsal segments in following proportions: 11:3:8:14:29. Enlarged claw (Plate 68D) with two bristles located further distally than proximal prominence. Segment 5 of protarsus (Plate 68D) with two rows of about 38 lamellae; distal apex with about 11 lamellae. Tibial spurs 1/1/2.

*Male. Unknown.*
Material examined. Type: ♀ holotype: CHILE: Santiago, El Canelo (AEIC). Other material: CHILE (no localities), 1 ♀ (AMNH).

Hosts. Unknown.

Distribution. Chile.

78. Deinodryinus perlucens Olmi, 1984
(Plate 69A)


Description. Male. Fully winged; length 3.7–4.1 mm. Head black, except mandible testaceous; antenna totally testaceous; occasionally antenna testaceous, except segments 3–10 darkened; occasionally antenna totally black; mesosoma and metasoma black; legs testaceous, except stalk of metatibia brown; occasionally legs whitish, except trochanters, coxae, clubs of femora, tibiae and tarsi partly black. Antenna filiform, with hairs much shorter than breadth of segments; antennal segments in following proportions: 15:7:20:12:12:11:11:11:11:14. Head shiny, with face sculptured by numerous strong parallel and longitudinal keels; region behind ocellar triangle punctate, unsculptured among punctures, without two oblique keels connecting posterior ocelli to occipital carina; frontal line complete; occipital carina complete; POL = 4; OL = 2.5; OOL = 11; OPL = 11; TL = 6. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli thin, incomplete, reaching approximately 0.7 length of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface shiny, smooth, finely punctate, unsculptured among punctures, without longitudinal keels. Fore wing hyaline, without dark transverse bands; occasionally fore wing very slightly darkened; distal part of stigma vein shorter than proximal part (12:19). Paramere (Plate 69A) with distal inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil, Paraguay, Peru.

79. Deinodryinus peruvianus Olmi, 1984
(Plate 69B, C)


Description. Female. Fully winged; length 3.2–5.1 mm. Head black, except mandible, clypeus and occasionally anterior surface of face testaceous; antenna testaceous, except segments 6–10, or 7–10, or 3–5 brown; mesosoma and metasoma black; legs testaceous, except coxae totally black and clubs of femora and meso- and metatibia partly black; occasionally club of profemur totally testaceous. In specimen from French Guiana, Relais Patawa, mesosoma black, except coxae totally black and clubs of femora and meso- and metatarsus partly black; occasionally club of profemur totally testaceous. In specimen from French Guiana, Relais Patawa, mesosoma black, except posterior margin and partly lateral regions of pronotum testaceous. Antenna slightly clavate; antennal segments in following proportions: 14:8:18:13:11:10:8:7:10. Head shiny, more or less reticulate rugose and punctate; face with three median longitudinal keels, in addition to two lateral keels around orbits; occasionally head almost completely smooth, except the above keels; occasionally head granulated and sculptured by numerous irregular longitudinal keels (as in specimen from Paraguay, 23°24’S 56°30’W); vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; in specimen from Argentina,
27°33.2495'S 64°46.123'W, vertex behind ocellar triangle with two oblique keels partly slightly strong, apparently incomplete and face sculptured by strong areolae, complete frontal line, two keels around orbits and two incomplete and very short lateral keels beginning from anterior ocellus; occipital carina complete; POL = 3; OL = 4; OOL = 12; OPL = 13; TL = 16. Pronotum hairy, dull, finely punctate, unsculptured among punctures, crossed by strong transverse impression; posterior surface with two small dorsal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface sculptured by wide areolae; posterior surface hairy, almost smooth, finely punctate; occasionally posterior surface with two complete longitudinal keels and median area partly rugose. Fore wing with one–two dark transverse bands; distal part of stigmatic vein approximately as long as proximal part. Protarsal segments in following proportions: 11:5:7:13:30. Segment 2 of protarsus produced into hook. Enlarged claw (Plate 69B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 69B) with two rows of about 28 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

 Male. Fully winged; length 3.0 mm. Head black, except mandible testaceous; antenna testaceous; metasoma black; legs testaceous, except metacoxa brown. Antenna filiform; antennal hairs much longer than breadth of antennal segments; antennal segments in following proportions: 10:6:10:9:9:9:8:8:11. Head shiny, reticulate rugose or with transverse keels; face with two median longitudinal keels, in addition to two lateral keels around orbits; vertex with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5.5; OL = 3; OOL = 8; OPL = 9; TL = 11. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface sculptured by wide areolae; posterior surface with two complete longitudinal keels and a median area almost smooth, hairy, shiny, finely punctate, with transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein shorter than proximal part (8:10). Paramere (Plate 69C) with large and long distal inner branch wrapping penis. Tibial spurs 1/1/2.

 Material examined. Types: ♂ holotype: PERU: Huánuco, Tingo Maria, 1 km E of town, 2000 ft., 15.VIII.1971, Malaise trap, dense forest, P.S. & H.L. Broomfield leg. (BMNH). Five paratypes: BOLIVIA: Beni, Rurenabae (BMNH); Beni, Laranjeiras (AMNH). COLOMBIA: Putumayo, La Hormiga, near Mocoa, 7.IX.1978, M. Cooper leg., 1♀ (BMNH); PERU: same locality label as holotype, 1♀ (BMNH); TRINIDAD AND TOBAGO: Trinidad, S.ta Margarita, Circular Road, Curepe, 1♀ (CNC). Other material: ARGENTINA: Misiones, Loreto, 9.1.1930 (FCNM); Salta, La Candelaria, 20.1.2007, YPT, Frias-Luft leg., 2♀♂ (IFML); Santiago del Estero, Naranjito, 27°33.2495'S 64°46.123'W, 280 m, 26.XII.1996, 1♀ (IFML). BRAZIL: Mato Grosso, Chapada (CMNH); Minas Gerais, Belo Horizonte, Universidade Federal de Minas Gerais Campus Pampulha, 19°52'S 43°58'W, 830 m, 28.XI.1996 (DBGM); Belo Horizonte, Universidade Federal de Minas Gerais, 19.XI.1996, yellow pan trap, D. Yanega leg. (DBGM); Pará, Santarem (CMNH); Rondônia, Fazenda Rancho Grande, 62 km S of Ariquemes (DFAS); São Paulo, Mosi Guaco (PMA). COSTA RICA: Alajuela, Bijagua, 20 km S of Upala (DBUSU); Guanacaste, 14 km S of Cañas (DBUSU); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Puntarenas, Golfito, 0 m, in palmar (EBUC); S. José, Escazú (DBUSU); S. José, La Caja (MNHN). ECUADOR: Napo, Huahua Sumaco, km 45 Hollín-Loreto road (DFAS); Napo, Misahualli (ZIL); Orellana, Tiputini Biodiversity Station, 00°37.55'S 76°08.39'W, 216 m, 6.II.1999, canopy, fogging bare leaves, T. Erwin et al. leg., 1♀ (USNM); Orellana, El Coca (MCZ). FRENCH GUIANA: Cayenne, Régina, Kaw Mountain, Relais Patawa, X.1999, Malaise trap (FSAE). PANAMA: Darién, Darién National Park, Pirre, Rancho Frio, 80 m, 21.III–4.IV.2000, yellow trap, Cambra, Santos & Bermudez leg., 1♀ (MIGBF); Panamá, Corr. Playa Leona, R. Perequete, 18–20.11.1991, yellow trap, R. Cambra leg., 1♀ (MIGBF). PARAGUAY: Concepción, Estancia Don Carlos, 23°24'S 56°30'W, 160 m, 17–18.XII.2004, Yellow Pan Trap, B. Garcez leg., 2♂♀ (MNHN, MOLC); Cordillera, San Bernardino, 30.11 (USNM); Paraguay, Ybycuí, 2.X.1994 (MNHN); Paraguarí, Naranjo, 23–27.X.1995 (MNHN); San Pedro, General Resquín, Naranjito (MNHN). PERU: Huánuco, 13 km S of Tingo Maria, Tambello Chico (DFAS). VENEZUELA: Carabobo, Canoabo, 300 m, 16.V.1994 (IZAM); Lara, Yayambo National Park (USNM); Mérida, Hacienda El Alto, Manzano Alto, 1600 m, cloud forest (FSCA).

 Hosts. Unknown.

 Distribution. Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Panama, Paraguay, Peru, Trinidad and Tobago, Venezuela.
PLATE 69. A, C–E. Male genitalia. B. Chela of holotype. A. *Deinodryinus perlucens*, holotype. B. *D. peruvianus*. C. *D. peruvianus*, paratype from Peru, Tingo Maria. D. *D. petersoni*, from Mexico, San Cristobal de las Casas. E. *D. petersoni*, from Costa Rica, 10 km W Piedras Blancas. Scale bar 0.15 mm for A, 0.17 mm for B, 0.12 mm for C, 0.14 mm for D and E.

80. *Deinodryinus petersoni* Olmi, 1987
(Plate 69D, E)


**Description.** *Male.* Fully winged; length 3.1–3.4 mm. Head black, except mandible testaceous; antenna testaceous;
mesosoma and metasoma black; legs testaceous, except meso- and metacoxa and club of metafemur brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 13:8:15:12:12:13:12:11:14. Head shiny, reticulate rugose; face reticulate rugose and with 3 median longitudinal keels connecting anterior ocellus to clypeus; region of vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina (areas of vertex located on sides of oblique keels smooth, punctate, unsculptured among punctures); occipital carina complete; POL = 5; OL = 3; OOL = 10; OPL = 8; TL = 11. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli incomplete, reaching approximately 0.8 length of scutum. Propodeum dull, reticulate rugose, without longitudinal or transverse keels; posterior surface reticulate rugose, with a central smooth area. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein longer than proximal part (22:15). Paramere (Plate 69D, E) with short inner proximal branch. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined. Types:** ♂ holotype: MEXICO: Chiapas, San Cristobal de las Casas, 7200 ft., Malaise trap (CNC). Paratypes: same locality label as holotype, 3 ♂♂ (1 in AMNH, 2 in CNC). **Other material:** COSTA RICA: Puntarenas, Golfo Dulce Forest Reserve, 10 km W Piedras Blancas, 100 m (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Mexico.

81. *Deinodryinus pilosifrons* Fenton, 1927

(Plate 70)


**Description. Female.** Fully winged; length 5.0–6.6 mm. Head black, except mandible, clypeus and anterior region of face testaceous (in specimen from Mexico, Reserva Huitepec, head black, except mandible, clypeus, gena and anterior half of face testaceous-reddish); antenna testaceous, except segment 10 slightly darkened (in specimen from Mexico, 5 mi N Berriozabal, antenna totally testaceous; in specimen from Mexico, Reserva Huitepec, antenna testaceous, except segment 7 darkened and segments 8–10 brown); mesosoma black, except prothorax reddish (in specimen from Mexico, 5 mi N Berriozabal, lateral regions of scutum with reddish nuances, mesopleuron and metapleuron with distal reddish spot; in specimen from Mexico, Reserva Huitepec, prothorax black, except posterior margin of pronotum and prontal tubercle testaceous, rest of mesosoma black); metasoma reddish (in specimen from Mexico, 5 mi N Berriozabal, metasoma brown); legs testaceous, except clubs of meso- and metafemur brown (in specimen from Mexico, 5 mi N Berriozabal, mesotibia, metatibia and clubs of meso- and metafemur darkened; in specimen from Mexico, Reserva Huitepec, legs testaceous-reddish, except metacoxa and inner side of metafemur black). Antenna clavate; antennal segments in following proportions: 18:8:23:17:14:13:12:14:13:12:14. Head completely reticulate rugose; face sculptured by three median irregular longitudinal keels connecting anterior ocellus to clypeus; vertex behind ocellar triangle with two strong oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL= 4; OL= 3; OOL= 10; OPL= 10; TL= 10. In specimens from Mexico, 5 mi N Berriozabal and Reserva Huitepec, temple punctate, unsculptured among punctures. Pronotum dull, hairy, strongly punctate and rugose (in specimens from Mexico, 5 mi N Berriozabal and Reserva Huitepec, posterior surface almost completely smooth, punctate, unsculptured among punctures), crossed by anterior transverse impression; posterior surface centrally excavated; prontal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli of holotype not completely visible (see remarks). In specimen from Mexico, 5 mi N Berriozabal, notauli almost reaching posterior margin of scutum; in specimen from Mexico, Reserva Huitepec, notauli reaching about 0.8 length of scutum. Propodeum reticulate rugose (in specimen from Mexico, 5 mi N Berriozabal, posterior surface of propodeum with distal smooth shiny area); posterior surface completely reticulate rugose, without longitudinal keels (in specimen from Mexico, Reserva Huitepec, posterior surface with two longitudinal keels and median area as rugose as lateral areas). Fore wing with two dark transverse bands; distal part of stigmatic vein longer than proximal part (21:15 in holotype; 24:21 in specimen from Mexico, 5 mi N Berriozabal); in specimen from Mexico, Reserva Huitepec, distal part of stigmatic vein slightly shorter than proximal part (21:22) (Plate 70E).
Protarsal segments in following proportions: 12:4:7:14:26. Enlarged claw (Plate 70A, B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 70A, B) double-S shaped (Plate 70C, D), with some rows of approximately 40 lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2. In specimen from Brazil, Engenheiro Eugenio Lefèvre, length 6.8 mm; antenna testaceous, except segments 7–10 brown; pronotum black, except lateral regions and pronotal tubercles testaceous; legs completely testaceous-reddish; face reticulate rugose, except area in front of anterior ocellus sculptured by some irregular longitudinal keels; frontal line interrupted in front of anterior ocellus; posterior surface of pronotum punctate, unsculptured among punctures, not centrally excavated; notauli almost complete, almost reaching posterior border of scutum; distal region of fore wing slightly darkened; distal part of stigmal vein longer than proximal part (31:26). In specimens from Belize, 16°43.44’N 88°58.26’W, length 4.1–5.9 mm; colour of mesothorax and propodeum variable from completely black to black, except lateral regions of scutum and median area of posterior surface of propodeum reddish; notauli almost complete, almost reaching posterior margin of scutum; segment 5 of protarsus with one row composed of very long lamellae and a second row composed of short lamellae (Plate 70B).

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Belize, Brazil, Guatemala, Mexico.

**Remarks.** The scutum of holotype is pinned, so that the notauli are not completely visible.

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82. *Deinodyinus pluvialis* Olmi, 1991

(Plate 71A)


**Description.** Female. Fully winged; length 3.5–4.0 mm. Head black, except mandible, clypeus, malar space and anterior margin of face testaceous; antenna yellow; mesosoma black, except pronotal tubercle and lateral margins of pronotum reddish; metasoma brown-reddish; legs yellow; in specimen from Argentina, Anillaco, legs yellow, except brown spot on metacoxa and metafemur. Antenna clavate; antennal segments in following proportions: 11:4:14:8:6.5:6.5:7:6:6.8. Head dull, granulated; face granulated, with complete frontal line and with few irregular keels on sides of frontal line; region behind ocellar triangle with two incomplete oblique keels from posterior ocelli to occipital carina, but not reaching occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 6; OPL =
6.5; TL = 6.5; in specimen from Argentina, Anillaco, POL = 3; OOL = 8. Pronotum dull, hairy; posterior surface flat, about as broad as long, dull, rugose; pronotal tubercle reaching tegula. In specimen from Argentina, Anillaco, posterior surface of pronotum granulated and anteriorly with many transverse keels. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. In specimen from Argentina, Anillaco, scutum slightly granulated. Notauli incomplete, reaching approximately 0.4–0.5 length of scutum. Propodeum dull, hairy, reticulate rugose, without transverse or longitudinal keels. Fore wing with two small dark spots; distal part of stigmatic vein shorter than proximal part (5:8). Protarsal segments in following proportions: 8:2:3:12:19. Enlarged claw (Plate 71A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 71A) with two rows of about 41 lamellae; distal apex with about five lamellae, among which one very long. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, Venezuela.

PLATE 71. A, C, D. Chelae of holotypes. B. Male genitalia of holotype. E. Scutum of female holotype. A. Deinodryinus pluvialis. B. D. politifrons. C. D. politus. D, E. D. porteri Olmi Scale bar 0.25 mm for A, 0.08 mm for B, 0.22 mm for C, 0.19 mm for D, 0.52 mm for E.

83. Deinodryinus politifrons Olmi, 1991
(Plate 71B)


Description. Male. Fully winged; length 1.9 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous, except metacoxa partly black and metafemur and metatibia darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 9:4.5:7:5:5:5:5:5:5:7. Head shiny, with face strongly granulated and vertex slightly granulated; frontal line absent; face with median incomplete longitudinal furrow; region behind ocellar triangle with two fading oblique keels connecting posterior ocelli to occipital carina (area between oblique keels excavated); occipital carina complete, excavated behind ocellar triangle; POL = 4; OL = 2; OOL = 4; OPL = 2; TL = 2.5. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli thin, incomplete, reaching approximately 0.6 length of scutum. Propodeum dull, reticulate rugose, without longitudinal
and transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Paramere (Plate 71B) with large distal inner branch wrapping penis. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined. Type:** ♂ holotype: COSTA RICA: Puntarenas, Golfo Dulce Forest Reserve, 24 km W Piedras Blancas, 200 m, Malaise trap, Paul Hanson leg., III–V.1989 (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica.

### 84. *Deinodryinus politus* Olmi, 1984


**Description. Female.** Fully winged; length 4.9 mm. Head reddish, except ocellar region brown and ventral side black; antenna testaceous; propleuron black; pronotum reddish, except lateral regions partly brown; scutum reddish, except anterior margin brown; scutellum reddish; propodeum and metapleuron black; mesopleuron black, except a reddish spot; metasoma brown-testaceous; legs testaceous, except metacoxa and club of metafemur brown. Antenna clavate; antennal segments in following proportions: 14:8:18:10:9:9:9:8:11. Head dull, granulated, very slightly rugose, with slight short irregular striae mainly near the antennal toruli; frontal line complete; vertex behind ocellar triangle without two strong oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 3; OOL = 8; OPL = 9; TL = 6. Pronotum dull, hairy, crossed by strong transverse impression; posterior surface about as broad as long, flat, strongly transversely striate and rugose; pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli almost complete, almost reaching posterior margin of scutum. Scutellum and metanotum shiny, very slightly granulated. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; posterior surface dull, completely reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (12:14). Protarsal segments in following proportions: 12:3:6:14:25. Enlarged claw (Plate 71C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 71C) with two rows of approximately 50 lamellae; distal apex with about six lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: Minas Gerais, S. Barbara, Serra do Caraça (AEIC).

**Hosts.** Unknown.

**Distribution.** Brazil.

### 85. *Deinodryinus porteri* Olmi, 1987


**Description. Female.** Fully winged; length 4.0 mm. Head black, except mandible, clypeus and face testaceous; antenna testaceous, except segments 5–10 dark; mesosoma black; metasoma brown; fore leg testaceous; mid- and hind leg black. Antenna clavate; antennal segments in following proportions: 16:7:28:18:14:12:11:11:11:11. Head reticulate rugose; face with complete frontal line; temple and vertex punctate, unsculptured among punctures; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina (area between oblique keels strongly punctate and reticulate rugose); occipital carina complete; POL = 6; OL = 3.5; OOL = 14.5; OPL = 13; TL = 15. Pronotum shiny, smooth, finely punctate, unsculptured among punctures; posterior surface about as broad as long; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum (Plate 71E). Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (18:17). Protarsal segments in following proportions: 12:4:9:16:32. Enlarged claw (Plate 71D) with one bristle located further distally than proximal
prominence. Segment 5 of protarsus (Plate 71D) with two rows of about 25 lamellae; distal apex with about 14 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Types:** ♀ holotype: ARGENTINA: Tucumán, Horco Molle (MCZ). Paratype: same locality label as holotype, 1 ♀ (AMNH).

**Hosts.** Unknown.

**Distribution.** Argentina.

**PLATE 72. A, B, F. Chelae of holotypes. C, D, E. Male genitalia. A. Deinodryinus pseudoamoenus. B. D. pseudobilobus. C. D. pseudobilobus, paratype from Argentina, Horco Molle. D. D. reali, holotype. E. D. reali, from Argentina, 25°07'S 65°09'W. F. D. rapax. Scale bar 0.20 mm for A, 0.23 mm for B, 0.17 mm for C, 0.09 mm for D, 0.12 mm for E, 0.34 mm for F.**

**86. Deinodryinus pseudoamoenus Olmi, 1984**

(Plate 72A)


**Description. Female.** Fully winged; length 3.9–5.0 mm. Head black, except mandible testaceous; clypeus black, except anterior margin testaceous; antenna testaceous, except segments 7–10 dark; mesosoma black, except prothorax testaceous; metasoma brown-testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 17:10:25:12:12:11:9:9:9:11. Head dull, strongly reticulate rugose; face with some longitudinal keels, including complete frontal line; vertex punctate, not reticulate rugose, without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 7; OL = 3.5; OOL = 13; OPL = 11.5; TL = 11. Pronotum hairy, shiny, slightly rugose, with two dorsal lobes; pronotal tubercle reaching tegula.
Scutum shiny, smooth, unsculptured, except some punctures in anterior half. Notauli incomplete, reaching approximately 0.75 length of scutum. Scutellum shiny, smooth, unsculptured, except some punctures near anterior margin. Metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface rugose and centrally smooth. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein shorter than proximal part (15:23). Protarsal segments in following proportions: 11:3:9:15:37. Segments 2 and 3 of protarsus produced into hook. Enlarged claw (Plate 72A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 72A) with two rows of about 33 lamellae; distal apex with about 14 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Brazil.

87. *Deinodryinus pseudobilobus* Olmi, 1984

(Plate 72B, C)


**Description.** *Female.* Fully winged; length 4.5–5.6 mm. Head black, except mandible and clypeus testaceous; antenna brown, except segment 1 and partly 2 testaceous; mesosoma black, except prothorax testaceous-reddish (in paratype from Argentina, Horco Molle, prothorax black, except margins reddish); metasoma partly black and partly testaceous; legs totally testaceous; occasionally metacoxa and stalk of metafemur partly black. Antenna clavate; antennal segments in following proportions: 12:5:15:9:9:7:6:6:7. Head shiny, rugose; face sculptured by strong longitudinal keels; posterior third of face usually unsculptured among keels; anterior and median third of face usually granulated among keels; in specimen from Argentina, Loreto, face completely reticulate rugose; vertex (including area behind ocellar triangle) smooth, punctate, unsculptured among punctures; posterior edges of posterior ocelli joined by transverse furrow; occipital carina complete; POL = 5; OL = 3.5; OOL = 15; OPL = 13; TL = 10. Pronotum shiny, hairy, dorsally unsculptured, with lateral regions transversely striate; posterior surface with two prominent dorsal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, very finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.75 length of scutum. Propodeum reticulate rugose, with strong transverse keels between dorsal and posterior surface surface; posterior surface dull, sculptured by strong transverse keels, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (6:15). Protarsal segments in following proportions: 14:3:9:13:34. Enlarged claw (Plate 72B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 72B) with some rows of approximately 60 lamellae; distal apex with about 24 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 3.9–5.0 mm. Head black, except mandible testaceous; antenna testaceous, except dorsal side of segments 2–4 and partly 1 brown; mesosoma and metasoma black; legs brown, except tarsi and trochanters testaceous. Antenna filiform, with hairs much shorter than breadth of segments; antennal segments in following proportions: 14:7:19:13:12:10:10:9:12. Head shiny; face strongly sculptured by longitudinal keels; vertex strongly punctate, unsculptured among punctures, without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 6; OL = 4; OOL = 12; OPL = 12; TL = 11. Scutum shiny, strongly punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Propodeum reticulate rugose, without a transverse keel between dorsal and posterior surface surface; posterior surface reticulate rugose. Fore wing crossed by slight dark transverse band beneath pterostigma; distal part of stigmal vein shorter than proximal part (9:18). Paramere (Plate 72C) with broad distal inner branch. Tibial spurs 1/1/2.

Tucumán, Horco Molle, 18–21.III.1974, C.R. Vardy leg., many specimens (AEIC, AMNH, BMNH). BOLIVIA: Beni, Rurrenabaque, 270 m, 16.IV.1979, M. Cooper leg., 1 ♀ (BMNH). BRAZIL: Distrito Federal, Cerrado, pitfall (AMNH); Minas Gerais, S. Barbara, Serra do Caraça (AMNH); Paraná, Curitiba, Campina Grande (AMNH); São Paulo, Teodoro Sampaio (AEIC). Other material: ARGENTINA: Misiones, Loreto, 1–15.III.2001, Malaise trap, one female (IFML); Misiones, Res. Vida Silvestre Uruguay (25°58'28S–54°06'59W), 7–9.XII.03, Malaise trap, 1 ♀ (DEUCR); Salta, San Ramón de la Nueva Orán, Abra Grande (DEUCD, MCZ); Salta, Rio Pescado (MCZ); Salta, Rosario de Lerma (DFAS); Tucumán, San Miguel de Tucumán, Horco Molle, 18–21.III.1974, C. R. Vardy leg., many specimens (DEUCD, MCZ); Tucumán, Tapia, 17–19.III.07, Malaise trap, one male, Brown leg. (DEUCR). BOLIVIA: Cochabamba, Villa Tunari, 16°54.55'S 65°22.06'W, 15.III.2001, Malaise trap, H. Heider leg., 2 ♂♂ (CNC, MOLC). BRAZIL: Espirito Santo, Colatina (AEIC); Mato Grosso, Itaum (PMA); Minas Gerais, Aguas Vermelhas, 15°45'S 11°28'W, 800 m (AEIC); Rio de Janeiro, Rezende (BPBM). ECUADOR: Napo, Tena (PMA); Zamora-Chinchipe, Rio Bombuscaro, 04°12'S 78°98'W, 1050 m, 26.VI–1.IV.996, Malaise trap, P. Hibbs leg. (NHMLA). PARAGUAY: San Pedro, Rio Ypane at Cororó (AMNH, DFAS). PERU: Cajamarca, Jaén (DEUCD); Junín, 8 km N Satipo, 2.III.1979, Malaise trap, M.E. Irwin leg., 2 ♂♂ (INHS); Madre de Dios, Puerto Maldonado (PMA); Madre de Dios, 30 km (air) SW Puerto Maldonado, Rio Tambopata Reserve, 12°50'S 69°20'W, 290 m, 3–16.X.1983, NE stork, yellow pans, 1 ♂ (DJBC).

Hosts. Unknown.

Distribution. Argentina, Bolivia, Brazil, Ecuador, Paraguay, Peru.

88. Deinodryinus rapax Olmi, 1984
(Plate 72F)


Description. Female. Fully winged; length 6.6–9.6 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna testaceous, except segments 7–10 brown; mesosoma and metasoma black; fore leg testaceous; mid- and hind leg brown. In specimen from Honduras, 15°05.49'N 86°44.17'W, fore leg testaceous, except trochanters whitish and brown spot on club of femur; mid- and hind leg brown, except trochanter whitish, tarsus testaceous and mesotibia testaceous. Antenna clavate; antennal segments in following proportions: 19:9:29:22:20:19:17:17:16:18. Head shiny, completely reticulate rugose; face with three median longitudinal keels, in addition to two lateral keels around orbits; region of head behind ocellar triangle reticulate rugose, with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 2.5; OOL = 12; OPL = 13; TL = 15. Pronotum dull, hairy, crossed by strong anterior transverse impression; posterior surface smooth, strongly punctate, unsculptured among punctures, less than twice as broad as long, with two dorsal slight parallel lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Propodeum dull, reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (30:25). Protergal segments in following proportions: 14:5:10:19:39. Enlarged claw (Plate 72F) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 72F) strongly S-curved, with some rows of at least 60 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: PANAMA: Chiriquí, Fortuna (RNHL). Other material: HONDURAS: Olancho, La Muralla National. Park, 15°05.49'N 86°44.17'W, 1480 m, 4–7.VII.2002, D. Yanega leg., 1 ♂ (DEUCR).

Hosts. Unknown.

Distribution. Honduras, Panama.
89. **Deinodryinus reali** Olmi, 1993  
(Plate 72D, E)


**Description.** *Male.* Fully winged; length 2.2–2.9 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs yellow, except coxae partly black and club of metafemur and metatibia brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 12:6:11:8:9:9:10:9:11. Head dull, granulated, not reticulate rugose; frontal line absent; face with a median longitudinal and incomplete furrow; vertex granulated, not rugose; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete, deeply excavated behind ocellar triangle; POL = 5; OL = 2.5; OOL = 8; OPL = 6; TL = 6. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.5–0.7 length of scutum. Propodeum dull, reticulate rugose, without longitudinal and transverse keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part. Paramere (Plate 72D, E) with subdistal inner branch wrapping penis. Tibial spurs 1/1/2.

*Female.* Unknown.

**Material examined.**  

*Hosts.* Unknown.

**Distribution.** Argentina, Brazil, Costa Rica, Ecuador, Panamá, Peru, Uruguay.

90. **Deinodryinus rivularis** Olmi, 1984  
(Plate 73A–C)


**Description.** *Female.* Fully winged; length 3.4–3.8 mm. Head testaceous-reddish, except posterior edges of eyes and part of temple blackened; antenna testaceous-reddish, except segments 9–10 darkened; mesosoma testaceous-reddish, except ventral side of mesothorax black, small darkened median area of scutum near anterior margin and blackened suture between metametum and propodeum; metasoma testaceous-reddish; legs testaceous-reddish, except clubs of femora brown. In specimen from Costa Rica, Las Cruces, colour totally testaceous-reddish, except petirole black. In specimen from Colombia, 5°21'N 67°51'W, antenna totally testaceous; mesosoma testaceous, except propodeum black, suture between scutellum and metanotum black, large black spot on mesopleuron, small black spot on lateral regions of pronotum; metasoma brown; legs testaceous, except metacoxa, club of metalemur and distal half of metatibia brown. In specimen from Paraguay, 23°24'S 56°30'W, colour testaceous, except large brown spot on face and small brown spot on dorsal surface of propodeum. In specimen from French Guiana, Montagne des Chevaux, head and antenna testaceous; mesosoma testaceous, except dorsal surface, part of posterior surface and part of ventral side of propodeum and distal extremities of meso- and metaleuron black; legs testaceous, except stalk of metalemur and distal half of metatibia brown. Antenna slightly clavate (Plate 73A); antennal segments in following proportions: 15:8:19:14:10:9:10:10:3. Head dull, granulated, with face rugose; face with an incomplete frontal line and two slight lateral longitudinal keels; vertex behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3.5; OOL = 10; OPL = 10; TL = 6. In specimen from Colombia, 5°21'N 67°51'W, face completely granulated, except two lateral longitudinal keels directed towards antennal toruli; in the above specimen POL = 3; OOL = 7. Pronotum
(Plate 73B) shiny, slightly granulated; posterior surface about 1.5 times as broad as long, sculptured by some transverse keels, with numerous short longitudinal keels near posterior margin; pronotal tubercle reaching tegula. In specimens from Colombia, 5°21'N 67°51'W, and Paraguay, 23°24'S 56°30'W, pronotum completely sculptured by transverse keels. Scutum, scutellum and metanotum shiny, smooth, unsculptured. In specimens from Colombia, 5°21'N 67°51'W, and Paraguay, 23°24'S 56°30'W, scutum very slightly granulated. Notauli incomplete, reaching approximately 0.75 length of scutum; in specimen from Costa Rica, Las Cruces, notauli complete and posteriorly separated (Plate 73B); in specimen from Colombia, 5°21'N 67°51'W, notauli incomplete, reaching about 0.5 length of scutum. In specimen from Paraguay, 23°24'S 56°30'W, notauli reaching about 0.6 length of scutum. Propodeum reticulate rugose, without longitudinal and transverse keels. Fore wing with two dark transverse bands; distal part of stigmal vein about as long as proximal part. Protarsal segments in following proportions: 13:7:15:27. Enlarged claw (Plate 73C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 73C) with two rows of approximately 40 lamellae; distal apex with about seven lamellae, among which one very long. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Bolivia, Colombia, Costa Rica, French Guiana, Paraguay.

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**PLATE 73.** A. Female antenna. B. Female head + pronotum + scutum in dorsal view. C. Chela of holotype. D. Male genitalia of holotype. A. *Deinodryinus rivularis*, from Colombia, 5°21’N 67°51’W. B. *D. rivularis*, from Costa Rica, Las Cruces. C. *D. rivularis*, holotype. D. *D. roridus*. Scale bar 0.29 mm for A, 0.24 mm for B, 0.14 mm for C and D.

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**91. Deinodryinus roridus** Olmi, 1991

(Plate 73D)


**Description.** Male. Fully winged; length 4.1 mm. Head black, except mandible testaceous; antenna testaceous;
mesosoma black; metasoma brown; legs testaceous, except metacoxa brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 15:7:17:11:12:12:12:12:11:13. Head shiny, with face reticulate rugose and vertex strongly punctate and unsculptured among punctures; frontal line almost complete, interrupted in front of anterior ocellus; region behind ocellar triangle with two hardly visible oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 6; OL = 3; OOL = 10; OPL = 9; TL = 8. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels, with central area smooth, shiny and unsculptured. Fore wing with small dark transverse band beneath pterostigma; distal part of stigmal vein about as long as proximal part. Paramere (Plate 73D) with large proximal inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Brazil.

92. Deinodryinus rubrolobatus Olmi, 1984
(Plate 74C)


Description. Female. Fully winged; length 4.2–5.7 mm. Head black, except mandible and clypeus testaceous; antenna brown, except segment 1 testaceous; mesosoma black, except prothorax reddish; metasoma partly black and partly testaceous; legs testaceous, except metacoxa and metatarsus partly brown or black. Antenna clavate; antennal segments in following proportions: 17:8:24:13:13:13:12:9:8:7:9. Head shiny, sculptured by numerous longitudinal keels; vertex behind ocellar triangle sculptured by many longitudinal keels; temple punctate, not sculptured by longitudinal keels; occipital carina complete; POL = 4; OL = 4; OOL = 12; OPL = 10; TL = 8. Pronotum shiny, smooth, finely punctate, unsculptured among punctures; posterior surface with two dorsal transverse lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.65 length of scutum. Propodeum reticulate rugose, dull, without transverse or longitudinal keels; posterior surface completely dull and reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (12:21). Protarsal segments in following proportions: 13:4:8:14:31. Enlarged claw (Plate 74C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 74C) with two–three rows of approximately 53 lamellae; distal apex with about 18 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: ECUADOR: Pastaza, Rio Napo, Pompeya (CNC). Other material: ECUADOR: Sucumbios, Sacha Lodge, 00°05’S 76°05’W, 290 m (AMNH, NHMLA).

Hosts. Unknown.

Distribution. Ecuador.

93. Deinodryinus rufopilosus Olmi, 1991
(Plate 74A)


Description. Male. Fully winged; length 3.0–4.0 mm. Head black, except mandible and clypeus testaceous; face with small reddish spot near clypeus; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa partly black. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 15:7:18:14:13:13:12:12:11:15. Head shiny, almost completely reticulate rugose, except temple punctate and unsculptured among punctures; face with three median longitudinal keels, in addition to two
keels around orbits; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 4; OOL = 11; OPL = 10; TL = 11. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, with two longitudinal keels and median area as rugose as lateral areas. Fore wing with distal half darkened; distal part of stigmatic vein shorter than proximal part (12:15). Paramere (Plate 74A) with large distal inner branch. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Costa Rica, Mexico.

PLATE 74. A, B. Male genitalia of holotypes. C, D. Chelae of holotypes. E. Male genitalia of paratype. A. Deinodryinus rufopilosus. B. D. rugifrons. C. D. rubrolobatus. D, E. D. saltensis. Scale bar 0.18 mm for A, 0.09 mm for B, 0.20 mm for C, 0.23 mm for D, 0.16 mm for E.

94. Deinodryinus rugifrons Olmi, 1991
(Plate 74B)


Description. Male. Fully winged; length 2.2–2.4 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous, except metacoxa partly black and metafemur and metatarsus darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 9:5:9:5:6:6:6:6:6:6:8. Head dull, with face granulated and reticulate rugose; vertex punctate and slightly granulated; frontal line complete; region behind ocellar triangle with two fading oblique keels connecting posterior ocelli to occipital carina (area between keels excavated); occipital carina complete, excavated behind ocellar triangle; POL = 5; OL = 3; OOL = 5; OPL = 4; TL = 4. Scutum shiny, smooth, punctate, unsculptured among punctures; lateral surfaces of scutum slightly granulated. Notauli thin, incomplete, reaching approximately 0.6 length of scutum. Scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Propodeum dull, reticulate rugose, without longitudinal or transverse keels. Fore wing hyaline, without dark
transverse bands; distal part of stigmal vein about as long as proximal part (7:8). Paramere (Plate 74B) with large subdistal inner branch wrapping penis. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Types: ♂ holotype: COSTA RICA: Puntarenas, Golfo Dulce Forest Reserve, 24 km W Piedras Blancas, 200 m, Malaise trap, Paul Hanson leg., III–V.1989 (AMNH). Paratype: same locality label as holotype, VI–VIII.1989, 1♀♀ (AMNH). **Other material:** HONDURAS: Olancho, La Muralla National Park, 15°05.49′N 86°44.17′W, 1480 m, 4–7.VII.2002, D. Yanega leg., 1♂ (DEUCR).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Honduras.

95. **Deinodryinus saltensis** Olmi, 1987

(Plate 74D, E)


**Description. Female.** Fully winged; length 5.1–5.6 mm. Head black, except mandible, clypeus, gena and anterior region of face testaceous; antenna testaceous, except segments 6–10 brown; mesosoma black, except pronotal tubercle and lateral margins of pronotum testaceous-reddish; mesopleuron black, except some reddish nuances; metasoma and legs testaceous. Antenna clavate; antennal segments in following proportions: 15:9:19:14:10:9:8:10. Head shiny, strongly punctate, unsculptured among punctures; face with a complete frontal line and two incomplete lateral longitudinal keels, in addition to two keels around orbits; lateral regions of face with slight irregular keels and areolae; vertex behind ocellar triangle with two complete or incomplete oblique keels from posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 14; OPL = 13; TL = 16. Pronotum shiny, hairy, crossed by strong transverse furrow; posterior surface about as broad as long, shorter than scutum (18:22), without dorsal lobes, strongly punctate, unsculptured among punctures; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, dull, without transverse or longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (13:14). Protarsal segments in following proportions: 12:4:7:16:33. Enlarged claw (Plate 74D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 74D) with two rows of approximately 30 lamellae; distal apex with about 13 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 3.7–4.1 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except tarsi and pro- and mesotibia brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 14:7:19:12:13:11:12:10:13. Head shiny, completely reticulate rugose; face with two keels around orbits; frontal line absent; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 6; OL = 3; OOL = 8; OPL = 10; TL = 10. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum dull, with dorsal surface reticulate rugose; posterior surface reticulate rugose, with two fading longitudinal keels. Fore wing hyaline, without dark transverse bands; occasionally fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein slightly shorter than proximal part (12:13). Paramere (Plate 74E) with proximal long inner branch wrapping penis. Tibial spurs 1/1/2.

**Material examined.** Types: ♀ holotype: ARGENTINA: Salta, Rosario de Lerma (CAS). Thirty-four paratypes: ARGENTINA: same locality label as holotype, 2♀♀, 20♀♀ (1♂ in CAS; 2♀♀ and 19♀♀ in DFAS); same locality label, 2♀♀ and 10♀♀ (AMNH). PARAGUAY: San Pedro, Rio Ypane at Cororó, 12 specimens (AMNH, CAS, DFAS). **Other material:** ARGENTINA: Misiones, Loreto, 18.II.1930 (FCNM); Salta, Rosario de Lerma, many specimens (IIS); Salta, Pocitos (IIS). PARAGUAY: Central, Asunción (USNM).

**Hosts.** Unknown.

**Distribution.** Argentina, Paraguay.
96. Deinodryinus schlingeri Olmi, 1984
(Plate 75C)


Description. Female. Fully winged; length 3.6–6.0 mm. Head black, except mandible, clypeus and malar space testaceous; occasionally also anterior region of face testaceous; antenna testaceous, except segments 7–10 brown; occasionally antenna totally black; mesosoma and metasoma black; legs brown, except protarsus, protibia and stalk of profemur totally or partly testaceous. Antenna clavate; antennal segments in following proportions: 13:6:17:8:8:6:6:6:9. Head shiny; face with numerous longitudinal keels and areolae; region behind ocellar triangle with numerous longitudinal keels, among which two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3.5; OL = 2.5; OOL = 15; OPL = 11; TL = 11. Pronotum shiny, crossed by anterior transverse furrow; posterior surface about as broad as long, hairy, slightly rugose, almost smooth, with two slight parallel dorsal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein about as long as proximal part. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 75C) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 75C) with two rows of approximately 22–25 lamellae; distal apex with about 18 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: PERU: Huánuco, Monzón Valley, Tingo Maria (CAS).

Other material: PERU: Cusco, Pilcopata, 13.II.1978, P.M. Marsh leg., 1 ♀ (USNM); Cusco, Machu Picchu (AMNH, MCZ); Huánuco, Monzón Valley, Tingo Maria, 1 ♀ (MCZ).

Hosts. Unknown.

Distribution. Peru.

97. Deinodryinus sculptus Olmi, 1995
(Plate 75A)


Description. Male. Fully winged; length 4.4 mm. Head black, except mandible testaceous; antenna testaceous;
mesosoma black; metasoma brown; legs testaceous, except clubs of pro- and metafemur darkened. Antenna filiform, with hairs shorter than breadth of segments; antennal segments in following proportions: 18:9:23:14:14:13:12:12:14. Head shiny, completely reticulate rugose; face with irregular longitudinal keels among arolae; frontal line complete; region behind ocellar triangle sculptured by numerous longitudinal keels; occipital carina complete; POL = 6; OL = 3; OOL = 10; OPL = 9; TL = 7. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli thin, incomplete, reaching approximately 0.7 length of scutum. Scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface reticulate rugose, with median area partly smooth, shiny and unsculptured; occasionally median area as rugose as lateral areas. Fore wing with two slight dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (17:19). Paramere (Plate 75A) with large subdistal inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Panama.

98. Deinodyinus setosus Olmi, 1987
(Plate 75B)


Description. Male. Fully winged; length 2.6–3.2 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except stalk of metafemur brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 13:7:16:9:8:11:8:8:9:10. Head dull; face granulated and reticulate rugose; frontal line complete; vertex granulated, not rugose, without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 6; OPL = 7; TL = 5. Scutum dull, granulated, sculptured by irregular striae near posterior margin; occasionally entire surface of scutum granulated and sculptured by irregular striae. Notauli incomplete, reaching approximately 0.80–0.95 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, with transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Paramere (Plate 75B) with inner proximal branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Ecuador, Panama.

(Plate 75D, E)


Description. Female. Fully winged; length 4.2–4.3 mm. Completely testaceous, except petiole black and metasoma partly darkened. Antenna clavate; antennal segments in following proportions: 12:6:18:13:11:8:5:8:7:5:7:9.5. Head flat, smooth, granulated; frontal line absent; occipital carina complete; POL = 1.5; OL = 2; OOL = 8; OPL = 8; TL = 8. Pronotum smooth, dull, granulated and sculptured by fading transverse
keels on anterior impression; posterior surface longer than scutum (18:11), approximately as long as broad (18:20); pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.5 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with dorsal surface rugose and sculptured by many irregular striae; posterior surface shiny, smooth, unsculptured. Mesopleuron and metapleuron dull, smooth, granulated. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (16:11). Protarsal segments in following proportions: 11:3:7:24:33. Enlarged claw (Plate 75D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 75D) with two rows of approximately 34 lamellae; distal apex with about seven lamellae, among which one very long. Tibial spurs 1/1/2.

**Male.** Fully winged; length 2.9 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa and metatrochanter black. Antenna filiform, with hairs much longer than breadth of segments; antennal segments in following proportions: 11:8:13:11:7:11:10:5:10:12. Head dull, granulated; anterior half of face granulated and sculptured by slight irregular striae; frontal line absent; face with median incomplete longitudinal furrow; occipital carina complete, deeply excavated behind ocellar triangle; POL = 4; OL = 2; OOL = 6; OPL = 5.5; TL = 6; vertex without two oblique keels connecting posterior ocelli to occipital carina. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.7 length of scutum. Scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Propodeum without transverse or longitudinal keels; dorsal surface dull, reticulate rugose; posterior surface reticulate rugose and with a central shiny and smooth area unsculptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (10:8). Paramere (Plate 75E) with large inner apical branch wrapping penis. Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Jamaica.

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**100. Deinodyrinus speciosus Olmi, 1984**

(Plate 76A)


**Description.** Female. Fully winged; length 2.4–3.5 mm. Completely testaceous, including petiole. In specimen from Colombia, 11°20'N 74°02'W, dorsal surface of propodeum black and antennal segment 10 darkened. In specimen from Brazil, Foresta Sacavém, dorsal surface of propodeum with small brown central spot. Antenna clavate; antennal segments in following proportions: 9:6:14:7:6:5:6.5:6.5. Head dull, granulated; face without median and lateral keels; frontal line absent; occipital carina complete; POL = 3; OL = 3; OOL = 7; OPL = 8; TL = 7. Pronotum dull, hairy, granulated and sculptured by numerous transverse keels; pronotal tubercle reaching tegula. Scutum shiny, unsculptured or very slightly granulated. Notauli incomplete, reaching approximately 0.5–0.7 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface reticulate rugose, with areolae small, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (14:8). Protarsal segments in following proportions: 7:2.5:5:15:21. Enlarged claw (Plate 76A) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 76A) with two rows of 31–41 lamellae; distal apex with about seven lamellae, among which one very long. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: BRAZIL: São Paulo, Teodoro Sampaio (CNC). **Other material:** BRAZIL: Maranhão, São Luís, Floresta Sacavém, 30.IX.1992, yellow pan trap, R. Cambra leg. (MGBF). COLOMBIA: Magdalena, Tayrona National Park, Zaino, 11°20'N 74°02'W, 50 m, 30.VIII–20.IX.2000, M. 624, R. Henriquez leg. (IAVH). COSTA RICA: Guanacaste, 3 km SE of Rio Naranjo, Finca Montezeuma (AMNH); MEXICO: Guerrero, 10 km SW Xochipala, 1500 m, 14.VII.1992, oak/tropical deciduous forest, R.S. Anderson leg., 1♀ (PMA).
**Hosts.** Unknown.

**Distribution.** Brazil, Colombia, Costa Rica, Mexico.

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**PLATE 76.** A, E. Chelae of holotypes. B. Head in frontal view of holotype. C, D. Male genitalia of holotypes. A. *Deinodryinus speciosus*. B, C. *D. sublatifrons*. D. *D. tidwelli*. E. *D. tigrensis*. Scale bar 0.14 mm for A and D, 0.48 mm for B, 0.10 mm for C, 0.13 mm for E.

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**101. Deinodryinus sublatifrons Olmi, 1999**  
(Plate 76B, C)


**Description.** Male. Fully winged; length 2.6–2.7 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa and club of metafemur darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 10:7.5:11:7.5:7:5:7:3:8:9:7:10.5. Head (Plate 76B) dull, with face rugose. Area in front of anterior ocellus provided of transverse furrow reaching laterally two further furrows located around orbits (furrows marking limits of square shaped face). Face divided into two halves by complete frontal line. Occipital carina complete; occellar triangle surrounded by furrow; POL = 6; OL = 3; OOL = 5.5; OPL = 6.5; TL = 6. Vertex of head with two complete oblique keels connecting posterior ocelli to occipital carina (surface on sides of oblique keels dull and granulated, not rugose; few areolae present between two oblique keels). Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. In specimen from Belize, 18°20.507’N 88°11.848’W, scutum very slightly granulated. Notauli thin, incomplete, reaching approximately 0.7 length of scutum. Propodeum dull, reticulate rugose; posterior surface without longitudinal or transverse keels, with areolae smaller than those of the dorsal surface; no transverse keels are visible between dorsal and posterior surface of propodeum. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (7:8). Paramere (Plate 76C) with large inner subapical branch. Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Belize, Costa Rica.

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192 - **Zootaxa 3792 (1)** © 2014 Magnolia Press
102. *Deinodryinus tidwelli* Olmi, 1991  
(Plate 76D)


**Description.** *Male.* Fully winged; length 3.2–4.0 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 10:8:12:9:10:10:9:9:12. In specimen from Paraguay, Jejui-mi, antennal segment 3 slightly shorter than 1. Head strongly reticulate rugose; face with two median longitudinal keels, in addition to two keels around orbits; frontal line absent; region behind ocellar triangle without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 2.5; OOL = 8; OPL = 8.5; TL = 11. Scutum, scutellum and metanotum shiny, smooth, unsculptured. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, median area shiny, smooth and unsculptured, lateral areas rugose; median area delimited by two longitudinal keels and anterior transverse keel. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (9:11). In specimen from Paraguay, Jejui-mi, fore wing with two slight dark transverse bands. Paramere (Plate 76D) with large inner branch located on the entire length of paramere. Tibial spurs 1/1/2.

*Female.* Unknown.


**Hosts.** Unknown.

**Distribution.** Colombia, Paraguay.

103. *Deinodryinus tigrensis* Olmi, 1999  
(Plate 76E)


**Description.** *Female.* Fully winged; length 3.2–3.4 mm. Head black, except mandible, clypeus and spot between antennal toruli testaceous; antenna testaceous; mesosoma black; metasoma testaceous-brown; legs testaceous, except distal half of metatibia, stalk of metafemur and one spot on metacoxa black. Antenna clavate; antennal segments in following proportions: 13:6:17:11:10:8.5:8:7:9. Head flat, dull, granulated, with face sculptured by many irregular and slightly distinct longitudinal keels; frontal line absent; occipital carina complete; POL = 3.5; OL = 3.5; OOL = 8; OPL = 8; TL = 10. Pronotum anteriorly crossed by slight transverse impression, dull, covered with dense hairs, granulated and rugose; posterior surface approximately as broad as long (22:21); pronotal tubercle reaching tegula. Scutum dull, strongly granulated. Notauli incomplete, reaching approximately 0.7 length of scutum. Scutellum and metanotum shiny, indistinctly granulated. Propodeum reticulate rugose, without transverse and longitudinal keels; posterior surface completely dull and reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (15:10). Protarsal segments of holotype in following proportions: 10:2:8:24:37. Enlarged claw (Plate 76E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 76E) with two rows of 38 + 26 lamellae; distal apex with 8 lamellae, among which one very long. Tibial spurs 1/1/2.

*Male.* Unknown.

**Material examined.** *Types:* ♀ holotype: HONDURAS: Francisco Morazán, La Tigra National Park, 14°15’N 87°05’W, Malaise trap in oak/pine cloud forest, 9 IV.1996, R. Cave leg. (ZIL). *Paratype:* same locality label as holotype, 1 ♀ (MOLC).

**Hosts.** Unknown.

**Distribution.** Honduras.
104. Deinodryinus tinianus Olmi, 1991  
(Plate 77A)


Description. Male. Fully winged; length 3.1–3.9 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs brown, except tarsi and tibiae testaceous. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 13:8:13:11:9:10:11:10:9:12. Head completely reticulate rugose; face without longitudinal keels, deeply longitudinally excavated; frontal line absent; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3; OOL = 8; OPL = 10; TL = 10. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum with dorsal surface reticulate rugose; posterior surface reticulate rugose, with two longitudinal keels and median area smooth, shiny and unsculptured; occasionally median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (15:12). Paramere (Plate 77A) with large distal inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.


105. Deinodryinus townesi Olmi, 1984  
(Plate 77B)


Description. Female. Fully winged; length 5.0–6.9 mm. Head black, with mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma testaceous-reddish, except prothorax yellow; occasionally prothorax with anterior collar black; metasoma testaceous-brown; legs testaceous, except small brown spots on meso- and metacoxa. Antenna clavate; antennal segments in following proportions: 15:7:22:13:10:9:8:9:8:9. Head dull, reticulate rugose; face without longitudinal keels; region behind ocellar triangle punctate, unsculptured among punctures, without two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 5; OL = 3.5; OOL = 13; OPL = 11; TL = 10. Pronotum shiny, finely punctate, unsculptured among punctures, crossed by strong transverse impression; pronotal tubercle reaching tegula; posterior surface approximately twice as broad as long, with two prominent dorsal transverse lobes. Scutum, scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.75 length of scutum. Propodeum reticulate rugose, without transverse and longitudinal keels; posterior surface smooth and shiny. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (15:23). Protarsal segments in following proportions: 12:3:9:15:31. Enlarged claw (Plate 77B) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 77B) with two rows of 31 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BRAZIL: Bahia, Encruzilhada (AEIC). Other material: BRAZIL: Santa Catarina, Nova Teutonia (AMNH).

Hosts. Unknown.

Distribution. Brazil.
106. *Deinodryinus trinidadi* Olmi, 1984
(Plate 77C–F)


**Description.** *Female.* Fully winged; length 3.7–4.7 mm. Head testaceous or testaceous-reddish, except ocellar region brown or dark; antenna testaceous, except segments 8–10 or 9–10 dark; mesosoma black; metasoma brown; legs testaceous, except stalk of metafemur and metatibia brown; occasionally only extremities of metatibia brown; occasionally extremities of mesotibia and metacoxa partly brown. Antenna slightly clavate; antennal segments in following proportions: 15:7:21:13:9:8:8:8:8:11. Head shiny, reticulate rugose; face with three median longitudinal keels, in addition to two keels around orbits; vertex behind ocellar triangle slightly or strongly reticulate rugose, with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 12; OPL = 12; TL = 12. Pronotum shiny, hairy, crossed by strong transverse impression; posterior surface smooth, finely punctate, unsculptured among punctures, with two slight dorsal lobes parallel to the lateral margins of pronotum; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, very finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum (Plate 77C). Propodeum with posterior surface almost completely rugose. Fore wing with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (17:15). Protarsal segments in following proportions: 12:4:9:15:35. Enlarged claw (Plate 77D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 77D) with two rows of approximately 34 lamellae; distal apex with about 15 lamellae. Tibial spurs 1/1/2.

*Male.* Fully winged; length 2.6–3.6 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa basally black. Antenna filiform, with hairs much longer than breadth of segments; antennal segments in following proportions: 15:7:15:10:12:12:12:12:15:15. Head (Plate 77E) shiny, completely reticulate rugose; face with two lateral keels around orbits and three median longitudinal keels; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 3; OOL = 5; OPL = 8; TL = 7. Scutum, scutellum and metanotum
shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum (Plate 77C). Propodeum reticulate rugose; posterior surface with or without two complete longitudinal keels and median area as rugose as lateral areas; median area anteriorly surrounded by transverse keel; occasionally median area smooth, shiny, unsculptured. Fore wing hyaline, without dark transverse bands; occasionally fore wing slightly darkened; distal part of stigmal vein as long as, or slightly longer than proximal part (11:10). Paramere (Plate 77F) with broad distal inner branch wrapping penis and with many papillae on inner side of paramere. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Argentina, Belize, Brazil, Colombia, Costa Rica, Honduras, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, Venezuela.

107. Deinodryinus tucumanensis Olmi, 1987
(Plate 78A)


Description. Male. Fully winged; length 2.9–3.2 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except proximal part of metacoxa darkened. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 12:9:11:12:10:12:12:11:13. Head shiny, punctate, unsculptured among punctures; occipital carina complete; POL = 4; OL = 2; OOL = 8; OPL = 8; TL = 8. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli complete, posteriorly separated; in four specimens from Argentina, Santa Cruz, notauli very thin and incomplete, reaching approximately 0.90–0.95 length of scutum. Propodeum dull, reticulate rugose; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (10:13). Paramere (Plate 78A) without inner branch wrapping penis. Tibial spurs 1/1/2.

Female. Unknown.

Hosts. Unknown.

Distribution. Argentina.

108. Deinodryinus vagans Olmi, 1984
(Plate 78B–D)


Description. Female. Fully winged; length 4.2–6.0 mm. Head black, except mandible, clypeus and malar space testaceous; antenna black, except segment 1, 2 and part of 3 testaceous (in specimen from Brazil, Serra do Curral, antenna testaceous, except segments 6–10 darkened); mesosoma black, except prothorax testaceous-reddish or testaceous-darkened; metasoma brown-testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 12:8:19:16:13:10:10:10. Head shiny, with face sculptured by numerous parallel longitudinal keels; vertex behind ocellar triangle smooth, punctate, unsculptured among punctures, without two oblique keels connecting posterior ocelli to occipital carina; occasionally the punctures of vertex are very broad and deep, similar to areolae; frontal line complete; occipital carina complete; POL = 8; OL = 4; OOL = 13; OPL = 9; TL = 9. Pronotum shiny, hairy, finely punctate, unsculptured among punctures, crossed by strong transverse impression; posterior surface about twice as broad as long, with two strong transverse dorsal lobes; pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.65–0.80 length of scutum. Propodeum reticulate rugose,
without transverse or longitudinal keels; posterior surface dull, completely reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (18:22; or 6:19; or 18:24). Protarsal segments in following proportions: 12:3:9:20:37; occasionally segment 1 approximately as long as segment 4. Enlarged claw (Plate 78D) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 78D) with two rows of approximately 31 lamellae; distal apex with about 15 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 3.4 mm. Head black, except mandible partly testaceous; antenna with ventral side testaceous, dorsal side brown; mesosoma and metasoma black; legs testaceous, except femora, metacoxa, meso- and metatibia partly brown. Antenna filiform, with hairs shorter than breadth of segments; antennal segments in following proportions: 13:7:16:10:10:10:10:9:12. Head shiny, with face sculptured by numerous parallel longitudinal keels; vertex behind ocellar triangle smooth, punctate, unsculptured among punctures, without two oblique keels connecting posterior ocelli to occipital carina; frontal line complete; occipital carina complete; POL = 7; OL = 4; OOL = 10; OPL = 8; TL = 6. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum reticulate rugose; posterior surface reticulate rugose, with a small smooth and shiny area. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (12:14). Occasionally fore wing slightly darkened. Paramere (Plate 78B, C) with small distal inner branch. Tibial spurs 1/1/2.

Material examined. Types: ♀ holotype: BRAZIL: Rio de Janeiro, Teresopolis (AEIC). Paratypes: same locality label as holotype (4 ♀♀ in AEIC, 4 ♀♀ and 1 ♂ in AMNH). Other material: ARGENTINA: Salta, San Ramón de la Nueva Orán, Abra Grande (MCZ); Tucumán, Horco Molle (AEIC, MCZ, PMA); Tucumán, Tapia, 16.III.1993, Malaise trap, Fidalgo & Cuezzo leg. (IFML). BOLIVIA: Beni, Serra do Barreiro (AMNH); Santa Cruz, Rio Itenez-Rio Paraguay (AMNH); Santa Cruz, Rio Ichilo (AMNH). BRAZIL: Goiás, Jataí (AMNH); Minas Gerais, S. Barbara, Serra do Caraca (AEIC); Minas Gerais, Aguas Vermelhas, 15°45’S 11°28’W, 800 m (AEIC); Pernambuco, Caruaru, 900 m (AEIC, PMA); Santa Catarina, Nova Teutonia (AMNH, MCZ); São Paulo, Serra da Bocaina, São José do Barreiro (AMNH); São Paulo, Teodor Sampaio (AEIC); Minas Gerais, Belo Horizonte, Serra do Curral, 27.XI.1960, Araujo & Martins leg., 1 ♀ (MZUS). PARAGUAY: San Pedro, Rio Ypane at Cororó (DFAS, IIS). PERU: Huánuco, Tingo Maria (DFAS); 13 km S of Tingo Maria, Tambello Chico (DFAS); Huánuco, Puerto Inca Prov., Yuyapichis District, Panguana, 9°37’S 74°56’W, 260 m, 14.IV.1003, C.J. Zwakhals leg., 1 ♀ (ZSM).

Hosts. Unknown.

Distribution. Argentina, Bolivia, Brazil, Paraguay, Peru.

109. Deinodryinus validus Olmi, 1995
(Plate 78E)


Description. Female. Fully winged; length 4.4 mm. Head black, except mandible, clypeus, gena and anterior frontal stripe near clypeus testaceous; antenna testaceous, except segments 7–10 brown; mesosoma black, except prothorax testaceous-reddish; metasoma brown, partly testaceous; legs testaceous, except metacoxa partly black. Antenna clavate; antennal segments in following proportions: 16:7:16:11:8:9:8:8:8:12. Head dull, reticulate rugose; face with three median longitudinal keels, in addition to two keels around orbits; vertex reticulate rugose; region behind ocellar triangle with two complete oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 3; OOL = 10; OPL = 12; TL = 13. Pronotum shiny, smooth, hairy, unsculptured; posterior surface smooth, unsculptured, shorter than scutum (13:21), with two dorsal transverse lobes. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, almost reaching posterior margin of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels; posterior surface reticulate rugose, with a wide smooth and shiny central area. Fore wing with two dark transverse bands; distal part of stigmal vein slightly longer than proximal part (13:12). Protarsal segments in following proportions: 10:3:7:10:25. Enlarged claw (Plate 78E) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 78E) with two rows of approximately 22 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Hosts. Unknown.


110. Deinodryinus wasbaueri Olmi, 1987
(Plate 78G)


Description. Male. Fully winged; length 2.4–3.1 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma and metasoma black; legs of holotype testaceous, except metacoxa darkened; in specimen from Paraguay, 21°12'S 61°39'W, legs testaceous, except coxae and clubs of femora brown. Antenna filiform, with hairs longer than breadth of segments; antennal segments in following proportions: 7:5.5:10:7:8:8:9:7:8:9. Head shiny, strongly reticulate rugose; face with two strong longitudinal and parallel median keels, in addition to two keels around orbits; region behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 4; OL = 2.5; OOL = 7; OPL = 7; TL = 8. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum. Propodeum dull, with dorsal surface reticulate rugose; posterior surface reticulate rugose, except smooth and shiny central area. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (7:11). Paramere (Plate 78G) with large inner branch. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Ecuador, Paraguay.

111. Deinodryinus woldai Olmi, 1998
(Plate 78F)


Description. Female. Fully winged; length 4.1 mm. Completely testaceous, except posterior surface of propodeum darkened and stalk of metafemur brown. Antenna clavate; antennal segments in following proportions: 11:6:16:13:10:10:9.5:12. Head with face slightly rugose and vertex granulated, smooth, not rugose; frontal line complete; face with two lateral incomplete parallel and longitudinal keels; region behind ocellar triangle without two complete oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; POL = 3; OL = 3; OOL = 7; OPL = 9; TL = 5. Pronotum with posterior surface strongly sculptured by transverse keels, shorter than scutum (11:19), broader than long (18:11); pronotal tubercle reaching tegula. Scutum shiny, smooth, very slightly granulated. Notauli incomplete, almost reaching posterior margin of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface dull, reticulate rugose, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (12:13). Protarsal segments in following proportions: 11:3:5:19:28. Enlarged claw (Plate 78F) with one bristle located further distally than proximal prominence. Segment 5 of protarsus (Plate 78F) with two rows of approximately 37–41 lamellae; distal apex with about three lamellae, among which one very long. Tibial spurs 1/1/2.

Male. Unknown.


DRYINIDAE OF THE NEOTROPICAL REGION
Hosts. Unknown.
Distribution. Panama.

112. **Deinodryinus xanthonotatus** Olmi & Virla, sp. nov. (Plate 78H)

**Description. Female.** Fully winged; length 5.6 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna testaceous; mesosoma black, except disc and part of lateral regions of pronotum testaceous; petiole black; metasoma testaceous; legs testaceous, except part of club of metafemur black. Antenna clavate; antennal segments in following proportions: 16:8:24:16:12:11:11:10:13. Head shiny, punctate, unsculptured among punctures, with anterior half of face rugose and very hairy; face with three median longitudinal keels connecting anterior ocellus to clypeus; clypeus hairy, with median longitudinal keel; face with a strong lateral keel along orbits directed towards antennal toruli; vertex behind ocellar triangle with two oblique keels connecting posterior ocelli to occipital carina; occipital carina complete; ocellar triangle swollen, with lateral longitudinal furrow; POL = 3; OL = 3; OOL = 11; OPL = 13; TL = 15; greatest breadth of posterior ocellus longer than POL (4:3). Pronotum hairy, shiny, smooth, finely punctate, unsculptured among punctures; pronotum anteriorly crossed by transverse impression; posterior surface centrally excavated, slightly shorter than scutum (23:25); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.8 length of scutum. Propodeum with dorsal surface reticulate rugose, with two–three rows of areolae in front of posterior surface; posterior surface shiny, smooth, punctate. Mesopleuron hairy, punctate, unsculptured among punctures. Metapleuron hairless, punctate, unsculptured among punctures. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (20:15). Hind wing hyaline, not darkened. Protarsal segments in following proportions: 12:3:8:25:48. Enlarged claw (Plate 78H) with one small lamella located further distally than proximal prominence. Segment 5 of protarsus (Plate 78H) not double-S shaped, with two rows of about 48 lamellae; distal apex with group of about seven lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type**: ♀ holotype: FRENCH GUIANA: Roura, Montagne des Chevaux, IX.2011, Malaise trap, SEAG leg. (FSAE).

Hosts. Unknown.

**Distribution.** French Guiana.

6. **Genus Lonchodryinus** Kieffer, 1905


*Psilanteon* Kieffer 1913a: 301 (synonymized by Olmi 1984); type species: *Psilanteon aequalis* (Kieffer, in Kieffer & Marshall 1905), by original designation; Kieffer 1914: 212; Richards 1937: 119.

**Type species.** *Lonchodryinus tricolor* Kieffer 1905, by monotypy (Kieffer 1905a).

**Diagnosis. Female** (Plate 79A, B): macropterous (Plate 79A, B), or rarely brachypterous (only in the Palaearctic region); palpal formula 6/3; occipital carina complete; antenna without rhinaria; pronotum with distinct anterior collar and posterior disc; propodeum usually without transverse keel between dorsal and posterior surface (Plate 79A); in macropterous females fore wing with distal part of stigmal vein as long as, or longer than proximal part (Plate 79B); rarely distal part of stigmal vein slightly shorter than proximal part; enlarged claw with inner proximal prominence bearing one long bristle (Plate 80B); tibial spurs 1/1/2.
Male (Plate 79C, D) always macropterous (even if female brachypterous); palpal formula 6/3; occipital carina complete; propodeum usually without a transverse keel between dorsal and posterior surface (Plate 79D); fore wing with distal part of stigmal vein as long as, or longer than proximal part (Plate 79C, D); rarely distal part of stigmal vein slightly shorter than proximal part; fore wing with pterostigma less than four times as long as broad (Plate 80C); paramere without dorsal process, usually without inner branch wrapping penis (Plate 80A); tibial spurs 1/1/2.

Distribution. Worldwide.
World species. Sixteen species are known, two in the Neotropical region.

Plate 79. Lonchodryinus sp. A, B. Female in dorsal (A) and lateral (B) view (length 4.3 mm). C, D. Male in lateral (C) and dorsal (D) view (length 3.1 mm) (from Olmi 1984).
Key to the species

Females

Only the female of *L. tricolor* Kieffer is known.

Males

Only the male of *L. neotropicus* Olmi is known.

1. **Lonchodryinus neotropicus** Olmi, 1991

(Plate 80A)


**Description.** *Male.* Fully winged; length 2.1 mm. Head black; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi and articulations testaceous. Antenna filiform; antennal segments in following proportions: 7:5:9:11:10:9:8:8:8:10. Head shiny, smooth, finely punctate, unsculptured among punctures; frontal line absent; face with median longitudinal furrow; occipital carina complete; POL = 4 OL = 3; OOL = 5; OPL = 3.5; TL = 5. Scutum, scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Notauli
incomplete, reaching approximately 0.6 length of scutum. Propodeum dull, completely reticulate rugose, without transverse and longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly longer than proximal part (7:6). Paramere (Plate 80A) without distal inner process and without papillae on inner side. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.


2. Lonchodryinus tricolor Kieffer, 1905
(Plate 80B)


Description. Female. Fully winged; length 6.0–7.5 mm. Head black, except mandible, clypeus, malar space and anterior region of face testaceous; antenna completely testaceous; mesosoma black, except prothorax, scutum and mesopleuron testaceous-reddish; occasionally pronotum black, except margins reddish, and scutum black; occasionally scutellum reddish; occasionally mesopleuron black, except distal region reddish; petiole black; metasoma and legs testaceous. Antenna clavate; antennal segments in following proportions: 20:8:25:19:18:15:14:13:12:14. Head dull, granulated, with face hairy, sculptured by many or few longitudinal keels, including two keels around orbits; occasionally vertex punctate, unsculptured among punctures, or sculptured by numerous longitudinal keels; occipital carina complete; POL = 6; OL = 2.5; OOL = 13; OPL = 17; TL = 12. Pronotum hairy, shiny, finely punctate; pronotal tubercle reaching tegula. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli almost complete, almost reaching posterior margin of scutum; occasionally notauli reaching approximately 0.9 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum completely reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing with one slight dark spot beneath pterostigma; distal part of stigmal vein longer than proximal part. Protarsal segments in following proportions: 12:4:6:13:22. Enlarged claw (Plate 80B) with proximal prominence bearing one long bristle. Segment 5 of protarsus (Plate 80B) with three rows of approximately 57 lamellae; distal apex with about nine lamellae. In specimen from Argentina, Chumbicha, mesosoma totally testaceous-reddish, fore wing hyaline and without dark spots or transverse bands. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BRAZIL: Goiás (MNHN). Other material: ARGENTINA: Entre Ríos, Concordia (IIS); Misiones, Loreto (FCNM); Misiones, Dos de Mayo (FCNM); Catamarca, W of Chumbicha, 1100 m, 27.I.2012, Snizek leg., 1♀ (OLL). BOLIVIA: Santa Cruz, Šara, 450 m (CMNH). BRAZIL: Bahia, Encruzilhada, 980 m (AEIC, AMNH, CNC); Pernambuco, Caruaru (AEIC); Rondonia, Vilhena (AEIC). PARAGUAY: Cordillera, Naranjo, Barrio San José, 25°32.213’S 57°03.238’W, 290 m, 5–7.XI.2004, Malaise trap in forested edge of rocky hill, B. Garcete & J. Jara leg., 1♀ (MNHNP).

Hosts. Unknown.

Distribution. Argentina, Bolivia, Brazil, Paraguay.

7. Genus Metanteon Olmi, 1984


Type species. Metanteon aerias (Walker 1839), by original designation.

Diagnosis. Female (Plate 81A, B): Fully winged; occipital carina complete; mandible quadridentate, with teeth progressing larger from anterior one to posterior (Plate 6A); palpal formula 6/3; antenna without rhinaria;
pronotum with distinct anterior collar and posterior disc (Plate 81A, B); pronotal tubercle present; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 81A, B); fore wing with stigmal vein and pterostigma present (Plate 81A, B); distal part of stigmal vein longer than proximal part (Plate 81A, B); protarsus chelate (Plate 81A, B); chela without rudimentary claw (Plate 81C); inner side of enlarged claw with one row of at least four bristles (Plate 81C); tibial spurs 1/1/2.

**Male** (Plate 81D, E): Fully winged; occipital carina complete; mandible quadridentate, with teeth progressing larger from anterior one to posterior (Plate 6A); palpal formula 6/3; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 81D, E); fore wing with stigmal vein and pterostigma present (Plate 81D, E); pterostigma four times, or more than four times as long as broad (Plate 81D, E); distal part of stigmal vein longer than proximal part (Plate 81D, E); paramere without inner branch wrapping the penis, with dorsal process (Plate 81F); tibial spurs 1/1/2.

**Distribution.** Neotropical.

**Hosts.** Unknown.

**World species.** Type species only.

1. *Metanteon aerias* (Walker, 1839)

   (Plate 81)

   *Dryinus aerias* Walker 1839: 92.
   *Anteon aerias* (Walker): Dalla Torre 1898: 537.
   *Metanteon fuscum* Olmi 1984: 116 (synonymized by Olmi 1991); type locality: Cobquecura (Nuble Prov., Chile); Olmi 1987a: 372.

   **Description.** *Female* (Plate 81A, B). Fully winged; length 2.8–4.6 mm. Typical *aerias* with head, pronotum and scutum testaceous-redish; antenna testaceous-reddish, except segment 10 slightly dark; rest of mesosoma and metasoma black; legs testaceous, except metacoxa proximally brown and occasionally clubs of femora partly black. *fuscum* variety with head completely black, except occasionally anterior half of face yellow-testaceous, or malar space and anterior half of ventral side testaceous; occasionally head completely testaceous or with black spot on vertex; mandible testaceous, or occasionally black; antenna brown, except segment 1 or segments 1–2 testaceous; occasionally antenna brown, except ventral side of segment 1 testaceous; colour of mesosoma as in typical *aerias*, except pronotum black with testaceous margins; colour of metasoma and legs as in typical *aerias*.

   Antenna clavate; antennal segments in following proportions: 9:5:11:9:8:7:7:7:8. Head dull, smooth, usually granulated, occasionally punctate and unsculptured among punctures; frontal line absent; POL = 3; OL = 2; OOL = 7; OPL = 5; TL = 5; occipital carina complete. Pronotum dull, granulated, with slight transverse impression (stronger on lateral regions); pronotal tubercle reaching tegula. Scutum, scutellum and metanotum shiny, smooth, granulated or slightly punctate and unsculptured among punctures. Notauli incomplete, reaching approximately 0.65 length of scutum. Mesopleuron smooth, slightly granulated. Metapleuron reticulate rugose. Propodeum dull, completely reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; stigmal vein curved, with distal part longer than proximal part; pterostigma long and narrow (Plate 81A, B). Protarsal segments in following proportions: 10:2:3:11:17. Inner side of enlarged claw (Plate 81C) with one row of six short bristles. Segment 5 of protarsus (Plate 81C) with one–two rows of 26–55 lamellae or peg-like hairs; distal apex with about 3–5 lamellae. Tibial spurs 1/1/2.

   *Male* (Plate 81D, E). Fully winged; length 2.5–2.7 mm. Head black, except mandible, clypeus, part of face and vertex, ventral side of head testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous. Antenna filiform, with hairs shorter than breadth of segments; antennal segments in following proportions: 8:6:11:14:13.5:13:12:11.5:10:12. Head dull, granulated; frontal line complete; occipital carina complete; POL = 6; OL = 2.5; OOL = 6.5; OPL = 5; TL = 6. Scutum, scutellum and metanotum shiny, punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.6 length of scutum. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (15:12). Paramere (Plate 81F) shorter than penis, with long and slender dorsal process. Tibial spurs 1/1/2.
Material examined. Type: ♀ holotype of *D. aerias*: CHILE: no locality records (BMNH); ♀ holotype of *M. fuscum*: CHILE: Bio-Bio, Nuble Prov., Cobquecura (CNC). Eight paratypes of *M. fuscum*: CHILE: Bio-Bio, Nuble Prov., Chillán Volcano, Las Cabras, 3♀♂ (AEIC, AMNH, CNC); Maule, Curicó Prov., El Coigo, X–XI.1959, J. Foerster leg., 2♀♂ (AMNH, CNC); Arauco Prov., Cordillera de Nahuelbuta, Pichinahuel, 1♀ (CNC); Arauco Prov., Butamalal, 2♀♂ (AMNH). Other material: ARGENTINA: Neuquén, Lanín National Park, Lake Currhué (USNM); Neuquén, 8 km N San Martín de los Andes, 1000 m, 16–22.XI.1997, Malaise trap, C. & M. Vardy leg., 2♂♂ (AMNH, BMNH); Rio Negro, Villa Llao Llao (AMNH, MCZ). CHILE: Araucanía, Malloco Prov., Malalcahuello, 1350 m (AEIC); Araucanía, Malloco Prov., 12 km E of Malalcahuello, 1350 m, 13–31.XII.1982 (CNC); Araucanía, Malloco Prov., 6.5 km E of Malalcahuello, 1080 m, 13–31.XII.1982 (CNC); Araucanía, Malloco Prov., 20 km W Curacautín, Princesa (CNC); Araucanía, Malloco Prov., Nahuelbuta National Park, 40 km W Angol (CNC); Araucanía, Malloco Prov., Nahuelbuta National Park, 37°48.10'S 73°01.27'W, 1327 m, 8II.2005, Araucaria/Chusquea forest, UCR AtoL. C05-004, 2♀♂ (AMNH, CNC); Araucanía, Malloco Prov., Nahuelbuta National Park, 37°809'S 73°016'W, 3680', 9–12.I.2000, Malaise trap, V.W. Webb & D.K. Yeates leg., 1♀ (CNC); Araucanía, Cautín Prov., Conguillío National Park, 1150 m (PMA); Araucanía, Cautín Prov., foot of Volcán Llaima, Conguillío National Park, Lake Captrén, 38°38.42'S 71°42.31'W, 1162 m, 24.XII.2005, M. von Tschirnhaus leg., 1♀ (MTC); Araucanía, Lake Conguillío, sendero Sierra Nevada, 25.XII.2005, M. von Tschirnhaus leg., 1♀ (MTC); Bio-Bio, Nuble Prov., 22.7 km ESE of Recinto, 1370 m, 10.XII.1982–8.I.1983 (CNC); Bio-Bio, Nuble Prov., 72 km SE Chillán, near Termas de Chillán, Las Trancas, 1600 m (CNC); Los Lagos, Chiloé Prov., Ahoni Alto (AEIC); Maule, Curicó Prov., Fundo la Montana, Estero La Palma at Rio Teno, 6 km E Los Quenes (CAS); Maule, Talca Prov., Altos de Vilches (AMNH, MCZ); Maule, Linares Prov., Cordillera Parral, Fundo Malcho (CNC).

Hosts. Unknown.
Distribution. Argentina, Chile.
Remarks. This species was collected in *Nothofagus* forests. The holotype of *D. aerias* was collected by Charles Darwin in Chile during his famous trip by HMS Beagle (Walker 1839).

IV. Subfamily Bocchinae Richards, 1939


Diagnosis. *Female* (Plate 82A, B): Fully winged (Plate 82A, B); occasionally brachypterous or micropterous or apterous; occipital carina complete; ocelli present; mandible with one, two, three or four teeth (Plate 6A–E); quadridentate mandible usually with three large teeth and one rudimentary tooth between two posterior teeth (Plate 6C) rarely quadridentate mandible with teeth progressing larger from anterior one to posterior (Plate 6A); palpal formula 6/3; antenna without tufts of long hairs and without rhinaria; pronotal tubercle present; epicnemium not visible, because lateral regions of prothorax continuous with mesopleura (as in Plate 4A); fore wing of fully winged specimens with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 82A, B); fore wing with stigmal vein (Plate 82A, B); pterostigma of fully winged specimens present, usually very reduced (Plate 82A, B); protarsus chelate (Plate 82A, B); chela with rudimentary claw (Plate 83E); protrochanter short and slightly longer than broad; tibial spurs 1/1/1, or 1/1/2.

*Male* (Plate 82C, D): Fully winged (Plate 82C, D), rarely micropterous (only *Mystrophorus formicaeformis* Ruthe, not present in the Neotropical region) or apterous (only *Mystrophorus apterus* Ponomarenko, not present in the Neotropical region); occipital carina complete; mandible with one, two, three or four teeth (Plate 6A–E); quadridentate mandible usually with three large teeth and one rudimentary tooth between two posterior teeth (Plate 6C); palpal formula 6/3; epicnemium invisible, because lateral regions of prothorax continuous with mesopleura (as in Plate 4C); in fully winged specimens fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (as in Plate 82C, D); in fully winged specimens fore wing with stigmal vein (Plate 82C, D); pterostigma present (Plate 82C, D); tibial spurs 1/1/2.

Distribution. Worldwide.


World species. One hundred and four species are known, eight in the Neotropical region.

World genera. Three genera are known, only one in the Neotropical region.

Remarks. The following two genera are not quoted from the Neotropical region: *Mirodryinus* Ponomarenko 1972 (Palaearctic) and *Mystrophorus* Förster 1856 (Palaearctic). Larvae of *Mystrophorus* were described by Guglielmino & Bückle (2010); larvae of *Mirodryinus* are unknown.

8. Genus *Bocchus* Ashmead, 1893


*Phorbas* Ashmead 1893: 90 (preoccupied by *Phorbas* Duchassaing & Michelotti 1864; synonymized by Richards 1939); type species: *Phorbas laticeps* Ashmead 1893, by original designation.

*Eukoebeleia* R. Perkins 1905: 59 (synonymized by Fenton 1918); type species: *Eukoebeleia mirabilis* R. Perkins 1905, by monotypy.

*Tetradryinus* Kieffer 1913b: 325 (synonymized by Olmi 1984); type species: *Tetradryinus flavipes* (Kieffer 1906), by original designation.

*Anteonella* Dodd 1913: 181 (synonymized by Olmi 1984); type species: *Anteonella robusta* Dodd 1913, by original designation.

*Phorbasia* Kieffer 1913a: 58 (synonymized by Richards 1939); type species: *Phorbasia laticeps* (Ashmead 1893), by original designation.


**Type species.** Bocchus flavicollis Ashmead 1893, by original designation.

**Diagnosis.** Female (Plate 82A, B): Fully winged (Plate 82A, B), or brachypterous, or micropterous; occipital carina complete; antenna without rhinaria; palpal formula 6/3; in fully winged specimens fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 82A, B); fore wing of fully winged specimens with stigmal vein; pterostigma of fully winged specimens present, usually very reduced (Plate 82A, B); protarsus chelate (Plate 82A, B); segment 5 of protarsus usually with inner membranous band (Plate 83D, F), occasionally without inner membranous band, but then with only one preapical lamella (Plate 83E); tibial spurs usually 1/1/1, occasionally 1/1/2.

Male (Plate 82C, D): Fully winged (Plate 82C, D); occipital carina complete; mandible with one–four teeth (Plate 6A–E); quadridentate mandible always with one intermediate rudimentary tooth (Plate 6C); palpal formula 6/3; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 82C, D); fore wing with stigmal vein and pterostigma (Plate 82C, D); paramere without inner branch wrapping the penis (Plate 83A, B, C); tibial spurs 1/1/2.

**Distribution.** Worldwide.


**World species.** Ninety four species are known, eight in the Neotropical region (including one fossil species).

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**PLATE 82.** Bocchus sp. A, B. Female in dorsal (A; length 4.0 mm) and lateral (B; length 2.6 mm) view (A from Xu et al. 2013; B from Olmi 1984). C, D. Male in lateral (C) and dorsal (D) view (length 2.7 mm) (from Olmi 1984).
Extant Neotropical species

Key to the extant species

Females (unknown in the species not present in the key to the females)

1. Scutum completely sculptured by longitudinal striae; body almost totally reddish .............................. B. ruber Olmi
   – Scutum granulated, occasionally partly reticulate rugose, not sculptured by longitudinal keels; body almost totally black or partly black and partly testaceous-reddish ......................................................... 2
2. Head and prothorax almost totally black. ......................................................................................... B. neotropicus Olmi
   – Head and prothorax testaceous-reddish. .................................................................................. B. colombianus Olmi

Males (unknown in the species not present in the key to the males)

1. Posterior surface of propodeum with median area almost completely shiny, smooth and unsculptured .............................. 2
   – Posterior surface of propodeum with median area completely or almost completely dull and rugose. ......................................................... 3
2. Head granulated and sculptured by some irregular keels; scutum granulated ................................. B. boharti Olmi
   – Head completely reticulate rugose; scutum with lateral areas granulated and median area between notauli reticulate rugose. B. menkei Olmi
3. Scutellum almost completely rugose, with only small anterior region smooth and punctate ......................... B. neotropicus Olmi
   – Scutellum completely granulated. ........................................................................................ 4
4. Head completely reticulate rugose and granulated, with POL about as long as OPL. ................................. B. opacus Olmi
   – Head almost completely granulated, with few irregular keels or Areolae, with POL longer than OPL. ........ B. argentinus Olmi

1. Bocchus argentinus Olmi, 1999
(Plate 83A)


**Description.** Male. Fully winged; length 2.2–2.5 mm. Head black, except mandible brown; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 9:5:6:6:6:5:5:5:5:7. Head dull, granulated, with few irregular keels or areolae mainly along orbits (in specimen from Paraguay, 23°24.137’S 56°30.336’W, also behind ocellar triangle); frontal line complete; occipital carina complete; POL = 6; OL = 3.5; OOL = 5; OPL = 3.5; TL = 7. Scutum and scutellum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (7:2.5). Metanotum dull, granulated and rugose. Propodeum reticulate rugose, with strong transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; stigmal vein with distal part shorter than proximal part (6:11). Genitalia in Plate 83A. Tibial spurs 1/1/2.

Female. Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Paraguay.

2. Bocchus boharti Olmi, 1991


**Description.** Male. Fully winged; length 1.9–2.2 mm. Head black, except mandible testaceous; antenna brown; mesosoma and metasoma black; legs brown, except tarsi whitish. Antenna filiform; antennal segments in following
proportions: 9:5:6:5:5:6:5:8. Head dull, granulated, with some little distinct irregular keels; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 6.5; OPL = 4.5; TL = 6. Scutum and scutellum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (6:2.5). Metanotum dull, rugose. Propodeum with dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas rugose and median area almost completely shiny, smooth and unsculptured. Fore wing hyaline, without dark transverse bands; stigmal vein with distal part shorter than proximal part (6:9). Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Bolivia, Mexico.

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**PLATE 83.** A–C. Male genitalia. D–F. Chelae of holotypes. A. *Bocchus argentinus*, male from Paraguay, 23°24.137’S 56°30.336’W. B. *B. neotropicus*, male from Paraguay, 23°24.137’S 56°30.336’W. C. *B. opacus*, holotype. D. *B. colombianus*. E. *B. neotropicus*. F. *B. ruber*. Scale bar 0.09 mm for A and C, 0.12 mm for B, 0.24 mm for D, 0.16 mm for E and F.

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### 3. *Bocchus colombianus* Olmi, 1991

(Plate 83D)


**Description.** Female. Fully winged; length 3.9 mm. Head testaceous-reddish; antenna testaceous; prothorax testaceous-reddish, except pronotal tubercle brown; rest of mesosoma black; petiole testaceous; metasoma brown; fore leg testaceous; mid- and hind leg brown, except tarsus testaceous. Antenna clavate; antennal segments in following proportions: 10:7:10:8:7:6:6:5:7. Head shiny, slightly granulated, slightly rugose on sides of face and near clypeus; frontal line complete; face with two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 2; OL = 2; OOL = 10; OPL = 8; TL = 6. Pronotum hairy, crossed by strong transverse impression; pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (8:2). Scutellum and metanotum shiny, unsculptured. Propodeum dull, reticulate rugose; posterior surface with two longitudinal keels
and median area as rugose as lateral areas. Fore wing with one dark transverse band; distal part of stigmal vein shorter than proximal part (8:12). Protarsal segments in following proportions: 15:2:3:10:13. Enlarged claw (Plate 83D) with one row of nine teeth and one bristle. Segment 5 of protarsus (Plate 83D) with one preapical lamella and two bristles. Tibial spurs 1/1/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Colombia.


Description. Male. Fully winged; length 2.0–2.3 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna filiform. Head swollen, dull, strongly reticulate rugose; frontal line complete; occipital carina complete; POL = 4; OL = 2; OOL = 5.5; OPL = 4.5; TL = 4.5. Scutum dull, with lateral areas granulated and median area between notauli strongly reticulate rugose. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (7:3). Scutellum slightly granulated. Metanotum reticulate rugose. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas rugose and median area shiny, smooth and unsculptured. Fore wing hyaline, without dark transverse bands; stigmal vein with distal part shorter than proximal part (8:11). Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Venezuela.

5. Bocchus neotropicus Olmi, 1986

(Plate 83B, E)


Description. Female. Fully winged; length 2.3–2.6 mm. Head black, except mandible and occasionally also clypeus testaceous; occasionally antenna brown, occasionally partly testaceous; mesosoma and metasoma black; legs totally testaceous; occasionally legs testaceous, except femora and metacoxa brown. Antenna clavate; antennal segments in following proportions: 10:4:8:6:5:5:4:5:4:5. Head dull, granulated; vertex behind posterior ocelli with some irregular keels or areolae; frontal line complete; occipital carina complete; POL = 3; OL = 2; OOL = 8; OPL = 5; TL = 8. Pronotum hairy, excavated, sculptured by numerous transverse keels; pronotal tubercle reaching tegula. Scutum dull, granulated, occasionally with anterior third rugose. Notauli complete, posteriorly separated. Scutellum shiny, smooth, slightly granulated; occasionally posterior half of scutellum rugose. Metanotum rugose. Propodeum dull, reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing with one–two dark transverse bands; in small specimen from Argentina, 19 km S Wanda, fore wing completely hyaline, without dark transverse bands; stigmal vein regularly curved. Protarsal segments in following proportions: 13:2:3:9:11. Enlarged claw (Plate 83E) with one row of six–eight teeth and one bristle. Segment 5 of protarsus (Plate 83E) with one preapical lamella and two bristles. Tibial spurs 1/1/1.

Male. Fully winged; length 2.6–3.1 mm. Head black, except mandible testaceous; antenna brown-testaceous; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal...
segments in following proportions: 11:6:8:7:7:7:6:8.5. Head convex, dull, completely reticulate rugose; frontal line complete; occipital carina complete; POL = 4; OL = 3; OOL = 7; OPL = 6; TL = 5.5. In large (3.1 mm) specimen from Paraguay, 23°24.137’S 56°30.336’W, POL about as long as OPL. Scutum reticulate rugose. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (8:3.5). Scutellum rugose, only with small anterior region smooth and punctate. In large (3.1 mm) specimen from Paraguay, 23°24.137’S 56°30.336’W, scutellum with posterior half rugose and anterior half smooth, punctate, unsulptured among punctures. Metanotum rugose. Propodeum with strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with two longitudinal keels, lateral areas strongly rugose and median area slightly rugose. Fore wing hyaline, without dark transverse bands; stigmal vein with distal part shorter than proximal part (9:14). Genitalia in Plate 83B. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Argentina, Brazil, Costa Rica, Mexico, Paraguay.

6. Bocchus opacus Olmi, 1992

(Plate 83C)


Description. Male. Fully winged; length 2.1 mm. Head black, except mandible testaceous; antenna brown-testaceous; mesosoma and metasoma black; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 7:5:6:6:6:5:5:7. Head swollen, dull, completely reticulate rugose; frontal line complete; occipital carina complete; POL = 4; OL = 3; OOL = 7; OPL = 4; TL = 6. Scutum and scutellum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (8:3). Metanotum dull, rugose. Propodeum reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing hyaline, without dark transverse bands; stigmal vein with distal part shorter than proximal part (7:11). Genitalia in Plate 83C. Tibial spurs 1/1/2.

Female. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil, Costa Rica, Mexico, Paraguay.


(Plate 83F)


Description. Female. Fully winged; length 3.0 mm. Head testaceous-reddish, except ocellar triangle darkened; antenna brown, except segment 1 testaceous; mesosoma testaceous-reddish, except dorsal surface of propodeum and ventral side of mesothorax and metathorax black; metasoma brown; legs brown, except coxae, trochanters,
protibia and protarsus testaceous. Antenna clavate; antennal segments in following proportions: 12:7:13:8:7:7:7:6.5:10. Head flat, hairy, dull, granulated and reticulate rugose; frontal line complete; face with two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 3; OL = 2; OOL = 10; OPL = 9; TL = 9. Pronotum dull, hairy, crossed by strong transverse impression, reticulate rugose; pronotal tubercle reaching tegula. Scutum dull, granulated and sculptured by some longitudinal keels. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (10:3). Scutellum dull, sculptured by some longitudinal striae. Metanotum rugose. Propodeum dull, reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (11:13). Protarsal segments in following proportions: 14:3:4:13:16. Enlarged claw (Plate 83F) with one row of eight teeth and one bristle. Segment 5 of protarsus (Plate 83F) with one preapical lamella and two bristles. Tibial spurs 1/1/1.

**Male. Unknown.**

**Material examined.** Type: ♀ holotype: COSTA RICA: Guanacaste, NW Volcán Orosí, Cerro El Hacha, 300 m, 1989, Malaise trap, P. Hanson leg. (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica.

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**Fossil Neotropical species**


*(Plate 84)*


Male. Unknown.

Material examined. Type: ♀ holotype (N. 16718): DOMINICAN REPUBLIC: amber from Dominican Republic (15–40 MYA) (El Valle mine) (CAS).

Hosts. Unknown.

Distribution. Dominican Republic.

PLATE 84. Bocchus vetustus. Holotype in dorsal (A) and ventral (B) view. Length 2.9 mm.

V. Subfamily Dryininae Haliday, 1833

Dryini partim Haliday 1833: 273.
Lestodyrinini partim Kieffer 1914: 11.
Dryinini partim Richards 1939: 189; Muesebeck & Walkley 1951: 1034.


Diagnosis. Female (Plates 2K, 104, 109C, 117, 125, 129A, B, 133, 135): Fully winged (Plates 104, 109C); ocelli present; occipital carina complete, or incomplete, or absent; palpal formula usually 6/3; occasionally palpal formula different (4/2 in Gondryinus Olmi; 3/2, or 4/2, or 5/3 in Pseudodyinus Olmi); mandible usually with four teeth progressing larger from anterior one to posterior (Plate 129F); occasionally (in Pseudodyinus Olmi) mandible with four irregular teeth; antenna usually without tufts of long hairs (Plate 104); occasionally (in Thaumatodyinus R. Perkins) antennal segments 5–10 with tufts of long hairs (Plate 135); pronotal tubercle present (Plates 87E, 129B, 135B); epicnemium visible, because lateral regions of prothorax not continuous with mesopleura (Plate 4B); fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plates 104, 135A); occasionally (in Thaumatodyinus R. Perkins) also first brachial cell clearly enclosed by pigmented veins; fore wing with stigmal vein and pterostigma (Plates 104, 135A); protarsus chelate (Plates 104B, 129B); usually tibial spurs 1/1; rarely (in some species of Dryinus Latreille) 1/1/1.

Male (Plates 107A, C, 136): Fully winged (Plates 5E, 107A, C); palpal formula 6/3; occipital carina complete or incomplete; mandible usually with one–three teeth (three teeth progressing larger from anterior one to posterior); occasionally (in Thaumatodyinus R. Perkins) mandible with four teeth progressing larger from anterior one to posterior (as in Plate 129F); occasionally (in Pseudodyinus Olmi) mandible with four irregular teeth; epicnemium visible, because lateral regions of prothorax not continuous with mesopleura (Plate 4D); mesosternum fused with mesopleura and not distinct; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plates 107A, C, 136B); fore wing with stigmal vein and pterostigma (Plates 107A, C, 136B); fore
wing with metacarpus as long as, or longer than pterostigma (Plate 5E); dorsal process of paramere absent (Plate 7B); basivolsella completely situated down distivolsella distal apex (Plate 86A); tibial spurs 1/1/2.

**Distribution.** Worldwide.


**World species.** Three hundred and forty-two species are known, 122 in the Neotropical region.

**World genera.** Nine genera are known, five in the Neotropical region.

**Remarks.** Haliday is considered author of Dryininae for the principle of coordination (ICZN, 1999, Art. 36). In fact, the author of the family is also author of the subfamily whose name derives from the family name. This happens even if Kieffer was the first who introduced the subfamily division.


**Key to the genera**

### Females

1. Antenna with tufts of long hairs on segments 5–10 (Plate 135) ......................................................... *Thaumatodryinus* Perkins

   – Antenna without tufts of long hairs (Plates 129A, B, 133) .................................................................. 2

2. Palp formula 6/3 ......................................................................................................................................... 3

   – Palp formula different .......................................................................................................................... 5

3. Enlarged claw longer than protibia (Plate 133) ....................................................................................... *Megadryinus* Richards

   – Enlarged claw as long as, or shorter than protibia (Plates 117, 125, 129A, B) ...................................... 4

4. Antenna very long and slender (Plate 132B) , with segment 3 more than five times as long as segment 2; notauali complete; scutum never sculptured by numerous and parallel longitudinal keels. ......................................................... *Harpactosphecion* Haupt (fossil)

   – Antenna with segment 3 not more than five times as long as segment 2, usually shorter and less slender (Plates 117, 125); occasionally antennal segment 3 more than five times as long as segment 2, then notauali occasionally complete and scutum completely sculptured by numerous and parallel longitudinal keels. ....................................................... *Dryinus* Latreille

5. Enlarged claw without subapical teeth (Plate 129C) ............................................................................. *Gonadryinus* Olmi

   – Enlarged claw with one–two subapical teeth (Plate 131B) ................................................................. *Harpactosphecion* Brues (fossil)

### Males (unknown in the genera not present in the key to the males)

1. Mandible with one–three teeth .................................................................................................................. *Dryinus* Latreille

   – Mandible with four teeth ....................................................................................................................... *Thaumatodryinus* R. Perkins

### 9. Genus *Dryinus* Latreille, 1804


**nec Dryinus** Fabricius 1804: 200 (=Anisepyris Kieffer in Kieffer & Marshall 1905 (Bethylidae)).

*Campylonyx* Westwood 1835: 52 (synonymized by Olmi 1984); type species: *Campylonyx ampeliciformis* Westwood 1835, by monotypy; Kieffer in Kieffer & Marshall 1905: 84; Kieffer 1914: 43.


*Chlorodryinus* R. Perkins 1905: 57 (synonymized by Olmi 1984); type species: *Chlorodryinus pallidus* R. Perkins 1905, by original designation.


Lestodryinus Kieffer 1911a: 108 (new name for Dryinus Latreille 1804; synonymized by Richards 1937); type species: Lestodryinus collaris (Linnæus 1767), by automatic designation (see Dryinus Latreille 1804); Kieffer 1914: 20.

Tridryinus Kieffer 1913b: 325 (synonymized by Olmi 1993b); type species: Tridryinus striaticeps (Kieffer 1909), by original designation; Olmi 1984: 932; Olmi 1993b: 61.


Type species. Dryinus collaris (Linnæus 1767) (=D. formicarius Latreille 1804), by subsequent monotypy species (Latreille 1805).

Diagnosis. Female (Plates 104 A, B, 117 A, B, 125 A, B); Fully winged (Plates 104 A, B, 117 A, B, 125 A, B); occipital carina complete, or incomplete, or absent; palpal formula 6/3; mandible with 1–4 teeth; antenna usually with rhinaria, rarely without; antenna without tufts of long hairs (Plates 104 A, B, 117 A, B, 125 A, B); antennal segment 3 usually less than five times as long as segment 2, occasionally more than five times (in this case, notaui often complete, then scutum completely sculptured by numerous and parallel longitudinal keels); pronotal tubercle reaching or not reaching tegula; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plates 104 A, B, 117 A, B, 125 A, B); Fully winged (Plates 104 A, B, 117 A, B, 125 A, B); chela with rudimentary claw (Plates 88 C, F, 92 F, B, C); segment 5 of protarsus less than twice as broad as enlarged claw (Plates 88 C, F, 92 F, B, C); enlarged claw as long as, or shorter than protibia (Plates 104 A, B, 117 A, B, 125 A, B); tibial spurs 1/1/2, rarely 1/1/1.

Male (Plate 107 A, B): Fully winged (Plate 107 A, B); occipital carina complete or incomplete; mandible with 1–3 teeth; palpal formula 6/3; epiemum visible, because lateral regions of prothorax not continuous with mesopleura (Plate 4D); mesosternum fused with mesopleura and not distinct; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 107 A, B); paramere without dorsal process (Plates 89F, 93C, 94C); tibial spurs 1/1/2.

Distribution. Worldwide.


World species. Two hundred and ninety-three species are known, 109 in the Neotropical region.

Remarks. Larvae of Dryinus were described by Abril (1992).

Key to the groups (females)

Dryinus females were divided for convenience by Olmi (1993b) into four groups on the basis of the following characters:

1. Enlarged claw very reduced, approximately as long as or slightly longer than arolium (Plate 124) ...................... Group 4
   – Enlarged claw not reduced, much longer than arolium (Plates 91, 113) ......................................................... 2
2. Enlarged claw without subapical tooth, or with at least two subapical teeth; rarely with only one subapical tooth, but then with one very broad apical lamella (Plates 113, 116A, D, F) ......................................................... Group 3
   – Enlarged claw with one subapical tooth, never with one broad apical lamella (Plates 87A–D, 91) ...................... 3
3. Notauli at least partly present (if the scutum is sculptured by many longitudinal and parallel keels, the notaui are considered present) ................................................................. Group 1
   – Notauli absent ................................................................................. Group 2

DRYINIDAE OF THE NEOTROPICAL REGION

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The above groups are distributed in the zoogeographical regions as follows:

Palaearctic: groups 1, 3.
Afrotropical: groups 1, 2, 3.
Oriental: groups 1, 2, 3.
Nearctic: groups 1, 2, 3, 4.
Neotropical: groups 1, 2, 3, 4.
Australian: groups 1, 3.

As far as, it is not possible divide also males into the above groups.
All Neotropical species of *Dryinus* can be attributed to one of the above four female groups, except the following three fossil species: *Dryinus palaeomexicanus* Olmi 1995; *D. poainari* Olmi 1998; *D. vetustus* Olmi 1995. In the above fossil species, the characters useful to include them in one of the above groups are not distinct because of the thickness of the amber pieces or because hidden.

**Key to the males**
(unknown in the species not present in the key to the males) (males not divided into groups)

1. Notauli absent ........................................................................................................... 2
   – Notauli at least partly present .................................................................................. 5
2. Scutum granulated; body mostly testaceous-reddish .................................................. *D. citricola* Olmi
   – Scutum reticulate rugose; body mostly black ............................................................ 3
3. Posterior ocelli touching occipital carina ..................................................................... *D. ruficauda* (Richards)
   – Posterior ocelli not touching occipital carina .............................................................. 4
4. Frontal line complete .................................................................................................. 6
   – Frontal line absent ..................................................................................................... 7
5. Scutum granulated ........................................................................................................ 6
   – Scutum reticulate rugose .......................................................................................... 7
6. Frontal line complete; body mostly black .................................................................... 7
   – Frontal line absent; body mostly testaceous-reddish ..................................................... *D. antilleanus* (Evans)
7. Posterior ocelli touching occipital carina; notauli incomplete, reaching about 0.5 length of scutum .... *D. gibbosus* (Olmi)
   – Posterior ocelli not touching occipital carina; notauli complete or incomplete; if incomplete, then reaching almost posterior margin of scutum .................................................................................. 8
8. Head with OPL less than 0.5 as long as greatest breadth of posterior ocelli ................. 9
   – Head with OPL slightly shorter than greatest breadth of posterior ocelli ...................... 10
9. Propodeum with strong transverse keel between dorsal and posterior surface ............. *D. striatus* (Fenton)
   – Propodeum without transverse keel between dorsal and posterior surface ................ *D. veirsi* (Olmi)
10. Distal part of stigmal vein longer than proximal part .................................................. *D. striaticeps* (Kieffer)
    – Distal part of stigmal vein shorter than proximal part ................................................. *D. surinamensis* Olmi

**Group 1**

Forty species are known in the Neotropical region (among which four fossil species).

**Extant Neotropical species**

Thirty-six extant species are known.

**Key to the extant species (females)**

1. Occipital carina absent ............................................................................................ *D. constans* Olmi
   – Occipital carina present, complete or incomplete ..................................................... 2
2. Mesosoma totally or almost totally testaceous or testaceous-reddish ............................ 3
DRYINIDAE OF THE NEOTROPICAL REGION

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1. Mesosoma mostly or totally black (if prothorax not black and rest of mesosoma black, mesosoma considered mostly black).
   
2. Enlarged claw with one row of bristles, without lamellae (Plate 89 D) ........................................... D. citricolus Olmi

3. Enlarged claw with one row of lamellae (Plates 86 D-G, 91B) ................................................................. 4

4. Occipital carina incomplete ........................................... 5

5. Occipital carina complete ........................................... 7

6. Head with POL shorter than OL; posterior margin of head concave (as in Plate 89C) ......................... D. flavoniger Olmi

7. Head with POL longer than OL; posterior margin of head convex (Plate 86B) ................................. 6

8. Scutum partly sculptured by longitudinal keels, or with different sculpture .......................................... 9

9. Scutum laterally sculptured by long longitudinal keels, medially reticulate rugose or partly unsculptured . 10

10. Disc of pronotum very humped, with summit pointed (Plate 85D); metanotum with large central pointed apophysis (Plate 85D) ........................................... D. acuminatus Olmi

11. Segment 1 of protarsus more than twice as long as segment 4 .............................................................. 15

12. Segment 1 of protarsus less than twice as long as segment 4 .............................................................. 16

13. Antennal segment 3 approximately ten times as long as segment 2 and approximately three times as long as segment 4; distal part of stigmatic vein much longer than proximal part ........................................... D. gwynesi Olmi

14. Antennal segment 3 approximately four times as long as segment 2 and approximately twice as long as segment 4; distal part of stigmatic vein slightly shorter than proximal part ........................................... D. argentinus Olmi

15. Face with central pointed prominence (Plate 89B, C); OL more than twice as long as POL .................. D. cerdani Olmi

16. Face without central pointed prominence; OL as long as, or slightly longer, or slightly shorter than POL ........................................... 18

17. Antenna less slender, with segment 4 approximately twice as long as broad; prothorax totally or almost totally testaceous ........................................... D. carabiicus Olmi

18. Antenna more slender, with segment 4 approximately five-nine times as long as broad; prothorax partly or reddish ........................................... 19

19. Dorsal surface of propodeum sculptured by numerous subparallel longitudinal keels .......................... 20

20. Dorsal surface of propodeum completely reticulate rugose ................................................................. 22

21. Segment 5 of protarsus approximately as long as segment 1; posterior collar of pronotum absent ........ D. waoranesi Olmi

22. Segment 5 of protarsus much longer than segment 1; posterior collar of pronotum short, but present ........................................... 21

23. Stigmal vein with distal part much longer than proximal part ............................................................. 21

24. Stigmal vein with distal part as long as, or slightly shorter than proximal part ......................................... 23

25. Protibia less than twice as long as protrochanter ................................................................. D. belizensis Olmi

26. Protibia approximately twice as long as protrochanter ........................................................................... 23

27. Head totally testaceous-reddish; scutum more strongly sculptured by longitudinal keels; notaule not distinctly visible among keels ........................................... D. grandis (Ogloblin)

28. Head partly black and testaceous; scutum with slight longitudinal keels; notaule clearly distinct among keels ........................................... D. alvarenganus Olmi

29. Scutum laterally sculptured by long longitudinal keels, mediadly reticulate rugose or partly unsculptured . 25

30. Scutum with different sculpture ........................................... 26

31. Antennal segment 4 very slender, more than five times as long as broad ........................................... D. snellingi Olmi

32. Antennal segment 4 less slender, about twice as long as broad ............................................................... 26

33. Scutum unsculptured ........................................... D. hansonii (Olmi)

34. Scutum with different sculpture ........................................... 27

35. Scutum at least partly granulated, with or without areolae or irregular keels on lateral regions or on posterior half of median region ........................................... 28
1. **Dryinus acer** Olmi, 1998

(Plate 85B, C)


**Description.** Female. Fully winged; length 7.1 mm. Completely testaceous, except petiole and mesothoracic axilla black. Antenna clavate; antennal segments in following proportions: 10:6:46:25:19:13:10:8.5:7.5:9.5. Head flat, shiny, alutaceous; face sculptured by numerous subparallel longitudinal striae; frontal line complete; occipital carina complete; posterior margin of vertex convex (Plate 85C), then posterior ocelli located behind imaginary straight line joining posterior edges of eyes; POL = 4; OL = 3; OOL = 11.5; OPL = 0.5; TL = 6. Pronotum slightly granulated, with numerous longitudinal striae on lateral regions, crossed by slight anterior transverse impression and strong posterior transverse impression; posterior collar long; pronotal tubercle not reaching tegula. Scutum slightly granulated, with numerous irregular longitudinal striae on lateral regions and on posterior third of median region. Notauli incomplete, reaching about 0.7 length of scutum. Scutellum shiny, unsculptured. Metanotum shiny, unsculptured, with anterior third rugose. Propodeum reticulate rugose, without transverse or longitudinal keels; dorsal surface longer than posterior surface. Fore wing with two dark transverse bands; distal part of stigma vein longer than proximal part (21:7). Protarsal segments in following proportions: 27:4:10:25:32. Protarsal segments 2 and 3 produced into hook. Enlarged claw not spatulate (Plate 85B), with one large subdistal tooth and one row of ten lamellae. Segment 5 of protarsus (Plate 85B) with two rows of about 26 lamellae; distal apex with at least 13 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: GUATEMALA: Zacapa, San Lorenzo, 1800 m, 9–11.VII.1986, J. Le Sage leg. (CNC).

**Hosts.** Unknown.

**Distribution.** Guatemala.
2. Dryinus acuminatus Olmi, 2008
(Plate 85A, D)

*Dryinus acuminatus* Olmi 2008b: 222; Olmi 2012: 34.

**Description.** Female. Fully winged; length 8.0 mm. Head testaceous; antenna testaceous, except segments 2–5 darkened; mesosoma and metasoma black; legs black, except tarsi brown. Antenna clavate, very slender, with segment 4 more than 10 times as long as greatest breadth (35:3) and segment 3 more than 30 times as long as greatest breadth (97:3); antennal segments in following proportions: 17:10:97:35:30:19:13:12:10:12; rhinaria present in antennal segments 6–10. Head very excavated, shiny, hairless, with face and vertex sculptured by numerous longitudinal keels, unsculptured among keels; frontal line complete; occipital carina complete, laterally not reaching eyes; POL = 2; OL = 5; OOL = 20; TL = 4; greatest breadth of posterior ocelli about as long as OL. Pronotum shiny, almost completely hairless, unsculptured, except many longitudinal striae around disc; pronotum very humped, crossed by strong anterior transverse impression; posterior collar absent; summit of disc with very long and pointed dorsal apophysis (Plate 85D); pronotal tubercle not reaching tegula. Scutum shiny, hairless, sculptured by many parallel longitudinal keels, unsculptured among the keels. Notauli not distinct among longitudinal keels. Scutellum hairless, dull, reticulate rugose. Metanotum hairless, dull, reticulate rugose, with very long and pointed dorsal apophysis (Plate 85D). Propodeum completely reticulate rugose, without transverse or longitudinal keels; dorsal surface of propodeum shorter than posterior surface (10:17). Fore wing with one large dark transverse band located in distal half and with one small dark spot located on basal transverse veins; distal part of stigmal vein longer than proximal part (27:22). Protarsal segments in following proportions: 38:5:16:38:61. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 85A) with one large subdistal tooth and one row of 37 lamellae. Segment 5 of protarsus (Plate 85A) with two rows of approximately 80 lamellae extending continuously to distal apex. Tibial spurs 1/1/2. 

**Male.** Unknown.

Hosts. Unknown.
Distribution. French Guiana.

3. *Dryinus affinis* Olmi, 1995
(Plate 85E)


**Description. Female.** Fully winged; length 5.3–6.6 mm. Head black, except mandible, clypeus, part of gena and anterior surface of face near clypeus testaceous; orbits surrounded by testaceous stripe; antenna brown, except segments 6–10 and ventral side of segments 1 and 3 testaceous; mesosoma black; metasoma brown; legs testaceous, except part of coxae, trochanters and femora brown. Antenna clavate; antennal segments in following proportions: 19:7:47:16:13:11:9:8:11; antennal segment 4 more than four times as long as broad (19:3.5). Head very excavated, with eye very bulging (as in Plate 102C); vertex and face dull, hairy, reticulate rugose; occiput shiny, smooth, unsculptured; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; posterior ocelli very close, almost in contact, touching occipital carina; POL = 2; OL = 12; OOL = 15; temple absent; POL shorter than greatest breadth of posterior ocelli. Pronotum dull, hairy, granulated and sculptured by irregular keels, crossed by two slight transverse impressions; sides of pronotum shiny, smooth, unsculptured; anterior and posterior collar very short and hardly visible; pronotal tubercle not reaching tegula. Scutum and scutellum dull, hairy, reticulate rugose. Notauli incomplete, reaching about 0.4 length of scutum. Metanotum very hairy, punctate, unsculptured among punctures. Propodeum dull, reticulate rugose; posterior surface with two longitudinal keels and median and lateral areas dull and rugose. Fore wing with three dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (21:11). Protarsal segments in following proportions: 28:5:14:26:44. Enlarged claw spatulate (Plate 85E), with one large subdistal tooth and one row of 14 lamellae + one bristle. Segment 5 of protarsus (Plate 85E) with two rows of about 36 lamellae; distal apex with at least 25 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Costa Rica.

4. *Dryinus alatus* (Cresson, 1872)
(Plate 86)


*Hesperodryinus arizonicus* R. Perkins 1907: 42 (synonymized by Olmi 1984); type locality: Nogales (Arizona, USA); Kieffer 1914: 40; Musebeck & Walkley 1951: 1035; Krombein 1979: 1243.

*Hesperodryinus audax* R. Perkins 1907: 43 (synonymized by Olmi 1984); type locality: Nogales (Arizona, USA); Kieffer 1914: 41; Musebeck & Walkley 1951: 1035; Krombein 1979: 1243.


**Description. Female.** Fully winged; length 5.0–7.9 mm. Usually yellow-testaceous, except petiole black. Occasionally body yellow-testaceous, except black spots on head, scutum, scutellum, propodeum and metasoma; occasionally face, propodeum, mesothorax, metathorax and propodeum almost totally black. In specimens from Canada, Hamilton, head almost totally black. Antenna usually testaceous; occasionally antenna brown, except
segments 4–5 whitish. Antenna clavate; antennal segments in following proportions: 22:15:70:31:23:19:18:15:21; antennal segment 3 much longer than 2 (27:5). Head (Plate 86B) dull, granulated; frontal line complete; occipital carina incomplete, only present behind and shortly on sides of ocellar triangle; POL = 8; OL = 5; OOL = 11; OPL = 2; TL = 8; greatest breadth of posterior ocelli about as long as OPL. Pronotum dull, granulated, crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar distinct. Scutum dull, granulated; occasionally scutum sculptured by more or less numerous longitudinal keels (complete or incomplete). Notauli complete, posteriorly separated. Scutellum and metanotum shiny, granulated. Propodeum shiny, more or less reticulate rugose; dorsal surface smooth, with more or less numerous areolae forming one median stripe from anterior margin to posterior surface; posterior surface sculptured by slight transverse keels; occasionally dorsal surface with strong keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (Plate 86C). Protrochanter more than twice as long as broad (15:6). Protarsal segment 4 about twice as long as segment 1; occasionally segment 4 slightly shorter than segment 1 (33:41). Segment 3 of protarsus produced into hook. Enlarged claw not spatulate, with one large (Plate 86D) or small (Plate 86E) subapical tooth and one row of 5–11 lamellae or peg-like hairs. Subapical tooth of enlarged claw located far or close to distal apex (Plate 86D–G). Segment 5 of protarsus (Plate 86D) with two rows of approximately 18–30 lamellae about same length; distal apex with about 20 lamellae. Tibial spurs 1/1/2.

PLATE 86. Dryinus alatus. A. Genitalia of male from USA, Louisville. B. Head of female holotype in dorsal view. C. Pterostigma of male from USA, Nogales. D. Chela of female from USA, Nogales. E–G. Enlarged claws of females from USA, Nogales (E), Ann Arbor (F), Midland Co. (G). Scale bar 0.11 mm for A, 0.64 mm for B, 0.97 mm for C, 0.09 mm for D and E, 0.08 mm for F and G.

Male. Fully winged; length 2.8–4.0 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi testaceous. Antenna filiform; antennal segments in following proportions: 6:5:12:8:9:8:8:6:9 Head dull, reticulate rugose; frontal line absent; POL = 18; OL = 8; OOL = 13; OPL shorter than OL (2:8); greatest breadth of posterior ocelli longer than OPL (7:2); occipital carina incomplete; occasionally (in specimens from Michigan, Ann Arbor) occipital carina complete. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli almost invisible; occasionally (in specimens from Michigan, Ann Arbor) notauli distinct and incomplete, reaching approximately 0.5 length of scutum. Propodeum reticulate rugose, with areolae broader than those of head. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part. Genitalia in Plate 86A. Tibial spurs 1/1/2.

(BPBM); lectotype ♀ (No. 5816) (designated by Olmi 1982) of *H. arizonicus*: USA: Arizona, Santa Cruz Co., Nogales, 30.IX.1906, on weeds, A. Koebele leg. (BPBM); ♀ holotype of *H. audax*: USA: Arizona, Santa Cruz Co., Nogales, VIII, on oak, A. Koebele leg. (BPBM). Paratype of *G. alatus*: USA: Texas, same locality label as holotype, 1♀ (USNM). Paralecotypes of *H. amphisceae*: same locality label as lectotype, 18.IX.1906, 1♀ (BMNH); same locality label as lectotype, one female, 1♂ (BPBM). **Other material**: COSTA RICA: Guanacaste, 14 km S Cañas (AMNH, DBUSU). MEXICO: Guerrero, 2.1 mi NE Cacahuamilpa, 5250 ft., 4.VII.1987, Kovarik & Schaffner leg., 1♀ (DETAM). **Nearctic region**: CANADA: Ontario, St. Catharines (CNC); Ontario, Hamilton (CNC). MEXICO: Baja California Norte, 9 km NW of Rcho. Sta., Ines (DBUSU); Jalisco, about 5 km from Ciudad Guzmán, foot of Nevado de Colima, El Durazno, about 3000 m, parasitized host collected 15.X.2003, drynid cocooning 20.X.2003, M. Olmi reared from a nymph of *Acanalonia concinnula* Fowler, 1♀ (MOLC). USA: known from many localities of Arizona, California, Georgia, Illinois, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Oklahoma, South Carolina, Texas, Virginia, Wisconsin.


**Distribution**: Costa Rica, Mexico (Jalisco) and Nearctic region (Canada, Mexico (Baja California Norte, Jalisco), USA).

### 5. *Dryinus alvarenganus* Olmi, 1984

(Plate 87A)


**Description. Female.** Fully winged; length 6.2 mm. Head testaceous, except vertex black; antenna testaceous; mesosoma black, except lateral margins of pronotum testaceous; metasoma brown; legs testaceous. Antenna very slender, clavate; antennal segments in following proportions: 12:5:60:25:21:14:10:9:7:9. Head dull, granulated and irregularly striate; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; temple absent; POL = 3; OL = 4; OOL = 10; OPL = 2.5. Pronotum humped, crossed by two strong, anterior and posterior, transverse impressions; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, sculptured by many longitudinal keels. Notauli complete, posteriorly separated, slightly distinct near posterior margin of scutum. Scutellum punctate, with some areolae near margins. Metanotum reticulate rugose. Propodeum completely reticulate rugose, with two longitudinal keels on posterior surface. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (25:15). Protibia much longer than protrochanter (60:28). Protarsal segments in following proportions: 32:5:10:29:45. Enlarged claw (Plate 87A) with one large subdistal tooth and one row of 33 lamellae; distal apex with about 16 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: Rio de Janeiro, Guanabara, Represa do Rio Grande (AEIC).

**Hosts.** Unknown.

**Distribution.** Brazil.


(Plate 87B)


**Description. Female.** Fully winged; length 3.6–4.0 mm. Head black, except clypeus and mandible testaceous; antenna testaceous; mesosoma black, except posterior collar and lateral margins of pronotum reddish; metasoma brown-reddish; legs testaceous. Antenna clavate; antennal segment 4 about seven times as long as broad (11:1.5);
antennal segments in following proportions: 10:6:23:11:9:9:8:6:5:7. Head dull, hairy, granulated; face sculptured by some longitudinal keels; occipital carina complete; POL = 4.5; OL = 3; OOL = 7.5; OPL = 1; TL = 4. In specimen from French Guiana, Montagne des Chevaux, POL = 3; OL = 1; OOL = 7; OPL = 1; TL = 1; greatest breadth of posterior ocelli slightly longer than OPL (2:1). Pronotum dull, granulated, humped, crossed by two transverse impressions, anterior one slight and posterior one strong; anterior collar little visible; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, granulated, with numerous areolae on posterior half of lateral regions and near posterior margin of median region. Notauli incomplete, distinctly visible on anterior half of scutum and hardly visible among areolae on posterior half. Scutellum and metanotum dull, granulated. In specimen from French Guiana, Montagne des Chevaux, scutellum and metanotum unsculptured. Propodeum reticulate rugose, posterior surface very inclined, without longitudinal keels. In specimen from French Guiana, Montagne des Chevaux, dorsal surface of propodeum sculptured by many subparallel longitudinal keels connected by transverse keels. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part (13:7). Protibia longer than trotrochanter: 31:18. Protarsal segments in following proportions: 18:2:5:13:19. Segment 3 of protarsus produced into hook. Enlarged claw spatulate (Plate 87B), with two rows of approximately 37–40 lamellae extending continuously to distal apex (one row is composed of longer lamellae). Tibial spurs 1/1/2.

PLATE 87. A–D. Chelae of holotype. E. Mesosoma of female holotype in lateral view. A. Dryinus alvarenganus. B. D. antilleanus. C. D. argentinus. D, E. D. ashei. Scale bar 0.23 mm for A and D, 0.19 mm for B, 0.22 mm for C, 0.43 mm for E.

Male. Fully winged; length 3.0 mm. Head black, except mandible yellow; antenna brown; mesosoma and metasoma black; legs yellow, except pro- and metacoxa partly black. Antenna filiform; antennal segments in following proportions: 6:4.5:12:9:10:10:8:7:7. Head dull, granulated; frontal line complete; POL = 5.5; OL = 3; OOL = 5; OPL = 1; TL = 1.5; occipital carina incomplete. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.65 length of scutum. Scutellum dull, granulated, except narrow region near metanotum shiny and unsculptured. Metanotum smooth, unsculptured. Propodeum reticulate rugose, without longitudinal keels on posterior surface. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much longer than proximal part (11:6). Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Argentina, Colombia, Costa Rica, Dominican Republic, French Guiana, Honduras, Panama.
7. *Dryinus argentinus* Olmi, 1984  
(Plate 87C)


**Description. Female.** Fully winged; length 4.4–5.6 mm. Head testaceous, except vertex and posterior half of face black; in some specimens from Brazil head totally testaceous; antenna brown-testaceous; prothorax reddish, occasionally with two black spots on lateral regions; rest of mesosoma black; metasoma brown; legs testaceous, except coxae partly brown. Antenna clavate; antennal segments in following proportions: 10:7:32:15:14:10:9:9:7:10. Head flat, granulated and sculptured by numerous longitudinal keels; frontal line complete; occipital carina incomplete, only present behind and on sides of ocellar triangle; POL = 2.5; OL = 2.5; OOL = 10; TL = 2. Pronotum shiny, with many longitudinal keels around the disc; pronotum crossed by two strong transverse impressions; anterior collar long; posterior collar absent; pronotal tubercle not reaching tegula. Scutum and scutellum dull, sculptured by many parallel longitudinal keels, unsculptured among keels. Notauli not visible among longitudinal keels. Metanotum dull, granulated. Propodeum without transverse keel between dorsal and posterior surface; dorsal surface sculptured by many parallel longitudinal keels; posterior surface reticulate rugose, with two incomplete longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein little shorter than proximal part (14:16). Protibia longer than protrochanter: 30:22. Protarsal segments in following proportions: 18:4:9:23:38. Enlarged claw (Plate 87C) with one large subdistal tooth and one row of about seven lamellae. Segment 5 of protarsus (Plate 87C) with two rows of approximately 45 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Belize, Bolivia, Brazil, Ecuador, Venezuela.

(Plate 87E, D)


**Description. Female.** Fully winged; length 6.0 mm. Head black, except mandible, part of clypeus, part of ventral side, part of gena and narrow frontal stripe near clypeus testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black, except lateral regions of pronotum partly testaceous; metasoma brown; legs brown, except tarsi, procoxa, protrochanter and meso- and metatibia partly testaceous. Antenna clavate; antennal segments in following proportions: 9:8:52:30:26:15:10:5:8:5:8:11. Head flat, dull, granulated; face sculptured by numerous subparallel longitudinal keels; frontal line incomplete, not present near clypeus; occipital carina complete; POL = 4; OL = 2.5; OOL = 10; OPL = 0.5; TL = 6. Pronotum (Plate 87E) granulated and sculptured by numerous longitudinal keels on lateral regions, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar long; disc humped; pronotal tubercle not reaching tegula. Scutum dull, granulated, with posterior third of lateral regions sculptured by numerous irregular striae. Notauli incomplete, reaching about 0.7
length of scutum. Scutellum shiny, smooth, very slightly granulated. Metanotum shiny, unsculptured, with anterior third rugose. Propodeum (Plate 87E) reticulate rugose; posterior surface without longitudinal keels; dorsal surface much longer than posterior surface (15:7). Fore wing with three dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (24:8). Protarsal segments in following proportions: 29:5:9:26:40. Enlarged claw not spatulate (Plate 87D), with one large subdistal tooth and one row of 12 lamellae. Segment 5 of protarsus (Plate 87D) with two rows of about 45 lamellae; distal apex with at least 18 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Guatemala.

PLATE 88. A–D, F. Chelae of holotypes. E. Head of female holotype. A. Dryinus belizensis. B. D. cambrai. C. D. caraibicus. D, E. D. catariniae. F. D. striatus (holotype of D. cerrensis). Scale bar 0.26 mm for A, 0.31 mm for B, 0.19 mm for C, 0.21 mm for D, 0.67 mm for E, 0.33 mm for F.

9. Dryinus belizensis Olmi, 1984
(Plate 88A)


Description. Female. Fully winged; length 5.4–6.8 mm. Head testaceous-reddish, occasionally with vertex darkened; antenna brown, except segments 1–2 testaceous; occasionally antenna totally testaceous; prothorax reddish; rest of mesosoma black; metasoma and legs testaceous-reddish. In specimen from French Guiana, Montagne des Chevaux, head testaceous, except vertex, region of occiput near occipital carina and two stripes on face on sides of frontal line black; pronotum testaceous, except two black stripes on lateral regions black. Antenna clavate; antennal segment 4 about six times as long as broad; antennal segments in following proportions: 13:7:38:16:13:12:10:9:12. Head flat, dull, granulated and sculptured by some longitudinal keels on sides of ocelli; frontal line complete; occipital carina incomplete, only present behind and on sides of occellar triangle, not present on temple; POL = 2; OL = 2.5; OOL = 12; OPL = 1.5. Pronotum shiny, humped, with many longitudinal keels around the disc; pronotum crossed by two strong transverse impressions; posterior collar absent; pronotal tubercle not reaching tegula. Scutum and scutellum sculptured by many longitudinal keels. Notauli not clearly distinct among longitudinal keels. Metanotum dull, smooth, granulated. Propodeum reticulate rugose, with two incomplete longitudinal keels on posterior surface. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (19:17). Protibia longer than protrochanter: 34:23. Protarsal segments in following proportions: 29:4:10:24:40. Enlarged claw (Plate 88A) with one large subdistal tooth and one row of 9–13
lamellae. Segment 5 of protarsus (Plate 88A) with two rows of approximately 51 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Belize, French Guiana, Honduras, Mexico.

(Plate 88B)

Dryinus cambrai Olmi 2003: 32.

Description. Female. Fully winged; length 6.7–7.8 mm. Head testaceous, except face and vertex almost completely brown; antenna testaceous; prothorax testaceous, except two longitudinal black stripes on dorsal side of propleura and few dark spots on sides of pronotum; mesothorax, metathorax and propodeum testaceous, except axillae black, posterior margin of scutellum black, one small black spot on mesopleuron and one black spot on ventral side of mesothorax; petiole black; metasoma testaceous; legs testaceous, except metacoxa partly black. Antenna clavate; antennal segments of holotype in following proportions: 10:8:54:32:25:15:13:9:9:11. Head flat, dull, granulated and with face sculptured by numerous longitudinal striae; frontal line complete; occipital carina incomplete, only visible behind occellar triangle and on sides, laterally not reaching temple and eye; occipital carina absent behind temple; POL = 3.5; OL = 3; OOL = 10.5; TL = 5; posterior ocelli touching or almost touching occipital carina. Pronotum shiny, unsculptured, except many longitudinal striae on sides; pronotum humped, crossed by two transverse impressions, anterior one slight and posterior one strong; anterior collar very short; posterior collar very long; pronotal tubercle not reaching tegula. Scutum shiny, unsculptured, or very slightly granulated, with many longitudinal striae in posterior half. Notauli incomplete and approximately reaching 0.5–0.6 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum completely sculptured by numerous transverse keels; dorsal surface of propodeum longer than posterior surface (40:20). Fore wing with three dark transverse bands; distal part of stigmal vein longer than proximal part (24:10). Protarsal segments of holotype in following proportions: 33:4:10:25:40. Enlarged claw (Plate 88B) with one large subdistal tooth and one row of 14 lamellae. Segment 5 of protarsus (Plate 88B) with two rows of 37 lamellae; distal apex with at least 26 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Honduras, Panama.

11. Dryinus caraibicus Olmi, 1984
(Plate 88C)


Description. Female. Fully winged; length 4.6–5.7 mm. Head testaceous, except region of vertex near occipital carina darkened; occasionally face with brown spot in front of anterior ocellus; antenna totally testaceous or
testaceous-darkened; occasionally antenna brown, except segments 1–3 yellow; prothorax testaceous; rest of mesosoma black; metastoma brown-testaceous; legs testaceous, except pro- and mesocoxa partly or almost completely brown, metacoxa distally black, clubs of femora brown. Antenna clavate; antennal segments in following proportions: 14:7:22:7:7:6:6:9; antennal segment 4 about twice as long as broad. Head very slightly reticulate rugose or sculptured by irregular keels; frontal line complete; occipital carina incomplete, only present behind and on sides of ocellar triangle, not present behind posterior edges of eyes; holotype with POL = 3; OL = 2.5; OOL = 9; OPL = 2; temple absent. In specimen from Panama, Cruce de Mono, POL = 3; OL = 3; OOL = 10; OPL = 2; TL = 2. Pronotum dull, broader than long (22:17), as sculptured as head, with some longitudinal keels around disc; pronotum crossed by two strong transverse impressions; disc very humped; posterior collar absent; pronotal tubercle reaching tegula. Scutellum dull, sculptured by many parallel longitudinal keels; in specimens from Bolivia, scutum partly reticulate rugose and with longitudinal keels little visible. Notauli complete, posteriorly separated. Scutellum dull, punctate, with some irregular striae near anterior margin. Metanotum smooth, unsculptured. Propodeum dull, reticulate rugose; in specimen from Colombia, 05°21′00″N 67°51′36″W, dorsal surface completely sculptured by numerous parallel longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (17:11 or 18:16), Protibia longer than protrochanter: 21:10. Protarsal segments in following proportions: 18:3:6:14:24. Protarsal segments 2 and 3 produced into hook. Enlarged claw (Plate 88C) with one large subdistal tooth and one row of about 4–6 lamellae. Segment 5 of protarsus (Plate 88C) with one row of approximately 16–19 lamellae; distal apex with about 10–16 lamellae. Tibial spurs 1/1.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Bolivia, Brazil, Colombia, Costa Rica, Panama, Trinidad and Tobago.

12. **Dryinus catarinae** Olmi, 1984

(Plate 88E, D)


**Description.** Female. Fully winged; length 4.4–4.5 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; occasionally antennal segments 7–10 darkened; mesosoma black, except posterior collar of pronotum reddish; metastoma brown; legs testaceous, except coxae partly brown; occasionally legs almost completely black. Antenna clavate; antennal segments in following proportions: 12:5:18:9:7:7:6:5:7. Head (Plate 88E) shiny, granulated and with some longitudinal keels on face; frontal line incomplete, not present near clypeus; occipital carina complete; POL shorter than OL; OL shorter than OOL; posterior ocelli not touching occipital carina. In specimen from Curacao Island, POL = 4; OL = 3; OOL = 8; OPL = 1; TL = 3. Pronotum dull, granulated, crossed by two transverse impressions, anterior one slight and posterior one strong; anterior collar slightly distinct; posterior collar short, clearly distinct; pronotal tubercle not reaching tegula. Scutum shiny, reticulate rugose.
Notauli incomplete, hardly visible among areolae of scutum, reaching about 0.5 length of scutum. Scutellum and metanotum shiny, granulated. Propodeum reticulate rugose, without longitudinal keels on posterior surface. Fore wing with two dark transverse bands; distal part of stigmatic vein longer than proximal part (13:8). Fore tarsal segment 1 longer than segment 4 (18:12). Protarsal segments 2 and 3 produced into hook. Enlarged claw (Plate 88D) with one large subdistal tooth and one row of 16 lamellae. Segment 5 of protarsus (Plate 88D) with two rows of about 42 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Brazil, Costa Rica, Dutch Antilles, Panama, Venezuela.

13. **Dryinus cerdani** Olmi, 2003
(Plate 89A–C)

*Dryinus cerdani* Olmi 2003: 34; Olmi 2012: 34.

**Description.** Female. Fully winged; length 11.3 mm. Dorsal side of head black, except anterior third of face,clypeus, mandible and narrow stripe along orbits testaceous; ventral side of head testaceous, except central region brown; gena testaceous; occiput black; antenna testaceous, except segments 3–4 brown (segment 10 missing in only known specimen); mesosoma black, except sides of pronotum brown-testaceous; metasoma black; legs brown-black, except most part of protibia and profemur testaceous and distal extremity of metacoxa whitish. Antenna clavate; antennal segments in following proportions: 20:10:103:37:30:20:16:14:13 (segment 10 missing in holotype); rhinaria present in segments 5–9. Head unusually excavated (Plate 89B, C), shiny; vertex smooth, unsculptured; face sculptured by numerous subparallel longitudinal keels and punctate; frontal line absent; face with one longitudinal furrow in front of anterior ocellus bordered by longitudinal keels and anteriorly beginning from pointed prominence (Plate 89B, C); occipital carina almost complete, only absent behind eyes; occiput smooth, shiny and unsculptured; POL = 3; OL = 7; OOL = 19; OPL = 1; TL = 2. Propleuron very prominent, dorsally densely hairy and sculptured by irregular keels. Pronotum shiny, unsculptured, except for slight transverse striae on anterior collar and on anterior surface of disc; pronotum humped, crossed by two transverse deep furrows; posterior collar of pronotum very short, punctate, densely hairy; anterior collar very long; pronotal tubercle not reaching tegula. Scutum shiny, covered with thin and long hairs, completely sculptured by numerous subparallel longitudinal keels. Notauli not distinct among longitudinal keels. Scutellum shiny, covered with thin and long hairs, almost completely sculptured by longitudinal and subparallel keels. Metanotum shiny, covered with long and thin hairs, with anterior half sculptured by deep and large areolae, and with posterior half punctate and unsculptured among punctures. Propodeum completely reticulate rugose, with dorsal surface approximately as long as posterior surface; posterior surface with two longitudinal keels and median area dull and reticulate rugose. Mesopleuron densely hairy, reticulate rugose. Metapleuron shiny, transversely striate. Fore wing with two dark transverse bands; distal part of stigmatic vein longer than proximal part (26:21). Protarsal segments in following proportions: 18:3:8:15:26. Enlarged claw (Plate 89A) with one large subdistal tooth and one row of 16 lamellae. Segment 5 of protarsus (Plate 89A) with two rows of approximately 51 lamellae; distal apex with at least 20 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** French Guiana.
14. *Dryinus citricolus* Olmi, 1984

(Plate 89D–F)


**Description.** *Female.* Fully winged; length 2.6–3.5 mm. Completely testaceous, except petiole black. Antenna clavate. Head dull, granulated; occipital carina complete; OPL = OL; OL shorter than POL. Pronotum (Plate 89E) dull, granulated, not humped, crossed by two slight transverse impressions; anterior and posterior collars little distinct; pronotal tubercle not reaching tegula. Scutum shiny, granulated. Notauli incomplete, reaching about 0.5 length of scutum; occasionally notauli hardly visible. Scutellum and metanotum dull, granulated. Propodeum shiny, not reticulate rugose or slightly reticulate rugose, with areolae more distinct on dorsal surface; posterior surface smooth, unsculptured, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part. Protarsal segment 1 about twice as long as segment 4. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 89D) with one large subapical tooth and one proximal bristle, without lamellae. Segment 5 of protarsus (Plate 89D) with one row of approximately ten lamellae; distal apex with about nine lamellae. Tibial spurs 1/1/2.

*Male.* Fully winged; length 1.6–2.2 mm. Head testaceous-reddish, except ocellar triangle darkened; antenna testaceous, except segments 3–10 darkened; mesosoma testaceous-reddish, except scutellum and metanotum darkened; metasoma brown; legs testaceous. Antenna filiform; antennal segments in following proportions: 5:5:11:8:9:8:7:7:6:8. Head dull, granulated; frontal line absent; POL = 8; OL = 3; OOL = 3; OPL = 0.5; TL = 3; occipital carina incomplete, only present behind and on sides of ocellar triangle, laterally directed towards temple. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching approximately 0.3 length of scutum. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (14:7). Genitalia in Plate 89F. Tibial spurs 1/1/2.

**Material examined.** *Types:* ♀ holotype: PUERTO RICO: Lajas (USNM). Paratypes: PUERTO RICO: same
locality label as holotype, 1♀ (USNM); Manati, 1♀ (AMNH). Other material: BAHAMAS: Eleuthera, Rainbow Bay (AMNH, FSCA).

Hosts. Unknown.


15. Dryinus constans Olmi, 1984
(Plate 90C)


Description. Female. Fully winged; length 6.9 mm. Head testaceous, except vertex black and broad black stripe on face; antenna brown, except segments 1–2 and 9–10 testaceous; mesosoma black, except posterior collar of pronotum reddish; metasoma black, except some reddish areas; legs testaceous, except metacoxa partly black. Antenna clavate; antennal segments in following proportions: 16:6:44:24:20:14:12:10:20:14:12:10:6. Head dull, granulated and with numerous slight irregular striae; frontal line complete; occipital carina absent; POL = 4; OL = 2.5; OOL = 8.5. Pronotum crossed by two strong transverse impressions; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum sculptured by many parallel longitudinal keels. Notauli complete, posteriorly separated. Scutellum and metanotum dull. Propodeum reticulate rugose, with two incomplete longitudinal keels on posterior surface. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (21:15). Protarsal segments in following proportions: 21:4.5:11:20:36. Protibia longer than protrochanter: 37:23. Enlarged claw (Plate 90C) with one large subapical tooth and one row of 20 lamellae. Segment 5 of protarsus (Plate 90C) with two rows of approximately 24 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil.

PLATE 90. A, C, E. Chelae of holotypes. B. Head of female holotype. D. Mesosoma of female holotype in lateral view. A, B. Dryinus cruciatus. C, D. constans. D, E. D. eberhardi. Scale bar 0.17 mm for A, 0.84 for B, 0.27 mm for C, 0.7 mm for D, 0.3 mm for E.

16. Dryinus cruciatus Olmi, 1993
(Plate 90A, B)

Description. Female. Fully winged; length 3.5–4.1 mm. Completely testaceous, except petiole black. In specimen from Cuba, Ciego Montero, colour testaceous-reddish. Antenna clavate; antennal segments in following proportions: 10:4:18:7:7:6:6:5:7.5. Head (Plate 90B) slightly convex, dull, granulated; frontal line complete, hardly visible; occipital carina complete; POL = 5.5; OL = 3.5; OOL = 6; OPL = 1.5; TL = 4. Pronotum dull, granulated, crossed by two transverse impressions, anterior one slight and posterior one strong; disc slightly humped; posterior collar short; pronotal tubercle not reaching tegula. Scutum and scutellum dull, granulated. Notauli hardly visible, incomplete, reaching about 0.5–0.7 length of scutum. Metanotum rugose. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing with one dark transverse band; distal part of stigmal vein longer than proximal part (16:6). Protarsal segments in following proportions: 17:2:5:12:17. In specimen from Cuba, Ciego Montero, protarsal segments in following proportions: 16:2:3.5:9:14. Enlarged claw spatulate (Plate 90A), with one large subdistal tooth and one row of 10–12 lamellae. Segment 5 of protarsus (Plate 90A) with two rows of about 6–11 (longer) + 14–22 lamellae; distal apex with 6–9 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.


17. Dryinus eberhardi Olmi, 1991
(Plate 90D, E)


Description. Female. Fully winged; length 6.5 mm. Head black, except mandible and clypeus testaceous; antenna testaceous, with segment 1 lighter; mesosoma black; metasoma brown; legs testaceous, except clubs of femora brown and coxae partly black. Antenna clavate; antennal segments in following proportions: 13:7:44:17:14:12:10:9:12. Head flat, dull, granulated, with face sculptured by irregular keels; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 10; OPL = 2.5; TL = 5; greatest breadth of posterior ocelli as long as OL. Pronotum dull, granulated, crossed by two slight transverse impressions (Plate 90D); disc little humped; posterior collar very short; pronotal tubercle sculptured by longitudinal kels, not reaching tegula. Scutum dull, with lateral regions reticulate rugose and median region granulated, except narrow reticulate rugose area near posterior margin. Notauli hardly visible in posterior region of scutum, probably complete and posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (6:3). Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; dorsal surface (Plate 90D) much longer than posterior surface (32:20). Fore wing with one dark transverse band; distal part of stigmal vein longer than proximal part (25:10). Protarsal segments in following proportions: 28:4:6:18:27. Enlarged claw spatulate (Plate 90E), with one large subdistal tooth and one row of 16 lamellae. Segment 5 of protarsus (Plate 90E) with two rows of about 22 + 9 lamellae (shortest row composed of very long lamellae); distal apex with about nine lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: COSTA RICA: San José, Bajo Hondura, 1000 m, VIII.1987, W. Eberhard leg. (AMNH).

Hosts. Unknown.


18. Dryinus fiebrigi Olmi, 1996
(Plate 91A)

Description. Female. Fully winged; length 4.8–5.9 mm. Head brown-reddish, except mandible, clypeus and part of gena testaceous (occasionally head black, except mandible and clypeus testaceous); antenna testaceous; prothorax brown-reddish (occasionally prothorax black, except lateral margins testaceous-dark); rest of mesosoma black; metasoma brown-testaceous; legs testaceous (occasionally legs testaceous, except coxae partly black and clubs of pro- and metafemur with brown outer stripe). Antenna clavate; antennal segments in following proportions: 10:6:29:16:11:12:9:8:7:10. Head slightly excavated, dull, granulated; face with numerous irregular longitudinal striae; frontal line complete; occipital carina complete; POL = 3; OL = 3; OOL = 7; OPL = 2; TL = 3. Pronotum shiny, smooth, hairy, unsculptured, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, completely reticulate rugose. Notauli incomplete, reaching about 0.7 length of scutum. Scutellum shiny, smooth, with anterior half granulated and posterior half unsculptured. Metanotum unsculptured. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing with two dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (21:7). Protarsal segments in following proportions: 25:3.5:6.5:16:26. Enlarged claw spatulate (Plate 91A), with one large subdistal tooth and one row of 21–22 lamellae. Segment 5 of protarsus (Plate 91A) with two rows of about 15–18 + 38–43 lamellae (shortest row composed of very long lamellae); distal apex with about four–six lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. French Guiana, Guyana, Paraguay.
19. *Dryinus flavoniger* Olmi, 1984
(Plate 91B)


**Description.** Female. Fully winged; length 3.2–5.0 mm. Type specimens testaceous, except central spot on propodeum, petiole and inner side of stalk of metatibia black; in specimens from Mexico, Chamela, and Puerto Rico, Bosque Estatal de Guánica, propodeum and legs completely testaceous; in specimen from French Guiana, Relais Patawa, colour testaceous, except two lateral spots on pronotum, one central spot on propodeum, petiole, inner proximal extremity of metafemur and inner side of stalk of metatibia black; in specimen from Panama, Campo Chagres, colour totally ferruginous, except petiole black, clubs of femora partly brown and two brown spots on ventral side of mesothorax. Antenna distally thickened; antennal segments of holotype in following proportions: 8:6:28:15:12:8:6.5:5.5:5:7. Head flat, dull, granulated; frontal line usually absent; in specimen from French Guiana, Relais Patawa, frontal line almost complete (not present only near clypeus); occipital carina incomplete, only visible behind ocellar triangle and on sides, not reaching temple; occipital carina absent behind temple; POL = 2; OL = 5; OOL = 7; OPL = 1.5; in specimen from Panama, Campo Chagres, POL = OL. Pronotum dull, as sculptured as head, slightly humped, crossed by two slight transverse impressions; posterior collar absent; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, as sculptured as head; in specimen from French Guiana, Road Roura-Kaw km 37.5, scutum with some areolae located along posterior margin. Notauli slightly distinct, accompanied by one longitudinal keel; occasionally incomplete and approximately reaching 0.65 length of scutum; in specimen from Peru, Tocache, notauli complete and posteriorly separated (then minimum distance between notauli approximately four times as long as POL (8:2)). Propodeum reticulate rugose, with two longitudinal median keels joining metanotum to petiole. Fore wing with two dark transverse bands (occasionally bands very light); distal part of stigmal vein longer than proximal part (27:8). Protarsal segments of holotype in following proportions: 21:4.5:5:18:27. Enlarged claw (Plate 91B) with one large subdistal tooth and one row of 10–15 lamellae. Segment 5 of protarsus (Plate 91B) with one row of 10–16 lamellae; distal apex with about 14 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

**Distribution.** Brazil, French Guiana, Mexico, Panama, Puerto Rico.

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20. *Dryinus grandis* (Ogloblin, 1938)
(Plate 91C)

*Mesodryinus grandis* Ogloblin 1938: 35.


**Description.** Female. Fully winged; length 8.1 mm. Head and antenna testaceous; mesosoma black, except posterior and lateral margins of pronotum reddish; metasoma brown-reddish; fore leg testaceous, except coxa, trochanter, femur and tibia brown; meso- and metaleg black, except tarsus testaceous. Antenna slightly clavate; antennal segments in following proportions: 16:8:50:20:18:16:14:12:10:14; antennal segment 4 about five times as
long as broad. Head dull, granulated and sculptured by numerous longitudinal keels; frontal line complete; occipital carina incomplete, present behind and on sides of ocellar triangle, laterally reaching temple; POL = 2.5; OL = 2.5; OOL = 14; OPL = 1.5; TL = 2.5. Pronotum shiny, humped, longer than broad, crossed by two strong anterior and posterior transverse impressions; posterior collar short; pronotal tubercle not reaching tegula. Scutum shiny, strongly sculptured by numerous longitudinal keels. Notauli not distinctly visible among the longitudinal keels. Scutellum and metanotum reticulate rugose. Propodeum reticulate rugose; posterior surface with two incomplete longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (15:8). Protibia about twice as long as protocoxa. Protarsal segments in following proportions: 40:9:11:27:45. Enlarged claw (Plate 91C) with one large subdistal tooth and one row of 16 lamellae. Segment 5 of protarsus (Plate 91C) with two rows of about 40 lamellae; distal apex with about 20 lamellae. Tibial spurs 1/1/2. 

**Male.** Unknown.

**Material examined.** Type: ♂ holotype: ARGENTINA: Jujuy, I.1906, Carlos Spegazzini leg. (MACN).

**Hosts.** Unknown.

**Distribution.** Argentina.

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(Plate 91D)


**Description.** Female. Fully winged; length 4.1 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma black; metasoma brown-testaceous; fore leg testaceous-reddish; mid- and hind leg brown. Antenna clavate; antennal segments in following proportions: 12:6:24:12:10:8:7:6.5:6:9. Head dull, granulated, partly reticulate rugose and sculptured by irregular longitudinal keels; frontal line incomplete; occipital carina complete; POL = 4; OL = 2; OOL = 9; OPL = 1; TL = 5. Pronotum dull, granulated, crossed by two slight transverse impressions; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, granulated, with posterior third reticulate rugose. Notauli incomplete, reaching about 0.6 length of scutum. Scutellum and metanotum dull, granulated. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing with three dark transverse bands; distal part of stigmal vein longer than proximal part (15:7). Protarsal segments in following proportions: 19:3:5:13:20. Enlarged claw spatulate (Plate 91D), with one large subdistal tooth and one row of 16 lamellae. Segment 5 of protarsus (Plate 91D) with two rows of about 29 + 11 lamellae extending continuously to distal apex (shortest row composed of very long lamellae). Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♂ holotype: MEXICO: Guerrero, 6 mi E Xochipala, 13.VII.1985, Jones & Schaffner leg. (USNM).

**Hosts.** Unknown.

**Distribution.** Mexico.

**Remarks.** *Dryinus guerrerensis* is similar to *D. antilleanus* (Evans). The only difference regards the colour of pronotum.

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**22. Dryinus guyanensis Olmi, 1999**  
(Plate 91E)


**Description.** Female. Fully winged; length 6.5–6.6 mm. Head completely testaceous-yellow; antenna brown, except proximal half of segment 1 testaceous; prothorax testaceous-yellow, except anterior impression brown and one brown median longitudinal stripe on disc; mesothorax, metathorax and propodeum black; metasoma brown; fore leg brown, except coxa partly yellow; mid- and hind leg brown, except coxae black and metatrochanter whitish. Antenna slightly clavate; antennal segments in following proportions: 15:6:59:20:21:14:10:9:8:10. Head flat, dull, covered with short hairs, sculptured by numerous and parallel longitudinal keels; frontal line complete;
occipital carina incomplete, present behind and on sides of ocellar triangle, laterally not reaching temple; POL = 3.5; OL = 4; OOL = 10; OPL = 2; temple absent. Pronotum shiny, crossed by two transverse impressions, anterior one slight and posterior one strong; anterior collar smooth, unsculptured, hairless; disc smooth, very slightly sculptured by numerous striae located around disc; posterior collar very short, shiny, rugose; pronotal tubercle not reaching tegula. Scutum shiny, strongly sculptured by numerous parallel longitudinal keels. Notauli not distinctly visible among longitudinal keels. Scutellum and metanotum reticulate rugose. Mesopleuron dull, hairy, reticulate rugose. Metapleuron shiny, sculptured by numerous parallel transverse keels. Propodeum without transverse keel between dorsal and posterior surface, with dorsal surface sculptured by numerous parallel and longitudinal keels; posterior surface with two complete longitudinal keels and median and lateral areas dull and reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (22:16); marginal cell open. Protarsal segments in following proportions: 28:4:10:30:45. Enlarged claw (Plate 91E) with one large subdistal tooth and one row of 25 lamellae. Segment 5 of protarsus (Plate 91E) with two rows of 34 lamellae; distal apex with at least 16 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** French Guiana.

### 23. *Dryinus hansonianus* Olmi, 1993

(Plate 91F)


**Description.** Female. Fully winged; length 4.4–5.0 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; propleuron black, except dorsal side testaceous; pronotum testaceous, except two lateral black spots; rest of mesosoma black; metasoma brown-testaceous; legs testaceous, except clubs of femora and coxae partly brown. Antenna clavate; antennal segments in following proportions: 8:6:27:12:11:9:7:6.5:5:8. Head flat, dull, granulated, with face sculptured by irregular keels; frontal line complete; occipital carina complete; POL = 3.5; OL = 2; OOL = 7; OPL = 1; TL = 6. Pronotum dull, granulated, with some lateral longitudinal keels, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, granulated. Notauli incomplete, reaching about 0.5 length of scutum. Scutellum and metanotum dull, granulated. Propodeum dull, with dorsal surface sculptured by numerous parallel longitudinal keels; posterior surface reticulate rugose, without longitudinal keels; dorsal surface longer than posterior surface (22:17). Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (14:5.5). Protarsal segments in following proportions: 18:3:7:15:24. Enlarged claw not spatulate (Plate 91F), with one large subdistal tooth and one row of nine lamellae. Segment 5 of protarsus (Plate 91F) with two rows of 5 + 8 lamellae; distal apex with at least 25 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: MEXICO: Quintana Roo, Felipe Carrillo P.to, 10–14.X.1986, Wilford J. Hanson leg. (CAS). Paratype: COSTA RICA: San José, Escazú, 1♀ (AMNH). Other material: COSTA RICA: Alajuela, 20 km S of Upala (DBUSU); Guanacaste, 3 km SE of Río Naranjo, 1–7.II.1988, F.D. Parker leg. (AMNH, DBUSU); Guanacaste, 14 km S of Cañas (DBUSU); San José, Escazú (AEIC, DBUSU). EL SALVADOR: Quezaltepeque, 500 m (CAS). HONDURAS: La Ceiba, 19.XII.1916 (USNM); Atlantida, Lancetilla, Tela, 15°43’N 87°27’W (ZIL); Francisco Morazán, Zamorano (ZIL). PANAMA: Bocas del Toro, Parque Int. La Amistad, Weksos-Teribe, 50 m, 17–24.X.1999, yellow trap, A. Santos leg., 1♀ (MIGBF).

**Hosts.** Unknown.

**Distribution.** Costa Rica, El Salvador, Honduras, Mexico, Panama.
(Plate 92A)


**Description. Female.** Fully winged; length 4.1–6.2 mm. Head black, except mandible, palps and clypeus testaceous; antenna testaceous, except segments 4–5 darkened; mesosoma black, except pronotal tubercle brown; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 12:7:33:16:12:10:8:7:10; antennal segment 4 about eight times as long as broad (16:2). Head dull, hairy, reticulate rugose; frontal line complete; occipital carina complete; POL = 3.5; OL = 2.5; OOL = 8.5; OPL = 1; TL = 1.5. Pronotum dull, granulated, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, granulated and with numerous areolae or irregular keels. Notauli slightly visible, complete and posteriorly separated; minimum distance between notauli about twice as long as POL (7:3.5). Scutellum and metanotum dull, slightly granulated. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; dorsal surface about as long as posterior surface. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (20:10). Protarsal segments in following proportions: 23:3:7:16:26. Enlarged claw (Plate 92A) with one large subdistal tooth and one row of 14 lamellae. Segment 5 of protarsus (Plate 92A) with two rows of about 23 lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: SURINAME: Saramacca, Kabo, 05°14’N 55°44’W, 19–24.VI.1978, in mixed mesophytic upland forest, Moericke trap, K. Ernst Neering leg. (DEUW). Other material: COSTA RICA: Guanacaste, 3 km SE Rio Naranjo (AMNH). VENEZUELA: Aragua, 16 km E Colonia Tovar, 6920’ (CAS).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Suriname, Venezuela.

25. *Dryinus kimseyae* Olmi, 1984
(Plate 92B)


**Description. Female.** Fully winged; length 6.2–10.8 mm. Head black, except mandible testaceous; clypeus testaceous, except brown spot; anterior region of face near clypeus testaceous; ventral side of head black, except large yellow spot near mouth-parts; occasionally head almost completely testaceous, except brown spot on vertex; antenna brown-reddish, except segment 1 yellow; occasionally antenna completely testaceous; mesosoma black, except posterior margin of pronotum testaceous; occasionally pronotum reddish, except brown spot on transverse furrow; metasoma brown; legs testaceous; occasionally protibia partly brown. In specimen from Brazil, 62 km SE of Ariquemes, colour totally black, except mandible, clypeus and malar space testaceous-reddish and antenna testaceous, except segments 3–5 brown. Antenna slightly clavate; antennal segments in following proportions: 24:11:90:33:30:21:16:15:12:17; antennal segment 4 about nine times as long as broad (35:4). Head flat, dull, granulated and with numerous areolae and irregular keels; frontal line complete; occipital carina incomplete, not present on temple; POL = 4; OL = 4; OOL = 17; OPL = 2. Pronotum shiny, hairy, with numerous longitudinal keels on posterior collar and disc; pronotum crossed by strong transverse impression; disc about three times as long as anterior collar (50:14); posterior collar short, clearly distinct; pronotal tubercle not reaching tegula. Scutum sculptured by numerous longitudinal keels. Notauli complete, posteriorly separated, hardly visible among keels of scutum. Scutellum dull, with anterior half reticulate rugose and posterior half granulated; occasionally scutellum sculptured by numerous longitudinal keels. Metanotum dull, granulated. Propodeum shiny, with dorsal surface sculptured by numerous strong longitudinal keels; posterior surface with two longitudinal keels and many transverse keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (22:15; 43:22 in holotype). Protarsal segments in following proportions: 50:7:14:45:72. Enlarged claw (Plate 92B) with one large subdistal tooth and one row of about 28 lamellae. Segment 5 of protarsus (Plate 92B) with two rows of about 45 lamellae; distal apex with about 25 lamellae. Tibial spurs 1/1/2.
Male. Unknown.

Material examined. Type: ♀ holotype: PANAMA: Colón, Canal Zone, level I, Barro Colorado Island, 09°30’N 79°51’W (DEUCD). Other material: BRAZIL: Rondônia, 62 km SE of Ariquemes (AMNH). COLOMBIA: Amazonas, 22 km NW Leticia, 04°05’S 69°99’W (NHMLA). COSTA RICA: Puntarenas, Golfo Dulce Forest Reserve, 3 km SW of Rincón, 10 m (EBUC). PANAMA: Colón, Canal Zone, level I, Barro Colorado Island, many females (AMNH, CNC, RNHL); Canal Zone, Ft. Sherman, Mojinga Swamp (USNM).

Hosts. Unknown.

Distribution. Brazil, Colombia, Costa Rica, Panama.

PLATE 92. Chelae of holotypes. A. Dryinus kabanus. B. D. kimseyae. C. D. loretanus. D. D. pecki. E. D. onorei. F. D. sinopensis (syn. of D. striatus). Scale bar 0.26 mm for A and D, 0.43 mm for B, 0.20 mm for C, 0.22 mm for E, 0.17 mm for F.

(Plate 92C)


Description. Female. Fully winged; length 4.2 mm. Head black, except mandible testaceous and clypeus brown; antenna brown, except ventral side of segment 1 testaceous; prothorax completely testaceous-reddish; rest of mesosoma black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 12:6:16:6:5:6:6:6:5:8; antennal segment 4 about twice as long as broad (6:3.5); rhinaria present on segments 5–10. Head dull, completely sculptured by numerous longitudinal parallel striae; frontal line complete; occipital carina incomplete, only visible on vertex, laterally not reaching eyes; POL = 3; OL = 2; OOL = 7; OPL = 2; TL = 2; greatest breadth of posterior ocelli as long as POL. Pronotum shiny, punctate, unsculptured among punctures, crossed by two transverse impressions, anterior one slight and posterior one strong; disc very humped; posterior collar absent; pronotal tubercle almost reaching tegula, separated by very small distance. Scutum dull, with median region reticulate rugose; lateral regions sculptured by longitudinal and irregular keels. Notauli complete, posteriorly separated; minimum distance between notauli longer than antennal segment 2 (8:6). Scutellum shiny, punctate, unsculptured among punctures. Metanotum shiny, unsculptured. Mesopleuron dull, reticulate rugose. Metapleuron strongly transversely striate. Propodeum with dorsal surface sculptured by many longitudinal parallel keels (with areolae between keels); posterior surface reticulate rugose, with two incomplete and divergent longitudinal keels; dorsal surface about as long as posterior surface. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein longer than proximal part (15:12). Protarsal segments in following proportions: 15:2:5:10:18. Enlarged claw (Plate 92C) with one large subdistal tooth and one row of five small lamellae.
Segment 5 of protarsus (Plate 92C) with one row of 11 lamellae; distal apex with about eight lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Peru.

27. *Dryinus onorei* Olmi, 1996
(Plate 92E)


**Description.** Female. Fully winged; length 5.3–6.6 mm. Head black, except mandible, clypeus, part of ventral side, malar space and one short frontal stripe along orbits testaceous (in paratype, small anterior region of face near clypeus testaceous); antenna brown, except segments 1–2 and proximal extremity of 3 testaceous (in three specimens from Bolivia, 17°40’S 63°27’W, antenna testaceous, except segments 3–4 brown); prothorax testaceous-reddish; rest of mesosoma black; petiole black; metasoma testaceous, except distal third brown; legs testaceous, except proximal extremity of club of profemur blackish, stalks of meso- and metatibia blackish, distal extremities of meso- and metatibia darkened (in paratype metatibia and metatarsus completely darkened). Antenna clavate; antennal segments in following proportions: 10:6:39:13:11:10:8:8:7:11. Head slightly excavated, shiny, smooth, finely punctate, unsculptured among punctures (in three specimens from Bolivia, 17°40’S 63°27’W, face with few irregular keels); frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; POL = 2.5; OL = 3.5; OOL = 8.5; OPL = 3; temple distinct; greatest breadth of posterior ocelli longer than POL (4:2.5). Pronotum shiny, smooth, unsculptured, crossed by two strong transverse impressions; posterior collar very short; pronotal tubercle not reaching tegula. Scutum dull, smooth, granulated, except unsculptured anterior surface of median region and rugose anterior surfaces of lateral regions. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (6:4). Scutellum and metanotum dull, rugose and granulated. Propodeum dull, reticulate rugose, without transverse keels; posterior surface with two incomplete short longitudinal keels and median and lateral areas dull and rugose. Fore wing with two dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (17:11). Protarsal segments in following proportions: 28:4:9:25:38. Enlarged claw not spatulate (Plate 92E), with one large subdistal tooth and one row of 13–15 lamellae + one long bristle and few short hairs. Segment 5 of protarsus (Plate 92E) with two-three rows of about 41 lamellae; distal apex with at least 20–23 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Bolivia, Ecuador, Peru.

(Plate 92D)

**Description. Female.** Fully winged; length 5.6–6.2 mm. Head black, except mandible, clypeus and anterior region of face whitish; antenna testaceous, except segments 1–2 whitish or testaceous; mesosoma black, except lateral margins and posterior collar of pronotum whitish or testaceous; metasoma brown; legs brown, except procoxa and protrochanter whitish; occasionally procoxa and protrochanter partly brown. Antenna clavate; antennal segments in following proportions: 7:6:40:24:18:13:11:9:7:10. Head shiny, granulated, with face and vertex sculptured by irregular longitudinal striae; frontal line complete; occipital carina incomplete, only visible behind and on sides of posterior ocelli; POL = 3; OL = 2.5; OOL = 9; TL = 6; posterior ocelli almost touching occipital carina. Pronotum shiny, crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped, unsculptured or granulated; lateral regions of pronotum and collars slightly or strongly granulated or slightly striate; posterior collar long; pronotal tubercle not reaching tegula. Scutum dull, granulated, with some striae on lateral surfaces. Notauli incomplete, reaching about 0.7 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, with posterior surface sculptured by strong transverse keels. Fore wing with three dark transverse bands; distal part of stigmal vein longer than proximal part (22:8). Protarsal segments in following proportions: 23:4:7:20:29. Enlarged claw (Plate 92D) with one large subdistal tooth and one row of ten lamellae. Segment 5 of protarsus (Plate 92D) with two rows of approximately 21 lamellae; distal apex with about 19 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: PANAMA: Chiriquí, 2 km W of Cerro Punta, 1700 m, S. & J. Peck leg. (CNC).

**Other material:** HONDURAS: Cortés, Cusuco National Park, 5 km N of Buenos Aires, 15°29'N 88°13'W (AMNH). PANAMA: Chiriquí, Parque Int. La Amistad, Jurutungo, 1600 m, 30.X–5.XI.1994, yellow trap, A. Rodriguez leg. (MIGBF).

**Hosts.** Unknown.

**Distribution.** Honduras, Panama.

**Remarks.** The species is named after Dr. Stewart B. Peck (and not after Mr. Oswald Peck as written in the original description (Olmi 1987d)).


(Plate 93A)

*Dryinus smetanai* Olmi 2008b: 222.

**Description. Female.** Fully winged; length 3.7 mm. Head black, except mandible, clypeus, gena and anterior margin of face testaceous; antenna brown, except segments 1–3 testaceous; mesosoma black, except margins of pronotum testaceous; metasoma brown; fore leg testaceous; mid- and hind leg brown, except tarsi and trochanters testaceous. Antenna clavate; antennal segments in following proportions: 10:5:17:11:8:5:5:5:7; antennal segment 4 more than five times as long as broad (11:2); rhinaria present on antennal segments 6–10. Head swollen, dull, hairy, reticulate rugose; frontal line complete; occipital carina complete, laterally not reaching eyes; POL = 4.5; OL = 2; OOL = 9; OPL = 1; TL = 3; greatest breadth of posterior ocelli as long as OL. Pronotum dull, granulated, hairy, humped, crossed by two strong anterior and posterior transverse furrows; anterior collar long; posterior collar absent; pronotal tubercle not reaching tegula. Scutum and scutellum dull, hairy, sculptured by numerous parallel longitudinal keels. Notauli not visible among longitudinal keels. Metanotum dull, very hairy, very short. Propodeum with dorsal surface sculptured by many parallel longitudinal keels, rugose between keels; posterior surface reticulate rugose, without longitudinal keels; dorsal surface about as long as posterior surface. Fore wing with three dark transverse bands; distal part of stigmal vein slightly longer than proximal part (13:8). Hind wing with distal third brown. Protarsal segments in following proportions: 19:2:5:5:8:13.5. Enlarged claw (Plate 93A) with one large subdistal tooth and one row of three bristles. Segment 5 of protarsus (Plate 93A) with one row of eight–nine lamellae; distal apex with at least 15 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Dominican Republic.
PLATE 93. A, B, D. chelae of holotypes. C. Genitalia of male from Brazil, Encruzilhada. E. Head of female holotype in dorsal view. F. Prothorax of female holotype in lateral view. G. Enlarged claw of female from Colombia, Mocagua. A. Dryinus smetanai. B. D. snellingi. C–G. D. striatus. Scale bar 0.19 mm for A, 0.37 mm for B, 0.15 mm for C, 0.30 mm for D, 1.2 mm for E, 0.42 mm for F, 0.11 mm for G.

30. *Dryinus snellingi* Olmi, 1986
(Plate 93B)


**Description.** Female. Fully winged; length 4.7–10.0 mm (7.2–10.0 mm in almost all known specimens; 4.7 mm only in one small specimen from Belize, Cockscombe Wildlife Reserve). Head testaceous, except vertex and posterior half of face black; antenna testaceous (in specimen from Ecuador, Ongachin, antenna testaceous, except segment 2 brown; in specimen from Belize, Cockscombe Wildlife Reserve, antenna testaceous, except segment 3 brown); prothorax completely testaceous-reddish, or black, except sides of pronotum and posterior collar testaceous (in specimen from Ecuador, Ongachin, prothorax completely black); rest of mesosoma black; metasoma brown or testaceous; legs testaceous. In specimen from Brazil, 22°34.40'S 43°26.07'W, face almost completely black; prothorax black, except lateral margins and posterior collar of pronotum testaceous. Antenna clavate; antennal segments in following proportions: 14:8.63:22:19:15:12:10:9:12; antennal segment 4 more than five times as long as broad (15:2). Head dull, completely sculptured by numerous longitudinal striae (in specimen from Brazil, Bahia, head reticulate rugose); frontal line complete; occipital carina incomplete, only visible on vertex, laterally not reaching eyes; POL = 4; OL = 3; OOL = 12; OPL = 4; occasionally POL shorter than OL. Pronotum shiny, crossed by two transverse impressions, anterior one slight and posterior one strong; anterior collar
and anterior impression longitudinally striate; disc smooth or longitudinally striate; pronotal tubercle not reaching tegula. Scutum dull, with median region reticulate rugose; lateral regions sculptured by longitudinal and parallel keels (in specimens from Costa Rica, Monteverde, and Ecuador, Ongachigih, median region unsculptured, except posterior half or third sculptured by longitudinal keels). Notauli complete, posteriorly separated; minimum distance between notauli much longer than antennal segment 2 (10:8). Scutellum and metanotum dull, reticulate rugose; occasionally scutellum partly punctate. Metapleuron smooth (in specimen from Belize, Cockscome Wildlife Reserve, metapleuran strongly transversely striate). Propodeum reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (23:12). Protarsal segments in following proportions: 35:5:11:32:50. Enlarged claw (Plate 93B) with one large subdistal tooth and one row of 15–25 lamellae. Segment 5 of protarsus (Plate 93B) with two rows of approximately 27–39 lamellae; distal apex with at least 18 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Belize, Brazil, Costa Rica, Ecuador.

31. *Dryinus striatus* (Fenton, 1927) (Plates 88F, 93C–G)

*Lestodryinus striatus* Fenton 1927: 2.


*Dryinus sinopensis* Olmi 1984: 858 (*new syn.); type locality: 12°31’S 55°37’W (Brazil); Olmi et al. 2000: 151; Olmi 2011a: 18; Olmi 2012: 35.

*Dryinus cerrensis* Olmi 2004a: 152 (*new syn.); type locality: 5°21’N 67°51’W (Colombia); Olmi 2012:34, 43.

*Dryinus argentinus* Olmi (misid.): Coelho et al. 2011: 7.

**Description.** **Female.** Fully winged; length 5.0–10.8 mm. Head black, except mandible, clypeus, ventral side and anterior region of face (more along orbits) yellow; occasionally head with one yellow median frontal stripe; occasionally head testaceous, except vertex black; occasionally head with ventral side testaceous and dorsal side black, except mandible, clypeus, anterior margin of face, gena, stripe along orbits and median frontal stripe testaceous; antenna missing in holotype of *L. striatus*; in other specimens antenna totally testaceous (in holotype of *D. sinopensis*) or testaceous-darkened, except segments 1–2 testaceous (in holotype of *D. cerrensis*), or brown, except segments 5–10 testaceous; mesosoma black, except posterior collar and lateral margins of pronotum reddish (in specimen from Colombia, 03°23.01’N 70°06.01’W, propleuron partly brown and testaceous; in specimen from Colombia, 03°23’S 70°06’W, propleuron testaceous, except two small dorsal brown spots, and pronotum black, except large testaceous areas on disc, posterior collar and lateral regions); occasionally pronotum completely testaceous or with two brown spots on lateral regions; occasionally propleuron testaceous and pronotum brown, except disc and pronotal tubercle testaceous; mesosoma brown-reddish or testaceous; legs testaceous; in specimen from Colombia, 03°23.01’N 70°06.01’W, legs testaceous, except tibiae brown. Antenna clavate; antennal segments of specimen from Colombia, 03°23.01’N 70°06.01’W, in following proportions: 19:10:54:30:21:17:15:13:12:17; antennal segments of holotype of *D. sinopensis* in following proportions: 12:7:33:16:12:11:10:9:8:12.5. Head (Plate 93E) dull, granulated and reticulate rugose, with few or numerous longitudinal keels on face; occipital carina incomplete, only present behind and on sides of ocellar triangle, not reaching eyes laterally; posterior ocelli touching occipital carina; holotype with POL = 1.5; OL = 3; OOL = 13. In very large (10.8 mm) specimen from
Male. Fully winged; length 4.4 mm. Head black, except mandible testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa black and metafemur brown. Antenna filiform; antennal segments in following proportions: 9:8:7:12:12:12:12:10:9:10. Head dull, reticulate rugose; frontal line incomplete, only present on posterior half of face; POL = 7; OL = 4.5; OOL = 4.5; OPL = 1; occipital carina incomplete, present behind and on sides of ocellar triangle, not present on temple. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli posterior half of face; POL = 7; OL = 4.5; OOL = 4.5; OPL = 1; occipital carina incomplete, present behind and on sides of ocellar triangle, not present on temple. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli complete, posteriorly separated, hardly visible near posterior margin of scutum. Propodeum with transverse keel between dorsal and posterior surface; dorsal and posterior surfaces reticulate rugose. Fore wing with distal half darkened; distal part of stigmal vein about as long as proximal part. Genitalia in Plate 93C. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Brazil, Colombia, Ecuador, French Guiana, Panama, Paraguay, Venezuela.

32. Dryinus surinamensis Olmi, 1984
(Plate 94A–C)


Description. Female. Fully winged; length 6.2–10.1 mm. Head black, except mandible, clypeus, occiput and anterior region of face (more along orbits) yellow; occasionally head totally reddish; occasionally head reddish, except irregular black spots on vertex; antenna testaceous, occasionally with segment 3 brown; mesosoma black, except dorsal surface of propodeum testaceous and posterior collar and lateral margins of pronotum testaceous or yellow; occasionally pronotum totally black; occasionally prothorax totally testaceous; metasoma black; legs brown, except tarsi testaceous and coxae testaceous with brown spots. Antenna clavate; antennal segments in following proportions: 13:7:57:21:20:17:13:10:8:12. Head (Plate 94B) shiny or dull, granulated and sculptured by numerous longitudinal keels; vertex flat, except ocellar region swollen; frontal line complete; occipital carina incomplete, only present behind and on sides of ocellar triangle. In specimen from Colombia, 05°21'N 67°51'W, POL = 3; OL = 4; OOL = 13; OPL = 2; temple absent. Pronotum shiny, with numerous striae around disc, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar short; pronotal tubercle not reaching tegula. Scutum shiny, sculptured by many longitudinal keels; occasionally anterior surface near collar of pronotum reticulate rugose. Notauli complete, but hardly distinct among longitudinal keels. Scutellum and metanotum punctuate, unsculptured among punctures; occasionally scutellum and metanotum reticulate rugose; occasionally scutellum sculptured by many longitudinal keels. Metapleura shiny, smooth, unsculptured. Propodeum reticulate rugose; posterior surface with two short longitudinal keels. In specimen from Colombia, 05°21'N 67°51'W, dorsal surface of propodeum sculptured by numerous parallel longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part (25:18). Protibia much longer than protrochanter: 70:35. Protarsal segment 1 about as long as segment 4. In specimen from Colombia, 05°21'N 67°51'W, Protarsal segments in following proportions: 32:5:12:33:51. Enlarged claw (Plate 94A) with one large subdistal tooth and one row of 26–28 lamellae. Segment 5 of protarsus (Plate 94A) with two rows of 35–39 lamellae; distal apex with about 20–36 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 3.5–4.2 mm. Head black, except mandible and clypeus testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa, metafemur and metatibia brown. Antenna filiform; antennal segments in following proportions: 7:7:20:11:12:10:9:9:10. Head dull, completely reticulate rugose; frontal line absent; POL = 7; OL = 4; OOL = 5,5; OPL = 3; temple absent; occipital carina incomplete, present behind and on sides of ocellar triangle, on ventral side of head and on lateral regions, absent behind posterior edges of eyes, in dorsal view laterally touching eyes. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli hardly visible near posterior margin of scutum, apparently almost reaching it. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing slightly darkened beneath pterostigma; distal part of stigmal vein shorter than proximal part (15:18). Genitalia in Plate 94C. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Honduras, Mexico, Panama, Paraguay, Peru, Suriname.

33. Dryinus teutoniae Olmi, 1984
(Plate 94D, E)


Description. Female. Fully winged; length 4.3–5.7 mm. Head black, except mandible brown; occasionally gena and clypeus testaceous; antenna testaceous; mesosoma black; metasoma brown-black; legs testaceous, except coxae partly brown and club of metatarmur black. Antenna clavate; antenna of holotype broken, with only first six segments (antennal segments 1–6 in following proportions: 24:17:64:33:26:23). Head (Plate 94E) convex, dull, hairy, reticulate rugose; frontal line incomplete, not present in anterior half of face; occipital carina complete; POL longer than OL; OL = OPL. Pronotum dull, granulated, crossed by two transverse impressions, anterior one slight and posterior one strong; anterior collar slightly distinct; posterior collar short, clearly distinct. Scutum, scutellum and metanotum completely reticulate rugose. Notauli incomplete, hardly visible among areolae of scutum, reaching about 0.5 length of scutum. Propodeum reticulate rugose, without longitudinal keels on posterior surface. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein longer than proximal part (15:7). Protarsal segment 1 much longer than segment 4 (20:12). Protarsal segments 2 and 3 produced into hook. Enlarged claw.
(Plate 94D) with one large subdistal tooth and one row of 16 lamellae. Segment 5 of protarsus (Plate 94D) with two rows of about 37 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil.

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**PLATE 94. A, D.** Chelae of holotypes. **B, E.** Head of female holotype in dorsal view. **C.** Genitalia of male from Brazil, Itapetinca. **A–C.** Dryinus surinamensis. **D, E.** D. teutoniae. Scale bar 0.36 mm for A, 1.2 mm for B, 0.15 mm for C, 0.17 mm for D, 0.56 mm for E.

34. **Dryinus tuparrensis** Olmi, 2004

(Plate 95A)

Dryinus tuparrensis Olmi 2004a: 150.

**Description.** Female. Fully winged; length 4.5–5.0 mm. Head testaceous-reddish; antenna testaceous; mesosoma black, except propleuron brown and lateral, anterior and posterior margins of pronotum partly testaceous; metasoma black; legs brown, except articulations testaceous; metatibia partly testaceous. Antenna clavate; antennal segments in following proportions: 13:6:30:13:12:9:8:6:6:9; antennal segment 4 more than four times as long as broad (13:2.5); rhinaria present on antennal segments 5–10. Head flat, dull, granulated and sculptured by numerous irregular and longitudinal keels; frontal line complete; occipital carina incomplete, only visible behind ocellar triangle and on sides of posterior ocelli; POL = 3; OL = 5; OOL = 9; OPL = 0.5; greatest breadth of posterior ocelli as long as POL; temple absent. Pronotum dull, hairy, humped, crossed by two transverse impressions, anterior one slight and posterior one strong; anterior collar long; posterior collar very short, almost absent; anterior collar and disc of pronotum slightly granulated and sculptured by numerous longitudinal striae; lateral regions of pronotum with numerous longitudinal striae and large smooth and shiny area; pronotal tubercle not reaching tegula. Scutum dull, reticulate rugose. Notauli slightly visible among areolae of scutum, but complete and posteriorly separated; minimum distance between notauli much longer than greatest breadth of posterior ocelli (12:3). In specimen from
Venezuela, Gran Sabana, notauli apparently absent. Scutellum and metanotum dull, reticulate rugose. Metanotum very humped. Propodeum reticulate rugose, with two longitudinal keels on posterior surface; dorsal surface slightly shorter than posterior surface. Fore wing with three dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (14:15). Protarsal segments in following proportions: 17:5:9:23:36. Enlarged claw (Plate 95A) with one large subdistal tooth and one row of 11 lamellae. Segment 5 of protarsus (Plate 95A) with two rows of 22 lamellae; distal apex with at least 20 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Colombia, Venezuela.

Remarks. In a specimen from Venezuela, Gran Sabana, the notauli are not visible, so that *D. tuparrensis* can be included also in group 2 (see).

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**PLATE 95.** Chelae of holotypes. A. *Dryinus tuparrensis*. B. *D. waoranensis*. C. *D. wellingensis*. Scale bar 0.19 mm for A and C, 0.24 mm for B.

(Plate 95B)


Description. Female. Fully winged; length 5.0 mm. Head black, except mandible and part of clypeus yellow; antenna brown, except ventral side of segment 1 yellow and ventral side of segments 6–10 testaceous; prothorax reddish, except one black longitudinal stripe on dorsal region of propleuron; rest of mesosoma black; metasoma brown; legs testaceous, except meso- and metacoxa and proximal extremities of meso- and metafemur partly brown. Antenna clavate; antennal segments in following proportions: 13:7:30:16:12:10:9:8.5:7.5:11; antennal segment 4 more than five times as long as broad (16:3); rhinaria present on antennal segments 5–10. Head slightly excavated, shiny, sculptured by numerous parallel longitudinal keels; frontal line complete; occipital carina incomplete, only visible behind ocellar triangle and on sides of posterior ocelli, laterally not reaching eyes; POL = 3; OL = 2; OOL = 9; OPL = 0.5; greatest breadth of posterior ocelli longer than OL (4:2); temple absent. Pronotum shiny, very humped, crossed by two strong anterior and posterior transverse impressions; anterior collar long; posterior collar absent; anterior collar and disc of pronotum smooth, sculptured by numerous longitudinal striae; lateral regions of pronotum very hairy and with numerous longitudinal striae; pronotal tubercle not reaching tegula. Scutum and scutellum shiny, sculptured by numerous parallel longitudinal keels. Notauli not distinct among longitudinal keels. Metanotum dull, very hairy, slightly granulated. Propodeum with dorsal surface sculptured by many parallel longitudinal keels, rugose among keels; posterior surface reticulate rugose, without longitudinal keels; dorsal surface about as long as posterior surface. Fore wing hyaline, without dark transverse bands; distal
part of stigmal vein slightly longer than proximal part (17:14). Protarsal segments in following proportions: 25:4:7:15:25. Enlarged claw (Plate 95B) with one large subdistal tooth and one row of ten lamellae. Segment 5 of protarsus (Plate 95B) with two rows of about 24 lamellae without interruption to distal apex. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: ECUADOR: Napo, Waorani Ethnic Reserve, 1 km S Onkone Gare Camp, 00°39.10’S 76°26’W, 220 m, VI.1994, canopy fogging, T.L. Erwin leg. (CNC).

Hosts. Unknown.

Distribution. Ecuador.

36. Dryinus wellingensis Olmi, 1984
(Plate 95C)


Description. Female. Fully winged; length 5.6–7.8 mm. Head black, except mandible and clypeus testaceous; in specimen from Bolivia, 17°06.530’S 65°41.203’W, clypeus black, except anterior margin ferruginous; antenna brown, except segments 1–3 and 10 testaceous; mesosoma and metasoma black; legs black, except tarsi testaceous; occasionally legs testaceous, except meso- and metacoxa and clubs of femora partly black. Antenna clavate; antennal segments in following proportions: 11:6:2:11:9:8:7:5:6:5:9; antennal segment 4 about four–five times as long as broad (11:3 or 18:3.5); in specimen from Bolivia, 17°06.530’S 65°41.203’W, antennal segment 3 more than twice as long as 1 (42:15). Head flat, dull, granulated, with numerous areolae or irregular keels on face and vertex near eyes; occasionally head completely reticulate rugose; frontal line complete; occipital carina complete; POL = 4; OL = 4; OOL = 11; OPL = 1.5; TL = 3. Pronotum slightly humped, dull, granulated, with numerous short keels on posterior transverse impression; pronotum crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar almost absent; pronotal tubercle reaching or not tegula. Scutum dull, granulated, with numerous longitudinal parallel keels. Notauli hardly visible among keels of scutum. Scutellum and metanotum dull, granulated; occasionally scutellum rugose and metanotum unsculptured. Propodeum without transverse keels, with dorsal surface sculptured by many longitudinal parallel keels; posterior surface reticulate rugose, without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (16:7). Hind wing with distal third slightly darkened. Protarsal segments in following proportions: 19:2:5:13:19. Enlarged claw (Plate 95C) spatulate, with one large subapical tooth and one row of 10–16 lamellae. Segment 5 of protarsus (Plate 95C) with two–three rows of about 36–60 lamellae extending continuously to distal apex (one row composed of very long lamellae). Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BELIZE: Middlesex (CNC). Other material: BOLIVIA: Cochabamba, Cochabamba-Villa Tunari road, 17°06.530’S 65°41.203’W, 1040 m, 1–6.II.1999, FIT, R.S. Hanley leg., 1♀ (CNC). COSTA RICA: Guanacaste, S. Rosa Park (AEIC, AMNH); Guanacaste, 9 km S of Santa Cecilia, Estación Pitilla, 700 m (EBUC); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Heredia, Chilamate, 75 m (AMNH); Heredia, Selva Verde, 1–5.III.1991, secondary forest, YPT, B.J. Sinclair leg., 1♀ (PMA); Heredia, Braulio Carrillo National Park, Quebrada Gonzales, 650 m, 2–3.IX.1998, YPT creek, L. Masner leg., 2♀♀ (AMNH, CNC); Puntarenas, Golfo Dulce Forest Reserve, 3 km S of Rincón, 10 m (AMNH); Puntarenas, Osa Peninsula, Sirena (AEIC); Puntarenas, Osa Peninsulas, Sirena, 08°28’N 83°35’W, 50 m (NHMLA). FRENCH GUIANA: Cayenne, Roura, Montagne des Chevaux, V.2009, S.E.A.G. leg., 1♀ (MOLC); Saint-Laurent-du-Maroni, Saül, Crique popote, Mt. Belvédère, 03°36’N 53°10’W, XII.2000, Malaise trap, sur chablis, J. Tarin leg., 1♀ (FSAE). PANAMA: Darién, Darién National Park, Cana, yellow trap, 6–13.IV.1991, R. Cambra leg. (MIGBF); Darién, Darién National Park, Pire, Estación Rancho Frío, 80 m, yellow trap, 7–16.XI.2000, R. Cambra & A. Santos leg. (MOLC).

Hosts. Unknown.

Distribution. Belize, Bolivia, Costa Rica, French Guiana, Panama.
Fossil Neotropical species

Four fossil species are known in females.

**Key to the fossil species (females)**

1. Notauli complete; fore wing crossed by two dark transverse bands .................................. *D. pristinus* Olmi
   - Notauli incomplete; fore wing with one dark spot or crossed by two dark transverse bands .................................. 2
2. Fore wing with one dark spot .......................................................... *D. priscus* Olmi
   - Fore wing crossed by two dark transverse bands .......................................................... 3
3. Enlarged claw with one long row of lamellae (Plate 99A); pronotal tubercle not reaching tegula .......................................................... *D. palaeodominicanus* Currado & Olmi
   - Enlarged claw without lamellae (Plate 97A); pronotal tubercle reaching tegula .............. *D. alamellatus* Olmi & Guglielmino

### 37. *Dryinus alamellatus* Olmi & Guglielmino, 2011

*Dryinus alamellatus* Olmi & Guglielmino, in Olmi et al. 2011: 45.

**PLATE 96.** Female holotype of *Dryinus alamellatus* in lateral view. Length 9.2 mm. From Olmi et al., 2011.
PLATE 97. Female holotype of *Dryinus alamellatus* in lateral (A) and dorsal (B) view. Length 9.2 mm. From Olmi *et al.*, 2011.

**Description.** Female (Plates 96, 97). Fully winged; length 9.2 mm. Colour black, except antenna and legs brown and palpi testaceous. Antenna 10-segmented, long and slender, slightly thickened distally; antennal hairs hardly distinct, much shorter than breadth of segments; antennal segments in following proportions:
8:6:30:14:12:8:8:6:6:7; antenna more than three times as long as head: 99:27; antennal toruli touching margins of clypeus. Head with vertex and face apparently granulated; clypeus with ventral margin slightly bidentate; mandible closed, so that teeth not distinct; eye normally bulging, apparently bare; malar space with furrow joining lower corner of eye to base of mandible; occipital carina only clearly visible on dorsal side of head, laterally touching posterior corner of eyes, not visible on sides of head and on ventral side (because of position of specimen); temple almost absent (TL = 0.5); POL = 3; OL = 4; OOL = 7; OPL = 1; frontal line complete. Maxillary palpi 6-segmented. Labial palpi 3-segmented; last labial palp segment very long and slender. Pronotum granulated and with numerous striae around disc and on lateral regions, slightly shorter than head (24:27), crossed by two strong anterior and posterior transverse impressions; disc humped; posterior collar very short, much shorter than anterior collar (1:9); sides of pronotum contracted at posterior margin; pronotal tubercle reaching tegula. Scutum shorter than pronotum (20:24), granulated and reticulate rugose. Notauli incomplete, reaching about 0.65 length of scutum. Scutellum shorter than scutum (10:20), apparently as sculptured as scutum. Metanotum shorter than scutellum (7:10), apparently as sculptured as scutum. Propodeum slightly longer than scutum (21:20), with dorsal surface much longer than posterior surface (15:6); dorsal and posterior surface reticulate rugose, without longitudinal keels. Shape of pronotum, scutum, scutellum and metanotum usual for Dryinus. Fore wing with two large dark transverse bands, with usual venation of Dryinus; pterostigma narrow, much longer than broad (26:3); marginal cell open; distal part of stigmal vein slightly longer than proximal part (12:10); stigmal vein slightly S-shaped; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing hyaline, without dark transverse bands. Fore and hind wings shape usual for Dryinus. Fore leg segments in following proportions: 18 (coxa): 26 (trochanter): 38 (tibia): 13 (tarsal segment 1): 2 (tarsal segment 2): 8 (tarsal segment 3): 16 (tarsal segment 4): 27 (tarsal segment 5). Enlarged claw shorter than fore tarsal segment 5 (20:27). Protrochanter with long proximal slender stalk, distally broadened, approximately 6.5 times as long as broad (26:4). Segment 3 of protarsus produced into hook. Rudimentary claw and arolium not visible. Enlarged claw (Plate 97A) with one very strong and large subapical tooth and apparently without lamellae. Segment 5 of protarsus (Plate 97A) with many long lamellae (number of rows not distinct); distal apex with group of many lamellae located around central without lamellae hollow. Midleg segments in following proportions: 13 (coxa): 2 (trochanter): 32 (femur): 22 (tibia): 27 (tarsal segment 1): 11 (tarsal segment 2): 8 (tarsal segment 3): 5 (tarsal segment 4): 28 (tarsal segment 1): 14 (tarsal segment 2): 10 (tarsal segment 3): 5 (tarsal segment 4): 7 (tarsal segment 5). Metasoma without distinct petiole. Length and breadth of wings usual for Dryinus. Shape and morphology of the body usual for Dryinus. Tibial spurs apparently 1/1/1.

Male. Unknown.

Material examined. Type: ♀ holotype (Do-5747): DOMINICAN REPUBLIC: amber from an unknown mine (SMNS).

Hosts. Unknown.

Distribution. Dominican Republic (Miocene amber; 15–40 MYA).

38. Dryinus palaeodominicanus Currado & Olmi, 1983
(Plates 98, 99)


Description. Female (Plates 98, 99). Fully winged; length 4.8–6.0 mm. Colour black, except mandible brown-testaceous and legs testaceous. Antenna 10-segmented, long and slender, slightly thickened distally; antennal hairs hardly distinct, much shorter than breadth of segments; antennal segments in following proportions (length): 12:7:39:19:18:13:8:6:5:6:5; antennal segments in following proportions (breadth): 3:2:2:2:5:3:3:3:2:5:2:2; antenna more than three times as long as head: 137:40; antennal toruli touching margins of clypeus. Head with vertex and face apparently reticulate rugose; clypeus with ventral margin strongly bidentate; mandible with four teeth progressing larger from anterior one to posterior; eye normally bulging, apparently bare, except few long hairs; malar space with furrow joining lower corner of eye to base of mandible; temple absent; POL = 5; OL = 3; OOL = 9; OPL = 1; frontal line complete; occipital carina of holotype only clearly visible on dorsal side of head,
PLATE 98. *Dryinus palaeodominicanus*. A. Female in JVC in lateral view (length 4.8 mm). B. Female holotype in dorsal view (length 6.0 mm) (from Olmi, 1995d).
directed towards posterior corner of eyes, not visible on sides of head and on ventral side (because of amber thickness); in specimen in JVC occipital carina absent on sides and ventral side of head, present only on dorsal side. Maxillary palpi apparently 6-segmented. Labial palpi apparently 3-segmented; last labial palp segment very long and slender. Pronotum completely granulated, slightly shorter than head (36:40), crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar very short, much shorter than anterior collar (3:11); sides of pronotum contracted at posterior margin; posterior transverse furrow and posterior collar with median longitudinal carina; pronotal tubercle not reaching tegula. Scutum shorter than pronotum (22:36), granulated and reticulate rugose. Notauli incomplete, reaching about 0.65 length of scutum. Scutellum and metanotum shorter than scutum, apparently as sculptured as scutum. Propodeum not clearly visible (because of amber thickness), with posterior surface partly hidden under metasoma; dorsal surface apparently reticulate rugose, apparently as long as posterior surface. Shape of pronotum, scutum, scutellum and metanotum usual for Dryinus. Fore wing very slender, with two dark transverse bands, with usual venation of Dryinus; pterostigma narrow, much longer than broad (30:4); marginal cell closed; distal part of stigmal vein much longer than proximal part (50:8); stigmal vein S-shaped; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing hyaline, without dark transverse bands. Fore and hind wings shape usual for Dryinus. Fore leg segments in following proportions: 35 (coxa): 40 (trochanter): 62 (femur): 56 (tibia): 21 (tarsal segment 1): 3 (tarsal segment 2): 8 (tarsal segment 3): 24 (tarsal segment 4): 34 (tarsal segment 5). Enlarged claw about as long as protarsal segment 5. Protrochanter with long proximal slender stalk, distally broadened, approximately four times as long as broad (40:9.5). Segments 2 and 3 of protarsus produced into hooks. Rudimentary claw hardly distinct, apparently present. Arolium much shorter than enlarged claw (8:34).

Male. Unknown.

Material examined. Type: ♂ holotype: DOMINICAN REPUBLIC: amber from an unknown mine (MRSNT).

Other material: DOMINICAN REPUBLIC: amber from unknown mines, 5♀♀ (2 in GPJC, others in AMNH, JSC, MOLC).

Hosts. Unknown.

Distribution. Dominican Republic (Miocene amber; 15–40 MYA).

(Plate 100)


Description. Female (Plate 100). Fully winged; length 4.0 mm. Colour apparently testaceous, except petiole black and scutellum apparently black or brown. Antenna 10-segmented, short and slender, apparently glabrous, slightly thickened distally; antennal rhinaria present on segments 5–10; antennal segments in following proportions: 9:5:20:19:23:27:20:15:10:12; antenna more than six times as long as head: 160:26; head slightly convex, apparently dull and granulated; clypeus rounded, with anterior margin not emarginated; mandible hardly visible (number of teeth not distinct); occipital carina complete, laterally not reaching eyes; occiput excavated; eye normally bulging; POL = 5; OL = 2.5; OOL = 10; OPL = 2; TL = 3; frontal line absent. Maxillary palpi 6-segmented. Labial palpi 3-segmented. Pronotum crossed by anterior strong transverse impression between anterior collar and disc; disc humped; posterior collar very short; pronotum apparently dull, granulated, apparently shorter than head (15:26); pronotal tubercle reaching tegula. Scutum apparently dull and granulated, approximately as long as pronotum (16:15). Notauli incomplete, reaching approximately 0.7 length of scutum. Scutellum shorter than scutum (8:16), with sculpture not distinctly visible. Metanotum shorter than scutellum (4:8), with sculpture not distinctly visible. Propodeum slightly longer than scutum (20:16), reticulate rugose; propodeum areolae not distinctly visible; posterior surface of propodeum apparently with two longitudinal keels; sculpture of median area not distinctly visible; posterior surface of propodeum shorter than dorsal surface (6:14). Shape of pronotum, scutum, scutellum, metanotum and propodeum usual for Dryinus. Fore wing with one dark spot beneath pterostigma, with usual venation of Dryinus; pterostigma narrow, much longer than broad (23:5); marginal cell open; distal part of stigmal vein much longer than proximal part (21:11); stigmal vein not S-shaped, forming angle between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing apparently hyaline, without dark transverse bands; hind wing shape usual for Dryinus. Fore leg segments in following proportions: 19 (coxa): 20 (trochanter): 45 (femur): 30 (tibia): 11 (tarsal segment 1): 4 (tarsal segment 2): 6 (tarsal segment 3): 21 (tarsal segment 4): 31 (tarsal segment 5); enlarged claw slightly shorter than protarsal segment 5 (27:31); protrochanter slender and long, with long proximal stalk, broadened more proximally than half-way; protrochanter approximately five times as long as broad (20:4); segments 2 and 3 of protarsus produced into hooks; rudimentary claw present; arolium much shorter than enlarged claw (3:27); enlarged claw apparently with one subapical tooth and with one row of numerous lamellae (number of lamellae not distinct); subapical tooth of enlarged claw apparently small; distal apex of enlarged claw apparently spatulate. Segment 5 of protarsus with numerous lamellae (number of rows of lamellae not distinct); distal apex with group of lamellae (number of lamellae not distinct). Midleg segments in following proportions: 11 (coxa): 6 (trochanter): 41 (femur): 41 (tibia): 24 (tarsal segment 1): 9 (tarsal segment 2): 7 (tarsal segment 3): 4 (tarsal segment 4): 7.5 (tarsal segment 5). Hind leg segments in following proportions: 16 (coxa): 6 (trochanter): 50

**Male.** Unknown.

**Material examined.** Type: ♀ holotype (DR–14–341): DOMINICAN REPUBLIC: amber from an unknown mine (AMNH).

**Hosts.** Unknown.

**Distribution.** Dominican Republic (Miocene amber; 15–40 MYA).

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**PLATE 100.** Female holotype of *Dryinus priscus*. **A.** Ventral view. **B.** Dorsal view. Length 4.0 mm.

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**40. Dryinus pristinus Olmi, 1998**

(Plate 101)


**Description.** Female (Plate 101). Fully winged; length 4.5–5.7 mm. Colour not distinct, apparently black, except mandible, clypeus and antenna testaceous; metasoma brown-testaceous; legs brown. Antenna 10-segmented, long and slender, apparently glabrous, slightly thickened distally; antennal rhinaria present apparently on segments 6–10; antennal segments in following proportions: 10:5:28:13:10:8:6:5:4 (segment 10 not distinct); antenna more than four times as long as head: 89 (without last antennal segment):22. Head flat, dull, with sculpture not distinct; clypeus with anterior margin rounded, not emarginated; mandible hardly visible (number of teeth not distinct); occipital carina only visible behind vertex (rest of occipital carina not distinct); occiput excavated; eye normally bulging; POL = 2; OL = 4; OOL = 6; OPL = 1.5; TL = 1; greatest breadth of posterior ocelli longer than POL (3:2); frontal line complete. Maxillary palpi 6-segmented. Labial palpi 3-segmented. Pronotum crossed by anterior strong
transverse impression between anterior collar and disc; disc humped; posterior collar long; pronotum apparently dull, with sculpture not distinct, slightly longer than head (25:22); pronotal tubercle not reaching tegula. Scutum apparently dull, with sculpture not distinct, shorter than pronotum (14:25). Notauli hardly visible, apparently complete and posteriorly separated; minimum distance between notauli apparently longer than greatest breadth of posterior ocelli (4:3). Scutellum shorter than scutum (8:14), with sculpture not distinctly visible. Metanotum shorter than scutellum (5:8), with sculpture not distinctly visible. Propodeum longer than scutum (32:14), apparently reticulate rugose; propodeum areolae not distinctly visible; posterior surface of propodeum not distinctly visible (longitudinal keels not visible); posterior surface of propodeum shorter than dorsal surface (10:22). Shape of pronotum, scutum, scutellum, metanotum and propodeum usual for *Dryinus*. Fore wing apparently with two dark transverse bands, with usual venation of *Dryinus*; pterostigma narrow, much longer than broad; marginal cell open; distal part of stigmal vein much longer than proximal part (15:8); stigmal vein slightly S-shaped, forming angle between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing hyaline, without dark transverse bands. Shape, breadth and length of wings usual for *Dryinus*. Fore leg segments in following proportions: 32 (coxa): 30 (trochanter): 48 (femur): 40 (tibia): 17 (tarsal segment 1): 2 (tarsal segment 2): 6 (tarsal segment 3): 12 (tarsal segment 4): 26 (tarsal segment 5); enlarged claw slightly shorter than protarsal segment 5 (25:26); protrochanter slender and long, with long proximal stalk, broadened after half-way; protrochanter more than seven times as long as broad (20:4); segment 3 of protarsus produced into hook; rudimentary claw probably present, not distinct; arolium much shorter than enlarged claw (3:25); enlarged claw with one large subapical tooth and one row of numerous lamellae (at least 13); distal apex of enlarged claw apparently not spatulate. Segment 5 of protarsus with numerous lamellae (number of rows of lamellae not distinct); distal apex with group of lamellae (number of lamellae not distinct). Midleg segments in following proportions: 12 (coxa): 6 (trochanter): 30 (femur): 30 (tibia): 20 (tarsal segment 1): 8 (tarsal segment 2): 8 (tarsal segment 3): 4 (tarsal segment 4): 7 (tarsal segment 5). Hind leg segments in following proportions: 17 (coxa): 7 (trochanter): 41 (femur): 54 (tibia): 24 (tarsal segment 1): 13 (tarsal segment 2): 10 (tarsal segment 3): 5 (tarsal segment 4): 8 (tarsal segment 5). Petiole short, usual for *Dryinus*. Shape and morphology of body usual for *Dryinus*. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype (DR–14–1139): DOMINICAN REPUBLIC: amber from an unknown mine (AMNH). Other material: DOMINICAN REPUBLIC: amber from an unknown mine, 2♀ (AMNH, SMNS (Do-5759)).

**Hosts.** Unknown.
**Distribution.** Dominican Republic (Miocene amber; 15–40 MYA).

**Remarks.** In Dryinus palaeodominicanus Currado & Olmi, the dark transverse bands present on fore wing are broader and darker than in *D. pristinus* Olmi.

**Group 2**

Twenty-three species are known (among which one fossil species).

**Extant Neotropical species**

Twenty-four extant species are known.

**Key to the extant species (females)**

**Females**

1. Head unusually excavated, with eye very bulging (Plates 102C, 103D) .......................... 2
   - Head swollen, or flat, or not very excavated, with eye normally bulging (Plate 108D) .......................... 10
2. Head more excavated, with eye more bulging (Plate 103D) .......................... 3
   - Head less excavated, with eye less bulging (Plate 102C) .......................... 4
3. Head completely testaceous .......................... *D. maxicophilthalmicus* (Olmi)
   - Head black, with mandible, clypeus and anterior region of face testaceous .......................... *D. plausmanni* Olmi
4. Head with POL approximately as long as greatest breadth of posterior ocellus; head sculptured by numerous longitudinal striae or keels .......................... 5
   - Head with POL shorter than greatest breadth of posterior ocellus; head rugose, or sculptured by numerous longitudinal fine striae or keels .......................... 6
5. Head black, with mandible and clypeus testaceous; prothorax testaceous-reddish .......................... *D. striaticeps* (Kieffer)
   - Head testaceous-reddish, with brown spot on ocellar region; prothorax black, with sides of pronotum yellow .......................... *D. exophilthalmicus* (Olmi)
6. Vertex and face rugose .......................... 7
   - Vertex and face sculptured by numerous fine longitudinal striae or keels .......................... 8
7. Prothorax testaceous-reddish; fore wing with two dark transverse bands; propodeum with strong transverse keel between dorsal and posterior surface; head with OL about three times as long as POL .......................... *D. putus* (Olmi)
   - Prothorax black, except lateral and posterior margin of pronotum, including posterior tubercle, testaceous; fore wing with three dark transverse bands; propodeum without strong transverse keel between dorsal and posterior surface; head with OL about eleven times as long as POL .......................... *D. schueeppi* Olmi
8. Prothorax black, with sides whitish .......................... *D. quechuanus* (Olmi)
   - Prothorax testaceous-reddish .......................... 9
9. Fore wing with distal part of stigmal vein more than 1.5 times as long as proximal part .......................... *D. pictus* Virk
   - Fore wing with distal part of stigmal vein at most as long as proximal part .......................... *D. striaticeps* (Kieffer)
10. Protarsus with segment 1 produced into hook .......................... 11
    - Protarsus with segments 2 and/or 3 produced into hooks .......................... 12
11. Enlarged claw with subapical tooth located very near distal apex (Plate 108E) .......................... *D. ruficauda* (Richards)
    - Enlarged claw with subapical tooth located farther from distal apex (Plate 107B) .......................... *D. poecilopterae* (Richards)
12. Head with OL approximately three times, or more than three times as long as POL .......................... 13
    - Head with OL as long as, shorter than, or less than three times as long as POL .......................... 17
13. Scutum smooth, completely unsculptured .......................... *D. hansoni* (Olmi)
    - Scutum completely reticulate rugose .......................... 14
14. Stigmal vein slightly curvilinear (Plate 104A, B); pronotum almost totally black .......................... *D. maximus* (Olmi)
    - Stigmal vein strongly S-shaped (Plate 110B); pronotum totally testaceous-reddish .......................... 15
15. Head excavated, black, with clypeus and mandible testaceous .......................... *D. striaticeps* (Kieffer)
    - Head almost flat or more or less excavated, testaceous-reddish or testaceous-ferruginous, occasionally slightly darkened .......................... 16
16. Head completely reticulate rugose .......................... *D. parkeri* (Olmi)
    - Head slightly granulated, usually with numerous longitudinal fine striae on face and vertex .......................... *D. ruficeps* (Cameron)
17. Segment 1 of protarsus twice or more than twice as long as segment 4 .......................... 18
    - Segment 1 of protarsus as long as, or less than twice as long as segment 4 .......................... 20
18. Scutum not reticulate rugose; scutum granulated, with two complete longitudinal keels similar to natali; posterior half of
scutum and part of median region sculptured by irregular longitudinal keels .................................................. D. tainensis Olmi
- Scutum completely reticulate rugose ................................................................. D. andinus (Olmi)

19. Head black, with anterior part of vertex, clypeus, mandible and occasionally orbits testaceous; scutum with areolae small ........................................ D. gibbosus (Olmi)
- Head totally testaceous-reddish; scutum with areolae large ........................................ D. gibbosus (Olmi)

20. Occipital carina incomplete ................................................................. D. andinus (Olmi)
- Occipital carina complete ................................................................. D. andinus (Olmi)

21. Head with OL about twice as long as POL ................................................................. D. andinus (Olmi)
- Head with OL as long as or slightly longer than POL ................................................................. D. andinus (Olmi)

22. Distal part of stigmal vein shorter than proximal part; dorsal surface of propodeum reticulate rugose; distal part of segment 5 of protarsus longer (Plate 105A) ................................................................. D. nigroflavus (Olmi)
- Distal part of stigmal vein much longer than proximal part; dorsal surface of propodeum sculptured by many subparallel longitudinal keels; distal part of segment 5 of protarsus shorter (Plate 102E) ................................................................. D. garcetei Olmi

23. Segment 5 of protarsus with two rows of lamellae (Plate 102B) ................................................................. D. chiapasensis (Olmi)
- Segment 5 of protarsus with one row of lamellae (Plates 105C, 110D) ................................................................. D. garcetei Olmi

24. Enlarged claw with one row of bristles and few distal lamellae (Plate 105C); posterior ocelli not touching occipital carina; head reticulate rugose ................................................................. D. picescens (Olmi)
- Enlarged claw with one long row of lamellae (Plate 110D); posterior ocelli touching occipital carina; head granulated .......................... D. tiputinensis Olmi

PLATE 102. A, B, D, E. Chelae of holotypes. C. Head in frontal view of female holotype. F. Enlarged claw of female from Mexico, 8 mi NE El Punto. A. Dryinus andinus. B. D. chiapasensis. C, D. D. exophthalmicus. E, F. D. garcetei. Scale bar 0.22 mm for A, 0.14 mm for B, 0.84 mm for C, 0.29 mm for D, 0.20 mm for E, 0.18 mm for F.

I. Dryinus andinus (Olmi, 1984)
(Plate 102A)

Tridryinus andinus Olmi 1984: 967.

Description. Female. Fully winged; length 3.7–5.6 mm. Head black, except mandible, clypeus and anterior region of face testaceous; occasionally orbits testaceous; occiput black or testaceous; occasionally head black, except mandible and clypeus testaceous; antenna testaceous-reddish; prothorax testaceous-reddish; occasionally prothorax black, except margins testaceous; rest of mesosoma black; metasoma testaceous-reddish; legs testaceous-reddish.
Antenna clavate. Head dull, reticulate rugose; frontal line almost complete, absent only near clypeus; occipital carina complete; posterior ocelli not touching occipital carina; POL = 6; OL = 3; OOL = 8; OPL = 1; TL = 2; greatest breadth of posterior ocelli about as long as OL. Pronotum dull, hairy, granulated, sculptured by numerous striae around disc, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar absent (because posterior transverse furrow located close posterior margin of pronotum); pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, completely reticulate rugose. Notauli absent. Propodeum completely reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (13:11 or 12:11). Protarsal segment 1 more than twice as long as segment 4 (21:8). Protarsal segment 3 produced into hook. Enlarged claw (Plate 102A) with one large subapical tooth and one row of five lamellae. Segment 5 of protarsus (Plate 102A) with one row of about 13 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil, Mexico.

2. Dryinus chiapasensis (Olmi, 1991)
(Plate 102B)


Description. Female. Fully winged; length 3.2–3.6 mm. Head black, except mandible and clypeus testaceous; antenna testaceous, except segments 8–10 darkened; mesosoma black, except margins of pronotum and dorsal side of propleuron testaceous-reddish; metasoma brown; legs testaceous, except coxae partly black. Antenna clavate; antennal segments in following proportions: 8:5:17:8:7:6:6:5:6. Head dull, granulated and sculptured by irregular longitudinal keels on face and vertex; frontal line complete; occipital carina complete; posterior ocelli not touching occipital carina; POL = 3; OL = 2; OOL = 7; OPL = 1; TL = 3.5. Pronotum dull, granulated, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, completely reticulate rugose. Notauli absent. Scutellum and metanotum granulated. Propodeum reticulate rugose; dorsal surface sculptured by some longitudinal keels; posterior surface without longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part (13:6). Protarsal segments in following proportions: 16:2:4:10:15. Protarsal segment 3 produced into hook. Enlarged claw spatulate (Plate 102B) with one large subapical tooth and one row of 11–12 lamellae. Segment 5 of protarsus (Plate 102B) with two rows of 10 + 20–23 lamellae (shortest row composed of very long lamellae); distal apex with about four–five lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. El Salvador, Mexico.

3. Dryinus exophthalmicus (Olmi, 1984)
(Plate 102C, D)

Tridryinus exophthalmicus Olmi 1984: 962.
Description. **Female.** Fully winged; length 6.9 mm. Head testaceous-reddish, except brown spot on ocellar region; antenna testaceous, except segments 1–5 darkened; mesosoma black, except lateral margins of pronotum yellow; metasoma brown-black; legs testaceous, except metacoxa partly black. Antenna clavate; antennal segments in following proportions: 8:4:24:10:7:5:4:4:6. Head unusually excavated, smooth, hairless, with eye very bulging (Plate 102C); face sculptured by numerous longitudinal striae; occipital carina absent; POL about as long as greatest breadth of posterior ocelli; OL more than three times as long as POL. Pronotum dull, hairy, with numerous keels around disc, crossed by one anterior slight transverse impression; posterior transverse impression and posterior collar absent; disc humped, raised into longitudinal carina. Scutum, scutellum and metanotum completely reticulate rugose. Notauli absent. Metanotum raised into median longitudinal carina. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (18:12). Protarsal segment 1 about as long as segment 2. Segment 2 and 3 of protarsus produced into hook. Enlarged claw (Plate 102D) with one large subapical tooth and one row of 11 lamellae. Segment 5 of protarsus (Plate 102D) with two rows of about 44 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: Santa Catarina, Nova Teutonia, 25.I.1939, F. Plaumann leg. (BMNH).

**Hosts.** Unknown.

**Distribution.** Brazil.

(Plate 102E)

*Dryinus garcetei* Olmi 2012: 31, 44.

Description. **Female.** Fully winged; length 5.6–5.9 mm. Head black, except mandible testaceous; clypeus testaceous, except brown medial area; antenna brown, except segments 1–3 testaceous and 10 whitish (in specimen from Mexico, 8 mi NE El Punto, antenna brown, except distal extremities of segments 1–2 testaceous and segment 10 whitish); mesosoma black; metasoma brown; fore leg brown, except part of coxa black, distal part of coxa and stalk of trochanter testaceous, stalk of femur and chela testaceous; mid- and hind leg brown, except coxae black and club of metasternum testaceous. Antenna clavate; antennal segments in following proportions: 12:6:29:14:12:8:7:5:9; rhinaria present in antennal segments 5–10. Head flat, dull, reticulate rugose; eye normally bulging; frontal line incomplete, not reaching clypeus, near antennal toruli divided into two branches directed towards antennal toruli (in specimen from Mexico, 8 mi NE El Punto, frontal line not reaching clypeus and not divided into two branches); occipital carina incomplete, present on ventral side and behind and on sides of posterior ocelli, laterally not reaching eyes, slightly absent on temple; POL = 2; OL = 2; OOL = 9; OPL = 1; TL = 2; greatest breadth of posterior ocelli longer than OPL (3:1). Pronotum dull, granulated, sculptured by numerous longitudinal striae on and around disc, crossed by anterior transverse impression; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, completely granulated and reticulate rugose. Notauli absent. Scutellum dull, granulated and very slightly rugose (in specimen from Mexico, 8 mi NE El Punto, scutellum strongly reticulate rugose). Metanotum very short, reduced, reticulate rugose (in specimen from Mexico, 8 mi NE El Punto, metanotum sculptured by longitudinal keels). Propodeum with dorsal surface sculptured by many subparallel longitudinal keels, connected by many short irregular transverse keels; posterior surface reticulate rugose, with two strong longitudinal keels. Dorsal surface of propodeum about as long as posterior surface. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (15:11). Protarsal segments in following proportions: 19:3:7:20:30. Protarsal segment 3 produced into hook. Enlarged claw (Plate 102E) with one large subapical tooth and one row of 11 lamellae (in specimen from Mexico, 8 mi NE El Punto, enlarged claw with two subapical teeth (Plate 102F)). Segment 5 of protarsus (Plate 102E) with two rows of about 26 lamellae; distal apex with about 15 lamellae (in specimen from Mexico, 8 mi NE El Punto, segment 5 of protarsus with two rows of about 31 lamellae; distal apex with about 20 lamellae).

Tibial spurs 1/1/2.
Male. Unknown.


Hosts. Unknown.

Distribution. Mexico, Paraguay.

Remarks. A female collected in Mexico, 8 mi NE El Punto, has two subapical teeth on the enlarged claw, so that it can be included also in group 3 (see).

5. Dryinus gibbosus (Olmi, 1984)
(Plate 103A, B)

Dryinus multicarinatus Coelho, Aguiar & Engel 2011: 11, syn. nov.; type locality: Caxiuanã (Pará, Brazil).

Description. Female. Fully winged; length 4.0–6.2 mm. Head totally testaceous-reddish; occasionally ocellar region brown; antenna brown, except segments 1–2 or 1–4 testaceous; occasionally antenna totally testaceous; propleuron completely reddish, or black, except dorsal region testaceous; pronotum totally reddish, or black, except lateral margins testaceous; occasionally pronotum totally black, except all margins testaceous; occasionally pronotum black, except median testaceous stripe and testaceous lateral margins; occasionally pronotum testaceous, with brown spot on lateral regions; rest of mesosoma black; metasoma brown-testaceous; legs totally testaceous; occasionally meso- and metacoxa partly black and clubs of femora partly brown. Antenna clavate; antennal segments in following variable proportions: 9:4:23:8:7:5:4:4:3:5, or 19:7:33:12:12:10:10:8:7:7:9. Head dull, reticulate rugose; occasionally face sculptured also by irregular longitudinal keels; occipital carina complete (in three specimens from Belize, 18°20.721′N 88°9.266′W and 18°20.507′N 88°9.688′W, and in type of D. multicarinatus occipital carina shortly absent behind posterior edge of eye); posterior ocelli not touching occipital carina; OPL shorter than OL; OL shorter than POL. In type of D. multicarinatus POL = 6; OL = 2; OOL = 8; OPL = 0.5; greatest breadth of posterior ocellus longer than OL (4:2). Pronotum dull, hairy, sculptured by numerous striae located around disc, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar absent (posterior transverse furrow located close to posterior margin of pronotum); pronotal tubercle not reaching tegula. Scutum completely reticulate rugose, occasionally also with few longitudinal irregular keels (three keels in type of D. multicarinatus). Notauli absent. Scutellum dull, completely reticulate rugose, occasionally also with some irregular longitudinal keels. Metanotum very reduced and short, strongly punctate. Propodeum with dorsal surface reticulate rugose; occasionally (as in specimen from Belize, 18°20.507′N 88°9.688′W) dorsal surface of propodeum reticulate rugose, but also sculptured by many longitudinal keels (area between keels with many short transverse keels and areolae); occasionally (in type of D. multicarinatus) dorsal surface sculptured by numerous parallel longitudinal keels, unsculptured among keels; posterior surface reticulate rugose, with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (12:15 in type of D. gibbosus) or as long as, or slightly longer than proximal part (14:12 in type of D. multicarinatus). Protarsal segment 1 more than twice as long as segment 4 (28:12 in type of D. gibbosus; 26:10 in type of D. multicarinatus). Protarsal segment 3 produced into hook. Enlarged claw (Plate 103B) with one large subapical tooth and one row of five–seven bristles. Segment 5 of protarsus (Plate 103B) with one–two rows of 9–15 lamellae; distal apex with at least 12–15 lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 3.2–3.9 mm. Head black, except mandible, clypeus, part of gena and narrow frontal stripe near clypeus testaceous; antenna testaceous; mesosoma black; metasoma brown; legs testaceous. Antenna filiform; antennal segments in following proportions: 6:6:17:11:11:9:8:7:9. Head dull, flat, granulated and reticulate rugose; frontal line incomplete, only present in front of anterior ocellus; posterior ocelli touching occipital carina; ocelli very large (greatest breadth of posterior ocelli much longer than OL: 5:2); POL = 6; OL = 2; OOL = 3; occipital carina incomplete, present behind and on sides of ocellar triangle, not present on temple. Scutum dull, granulated and reticulate rugose. Notauli incomplete, reaching about 0.5 length of scutum. Scutellum
granulated. Metanotum granulated and rugose, with lateral areas unsculptured. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein shorter than proximal part (10:12). Genitalia in Plate 103A. Tibial spurs 1/1/2.

**PLATE 103.** A. Genitalia of male from Dutch Antilles, Curaçao. B, C, E, F. Chelae of holotypes. D. Head of female holotype in frontal view. G. Stigmal vein of female holotype. A, B. *Dryinus gibbosus*. C. *D. hansi*oni. D, E. *D. maxieopthalmicus*. F, G. *D. maximus*. Scale bar 0.14 mm for A, 0.17 mm for B, 0.19 mm for C, 1.94 mm for D, 0.34 mm for E, 0.49 mm for F, 1.61 mm for G.


**Hosts.** Unknown.

**Distribution.** Belize, Bolivia, Brazil, Costa Rica, Dutch Antilles, Ecuador, Mexico, Panama, Suriname, Trinidad and Tobago, Venezuela.

**Remarks.** *Dryinus multicarinatus* is here synonymized with *D. gibbosus* following the comparison of the types of both species and other specimens of *D. gibbosus* (see above list). The differences indicated by Coelho et al. (2011) are fruit of mistakes or interpretation errors. Coelho et al. wrote that the enlarged claw of *D. multicarinatus* type has five lamellae, but they did not prepare a slide of the chela, so that they did not see that the
enlarged claw has some bristles (as in *D. gibbosus*) and no lamellae (Plate 103B). Other supposed differences can be explained by the variability range of this species (Coelho *et al.* examined only a digital photo of the type of *D. gibbosus*; they did not study further specimens). It is sufficient to study other specimens to see that the characters indicated by Coelho *et al.* as good differences with *D. gibbosus*, can vary. The occipital carina, complete in *D. gibbosus* type, is shortly absent behind the posterior edge of the eye in some specimens from Belize and in *D. multicarinatus* type (where the occipital carina is also present on ventral and lateral side of occiput, contrarily what Coelho *et al.* wrote). In many specimens of *D. gibbosus* the head, scutum and scutellum are not only reticulate rugose, but they show also irregular longitudinal keels (as in *D. multicarinatus* type). The dorsal surface of propodeum of *D. gibbosus* type is reticulate rugose and does not show longitudinal keels, but in many specimens from Belize it is sculptured by many longitudinal keels and reticulate rugose among the keels. This is the only apparently good difference with *D. multicarinatus* type, where the dorsal surface of the propodeum is unsculptured among many parallel longitudinal keels. However, this only difference cannot justify the separation of the two species. Other less relevant differences indicated by Coelho *et al.* can be explained by the variability range of *D. gibbosus*. The problem of the Dryinidae family is the large morphologic variability of the species, so that it is not sufficient to examine a type. To have an idea of the variability it is necessary to study all other known specimens. This mistake is common in researchers approaching Dryinidae for the first time.

(Plate 103C)


**Description. Female.** Fully winged; length 3.3–4.1 mm. Head black or brown, except mandible, gena, anterior half or third of face, occiput and temple testaceous-reddish; clypeus testaceous-reddish, with one dark spot; antenna testaceous, except segments 7–9 brown; mesosoma black, except margins of pronotum testaceous-reddish (in specimen from Venezuela, 28 km from Rancho Grande, scutum testaceous-reddish); metasoma black; legs brown, except trochanters, tarsi and pro- and metacoxa testaceous. Antenna clavate; antennal segments in following proportions: 10:5:16:8:7:7:6:5:5:8. Head shiny, smooth, unsulptured (in specimen from Costa Rica, 09°35′N 85°06′W, slightly granulated), except few transverse striae on anterior half of face and incomplete frontal line (only present in front of anterior ocellus); occipital carina complete; posterior ocelli usually not touching occipital carina; POL = 1; OL = 5; OOL = 7; OPL = 0.5; TL = 3. In specimen from Costa Rica, 09°35′N 85°06′W, posterior ocelli touching occipital carina. Head of specimen from Costa Rica, Escazú, more excavated than in holotype. Pronotum shiny, smooth, unsulptured, crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum hairy, shiny, smooth, unsulptured. Notauli almost absent (only shortly present near anterior margin of scutum) or occasionally totally absent (in specimen from Costa Rica, 09°35′N 85°06′W). Scutellum shiny, smooth, unsulptured. Metanotum rugose. Propodeum with dorsal surface reticulate rugose and sculptured by numerous longitudinal and parallel keels separating the areolae; posterior surface with two incomplete longitudinal keels; dorsal surface about as long as posterior surface. Fore wing with two dark transverse bands; distal part of stigmatic vein longer than proximal part (11:8); stigmatic vein curvilinear, not forming angle between proximal and distal part; marginal cell open. Protarsal segments in following proportions: 17:3:5:13:19. Protarsal segment 3 produced into hook. Enlarged claw not spatulate (Plate 103C), with one large subapical tooth and one row of five–seven lamellae. Segment 5 of protarsus (Plate 103C) with two rows of 10–14 lamellae; distal apex with at least 12–16 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: COSTA RICA: Limón, 16 km W Guápiles, 400 m, IV–V.1989, Malaise trap, P. Hanson leg. (AMNH). **Other material:** COSTA RICA: Puntarenas, Reserva Natural Absoluta Capo Blanco, 09°35′N 85°06′W, 16–17.II.2009, J.S. Noyes leg., 1♀ (BMNH); San José, Escazú (DBUSU). VENEZUELA: Aragua, H. Pittier National Park, 28 km from Rancho Grande, 800 m, 2.IV.1990 (IZAM).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Venezuela.
7. *Dryinus maxiewophthalmicus* (Olmi, 1984)  
(Plate 103D, E)

*Tridryinus maxiewophthalmicus* Olmi 1984: 948.  
*Dryinus maxiewophthalmicus* (Olmi): Olmi et al. 2000: 151; Olmi 2012: 36, 44

**Description. Female.** Fully winged; length 7.0–8.7 mm. Head testaceous; mandible and clypeus testaceous. Antenna of holotype testaceous, except segments 2–5 brown; antenna of specimen from French Guiana, Dégrad Saramaka, brown, except segments 1–2 testaceous. Mesosoma of holotype black, except lateral margins of pronotum testaceous; mesosoma of specimen from French Guiana, Dégrad Saramaka, completely black. Petiole black. Metasoma brown-black. Legs of holotype testaceous, except partly meso- and metacoxa black; legs of specimen from French Guiana, Dégrad Saramaka, brown, except part of tibiae and trochanters testaceous. Antenna clavate; antennal segments of specimen from French Guiana, Dégrad Saramaka, in following proportions: 15:7:49:18:15:9:8:11. Rhinaria present in antennal segments 5–10. Head unusually excavated, dull, with eye unusually bulging (Plate 103D); head shiny, with vertex and face sculptured by numerous parallel longitudinal striae; frontal line hardly distinct, but present; occipital carina absent; holotype with OL more than three times as long as POL; in specimen from French Guiana, Dégrad Saramaka, POL = 1; OL = 14; OOL = 15; greatest breadth of posterior ocelli longer than POL (3:1). Pronotum hairy, humped, crossed by anterior slight transverse impression; posterior transverse impression and posterior collar absent; pronotal tubercle not reaching tegula; pronotum dull, sculptured by many striae around disc; disc raised into carina. Scutum, scutellum and metanotum dull, completely reticulate rugose. Notauli absent. Propodeum completely reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface of propodeum with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (21:18). In specimens from French Guiana, Montagne de Kaw, and Paraguay, 23°24.137'S 56°30.336'W, fore wing with only one dark transverse band beneath pterostigma. Protarsal segments of specimen from French Guiana, Dégrad Saramaka, in following proportions: 23:5:16:26:42. Segment 2 and 3 of protarsus produced into hook. Enlarged claw (Plate 103E) not spatulate, with one large subapical tooth and one row of 15–18 lamellae. Segment 5 of protarsus (Plate 103E) with two rows of at least 60 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** French Guiana, Paraguay, Suriname.

8. *Dryinus maximus* (Olmi, 1984)  
(Plates 103G, F, 104)

*Tridryinus maximus* Olmi 1984: 954.  

**Description. Female (Plate 104).** Fully winged; length 7.2–9.4 mm. Head black, except clypeus whitish with median area black and maxillary palps whitish; eye surrounded by narrow whitish stripe; antenna black, except segments 6–10 testaceous; mesosoma black, except lateral regions of pronotum partly reddish; occasionally mesopleuron testaceous; metasoma brown-black; legs brown, except coxae black and dorsal regions of protibia and stalk of profemur whitish; occasionally legs completely testaceous. Antenna clavate. Head dull, granulated; ocellar region convex; vertex excavated; ocellar region and surrounding areas sculptured by numerous longitudinal keels; occipital carina complete; temple absent; posterior ocelli touching occipital carina; OL about three times as long as POL. Pronotum hairy, crossed by two strong transverse impressions; disc hairy, sculptured by numerous transverse striae; anterior collar and lateral regions with some areolae or keels; anterior collar distinct; posterior collar short;
pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum completely reticulate rugose. Notauli absent. Propodeum completely reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; stigmal vein not S-shaped (Plate 103G); distal part of stigmal vein longer than proximal part (24:17). Fore tarsal segment 1 about as long as segment 4. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 103F) with one large subapical tooth and one row of about 30 lamellae. Segment 5 of protarsus (Plate 103F) with two rows of at least 80 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: SURINAME: Zanderij (RNHL). Other material: PANAMA: Colón, Canal Zone, Barro Colorado (AMNH).

Hosts. Unknown.

Distribution. Panama, Suriname.

PLATE 104. Dryinus maximus. Female holotype in dorsal (A) and lateral (B) view. Length 9.4 mm.

9. **Dryinus nigroflavus** (Olmi, 1984)
(Plate 105A, B)

*Tridryinus nigroflavus* Olmi 1984: 961.


Description. Female. Fully winged; length 5.5–8.6 mm. Head black, except mandible, clypeus and anterior region of face (more along orbits) yellow; antenna testaceous, except segments 2–5 and 8–10 brown; propleuron black, except median dorsal region yellow; pronotum black, except posterior collar and partly pronotal tubercle yellow; rest of mesosoma black; metasoma brown-reddish; legs testaceous. In specimen from Brazil, Fazenda Talhada, head black, except mandible, clypeus, anterior region of face (more along orbits) and gena testaceous; prothorax black, except lateral sides of pronotum partly brown-reddish. Antenna clavate; antennal segments in following proportions: 7:5:31:18:13:9:7:7:6:8. Head dull, reticulate rugose; occipital carina incomplete, only present behind and on sides of posterior ocelli; posterior ocelli not touching occipital carina; OPL shorter than POL; OL slightly longer than POL. Pronotum (Plate 105B) shiny, sculptured by numerous longitudinal and transverse keels, crossed
by anterior transverse impression; posterior collar absent; pronotal tubercle not reaching tegula. Scutum shiny, completely reticulate rugose. Notauli absent. Scutellum shiny, sculptured by many longitudinal keels. Metanotum reticulate rugose. Propodeum completely reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (9:12). Protarsal segment 1 about as long as segment 4. Protarsal segments 2 and 3 produced into hook. Enlarged claw (Plate 105A) with one large subapical tooth and one row of eight lamellae. Segment 5 of protarsus (Plate 105A) with two rows of at least 60 lamellae extending continuously to distal apex. In specimen from Brazil, Fazenda Talhada, enlarged claw with one large subapical tooth and one row of 8–13 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil.

PLATE 105. A, C, E. Chelae of holotypes. B, D. Prothorax in lateral view of female holotypes. A, B. Dryinus nigroflavus. C, D. D. picescens. E. D. parkeri. Scale bar 0.33 mm for A, 0.4 mm for B, 0.19 mm for C, 0.27 mm for D, 0.3 mm for E.

10. Dryinus parkeri (Olmi, 1993)
(Plate 105E)

(Plate 105E)

Tridyinus parkeri Olmi 1993c: 45.

Description. Female. Fully winged; length 5.0–6.6 mm. Head testaceous-reddish, except large black spot on vertex and part of face; occasionally face and vertex almost completely black; antenna testaceous, except segments 2–5 brown; prothorax testaceous-reddish; scutum black, except anterior third or only anterior margin testaceous-reddish; rest of mesosoma testaceous-reddish, including ventral side, except ventral side od msothorax black; metasoma testaceous, except distal half darkened; legs testaceous-reddish, except mesocoxa, stalks of meso- and metafemur, distal half of meso- and metatibia brown. Antenna clavate; antennal segments in following proportions: 16:7:36:20:15:13:10:9:7:10. Head dull, slightly excavated, completely reticulate rugose; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; posterior ocelli touching occipital carina; POL = 2; OL = 7; OOL = 12; temple distinct. Pronotum sculptured by fine striae around disc and on anterior collar, crossed by strong anterior transverse impression; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum completely reticulate rugose. Notauli absent.

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Propodeum reticulate rugose; posterior surface with two complete longitudinal keels. Fore wing with three dark transverse bands; distal part of stigmal vein longer than proximal part (14:12). Protarsal segments in following proportions: 28:3:9:23:36. Enlarged claw not spatulate (Plate 105E), with one large subapical tooth and one row of 16 lamellae. Segment 5 of protarsus (Plate 105E) with two rows of about 35 lamellae; distal apex with about 30 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Costa Rica, Mexico.

11. Dryinus picescens (Olmi, 1984)

(Plate 105C, D)


Description. Female. Fully winged; length 5.0–5.2 mm. Head black, except mandible, clypeus and anterior region of face testaceous; occiput black or reddish; temple totally black, or with small reddish spot; antenna brown, except segment 1 testaceous; mesosoma black; metasoma brown-reddish; legs totally testaceous; occasionally meso- and metacoxa black. Antenna clavate. Head dull, hairy, reticulate rugose; occipital carina complete; posterior ocelli not touching occipital carina; OPL shorter than OL; OL shorter than POL. Pronotum (Plate 105D) dull, hairy, granulated, sculptured by numerous striae located around disc, crossed by an anterior transverse impression; posterior collar absent (because posterior transverse furrow located close to posterior margin of pronotum); pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum completely reticulate rugose. Notauli absent. Propodeum completely reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (15:10). Protarsal segment 1 less than twice as long as segment 4 (19:12). Protarsal segment 3 produced into hook. Enlarged claw (Plate 105C) with one large subapical tooth and one row of 6–7 lamellae or peg-like hairs. Segment 5 of protarsus (Plate 105C) with one row of about 13 lamellae; distal apex with 13–20 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, El Salvador.


(Plate 106A–C)


Description. Female. Fully winged; length 5.7–6.2 mm. Head of holotype testaceous, except small areas near ocelli black; mandible testaceous; clypeus and two longitudinal bands from malar space to eyes creamy-testaceous; head of two specimens from Panama, Rancho Frio and Camino Plantación in Soberania National Park, and one specimen from French Guiana, 04°33.20’N 52°08.19’W, completely testaceous-reddish. Antenna brown, with segments 1–2 testaceous. Prothorax of holotype testaceous-reddish, except small darkened nuances near posterior margin of pronotum (in two specimens from Panama, Rancho Frio and Camino Plantación in Soberania National Park, prothorax testaceous-reddish, except more or less large black spot on lateral regions of pronotum; in specimen from French Guiana, 04°33.20’N 52°08.19’W, prothorax completely testaceous-reddish). Rest of
mesosoma black. Petiole black. Metasoma of holotype black, except some lateral yellow-testaceous spots (Plate 106B); metasoma of two specimens from Panama, Rancho Frio and Camino Plantación in Soberania National Park, testaceous, except proximal half brown; metasoma of one specimen from French Guiana, 04°33.20’N 52°08.19’W, completely brown. Legs of holotype testaceous-reddish, except metacoxa black; legs of two specimens from Panama, Rancho Frio and Camino Plantación in Soberania National Park, completely testaceous; legs of one specimen from French Guiana, 04°33.20’N 52°08.19’W, testaceous, except metacoxa black, black spots on clubs of femora and distal extremities of tibiae brown. Antenna clavate; antennal segments of holotype in following proportions: 15:7:49:18.5:16 (antennal segments 6–10 missing); antennal segments of paratype in following proportions: 15:7:45:15:10:9:7:5:7:5:10. Rhinaria present in antennal segments 5–10. Head very excavated, dull, with eye very bulging; face with hairy area between toruli; vertex sculptured by longitudinal striae; frontal line absent; occipital carina incomplete, dark, only present behind ocellar triangle; holotype with POL = 1; OL = 11; OOL = 12; paratype with POL = 1; OL = 9.5; OOL = 11; POL shorter than greatest breadth of posterior ocelli. Face of one specimen from French Guiana, 04°33.20’N 52°08.19’W, partly sculptured by many longitudinal parallel striae, as in vertex. Pronotum hairy, humped, transversely striate, crossed by two transverse impressions; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, hairy, completely reticulate rugose. Notauli absent. Scutellum and metanotum hairy, completely reticulate rugose. Propodeum completely reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface of propodeum hairy, with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein (Plate 106C) longer than proximal part (25:19 in holotype; 22:16 in paratype). Protarsal segments in following proportions: 25:5.5:11:25:41 (holotype); 22:5:7:22:36 (paratype). Enlarged claw (Plate 106A) with one large subapical tooth and one row of 15 lamellae. Segment 5 of protarsus (Plate 106A) with two rows of approximately 40 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, French Guiana, Panama, Peru.

(Plate 106D, E)


Description. Female. Fully winged; length 6.6 mm. Head black, except clypeus, mandible, small frontal median area near clypeus and stripe among suboculal sulcus, mandible, clypeus, toruli and orbits testaceous; ventral side of head black; occiput black; antenna brown, except segments 6–10 testaceous; mesosoma black, except posterior margin and sides of pronotum testaceous; metasoma brown, except some testaceous areas; legs testaceous, except coxae partly black. Antenna clavate; antennal segments in following proportions: 15:7:38:14:10:9:7:6:10; rhinaria present in antennal segments 5–10. Head unusually excavated (Plate 106D) dull, very slightly granulated, with vertex and face sculptured by numerous subparallel longitudinal keels; frontal line complete; occipital carina absent; POL = 1; OL = 11; OOL = 11; TL = 1; greatest breadth of posterior ocelli longer than POL (3:1). Propleuron slightly prominent, dorsally hairy, almost completely hidden under pronotum. Pronotum shiny, hairy, slightly granulated, with some striate around disc and with many transverse striae on disc; disc humped; pronotum crossed by two transverse deep furrows; posterior collar very short, rugose, densely hairy; anterior collar very long; pronotal tubercle not reaching tegula. Scutum shiny, hairy, completely reticulate rugose. Notauli absent.
Scutellum and metanotum shiny, covered with thin and long hairs, completely reticulate rugose. Propodeum completely reticulate rugose; dorsal surface slightly shorter than posterior surface (23:30); posterior surface with two longitudinal keels and median area dull, very hairy, reticulate rugose. Mesopleuron densely hairy, reticulate rugose. Metapleuron shiny, transversely striate. Fore wing with one dark transverse band; distal part of stigmal vein slightly longer than proximal part (14:12). Protarsal segments in following proportions: 21:4:10:22:3:2. Enlarged claw (Plate 106E) with one large subdistal tooth and one row of ten lamellae and one bristle. Segment 5 of protarsus (Plate 106E) with two rows of approximately 28 lamellae; distal apex with at least 16 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Brazil.

### PLATE 106

A, E. Chelae of holotypes. B. Metasoma of female holotype. C. Stigmal vein of female holotype. D. Head of female holotype in frontal view. A–C. Dryinus pictus. D, E. D. plaumanni. Scale bar 0.29 mm for A, 1.37 mm for B, 0.72 mm for C, 1.04 mm for D, 0.28 mm for E.

14. **Dryinus poecilopterae** (Richards, 1947)

(Plate 107).


**Mesodryinus sp.:** Teran 1980: 289.


**Description.** Female. Fully winged; length 6.0–7.5 mm. Head black, except mandible and clypeus testaceous-reddish; antenna brown, except segments 1–2 reddish; mesosoma and metasoma black; legs brown, except tibiae, femora and partly protrochanter reddish. Antenna of holotype incomplete, only with segments 1–3; antenna of other specimens clavate; antennal segments of one of paratypes in following proportions: 13:5:35:12:8:7:6:7:5:6. Head dull, hairy, reticulate rugose; frontal line complete; occipital carina complete; posterior ocelli touching occipital carina; OL shorter than POL. Pronotum shiny, hairy, with numerous striae around disc; anterior collar indistinct; posterior collar very reduced and short; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum shiny, hairy, completely reticulate rugose. Notauli absent. Propodeum completely reticulate rugose; posterior surface very inclined, with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein as long as proximal part. Protarsal segment 1 about as long as segment 4. Segment 1 of protarsus

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OLMI & VIRLA
produced into hook. Enlarged claw (Plate 107B) with one large subapical tooth and one row of about 24 lamellae. Segment 5 of protarsus (Plate 107B) with two rows of at least 80 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**PLATE 107. Dryinus poecilopterae.** A, C. Male from Trinidad, St. Augustine, in dorsal (A) and lateral (C) view (length 4.0 mm). B. Chela of female from Trinidad, St. Augustine. Scale bar 0.39 mm for B.

**Male** (Plate 107A, C). Fully winged; length 4.0–5.0 mm. Head black, except mandible reddish; antenna brown, except segments 1–2 and 10 reddish (occasionally antenna brown, except segments 1–2 and partly 3 reddish); mesosoma black; metasoma brown; legs testaceous-reddish, except meso- and metatibia brown; occasionally only metacoxa partly brown. Antenna filiform; antennal segments in following proportions: 12:9:29:15:18:15:14:12:11:14. Head dull, reticulate rugose; frontal line complete; POL = 10; OL = 5; OOL = 8; OPL = 2.5; TL = 2; occipital carina complete. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli absent. Propodeum reticulate rugose; posterior surface very inclined, without longitudinal keels. Fore wing completely hyaline, without dark transverse bands; occasionally with one very slight dark transverse band beneath pterostigma; distal part of stigmal vein slightly longer than proximal part (16:15 or 15:13). Tibial spurs 1/1/2.

**Material examined.** **Types**: ♀ holotype: TRINIDAD AND TOBAGO: Trinidad, St. Augustine, B.W.I., 10.V.1938, bred from nymphs of Poecilloptera phalaenoides L., McC. Callan leg. (BMNH). Allotype ♂: same locality label as holotype, VII.1976, light trap, F.D. Bennett leg., one male (BMNH). Paratypes: same locality label as holotype, 2♀♂ (BMNH). **Other material**: BRAZIL: Amazonas, Manaus (FCNM). COLOMBIA: Antioquia, Medellin, 1538 m (AMNH, MEFLG); Valle del Cauca, Cali (IAVH); Valle del Cauca, Palmira, Ingenio de Providencia, 4♀♂ reared from Poecilloptera phalaenoides (L.) (Fiori 1984) (BMNH). EL SALVADOR: San Salvador (AMNH, NHMLA); San Salvador, 7.III.1925, ex Poecilloptera vulgaris var. completa Jac., K. A. Salmon leg., 3♀♂ (USNM); same locality label, 6.III.1925, 3♂♂ and 2♀♂ (USNM); same locality label, 6.III.1926, 1♂ (BMNH); same locality label, 7.III.1925, ex Poecilloptera vulgaris var. completa Jac., 1♀ (BMNH); same locality label, 6.III.1925, 1♀ (BMNH). NICARAGUA: Managua (Maes 1989). PANAMA: Canal Zone, Balboa (AMNH). VENEZUELA: Aragua, El Limon, 450 m, 15.V.1961, 19.X.1982 (AMNH, IZAM); Capital District, Caracas (AMNH, IZAM, USNM); Carabobo, Marara, Hacienda El Amparo, 17.VI.1966 (AMNH, IZAM).

Natural enemies. In Colombia *D. poecilopterae* can be parasitized by *Conura* Spinola (undescribed species of Chalcididae) (G. Delvare det.). Specimens of this undescribed species were reared in Colombia, Medellin, by Prof. Raul Velez-Angel.

Distribution. Brazil, Colombia, El Salvador, Nicaragua, Panama, Trinidad and Tobago, Venezuela.

15. **Dryinus putus** Olmi, 1998

(*Plate 108A*)


**Description. Female.** Fully winged; length 6.9 mm. Head testaceous-reddish; palpi brown; antenna brown, except segment 1 testaceous and part of segment 3 whitish; prothorax testaceous-reddish; rest of mesosoma black; metasoma brown-testaceous; legs testaceous, except stalk of metafemur, distal apex of metatibia and metatarsus brown. Antenna clavate; antennal segments in following proportions: 10:7:39:16:13:10:8.5:7:6:9; rhinaria present in antennal segments 6–10. Head hairy, dull, rugose, very excavated, with eye very bulging; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally not reaching eyes; posterior ocelli touching occipital carina; temple absent; POL = 2.5; OL = 8; OOL = 13.5; POL slightly shorter than greatest breadth of posterior ocelli (2.5:3). Pronotum dull, hairy, sculptured by fine striae around disc, crossed by one slight anterior transverse impression; pronotal tubercle not reaching tegula. Scutum and scutellum dull, reticulate rugose. Notauli absent. Metanotum shiny, hairy, punctate, unsculptured among punctures. Propodeum completely reticulate rugose, with transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels and median area dull, as reticulate rugose as lateral areas. Mesopleuron densely hairy, reticulate rugose. Metapleuron shiny, transversely striate. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (18:12). Protarsal segments in following proportions: 22:4:10:23:38. Enlarged claw not spatulate (*Plate 108A*), with one large subdistal tooth and one row of 14 lamellae + one bristle. Segment 5 of protarsus (*Plate 108A*) with two rows of approximately 32 lamellae; distal apex with at least 25 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: MEXICO: Jalisco, Puerto Vallarta, 27.II.1997, M. Olmi leg. (AMNH).

**Hosts**. Unknown.

**Distribution.** Mexico.

16. **Dryinus quechuanus** (Olmi, 1984)

(*Plate 108B, C*)


*Dryinus quechuanus* (Olmi); Olmi et al. 2000: 151; Rasmussen & Asenjo 2009: 22.

**Description. Female.** Fully winged; length 5.0–6.6 mm. Head completely testaceous; antenna brown, except segment 1 testaceous; mesosoma black; metasoma black, except some areas testaceous; legs black, except tarsi, trochanters and protibia partly testaceous; occasionally proximal half of metatibia testaceous. Antenna clavate; antennal segments in following proportions: 16:8.37:15:13:11:9:9:7.5:10.5. Head dull, very excavated, with eye very bulging; face and vertex sculptured by slight longitudinal striae; occipital carina absent, occasionally shortly present behind posterior ocelli, then on sides not reaching mid length of OOL; POL = 1; OOL = 16; POL shorter than greatest breadth of posterior ocelli. Pronotum crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar absent; pronotal tubercle not reaching tegula. Scutum and scutellum completely reticulate rugose. Notauli absent. Metanotum raised into median longitudinal carina, reticulate rugose near anterior margin and smooth near posterior margin. Propodeum reticulate rugose, without transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (17:14) (*Plate 108C*). Protarsal segments in following proportions: 24:4:8:18:32. Segment 2 and 3 of protarsus produced into hook. Enlarged claw (*Plate 108B*)
with one large subapical tooth and one row of 15 lamellae. Segment 5 of protarsus (Plate 108B) with two rows of about 47 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: ECUADOR: Pastaza, 25 km N Puyo, 1000 m, 14.VIII.1976, forest edge, S. & J. Peck leg. (CNC). Other material: COSTA RICA: Alajuela, 20 km S Upala (DBUSU); Guanacaste, S. Rosa Park (AEIC). ECUADOR: Sucumbios, Sacha Lodge, 00°05’S 76°05’W, 290 m (NHMLA). PERU: Madre de Dios, Puerto Maldonado (AMNH).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Ecuador, Peru.

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**PLATE 108.** A, B, E. Chelae of holotypes. C. Stigmal vein of female holotype. D. Head of female holotype in frontal view. F. Genitalia of male from Trinidad, St. Augustine. A. Dryinus putus. B, C. D. quechuanus. D–F. D. ruficauda. Scale bar 0.34 mm for A, 0.25 mm for B, 0.85 mm for C, 1.02 mm for D, 0.18 mm for E, 0.13 mm for F.

### 17. *Dryinus ruficauda* (Richards, 1953)

(Plate 108D–F)

**Mesodyrinus ruficauda** Richards 1953: 59.


**Description.** Female. Fully winged; length 4.2–6.9 mm. Head black, except mandible, clypeus and occasionally gena yellow-reddish; antenna testaceous; mesosoma black; metasoma brown, occasionally with distal extremity reddish; legs reddish, except meso- and metacoxa black, clubs of meso- and metafemur brown. Antenna clavate; antennal segments in following proportions: 10:4:35:11:7:5:5:4:6. Head (Plate 108D) dull, hairy, reticulate rugose; frontal line complete; occipital carina complete; posterior ocelli touching occipital carina; OL shorter than POL. Pronotum shiny, hairy, with numerous striae around disc; anterior collar indistinct; posterior collar very reduced and short; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, completely reticulate rugose. Notauli absent. Propodeum completely reticulate rugose; posterior surface very inclined, with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein as long as proximal part. Protarsal segment 1 slightly shorter than segment 4. Segment 1 of protarsus produced into hook. Enlarged
claw (Plate 108E) with one large subapical tooth located very near distal apex and with one row of about 20 lamellae. Segment 5 of protarsus (Plate 108E) with two rows of at least 80 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Fully winged; length 4.0 mm. Head black, except mandible, clypeus and partly gena testaceous; antenna testaceous; mesosoma and metasoma black; legs testaceous, except metacoxa partly brown. Antenna filiform; antennal segments in following proportions: 9.5:21:13:12:12:10:10:9:10.5. Head dull, reticulate rugose; frontal line absent; face without two lateral longitudinal keels near orbits directed towards antennal toruli; POL = 8; OL = 3; OOL = 5; OPL = 1; temple absent; occipital carina complete. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli absent. Propodeum reticulate rugose; posterior surface with one strong median longitudinal keel. Fore wing completely hyaline, without dark transverse bands; occasionally with one hardly distinct dark transverse band beneath pterostigma; distal part of stigmal vein longer than proximal part (14:11). Genitalia in Plate 108F. Tibial spurs 1/1/2.


Distribution. Brazil, Costa Rica, Paraguay, Peru, Trinidad and Tobago.

Remarks. The cocoon of *D. ruficauda* is almost circular and composed of one only lining (Olmi 1984).

18. Dryinus ruficeps Cameron, 1888

(Plate 109A)


*Lestodryinus dichrous* Fenton 1927: 1 (synonymized by Olmi 1984); type locality: Chapada (Rio Grande do Sul, Brazil).


Description. Female. Fully winged; length 5.0–7.2 mm. Head testaceous-ferruginous; antenna completely testaceous-ferruginous, or brown, except segments 1–2 testaceous; prothorax testaceous-ferruginous; rest of mesosoma black; metasoma brown-reddish or testaceous-ferruginous; legs testaceous-ferruginous. Antenna clavate; antennal segments of holotype in following proportions: 29:15:94:33:29:23:19:18:15:23. Head almost flat, shiny, slightly granulated, usually with numerous longitudinal keels on face and vertex; frontal line incomplete, absent near clypeus, occasionally only shortly present in front of anterior ocellus, occasionally continuing inside ocellar triangle; occipital carina incomplete, only present behind and shortly on sides of posterior ocelli; posterior ocelli touching or almost touching occipital carina; OL usually more than three times as long as POL (in specimen from Argentina, El Duraznillo, POL = 2; OL = 5). Pronotum shiny, hairy, with numerous striae around and on disc, crossed by two transverse impressions, anterior one slight and posterior one deep; posterior collar absent (because posterior transverse impression close to posterior margin of pronotum); disc swollen; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli absent (instead notauli, two complete, or almost complete longitudinal keels, occasionally reaching about 0.5 length of scutum). Propodeum reticulate rugose; posterior surface very inclined, with two longitudinal keels. Fore wing with one distinct dark transverse band beneath pterostigma and tracks of two proximal dark transverse bands; distal part of stigmal vein about as long as proximal part. Protarsal segments in following proportions: 18:4:7:17:28 (segment 1 of protarsus about as long as segment 4 in holotype). Protarsal segments 2 and 3 produced into hook. Enlarged claw (Plate 109A) not spatulate, with one large subdistal tooth and one row of 9–20 lamellae. Segment 5 of protarsus (Plate 109A) with two rows of at least 50 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.
Material examined. Types: ♀ holotype of *D. ruficeps*: PANAMA: Bugaba, Champion leg. (BMNH); ♀ holotype of *L. dichrous*: BRAZIL: Rio Grande do Sul, Chapada (USNM). Paratype of *L. dichrous*: BRAZIL: Pará, Santarem, 1♀ (USNM). Other material: ARGENTINA: La Rioja, El Duraznillo, XII.2001, Malaise trap, Fidalgo leg., 1♀ (IFML); Misiones, Eldorado (AMNH). BOLIVIA: Santa Cruz, 5 km SSE Buena Vista, 17°29.925’S 63°39.128’W, 440 m, 15–24.XII.2003, FIT, forest, S. & J. Peck leg., 1♀ (CNC). BRAZIL: Amazonas, 04°33’S 71°38’W (AEIC, AMNH); Goiás, Jataí (CNC); Maranhão, São Luís, Sacavem Forest, yellow pan trap, 30.IX.1992, R. Cambra leg. (MIGBF); Minas Gerais, Sabará, Club A. Scharlé, 19.X.1996 (DBGMG); Pará, Melgaço, Caxiuanã, trail at igarapé Ararua, 15–18.XI.2003, YPT, A.P. Aguiar & J. Dias leg., 1♀ (MPEG) (Coelho et al. 2011); same locality label, trail at Estação Científica Ferreira Penna, 16–19.XI.2003, 1♀ (MPEG) (Coelho et al. 2011); same locality label, trail at igarapé Tijaquequara, 24–27.XI.2003, 1♀ (MPEG) (Coelho et al. 2011); Rio de Janeiro, Barra de Tijuca, 16.IV.1996, swept from flowers of *Chromolaena odorata*, S. Neser & J.R. Baars leg., 1♀ (NCIP); Rio de Janeiro, Guanabara, Represa do Rio Grande (AEIC); Santa Catarina, Nova Teutonia, 12.II.1950, 12.VI.1944, F. Plaumann leg., 2♀ (BMNH); same locality label, 1♀ (AMNH); São Paulo, Santos (ZSM); Pará, Municipio Melgaço, Caxiuana, Trilha Igarapé, Ararua, 15–18.XI.2003, YPT, A.P. Aguiar & J. Dias leg., 1♀ (MZUS); Pará, Municipio Melgaço, Caxiuana, Trilha Estação Científica Ferreira Penna, 16–19.XI.2003, YPT, A.P. Aguiar & J. Dias leg., 1♀ (MZUS); Rio de Janeiro, Nova Iguacu, Reserva Biológica do Tinguá, 22°34.32’S 43°26.075’W, Varredura amostra 23, 7.III.2002, S.T.P. Amarense & eq., 1♀ (MZUS). COLOMBIA: Magdalena, NI Sierra Nevada de Santa Marta, Rio Don Diego, 0–300 m, 16.II.1974, M. Cooper coll, 1♀ (BMNH). COSTA RICA: Alajuela, 20 km S of Upala (DBUSU); Alajuela, Peñas Blancas, 700 m, VIII.1987, Malaise trap, Eladio Cruz leg., 2♀ (PMA); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Heredia, Puerto Viejo (CNC); Heredia, La Selva Biol. Station, 10°43’N 84°02’W (NHMLA); Heredia, Braulio Carrillo National Park, 500 m (AEIC); Limón, Cahuita, 23–25.III.1988 (USFM); Puntarenas, Golfito (AEIC); Puntarenas, 6 km S of San Vito de Jaba, Las Cruces, Jardín Botánico Wilson, 1200 m (AMNH, EBUC); S. José, San Isidro General (DBUSU). ECUADOR: Napo, Limoncocha (AMNH, CNC). FRENCH GUIANA: Régina, Montagne de Kaw, Relais Patawa, 04°32.42’N

Hosts. Unknown.

Distribution. Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Honduras, Mexico, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Venezuela.

(Plate 109B, C)


Description. Female (Plate 109C). Fully winged; length 7.6 mm. Head black, except mandible, clypeus, anterior margin of face between and around antennal toruli and part of gena testaceous; palpi brown; antenna testaceous, except segments 4–5 and distal extremity of 3 brown; rest of segment 3 whitish; mesosoma black, except lateral and posterior margin of pronotum testaceous; pronotal tubercle testaceous; metasoma brown-testaceous; fore leg brown, except tarsus, stalk of femur and part of tibia testaceous; midleg and hind leg brown, except metatibia testaceous. Antenna clavate; antennal segments in following proportions: 19:7:41:19:12:9:8:7:10; rhinaria present in antennal segments 5–10. Head hairy, dull, rugose, very excavated, with eye very bulging; frontal line complete; occipital carina absent; temple absent; POL = 1; OL = 11; OOL = 10; POL much shorter than greatest breadth of posterior ocelli (1:3.5). Pronotum dull, hairy, sculptured by fine striae located around disc, crossed by one slight anterior transverse impression; pronotum tubercle not reaching tegula. Scutum and scutellum dull, reticulate rugose. Notauli absent. Metanotum shiny, hairy, punctate, unsculptured among punctures. Propodeum completely reticulate rugose, without transverse keel between dorsal and posterior surface; dorsal surface with some longitudinal keels connected by short transverse keels or areolae; posterior surface with two longitudinal keels and median area dull, rugose. Mesopleuron and metapleuron densely hairy, reticulate rugose. Fore wing with three dark transverse bands; distal part of stigmal vein longer than proximal part (20:14). Protarsal segments in following proportions: 21:4:10:21:40. Enlarged claw not spatulate (Plate 109B), with one large subdistal tooth and one row of 15 lamellae + one bristle. Segment 5 of protarsus (Plate 109B) with two rows of approximately 35 lamellae; distal apex with at least 30 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Belize.
20. Dryinus striaticeps (Kieffer, 1909)
(Plate 110A, B)


Description. Female. Fully winged; length 5.0–7.5 mm. Head black, except mandible and clypeus yellow; antenna brown, except segments 6–10 or 8–10 testaceous; prothorax testaceous-ferruginous or reddish; rest of mesosoma black; metasoma black-yellow; legs testaceous, except metatibia and stalk of metafemur brown. Antenna clavate; antennal segments in following proportions: 13:6:36:14:13:11:9:8:7:10. Head shiny, excavated, sculptured by numerous longitudinal keels; frontal line present, confused among longitudinal keels of face; occipital carina almost complete, not present on temple, present behind and shortly on sides of posterior ocelli; posterior ocelli touching occipital carina; POL = 2; OL = 9; OOL = 14; POL approximately as long as, or shorter than greatest breadth of posterior ocelli. Pronotum shiny, hairy, with numerous slight striae around disc; pronotum crossed by two transverse impressions, anterior one slight and posterior one strong; anterior collar little distinct; posterior collar absent (because posterior transverse impression located very close to posterior margin of pronotum); pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum completely reticulate rugose. Notauli absent. Propodeum completely reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; stigmal vein strongly S-shaped (Plate 110B); distal part of stigmal vein about as long as, or shorter than proximal part. Protarsal segments in following proportions: 24:4:9:19:35. Segments 2 and 3 of protarsus produced into hook. Enlarged claw (Plate 110A) with one large subapical tooth and one row of 13–15 lamellae. Segment 5 of protarsus (Plate 110A) with two rows of 33–40 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Fully winged; length 4.7–4.9 mm. Head black, except mandible and clypeus testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous, except meso- and metacoxa, metafemur and metatibia partly black or brown. Antenna filiform; antennal segments in following proportions: 8:7:23:13:14:12:10:9:11. Head flat, dull, granulated and strongly reticulate rugose; frontal line absent; face without two lateral longitudinal keels around orbits directed towards antennal toruli; POL = 8; OL = 4; OOL = 4; OPL = 3; temple absent; occipital carina incomplete, not present on temple. Scutum, scutellum and metanotum dull, granulated and reticulate rugose. Notauli complete, posteriorly separated. Propodeum reticulate rugose, without transverse keels; posterior surface with one median strong longitudinal keel. Fore wing with a dark transverse band beneath pterostigma; distal part of stigmal vein longer than proximal part (18:15). Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype (N. 9747): BRAZIL: Pará, Baker leg. (CAS). Other material:

Hosts. Unknown.

Distribution. Argentina, Bolivia, Brazil, French Guiana, Paraguay, Suriname.

(Plate 110C)


Description. Female. Fully winged; length 4.4–4.7 mm. Head black, except clypeus, mandible, anterior region of face and part of ventral side yellow-testaceous; in one of paratypes head testaceous-reddish, except large black spot occupying large part of vertex and face; antenna brown, with segment 1 testaceous (in above paratype antenna brown, except segments 1–2 testaceous); propleuron partly brown and partly testaceous; pronotum black, except lateral, anterior and posterior margins yellow-testaceous; rest of mesosoma black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 12:6:27:12:5:17:15:8:6:6:5:8; antennal segment 4 more than five times as long as broad (17:2); rhinaria present in segments 6–10. Head slightly swollen, dull, granulated, reticulate rugose and sculptured by irregular keels; ocellar triangle swollen, shiny, smooth, alutaceous; frontal line complete; occipital carina complete; POL = 5; OL = 3; OOL = 10; OPL = 0.5; TL = 3; greatest breadth of posterior ocelli shorter than POL (2.5:5). Pronotum dull, very hairy, granulated, with numerous longitudinal striae on lateral regions; pronotum humped, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar absent; pronotal tubercle not reaching tegula. Scutum granulated, with two complete longitudinal keels similar to notauli; posterior half of scutum and part of median region sculptured by irregular longitudinal keels. Notauli absent. Scutellum dull, granulated, sculptured by many longitudinal keels. Metanotum very short, shiny, unsculptured. Propodeum with dorsal surface slightly longer than posterior surface (20:17); dorsal surface completely sculptured by numerous parallel longitudinal keels (no areolae between keels); posterior surface of propodeum with two longitudinal keels; median area of posterior surface of propodeum dull, granulated, except median area sculptured by many parallel longitudinal keels. Mesopleuron dull, granulated. Metapleuron dull, granulated, transversely striate. Fore wing with three dark transverse bands; distal part of stigmatic vein longer than proximal part (19:11); marginal cell open. Protarsal segments in following proportions: 26:3:7:13:23. Protarsal segment 3 produced into hook. Enlarged claw (Plate 110C) with one large subdistal tooth and one row of five peg-like hairs (five bristles in both paratypes). Segment 5 of protarsus (Plate 110C) with one row of 13–14 lamellae; distal apex with at least 20 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Dominican Republic.

22. Dryinus tiputinensis Olmi, 2008
(Plate 110D)

**Description. Female.** Fully winged; length 3.6 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna testaceous, except segments 5–8 and distal half of segment 4 brown; mesosoma black, except pronotal tubercle, lateral margins and posterior margin of pronotum testaceous; metasoma brown; legs testaceous, except club of profemur, meso- and metacoxa, meso- and metafemur and meso- and metatibia partly brown. Antenna clavate; antennal segments in following proportions: 10:5.5:6:8:7:6:5:5:5:8. Head slightly excavated, dull, with eye normally bulging, granulated; frontal line in complete, only present in posterior half of face; occipital carina complete; POL = 1; OL = 2; OOL = 7; TL = 2.5; greatest breadth of posterior ocelli as long as OL; posterior ocelli touching occipital carina. Pronotum hairy, humped, shiny, smooth, unsculptured, crossed by one transverse impression; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, hairy, completely slightly reticulate rugose. Notauli absent. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum with dorsal surface sculptured by many parallel longitudinal keels; posterior surface reticulate rugose, with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part (8:11). Protarsal segments in following proportions: 17:2.5:5:11:19. Enlarged claw (Plate 110D) with one large subapical tooth and one row of seven lamellae. Segment 5 of protarsus (Plate 110D) with two rows of 13 lamellae; distal apex with about 16 lamellae. Tibial spurs 1/1/1.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: ECUADOR: Orellana, Tiputini Biodiversity Station, 00°37.55’S 76°08.39’W, 216 m, 7.II.1999, canopy, fogging bare leaves, T. Erwin et al. leg. (USNM).

**Hosts.** Unknown.

**Distribution.** Ecuador.

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23. *Dryinus tuparrensis* Olmi, 2004 (see Group 1)

**Fossil Neotropical species**

One fossil species is known.

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**Description. Female** (Plate 111). Fully winged; length 5.6 mm. Colour not distinct, apparently black, except pronotum, legs and part of metasoma brown. Antenna 10-segmented, long and very slender, slightly thickened distally, covered with dense, short and hardly visible hairs; antennal segments in following proportions: 13:6:28:21:15:11:10:7 (last two segments not distinctly visible); antenna (only segments 1–8) much longer than head: 111:40; head flat, apparently dull, granulated and reticulate rugose; clypeus ovoidal, with anterior margin emarginated, posteriorly touching antennal toruli; mandible hardly visible (number of teeth not distinct); occipital carina apparently complete; occiput excavated; eye normally bulging; POL = 6; OL = 3; OOL = 9; OPL = 1; TL = 2; temple not visible in dorsal view, only visible in lateral view; posterior margin of head in dorsal view slightly convex; frontal line apparently complete. Maxillary palpi not completely visible, apparently 6-segmented. Labial palpi not completely visible, apparently 3-segmented. Pronotum crossed by anterior slight transverse impression between anterior collar and disc; disc humped; posterior collar very short; pronotum hairy, apparently dull, shorter than head (27:40); pronotal tubercle apparently reaching tegula. Scutum dull, apparently as sculptured as head, shorter than pronotum (20:27). Notauli apparently absent. Scutellum not distinctly visible, apparently shorter than scutum (11:20). Metanotum shorter than scutellum (3:11), with sculpture not distinctly visible. Propodeum longer than scutum (34:20), with sculpture not distinctly visible; apparently lateral regions of propodeum glabrous and smooth; dorsal surface longer than posterior surface (23:18). Shape of pronotum, scutum, scutellum, metanotum and propodeum usual for *Dryinus*. Fore wing apparently with two dark transverse bands, with usual venation of...
Dryinus; pterostigma narrow, much longer than broad (24:3); marginal cell open; distal part of stigmal vein longer than proximal part (15:11); stigmal vein not S-shaped, forming angle between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing not distinctly visible. Fore leg segments in following proportions: 28 (coxa): 22 (trochanter): 45 (femur): 42 (tibia): 23 (tarsal segment 1): 3 (tarsal segment 2): 8 (tarsal segment 3): 12 (tarsal segment 4): 22 (tarsal segment 5); enlarged claw slightly shorter than tarsal segment 5 (18:22); protrochanter slender and long, with slender proximal stalk, broadened after half-way; protrochanter more than three times as long as broad (22:7); segments 2 and 3 of protarsus produced into hooks; rudimentary claw present; arolium much shorter than enlarged claw (6:18); both chelae closed, so that enlarged claw not distinctly visible (apparently enlarged claw with one subapical tooth and no lamellae; distal apex not visible). Segment 5 of protarsus apparently with two rows of approximately 12 lamellae; distal apex with a group of many lamellae (number of lamellae not distinct). Midleg segments in following proportions: 17 (coxa): 9 (trochanter): 32 (femur): 47 (tibia): 28 (tarsal segment 1): 11 (tarsal segment 2): 6 (tarsal segment 3): 3.5 (tarsal segment 4): 7 (tarsal segment 5). Hind leg segments in following proportions: 22 (coxa): 10 (trochanter): 48 (femur): 63 (tibia): 29 (tarsal segment 1): 15 (tarsal segment 2): 10 (tarsal segment 3): 5 (tarsal segment 4): 11 (tarsal segment 5). Metasoma without distinct and slender petiole. Shape and length of petiole usual for Dryinus Shape, length and breadth of wings usual for Dryinus. Shape and morphology of the body usual for Dryinus. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype (DR-10–1425): DOMINICAN REPUBLIC: amber from an unknown mine (AMNH).

Hosts. Unknown.

Distribution. Dominican Republic (Miocene amber; 15–40 MYA).

PLATE 111. Dryinus hymenaeaphilus, holotype (length 5.6 mm). From Olmi, 1995d.
Group 3

Forty species are known (among which two fossil species).

Extant Neotropical species

Thirty-eight extant species are known.

Key to the extant species (females)

Females

1. Notauli present, complete or incomplete (notauli considered present, in case of scutum sculptured by many parallel longitudinal keels) .............................................................. 2
   - Notauli absent .............................................................................................................. 28
2. Enlarged claw with one unusual very long lamella (Plate 116E); pronotum excavated, not humped ........ D. lamellatus (Olmi)
   - Enlarged claw with usual lamellae (Plates 113A, B, 118F) pronotum with disc more or less humped or flat .......................................................... 3
3. Marginal cell open (marginal cell considered open in case of distal part of stigmal vein less thick than proximal part) ............................................. 4
   - Marginal cell closed ......................................................................................... 27
4. Enlarged claw with one distal lamella broader than other lamellae or bristles (Plates 113A, B, 118F) ......................... 5
   - Enlarged claw without one distal lamella broader than other lamellae (Plates 114B, 120F) ...................... 15
5. Head with OL longer than POL ...................................................................... 6
   - Head with OL as long as, or shorter than POL ......................................................... 7
6. Scutum granulated ...................................................................................... D. parvus (Olmi)
   - Scutum irregularly rugose ................................................................. D. atrox (Olmi)
7. Notauli less than 0.3 as long as scutum .......................................................... 8
   - Notauli reaching at least 0.5 length of scutum ...................................................... 9
8. Enlarged claw with two subapical teeth (Plate 114A); dorsal surface of propodeum with numerous longitudinal keels ........................................ D. crenulatus Olmi
   - Enlarged claw without subapical teeth (Plate 115A); dorsal surface of propodeum completely reticulate rugose; not sculptured by many longitudinal keels ........................... 10
9. Scutum rugose, not granulated; dorsal surface of propodeum reticulate rugose, not sculptured by many longitudinal keels ........ D. atrox (Olmi)
   - Scutum granulated, occasionally completely or partly rugose; dorsal surface of propodeum reticulate rugose, or sculptured by many longitudinal keels, or reticulate rugose in addition to few median longitudinal keels ............................................. 10
10. Scutum black ......................................................................................... 11
11. Head excavated; disc of pronotum with longitudinal median carina ......................... D. braeii Olmi
   - Head swollen; disc of pronotum regularly rounded, without longitudinal median carina ......................... D. pegnai (Olmi)
12. Occipital carina laterally not reaching eyes .................................................................. 13
   - Occipital carina laterally reaching eyes ................................................................ 13
13. Scutellum, metanotum and propodeum black; dorsal surface of propodeum reticulate rugose .................. D. rufus (Olmi)
   - Scutellum, metanotum and propodeum testaceous .................................................... 14
14. Enlarged claw with one row of lamellae, in addition to a very large distal lamella (Plate 118E); dorsal surface of propodeum sculptured by two median longitudinal keels and with numerous lateral curvilinear keels, not reticulate rugose ........ D. parkerianus Olmi
   - Enlarged claw with one row of bristles, in addition to a very large distal lamella (Plate 115E); dorsal surface of propodeum sculptured by four median longitudinal keels, laterally reticulate rugose .......... D. hamulus Coelho, Aguiar & Engel
15. Enlarged claw with one distal lamella much longer than other lamellae (Plates 114B, 120F) ....................... 16
   - Enlarged claw without a distal lamella much longer than other lamellae (Plates 118D, 119E) .................. 20
16. Posterior ocelli not touching occipital carina ............................................................. 17
   - Posterior ocelli touching occipital carina .................................................................. 18
17. Head with OOL much shorter than POL; notauli very short, only present near anterior margin of scutum; enlarged claw with a long series of small teeth (Plate 114B) ................................................................. D. davidsoni (Olmi)
   - Head with OOL much longer than POL; notauli complete, posteriorly separated; enlarged claw with two large subapical teeth (Plate 120F) ................................................................. D. valens Olmi & Virla sp. nov.
18. Segment 1 of protarsus about twice as long as segment 4 ................................................. D. semiruber Olmi & Virla sp. nov.
   - Segment 1 of protarsus shorter or slightly longer than segment 4 ................................ 19
19. Head and scutum testaceous-reddish; scutellum rugose ...................................................................... D. brasilianus (Olmi)
   - Head and scutum black (except mandible, clypeus and anterior margin of face testaceous); scutellum granulated ............
20. Scutum reticulate rugose or sculptured by irregular keels, not sculptured by longitudinal keels .............................................. D. porteri (Olmi)
  – Scutum completely sculptured by longitudinal keels .................................................. 21

21. Head with OL approximately three times as long as POL ........................................ D. panamensis (Olmi)
  – Head with OL shorter than POL .............................................................................. D. porteri (Olmi)

22. Head with OL as long as, or less than twice as long as POL ..................................... 23
  – Head with OL at least twice as long as POL ................................................................. 25

23. Occipital carina laterally reaching posterior edges of eyes ...................................... D. opacifrons (Olmi)
  – Occipital carina laterally not reaching eyes ............................................................. 24

24. Antenna very slender, with segment 3 more than thirty times as long as broad (breadth measured in middle part of segment) .... D. opacus (Olmi)
  – Antenna less slender, with segment 3 about twenty times as long as broad (breadth measured in middle part of segment) ........................................................................................................ D. striatus (Fenton)

25. Head with OL approximately two-three times as long as POL; distal part of stigmal vein about as long as proximal part. ......................................................... D. napensis (Olmi)
  – Head with OL approximately five-eight times as long as POL; distal part of stigmal vein about as long as, or less than twice as long as proximal part. ........................................... 26

26. Head with eye unusually bulging (Plate 116B); disc of pronotum very humped and pointed (Plate 116C) ... D. harpax Olmi
  – Head with eye normally bulging (Plate 112A); disc of pronotum less humped and not pointed (Plate 112C) .................. 27

27. Head totally ferruginous, with brown spot on ocellar region ................................... D. amazonicus (Olmi)
  – Head black, except mandible and clypeus testaceous .............................................. 28

28. Enlarged claw without distal row of teeth ( Plates 116D, 115B) .................................. 29
  – Enlarged claw with one distal row of teeth ( Plates 112F, 116D) ........................... 30

29. Enlarged claw without row of lamellae, with one row of bristles in addition to one subapical lamella (Plate 116D) ............ D. kovariki Olmi
  – Enlarged claw with one row of lamellae, in addition or not to one large subapical lamella ( Plates 115B, 119C) ............ 31

30. Head excavated; enlarged claw with one row of lamellae of same length ( Plate 115B), without one larger distal lamella . . . D. forestalis (Olmi)
  – Head convex; enlarged claw with one row of lamellae in addition to one larger distal lamella ( Plate 119C) ............ 32

31. Enlarged claw without lamellae, with one row of bristles, only lamella being subdistal ( Plate 116D) ... D. kovariki Olmi
  – Enlarged claw with one row of lamellae ( Plates 112F, 114C) .................................. 33

32. Enlarged claw without distal lamella larger than others ( Plates 112F, 120H) ............ 34
  – Enlarged claw with one distal lamella larger than others ( Plate 114C) ..................... 35

33. Scutum completely sculptured by numerous longitudinal keels; disc of pronotum pointed ( Plate 112F) .............................................. D. ater (Olmi)
  – Scutum completely reticulate rugose; disc of pronotum rounded, not pointed ( Plate 115D) .................................................. 36

34. Segment 5 of protarsus more than twice as long as segment 1 .................................. D. veirsi (Olmi)
  – Segment 5 of protarsus slightly longer than segment 1 .............................................. 37

35. Head sculptured by numerous longitudinal keels, not reticulate rugose .......... D. whartonii (Olmi)
  – Head granulated and reticulate rugose ..................................................................... 38

36. Scutum reticulate rugose, without two longitudinal keels instead of notauli. ........ D. garcetel Olmi
  – Scutum reticulate rugose, with two longitudinal keels instead of notauli. ............. 39

37. Head and mesosoma completely testaceous; head with POL about twice as long as OL . . . D. xanthopus Olmi & Viria sp. nov.
  – Head and mesosoma mostly black; head with POL about as long as OL ................ D. iorgi Olmi

38. Scutum completely granulated and reticulate rugose ............................................. 40
  – Scutum completely granulated, not reticulate rugose ............................................. 41

39. Posterior surface of propodeum with two complete longitudinal keels ................. D. obrieni (Olmi)
  – Posterior surface of propodeum without longitudinal keels .................................. 42

40. Propodeum completely reticulate rugose ................................................................. D. arimienis Olmi
  – Propodeum partly smooth and partly sculptured by curvilinear keels, not reticulate rugose ......................................................... D. ruber (Olmi)

1. Dryinus amazonicus (Olmi, 1991)
(Plate 112A–C)


Description. Female. Fully winged; length 6.2–6.8 mm. Head testaceous, except vertex and median region of face black; antenna testaceous; mesosoma black, except part of propleuron, disc, anterior margin and lateral regions of pronotum testaceous; metasoma brown; legs testaceous, except club of profemur darkened. Antenna clavate;
antennal segments in following proportions: 15:7:40:12:11:9:8:12. Head (Plate 112A) dull, sculptured by irregular longitudinal keels; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; POL = 2; OL = 10; OOL = 3; posterior ocelli almost touching occipital carina. Pronotum (Plate 112C) shiny, sculptured by numerous striae around disc, on anterior collar and on lateral regions; pronotum crossed by two strong transverse impression; disc humped; posterior collar very short; pronotal tubercle not reaching tegula. Scutum dull, sculptured by numerous parallel longitudinal keels. Notauli not distinct among longitudinal keels. Scutellum and metanotum dull, reticulate rugose. Propodeum reticulate rugose; posterior surface with two incomplete longitudinal keels. Fore wing crossed by three dark transverse bands; distal part of stigmal vein slightly longer than proximal part (17:16). Protarsal segments in following proportions: 27:4:11:28:46. In specimen from Colombia, 02°10.41’N 71°11.25’W, protarsal segment 1 slightly longer than segment 4 (28:26). Enlarged claw (Plate 112B) with two subapical teeth and one row of 8–12 lamellae. Segment 5 of protarsus (Plate 112B) with two rows of about 31 lamellae; distal apex with about 30 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil, Colombia.

Remarks. The female of *D. amazonicus* is similar to that of *D. kimseyae* Olmi 1984. The only difference regards the number of teeth present on enlarged claw (one in *D. kimseyae*, two in *D. amazonicus*).

PLATE 112. A. Head of female holotype in frontal view. B, D, F Chelae of holotypes. C, E. Pronotum of female holotypes in lateral view. A, B, C. *Dryinus amazonicus*. D. *D. arimensis*. E, F. *D. ater*. Scale bar 0.8 mm for A, 0.23 mm for B and E, 0.44 mm for C, 0.19 mm for D, 0.18 mm for F.

2. *Dryinus arimensis* Olmi, 1984

(Plate 112D)

Description. Female. Fully winged; length 4.4 mm. Yellow-testaceous, except two small brown spots on anterior collar of pronotum, petiole black and median area of dorsal surface of propodeum black. Antenna clavate; antennal segments in following proportions: 15:6:25:12:11:9:7:6:6:10. Head flat, dull, granulated; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli; posterior ocelli touching occipital carina; POL = 4; OL = 4; OOL = 10. Pronotum dull, granulated, crossed by a transverse impression; disc humped; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, granulated. Notauli absent. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (22:10); marginal cell open. Protarsal segments in following proportions: 21:4:5:15:23. Enlarged claw (Plate 112D) with one row of small distal teeth and one row of ten lamellae, among which one very large apical lamella. Segment 5 of protarsus (Plate 112D) with two rows of about 30 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: TRINIDAD AND TOBAGO: Trinidad, Arima Valley (AMNH).

Hosts. Unknown.

Distribution. Trinidad and Tobago.

3. Dryinus ater Olmi, 1984
(Plate 112E, F)


Description. Female. Fully winged; length 5.2 mm. Head black, except mandible, clypeus, malar space, anterior region of face and part of temple testaceous; mesosoma black; metasoma black, except posterior extremity brown; legs black, except articulations and tarsi testaceous. Antenna clavate; antennal segments in following proportions: 11:5:63:24:21:12:11:9:8:11. Head dull, granulated, sculptured by numerous longitudinal keels; frontal line complete; occipital carina incomplete, only present on dorsal side of head behind and on sides of posterior ocelli, not present behind eyes; posterior ocelli not touching occipital carina; temple absent; POL = 3.5; OL = 3.5; OOL = 11; OPL = 2. Pronotum (Plate 112E) dull, granulated, sculptured by numerous striae around disc, crossed by transverse impression; pronotal tubercle not reaching tegula. Scutum and scutellum dull, granulated, reticulate rugose and sculptured by numerous longitudinal keels. Notauli absent. Metanotum as sculptured as scutellum, with posterior margin smooth. Propodeum dull, with dorsal surface sculptured by numerous longitudinal keels; posterior surface reticulate rugose and with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein much longer than proximal part (12:10). Protarsal segments in following proportions: 25:4:13:24:40. Enlarged claw (Plate 112F) with two subapical teeth and one row of 24 lamellae. Segment 5 of protarsus (Plate 112F) with two rows of about 38 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BOLIVIA: Beni, Rio Itenez, at mouth of Rio Baures (AMNH).

Hosts. Unknown.

Distribution. Bolivia.

4. Dryinus atrox (Olmi, 1991)
(Plate 113A, B)

Dryinus atrox (Olmi); Olmi et al. 2000: 151; Garcete-Barrett 2001: 54; Olmi 2012: 44.

Description. Female. Fully winged; length 5.6–7.5 mm. Head testaceous, except ocellar triangle and most part of occiput black; antenna testaceous, except segments 4–6 and part of 3 and 7 brown; mesosoma black, except lateral regions and posterior margin of pronotum testaceous; metasoma brown; legs brown, except tarsi, protibia and
meso- and metatrochanter testaceous. Antenna clavate; antennal segments in following proportions:
16:7:35:17:12:10:9:7:10. Head flat, shiny, hairy, slightly irregularly rugose; frontal line incomplete, only
present in front of anterior ocellus; occipital carina incomplete, only present behind and on sides of posterior ocelli;
POL = 4; OL = 4; OOL = 12; occasionally OL longer than POL. Pronotum shiny, smooth, unsculptured, except
disc slightly granulated; pronotum crossed by two strong transverse impression; disc humped; posterior collar
absent; pronotal tubercle not reaching tegula. Scutum shiny, irregularly rugose, unsculptured among irregular
keels. Notauli incomplete, reaching about 0.6 length of scutum. Scutellum shiny, smooth, punctate, unsculptured
among punctures. Metanotum shiny, sculptured by some longitudinal keels. Propodeum reticulate rugose; posterior
surface with two incomplete longitudinal keels. Fore wing crossed by three dark transverse bands; distal part of
stigmal vein longer than proximal part (30:10); marginal cell open. Protarsal segments in following proportions:
25:4:9:18:30. Enlarged claw (Plate 113A, B) without subapical teeth, with one row of 12–13 lamellae, among
which one very large apical lamella. Segment 5 of protarsus (Plate 113A, B) with three rows of 37–40 lamellae;
distal apex with about 26–27 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♂ holotype: PANAMA: Panamá, Las Cumbres, 8–14.VIII.1982, H. Wolda leg., on
ground (PMA). Other material: COSTA RICA: Guanacaste, 3 km SE Rio Naranjo (AMNH). PARAGUAY:

Hosts. Unknown.

Distribution. Costa Rica, Panama, Paraguay.

C. D. bocainanus. D. D. braeti. E. D. brasiliamus. Scale bar 0.35 mm for A and E, 0.23 mm for B, 0.18 mm for C, 0.34 mm for
D.

5. Dryinus bocainanus (Olmi, 1987)
(Plate 113C)

Alphadryinus bocainanus Olmi 1987a: 433.

Description. Female. Fully winged; length 3.6–5.6 mm. Head testaceous, occasionally with vertex darkened;
antenna testaceous; prothorax testaceous-reddish, except lateral regions partly black; occasionally anterior collar of
pronotum with two lateral brown spots; scutum reddish, occasionally with anterior or lateral margins black;
scutellum and metanotum reddish; mesopleuron reddish, except black median transverse area; metapleuron
reddish, occasionally with black spot; propodeum black, occasionally with posterior surface reddish; metasoma
brown; legs testaceous, except coxae and clubs of femora partly brown. Antenna clavate; antennal segments in following proportions: 12:5:23:12:10:7:7:8. Head dull, granulated; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally not reaching eyes; POL = 5; OL = 3; OOL = 5; posterior ocelli touching occipital carina; occiput excavated; temple absent. Pronotum dull, granulated, crossed by one slight transverse impression; posterior collar absent; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, granulated. Notauli hardly distinct, incomplete, reaching about 0.5 length of scutum. Propodeum dull, reticulate rugose; posterior surface with two longitudinal keels and median area as rugose as lateral areas. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (21:7). Protarsal segments in following proportions: 15:3:6:16:28. Enlarged claw (Plate 113C) without subapical teeth, with one row of 7–22 lamellae, among which one very large apical lamella. Segment 5 of protarsus (Plate 113C) with two–three rows of 14–55 lamellae; distal apex with about 13–30 lamellae. In specimens from Panamá, Chiriquí, pronotum ferruginous-reddish, except anterior collar brown; scutum brown-reddish. Fore wing with one dark transverse band, and occasionally segment 5 of protarsus with two very long rows of lamellae, one of which is composed of very long lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BRAZIL: São Paulo, Serra da Bocaina, São José do Barreiro (MCZ).


Hosts. Unknown.

Distribution. Brazil, Ecuador, Paramá, Paraguay.

(Plate 113D)


Description. Female. Fully winged; length 7.6 mm. Head black, except mandible, clypeus, temple and anterior region of face (with stripe along orbits) testaceous; antenna brown, except segments 1–2 and proximal half of 3 testaceous; mesosoma black, except lateral margins and posterior collar of pronotum testaceous; metasoma brown; fore leg testaceous, except brown spot on coxa and trochanter, black club of femur and brown outer side of tibia; midleg black, except trochanter whitish and tarsus partly testaceous; hind leg testaceous, except brown spot on coxa, stalk of femur and part of tibia and tarsus brown. Antenna clavate, with rhinaria in segments 5–10; antennal segments in following proportions: 17:7:42:20:16:12:10:9:7:11. Head slightly excavated, dull, hairy, granulated and reticulate rugose; frontal line incomplete, absent in anterior half of face; occipital carina incomplete, only present behind and shortly on sides of posterior ocelli, laterally not reaching eyes; posterior ocelli touching occipital carina; POL = 4; OL = 3; OOL = 11; temple absent. Pronotum shiny, hairy, unsculptured, crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped, with longitudinal median carina; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, granulated and reticulate rugose, with areolae or irregular keels on all surface. Notauli hardly visible, incomplete, reaching about 0.5 length of scutum. Scutellum and metanotum shiny, punctate, unsculptured among punctures. Propodeum with dorsal surface slightly shorter than posterior surface (26:30); dorsal surface sculptured in middle by six strong longitudinal keels, laterally sculptured by irregular curvilinear keels; posterior surface reticulate rugose, with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (32:12). Protarsal segments in following proportions: 25:4:8:24:39. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 113D) with one small subapical tooth and one row of 18 lamellae, among which one large apical lamella. Segment 5 of protarsus (Plate 113D) with three rows of about 54 lamellae extended continuously to beginning of distal apex; distal apex with about 20 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Hosts. Unknown.

Distribution. French Guiana.

7. Dryinus brasillianus (Olmi, 1984)
(Plate 113E)


Description. Female. Fully winged; length 8.3 mm. Head testaceous-reddish; antenna and prothorax testaceous; scutum reddish; rest of mesosoma black; metasoma brown-testaceous; legs testaceous, except protibia and stalks of meso- and metafemur brown. Antenna clavate; antennal segments in following proportions: 15:8:57:3:26:18:13:11:9:11. Head dull, reticulate rugose; frontal line complete; occipital carina complete; temple absent; posterior ocelli touching occipital carina; POL = 10; OL = 5; OOL = 5. Pronotum shiny, slightly granulated, crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, slightly rugose. Notauli incomplete, reaching about 0.5 length of scutum (scutum damaged in only known specimen). Scutellum and metanotum shiny, slightly rugose. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing crossed by one dark transverse band beneath pterostigma; distal part of stigmal vein longer than proximal part (37:25). Protarsal segments in following proportions: 25:5:10:30:44. Enlarged claw (Plate 113E) without subapical teeth, with one row of 13 lamellae, among which one longer apical lamella. Segment 5 of protarsus (Plate 113E) with two rows of about 45 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BRAZIL: Mato Grosso, Sinop, 12°31′S 55°37′W (AEIC).

Hosts. Unknown.

Distribution. Brazil.

8. Dryinus crenulatus Olmi, 1996
(Plate 114A)


Description. Female. Fully winged; length 5.3–5.7 mm. Head ferruginous, except ventral side, temple, posterior half of clypeus and large spot occupying vertex and part of face black; antenna ferruginous; mesosoma ferruginous, except anterior surface of propodeum, anterior collar of pronotum and one spot on mesopleuron black; metasoma ferruginous, except brown subdistal transverse band; legs ferruginous, except mesocoxa brown. In specimens from Panama, Playa Blanca-Cativales, head ferruginous, except spot on ventral side, gena and border between clypeus and face black; mesosoma ferruginous, except some spots on ventral side of mesothorax, one spot on mesopleuron, one large median stripe on propodeum black; legs ferruginous, except distal half of metatibia brown, part of mesocoxa, club of profemur, dorsal side of club of mesofemur and inner side of club of metatibia black. Antenna clavate; antennal segments in following proportions: 15:6.5:31.5:17:15:11:10:8:7:10. Head flat, dull, granulated; frontal line incomplete, only present near clypeus and in front of anterior ocellus; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally not reaching eyes; temple absent; POL = 5; OL = 3.5; OOL = 11; OPL = 1. Pronotum dull, hairy, granulated, crossed by two strong transverse impressions; disc humped; posterior collar very short; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, granulated. Notauli hardly visible, shortly present near anterior margin of scutum. Propodeum with dorsal surface sculptured medially by numerous longitudinal and parallel keels and laterally by numerous curvilinear keels; posterior surface reticulate rugose, with two complete longitudinal keels and median area provided of central smooth region. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (26:10); marginal cell open. Protarsal segments in following proportions: 25:4:8:18:30. Enlarged claw (Plate
114A) with two subapical teeth and one row of 11–14 lamellae, among which one large apical lamella. Segment 5 of protarsus (Plate 114A) with three rows of about 28–36 lamellae; distal apex with about 17 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Costa Rica, Panama.

PLATE 114. Chelae of holotypes. A. Dryinus crenulatus. B. D. davidsoni. C. D. elegans. D. D. ferrugineus. Scale bar 0.26 mm for A, 0.46 mm for B, 0.36 mm for C, 0.31 mm for D.

9. Dryinus davidsoni (Olmi, 1991)
(Plate 114B)


Description. Female. Fully winged; length 7.6–8.9 mm. Head black, except mandible, clypeus, part of gena and anterior margin of face testaceous; antenna testaceous; mesosoma black, except margins and disc of pronotum testaceous-reddish (in specimen from Brazil, Encruzilhada, disc of pronotum reddish dark); metasoma brown-reddish; legs testaceous-reddish. Antenna clavate; antennal segments in following proportions: 18:10:65:26:18:14:11:9:12. Head dull, reticulate rugose; frontal line complete; occipital carina complete, laterally reaching eyes; POL = 11; OL = 4; OOL = 6; OPL = 1. Pronotum hairy, dull, granulated, sculptured by numerous transverse striae and with margins unsculptured; pronotum crossed by two strong transverse impression; disc humped and rounded; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, reticulate rugose. Notauli incomplete, only shortly present near anterior margin of scutum. In specimen from Brazil, Encruzilhada, notaui reaching about 0.5 length of scutum. Scutellum dull, granulated and punctate. Metanotum dull, smooth, with median region rugose. Propodeum reticulate rugose; posterior surface with two complete longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmatic vein longer than proximal part (36:18); marginal cell open. Protarsal segments in following proportions: 32:5:13:30:49. Enlarged claw (Plate 114B) with one row of 12 small teeth and one row of 15 lamellae, among which one longer apical lamella. Segment 5 of protarsus (Plate 114B) with two rows of ten (longer) + 14 lamellae; distal apex with about 30 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Hosts. Unknown.

Distribution. Brazil.

10. *Dryinus elegans* Olmi, 1999
(Plate 114C)


Description. *Female.* Fully winged; length 8.1 mm. Head black, except mandible, clypeus (except posterior margin), part of gena, part of temple, anterior half of face and narrow stripe along orbits testaceous-ferruginous; antenna testaceous, except segments 5–10 darkened; mesosoma black, except pronotal tubercle, disc and part of lateral regions of pronotum testaceous; metasoma brown-testaceous; legs testaceous-ferruginous, except some brown spots on coxae and pro- and mesotrochanter. Antenna clavate; antennal segments in following proportions: 18:8:36:19:17:13:10:10:7:10. Head dull, hairy, granulated and rugose; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally not reaching eyes (longer than half of OOL); temple absent; POL = 5; OL = 4; OOL = 13; OPL = 1. Pronotum dull, hairy, granulated, with some irregular keels on lateral regions; pronotum crossed by strong transverse impression; disc humped; posterior collar very reduced, almost absent; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, granulated and reticulate rugose. Notauli absent. Propodeum without strong transverse keel between dorsal and posterior surface; dorsal surface sculptured medially by numerous longitudinal and parallel keels and laterally by numerous curvilinear keels; posterior surface with two almost complete longitudinal keels and median and lateral areas sculptured by many parallel transverse keels. Fore wing crossed by three dark transverse bands; distal part of stigmal vein longer than proximal part (29:14); marginal cell open. Protarsal segments in following proportions: 28:5:10:20:33. Enlarged claw (Plate 114C) with three subapical teeth and one row of 17 lamellae, among which one large apical lamella. Segment 5 of protarsus (Plate 114C) with three rows of about 45 lamellae (among which one row of 15 very long lamellae); distal apex with at least 21 lamellae. Tibial spurs 1/1/2.

*Male.* Unknown.


Hosts. Unknown.

Distribution. Venezuela.

(Plate 114D)


Description. *Female.* Fully winged; length 7.5 mm. Head ferruginous, except brown ocellar spot; antenna and prothorax testaceous; scutum black, with notauli and posterior half of median region brown-reddish; rest of mesosoma black; metasoma testaceous-reddish, except posterior half brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 9:5:33:16:13:9:6:5.5:5.5:6. Head hairy, dull, reticulate rugose, except occiput smooth, shiny, unsculptured; frontal line absent; occipital carina complete; posterior ocelli touching occipital carina; temple absent; POL = 23; OL = 11; OOL = 11. Pronotum shiny, unsculptured, with slight striae around disc; pronotum crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, slightly granulated, sculptured by numerous irregular keels. Notauli incomplete, reaching about 0.33 length of scutum. Scutellum dull, smooth, punctate. Metanotum hairy, punctate. Propodeum reticulate rugose; dorsal surface sculptured by numerous longitudinal keels; posterior surface with two longitudinal keels. Fore wing crossed by two slight dark transverse bands; distal part of stigmal vein much longer than proximal part; marginal cell closed. Protarsal segment 1 about
as long as segment 4. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 114D) without subapical teeth, with one row of 11 lamellae, among which one longer apical lamella. Segment 5 of protarsus (Plate 114D) with two rows of 24 lamellae; distal apex with about 16 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Colombia.

(Plate 115A)

_Alphadryinus fiorii* Olmi 1986: 74.

Description. Female. Fully winged; length 4.0 mm. Head and antenna ferruginous; mesosoma ferruginous, except lateral regions of pronotum, anterior margin of scutum, dorsal surface of propodeum, one spot on mesopleuron black; metasoma brown; legs ferruginous. Antenna clavate; antennal segments in following proportions: 10:5:22:11:9:7:6:5:5:9. Head dull, granulated; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli; POL = 6; OL = 4; OOL = 6; OPL = 0.5. Pronotum dull, granulated; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching about 0.2 length of scutum. Propodeum dull, reticulate rugose; posterior surface with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (15:9). Protarsal segments in following proportions: 14:2.5:4:13:20. Enlarged claw (Plate 115A) without subapical teeth, with one row of ten lamellae, among which one very large apical lamella. Segment 5 of protarsus (Plate 115A) with two rows of 13 lamellae; distal apex with about ten lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BRAZIL: Santa Catarina, Nova Teutonia (MCZ).

Hosts. Unknown.

Distribution. Brazil.

(Plate 115B)

_Mesodryinus forestalis* Olmi 1984: 1027.

Description. Female. Fully winged; length 3.0–3.9 mm. Head testaceous-reddish, occasionally with vertex darkened or black; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous, except meso- and metacoxa black; occasionally legs testaceous and more or less darkened. Antenna clavate; antennal segments in following proportions: 7:5:21:12:9:7:5:5:5:5:5. Head excavated, dull, granulated and sculptured by numerous longitudinal striae; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli; POL = 2; OL = 5; OOL = 7. In specimen from Costa Rica, POL = 3; OL = 5; OOL = 7; in further specimen from Costa Rica, POL = 4; OL = 4; OOL = 8 (specimen with incomplete frontal line and rugose vertex). Pronotum dull, granulated, without striae, crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, reticulate rugose. Notauli absent. Scutellum short, very reduced, reticulate rugose. Propodeum with dorsal surface sculptured by numerous longitudinal keels; posterior surface reticulate rugose, with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (11:6.5).
Protarsal segments in following proportions: 11:2:6:10:21. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 115B) without subapical teeth, with one row of 12–15 lamellae (distal lamellae forming small group divided into two rows). Segment 5 of protarsus (Plate 115B) with one row of seven lamellae (proximal lamellae much longer than others); distal apex with about 12–15 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.


PLATE 115. A, B, C, E. Chelae of holotypes. D. Pronotum of female holotype in lateral view. A. Dryinus fiorii. B. D. forestalis. C, D. D. giorgioi. E. D. hamulus. Scale bar 0.21 mm for A, 0.15 mm for B, 0.28 mm for C, 0.25 mm for D, 0.13 mm for E.

14. Dryinus garcetei Olmi, 2012 (see Group 1)

15. Dryinus giorgioi Olmi, 1986
(Plate 115C, D)


Description. Female. Fully winged; length 6.0 mm. Head black, except mandible brown; clypeus, anterior region of face (mainly near orbits), part of temple and part of occiput testaceous; antenna brown, except segments 1–2 and 9–10 testaceous; mesosoma black, except margins and posterior collar of pronotum testaceous; metasoma black, except posterior extremity testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 14:6:26:14:12:9:8:7:6.5:10. Head dull, completely reticulate rugose and granulated; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; POL = 3; OL = 3; OOL = 11; OPL = 0.5; TL = 3. Pronotum shiny, granulated, with disc rounded, not pointed (Plate 115D); pronotal tubercle not reaching tegula. Scutum reticulate rugose, with two longitudinal keels instead of notauli. Scutellum shiny, unsculptured, partly very slightly granulated. Metanotum reticulate rugose. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmatic vein longer than proximal part (23:14). Protarsal segments in following proportions: 22:3:9:20:32.
Enlarged claw (Plate 115C) with three small subapical teeth and one row of 13 lamellae. Segment 5 of protarsus (Plate 115C) with two rows of 38 lamellae (one row composed of longer lamellae); distal apex with at least ten lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: Santa Catarina, Nova Teutonia (MCZ).

**Hosts.** Unknown.

**Distribution.** Brazil.

(Plate 115E)

_Dryinus hamulus* Coelho, Aguiar & Engel 2011: 8.

**Description. Female.** Fully winged; length 3.61 mm. Totally testaceous, except petiole black and few small dark areas on dorsal surface and lateral regions of propodeum. Antenna completely testaceous (according to original description; actually segments 8–10 missing). Antenna clavate; antennal segments in following proportions: 8:4:17:11:9:7:7 (segments 8–10 missing); rhinaria present in antennal segments 5–10. According to original description, antennal segments in following proportions: 17:8:34:20:18:14:12:12:10:16. Head slightly convex, completely granulated, with eye normal; clypeus anteriorly strongly emarginated; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally hardly visible, clearly reaching eyes; POL = 3.5; OL = 3; OOL = 5; OPL = 0.5; greatest breadth of posterior ocellus shorter than OL (2:3); temple absent. Pronotum dull, granulated, crossed by one strong transverse impression; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum shiny, granulated. Notauli hardly visible, reaching about 0.5 length of scutum. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum without a transverse keel between dorsal and posterior surface; dorsal surface with four irregular median longitudinal keels, laterally reticulate rugose; posterior surface reticulate rugose, with two slight longitudinal keels. Fore wing crossed by three dark transverse bands; distal part of stigmal vein longer than proximal part (15:6); marginal cell open. Protarsal segments in following proportions: 12:2:3:13:20. Enlarged claw (Plate 115E) without subapical teeth, with one row of six bristles and one very large distal lamella. Segment 5 of protarsus (Plate 115E) with one row of 9 (long) + 4 (short) lamellae; distal apex with about 15 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: Pará, Melgaço, Caxiuanã, trail at Estação Científica Ferreira Penna, P05004, 13–16.XI.2003, YPT, A.P. Aguiar & J. Dias leg. (MPEG).

**Hosts.** Unknown.

**Distribution.** Brazil.

(Plate 116A–C)


**Description. Female.** Fully winged; length 10.0–13.0 mm. Head totally testaceous; antenna brown, except segment 1 testaceous; in specimen from Costa Rica, 3 km SE Rio Naranjo, antenna brown, except segments 6–10 testaceous; propleuron testaceous, except ventral side partly black; rest of mesosoma black; metasoma brown; legs brown-black, except metatrochanter, proximal extremity of protrochanter, distal apex of coxae testaceous. Antenna clavate; antennal segments in following proportions: 8:3:40:14:10:7:5:4.5:4.5:4.5:4.5; rhinaria present in antennal segments 5–10. Head very excavated (Plate 116B), with eye unusually bulging, with face and vertex shiny, strongly sculptured by numerous parallel longitudinal keels, unsculptured between keels; clypeus anteriorly strongly emarginated; frontal line complete and divided into two branches in front of anterior ocellus (branches directed
posteriorly towards outer margins of anterior ocellus); occipital carina incomplete, only present behind and on sides of posterior ocelli; POL = 1; OL = 5; OOL = 9; OPL = 0.5; temple absent. Pronotum (Plate 116C) shiny, strongly sculptured by transverse keels, crossed by two strong transverse impression; disc humped; posterior collar absent; disc very humped; pronotal tubercle not reaching tegula. Scutum and scutellum shiny, strongly sculptured by numerous parallel longitudinal keels. Notauli not distinct among longitudinal keels. Metanotum very hairy, rugose. Propodeum reticulate rugose, without a transverse keel between dorsal and posterior surface; posterior surface with two longitudinal keels. Fore wing crossed by one dark transverse band beneath pterostigma; distal part of stigmal vein longer than proximal part (29:19); marginal cell open. Protibia about twice as long as protrochanter (41:22). Protarsal segments in following proportions: 45:7:19:35:60. Enlarged claw (Plate 116A) with two subapical teeth and one row of about 25 lamellae. Segment 5 of protarsus (Plate 116A) with two rows of about 54 lamellae; distal apex with about 30 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: COSTA RICA: Limón, 4 km NE Bribri, 50 m, IX–XI.1989, Malaise trap, P. Hanson leg. (AMNH). Other material: COSTA RICA: Guanacaste, 3 km SE Rio Naranjo, VII.1992, F.D. Parker leg., 1 ♀ (DBUSU).

Hosts. Unknown.


Remarks. The specimen collected in Costa Rica, 3 km SE Rio Naranjo, is the largest known dryinid specimen (length 13.0 mm).

PLATE 116. A, D, E, F. Chelae of holotypes. B. Head of female holotype in frontal view. C. Prothorax of female holotype in lateral view. A, B, C, Dryinus harpax. D. D. kovariki. E, D. lamellatus. F. D. napensis. Scale bar 0.4 mm for A, 1.71 mm for B, 0.65 mm for C, 0.22 mm for D, 0.21 mm for E, 0.28 mm for F.

18. Dryinus kovariki Olmi, 1991
(Plate 116D)


Description. Female. Fully winged; length 5.2–5.3 mm. Head black, except mandible and clypeus testaceous; antenna testaceous, except segments 5–10 darkened; propleuron testaceous-reddish, except two brown spots on lateral regions; pronotum testaceous-reddish, except two brown spots on anterior collar; rest of mesosoma black; metastoma black, except proximal half testaceous-reddish; legs testaceous-reddish. Antenna clavate; antennal
segments in following proportions: 16:6:26:15:12:8:7:6:6:8; rhinaria present in antennal segments 5–10. Head flat, dull, reticulate rugose; frontal line complete; occipital carina complete; POL = 4; OL = 3; OOL = 9; OPL = 2; TL = 2. Pronotum dull, hairy, slightly granulated, with numerous striae around disc and on anterior collar; pronotum crossed by two transverse impressions; disc rounded; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, hairy, reticulate rugose. Notauli absent. Propodeum dull, reticulate rugose, without transverse keels; posterior surface with two complete longitudinal keels. Fore wing crossed by one dark transverse band beneath pterostigma; distal part of stigmal vein about as long as proximal part. Protarsal segments in following proportions: 12:7:15:32. Protarsal segment 3 produced into hook. Enlarged claw (Plate 116D) with four small subapical teeth, one row of some bristles and one distal lamella. In specimen from Costa Rica, 14 km S Cañas, enlarged claw without subapical teeth. Segment 5 of protarsus (Plate 116D) with two rows of about 26–39 lamellae extending continuously to distal apex. Segment 5 of protarsus not distinctly visible in slide, because with inner side oblique (Plate 116D). Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: MEXICO: Guerrero, 2.1 mi NW Cacahuamilpa, 27.VII.1983, Kovarik, Harrison & Schaffner leg. (USNM). Other material: COSTA RICA: Guanacaste, 14 km S Cañas (DBUSU); Guanacaste, S Cañas (DBUSU).

**Hosts.** Unknown.

**Distribution.** Costa Rica, Mexico.

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**19. Dryinus lamellatus (Olmi, 1984)**
(Plates 116E, 117)

*Alphadryinus lamellatus* Olmi 1984: 986.  

**Description.** Female (Plate 117). Fully winged; length 4.4–5.0 mm. Head brown-black, except mandible, clypeus and anterior region of face (more along orbits) reddish; occasionally also temple and occiput reddish; antenna totally testaceous, or with segments 8–10 brown; prothorax reddish, occasionally with anterior collar of pronotum brown; scutum reddish, except median brown area; ventral side of mesothorax black, except some areas reddish; rest of mesosoma black; occasionally metanotum and part of metapleuron reddish; metasoma brown-reddish; legs testaceous, except meso- and metacoxa partly brown. Antenna clavate; antennal segments in following proportions: 20:19:56:24:21:19:21:18:23. Head convex, dull, hairy, completely reticulate rugose; frontal line incomplete, absent in anterior half of face; occipital carina complete; posterior ocelli not touching occipital carina; POL = 10; OL = 8; OOL = 25; OPL = 11; TL = 4. Pronotum dull, hairy, granulated, sculptured by some keels located around anterior and posterior collar; pronotum excavated, crossed by median transverse impression; disc absent; pronotal tubercle not reaching tegula. Scutum dull, granulated and slightly reticulate rugose. Notauli complete, strongly converging, posteriorly separated. Scutellum and metanotum shiny, finely punctate. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein much longer than proximal part (28:14). Protarsal segment 1 shorter than segment 4 (17:20). Protarsal segments 2 and 3 produced into hook. Enlarged claw (Plate 116E) without subapical teeth and with one unusually long lamella + four shorter lamellae. Segment 5 of protarsus (Plate 116E) with one row of about 11 lamellae; distal apex with about 15 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil.

20. Dryinus napensis Olmi, 1984
(Plate 116F)


Description. Female. Fully winged; length 6.9 mm. Head reddish, except mandible and margins of clypeus testaceous; antenna brown, except segments 1–2 testaceous; mesosoma, metasoma and legs black. Antenna clavate; antennal segments in following proportions: 11:8:52:14:15:9:8:7:9; antennal segment 4 about seven times as long as broad. Head excavated, dull, sculptured by numerous parallel longitudinal keels, also present among ocelli; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; POL = 1; OL = 3; OOL = 13; OPL = 1. Pronotum with numerous keels around disc, crossed by two strong transverse impressions; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum and scutellum dull, sculptured by numerous longitudinal parallel keels. Notauli not distinct among longitudinal keels. Metanotum dull, slightly sculptured by irregular keels. Propodeum without transverse keel between dorsal and posterior surface; dorsal surface sculptured by numerous longitudinal parallel keels; posterior surface reticulate rugose, with two longitudinal keels and median area as rugose as lateral areas. Fore wing crossed by two dark transverse bands; distal part of stigmatic vein longer than proximal part (24:12). Protibia longer than protrochanter (37:18). Protarsal segments in following proportions: 25:5:11:23:42. Segments 2 and 3 of protarsus produced into hook. Enlarged claw (Plate 116F) with two subapical teeth and one row of 22 lamellae. Segment 5 of protarsus (Plate 116F) with two rows of about 50 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: ECUADOR: Napo, Limoncocha (CNC).

Hosts. Unknown.

Distribution. Ecuador.

(Plate 118A)

Mesodryinus obrioni Olmi 1991: 293.
PLATE 118. Chelae of holotypes. A. *Dryinus obrieni*. B. *D. opacifrons*. C. *D. opacus*. D. *D. panamensis*. E. *D. parkerianus*. F. *D. parvus*. Scale bar 0.15 mm for A, 0.25 mm for B, 0.31 mm for C, 0.33 mm for D, 0.24 mm for E, 0.19 mm for F.

Description. Female. Fully winged; length 3.8 mm. Head black, except mandible, clypeus, gena, anterior region of face and part of temple testaceous-reddish; antenna testaceous, except segments 9–10 darkened; prothorax testaceous-reddish; rest of mesosoma black; metasoma brown; legs brown, except tarsi and trochanters testaceous. Antenna clavate; antennal segments in following proportions: 12:6:21:10:9:7:6:5:5:7.5; rhinaria present in antennal segments 5–10. Head dull, granulated; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally not reaching eyes; temple distinct, short; posterior ocelli touching occipital carina; POL = 5; OL = 3; OOL = 8. Pronotum dull, crossed by strong transverse impression; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum and scutellum dull, granulated. Notauli absent. Metanotum rugose. Propodeum dull; dorsal surface granulated and with median region sculptured by some longitudinal and parallel keels (short transverse keels present between longitudinal keels); posterior surface reticulate rugose, with two complete longitudinal keels. Fore wing crossed by three dark transverse bands; distal part of stigmal vein longer than proximal part (16:9). Protarsal segments in following proportions: 18:3:5:13:19. Protarsal segment 3 produced into hook. Enlarged claw (Plate 118A) with two small subapical teeth and one row of 13 lamellae, among which one larger apical lamella. Segment 5 of protarsus (Plate 118A) with three rows of about 25 lamellae; distal apex with at least 18 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Dominican Republic.

22. *Dryinus opacifrons* Olmi, 1984
(Plate 118B)


Description. Female. Fully winged; length 5.0–5.7 mm. Head testaceous, except malar space brown and a broad black spot on vertex and posterior half of face; antenna testaceous, occasionally darkened; prothorax testaceous, except two lateral black or brown spots on pronotum; rest of mesosoma black; metasoma brown-testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 12:5:34:15:12:10:9:8:11; antennal segment 3 less than twenty times as long as broad (27:2). Head flat, dull, granulated; face sculptured by some slight
longitudinal keels; frontal line complete; occipital carina incomplete, only present dorsally behind and on sides of posterior ocelli, laterally reaching posterior edges of eyes; POL = 2; OL = 3; OOL = 10; OPL = 1; temple absent. Pronotum shiny, with numerous keels around the disc, crossed by two strong transverse impressions; disc very humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, sculptured by numerous longitudinal parallel keels. Notauli not distinct among longitudinal keels. Propodeum with dorsal surface sculptured by numerous longitudinal parallel keels; posterior surface reticulate rugose, with two incomplete longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein about as long as proximal part; marginal cell open. Protarsal segments in following proportions: 26:4:9:24:38. Enlarged claw (Plate 118B) with two subapical teeth and one row of about eight lamellae. Segment 5 of protarsus (Plate 118B) with two rows of about 40 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Bolivia, Brazil.

23. *Dryinus opacus* Olmi, 1995

*(Plate 118C)*


Description. Female. Fully winged; length 6.2–8.1 mm. Head of holotype testaceous; in specimens from Brazil, 19°52’S 43°58’W, and French Guiana, 04°33.20’N 52°08.19’W, head black, except temple, gena, part of clypeus, mandible and region of face near clypeus testaceous. Antenna of holotype brown, except segment 1 almost completely testaceous; in specimen from Brazil, 19°52’S 43°58’W, antenna testaceous, except segments 1–4 darkened; in specimen from French Guiana, 04°33.20’N 52°08.19’W, antenna completely testaceous. Propleuron of holotype testaceous, with two black spots on ventral side; pronotum of holotype testaceous, with two broad black spots on lateral regions; in specimens from Brazil, 19°52’S 43°58’W, and French Guiana, 04°33.20’N 52°08.19’W, prothorax completely black. In holotype, specimen from Brazil, 19°52’S 43°58’W, and specimen from French Guiana, 04°33.20’N 52°08.19’W, rest of mesosoma and metasoma black, except distal apex of metasoma testaceous. Legs of holotype brown-testaceous, except coxae black; in specimen from Brazil, 19°52’S 43°58’W, legs completely brown-testaceous; in specimen from French Guiana, 04°33.20’N 52°08.19’W, legs brown-black, except trochanters and tarsi testaceous-darkened. Antenna clavate, with segment 3 more than thirty times as long as broad (62:1.5); antennal segments in following proportions: 11:8:62:20:18:12:9.5:8:7:9; rhinaria present in segments 5–10. Head excavated, dull, sculptured by numerous parallel longitudinal keels; frontal line complete; occipital carina incomplete, only visible behind and on sides of ocellar triangle, laterally not reaching eyes; POL = 2; OL = 3; OOL = 11; OPL = 1.5; temple absent. Propleuron almost completely hidden under pronotum. Pronotum shiny, crossed by two transverse impressions, sculptured by numerous longitudinal striae; disc humped; posterior collar of pronotum very short, almost absent; pronotal tubercle not reaching tegula. In specimen from French Guiana, 04°33.20’N 52°08.19’W, pronotum dull, alutaceous, with some striae around disc. Scutum and scutellum dull, granulated and sculptured by numerous parallel longitudinal keels. Notauli not distinct among longitudinal striae. Metanotum dull, reticulate rugose. Propodeum dull, with dorsal surface sculptured by numerous parallel longitudinal keels; posterior surface with two longitudinal keels, median area reticulate rugose and lateral areas sculptured by transverse keels. Fore wing crossed by two dark transverse bands; stigmal cell open; distal part of stigmal vein longer than proximal part (17:13). Protarsal segments in following proportions: 23:3:13:24:41. Enlarged claw (Plate 118C) with two subapical teeth and one row of 24–34 lamellae. Segment 5 of protarsus (Plate 118C) with two rows of approximately 50–52 lamellae; distal apex with about 7–17 lamellae. Tibial spurs 1/1/2.

Male. Unknown.
Material examined. Type: ♀ holotype: COSTA RICA: Alajuela, 20 km S Upala, 6.I.1991, F.D. Parker leg. (CAS). Other material: BRAZIL: Minas Gerais, Belo Horizonte, Pampulha, Universidade Federal de Minas Gerais, 19°52’S 43°58’W, 830 m, 4.XII.1990 (DBMG). FRENCH GUIANA: Régina, Montagne de Kaw, km 37.5 of road Roura-Kaw, 04°33.20’N 52°08.19’W, 217 m, XI.2004, J.A. Cerda leg., 1 ♀ (MOLC); Régina, Montagne de Kaw, km 37.5 + 1.7 of road Roura-Kaw, 2–8.I.2005, J.A. Cerda leg., 1 ♀ (DEUK); Régina, Montagne de Kaw, Relais Patawa, 04°32.42’N 52°09.09’W, 1.001, Malaise trap, A.E.I.guyane-J. Cerda leg., 1 ♀ (FSAE); Roura, Montagne des Chevaux, 18.IX.2011, SEAG leg., 1 ♀ (FSAE); Savane Matiti, IX, 2011, SEAG leg., 1 ♀ (FSAE).

Hosts. Unknown.

Distribution. Brazil, Costa Rica, French Guiana.

24. Dryinus panamensis (Olmi, 1984)
(Plate 118D)


Description. Female. Fully winged; length 6.9–7.7 mm. Head black, except mandible, clypeus, anterior region of face (more along orbits) yellow; occiput brown-yellow; ventral side of head testaceous, except brown central spot; antenna of holotype with segment 1 partly yellow and brown, segments 2–5 brown, segment 6 brown, except distal extremity yellow (segments 7–10 missing in holotype; whitish in other specimens); mesosoma and metasoma black; legs testaceous, occasionally with meso- and metatibia and femora partly darkened. Antenna clavate. Head dull, hairy, granulated and reticulate rugose, flat, with ocellar region swollen; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; posterior ocelli not touching occipital carina; OPL shorter than POL; OL about three times as long as POL. In specimen from Peru, Pakitza, POL = 2; OL = 7; OOL = 10; OPL = 1.5; temple absent. Pronotum shiny, hairy, sculptured by numerous longitudinal keels on anterior collar and with many keels around disc; pronotum crossed by two strong transverse impressions; posterior transverse impression located close to posterior margin of pronotum; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, hairy, reticulate rugose. Notauli incomplete, reaching about 0.33 length of scutum. Scutellum dull, reticulate rugose. Metanotum shiny, smooth, unsculptured, except few punctures near anterior margin. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing crossed by two dark transverse bands (proximal band divided into two smaller bands); distal part of stigmal vein much longer than proximal part (25:11); marginal cell open. Protarsal segment 1 of holotype about as long as segment 4. Protarsal segments 2 and 3 produced into hook. Protarsal segments of specimen from Peru, Pakitza, in following proportions: 30:6:11:25:44. Enlarged claw (Plate 118D) without large subapical tooth, with two very small teeth and one row of 15–17 lamellae. Segment 5 of protarsus (Plate 118D) with one row of about seven-ten lamellae; distal apex with at least 40 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: PANAMA: Panamá, Canal Zone, Pipeline Road, Gamboa (RNHL).

Hosts. Unknown.

Distribution. Panama, Peru.

25. Dryinus parkerianus Olmi, 1993
(Plate 118E)


Description. Female. Fully winged; length 5.6 mm. Head black, except temple and two frontal lateral stripes along
orbits reddish; antenna testaceous, except segments 6–10 darkened; mesosoma testaceous, except dorsal side of propodeum black and two lateral black spots on anterior collar of pronotum; petiole black; metasoma testaceous, except posterior half darkened; legs testaceous, except mesocoxa partly black. Antenna clavate; antennal segments in following proportions: 16:7:32:17:10:8:8:10. Head flat, dull, granulated and slightly irregularly rugose; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally reaching eyes; POL = 4; OL = 3; OOL = 11; posterior ocelli touching occipital carina; temple absent. Pronotum granulated, with lateral regions shiny and unsculptured, crossed by strong transverse impression; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, granulated and slightly irregularly rugose. Notauli hardly visible, incomplete, reaching about 0.6 length of scutum, composed of areolae. Scutellum and metanotum dull, granulated. Propodeum with dorsal surface sculptured by two median parallel longitudinal keels and numerous lateral curvilinear keels; posterior surface with two complete longitudinal keels, median area slightly rugose and lateral areas strongly reticulate rugose. Fore wing crossed by three dark transverse bands; distal part of stigmal vein longer than proximal part (22:12); marginal cell open. Protarsal segments in following proportions: 25:4:8:18:30. Enlarged claw (Plate 118E) with three small subapical teeth and one row of 14 lamellae, among which one very large apical lamella. Segment 5 of protarsus (Plate 118E) with three rows of nine (longer) + 23 lamellae; distal apex with about 17 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.


26. Dryinus parvus (Olmi, 1984)
(Plate 118F)


Description. Female. Fully winged; length 3.1–4.4 mm. Holotype testaceous, except petiole black. In specimens from Ecuador, Sacha Lodge, and Brazil, Fazenda Rancho Grande, ocellar triangle black, pronotum with two lateral black spots, mesothoracic axillae black, parts of pleura and propodeum black, legs partly brown. Antenna clavate; antennal segments in following proportions: 8:4.5:19:11:10:9:7:6:6:7.5. Head dull, granulated; frontal line absent; occipital carina incomplete, only present behind and on sides of posterior ocelli, not present on temple; posterior ocelli not touching occipital carina; temple absent; POL = 3; OL = 4; OOL = 5.5; OPL = 1. Pronotum dull, granulated, crossed by two transverse impressions; disc humped; posterior collar very short; pronotal tubercle not reaching tegula. Scutum dull, granulated. Notauli incomplete, reaching about 0.33 length of scutum. Scutellum and metanotum shiny, slightly granulated. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (13:8). Protarsal segments in following proportions: 12:2.3:5:13:20. Enlarged claw (Plate 118F) without subapical teeth, with one row of eight–nine lamellae, among which one larger apical lamella. Segment 5 of protarsus (Plate 118F) with two rows of about 12–14 lamellae; distal apex with 10–18 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: BRAZIL: Pernambuco, Caruaru (AEIC). Other material: BRAZIL: same locality label as holotype, 1♀ (AMNH); Rondônia, 62 km S Ariquemes, Fazenda Rancho Grande (DFAS); ECUADOR: Napo, Waorani Ethnic Reserve, 1 km S Onkone Gare Camp, 00°39.10'S 76°26'W, 220 m, 6.X.1994, insecticidal fogging, T.L. Erwin leg., 1♀ (CNC); Sucumbios, Sacha Lodge, 00°05'S 76°05'W, 290 m, 2♀♀ (AMNH, NHMLA).

Hosts. Unknown.

Distribution. Brazil, Ecuador.
27. *Dryinus pegnai* (Olmi, 1984)  
(Plate 119A)


**Description. Female.** Fully winged; length 3.7–4.5 mm. Head black, except mandible, clypeus and anterior region of face (more along orbits) testaceous; occasionally head totally testaceous; occasionally head testaceous, except occiput and vertex black; occasionally face partly black; antenna testaceous; mesosoma black, except lateral margins and posterior half of pronotum (or only posterior collar) brown-reddish; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 10:5:20:12:11:10:8:7:6:9. Head swollen, dull, granulated; face sculptured by some slight keels; occipital carina incomplete; posterior ocelli touching occipital carina; POL = 5.5; OL = 2; OOL = 4.5 (in specimen from French Guiana, Montagne des Chevaux, POL = 5; OL = 3). Pronotum shiny, granulated, crossed by two transverse impressions, anterior one slight and posterior one strong; disc slightly humped, regularly rounded, without longitudinal median carina; posterior collar short; pronotal tubercle not reaching tegula. Scutum dull, granulated, with areolae or irregular keels near posterior margin of on lateral regions. Notauli incomplete, reaching about 0.5 length of scutum. Scutellum and metanotum shiny, granulated. Propodeum reticulate rugose; posterior surface with two longitudinal keels. In specimen from French Guiana, Montagne des Chevaux, dorsal surface of propodeum sculptured by many irregular subparallel and longitudinal keels. Fore wing crossed by one dark transverse band; distal part of stigmal vein longer than proximal part (18:9). In four specimens from French Guiana, Montagne des Chevaux, fore wing with one dark transverse band in three specimens and completely hyaline, without dark transverse band, in fourth specimen. Protarsal segment 1 longer than segment 4 (17:13). Segment 3 of protarsus produced into hook. Enlarged claw (Plate 119A) without subapical teeth, with one row of eight–ten lamellae, among which one larger apical lamella. Segment 5 of protarsus (Plate 119A) with one row of 16 lamellae, or with two rows of about 11 + 5 lamellae (shortest row composed of longer lamellae); distal apex with about 10–15 lamellae. In specimen from French Guiana, Montagne des Chevaux, segment 5 of protarsus with one row of 12 + 6 lamellae (shortest row composed of longer lamellae). Tibial spurs 1/1/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Colombia, Ecuador, French Guiana, Panama, Paraguay, Peru, Venezuela.

(Plate 119B)

*Alphadryinus piceus* Olmi 1984: 996.  

**Description. Female.** Fully winged; length 6.9 mm. Head black, except mandible and clypeus testaceous; antenna and prothorax testaceous; rest of mesosoma black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 9:4:26:13:11:8:5.5:5:4:6. Head hairy, dull, reticulate rugose, except occiput smooth, shiny, unsculptured; frontal line absent; occipital carina complete; POL = 17; OL = 10; OOL = 14; posterior ocelli almost touching occipital carina (OPL = 1); temple absent. Pronotum shiny, smooth, hairy, unsculptured, with slight striae around disc; pronotum crossed by two transverse impressions, anterior one slight
and posterior one strong; disc humped; posterior transverse impression located close to posterior margin of pronotum; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, granulated, sculptured by numerous irregular keels. Notauli incomplete, reaching about 0.33 length of scutum. Scutellum dull, smooth, punctate. Metanotum hairy, punctate. Propodeum reticulate rugose; dorsal surface sculptured by numerous longitudinal keels; posterior surface with two longitudinal keels. Fore wing crossed by two slight dark transverse bands; distal part of stigmal vein much longer than proximal part; marginal cell closed. Protarsal segment 1 about as long as segment 4. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 119B) without one large subapical tooth, with some very small distal teeth and one row of nine lamellae. Segment 5 of protarsus (Plate 119B) with two rows of 19 lamellae; distal apex with about 17 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Colombia.

PLATE 119. Chelae of holotypes. A. Dryinus pegnaei. B. D. piceus. C. D. planadensis. D. D. ruber. E. D. porteri. Scale bar 0.16 mm for A, 0.29 mm for B, 0.19 mm for C, 0.20 mm for D, 0.28 mm for E.

29. Dryinus planadensis Olmi, 2004
(Plate 119C)

Dryinus planadensis Olmi 2004a: 152.

Description. Female. Fully winged; length 4.9 mm. Head black, except clypeus, mandible, large frontal median area near clypeus and two stripes along orbits testaceous; ventral side of head black; occiput black; antenna testaceous; propleura black; mesosoma black, except scutum, disc and sides of pronotum, posterior half of mesopleuron testaceous; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 14:7:24:13:12:10:9:7:5:7:11; rhinaria present in segments 6–10. Head convex, dull, granulated; frontal line incomplete, absent in front of anterior ocellus; occipital carina incomplete, only present behind and on sides of ocellar triangle, laterally not reaching eyes; occipital carina also present on sides of occiput; POL = 6; OL = 3; OOL = 6; OPL = 1; TL = 2; greatest breadth of posterior ocelli as long as OL. Propodeum almost completely hidden under pronotum. Pronotum dull, hairy, granulated, slightly humped, crossed by two transverse impressions, anterior one slight and posterior one deep; posterior collar of pronotum very short, almost absent; pronotal tubercle not reaching tegula. Scutum dull, hairy, completely granulated and reticulate rugose. Notauli absent. Scutellum shiny, slightly granulated. Metanotum shiny, unsculptured, slightly rugose near anterior margin. Propodeum
completely reticulate rugose; dorsal surface approximately as long as posterior surface (20:20); posterior surface with two longitudinal keels and median area dull, reticulate rugose. Mesopleuron shiny, reticulate rugose. Metapleuron shiny, transversely striate. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein much longer than proximal part (35:10). Protarsal segments in following proportions: 21:3:6:18:28. Enlarged claw (Plate 119C) without subdistal teeth, with one row of seven lamellae in addition to one larger distal lamella and one preapical bristle. Segment 5 of protarsus (Plate 119C) with two rows of 14 lamellae; distal apex with at least 15 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Colombia.

30. Dryinus porteri (Olmi, 1991)
(Plate 119E)


Description. Female. Fully winged; length 6.4–9.1 mm. Head black, except mandible, clypeus, gena and anterior margin of face testaceous; antenna testaceous; mesosoma black, except prothorax testaceous-reddish; metasoma testaceous, except posterior half brown; legs testaceous, except tibiae and femora partly brown. Antenna clavate; antennal segments in following proportions: 15:6.5:44:24:20:16:12:10:8:11. Head flat, hairy, reticulate rugose; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally reaching eyes; POL = 9; OL = 3; OOL = 5; posterior ocelli touching occipital carina; temple absent. Pronotum hairy, shiny, unsculptured; pronotum crossed by two transverse impressions, anterior one slight and posterior one deep; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum sculptured by numerous irregular keels, unsculptured among keels. Notauli incomplete, reaching about 0.5 length of scutum. Scutellum granulated. Metanotum shiny, unsculptured, with central area hairy and rugose. Propodeum reticulate rugose, without transverse keels; posterior surface with two longitudinal keels. Fore wing almost completely hyaline, slightly darkened only beneath pterostigma; distal part of stigmal vein longer than proximal part (31:13); marginal cell open. Protarsal segments in following proportions: 24:4:12:23:38. Enlarged claw (Plate 119E) with one row of seven small teeth and one row of 12 lamellae, among which one longer apical lamella. Segment 5 of protarsus (Plate 119E) with two rows of 11 (longer) + nine lamellae; distal apex with about 20 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Bolivia, Brazil.

31. Dryinus ruber (Olmi, 1984)
(Plate 119D)


Description. Female. Fully winged; length 3.8–4.9 mm. Reddish-dark, except antenna, distal extremity of metasoma and articulations of legs testaceous. Antenna clavate; antennal segments in following proportions: 12:6:20:11:9:8:7:6:5:8.5. Head flat, dull, hairy, granulated; frontal line absent; occipital carina incomplete, only
present behind and on sides of posterior ocelli; posterior ocelli not touching occipital carina; POL = 5.5; OL = 4; OOL = 9; OPL = 1. Pronotum dull, hairy, granulated, crossed by transverse impression; disc humped; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, hairy, granulated. Notauli absent. Propodeum not reticulate rugose; dorsal surface shiny, sculptured by some curvilinear longitudinal keels; posterior surface shiny, smooth, except some transverse keels similar to areolae located near dorsal surface. Mesopleuron and metapleuron hairy, smooth, partly granulated. Fore wing crossed by two dark transverse bands; distal part of stigmal vein much longer than proximal part (17:8); marginal cell open. Protarsal segments in following proportions: 20:3:5.5:15:25. Enlarged claw (Plate 119D) with one row of small distal teeth and one row of 10–14 lamellae, among which one very large apical lamella. Segment 5 of protarsus (Plate 119D) with two rows of about 40 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: BAHAMAS: Cat Island, The Bight (AMNH). Other material: CUBA: La Habana, Litoral Costa Sur, Guanimar (MNHN); Pinar del Rio, Peninsula Guanahacabibes, Laguna de los Negros (AMNH).

**Hosts.** Unknown.

**Distribution.** Bahamas, Cuba.

### 32. Dryinus rufus (Olmi, 1984)

(Plate 120A)

*Alphadryinus rufus* Olmi 1984: 995.


**Description.** Female. Fully winged; length 5.0 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna testaceous; propleuron testaceous, except some brown spots; pronotum and scutum reddish; rest of mesosoma black, except distal region of mesopleuron reddish; metasoma brown; legs testaceous. Antenna clavate. Head swollen, dull, granulated; occipital carina incomplete, only present on dorsal side of head behind and on sides of posterior ocelli, laterally reaching eyes; posterior ocelli touching occipital carina; temple absent; OL shorter than POL. Pronotum shiny, granulated, crossed by two transverse impressions, anterior one slight and posterior one deep; disc slightly humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum dull, granulated, with some areolae near posterior margin. Notauli incomplete, reaching about 0.65 length of scutum. Scutellum and metanotum dull, granulated. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing crossed by one dark transverse band; distal part of stigmal vein much longer than proximal part (27:10). Protarsal segment 1 longer than segment 4 (24:18). Segment 3 of protarsus produced into hook. Enlarged claw (Plate 120A) without subapical teeth, with one row of ten lamellae, among which one larger apical lamella. Segment 5 of protarsus (Plate 120A) with one row of 17 lamellae; distal apex with about 14 lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: PANAMA: Chiriquí, Fortuna (RNHL).

**Hosts.** Unknown.

**Distribution.** Panama.

### 33. Dryinus semiruber Olmi & Virla, sp. nov.

(Plate 120B)

**Description.** Female. Fully winged; length 5.4 mm. Head black, except mandible, clypeus, part of gena and anterior third of face testaceous; antenna testaceous, except segments 7–10 and distal extremity of 6 darkened; mesosoma testaceous-reddish, except part of propleuron black, two black spots on anterior collar of pronotum, dorsal surface of propodeum (except testaceous anterior margin) and anterior third of posterior surface of propodeum black; petiole black; metasoma testaceous, except posterior half brown; fore leg testaceous, except part of trochanter and outer side of femur brown; mid- and hind leg testaceous, except part of femora and distal not touching occipital carina; POL = 5.5; OL = 4; OOL = 9; OPL = 1. Pronotum dull, hairy, granulated, crossed by transverse impression; disc humped; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, hairy, granulated. Notauli absent. Propodeum not reticulate rugose; dorsal surface shiny, sculptured by some curvilinear longitudinal keels; posterior surface shiny, smooth, except some transverse keels similar to areolae located near dorsal surface. Mesopleuron and metapleuron hairy, smooth, partly granulated. Fore wing crossed by two dark transverse bands; distal part of stigmal vein much longer than proximal part (17:8); marginal cell open. Protarsal segments in following proportions: 20:3:5.5:15:25. Enlarged claw (Plate 119D) with one row of small distal teeth and one row of 10–14 lamellae, among which one very large apical lamella. Segment 5 of protarsus (Plate 119D) with two rows of about 40 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: PANAMA: Chiriquí, Fortuna (RNHL).

**Hosts.** Unknown.

**Distribution.** Panama.
extremities of tibiae brown. Antenna clavate; antennal segments in following proportions: 13:7:26:15:13:11:9:8:7:11. Rhinaria present on antennal segments 6–10. Head flat, dull, hairy, reticulate rugose; frontal line incomplete, not present near clypeus; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally reaching temple, laterally not reaching eyes, but running very close; POL = 6.5; OL = 4; OOL = 9; greatest breadth of posterior ocelli shorter than OL (3:4); posterior ocelli touching occipital carina; temple absent. Pronotum hairy, dull, granulated; pronotum crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum granulated and slightly rugose. Notauli incomplete, reaching about 0.5 length of scutum. Scutellum granulated. Metanotum granulated and sculptured by short longitudinal keels. Propodeum reticulate rugose, without transverse and longitudinal keels. Fore wing hyaline, with three dark transverse bands; two basal bands narrow; distal band very large; distal part of stigmal vein longer than proximal part (19:8); marginal cell open. Protarsal segments in following proportions: 23:3:5:11:19. Enlarged claw (Plate 120B) with one small subapical tooth and one row of ten lamellae, among which one longer apical lamella. Segment 5 of foretarsus (Plate 120B) with three rows of 21 lamellae; distal apex with at least 12 lamellae. Tibial spurs 1/1/2.

Male: unknown.


Hosts. Unknown.

Distribution. Argentina.

Etymology. This species is named after the partly reddish colour.

PLATE 120. A, B, C, E, F. Chelae of holotypes. D. Genitalia of male paratype. G. Stigmal vein. A. Dryinus rufus. B. D. semiruber. C, D. D. veirsi. E. D. whartoni. F, G. D. valens. H. D. xanthopus. Scale bar 0.22 mm for A and B, 0.25 mm for C, 0.15 mm for D and F, 0.18 mm for E, 0.86 mm for G; 0.33 mm for H.
34. *Dryinus striatus* (Fenton, 1927) (see Group 1)

35. *Dryinus valens* Olmi & Virla, sp. nov.

(Plate 120F, G)

**Description.** *Female.* Fully winged; length 4.1 mm. Head black, except mandible brown; antenna testaceous; mesosoma black; metasoma and legs brown. Antenna clavate; antennal segments in following proportions: 13:6:31:14:11:9:7:7:7:9; rhinaria present in segments 5–10. Head dull, granulated and reticulate rugose; frontal line complete; occipital carina complete, laterally reaching eyes; temple absent; POL = 7; OL = 4; OOL = 10; OPL = 2; greatest breadth of posterior ocelli longer than OPL (3:2). Pronotum hairy, dull, granulated, sculptured by numerous longitudinal irregular keels; pronotum not crossed by transverse impressions; disc flat; posterior collar absent; pronotal tubercle not reaching tegula. Scutum humped, dull, granulated and reticulate rugose. Notauli hardly visible, complete, posteriorly separated; minimum distance between notauli about as long as antennal segment 2. Notaulus running on side of longitudinal keel. Scutellum and metanotum dull, granulated and reticulate rugose. Propodeum with dorsal surface sculptured by many irregular longitudinal and subparallel keels; posterior surface reticulate rugose, without longitudinal keels. Fore wing crossed by two dark transverse bands. Stigmal vein strongly S-shaped (Plate 120G), with distal part less thick than subdistal and proximal parts (marginal cell considered open); subdistal part longer than proximal part (22:9). Protarsal segments in following proportions: 17:3:5:17:24. Enlarged claw (Plate 120F) with two subapical teeth and one row of 8 lamellae, among which one longer apical lamella. Segment 5 of protarsus (Plate 120F) with two rows of ten (longer) + 22 lamellae; distal apex with about seven lamellae. Tibial spurs 1/1/2.

*Male.* Unknown.

**Material examined.** *Type:* ♀ holotype: DOMINICAN REPUBLIC: Pedernales Province, Sierra Bahoruco, 26 km N Cabo Rojo, 730 m, VII.1990, L. Masner leg. (PMA).

**Hosts.** Unknown.

**Distribution.** Dominican Republic.

**Etymology.** This species is named after the apparent good capacity to prey and parasitize.

36. *Dryinus veirsi* (Olmi, 1991)

(Plate 120C, D)


**Description.** *Female.* Fully winged; length 5.3–6.2 mm. Head black, except mandible, clypeus and part of gena testaceous; antenna testaceous; mesosoma black, except lateral margins of pronotum testaceous; metasoma brown; legs testaceous, except meso- and metacoxa partly black or brown. Antenna clavate; antennal segments in following proportions: 20:9:57:21:17:10:9:7:11; rhinaria present in antennal segments 5–10. Head dull, hairy, reticulate rugose; frontal line complete; occipital carina complete; POL = 7; OL = 4; OOL = 10; OPL = 1.5; TL = 3.5. Pronotum shiny, hairy, sculptured by numerous striae around and on disc; pronotum crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum hairy, reticulate rugose. Notauli absent. Propodeum reticulate rugose; posterior surface with two complete longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein about as long as proximal part. Protarsal segments in following proportions: 26:5:14:28:60. Protarsal segment 1 produced into hook. Enlarged claw (Plate 120C) with two subapical teeth and one row of 18–21 lamellae. Segment 5 of protarsus (Plate 120C) with two–three rows of about 27–34 lamellae; distal apex with at least 30 lamellae. Tibial spurs 1/1/2.

*Male.* Fully winged; length 4.5 mm. Head black, except mandible, clypeus and part of gena testaceous; mesosoma black; metasoma brown; legs testaceous, except metacoxa partly black. Antenna filiform; antennal segments in following proportions: 9:9:27:15:1:10:1:12:10:12. Head dull, reticulate rugose; frontal line absent; POL = 8; OL = 3; OOL = 5; OPL = 1; greatest breadth of posterior ocelli longer than OPL (5:1); occipital carina

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**DRYINIDAE OF THE NEOTROPICAL REGION**

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complete, laterally reaching eyes; temple absent. Scutum, scutellum and metanotum reticulate rugose. Notauli hardly visible among areolae, apparently complete and posteriorly separated. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (14:15). Genitalia in Plate 120D. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Panama, Paraguay.

37. Dryinus whartoni (Olmi, 1991)
(Plate 120E)


Description. Female. Fully winged; length 4.2 mm. Head black, except mandible, gena and small region of face near orbits testaceous; antenna brown, except ventral side of segment 1 whitish (segments 7–10 missing in only known specimen); mesosoma black; metasoma brown; legs testaceous-reddish, except mesocoxa and stalk of metafemur brown. Antenna slender (segments 7–10 missing in only known specimen); antennal segments 1–6 in following proportions: 10:5:40:16:13:9; rhinaria present in antennal segments 5–6. Head dull, granulated, with face and vertex sculptured by numerous longitudinal keels; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli; temple distinct; POL = 3; OL = 3; OOL = 9; OPL = 1. Pronotum dull, granulated and sculptured by strong longitudinal keels on lateral regions; pronotum crossed by strong transverse impression; disc humped; posterior collar absent; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, granulated and reticulate rugose. Notauli absent. Propodeum dull, reticulate rugose; posterior surface with two complete longitudinal keels, lateral areas reticulate rugose and median area sculptured by transverse keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (11:8). Protarsal segments in following proportions: 20:4:8:17:27. Fore tarsal segment 3 produced into hook. Enlarged claw (Plate 120E) with two subapical teeth and one row of 18 lamellae. Segment 5 of protarsus (Plate 120E) with three rows of about 33 lamellae; distal apex with at least 18 lamellae. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype: MEXICO: Guerrero, 18.2 mi S Iguala, 5.VII.1987, R. Wharton leg. (USNM).

Hosts. Unknown.

Distribution. Mexico.

38. Dryinus xanthopus Olmi & Virla, sp. nov.
(Plate 120H)

Description. Female. Fully winged; length 5.2 mm. Totally testaceous, except petiole black, small black spot on outer side of mesocoxa and stalk of metafemur partly brown. Antenna clavate; antennal segments in following proportions: 17:8:42:19:16:11:9:10. Head dull, completely reticulate rugose and granulated; frontal line complete; occipital carina incomplete, only present behind and on sides of posterior ocelli, laterally not reaching eyes; POL = 7; OL = 3; OOL = 7; OPL = 0.5; temple absent; greatest breadth of posterior ocellus longer than OPL (4:0.5). Pronotum dull, granulated, with disc rounded, not pointed; pronotal tubercle not reaching tegula. Scutum reticulate rugose, with two longitudinal keels instead of notauli. Notauli absent. Scutellum shiny, granulated and rugose. Metanotum reticulate rugose. Propodeum with dorsal surface sculptured by many subparallel longitudinal keels (lateral keels curved); posterior surface reticulate rugose, with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein longer than proximal part (24:14). Protarsal segments in
following proportions: 26:4:8:19:29. Enlarged claw (Plate 120H) with two subapical teeth and one row of 14 lamellae. Segment 5 of protarsus (Plate 120H) with three rows of about 53 lamellae (one row composed of nine longer lamellae) without interruption to distal apex. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. French Guiana.

Fossil Neotropical species

Two fossil species are known.

Key to fossil species (females)

1. Enlarged claw not spatulate. ......................................................... D. grimaldii Olmi
   – Enlarged claw spatulate (Plate 123C). ........................................ D. rasnitsyni Olmi & Guglielmino


39. Dryinus grimaldii Olmi, 1995
(Plates 121, 122)


Description. Female (Plates 121, 122). Fully winged; length 4.4–6.4 mm. Colour not distinctly visible, apparently testaceous, except two dark lateral spots on sides of pronotal disc, scutum and propodeum, scutellum and tegula dark and one dark transverse band on metasoma. In paratype legs with dark spots on coxae and clubs of femora; scutum apparently without dark lateral spots. In specimen H-10–100 in GPJC, apparently scutum without lateral dark spots, scutellum not darkened, posterior surface of propodeum darkened. In specimen H-10–23C in GPJC, body totally testaceous, except petiole black and two brown spots on sides of scutum. Antenna 10-segmented, long
and very slender, filiform, not thickened distally, covered with dense and short hairs; antennal segments of holotype in following proportions: 10:5:44:57:38:21:9:9:9:17; antenna more than nine times as long as head: 219:22. Head slightly convex, apparently shiny, finely punctate, without apparent sculpture among punctures; clypeus and mandible not distinct; occipital carina apparently complete; occiput deeply excavated; eye normally bulging; POL = 2; OL = 1.5; OOL = 10; OPL = 1.5; TL = 5; greatest breadth of posterior ocelli longer than POL (4:2); frontal line absent. Maxillary palpi not completely visible, apparently 6-segmented. Labial palpi not distinct. Pronotum crossed by anterior strong transverse impression between anterior collar and disc; disc humped; posterior collar very short; pronotum apparently shiny, finely punctate, about as long as head; pronotal tubercle reaching tegula. Scutum apparently shiny, finely punctate, slightly shorter than pronotum (19:22). Notauli complete, posteriorly separated; minimum distance between notauli about as long as greatest breadth of posterior ocelli. In specimen H-10–100 in GPJC, notauli apparently almost complete, not reaching posterior margin of scutum. Scutellum with sculpture not distinctly visible, apparently shorter than scutum (10:19). Metanotum shorter than scutellum (6:10), with sculpture not distinctly visible. Propodeum longer than scutum (39:19), reticulate rugose, with areolae very broad; posterior surface with two complete longitudinal keels; sculpture of median area of posterior surface not distinctly visible. In specimen H-10–100 in GPJC, dorsal surface of propodeum with two median longitudinal and almost parallel keels. Shape of pronotum, scutum, scutellum, metanotum and propodeum usual for *Dryinus*. Fore wing hyaline, without dark transverse bands, with the usual venation of *Dryinus*; pterostigma narrow, much longer than broad (32:4); marginal cell apparently open; distal part of stigmal vein longer than proximal part (16:11); stigmal vein not S-shaped, forming angle between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing hyaline, without dark transverse bands. Fore leg segments in following proportions: 55 (coxa): 53 (trochanter): 61 (femur): 60 (tibia): 18 (tarsal segment 1): 5 (tarsal segment 2): 8 (tarsal segment 3): 55 (tarsal segment 4): 78 (tarsal segment 5); enlarged claw much shorter than protarsal segment 5 (42:78); protrochanter very

![PLATE 122. *Dryinus grimaldii*. Female H-10-100 in GPJC. A. Dorsal view. B. Lateral view. Length 6.4 mm.](image-url)
slender and long, with long and slender proximal stalk, broadened after half-way; protrochanter more than four times as long as broad (53:5); segments 2 and 3 of protarsus produced into hooks; rudimentary claw present; arolium much shorter than enlarged claw (8:42); enlarged claw with two strong subapical teeth and one row of eight lamellae; subapical teeth of enlarged claw very strong, similar to those of Plesiodryinus; distal apex of enlarged claw not spatulate. Segment 5 of protarsus with two rows of approximately 50 lamellae; distal apex with at least 20 lamellae (number of lamellae not distinct). Midleg segments in following proportions: 22 (coxa): 7 (trochanter): 41 (femur): 60 (tibia): 17 (tarsal segment 1): 15 (tarsal segment 2): 14 (tarsal segment 3): 15 (tarsal segment 4); mesotarsal segment 5 not distinct. Hind leg segments in following proportions: 27 (coxa): 11 (trochanter): 48 (femur): 80 (tibia); metatarsal segments not distinct in holotype; metatarsal segments of paratype in following proportions: 37 (tarsal segment 1): 19 (tarsal segment 2): 13 (tarsal segment 3): 10 (tarsal segment 4): 11 (tarsal segment 5). Metasoma without distinct and slender petiole. Shape and length of petiole usual for Dryinus. Shape, length and breadth of wings usual for Dryinus. Shape and morphology of body usual for Dryinus. Tibial spurs of holotype hardly visible, apparently 1, 1, 1; in specimen H-10–100 in GPJC, tibial spurs distinctly 1/1/2.

Male. Unknown.

Material examined. Types: ♀ holotype (DR-10–1426): DOMINICAN REPUBLIC: amber from an unknown mine (AMNH). Paratype: same locality label as holotype, 1 ♀ (DR-10–1423) (AMNH). Other material: DOMINICAN REPUBLIC: 3 ♀♂ from an unknown mine (“La Toca” or “Palo Alto”) (GPJC) (one of above specimens (H-10–100) was figured by Poinar & Poinar (1999, fig. 139)).

Hosts. Unknown.

Distribution. Dominican Republic (Miocene amber; 15–40 MYA).

40. Dryinus rasnitsyni Olmi & Guglielmino, 2011
(Plate 123)

Dryinus rasnitsyni Olmi & Guglielmino 2011: 511.

Description. Female (Plate 123). Fully winged; length 7.4 mm. Colour not distinctly visible, apparently brown, except head, palpi and chela partly testaceous. Antenna 10-segmented, long and very slender, slightly thickened distally, covered with dense and short hairs; antennal segments in following proportions: 20:8:28:27:35:39:28:19:15:13; antenna about five times as long as head: 90:18. Head partly damaged, because crashed, slightly convex, apparently dull, granulated; clypeus and mandible only partly visible in lateral view (number of teeth of mandible and anterior margin of clypeus not visible); occipital carina and occiput not distinct; eye normally bulging; ocelli only partly visible in lateral view (measures of POL, OL, OOL and OPL impossible); temple not distinct, because of crashed head; frontal line not visible. Palpal formula apparently 6/3. Pronotum only partly visible, because crashed, crossed by anterior strong transverse impression between anterior collar and disc; disc humped; posterior collar not visible; sculpture of pronotum not visible; pronotum crashed, apparently shorter than head (8:18); pronotal tubercle not visible. Scutum only visible in lateral view, with sculpture not distinct, apparently slightly longer than pronotum (9:8). Notauli not visible. Scutellum only visible in lateral view, with sculpture not visible, apparently shorter than scutellum (4:9). Metanotum about as long as scutellum, with sculpture not distinctly visible. Propodeum longer than scutum (15:9), only visible in lateral view; lateral regions of propodeum reticulate rugose; sculpture of rest of propodeum not visible; posterior surface not visible; dorsal surface of propodeum longer than posterior surface (10:5). Shape of pronotum, scutum, scutellum, metanotum and propodeum apparently usual for Dryinus. Fore wing completely slightly darkened, with usual venation of Dryinus; pterostigma narrow, much longer than broad (36:7); marginal cell open; distal part of stigmal vein longer than proximal part (34:18); stigmal vein very slightly S-shaped, forming angle between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing completely slightly darkened. Fore leg segments in following proportions: 29 (coxa): trochanter not visible: 57 (femur): 46 (tibia): 27 (tarsal segment 1): 5 (tarsal segment 2): 8 (tarsal segment 3): 26 (tarsal segment 4): 46 (tarsal segment 5): enlarged claw slightly shorter than protarsal segment 5 (42:46); protrochanter not visible; segments 2 and 3 of protarsus produced into hooks; rudimentary claw present; arolium much shorter than enlarged claw (6:42). Enlarged claw with large distal apex, spatulate; both chelae closed (lamellae and teeth not visible).

**Male.** Unknown.

**Material examined.** Type: ♀ holotype (Do-5741): DOMINICAN REPUBLIC: amber from an unknown mine (SMNS).

**Hosts.** Unknown.

**Distribution.** Dominican Republic (Miocene amber; 15–40 MYA).

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Group 4

Four Neotropical species are known (no fossil species).

Key to the species (females)

1. Fore wing hyaline, without dark transverse bands ......................................................... 2
   – Fore wing with dark transverse bands. ............................................................................. 3
2. Head reticulate rugose. .................................................................................................. \(D.\) autumnalis (Olmi)
   – Head sculptured by numerous longitudinal keels ....................................................... \(D.\) bolivianus (Olmi)
3. Pronotum black, except margins testaceous ................................................................. \(D.\) neotropicus (Olmi)
   – Pronotum completely or partly testaceous-reddish. .................................................. \(D.\) bicolor (Olmi)

1. \textit{Dryinus autumnalis} (Olmi, 1984)
(Plate 124A)


Description. Female. Fully winged; length 4.6 mm. Head black, except mandible and clypeus testaceous; antenna testaceous; mesosoma black, except disc and part of lateral regions of pronotum yellow-testaceous; metasoma black; legs testaceous. Antenna clavate; antennal segments in following proportions: 15:7:30:11:11:9:6:6:5:8. Head dull, completely reticulate rugose; frontal line complete; face with two incomplete lateral keels along orbits directed towards antennal toruli; occipital carina complete; POL = 3; OL = 3; OOL = 6; OPL = 2; temple absent. Pronotum dull, hairy, sculptured by numerous striae around disc, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar absent; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, completely reticulate rugose. Notauli absent. Propodeum with dorsal surface sculptured by strong parallel longitudinal keels; posterior surface with two longitudinal keels and lateral and median areas sculptured by numerous transverse keels, in addition to some areolae. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (16:14). Protarsal segments in following proportions: 27:3.5:7:8:14. Enlarged claw (Plate 124A) very reduced, about as long as arolium, without subapical teeth, lamellae or peg-like hairs. Segment 5 of protarsus (Plate 124A) with some rows of 18 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

\textit{Male}. Unknown.

Material examined. Type: \(♀\) holotype: TRINIDAD AND TOBAGO: Trinidad, Verdant Vale (USNM).

Hosts. Unknown.

Distribution. Trinidad and Tobago.

2. \textit{Dryinus bicolor} (Olmi, 1984)
(Plate 124B)


Description. Female. Fully winged; length 3.7–5.0 mm. Head black, except mandible and clypeus testaceous; antenna testaceous (third antennal segment usually whitish); pronotum testaceous-reddish, except anterior collar black; occasionally (in specimens from Costa Rica) prothorax totally testaceous-reddish; rest of mesosoma black; metasoma black; occasionally metasoma testaceous; legs testaceous, except stalk of metafemur black; occasionally meso- and metacoxa and clubs of hind femora partly black. Antenna clavate; antennal segments in following proportions: 14:6:29:13:9:8:6:5:4.5:8. Head hairy, dull, reticulate rugose and sculptured by few longitudinal keels; frontal line complete; occipital carina complete; temple absent; POL = 4.5; OL = 3; OOL = 5; OPL = 2.5.
Pronotum shiny, hairy, sculptured by numerous striae around disc, crossed by two transverse impressions, anterior one slight and posterior one strong; disc humped; posterior collar very short; pronotal tubercle not reaching tegula. Scutum, scutellum and metanotum dull, reticulate rugose. Notauli hardly visible, incomplete, reaching about 0.5 length of scutum. Propodeum with dorsal surface sculptured by numerous longitudinal keels; posterior surface reticulate rugose, with two longitudinal keels. Fore wing crossed by two dark transverse bands; distal part of stigmal vein about as long as proximal part. Proteral segments in following proportions: 27:4:9:6:15. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 124B) very reduced, about as long as arolium, without subapical teeth, lamellae or peg-like hairs. Segment 5 of protarsus (Plate 124B) with some rows of about 23 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

PLATE 124. Chelae of holotypes. A. Dryinus autumnalis. B. D. bicolor. C. D. bolivianus. D. D. neotropicus. Scale bar 0.19 mm for A, 0.25 mm for B, 0.23 mm for C, 0.20 mm for D.

Male. Unknown.

Material examined. Type: ♀ holotype: VENEZUELA: Carabobo, Puerto Cabello, San Estaban (AEIC). Other material: BRAZIL: Mato Grosso, Lavras, 9–18.I.1979 (CSU); Goiás, Alvorada do Norte, Fazenda Mattos, 8–12.VII.1991, S.T.P. Amarante & C.F. Martins leg., 1 ♀ (MZUS). COSTA RICA: Alajuela, 20 km S of Upala (DBUSU); Alajuela, Jabillos, 100 m (AMNH); Alajuela, Cord. Tilaran, Peñas Blancas, 700 m, VIII.1987, Malaise trap, Eladio Cruz leg., 3 ♀♀ (CNC, PMA); Cartago, Turrialba, IICA (BCUCB); Cartago, Tapanti National Park, 09°45'N 83°47'W, 1200–1500 m, 20.III–10.IV.2000, C. Hansson & D. Rubi leg., 1 ♀ (ZIL); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Heredia, Chilamate, 75 m (AMNH); Heredia, La Selva (AEIC); Heredia, near Puerto Viejo, La Selva Biological Reserve, 5–8.III.1984, Sydney A. Cameron leg. (NAMUK); Limón, Pandora, Estrella Valley (PMA); Limón, 4 km NE of Bribri, 50 m (EBUC); Limón, Tortuguero National Park, 0 m (AMNH); Puntarenas, 6 km S of San Vito de Jaba, Las Cruces, Jardín Botánico Wilson, 1200 m (AMNH); Puntarenas, Golfo Dulce Forest Reserve, 10 km W of Piedras Blancas, 100 m (AMNH); Puntarenas, Golfo Dulce Forest Reserve, 24 km W of Piedras Blancas, 200 m (AMNH). MEXICO: Chiapas, 16°58’N 91°47’W, 560 m, 28.X.1978 (CNC). PANAMA: Bocas del Toro, Wekso Teribe, 17–24.X.1999, 1 ♀ (MIGBF); Bocas del Toro, Humedales de San San Nat. Park, 25–28.X.1999, Malaise trap, A. Santos leg. (MIGBF); Chiriquí, Renacimiento, Bajo La Unión, 6.II.1994, yellow trap, A. Rodríguez leg. (MIGBF); Coclé, Omar Torrijos NaTional Park, 25–28.X.1999, 3 ♀♀ (MIGBF); Colón, near Barro Colorado Island, Agua Clara Bay, summer 1988, Derek Madden leg., 1 ♀ (CAS); Darién, Cara, 6–13.IV.1991, yellow trap, R. Cambra leg., 2 ♀♀ (MIGBF); Darién, Altos de Campana National Park, 10–14.VIII.1999, yellow trap, A. Santos & P. González leg. (MIGBF); Darién, P. Int. La Amistad, Weksos-Zeribe, 50 m, 17–24.X.1999, yellow trap, A. Santos leg. (MIGBF); Panamá, Camino Plantación en Soberania National Park, 25–29.VIII.1999, yellow trap, A. Santos & P. González leg. (MIGBF); Panamá, Soberania National Park, 3 km from Panamá, 19.V.1996, yellow trap, R. Cambra leg. (MIGBF); Veraguas, Santa Fé, Alto de Pietra, 23–24.III.1999, yellow trap, A. Santos & L. de Gracia leg. (MIGBF); Veraguas, 8 km W Santa Fé, 08°30.26’N 81°06.49’W, 870 m, 1–4.I.2001, YPT, forest, L. Masner leg., 1 ♀ (CNC); Veraguas, Elgoabal, 27.XI–1.XII.1991, yellow trap, I. Quezada leg. (MIGBF).
Hosts. Unknown.
Distribution. Brazil, Costa Rica, Mexico, Panama, Venezuela.

3. *Dryinus bolivianus* (Olmi, 1984)
(Plate 124C)

*Perodryinus bolivianus* Olmi 1984: 1041.

Description. **Female.** Fully winged; length 5.0–5.6 mm. Head black, except mandible testaceous; antenna brown-black, except segments 1–2 yellow; mesosoma black, except pronotum reddish; metasoma black; legs testaceous. Antenna clavate; antennal segments in following proportions: 32:15:62:30:25:21:16:15:11:21. Head swollen, dull, granulated and sculptured by numerous longitudinal keels; frontal line almost complete, not present shortly near clypeus; occipital carina complete; posterior ocelli not touching occipital carina; OPL shorter than OL; POL = OL; temple absent. Pronotum dull, hairy, sculptured by numerous slight striae around disc, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar absent. Scutum, scutellum and metanotum dull, completely reticulate rugose. Notauli hardly visible, incomplete, reaching about 0.5 length of scutum. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (17:14). Protarsal segment 1 about three times as long as segment 4 (24:8). Segment 3 of protarsus produced into hook. Enlarged claw (Plate 124C) very reduced, slightly longer than arolium, without subapical teeth, lamellae or peg-like hairs. Segment 5 of protarsus (Plate 124C) with some rows of about 29 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.


Hosts. Unknown.
Distribution. Brazil, Colombia.

(Plates 124D, 125)


Description. **Female** (Plate 125). Fully winged; length 4.4–4.7 mm. Head black, except mandible and clypeus yellow; antenna testaceous; mesosoma black, except posterior collar and lateral regions of pronotum reddish; metasoma brown-reddish; legs testaceous; occasionally legs brown, except metacoxa testaceous. Antenna clavate; antennal segments in following proportions: 12:5:22:10:7:6:5:4:5:4:7. Head swollen, hairy, dull, reticulate rugose; frontal line complete; occipital carina complete; posterior ocelli not touching occipital carina; POL = 13; OL = 9; OOL = 18; OPL = 7; greatest breadth of posterior ocelli about as long as OPL. Pronotum dull, hairy, sculptured by numerous slight striae around the disc, crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar absent; pronotal tubercle not reaching tegula. Scutum and scutellum dull, hairy, reticulate rugose. Notauli absent. Metanotum granulated. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing crossed by three dark transverse bands; distal part of stigmal vein longer than proximal part (15:10). Protarsal segment 1 more than three times as long as segment 4 (18:5). Segment 3 of protarsus produced into hook. Enlarged claw (Plate 124D) very reduced, about as long as arolium, without subapical teeth, lamellae or peg-like hairs. Segment 5 of protarsus (Plate 124D) with some rows of about 23 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

**Male.** Unknown.
PLATE 125. Holotype of *Dryinus neotropicus* in dorsal (A) and lateral (B) view. Length 4.5 mm.


**Hosts.** Unknown.

**Distribution.** Costa Rica, Honduras, Mexico, Panama, Trinidad and Tobago, Venezuela.

Species *incertae sedis*

This group includes three fossil species surely belonging to *Dryinus*. The specimens attributed to these species are not clearly visible in their amber pieces, so that it is not possible to include them in the previous four groups.
PLATE 126. Holotype of Dryinus palaeomexicanus in dorso-lateral view. Length 7.7 mm. From Olmi, 1995d.

1. Dryinus palaeomexicanus Olmi, 1995  
(Plate 126)


Description. Female (Plate 126). Fully winged; length 7.5 (specimen from Dominican Republic amber) –7.7 mm (holotype from Chiapas amber). Colour of holotype not distinctly visible, apparently black, except antenna and tarsi testaceous. In specimen from Dominican Republic amber antenna and tarsi brown. Antenna 10-segmented, long and very slender, slightly thickened distally; antennal hairs not distinctly visible in holotype (antenna partly hidden under air bubbles; in specimen from Dominican Republic amber antenna covered of dense and very short hairs); antennal segments of holotype in following proportions: 15:7:50:25:20:15:14:12:11:13; antenna less than four times as long as head: 182:47. Head excavated, dull, apparently rugose and with irregular longitudinal keels; sculpture of holotype only partly visible, because hidden under air bubbles; clypeus, mandible and occipital carina of holotype not distinct, because hidden under air bubbles (in specimen from Dominican Republic amber occipital carina complete); temple short; occiput excavated; frontal line apparently present, visible only in front of anterior ocellus (anterior surface of face of holotype hidden under air bubbles); posterior ocelli of holotype hidden under air bubbles (in specimen from Dominican Republic amber posterior ocelli distinct, not touching occipital carina (OPL about as long a TL). Maxillary palpi apparently 6-segmented. Labial palpi apparently 3-segmented. Pronotum crossed by anterior strong transverse impression between anterior collar and disc; disc humped; posterior collar very short; pronotum slightly shorter than head (40:47), longer than scutum (40:34); sculpture of pronotum of holotype not visible, because hidden under air bubbles (in specimen from Dominican Republic amber pronotum punctate, unsculptured among punctures, except few longitudinal striae on lateral regions); pronotal tubercle not distinctly visible, apparently reaching tegula (in specimen from Dominican Republic amber pronotal tubercle distinctly not reaching tegula). Scutum dull, apparently granulated and sculptured by numerous parallel longitudinal keels. Notauli not visible, because confused among longitudinal keels. Scutellum shorter than scutum.
(13:34) and slightly longer than metanotum (13:11). Sculpture of scutellum and metanotum not distinctly visible because hidden under air bubbles. Propodeum longer than scutum (50:34); dorsal surface distinctly reticulate, slightly longer than posterior surface (30:24); posterior surface not visible. Mesopleuron and metapleuron dull, apparently granulated and rugose. Shape of pronotum, scutum, scutellum, metanotum and propodeum usual for Dryinus. Fore wing crossed by two dark transverse bands, with usual venation of Dryinus; pterostigma long and narrow, much longer than broad (52:5); marginal cell open; distal part of stigmal vein longer than proximal part (18:12); stigmal vein slightly S-shaped, forming angle between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing hyaline, without dark transverse bands. Fore leg segments in following proportions: 47 (coxa): 40 (trochanter): 90 (femur): 81 (tibia): 30 (tarsal segment 1): 33 (tarsal segment 5) (protarsal segments 2–4 not distinctly visible); enlarged claw not distinctly visible, shorter than protarsal segment 5 (30:33); in holotype, inner side of enlarged claw and protarsal segment 5 is not visible (chela closed); in specimen from Dominican Republic amber both chelae closed, but inner side of enlarged claw with one very long row of lamellae (distal apex not visible); subapical teeth of enlarged claw not visible; inner side of segment 5 of protarsus with many proximal, medial and distal lamellae (number of rows of lamellae not distinct); arolium and rudimentary claw not visible in holotype, distinct in specimen from Dominican Republic amber. Protrochanter slender and long, more than three times as long as broad (40:12). Midleg segments in following proportions: 27 (coxa): 11 (trochanter): 60 (femur): 54 (tibia); mesotarsal segments not distinctly visible, because hidden under air bubbles. Hind leg segments in following proportions: 36 (coxa): 18 (trochanter): 71 (femur): 85 (tibia): 47 (tarsal segment 1): 24 (tarsal segment 2); metatarsal segments 3–5 not distinctly visible. Metasoma without distinct and slender petiole. Shape, length and breadth of wings usual for Dryinus. Shape and morphology of body usual for Dryinus. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype (J 35): MEXICO: amber of Chiapas from an unknown mine (AMNH).

Other material: DOMINICAN REPUBLIC: amber from an unknown mine, 1 ♀ (SMNS (Mx-442)).

Hosts. Unknown.

Distribution. Dominican Republic, Mexico.

Remarks. Only known from Oligo-Miocene amber from Dominican Republic (15–40 MYA) and from Mexico, Chiapas (22–26 MYA). D. palaeomexicanus is the only fossil dryinid found in Mexican amber.

2. Dryinus poinari Olmi, 1998

(Plate 127)


Description. Female (Plate 127). Fully winged; length 6.0 mm. Colour apparently black, except mandible testaceous; antenna brown, except segments 5–10 testaceous; legs brown, except protarsal segments 2–5, mesotarsal segments 3–5 and metatarsal segments 4–5 testaceous. Antenna 10-segmented, long and slender; antennal segments in following proportions: 12:7:34:14:11:9:9:8.5:7.5:10; antenna much longer than head: 122:31. Head flat, apparently dull, apparently granulated; clypeus anteriorly slightly emarginated, posteriorly touching antennal toruli; mandible apparently tridentate; occipital carina complete; occiput excavated; eyes normally bulging; POL = 4.5; OL = 3; OOL = 8.5; OPL = 2; TL = 4.5; temple prominent; posterior margin of head in dorsal view slightly concave; frontal line apparently absent. Maxillary palpi apparently 6-segmented. Labial palpi apparently 3-segmented. Propleuron very long. Pronotum crossed by anterior slight transverse impression between anterior collar and disc; disc humped; posterior collar short; pronotum apparently dull, as sculptured as head, longer than head (41:31); pronotal hairs not visible; pronotal tubercle reaching tegula. Scutum dull, apparently granulated, shorter than pronotum (22:41), longer than scutellum (22:10). Notauli apparently incomplete, reaching about 0.6 length of scutum. Scutellum and metanotum dull, apparently granulated. Metanotum shorter than scutellum (5:10). Propodeum apparently reticulate rugose, without transverse or longitudinal keels; propodeum longer than scutum (35:22), with dorsal surface longer than posterior surface (28:8). Hairs of scutum, scutellum, metanotum and propodeum not visible. Shape of head, pronotum, scutum, scutellum, metanotum and propodeum usual for Dryinus. Fore wing of only known specimen partly broken; remaining parts apparently darkened;
pterostigma and stigmal vein not visible; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing apparently hyaline, not darkened. Fore leg segments in following proportions: 25 (coxa): 24 (trochanter): 46 (femur): 44 (tibia): 26 (tarsal segment 1): 4 (tarsal segment 2): 6 (tarsal segment 3): 15 (tarsal segment 4): 23 (tarsal segment 5); enlarged claw about as long as protarsal segment 5 (22:23); protrochanter slender and long, with long and slender proximal stalk, broadened after half-way; protrochanter more than three times as long as broad (24:7); segment 3 of protarsus produced into hook; rudimentary claw present; arolium much shorter than enlarged claw (5:22); distal apex of enlarged claw not visible; subapical teeth not visible; inner side of enlarged claw apparently without lamellae. Segment 5 of protarsus apparently with group of distal lamellae and some medial lamellae (number of lamellae and number of rows not visible). Midleg segments in following proportions: 20 (coxa): 6 (trochanter): 32 (femur): 46 (tibia): 27 (tarsal segment 1): 12 (tarsal segment 2): 8 (tarsal segment 3): 5 (tarsal segment 4): 9 (tarsal segment 5). Hind leg segments in following proportions (coxa and trochanter not visible): 42 (femur): 46 (tibia): 27 (tarsal segment 1): 16 (tarsal segment 2): 12 (tarsal segment 3): 5.5 (tarsal segment 4): 10 (tarsal segment 5). Metasoma without distinct and slender petiole. Shape, length and breadth of wings usual for Dryinus. Shape and morphology of body usual for Dryinus. Tibial spurs 1/1/2.

Male. Unknown.

Material examined. Type: ♀ holotype (H-10–23 F): DOMINICAN REPUBLIC: amber from an unknown mine (“La Toca” or “Palo Alto”) (GPJC).

Hosts. Unknown.

Distribution. Dominican Republic (Miocene amber; 15–40 MYA).

PLATE 127. Holotype of Dryinus poinari in dorsal (A) and ventral (B) view. Length 6.0 mm.
PLATE 128. Holotype of *Dryinus vetustus*. Length 2.5 mm. From Olmi, 1995d.

3. *Dryinus vetustus* Olmi, 1995
(Plate 128)


**Description.** Female (Plate 128). Fully winged; length 2.5 mm. Colour not distinctly visible, apparently brown. Antenna 10-segmented, long and slender, thickened distally; antennal hairs not visible; antennal segments in following proportions: 7:4:10:5:7:5:6:4:7; antenna more than twice as long as head: 62:25. Head not distinctly visible, apparently dull; sculpture of head not distinctly visible; TL = 4; ocelli not distinctly visible; frontal line, clypeus and mandible not distinctly visible; occipital carina not distinctly visible, apparently present in dorsal side of head; occiput deeply excavated; eye normally bulging. Maxillary and labial palpi not visible. Pronotum with sculpture not distinctly visible, crossed by anterior slight transverse impression between anterior collar and disc; disc humped; pronotal tubercle apparently not reaching tegula. Pronotum slightly longer than head (26:25). Scutum, scutellum, metanotum and propodeum not distinctly visible. Scutum + scutellum + metanotum + propodeum much longer than pronotum (42:26). Mesosoma shape usual for *Dryinus*. Fore wing not distinctly visible; pterostigma narrow, much longer than broad (20:4); marginal cell open; distal part of stigmal vein longer than proximal part (13:9); stigmal vein not S-shaped, forming angle between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing not visible. Fore leg segments in following proportions: 20 (coxa): 12 (trochanter): 17 (femur): 23 (tibia); Protarsal segments not distinctly visible; arolium much shorter than enlarged claw; enlarged claw and protarsal segment 5 not distinctly visible (apparently with rows of lamellae); rudimentary claw present; distal apex of enlarged claw not distinctly visible; apparently distal apex of protarsal segment 5 with group of many lamellae. Midleg segments in following proportions: 11 (coxa): 3 (trochanter): 16 (femur): 22 (tibia); mesotarsal segments not visible. Hind leg segments in following proportions: 15 (coxa): 5 (trochanter): 22 (femur): 27 (tibia): 16 (tarsal segment 1): 6 (tarsal

Male. Unknown.

Material examined. Type: ♀ holotype (DR-10–1424): DOMINICAN REPUBLIC: amber from an unknown mine (AMNH).

Hosts. Unknown.

Distribution. Dominican Republic (Miocene amber; 15–40 MYA).


Type species. Gonadryinus hansoni Olmi 1991, by monotypy and original designation.

Diagnosis. Female (Plate 129A, B): macropterous (Plate 129A, B); fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 129A, B); protarsus chelate (Plate 129A, B); chela with rudimentary claw (Plate 129C); segment 5 of protarsus less than twice as broad as enlarged claw (Plate 129C); enlarged claw much longer than protibia, without subapical teeth (Plate 129C); antennae without tufts of long hairs on segments 5–10 (Plate 129A, B); palpal formula 4/2 (Plate 129D, E); mandible with four teeth progressing larger from anterior one to posterior (Plate 129F); tibial spurs 1/1/2.

Male: Unknown.

Distribution. Neotropical.

Hosts. Unknown.

World species. Type species only.

(Plate 129)


Description. Female (Plate 129A, B). Fully winged; length 3.7–5.0 mm. Testaceous, except petiole black and eye grey or black; occasionally propodeum, metasoma, metanotum, scutellum and lateral regions of scutum darkened; in specimen from French Guiana, Relais Patawa, scutellum black. Antenna slightly clavate, without tufts of long hairs, slightly shorter than body (4.37:5); antennal segments of holotype in following proportions: 10:7:50:30:13:9:7:11; rhinaria present in antennal segments 5–10. In other specimen, antennal segments in following proportions: 8:4:39:36:25:10:8:7:7:10. Head slightly swollen, shiny, smooth, very slightly granulated or unsculptured; frontal line absent; occipital carina absent in holotype (in specimens from French Guiana, Relais Patawa, and Ecuador, 00°37.55’S 76°08.39’W, occipital carina incomplete and only present behind ocellar triangle; POL = 3; OL = 4.5; OOL = 6.5; temple distinct, short; greatest breadth of posterior ocelli longer than POL (4:3). Occasionally POL = 2; OL = 4; OOL = 6. Palpal formula 4/2 (Plate 129D, E). Pronotum shiny, smooth, hairy, unsculptured, with some irregular keels on lateral regions; pronotum crossed by two strong transverse impressions; disc humped; posterior collar short; pronotal tubercle not reaching tegula. Scutum shiny, smooth, very slightly granulated. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (9:4). Occasionally notauli incomplete, reaching about 0.5–0.7 length of scutum. Scutellum shiny, smooth, slightly granulated or unsculptured. Metanotum humped, shiny, smooth, unsculptured. Propodeum dull, completely reticulate rugose; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (26:12 in holotype; 20:10 in other specimen); marginal cell open. Protarsal segments in following proportions: 28:4:9:21:35. Fore leg with following proportions: 40 (coxae): 35 (trochanters): 52 (femora): 45 (tibiae): 32 (enlarged claw). Enlarged claw (Plate 129C) without teeth, with one row of about 11–15 lamellae, among which two distal longer lamellae. Segment 5 of protarsus (Plate 129C) with one row of about 13–16 lamellae (occasionally with two rows of 1 + 13 lamellae); distal apex with about 7–19 lamellae. Tibial spurs 1/1/2.
Male. Unknown.


Hosts. Unknown.

Distribution. Colombia, Costa Rica, Ecuador, French Guiana, Panama.
Distinctly enclosed by pigmented veins and with distal part of stigmal vein much longer than proximal part (Plates 130B, 132B); protrochanter more than twice as long as broad; protarsus chelate (Plates 130, 132); rudimentary claw present (Plates 131B, 132C); enlarged claw as long as, or shorter than protibia, with two subapical teeth (Plates 131B, 132C); segment 5 of protarsus less than twice as broad as enlarged claw (Plates 131B, 132C); tibial spurs 1/1.

**Male**: Unknown.

**Distribution.** Palaeartic, Neotropical.

**Hosts.** Unknown.

**World species.** Five fossil species are known, two in the Neotropical region.

**Remarks.** Harpactosphecion is a genus-group name of Greek origin. According to ICZN (1999, Art. 30, a, i), a genus-group name that ends in a Greek word takes the gender given for that word in the standard Greek dictionaries. In this case, the Greek suffix is –sphecion, a word of neuter gender, so that Harpactosphecion is a neuter word and the species included in this genus have the same gender. On the other hand, Haupt (1944) did not state otherwise in the original description.

**Key to the species (females)**

1. Segment 4 of protarsus at most twice as long as segment 1 (Plate 132A, B).
   - Segment 4 of protarsus more than twice as long as segment 1 (Plate 131A, B).  
   
   1. *Harpactosphecion scheveni* Olmi, 2005  
   (Plates 130, 131)


   **Description.** Female (Plates 130, 131). Fully winged; length 5.1–5.5 mm. Head apparently grey, except anterior surface of face and clypeus testaceous; mesosoma, metasoma and legs grey. Antenna 10-segmented, very slender, more than five times as long as head (approximately 179:30 in holotype; antenna of holotype in following proportions: 14:5:38:51:27:20:11:7:6:9. Head dull, apparently reticulate rugose and bare, dorsally convex. Clypeus with anterior margin rounded, not emarginated; epistomal suture running near antennal toruli; mandible quadridentate, with teeth progressing larger from anterior one to posterior; occipital carina apparently complete; occiput deeply excavated; eye normally bulging, apparently bare in holotype; ocellar triangle of holotype, paratype and specimen in SMNS partly visible (POL, OOL and OPL not visible); temple distinct, longer than OL (6:3); frontal line complete; malar space apparently bare and crossed by complete subocular sulcus. Labial palpi not visible in holotype; maxillary palpi of holotype 5-segmented. Pronotum apparently bare, crossed by anterior strong transverse impression between anterior collar and disc; disc slightly humped; posterior collar short; sculpture or pronotum not visible; pronotum apparently shorter than head (25:30 in the holotype), longer than scutum (25:20); pronotal tubercle reaching tegula. Sculpture of scutum, scutellum and metanotum not visible. Notauli not visible in type series. In specimen in SMNS notauli distinct, complete and posteriorly separated; minimum distance between notauli much shorter than enlarged claw (3:45). Scutellum shorter than scutum (12:20), longer than metanotum (12:8). Propodeum longer than pronotum (41:25), dull, reticulate rugose; propodeal areolae very broad; posterior surface with two complete longitudinal keels and median area with sculpture not visible. Shape of pronotum, scutum, scutellum, metanotum and propodeum usual for Dryininae. Fore and hind wings apparently hyaline, without dark transverse bands or spots. Fore wing with usual venation of Dryininae; pterostigma narrow, much longer than broad (19:2). Marginal cell apparently closed in holotype. Distal part of stigmal vein much longer than proximal part (30:13); stigmal vein not S-shaped, forming curve between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing shape usual for Dryininae. Fore leg segments in following proportions: 47 (coxa): 39 (trochanter): 60 (femur): 58 (tibia): 14 (tarsal segment 1): 4.5 (tarsal segment 2): 10 (tarsal segment 3): 38 (tarsal segment 4): 60 (tarsal segment 5).
PLATE 130. Holotype of Harpactosphecion scheveni. Length 5.5 mm. A. Lateral view. B. Detail of fore wing.

PLATE 131. Holotype of Harpactosphecion scheveni. A. Fore leg. B. Chela. Length of enlarged claw 0.5 mm.


Male. Unknown.

Material examined. Types: ♀ holotype: DOMINICAN REPUBLIC: amber from an unknown mine (MOLC). Paratype: same locality label as holotype, 1 ♀ (MOLC). Other material: same locality label as holotype, 1 ♀ (Do-5730) (SMNS).

Hosts. Unknown.

Distribution. Dominican Republic (Miocene amber; 15–40 MYA).
2. *Harpactosphecion sucinum* (Olmi, 1987)  
(Plate 132)

*Alphadryinus sucinus* Olmi 1987b: 220.  
*Dryinus sucinus* (Olmi); Olmi 1995d: 268.  
*Pseudodryinus sucinus* (Olmi); Olmi 1998e: 160.  
*Harpactosphecion sucinum* (Olmi); Olmi et al. 2000: 152.  
*Harpactosphecion sucinum* (Olmi); Olmi & Bechly 2001: 54; Perez-Gelabert 2008: 230.

**Description.** Female (Plate 132). Fully winged; length 4.9–5.6 mm. Head apparently grey, probably testaceous; anterior surface of face and clypeus testaceous; mesosoma, metasoma and legs grey, except tarsi partly testaceous. Antennae of holotype not completely visible (only segments 1–3 visible); antennal segments 1–3 of holotype in following proportions: 8:5:51. Antennal segments of other specimens (in AMNH) in following proportions: 11:6:66:64:37:19:10:6:5:9; antenna 10-segmented. Antenna finely and shortly hairy, very slender, more than five times as long as head (approximately 110:14 in holotype; 81:14 in other specimen in AMNH. Head dull, granulated, hairy, dorsally convex, with tracks of irregular keels. Clypeus of holotype not visible; clypeus of other specimen in AMNH with anterior margin rounded, not emarginated; epistomal suture running close to antennal toruli; teeth of mandible not completely visible (number of teeth not distinct); occipital carina complete, laterally not reaching eyes; occiput deeply excavated; eye normally bulging, apparently bare in holotype and finely and shortly hairy in other specimen in AMNH; ocellus distinctly visible; POL = 4; OL = 4; OOL = 9; OPL = 5; TL = 6; frontal line complete; malar space not visible in holotype, visible and showing complete subocular sulcus in other specimen (in AMNH). Labial palp not visible in holotype; maxillary palp of holotype 6-segmented. Palpal formula 5/3 in other specimens in AMNH. Pronotum finely and shortly hairy, crossed by anterior strong transverse impression between anterior collar and disc; disc slightly humped; posterior collar very short; pronotum dull, granulated, slightly longer than head (30:28 in holotype); sides of pronotum contracted at posterior margin; pronotal tubercle reaching tegula. Scutum dull, hairy, apparently granulated. Notauli of holotype complete and posteriorly separated. Notauli of specimen in SMNS almost complete, not reaching posterior margin of scutum. Epicnemium distinct. Scutellum and metanotum slightly visible, apparently smooth. Propodeum dull, reticulate rugose; propodeal areola very broad; posterior surface with two complete longitudinal keels and median area as rugose as lateral areas. Shape of pronotum, scutum, scutellum, metanotum and propodeum usual for Dryininae. Fore and hind wings apparently hyaline, without dark transverse bands or spots in holotype and in specimen in AMNH; fore and hind wings apparently totally darkened in other specimen in AMNH. Fore wing with usual venation of Dryininae; pterostigma narrow, much longer than broad (27:4). Marginal cell apparently closed in holotype, open in other specimens in AMNH (distal part of stigmal vein less thick near wing margin). Distal part of stigmal vein much longer than proximal part (45:9 in holotype; 35:12 in other specimen with marginal cell apparently open); stigmal vein not S-shaped, forming angle between proximal and distal parts; fore wing with usual three basal cells clearly enclosed by pigmented veins (costal, median and submedian cells). Hind wing shape usual for Dryininae. Fore leg segments of holotype in following proportions: 36 (coxa): 40 (trochanter): 50 (femur): 48 (tibia): 15 (tarsal segment 1): 4 (tarsal segment 2): 6 (tarsal segment 3): 20 (tarsal segment 4): 35 (tarsal segment 5). In a specimen in SMNS protarsal segment 1 longer than segment 4 (33:18). Enlarged claw shorter than protarsal segment 5 (21:30). Protrochanter slender and long, very curved, with long proximal stalk, broadened more distally than half-way; protrochanter more than four times as long as broad (40:4). Segments 2 and 3 of protarsus produced into hooks. Rudimentary claw present. Arolium much shorter than enlarged claw (9:43). Enlarged claw with two subapical teeth and one row of long lamellae (not completely visible in holotype, at least six); subapical teeth of enlarged claw large, long and pointed. Distal apex of enlarged claw not spatulate. Segment 5 of protarsus with two rows of lamellae (not completely visible in holotype, each row being composed of at least eight lamellae; in specimen in SMNS one row composed of 19 lamellae); distal apex with group of at least 20 lamellae. Midleg segments in following proportions: 15 (coxa): 5 (trochanter): 32 (femur): 42 (tibia): 27 (tarsal segment 1): 13 (tarsal segment 2): 9 (tarsal segment 3): 5 (tarsal segment 4): 5 (tarsal segment 5). Hind leg segments in following proportions: 21 (coxa): 9 (trochanter): 46 (femur): 65 (tibia): 24 (tarsal segment 1): 13 (tarsal segment 2): 10 (tarsal segment 3): 5 (tarsal segment 4): 8 (tarsal segment 5). Petiole much shorter than metasoma (5:43). Metasoma longer than mesosoma (43:30). Length and breadth of wings usual for Dryininae. Shape and morphology of body usual for Dryininae. Tibial spurs 1/1/2.
Male. Unknown.

**Material examined.** **Type:** ♀ holotype: DOMINICAN REPUBLIC: amber from an unknown mine (MRSNT).

**Other material:** same locality label as holotype, 2♀ (DR-14-1032 and DR-14-1033) (AMNH), 1♀ (H-10-100B) (GPJC), 3♀ (Do-4494-M; Do-5731; Do-5732) (SMNS), 1♀ (JSC), 1♀ (MOLC).

**Hosts.** Unknown.

**Distribution.** Dominican Republic (Miocene amber; 15–40 MYA).

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**PLATE 132.** Holotype of *Harpactosphecion sucinum* Length 5.6 mm. From Olmi, 1987b. A. lateral view. B. Dorsal view. C. Detail of the chelae.

12. **Genus Megadryinus** Richards, 1953


**Type species.** *Megadryinus magnificus* Richards 1953, by original desigation.

**Diagnosis.** Female (Plate 133): macropterous (Plate 133); palpal formula 6/3; antenna with rhinaria, without tufts of long hairs on segments 5–10 (Plate 133); fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 133); protarsus chelate (Plate 133); chela with rudimentary claw (Plate 134); segment 5 of protarsus less than twice as broad as enlarged claw (Plate 134); enlarged claw much or slightly longer than protibia (Plate 133); tibial spurs 1/1/2.

Male: Unknown.

**Distribution.** Neotropical.

**Hosts.** Flatidae (Guglielmino & Olmi 1997).

**World species.** Three species are known, all in the Neotropical region.

**Key to the species (females)**

1. Occipital carina incomplete, absent on temples; enlarged claw slightly longer than protibia ........................................... .......................... M. cacoonis Olmi & Virla sp. nov.
   – Occipital carina complete; enlarged claw at least 1.5 times as long as protibia ................................................................. 2
2. Enlarged claw without subapical teeth (Plate 134B), more than three times as long as protibia (Plate 133) ................................ M. magnificus Richards
   – Enlarged claw with two subapical teeth (Plate 134C), less than twice as long as protibia ................................................. M. pulawskii Olmi

PLATE 134. Chelae of holotypes. A. *Megadryinus cacaonis*. B. *M. magnificus*. C. *M. pulawskii*. Scale bar 1.1 mm for A, 1.5 mm for B, 1.8 mm for C.

1. *Megadryinus cacaonis* Olmi & Virla, sp. nov.  
(Plate 134A)

**Description. Female.** Fully winged; length 8.5 mm. Head black, except mandible, clypeus, gena and anterior margin of face testaceous-rust-coloured; antennae broken, with segments 1–2 and 4–6 testaceous, 3 darkened (other segments missing); mesosoma black, except lateral regions of pronotum testaceous; metasoma brown; fore leg testaceous, except coxa and trochanter black and articulation between coxa and trochanter whitish; mid- and hind leg black, except tibiae and tarsi brown. Antennae clavate; antennal segments 1–6 in following proportions: 27:8:70:27:23:16 (segments 7–10 missing). Head dull, hairy, flat, reticulate rugose; frontal line complete; occipital carina incomplete, laterally not touching eyes, shortly not present on temples; POL = 9; OL = 4; OOL = 11; OPL = 1; greatest breadth of posterior ocellus much longer than OPL (5:1); temple absent. Pronotum shiny, hairy, with anterior collar long, sculptured by numerous transverse striae, and disc raised into longitudinal median carina, with
numerous fine striae around disc; pronotum crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar very short; pronotal tubercle not reaching tegula. Scutum dull, completely reticulate rugose. Notauli absent. Scutellum rugose and sculptured by many subparallel longitudinal keels. Metanotum reticulate rugose. Propodeum without transverse keel between dorsal and posterior surface; dorsal surface sculptured by parallel longitudinal keels; posterior surface reticulate rugose. Fore wing with one dark transverse band beneath pterostigma and one small dark spot on basal cells; distal part of stigmal vein slightly longer than proximal part (22:20). Protarsal segments in following proportions: 24:8:18:34:82. Protarsal segment 1 produced into hook. Enlarged claw (Plate 134A) slightly longer than protibia (30:22), with two subapical teeth and one row of about 33 lamellae. Segment 5 of protarsus (Plate 134A) with two rows of about 46 lamellae; distal apex with about 40 lamellae. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil.

Etymology. The species is named after the latinization of cocoa: cacaonis.

2. *Megadryinus magnificus* Richards, 1953
(Plates 133, 134B)


Description. Female (Plate 133). Fully winged; length 10.9 mm. Head black, except mandible, clypeus and anterior region of face yellow-reddish; antenna brown, except segments 1–3 testaceous-reddish; mesosoma black, except lateral margins of pronotum reddish; tegula yellow; metasoma brown-black; fore leg black, except tarsi brownish and femora and tibiae reddish; mid- and hind leg brown-black. Antennae clavate; antennal segments in following proportions: 22:6:7:10. Head shiny, hairy, completely reticulate rugose; frontal line complete; occipital carina complete; POL = 26; OL = 17; OOL = 35; OPL = 7; greatest breadth of posterior ocelli longer than OPL (12:7). Pronotum shiny, humped, with numerous slight longitudinal keels, with lateral regions unsculptured, not crossed by transverse impressions. Scutum hairy, completely reticulate rugose. Notauli absent. Scutellum and metanotum reticulate rugose. Propodeum completely reticulate rugose; dorsal surface about as long as posterior surface; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part. Protarsal segment 1 shorter than segment 4 (18:28). Protarsal segments 2 and 3 produced into hooks. Enlarged claw (Plate 134B) about three times as long as protibia, without subapical teeth, spatulate at distal apex, with one row of about 80 peg-like hairs. Segment 5 of protarsus (Plate 134B) with two rows of about 170 lamellae; distal apex with about 26 lamellae located around distal apex. Tibial spurs 1/1/2.

Male. Unknown.


Distribution. Trinidad and Tobago.

3. *Megadryinus pulawskii* Olmi, 1993
(Plate 134C)


Description. Female. Fully winged; length 6.1–9.2 mm. Head black, except mandible, clypeus, malar space and small area of face near clypeus testaceous-rust-coloured (in specimen from Argentina, Monte Carlo, gena and face
totally black); antenna brown, except segments 1–2 testaceous (in specimen from Argentina, Monte Carlo, antenna testaceous, except segment 3 darkened); mesosoma black, except lateral regions of pronotum testaceous; metasoma black, except sting testaceous; legs black, except articulations and part of chela testaceous (in specimen from Argentina, Monte Carlo, fore leg testaceous, except part of coxa and trochanter brown; mid- and hind leg black, except tarsi testaceous). Antennae clavate; antennal segments in following proportions: 26:8:77:24:21:14:11:10:8:12; rhinaria present in antennal segments 5–10. Head shiny, flat, reticulate rugose; frontal line complete; occipital carina complete, laterally not touching eyes; POL = 8; OL = 3; OOL = 11; OPL = 1; temple absent. Pronotum shiny, hairy, with anterior collar long, sculptured by numerous transverse striae, and disc unsculptured, smooth, raised into longitudinal median carina (in specimen from Argentina, Monte Carlo, pronotum sculptured by fine striae around disc); pronotum crossed by two transverse impressions, anterior one slight and posterior one strong; posterior collar very short; pronotal tubercle not reaching tegula. Scutum shiny, completely reticulate rugose. Notauli absent. Scutellum and metanotum reticulate rugose. Propodeum with transverse keel between dorsal and posterior surface (keel hardly visible in specimen from Argentina, Monte Carlo); dorsal surface short, almost completely sculptured by parallel longitudinal keels; posterior surface reticulate rugose, with two longitudinal keels and median area sculptured by areolae smaller than those of lateral areas. Fore wing with one dark transverse band beneath pterostigma and one small dark spot on basal cells (basal spot absent in specimen from Argentina, Monte Carlo); distal part of stigma vein longer than proximal part (25:17 in holotype; 20:19 in specimen from Argentina, Monte Carlo). Protarsal segment 1 produced into proximal hook located close to articulation with tibia; protarsal segments of holotype in following proportions: 25:6:16:33:85. Protarsal segments of specimen from Argentina, Monte Carlo, in following proportions: 23:6:17:36:82. Enlarged claw (Plate 134C) less than twice as long as protibia (91:58 in specimen from Argentina, Monte Carlo), with two subapical teeth and one row of about 22–28 lamellae. Segment 5 of protarsus (Plate 134C) with two rows of about 51 lamellae; distal apex with about 22 lamellae located around distal apex. Tibial spurs 1/1/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, Ecuador, Peru.


Type species. *Thaumatodryinus koebelei* R. Perkins 1905, by original designation.

Diagnosis. Female (Plate 135): macropterous (Plate 135); mandible with four teeth progressing larger from anterior one to posterior (Plate 6A); occipital carina complete; palpal formula 6/3; antenna without rhinaria, with tufts of long hairs (“tiloïdes” of Benoit 1954) on segments 5–10 (segment 10 with two tufts) (Plate 135); pronotal tubercle reaching tegula; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 135); usually in fore wing also first brachial cell completely enclosed by pigmented veins; protarsus chelate (Plate 135); chela with rudimentary claw (Plate 137B, C); tibial spurs 1/1/2.

Male (Plate 136): macropterous (Plate 136); mandible usually with four teeth progressing larger from anterior one to posterior (Plate 6A); occasionally mandible with four teeth of different length; never quadridentate mandible with one intermediate rudimentary tooth; occipital carina complete; palpal formula 6/3; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plate 136); fore wing with metacarpus as long as, or longer than pterostigma (Plate 136); notauli usually complete and always separated at posterior margin of scutum; minimum distance between notauli as long as, or longer than greatest breadth of posterior ocelli (Plate 136A); notauli rarely incomplete; paramere without inner branch wrapping penis (Plate 137A, E, 138A); tibial spurs 1/1/2.

Dryinidae of the Neotropical Region

Zootaxa 3792 (1) © 2014 Magnolia Press · 325
**Distribution.** Worldwide, except Palaearctic region. Brues (1923, 1933) described three fossil species of *Thaumatodryinus* from Baltic amber; they are now attributed to *Harpactosphecion* Haupt.

**Hosts.** Flatidae (Guglielmino & Olmi 1997).

**World species.** Thirty-one species are known, eight in the Neotropical region.

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**PLATE 135.** Female of *Thaumatodryinus* sp. A. Dorsal view (from Xu et al., 2013). Length 3.5 mm. B. Lateral view (from Olmi, 1984). Length 6.5 mm.

**PLATE 136.** Male of *Thaumatodryinus* sp. A. Dorsal view (from Xu et al., 2013). Length 2.9 mm. B. Lateral view (from Olmi, 1984). Length 1.6 mm.
Extant Neotropical species

Seven extant species are known.

Key to the extant species

Females

1. Notauli complete .............................................. 2
   – Notauli incomplete or absent .............................................. 5
2. Antennal segment 3 less than 1.33 times as long as segment 1 .............................................. 3
   – Antennal segment 3 at least 1.33 times as long as segment 1 .............................................. 4
3. Mesosoma mostly black .............................................. Th. minimus Olmi
   – Mesosoma mostly testaceous .............................................. Th. clarus Olmi
4. Head with POL approximately as long as greatest breadth of posterior ocelli . . . Th. variegatus De Santis & Vidal Sarmiento
   – Head with POL approximately two–three times as long as greatest breadth of posterior ocelli. Th. macilentus De Santis & Vidal Sarmiento
5. Antenna very short, slender, approximately as long as head + mesosoma. Th. snellingi Olmi
   – Antenna very long, slenderer, at least 1.5 times as long as head + mesosoma .............................................. 6
6. Head almost totally black or brown-black .............................................. Th. macilentus De Santis & Vidal Sarmiento
   – Head totally testaceous, or reddish, or testaceous-reddish .............................................. Th. clarus Olmi
7. Ocellar triangle very swollen; greatest breadth of anterior ocellus more than twice as long as OL .............................................. Th. bruchi De Santis & Vidal Sarmiento
   – Ocellar triangle less swollen; greatest breadth of anterior ocellus as long as, or shorter, or less than twice as long as OL .............................................. Th. rufus Richards
   – Notauli complete .............................................. 2
   – Distal apex of paramere broad (Plate 137E) .............................................. Th. clarus Olmi
   – Distal apex of paramere narrow and curved towards penis (Plate 139D) .............................................. Th. snellingi Olmi

Males (unknown in the species not present in the key to the males)

1. Fourth antennal segment less than 1.5 times as long as segment 3. Th. bruchi De Santis & Vidal Sarmiento
   – Fourth antennal segment 1.5 times, or more than 1.5 times as long as segment 3 .............................................. 2
2. Head with OL about as long as OPL. Th. macilentus De Santis & Vidal Sarmiento
   – Head with OL longer than OPL. .............................................. 3
3. Mesopleuron shiny, unsculptured .............................................. Th. rufus Richards
   – Mesopleuron dull, granulated .............................................. 4
4. Distal apex of paramere broad (Plate 137E) .............................................. Th. clarus Olmi
   – Distal apex of paramere narrow and curved towards penis (Plate 139D) .............................................. Th. snellingi Olmi

1. Thaumatodryinus bruchi De Santis & Vidal Sarmiento, 1974

(Plate 137A, B)


Description. Female. Fully winged; length 6.6–8.6 mm. Head reddish; antenna testaceous, except segments 3–10 darkened; mesosoma brown-reddish, except prothorax and scutum reddish; occasionally mesosoma with brown irregular spots; petiole black; metasoma reddish; legs testaceous, except club of profemur and distal part of club of metasternum brown-black. Antenna filiform, at least 1.5 times as long as head + mesosoma; antennal segment 3 more than 1.5 times as long as segment 1 (38:20). Head swollen, dull, granulated, with some longitudinal keels on face; occipital carina incomplete, present only behind and shortly on sides of posterior ocelli; POL = 5; OL = 3.5; OOL = 13; OPL = 2; greatest breadth of anterior ocellus more than twice as long as OL; ocellar triangle very swollen. Pronotum shiny, hairy, crossed by transverse impression, finely punctate; pronotal tubercle reaching tegula. Scutum dull, hairy, irregularly rugose. Notauli incomplete, reaching at least 0.5 length of scutum. Scutellum smooth, shiny. Metanotum with lateral keels. Propodeum reticulate rugose. Fore wing with one dark transverse band; distal part of stigmal vein much longer than proximal part; marginal cell closed; pterostigma brown-dark. Hind wing hyaline, without dark transverse bands. Protarsal segment 1 longer than segment 4 (37:30). Segment 3 of protarsus produced into hook. Enlarged claw (Plate 137B) with two subapical teeth and one row of about 29–35 lamellae.
Segment 5 of protarsus (Plate 137B) with two rows of approximately 53 lamellae; distal apex with about five lamellae; occasionally segment 5 of protarsus with two rows of about 44 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

PLATE 137. A, E. Male genitalia. B, C. Chelae. D. Stigmal vein. F. paramere of male from Costa Rica, 9 km S Santa Cecilia. A, B. Thaumatodryinus bruchi from Argentina, La Plata (A) and S.J de las Casas (B). C–F. T. clarus, female holotype (C, D) and male from Panamá, Las Cumbres. Scale bar 0.12 mm for A, 0.37 mm for B, 0.14 mm for C, 0.52 mm for D, 0.11 mm for E, 0.09 mm for F.

Male. Fully winged; length 3.4 mm. Head testaceous-reddish, usually with ocellar region dark; antenna brown, except segments 1–2 testaceous; mesosoma black, except prothorax testaceous-reddish, scutum testaceous-reddish (except lateral regions brownish) or brown; occasionally propodeum testaceous; metasoma brown-testaceous; legs testaceous, except stalks of meso- and metafemur, meso- and metatibia, meso- and metatarsus darkened. Antenna filiform; antennal segments in following proportions: 7:7:11:16:14:14:12:12:11:14. Head dull, completely granulated; frontal line absent; face without two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 7; OL = 3; OOL = 6; OPL = 1.5; TL = 4. Scutum dull, granulated. Notauli complete, posteriorly separated. Scutellum and metanotum shiny, smooth, punctate and very slightly granulated. Mesopleuron dull, granulated. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (26:15). Genitalia in Plate 137A. Tibial spurs 1/1/2.

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Colombia, Cuba, Venezuela.

2. *Thaumatodryinus clarus* Olmi, 1984
(Plate 137C–F)


**Description.** *Female.* Fully winged; length 3.9–4.5 mm. Completely testaceous, except petiole black; occasionally pronotum with two lateral black stripes. In specimen from French Guiana, 04°33.20’N 52°08.19’W, mesosoma testaceous-reddish, except scutellum, metanotum, propodeum, mesopleuron and metapleuron partly brown. In specimen from Peru, 19°90’S 71°36’W, head, prothorax, scutum and mesopleuron testaceous-reddish, scutellum, metanotum and propodeum brown-black (except reddish distal apex of propodeum) and metapleuron brown-reddish. Antenna filiform; antennal segments in following proportions: 14:6:20:21:36:34:15:18:13:13; usually third antennal segment 1.33 or more than 1.33 times as long as segment 1 (25:15), rarely less than 1.33 (17:14 = 1.21 in specimen from Mexico, 7.7 mi S Ejutla). Head dull, granulated; frontal line complete or absent; occipital carina complete; POL = 9; OL = 3; OOL = 12; OPL = 3; TL = 5; POL about two–three times as long as greatest breadth of posterior ocelli (9:3; or 7:4); in small specimens POL = 5; OL = 2. Pronotum dull, hairy, crossed by transverse impression; pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli complete, posteriorly separated. Scutellum and metanotum shiny, slightly granulated. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; occasionally fore wing with one small dark band beneath pterostigma; distal part of stigmal vein much longer than proximal part; marginal cell in Plate 137D. Protarsal segments in following proportions: 26:4:7:23:35. Enlarged claw (Plate 137C) with two subapical teeth and one row of about 24–29 lamellae. Segment 5 of protarsus (Plate 137C) with two rows of approximately 49 lamellae extending continuously to distal apex (occasionally distal lamellae separated from others and forming group of about six lamellae). Tibial spurs 1/1/2.


**Material examined.** *Type:* ♀ holotype: GUATEMALA: Dep. Chimaltenango, Yepocapa (AMNH).

Other material: BELIZE: Las Cuevas, Chiquibul Forest, 16°43.44’N 88°58.26’W, 9–23.V.2010, MV light, M. Barclay, G. Broad & H. Mendel leg., 6♂♂ (BMNH). BAHAMAS: Eleuthera, Rainbow Bay (FSCA). BRAZIL: Rondônia, 62 km SW of Ariquemes, near Fazenda Rancho Grande (FSCA). COLOMBIA: Bolivar, Zambrano, Hacienda Monterrey, Bosque de Chile, 09°37’48’’N 74°54’44’’W, 70 m, 22.XII.1994 (IAVH, MOLC). COSTA RICA: Guanacaste, S. Rosa Park (AEIC, AMNH); Guanacaste, 14 km S of Cañas (DBUSU); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Guanacaste, 9 km S of Santa Cecilia, Estac. Pitilla, 700 m, IV.1989, I. Gauld leg., one male (UWIM). FRENCH GUIANA: Régina, Montagne de Kaw, km 37.5 of road Roura-Kaw, 04°33.20’N 52°08.19’W, 217 m, XII.2005, J.A. Cerda leg., 1♀ (DEUK); Roura, Montagne des Chevaux, 23.X.2011, SEAG leg., 1♂ (FSAE); same locality label, IX.2011, 1♂ (FSAE); same locality label, 30.X.2011, 1♂ (FSAE). MEXICO: Colima, 10 mi NE of Comala (DETAM); Guerrero, 15 mi SW Chichihualco, 15.VII.1984, J.B. Woolley leg., 1♀ (DETAM); Jalisco, Chimala Biological Station, 11.VII.1989, 14.VII.1989, 16.VII.1989 (DBUSU, NAMUK); same locality label, 2–9.VII.1993, R. Wharton & M. Sharkey leg., 1♂ (DETAM); Jalisco, Chimala Biological Station, camino “el arindle”, 26–31.VII.1996, selva mediana, Malaise trap, Gonzales & Woolley leg., 1♂ (DETAM); Oaxaca, 7.7 mi S Ejutla, 20.VII.1974, Clark, Murray, Ashe & Schaffner leg., 1♀ (DETAM); Veracruz, Biological Station of Los Tuxtlas (BCUCB). NICARAGUA: Matagalpa, El Coyolar, 13°07’N 85°50’W, 800 m,

Hosts. Unknown.

Distribution. Belize, Bahamas, Brazil, Colombia, Costa Rica, French Guiana, Guatemala, Mexico, Nicaragua, Panama, Peru, Venezuela.

3. *Thaumatodryinus macilentus* De Santis & Vidal Sarmiento, 1974
(Plate 138A, B)


Description. Female. Fully winged; length 6.2–6.9 mm. Head black, except mandible, clypeus and gena reddish; occasionally gena black; antenna testaceous, except segments 4–10 darkened; mesosoma black, except prothorax testaceous-reddish; occasionally propodeon partly brown; petiole black; metasoma reddish; legs testaceous, except clubs of femora brown-black. In specimen from Peru, 12°39.34’S 71°13.91’W, head black, except mandibles testaceous; mesosoma, including prothorax, black. Antenna filiform, at least 1.5 times as long as head + mesosoma; antennal segments in following proportions: 44:22:73:148:117:53:30:37. Head swollen, shiny, granulated; occipital carina incomplete, present only behind and shortly on sides of posterior ocelli; OPL longer than OL. In specimen from Peru, 12°39.34’S 71°13.91’W, head swollen, shiny, granulated, except genae unsculptured. In specimens from French Guiana, Montagne des Chevaux, head granulated and with many hardly visible irregular and longitudinal striae. Pronotum shiny, hairy, crossed by transverse impression, finely punctate; pronotal tubercle reaching tegula. Scutum shiny, hairy, granulated, sculptured by numerous irregular keels. Notauli incomplete, reaching about 0.5 length of scutum. Scutellum and metanotum shiny, finely punctate. Propodeum reticulate rugose. Fore wing with one dark transverse band (occasionally band hardly visible); distal part of stigma vein much longer than proximal part; marginal cell closed. Hind wing hyaline, without dark transverse bands. Protarsal segment 1 about as long as, or slightly longer than segment 4. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 138B) with two subapical teeth and one row of about 39–40 lamellae. Segment 5 of protarsus (Plate 138B) with two rows of approximately 66–67 lamellae; distal apex with about six lamellae. Tibial spurs 1/1/2.

Male. Fully winged; length 3.4–4.9 mm. Head reddish, except ocellar region black; antenna totally testaceous; occasionally antenna testaceous, except segments 3–10 darkened; mesosoma reddish, except scutellum and metanotum black or brown; occasionally scutum darkened; mesosoma brown, except segment 1 testaceous; legs totally testaceous; occasionally legs testaceous, except tarsi and meso- and metatibia brown. In specimen from Peru, 06°27.46’S 76°17.24’W, head black, except mandible and clypeus ferruginous and anterior half of face ferruginous-dark; antenna brown, except segments 1–2 ferruginous; mesosoma black, except prothorax ferruginous-dark; metasoma brown; fore leg testaceous, except club of femur brown; midleg testaceous, except tibia brown; hind leg testaceous, except club of femur, tibia and tarsal segment 1 brown. Antenna filiform; antennal segments in following proportions: 8:7.13:13:19:19:17:18:14:17. Head smooth, completely granulated; frontal line absent; face without two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 7; OL = 2; OOL = 7; OPL = 2; TL = 4. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli about as long as distance between notauli and parapsidal furrows. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, without transverse or longitudinal
keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (36:21). Genitalia in Plate 138A. Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Honduras, Mexico, Panama, Peru, Suriname, Trinidad and Tobago.
4. *Thaumatodryinus minimus* Olmi, 1984

(Plate 138C)


**Description. Female.** Fully winged; length 4.1 mm. Head and antenna testaceous-reddish; mesosoma black, except prothorax testaceous-reddish; petiole black; metasoma brown-testaceous; legs testaceous, except tibiae and stalk of profemur brown. Antenna filiform; antennal segment 3 slightly longer than segment 1 (11:9). Head dull, granulated, sculptured by irregular hardly visible keels; frontal line absent; face without two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 6; OL = 4; OOL = 10; OPL = 2; TL = 3. Pronotum dull, granulated, crossed by strong transverse impression; pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli complete, posteriorly separated. Scutellum and metanotum dull, finely punctate, unsculptured among punctures. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing with one dark transverse band beneath pterostigma; distal part of stigmal vein longer than proximal part (26:15); marginal cell open. Protarsal segments in following proportions: 23:3:7:19:30. Enlarged claw (Plate 138C) with two subapical teeth and one row of about 25 lamellae. Segment 5 of protarsus (Plate 138C) with two rows of approximately 44 lamellae; distal apex with about three lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: Pará, Tucurui (AEIC).

**Hosts.** Unknown.

**Distribution.** Brazil.

5. *Thaumatodryinus rufus* Richards, 1951

(Plate 139A, B)


**Description. Female.** Fully winged; length 3.0–4.0 mm. Head testaceous-reddish; antenna testaceous-reddish, except segments 4–10 darkened; mesosoma reddish-dark, except prothorax testaceous-reddish; petiole black; metasoma testaceous-reddish; legs testaceous-reddish, except clubs of pro- and metafemur brown. In specimen from Cuba, El Toldo, colour testaceous-reddish, except scutellum black and two black spots on propodeum. Antenna filiform, at least 1.5 times as long as head + mesosoma; antennal segments in following proportions: 32:20:52:56:79:86:30:23:26; antennal segment 3 more than 1.5 times as long as segment 1. Head swollen, shiny, granulated, with hardly distinct longitudinal striae on face; occipital carina incomplete, present only behind and shortly on sides of posterior ocelli; POL = 4; OL = 2; OOL = 8.5; OPL = 3; breadth of anterior ocellus as long as, or shorter, or slightly longer than OL. Pronotum shiny, hairy, crossed by transverse impression, finely punctate; pronotal tubercle reaching tegula. Scutum shiny, hairy, granulated, sculptured by numerous hardly distinct irregular striae. Notauli incomplete, reaching at least 0.5 length of scutum. Scutellum and metanotum shiny, finely punctate. Propodeum reticulate rugose. Fore wing with one dark transverse band; distal part of stigmal vein much longer than proximal part; marginal cell closed; pterostigma brown dark. Hind wing hyaline, without dark transverse bands. Protarsal segment 1 much longer than segment 4 (27:21). Segment 3 of protarsus produced into hook. Enlarged claw (Plate 139B) with two subapical teeth and one row of about 22–29 lamellae. Segment 5 of protarsus (Plate 139B) with two rows of approximately 45–46 lamellae; distal apex with about 4–5 lamellae. Tibial spurs 1/1/2.

**Male.** Fully winged; length 2.5–2.9 mm. Head testaceous-reddish, except ocellar region black; antenna totally testaceous; mesosoma reddish, except scutellum black and metanotum and propodeum dark; metasoma brown-testaceous; legs totally testaceous. Antenna filiform; antennal segments in following proportions: 7:5:8:14:11:10:9:9:7:10. Head dull, completely granulated; frontal line absent; face without two lateral keels around orbits directed towards antennal toruli; occipital carina complete; POL = 5; OL = 2; OOL = 5; OPL = 1.5; TL = 2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli about as long as distance between notauli and parapsidal furrows. Scutellum and metanotum shiny, smooth, finely
punctate, unsculptured among punctures. Mesopleuron shiny, unsculptured. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (19:12). Genitalia in Plate 139A. Tibial spurs 1/1/2.


Distribution. Colombia, Costa Rica, Cuba, Nicaragua, Panama, Puerto Rico, Trinidad and Tobago, Venezuela.

Remarks. The cocoon of Th. rufus is not spun under the host cast cuticle, so that the exuvia does not stay on upper face of cocoon (as in Neodryinus typhlocybae (Ashmead). Cocoons of Th. rufus are present in BMNH.

6. Thaumatodryinus snellingi Olmi, 1993
(Plate 139C, D)


Description. Female. Fully winged; length 2.7–4.0 mm. Testaceous, except scutellum brown and petiole black; occasionally metanotum darkened and propodeum more or less darkened. Antenna filiform, short, approximately as long as head + mesosoma; antennal segments in following proportions: 12:5.5:13:12:13:11:9.5:8:9.5. Head swollen, dull, granulated; frontal line absent; occipital carina complete; POL = 5; OL = 2.5; OOL = 8.5; OPL = 2; TL = 3; greatest breadth of anterior ocellus slightly longer than OL (3:2.5). Pronotum dull, hairy, crossed by transverse impression, granulated and with some hardly distinct transverse striae; pronotal tubercle reaching tegula. Scutum dull, granulated. Notauli hardly visible, incomplete, reaching at least 0.8–0.9 length of scutum. Scutellum dull, granulated. Metanotum shiny, smooth, unsculptured. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing with one dark spot beneath pterostigma; distal part of stigmal vein much longer than proximal part (32:12); marginal cell almost closed. Hind wing hyaline, without dark transverse bands. Protarsal segments in following proportions: 17:4:6:14:22. Enlarged claw (Plate 139C) with two subapical teeth and one row of about 25 lamellae. Segment 5 of protarsus (Plate 139C) with two rows of approximately 25 lamellae; distal apex with about five lamellae; occasionally segment 5 of protarsus with two rows of about 33 lamellae extending continuously to distal apex. Tibial spurs 1/1/2.

Male. Fully winged; length 1.7–2.9 mm. Head testaceous-reddish, occasionally with ocellar region or entire vertex brown; antenna testaceous; mesosoma totally brown or testaceous-reddish, except some regions more or less darkened; metasoma brown; legs testaceous. Antenna filiform; antennal segments in following proportions: 7:4.5:9:10.5:10:10.5:10.5:9:11. Head dull, completely granulated; frontal line absent; occipital carina complete; POL = 6; OL = 2; OOL = 5; OPL = 1.5; TL = 3. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli about as long as POL. Scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Metasepleuron dull, strongly or slightly granulated. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (15:12). Genitalia in Plate 139D. Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** British Virgin Islands, Puerto Rico.

**Remarks.** For its very short antenna, *Th. snellingi* is an anomalous species of *Thaumatodryinus*; usually in fact in this genus the female antenna is much longer.

**PLATE 139.**

A. Genitalia of male from Trinidad, St. Augustine. B. Chela of female from Trinidad, St. Augustine. C, E. Chelae of holotypes. D. Genitalia of male from Puerto Rico, Bosque Estatal de Guánica. F. Stigmal vein of female holotype. A, B. *Thaumatodryinus rufus*. C, D. *T. snellingi*. E, F. *T. variegatus*. Scale bar 0.09 mm for A, 0.14 mm for B, 0.17 mm for C, 0.07 mm for D, 0.26 mm for E, 0.96 mm for F.

7. *Thaumatodryinus variegatus* De Santis & Vidal Sarmiento, 1974

(Plate 139E, F)


**Description.** Female. Fully winged; length 4.4–7.2 mm. Head reddish; antenna brown, except articulations between segments, segments 8–10, proximal half of segments 5–6 and medial region of segment 7 testaceous; mesosoma reddish; petiolar black; metasoma testaceous-reddish; legs testaceous, except clubs of femora brown and distal half of tibiae black. Antenna filiform; antennal segment 3 more than 1.33 times as long as segment 1 (22:13). Head dull, granulated; frontal line hardly visible; occipital carina complete; POL = 5; OL = 3; OOL = 10; OPL = 3; greatest breadth of posterior ocelli about as long as POL; temple absent. Pronotum dull, hairy, crossed by strong transverse impression, sculptured by numerous irregular keels; pronotal tubercle reaching tegula. Scutum shiny, granulated, sculptured by numerous irregular hardly visible keels. Notauli complete, posteriorly separated. Scutellar and metanotum shiny, punctate. Propodeum reticulate rugose; posterior surface without longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part.
(30:12); marginal cell open (Plate 139F). Protarsal segments in following proportions: 26:3.5:5.5:19:26. Enlarged claw (Plate 139E) with two subapical teeth and one row of about 26 lamellae. Segment 5 of protarsus (Plate 139E) with two rows of approximately 53 lamellae; distal apex with about four lamellae. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: ARGENTINA: Misiones, Dos de Mayo, 6.XII.1964, A. Ogloblin leg. (FCNM). **Other material:** COSTA RICA: Guanacaste, 3 km SE Río Naranjo, Finca Montezuma (AMNH).

**Hosts.** Unknown.

**Distribution.** Argentina, Costa Rica.

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**Fossil Neotropical species**

One species is known.

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**8. Thaumatodryinus miocenicus Olmi, 1995**

(Plate 140)


with short petiole as in extant *Thaumatodryinus*. Shape, length and breadth of wings usual for *Thaumatodryinus*. Shape and morphology of body usual for *Thaumatodryinus*. Tibial spurs 1/1/2.

**Male.** Unknown.

**Material examined.** Types: ♀ holotype: DOMINICAN REPUBLIC; amber from an unknown mine (probably El Valle mine) (AMNH). Paratypes: same locality label as holotype, 2 ♀ (AMNH). **Other material:** DOMINICAN REPUBLIC; amber from unknown mines, 6 ♀ (2 (H-10-23A, H-10-100A) in GPJC, 2 in JSC, 1 in SMNS (Do-4066), 1 in MOLC).

**Hosts.** Unknown.

**Distribution.** Dominican Republic (Miocene amber; 15–40 MYA).

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**PLATE 140.** Holotype of *Thaumatodryinus miocenicus*. Length 5.6 mm. A. Dorsal view. B. Dorso-lateral view. From Olmi, 1995d.

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**VI. Subfamily Gonatopodinae Kieffer in Kieffer & Marshall, 1906**


Gonatopodini Kieffer 1914: 67; Richards 1939: 188.

Dryinini *partim* Muesebeck & Walkley 1951: 1034.


**Diagnosis.** **Female**: usually apterous (Plates 144A, C, 147, 151); occasionally fully winged (Plates 141A, B,
142A, C); rarely micropterous (not present in the Neotropical region); ocelli present; occipital carina usually absent, rarely incomplete and only present behind and on sides of posterior ocelli; mandible with four teeth progressing larger from anterior one to posterior; palpal formula 2/1, 2/2, 3/2, 4/2, 4/3, 5/2, 5/3, 6/2, or 6/3; antennal segments 5–10 without tufts of long hairs; antenna with or without rhinaria; pronotal tubercle absent (Plate 142C, 144C); in winged females, metanotum very reduced; in macropterous species fore wing with stigmatic vein and pterostigma (Plates 141A, B, 142A, C), pterostigma very narrow; in macropterous species fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plates 141 A, B, 142 A, C); protarsus chelate (Plates 141A, B, 142A, C, 144A, C, 147, 151); chela with rudimentary claw (Plates 143B, 146C, 149); protrochanter long and slender, more than twice as long as broad (Plates 141C, 142C, 144C); usually tibial spurs 1/0/1; rarely (in Neodryinus R. Perkins) 1/0/2.

Male: Fully winged (Plates 142B, D, 144B, D, 152B, D); occipital carina usually absent, rarely incomplete and only present behind and on sides of posterior ocelli, rarely complete (in Echthrodelphax R. Perkins); occiput usually concave (Plate 142B, 144B, 152B), occasionally straight; mandible with three teeth progressing larger from anterior one to posterior; palpal formula 2/1, 2/2, 3/2, 4/2, 4/3, 5/2, 5/3, 6/2, or 6/3; epicnemium visible, because lateral regions of prothorax not continuous with mesopleura (as in Plate 4D); mesosternum fused with mesopleura and not distinct; fore wing with three cells enclosed by pigmented veins (costal, median and submedian) (Plates 142B, D, 144B, D, 152B, D); fore wing with stigmatic vein and pterostigma (pterostigma always very narrow) (Plates 142B, D, 144B, D, 152B, D); dorsal process of paramere always present (Plate 143C, 145E), occasionally reduced (Plate 155A, 172C); basivolsella completely situated down distivolsella distal apex (Plate 143C); tibial spurs 1/1/2.

Distribution. Worldwide.


World species. Five hundred and fifty-six species are known, 157 in the Neotropical region, including four species incertae sedis.

World genera. Eleven genera are known, eight in the Neotropical region.

Remarks. The following three genera are not quoted from the Neotropical region: Epigonatopus R. Perkins 1905 (Australian), Gynochelys Brues 1906 (Afrotropical), Pentagonatopus Olmi 1984 (Australian, Nearctic).

Key to the genera

Females

1. Female fully winged (Plates 141A, C, 142A, C, 208Cq) ............................................................... 2
   - Female apterous (Plates 144A, C, 147, 151) ................................................................. 5
   - Tibial spur formula 1/0/2 .............................................................. Neodryinus R. Perkins
   - Tibial spur formula 1/0/1 ................................................................. 3
2. Notauli absent or hardly visible (in this case, incomplete or complete) ........................................ 4
   - Notauli clearly distinct and complete ................................................................. Adryinus Olmi
3. Species small, with palpal formula variable from 3/2 to 4/2, or 5/2, or more rarely 5/3 or 6/3; segment 5 of protarsus with less than 15 lamellae (Plates 143A, B) .................................................. Echthrodelphax R. Perkins
   - Species large, with palpal formula 6/3; segment 5 of protarsus with more than 20 lamellae (Figs 269, 271 in Olmi 1999b) .................................................. 6
   - Gonatopus Ljungh partim (not found in the Neotropical region)
5. Enlarged claw with one big subapical tooth (Plate 206B, C), rarely without teeth, in this case with group of lamellae at distal apex (Fig. 9 in Olmi 1994c) ................................................................. 6
   - Enlarged claw without teeth or with one small preapical tooth (Plates 145A, 148C); if without teeth, without group of lamellae at distal apex (Plate 148B, C) ................................................................. 8
6. Enlarged claw without subapical tooth, with group of lamellae at distal apex (Fig. 9 in Olmi 1994c) ................................................................. 6
   - Enlarged claw with one big subapical tooth (Plate 206B, C) ................................................................. 7
   - Palpal formula 2/1 ................................................................. Haplogonatopus R. Perkins
   - Palpal formula different ................................................................. Gonatopus Ljungh partim
8. Enlarged claw with distal apex rounded (Plate 148B, C) ................................................................. 9
   - Enlarged claw with distal apex pointed (Plates 145A, 146A, B, C) ................................................................. 10

...
9. Enlarged claw with lamellae (Plate 148B, C) ................................................................. Eucamptonyx R. Perkins
   – Enlarged claw with bristles, without lamellae (Plates 215C, D, E) ............................... Pareucamptonyx Olmi
10. Pronotum not crossed by strong transverse furrow, or slightly impressed (Plate 152C) .... Gonatopus Ljungh partim
    – Pronotum crossed by strong transverse furrow (Plates 144C, 145D, 157C). ...................... 11
11. Palpal formula 6/2 ................................................................. Esagonatopus Olmi
    – Palpal formula different. ...................................................................................... Gonatopus Ljungh

Males (unknown in Adryinus Olmi, Eucamptonyx R. Perkins, Pareucamptonyx Olmi)

1. Head with distinct complete occipital carina (Plate 142B, D) ................................. Echthodelphax R. Perkins
   – Head without occipital carina (Plate 144B, D), or with incomplete occipital carina (in this last case, carina only visible behind
     and shortly on sides of posterior ocelli (Plate 152 B) ................................................. 2
2. Temple absent (Plate 208 A, B). ...................................................................................... Neodryinus R. Perkins
   – Temple distinct (Plates 144B, D, 205C, D). ................................................................. 3
3. Palpal formula 2/1 (Plate 205C, D). ............................................................................... Haplogonatopus R. Perkins
   – Palpal formula different. ......................................................................................... 4
4. Palpal formula 6/2 (Plate 144B, D). ............................................................................... Esagonatopus Olmi
   – Palpal formula different. ......................................................................................... Gonatopus Ljungh


et al. 2013: 337.

Type species. Adryinus cerrutii (Benoit 1951d), by original designation.

Diagnosis. Female: Fully winged (Plate 141A, C); palpal formula 6/3; antenna with rhinaria; pronotum crossed by strong
transverse furrow (Plate 141A, C); notauli absent; enlarged claw with one subapical tooth and lamellae, or peg-like hairs, or
bristles (Plate 141B); tibial spurs 1/0/1.

Male: Unknown.

Distribution. Afrotropical, Oriental, Nearctic, Neotropical

Hosts. Unknown.

World species. Twelve species are known, one in the Neotropical region.

1. Adryinus delvarei Olmi, 1991
(Plate 141B)


Description. Female. Fully winged; length 3.2 mm. Head testaceous; antenna testaceous, except segments 6–9
darkened; mesosoma testaceous; petiole and metasoma black. Antenna clavate; antennal segments in following
granulated; frontal line absent; occipital carina incomplete, present only behind and shortly on sides of posterior
ocelli; POL = 2; OL = 2.5; OOL = 9; posterior ocelli touching occipital carina; temple distinct. Palpal formula 6/3.
Pronotum shiny, slightly granulated, crossed by strong transverse impression; disc humped, rounded; posterior
edges of pronotum rounded, not produced into lobes. Scutum shiny, granulated. Notauli absent (or very hardly
visible). Scutellum shiny, rugose. Metanotum short, dull. Propodeum dull, with dorsal surface reticulate rugose and
with some longitudinal parallel keels; posterior surface reticulate rugose, without longitudinal keels. Fore wing
with two dark transverse bands; distal part of stigmal vein much longer than proximal part (19:6.5). Protrochanter
about five times as long as broad. Protarsal segments in following proportions: 17:2.5:6:5:8.5:17. Enlarged claw
(Plate 141B) with one subapical tooth and one row of five bristles. Segment 5 of protarsus (Plate 141B) with one
row of about 17 lamellae; distal apex with at least 13 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

(MNHN).
**Hosts.** Unknown.

**Distribution.** Martinique.

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PLATE 141. A, C. Female of Adryinus sp. in dorsal (A) and lateral (C) view (from Olmi, 1984). Length 5.3 mm. B. Chela of Adryinus delvarei. Scale bar 0.25 mm for B.

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15. **Genus Echthrodelphax R. Perkins, 1903**


**Type species.** *Echthrodelphax fairchildii* R. Perkins 1903, by monotypy.

**Diagnosis.** *Female:* Fully winged (Plate 142A, C); palpal formula 3/2, 4/2, 5/2, 5/3, or 6/3; antenna with rhinaria; pronotum crossed by strong transverse furrow (Plate 142A, C); notauli complete (Plate 142A) enlarged claw with one subapical tooth and one row of lamellae (Plate 143A, B); segment 5 of protarsus with less than 15 medial lamellae (Plate 143A, B); tibial spurs 1/0/1.

*Male:* Fully winged (Plate 142B, D); head with distinct complete occipital carina; occiput concave; temple present; palpal formula 3/2, 4/2, 5/2, 5/3, or 6/3; tibial spurs 1/1/2.

**Distribution.** Worldwide.

**Hosts.** Delphacidae (Guglielmino & Olmi 1997, 2006).

**World species.** Twelve species are known, one in the Neotropical region.
1. *Echthrodelphax krombeini* Olmi, 1984

(Plate 143)


*Echthrodelphax neotropicus* Olmi 1992a: 113 (synonymized by Olmi 1998d); type locality: Town Hall Crescent (Grand Cayman); Olmi 1998d: 92.

**Description.** Female. Fully winged; length 1.8–2.2 mm. Head, antenna, prothorax and scutum testaceous; rest of mesosoma black; metasoma totally testaceous, occasionally with tergite 1 black; legs totally testaceous; occasionally stalk of metafemur darkened. Antenna clavate; antennal segments in following proportions: 6.5:3:5:4:3.5:3:3:3.5:3:5:6. Head excavated, shiny, smooth, unsculptured; ocellar triangle strongly isosceles, with one median longitudinal keel; frontal line complete; occipital carina absent; POL = 0.5; OL = 3; OOL = 6
DRYINIDAE OF THE NEOTROPICAL REGION

Male. Fully winged; length 1.1–1.3 mm. Head brown, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma brown; metasoma brown-testaceous; legs testaceous. Antenna filiform; antennal segments in following proportions: 3:3:5:6:7:6:6:5:6.5. Head shiny, smooth, unsculptured; frontal line absent; occipital carina complete; temple very prominent; POL = 3; OL = 1.5; OOL = 3; TL = 4; posterior ocelli touching occipital carina; greatest breadth of posterior ocelli about as long as OL. Scutum shiny, smooth, finely punctate, unsculptured among punctures. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli (0.8:1.5). Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, completely reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much longer than proximal part (10:4). Paramere (Plate 143C) with inner transverse proximal dorsal process. Tibial spurs 1/1/2.


Distribution. Cayman Islands, Costa Rica, Cuba, Honduras and Nearctic region (Mexico (Tamaulipas), USA (Florida)).

PLATE 144. *Esagonatopus* sp. A, C. Female in dorsal (A) and lateral (C) view (from Olmi, 1984). Length 3.0 mm. B, D. Male in dorsal (B) and lateral (D) view. Length 2.0 mm. (from Olmi, 1984).


Type species. *Esagonatopus niger* (Fenton 1924), by original designation.

Diagnosis. Female (Plate 144A, C): apterous (Plate 144A, C); palpal formula 6/2; antenna without rhinaria; pronotum crossed by strong transverse impression (Plate 144A, C); enlarged claw with distal apex pointed, with one small subapical tooth, without lamellae, with bristles or peg-like hairs (Plates 145A, 146A, B, C); tibial spurs 1/0/1.

Male (Plate 144B, D): Fully winged (Plate 144B, D); occipital carina absent or incomplete; in this last case,
only present behind and shortly on sides of posterior ocelli; occiput concave; temple present; palpal formula 6/2; tibial spurs 1/1/2.

**Distribution.** Nearctic, Neotropical

**Hosts.** Cicadellidae (except Typhlocybinae, Idiocerinae, Macropsinae) (Guglielmino & Olmi 2006; Virla & Olmi 2007a).

**World species.** Six species are known, four in the Neotropical region.

### Key to the species (females)

1. Posterior surface of propodeum totally granulated, not transversely striate .............................................. 2
   - Posterior surface of propodeum strongly transversely striate ................................................................. 3
2. Segment 5 of protarsus with three rows of lamellae and distal apex provided of more than 20 lamellae (Plate 146C). .......................................................... *E. olmii* Virla
   - Segment 5 of protarsus with two rows of lamellae and distal apex provided of less than 20 lamellae (Plate 146A). .......................................................... *E. minuslamellatus* Olmi & Virla
3. Mesosoma black, except distal apex of propodeum testaceous ................................................................. *E. angelicus* Virla
   - Mesosoma mostly testaceous .......................................................... *E. neotropicus* Olmi

Males (only the male of *E. angelicus* Virla is known).


(Plate 145)


**Description.** Female. Apterous; length 3.7–4.1 mm. Head brown, except clypeus, mandible and few small frontal areas near clypeus testaceous; antenna brown, except segments 1–2 testaceous and 5–10 darkened; mesosoma black, except lateral regions of pronotum brown and distal apex of propodeum testaceous; petiole and metasoma brown; legs brown-testaceous, except coxae black. Antenna clavate; antennal segments in following proportions: 11.5:8:23:13.5:11:10:8.8:6:10. Head excavated, dull, granulated; occiput hairy; frontal line complete; occipital carina absent; temple distinct; POL = 3; OL = 2; OOL = 11. Palpal formula 6/2. Pronotum crossed by strong transverse impression, dull, granulated, hairy, with anterior collar V-shaped (Plate 145D); posterior surface of pronotum with small area near scutum shiny and unsculptured. Scutum dull, granulated, with three parallel striae at anterior margin, some transverse striae on sides and two lateral pointed apophyses located on sides of posterior margin near scutellum. Scutellum dull, granulated. Meso-metapleural suture obsolete. Metathorax + propodeum hairy, dull, granulated, with posterior surface transversely striate. Mesopleuron and metapleuron transversely striate. Protarsal segments in following proportions: 15:3:5:25:35. Enlarged claw (Plate 145A) with one small subapical tooth and one row of five-six peg-like bristles. Segment 5 of protarsus (Plate 145A) with two rows of 20–23 lamellae; distal apex with 15–18 lamellae. Tibial spurs 1/0/1.

**Male.** Fully winged; length 2.4–2.9 mm. Head black, except mandible yellow; antenna black, except segments 1–2 brown-ferruginous; mesosoma black; metasoma brown-dark; legs yellow or whitish, except coxae, clubs of femora and tibiae partly brown. Antenna filiform; antennal segments in following proportions: 5.5:5:5:5:7:5:7:7:7:6:9.5; antennal segment 3 more than three times as long as broad (13:4). Head dull, granulated and rugose; vertex with two shiny and smooth areas located between posterior ocelli and eyes (areas rounded by very low keels); frontal line incomplete, only present in front of anterior ocellus; occipital carina absent; temple distinct; POL = 6.5; OL = 2.5; OOL = 4. Palpal formula 6/2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli (1.5:3), shorter than antennal segment 2 (1.5:5). Scutellum and metanotum shiny, finely hairy, punctate, unsculptured among punctures. Propodeum dull, reticulate rugose, with areolae small, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein with distal part longer than proximal part (17:12.5). Dorsal process of paramere (Plate 145E) short and slender. Tibial spurs 1/1/2.
PLATE 145. *Esagonatopus angelicus*. A. Chela of holotype. B. Maxillary palpus of holotype. C. Labial palpus of holotype. D. Mesosoma of holotype in dorsal view. E. Genitalia of male from Argentina, Rio Cuarto. Scale bar 0.22 mm for A, 0.54 mm for D, 0.12 mm for E.


**Hosts.** Cicadellidae: In Argentina an unidentified species of Deltacephalinae; according to one of the authors (Virla) the hosts are green nymphs of III, IV and V instar belonging probably to the genus *Chlorotettix*.

**Distribution.** Argentina.

2. *Esagonatopus minuslamellatus* Virla and Olmi, 2007 (Plate 146A)


**Description. Female.** Apterous; length 3.1–3.3 mm. Head black, except anterior part of face, clypeus, gena and mandible testaceous; antenna brown, except ventral side of segment 1 yellow; mesosoma black, except reddish nuances on disc and part of lateral regions of pronotum (in paratype, disc and part of lateral regions of pronotum ferruginous); petiole and metasoma black; legs brown. Antenna clavate; antennal segments in following proportions: 9:6:21:11:10:9:8:8:7:10. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 2; OOL = 9; greatest breadth of posterior ocelli shorter than OL (1:2). Palpal formula 6/2. Pronotum crossed by strong transverse impression, dull, completely granulated. Scutum dull, granulated, with two lateral pointed apophyses. Scutellum flat, shiny, granulated, partly unsculptured. Meso-metapleural suture obsolete. Metanotum granulated, not hollow behind scutellum. Metathorax + propodeum dull, completely granulated, with sides rounded. Mesopleuron, metapleuron and posterior surface of propodeum granulated, dull, not transversely striate. Protarsal segments in following proportions: 15:3:5:18:25. Enlarged claw (Plate 146A) with one small subapical tooth and one row of five–six peg-like bristles. Segment 5 of protarsus (Plate 146A) with two rows of 20–23 lamellae; distal apex with 15–18 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Distribution.** Argentina.

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**PLATE 146.** A, B, C. Chelae of holotypes. D. Mesosoma of female holotype. **A. Esagonatopus minuslamellatus. B. E. neotropicus. C, D. E. olmii.** Scale bar 0.16 mm for A, 0.18 mm for B, 0.23 mm for C, 0.70 mm for D.

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3. **Esagonatopus neotropicus** Olmi, 1986

(Plate 146B)


**Description.** Female. Apterous; length 3.7 mm. Head black, except anterior region of face, clypeus, mandible and part of ventral side testaceous; antenna black, except segments 1–2 testaceous; mesosoma ferruginous, except propleuron and anterior collar of pronotum black, posterior surface of propodeum darkened; petiole black; metasoma with anterior half reddish and posterior half brown; legs testaceous, except meso- and metacoxa partly black. Antennae clavate; antennal segments in following proportions: 10:8:22:9:8:7:6:7. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 3; OL = 3; OOL = 10. Palpal formula 6/2. Pronotum crossed by strong transverse impression, dull, granulated. Scutum dull, granulated and slightly rugose. Meso-metapleural suture obsolete. Metanotum with lateral regions striate. Metathorax + propodeum dull, granulated, with posterior surface transversely striate. Mesopleuron granulated, partly transversely striate. Metapleuron granulated and slightly transversely striate. Protarsal segments in following proportions: 18:4:6:25:36. Enlarged claw (Plate 146B) with one small subapical tooth and one row of 17 peg-like hairs. Segment 5 of protarsus (Plate 146B) with two rows of 29 lamellae; distal apex with at least 11 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Brazil.
(Plate 146C, D)


**Description.** *Female.* Apterous; length 5.1 mm. Head black, except clypeus, mandible and few small frontal areas near clypeus testaceous; antenna black, except segments 1–2 testaceous; mesosoma and metasoma black; legs brown-black, except tarsi and articulations testaceous. Antenna clavate; antennal segments in following proportions: 12:6:24:12:11:10:9:8:7:10. Head very slightly excavated, almost flat, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 3; OOL = 9; occiput hairy. Palpal formula 6/2. Pronotum hairy, crossed by strong transverse impression, dull, granulated (Plate 146D). Scutum hairy, dull, granulated, with two lateral pointed apophyses located on sides of posterior margin, near scutellum. Scutellum dull, granulated. Mesometapleural suture obsolete. Metanotum flat, granulated, not hollow behind scutellum, with sides slightly protruding; lateral protrusions rounded. Metathorax + propodeum hairy, dull, granulated, with posterior surface not transversely striate. Mesopleuron and metapleuron not transversely striate. Protarsal segments in following proportions: 16:4:7:18:29. Enlarged claw (Plate 146C) with one small subapical tooth and one row of seven small lamellae, in addition to one hair. Segment 5 of protarsus (Plate 146C) with three rows of about 33 lamellae; distal apex with at least 25 lamellae. Tibial spurs 1/0/1.

*Male.* Unknown.

**Material examined.** Type: ♀ holotype: ARGENTINA: Misiones, Loreto Experimental Station, 12.II.1932, A.A. Ogloblin leg., imitathrix n. sp. (species never described) (FCNM).

**Hosts.** Unknown.

**Distribution.** Argentina.

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**PLATE 147.** Female of *Eucamptonyx* sp. (length 5.6 mm) in dorsal (A) and lateral (B) view (from Olmi, 1991).
17. Genus Eucamptonyx R. Perkins, 1907


Type species. Eucamptonyx testaceus R. Perkins 1907, by monotypy.

Diagnosis. Female (Plate 147): apterous (Plate 147); Palpal formula 5/3 or 6/3; pronotum crossed by strong transverse impression (Plate 147B); enlarged claw with distal apex not pointed, without a subapical tooth and with lamellae (Plate 149); tibial spurs 1/0/1. Male: Unknown.

Distribution. Australian, Nearctic, Neotropical


World species. Ten species are known, eight in the Neotropical region.

Key to the species (females)

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Head flat, granulated ........................................... 2</td>
</tr>
<tr>
<td></td>
<td>Head excavated, shiny or dull, unsculptured, or granulated, or alutaceous .......................... 3</td>
</tr>
<tr>
<td>2.</td>
<td>Anterior surface of metathorax + propodeum, disc of pronotum and anterior collar of pronotum shiny, unsculptured .......................... 4</td>
</tr>
<tr>
<td></td>
<td>Anterior surface of metathorax + propodeum, disc of pronotum and anterior collar of pronotum dull, granulated .................... 5</td>
</tr>
<tr>
<td>3.</td>
<td>Scutum without lateral pointed apophyses (Plate 148D) .................................................. 6</td>
</tr>
<tr>
<td></td>
<td>Scutum with two lateral pointed apophyses (Plates 148A, 150A) ........................................... 7</td>
</tr>
<tr>
<td>4.</td>
<td>Disc of metathorax + propodeum with strong median longitudinal furrow; head with OL much longer than POL ............................ 8</td>
</tr>
<tr>
<td></td>
<td>Disc of metathorax + propodeum without median longitudinal furrow; head with OL approximately as long as POL ................................ 9</td>
</tr>
<tr>
<td>5.</td>
<td>Disc of metathorax + propodeum dull, rugose; scutum completely black ................................ 10</td>
</tr>
<tr>
<td></td>
<td>Disc of metathorax + propodeum shiny, smooth, unsculptured; scutum partly yellow .................. 11</td>
</tr>
<tr>
<td>6.</td>
<td>Pronotum and metathorax + propodeum dull, smooth, alutaceous, with transverse striae on meso- and metapleuron and posterior surface of propodeum .................................................. 12</td>
</tr>
<tr>
<td></td>
<td>Pronotum and metathorax + propodeum shiny, smooth, not alutaceous, unsculptured, except transverse striae on meso and metapleuron and posterior surface of propodeum .................................................. 13</td>
</tr>
<tr>
<td>7.</td>
<td>Region of mesosoma between lateral scutum pointed apophyses and distal apex of propodeum black, except distal apex of propodeum yellow; species usually slenderer (Plate 148A), with lateral pointed apophyses of scutum more prominent (Plate 148A) .................................................. 14</td>
</tr>
<tr>
<td></td>
<td>Scutum and metathorax + propodeum uniformly coloured, totally testaceous-reddish or brown-reddish; species usually less slender (Plate 150A), with lateral pointed apophyses of scutum less prominent (Plate 150A) ........ 15</td>
</tr>
</tbody>
</table>

1. Eucamptonyx dromedarius (Cameron, 1888), comb. nov.
(Plate 148A, B)


Gonatopus camelus Dalla Torre 1898: 545, new name for Gonatopus dromedarius Cameron 1888, unnecessary replacement name.

Nec Trichogonatopus alboramigratus (Cameron 1888); Olmi 1984: 1485 (misid).


Description. Female. Apterous; length 3.6–5.3 mm. Head brown, except mandible and anterior region of face (more along orbits) testaceous; antenna brown, except segment 10 testaceous; mesosoma black, except propopleuron and lateral regions of pronotum testaceous, posterior half of scutum yellow and distal apex of propodeum yellow; metasoma brown; fore leg testaceous, except coxa, trochanter, club of femur and tibia partly brown; mid- and hind leg testaceous, except coxae, clubs of femora and tibiae partly brown. Antenna clavate, with rhinaria on segments

**PLATE 148.** A. Mesosoma of female holotype. B, C. Chelae of holotypes. D. Holotype (length 4.6 mm; from Olmi, 1996a). A, B. *Eucamptonyx dromedarius*. C, D. *E. garcetei*. Scale bar 0.79 mm for A, 0.30 mm for B, 0.26 mm for C.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Colombia, Costa Rica, Panama, Venezuela.

**Remarks.** Olmi (1984) considered *Gonatopus dromedarius* Cameron 1888, a junior synonym of *Trichogonatopus albormarginatus* (Cameron 1888). The above synonymy was established after study of two female specimens (from Panama, Bugaba and Volcán de Chiriquí) deposited in BMNH and labelled by the same Cameron “*Gonatopus dromedarius* Cameron”. The holotype of *G. dromedarius* was not examined at that time, considering the two above females surely identified by Cameron. In 2011, one of the Authors (Olmi) examined the above holotype and checked that the two females studied in 1984 were completely different from the holotype, belonging to a different genus. The holotype is not a *Trichogonatopus*, but an *Eucamptonyx*, because the pronotum is crossed by a deep transverse furrow and the enlarged claw has no subapical teeth and is provided of lamellae. Because of this situation, it is necessary to propose the following new combination for *Gonatopus dromedarius* Cameron: *Eucamptonyx dromedarius* (Cameron), new comb. In addition, *Eucamptonyx hansoni* Olmi 1991, should be considered a junior synonym of *E. dromedarius* (Cameron). A comparison of the types of both species has shown in fact that there are no differences.

2. *Eucamptonyx garcetei* Olmi, 1996
(Plate 148C, D)


**Male.** Unknown.

**Material examined.** Type: ♀ holotype: PARAGUAY: Presidente Hayes, along the Transchaco Road at Rio Confuso, 31.X.1993, B. Garcete & C. Aguilar leg. (MNHN).**

**Hosts.** In Paraguay unidentified Cixiidae (Olmi 1996a).

**Distribution.** Paraguay.

(Plate 149A)


**Description.** Female. Apterous; length 2.8–3.3 mm. Head brown, except mandible, clypeus and two frontal stripes along orbits testaceous; antennae testaceous; mesosoma brown; petiole black; metasoma brown; legs brown, except stalks of femora and tarsi testaceous. Antenna clavate; antennal segments in following proportions: 8:4:12:6:6:5:5:5:4:12:6:5. Head excavated, shiny, smooth, unsculptured, very slightly granulated on occiput and vertex; frontal line absent; occipital carina absent; temple distinct; POL = 1; OL = 1; OOL = 8. Palpal formula...

Male. Unknown.


Hosts. Unknown.


Remarks. Eucamptonyx purpurascens (Olmi 1984) was reported from Costa Rica by Olmi (1993a). This record is wrong, because the specimens identified as E. purpurascens are really belonging to a new species described as E. inanis. However, E. purpurascens lives in Costa Rica (see E. purpurascens).

4. Eucamptonyx medialis Olmi, 1995
(Plate 149B)


Description. Female. Apterous; length 4.6 mm. Head black, except mandible testaceous; antenna brown, except part of segment 1 and segments 9–10 testaceous; mesosoma black, except distal apex of propodeum testaceous; metasoma black; legs black, except part of coxae, trochanters, stalks of femora, tibiae and tarsi yellow-whitish. Antenna clavate, with rhinaria in segments 7–10; antennal segments in following proportions: 11:5:26:14:11:10:7:7:6.5:10. Head excavated, dull, granulated; frontal line absent; occipital carina absent; temple distinct; POL = 1; OL = 2; OOL = 9. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, smooth, unsculptured, with two lateral pointed apophyses on sides of anterior margin of scutellum. Metanotum shiny, smooth, unsculptured, almost flat, not hollow behind scutellum, with two
latero-dorsal pointed apophyses (apophyses not visible in dorsal view, but only in oblique view). Metathorax + propodeum with anterior surface shiny, smooth, unsculptured; posterior surface transversely striate. Mesometapleur suture obsolete. Mesopleuron unsculptured. Metapleur transversely striate. Protarsal segments in following proportions: 17:4:7:17:29. Enlarged claw (Plate 149B) with distal apex rounded, bent at right angle, not pointed, without subdistal tooth, with one row of three lamellae and three bristles. Segment 5 of protarsus (Plate 149B) with one row of eight lamellae located in distal half of segment; distal apex with at least 26 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Type: ♀ holotype: COSTA RICA: Puntarenas, Monteverde, 19 VII.1989, Paul Hanson leg. (AMNH).

Hosts. Unknown.


5. Eucamptonyx opacithorax (Olmi, 1984)
(Plate 149C)

Gonatopus opacithorax Olmi 1984: 1745.

Description. Female. Apterous; length 3.6 mm. Head testaceous–dark, except mandible testaceous; antenna testaceous; mesosoma black, except lateral regions of pronotum testaceous–dark, posterior half of scutum yellow and distal apex of propodeum testaceous; metasoma black; legs testaceous, except profemur and protibia almost totally brown, coxae and meso- and metafemur partly brown. Antenna clavate, with rhinaria in segments 6–10; antennal segments in following proportions: 10:7:28:15:12:11:9:7.5:6:10. Head excavated, shiny, smooth, unsculptured; frontal line incomplete; occipital carina absent; POL = 2; OL = 2.5; OOL = 8.5. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum shiny, with two lateral pointed apophyses. Scutellum with two lateral points. Metanotum flat, granulated. Metathorax + propodeum with anterior surface dull, granulated; posterior surface transversely striate. Meso-metapleur suture obsolete. Protarsal segments in following proportions: 16:4:8:17:30. Enlarged claw (Plate 149C) with distal apex rounded, bent at right angle, not pointed, without subdistal tooth, with one row of six lamellae and three bristles. Segment 5 of protarsus (Plate 149C) with one short row of six lamellae located in distal half of segment; distal apex with about 23 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Mexico.

(Plate 149D)


Metathorax + propodeum with anterior surface dull, granulated; posterior surface transversely striate. Mesometapleural suture obsolete. Mesopleuron and metapleuron transversely striate. Protarsal segments in following proportions: 15:3:7:17:29. Enlarged claw (Plate 149D) with distal apex rounded, bent at right angle, not pointed, without subdistal tooth, with one row of eight lamellae and some bristles. Segment 5 of protarsus (Plate 149D) with two rows of 3 + 11 lamellae; distal apex with about 40 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: MEXICO: Oaxaca, 4 mi NE of Miltepec, 21.VII.1984, J.B. Woolley leg. (USNM).

**Hosts.** Unknown.

**Distribution.** Mexico.

### 7. Eucamptonyx purpurascens (Olmi, 1984)
(Plate 150A, B)

*Gonatopus purpurascens* Olmi 1984: 1746.


**Description.** Female. Apterous; length 2.7–4.1 mm. Testaceous–reddish or brown-reddish, except scutum partly yellow, petiole black and metasoma darkened. In specimens from Costa Rica, 3 km SE of Rio Naranjo, scutum totally brown-reddish. In specimen from Panama, 08°47.14’N 82°12.50’W, body ferruginous, except petiole black. Antenna clavate, with rhinaria in segments 6–10; antennal segments in following proportions: 7:6:19:10:8:7:6:5:7. Head excavated, shiny, smooth, unsculptured, or dull and granulated; frontal line complete, thin; occipital carina absent; POL = 2; OL = 2; OOL = 9. In specimen from Panama, 08°47.14’N 82°12.50’W, head weakly excavated, almost flat, shiny, smooth, unsculptured. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum with two small lateral pointed apophyses (Plate 150A); region from lateral pointed apophyses to anterior margin of scutum about as broad as long (Plate 150A). Stalk between pronotum and metathorax + propodeum shorter than disc of pronotum (Plate 150A). Scutellum with two lateral points. Metanotum flat, granulated. Metathorax + propodeum with anterior surface shiny, unsculptured; posterior surface transversely striate. Meso-metapleural suture obsolete. Mesopleuron shiny, unsculptured. Metapleuron partly transversely striate. Protarsal segments in following proportions: 13:3:6:12:23. Enlarged claw (Plate 150B) with distal apex rounded, bent at right angle, not pointed, without subdistal tooth, with one row of five lamellae and five bristles. Segment 5 of protarsus (Plate 150B) with two rows of 8–18 lamellae extending beyond 0.5 length of segment; distal apex with at least 22 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Colombia, Costa Rica, Panama, Venezuela.

### 8. Eucamptonyx woolleyi Olmi, 1991
(Plate 150C)


**Description.** Female. Apterous; length 3.0 mm. Head black, except mandible testaceous and eye pink; antenna brown–testaceous; mesosoma black, except lateral regions of pronotum testaceous and posterior half of scutum...
yellow; metasoma black; legs brown, except tarsi, part of trochanters, part of coxae, stalk of metafemur and articulations yellow–whitish. Antenna clavate, with rhinaria in segments 7–10; antennal segments in following proportions: 7:5:18:9:8:7:6:6:5:7.5. Head flat, dull, granulated; frontal line absent; occipital carina absent; temple distinct; POL = 2.5; OL = 2; OOL = 8. Palpal formula 6/3. Pronotum unsculptured, except lateral regions partly granulated and partly sculptured by strong longitudinal keels; pronotum crossed by strong transverse impression; disc with medial transverse impression. Scutum dull, granulated, without lateral pointed apophyses. Metanotum flat, shiny, unsculptured, not hollow behind scutellum. Metathorax + propodeum with anterior surface shiny, unsculptured; posterior surface transversely striate. Meso-metapleural suture obsolete. Mesopleuron slightly granulated, not transversely striate. Metapleuron transversely striate. Protarsal segments in following proportions: 13:2:5:12:20. Enlarged claw (Plate 150C) with distal apex rounded, bent at right angle, not pointed, without subdistal tooth, with one row of six lamellae and two bristles. Segment 5 of protarsus (Plate 150C) with one short row of four lamellae located in distal half of segment; distal apex with about 16 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Mexico.

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**PLATE 150.** A. Mesosoma of holotype. B, C. Chelae of holotypes. A, B. *Eucamptonyx purpurascens*. C. *E. woolleyi*. Scale bar 0.62 mm for A, 0.18 mm for B, 0.16 mm for C.

**18. Genus Gonatopus Ljungh, 1810**


*Nec Labeo* Cuvier 1817: 194.


*Laubo* Haliday 1833: 273 (synonymized by Richards 1937); type species: *Labeo vitripennis* Haliday 1833, by monotypy;


Laebos Blanchard: Dalla Torre 1898: 542.


Pachygonatopus R. Perkins 1905: 45 (synonymized by Olmi 1984); type species: Pachygonatopus melanias R. Perkins 1905, by original designation.

Chalcogonatopus R. Perkins 1905: 46 (synonymized by Olmi 1984); type species: Chalcogonatopus gigas R. Perkins 1905, by original designation.

Eugonatopus R. Perkins 1905: 46 (synonymized by Olmi 1984); type species: Chalcogonatopus (Eugonatopus) pseudochromus R. Perkins 1905, by original designation.

Mercetia Kieffer in Kieffer & Marshall 1906: 495 (synonymized by Olmi 1996b); type species: Mercetia longicollis (Kieffer 1905a), by original designation; Kieffer: Kieffer 1914: 19; Olmi 1996b: 182.

Platygonatopus Kieffer in Kieffer & Marshall 1906: 500 (synonymized by Olmi 1984); type species: Platygonatopus planiceps (Kieffer 1904), by subsequent designation of Richards (1939); Benoit, 1951a: 300.


Cyrtoconatopus Kieffer 1907: 19 (synonymized by Olmi 1984); type species: Cyrtogonatopus breviforceps (Kieffer 1904), by monotypy.


Pristogonatopus Kieffer 1913b: 325 (synonymized by Olmi & Currado 1974); type species: Pristogonatopus dentatiforceps (Kieffer 1904), by original designation; Kieffer 1914: 71; Richards 1939: 195.

Digonatopus Kieffer 1913b: 325 (synonymized by Richards 1939); type species: Digonatopus javanus (R. Perkins 1912), by monotypy.

Trigonatopus Kieffer 1913b: 325 (synonymized by Olmi 1984); type species: Trigonatopus bifarius (Kieffer in Kieffer & Marshall 1906), by original designation; Kieffer 1914: 72.

Laberius Kieffer 1914: 59, new name for Laebol Haliday 1833 (synonymized by Richards 1937); Richards 1936: 169.

Trichogonatopus Hellén 1930: 2 (synonymized by Olmi 1984); type species: Trichogonatopus lindbergi Hellén 1930, by original designation.

Laberimis Ogliblin 1932: 266 (misspelling or lapsus).

Metagonatopus Ogliblin 1932: 264 (synonymized by Olmi 1984); type species: Metagonatopus brasiliensis Ogliblin 1932, by original designation.

Allogonatopus Haupt 1938: 27 (synonymized by Olmi 1984); type species: Allogonatopus procerus Haupt 1938, by original designation.

Donisthorpinia Richards 1939: 201 (synonymized by Olmi 1993b); type species: Donisthorpinia formicicolia Richards 1939, by original designation; Olmi 1984: 1304; Olmi 1993b: 78.

Plectrogonatopus Richards 1939: 207 (synonymized by Olmi 1984); type species: Plectrogonatopus striatus (Kieffer 1905), by original designation.

Tetrodontochelys Richards 1939: 217 (synonymized by Olmi 1993b); type species: Tetrodontochelys lunghii (Westwood 1833), by original designation; Olmi 1984: 1434; Olmi 1993b: 78.

Epigonatopoides Richards 1939: 221 (synonymized by Olmi 1984); type species: Epigonatopoides pulicarius (Klug 1810), by original designation.


Rhynchogonatopus Benoit 1954: 390 (synonymized by Olmi 1984); type species: Rhynchogonatopus meridionalis Benoit 1954, by original designation.

Madecagonatopus Benoit 1954: 392 (synonymized by Olmi 1984); type species: Madecagonatopus ankaratris (Ceballos 1936), by original designation.

Pseudogonatopoides J. Williams 1956: 90 (synonymized by Olmi 1984); type species: Pseudogonatopoides mauritianus J. Williams 1956, by original designation.

Cyrtoconatopus Ponomarenko 1966: 1579 (synonymized by Olmi 1984); type species: Cyrtogonatopoides borealis
Ponomarenko 1966, by original designation.


*Dolichocheles* Olmi & Currado 1976: 177 (synonymized by Olmi 1984); type species: *Dolichocheles longicornis* (Kieffer 1904), by original designation.


*Nogatopus* Ponomarenko 1979: 357 (synonymized by Olmi 1984); type species: *Nogatopus gobiensis* Ponomarenko 1979, by original designation.


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**PLATE 151.** Female of *Gonatopus* sp. Length 3.0 mm (from Olmi, 1999b).

**Type species.** *Gonatopus formicarius* Ljungh 1810, by monotypy.

**Diagnosis.** Female: apterous (Plates 151, 167A, 190F) or fully winged (not found in the Neotropical region; fig. 270 in Olmi 1999b); palpal formula 3/2, 4/2, 4/3, 5/2, 5/3, or 6/3; antenna with or without rhinaria; pronotum crossed or not by transverse furrow (Plates 151, 167A, 190F); enlarged claw with distal apex pointed and with one large or small subapical tooth (Plates 153B, D) (occasionally subapical tooth absent, then enlarged claw with distal group of lamellae (not found in the Neotropical region; fig. 9 in Olmi 1994c)); in fully winged forms, segment 5 of protarsus with more than 20 lamellae; tibial spurs 1/0/1.

Male: Fully winged (Plate 152B, D); occipital carina absent or incomplete (in this last case, only present behind and shortly on sides of posterior ocelli); occiput concave; temple present; palpal formula 3/2, 4/2, 4/3, 5/2, 5/3, or 6/3; tibial spurs 1/1/2.

**Distribution.** Worldwide.

World species. Four hundred and forty-one species are known, 123 in the Neotropical region, including four species incertae sedis.


The genus Trichogonatopus Kieffer 1909, has been considered in the past (Olmi 1984, 1993b) a good genus separated from Gonatopus Ljung 1810, mainly because no males were known, though female characters suggested the possibility that the two above genera were synonyms. However, more recently, Virla et al. (2010) described for the first time the male of Trichogonatopus richardsi Olmi 1984. They found that no generic differences with Gonatopus could be attributed to that male. For this reason, they proposed the following new combination: Gonatopus richardsi (Olmi 1984) (=Trichogonatopus richardsi), new comb. As Gonatopus richardsi (Olmi 1984), was preoccupied by Gonatopus richardsi (Móczár 1965), they proposed the new name Gonatopus trichosoma, for Trichogonatopus richardsi Olmi 1984. The above discovery of the first male of a Trichogonatopus, permits now here to consider Trichogonatopus junior synonym of Gonatopus. To support the above synonymy, in females from Argentina, Loreto and Tiliúmii, and Paraguay, 9 km S San Bernardino, the pronotum shows a deep transverse impression, as in Gonatopus Ljungh.

Key to the groups (females)

Gonatopus females were divided for convenience by Olmi (1993b) into eleven groups (Xu et al. 2013). After the discovery of the new synonymy of Gonatopus Ljungh with Trichogonatopus Kieffer (see above remarks), a further group can be added. The above 12 group are distinguished on the basis of the following characters:

1. Fully winged (not found in the Neotropical region; fig. 270 in Olmi 1999b). ........................................ Group 11
   – Apterous (Plates 151, 167A, 190E). .................................................................................................................. 2
2. Enlarged claw without subapical tooth (Fig. 9 in Olmi 1994c), or with one very small subapical tooth (Plate 181A) . 3
   – Enlarged claw with one large subapical tooth (Plate 168D, E). ................................................................. 6
3. Distal apex of enlarged claw with group of lamellae (not found in the Neotropical region; fig. 9 in Olmi 1994c). . . . 8
   – Distal apex of enlarged claw without lamellae (Plates 181A, E, 182E–G, 183C, D) .......................................... 4
   – Pronotum not crossed by transverse impression or slightly impressed (Plates 202, 203A, C) ......................... 5
5. Palpal formula 6/3 (former Trichogonatopus Kieffer) ......................................................................................... Group 12
   – Palpal formula different. ................................................................................................................................. Group 6
6. Pronotum not crossed by transverse impression or slightly impressed (as in Plate 172B). ............................... 7
   – Pronotum crossed by strong transverse impression (Plates 164C, 167E). ..................................................... 8
7. Labial palpi 3-segmented ......................................................... Group 9 (not found in the Neotropical region)
   – Labial palpi 2-segmented ................................................................................................................................. Group 5
8. Enlarged claw without lamellae, with or without bristles or peg-like hairs (Plate 153B, D) . ......................... Group 1
   – Enlarged claw with lamellae (Plates 154E, F, 155D, E) .............................................................................. 9
9. Labial palpus 2-segmented. ........................................................ ................................................................. 10
   – Labial palpus 3-segmented ............................................................................................................................... 11
10. Maxillary palpus composed of 2–4 segments ................................................................................................. Group 2
    – Maxillary palpus 5-segmented ......................................................................................................................... Group 10
11. Maxillary palpus 6-segmented ........................................................................................................................... Group 4
    – Maxillary palpus with 4–5 segments .................................................................................................................. 12
12. Maxillary palpus 5-segmented ........................................................................................................................ Group 3
    – Maxillary palpus 4-segmented ......................................................................................................................... Group 10

The above groups are distributed in the zoogeographical regions as follows:

Palaeartic: groups 1, 2, 3, 4, 5, 6, 7, 10, 11.
Afrotropical: groups 1, 2, 3, 4, 5, 6, 7, 8, 11.
Oriental: groups 1, 2, 3, 4, 5, 6, 7, 10.
Nearctic: groups 1, 2, 3, 4, 5, 6, 7, 9, 10, 12.
Neotropical: groups 1, 2, 3, 4, 5, 6, 7, 10, 12.
Australian: groups 1, 2, 4, 5, 6, 7, 9.
As far as, it is not possible divide also males into the above groups.

All Neotropical species of Gonatopus can be attributed to one of the above nine female groups, except Gonatopus grenadensis (Ashmead 1900), Gonatopus paranensis (Ogloblin 1932), Gonatopus sanctivincenti (Ashmead 1894) and Gonatopus simulans (Ashmead 1894). The attribution of these species to a distinct group is impossible, because they have been described on the basis of male specimens and their females are unknown. For this reason, they are attributed to an uncertain group (see “Uncertain group” or “incertae sedis” species).

Key to the males
(unknown in the species not present in the key to the males) (males not divided into groups)

1. Antennal segment 3 less than three times as long as broad ........................................... 2
   – Antennal segment 3 three times or more than three times as long as broad .................... 7

2. Notauli incomplete ........................................................................................................... G. zolnerowitchi (Olmi)
   – Notauli complete ......................................................................................................... 3

3. Propodeum smooth and irregularly striate, not reticulate rugose, not granulated. ........ G. hermosensis Virla & Olmi
   – Propodeum at least partly reticulate rugose or granulated ........................................... 4

4. Dorsal process of paramere reduced and lobe shaped (Plate 172C). ............................. G. caraicus (Olmi)
   – Dorsal process of paramere not reduced, not lobe shaped (Plate 197A). ......................... 5

5. Propodeum with dorsal surface granulated and posterior surface almost unsculptured. .......................... G. trichosoma Virla, Espinosa & Olmi
   – Propodeum completely reticulate rugose ..................................................................... 6

6. Dorsal process of paramere long and with proximal part broad (Plate 204C) ................. Gonatopus (=Labeo) sanctivincenti (Ashmead) (species incertae sedis)
   – Propodeum of paramere short and with proximal part slender (Plate 192F). .............. G. moyarengozai Olmi

7. Propodeum completely reticulate rugose ........................................................................ 8
   – Propodeum at most partly reticulate rugose, completely or partly smooth, occasionally completely granulated .... 9

8. Dorsal process of paramere longer than penis, or about as long as penis (Plates 16A, 204B) .............................................. 12

9. Distal and lateral margins of dorsal process of paramere without papillae (Plate 204B). ...
   – Distal region of the dorsal process of paramere with small papillae (Plate 198C) or deeply serrated (Plate 164E) ........... 11

10. Dorsal process of paramere very broad (Plate 204B) .................................................. Gonatopus (=Laberinus) paranensis (Ogloblin) (species incertae sedis)
    – Dorsal process of paramere very slender (Plate 196A). .............................................. G. silvestrii Kieffer

11. Distal region of dorsal process of paramere with small papillae (Plate 198C); antennal segment 3 more than four times as long as broad ........................................... G. vidanoi Olmi
    – Distal region of dorsal process of paramere deeply serrated (Plate 164E); antennal segment 3 three times as long as broad. ............................... G. cuyanus Virla & Olmi


13. Notauli posteriorly joint ............................................................................................... 14
    – Notauli posteriorly separated ..................................................................................... 16

14. Dorsal process of paramere very slender (Plate 154B, C) .............................................. G. chilensis (Olmi)
    – Dorsal process of paramere broad (Plates 159G, 160G) ............................................. 15

15. Dorsal process of paramere with inner margin serrate (Plate 160G) ...................... G. krombeini Olmi
    – Dorsal process of paramere with distal apex slightly serrate and inner margin not serrate (Plate 159G) .............. G. hilaris Olmi

16. Head almost completely testaceous, except darkened vertex ........................................ G. peckii (Olmi)
    – Head black, with mandible testaceous ...................................................................... 17

17. Dorsal process of paramere much shorter than paramere and with medial region broadened (Plates 166C, 187D) .............. 18
    – Dorsal process of paramere slender, approximately as long as paramere (Plates 154B, 165A) ................................. 19

18. Dorsal process of paramere less broad (Plate 187D); head with shiny and smooth oval area between eyes and posterior ocelli ........................................... G. flavipes Olmi
    – Dorsal process of paramere broader (Plate 166C); head without shiny and smooth oval area between eyes and posterior ocelli ...................................................... G. frizii Olmi

19. Labial palpus 3-segmented .......................................................................................... G. arnaudi (Olmi)
    – Labial palpus 2-segmented ....................................................................................... 20

20. Notauli almost joint at posterior margin of scutum ......................................................... G. chilensis (Olmi)
    – Notauli distinctly separated; minimum distance between them slightly shorter than greatest breadth of posterior ocelli ............ G. silvestrii Kieffer

21. Labial palpus 2-segmented ......................................................................................... 22
    – Labial palpus 3-segmented ....................................................................................... 26

22. Dorsal process of paramere very long (Plates 154A, 190C) ........................................ G. simans Olmi
    – Dorsal process of paramere shorter and with proximal part less slender (Plates 168G, 171D, 198E, 204A) .............. 24
Two species are known in the Neotropical region.

Key to the species (females)

1. Anterior surface of metathorax + propodeum slightly inclined (Plate 153C); head, pronotum and metathorax + propodeum usu-
ally granulated (except numerous transverse striae on posterior surface of propodeum), rarely partly unsculptured ........................................ G. cubensis (Richards)

– Anterior surface of metathorax + propodeum more inclined (Plate 153E); head, pronotum and metathorax + propodeum unsculptured (except numerous transverse striae on posterior surface of propodeum) ......................... G. mirabilis (Olmi)

1. Gonatopus cubensis (Richards, 1969)
(Plate 153A–C)


Description. Female. Apterous; length 2.6–3.7 mm. Head black, except mandible, clypeus and anterior region of face yellow; antenna brown, except segments 1–3 yellow; mesosoma black, except distal apex of propodeum reddish; metasoma black; legs yellow, except coxae and clubs of femora almost totally black; protibia with outer side black; meso- and metatibia with both extremities black. Antennae clavate; antennal segments in following proportions: 5:4:10:6:5:4:4:6: Head flat, shiny, hairless, granulated; POL = 2; OL = 1; OOL = 5. Palpal formula 3/2, 4/2. Pronotum crossed by strong transverse impression, shiny, hairless, granulated. Scutum granulated. Metanotum transversely striate, with sides rounded. Metathorax + propodeum (Plate 153C) shiny, granulated, with posterior surface transversely striate. Mesopleuron and metapleuron not transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 13:2:3:6:5:12. Enlarged claw (Plate 153B) with one large subapical tooth and one row of about five peg-like hairs. Segment 5 of protarsus (Plate 153B) with two rows of 10–18 lamellae; distal apex with about seven lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.0 mm. Black, except legs banded and tarsi testaceous. Antenna filiform; antennal segments in following proportions: 5:5:8.5:8:8:7.5:7:5:7:5:9; antennal segment 3 more than three times as long as broad (about 3.21). Head shiny, slightly alutaceous; occipital carina absent; temple distinct. Palpal formula 4/2. Scutum shiny, hairy, alutaceous. Notauli incomplete, reaching approximately 0.5 length of scutum. Scutellum and metanotum shiny, alutaceous. Propodeum completely shiny, smooth, unsculptured; dorsal surface with median longitudinal furrow. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere (Plate 153A) curved, not distally broadened, with distal third parallel to penis. Tibial spurs 1/1/2.


Distribution. Antigua, Argentina, Cuba, Dominican Republic, Dutch Antilles, Guadeloupe, Martinique, Mexico, Paraguay, Venezuela.
2. Gonatopus mirabilis (Olmi, 1987)
(Plate 153D, E)


Male. Unknown.


Hosts. Unknown.


Group 2

Twenty species are known in the Neotropical region.
Key to the species (females)

1. Meso-metapleural suture distinct and complete ........................................... 2
   – Meso-metapleural suture obsolete, or only with proximal part distinct .......... 4
2. Scutum laterally with two strong pointed apophyses (Plate 199D) .......... G. pecki (Olmi) 6
   – Scutum laterally without pointed apophyses (Plate 162E) ......................... 3
3. Body more or less black or brown ............................................................. G. morenoi (Olmi)
   – Body testaceous, with petiole black ........................................................ 8
4. Scutum laterally with two pointed apophyses (Plates 154H, 157D, 199D) ......
   – Scutum laterally without pointed apophyses (Plates 154D, 159B, 160F, 163I) .... 11
5. Lateral pointed apophyses of scutum very big and prominent (Plate 199D) .... G. pecki (Olmi)
   – Lateral pointed apophyses of scutum smaller (Plates 157D, 154H) ....... 6
6. Metanotum with sides laterally protruding, protrusions rounded (Plates 157D, 161E) .... 7
   – Metanotum with sides rounded, not protruding (Plates 154H, I, 156C, 163E) ........ 9
7. Body partly black and partly testaceous .................................................. G. delphacidis (Olmi)
   – Body testaceous, with petiole black ........................................................ 8
8. Head with OOL more than five times as long as POL ........................................ 1
   – Head with OOL less than five times as long as POL .................................. G. lauri (Virla)
9. Metathorax + propodeum black, with distal apex testaceous .................. G. musebecki (Olmi)
   – Metathorax + propodeum totally or mostly testaceous or testaceous-reddish .... 10
10. Mesosoma very slender (Plate 156C) ....................................................... G. drifti (Olmi)
11. At least metathorax + propodeum black (usually except testaceous distal apex) .... 12
   – Metathorax + propodeum totally testaceous, or testaceous-reddish, or partly brown and partly testaceous-reddish .... 15
12. Sides of metanotum protruding, protrusions pointed (Plate 160F) .......... G. krombeini Olmi
   – Sides of metanotum rounded, protrusions rounded (Plates 154D, 159B, 163I) .... 13
13. Posterior surface of propodeum totally granulated, not transversely striate .... G. giselaeVirla
   – Posterior surface of propodeum strongly or weakly transversely striate ....... 14
14. Anterior surface of metathorax + propodeum granulated, not sculptured by fine longitudinal striae; scutum black ................................................ G. canadensis (Olmi)
   – Anterior surface of metathorax + propodeum sculptured by many fine longitudinal striae; scutum mostly yellow .... G. villanilensis Olmi & Virla sp. nov.
15. Metathorax + propodeum partly or mostly brown ..................................... 16
   – Metathorax + propodeum totally testaceous or testaceous-reddish .............. 17
16. Sides of metanotum rounded (Plate 155B); anterior surface of metathorax + propodeum less inclined (Plate 155F) ............................ G. cobbeni (Olmi)
   – Sides of metanotum protruding (Plate 159E); anterior surface of metathorax + propodeum more inclined (Plate 159F) ... ........................................ G. hilaris Olmi
17. Antenna brown, except segment 10 whitish ................................................. G. flavoides Olmi
   – Antenna completely yellow-testaceous, or brown, with segments 1–2 testaceous .... 18
18. Metasoma black .......................................................... G. maidicolus (Olmi)
   – Metasoma testaceous .............................................................. 19
19. Sides of metanotum rounded, not protruding laterally (Plate 163G); anterior surface and disc of metathorax + propodeum unsculptured and shiny ........................................ G. varistratius (Fenton)
   – Sides of metanotum laterally protruding; protrusions rounded (Plate 155C, 160D); anterior surface and disc of metathorax + propodeum granulated and dull .......... 20
20. Metanotum very long, very protruding laterally (Plate 155C) .......... G. concinnus Olmi & Virla
   – Metanotum very short, little protruding laterally (Plate 160D) ................. G. isabelensis Olmi & Virla sp. nov.

1. Gonatopus canadensis (Olmi, 1984)
   (Plate 154A, D, E)


Description. Female. Apteronous; length 2.8–3.0 mm. Head black, except mandible, clypeus and anterior region of face (more along orbits) testaceous; antenna brown or brown-black, except segments 1–2 testaceous; mesosoma and metasoma black; legs testaceous, except protibia and club of profemur brown. Antenna clavate; antennal segments in following proportions: 7:6:11:8:7:7:6.5:6:5.5:9. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 3; OOL = 9. Palpal formula 4/2, 5/2. Pronotum crossed by strong
transverse impression, dull, slightly granulated. Scutum dull, granulated. Metanotum transversely striate, with sides protruding; lateral protrusions rounded (Plate 154D). Mesopleuron and metapleuron slightly transversely striate. Metathorax + propodeum dull, granulated, with numerous strong transverse striae on posterior surface. Disc and anterior surface of metathorax + propodeum with strong track of median longitudinal furrow. Mesometapleural suture obsolete, rarely hardly visible. Protarsal segments in following proportions: 15:3:5:11:17. Enlarged claw (Plate 154E) with one large subapical tooth and one row of 4–5 lamellae. Segment 5 of protarsus (Plate 154E) with two rows of 15–19 lamellae; distal apex with about six–ten lamellae. Tibial spurs 1/0/1.

PLATE 154. A, B, C. Male genitalia. D. Mesosoma (prothorax removed) of female paratype in dorsal view. E, F. Chelae of holotypes. G. Mesosoma of female paratype in lateral view. H. Mesosoma of female from Ecuador, Cornejo Astorga, in dorsal view. A. Gonatopus canadensis, male from USA, Valois. B, C. G. chilensis, males from Argentina, La Plata (B), and Ecuador, Cornejo Astorga (C). D, G. G. canadensis, from California, Caldor. E. G. canadensis. F, H, I. G. chilensis. Scale bar 0.09 mm for A, B and C, 0.32 mm for D, 0.15 mm for E, 0.12 mm for F, 0.50 mm for G, 0.78 mm for H, 0.53 mm for I.

Male. Fully winged; length 2.4 mm. Head black, except mandible partly yellow; antenna brown; mesosoma and metasoma black; legs brown. Antenna filiform; antennal segments in following proportions: 7:5:11:12:12:10:11:11:12; antennal segment 3 more than three times as long as broad (12:3). Head shiny, granulated; frontal line absent; occipital carina absent; temple distinct; occiput concave; POL = 9; OL = 5; OOL = 4. Palpal formula 2/2. Scutum dull, granulated. Notauli complete, posteriorly separated, very close. Scutellum and metanotum shiny, smooth, unsculptured or finely punctate. Propodeum dull, reticulate rugose. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein much longer than proximal part. Dorsal process of paramere (Plate 154A) about as long as paramere, very broad, with papillae on distal region and distal margin serrate. Tibial spurs 1/1/2.
Material examined. Types: ♀ holotype: CANADA: Alberta, Red Deer (CNC). Paratypes: USA: California, El Dorado Co., Calaveras, 3 ♀ (DETAM); same locality label, 1 ♀ (AMNH); California, San Luis Obispo Co., San Simeon, 1 ♀ (AMNH). Other material: COSTA RICA: Puntarenas, Monteverde, 10°18’N 84°49’W, 1400 m (AMNH). Nearctic region: species known from Canada (Alberta, Manitoba, Northwest Territories, Ontario), Mexico (Puebla), USA (California, Georgia, Illinois, New York).

Hosts. Delphacidae: in USA (California, New York) unidentified species.

Distribution. Costa Rica and Nearctic region (Canada, Mexico (Puebla), USA).

2. Gonatopus chilensis (Olmi, 1984)

(Plate 154B, C, F, H, I)


Description. Female. Apterous; length 3.1–3.3 mm. Head testaceous; antenna testaceous, except segments 3–8 or 3–9 darkened (in some specimens antenna brown, except segments 1–2 and 10 testaceous; in other specimens segment 10 brown (see remarks)); mesosoma testaceous-reddish; petiole black; metasoma brown; legs testaceous. Antenna clavate; antennal segments of holotype in following proportions: 10:7:15:10:7.5:7:6:6:6:9.5. Head excavated, alutaceous; frontal line complete; occipital carina absent; POL = 2; OL = 1.5; OOL = 8. Palpal formula 3/2. Pronotum crossed by slight transverse impression, shiny, smooth and unsculptured. Scutum dull, slightly granulated, laterally with two pointed apophyses (Plate 154H, I). Metanotum flat, strongly transversely striate, not hollow behind scutellum, with sides rounded, not protruding laterally (Plate 154H, I). Metathorax + propodeum shiny, unsculptured, except numerous striae on posterior surface of propodeum and metapleuron; mesopleuron transversely striate; meso-metapleural suture obsolete. Protarsal segments in following proportions: 19:3:5:15:23. Enlarged claw (Plate 154F) with one large subapical tooth and one row of four–six lamellae. Segment 5 of protarsus (Plate 154F) with two rows of three–four + 8 lamellae; distal apex with about 14 lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.1–2.6 mm. Head black, except mandible testaceous; antenna brown, or black, except segments 1–2 brown; metasoma brown; legs testaceous or brown. Antenna filiform; antennal segments in following proportions: 5:5:9:9:5:10:9:8:8:5:11; antennal segment 3 more than four times as long as broad: 9:1.5. Head shiny, hairy, unsculptured; frontal line absent; occipital carina absent; POL = 5; OL = 2; OOL = 2; vertex with two oval smooth and shiny areas between posterior ocelli and eyes (areas not anteriorly surrounded by high carina); temple distinct; occiput concave. Palpal formula 3/2. Scutum, scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Notauli complete, posteriorly very close, but separated. Propodeum dull, reticulate rugose, with dorsal surface shiny and less rugose. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein curved, with distal part much longer than proximal part. Dorsal process of paramere (Plate 154B, C) long and slender, approximately as long as paramere. Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype: CHILE: Araucanía, Malloco Province, Pemehue, 2.II.1968, C.W. O’Brien leg. (CAS). Other material: ARGENTINA: Buenos Aires, Bella Vista (FCNM); Buenos Aires, José C. Paz (FCNM); Buenos Aires, Villa Devoto (FCNM); Buenos Aires, Laguna La Bellaca (FCNM, AMNH); Buenos Aires, La Plata, 17.IV.1988, 27.X.1989, 15.I.1990, E. Virla leg., females and males (FCNM, AMNH, IFML); Buenos Aires, Santa Catalina (IFML); Buenos Aires, Temperley (De Santis & Virla 1991); Buenos Aires, Ostende, 6.II.1991, E. Virla leg. (Virla 2000a); Catamarca, Santa Maria, 26°41’S 66°02’W, 1957 m, III.2000 (Virla 2003b); Cordoba, Sarmiento, 3.XII.1997, ex Delphacodes kuscheli Fennah, E. Virla leg., 1 ♀ (IFML); Cordoba, Rio Cuarto, 10.XI.1994, ex Delphacodes kuscheli Fennah, E. Virla leg. (IFML, AMNH); Entre Rios, La Paz, 30.XII.1990, ex Toya propinqu a (Fieber), E. Virla leg. (De Santis & Virla 1991); Misiones, Loreto (FCNM); Santa Fé, Rafaela.
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DRYINIDAE OF THE NEOTROPICAL REGION


Natural enemies. In Argentina the following Encyrtidae: Helegonatopus pseudophanes R. Perkins (De Santis & Virla 1991) and Cheiloneurus flaccus (Walker) (=Cheiloneurus cupreicollis Ashmead (Guerrieri & Viggiani 2005; Virla 2003a)); in Ecuador the following Encyrtidae: Helegonatopus pseudophanes R. Perkins and Cheiloneurus sp. near gonatopodis R. Perkins (Olmi 1987b; misid. Pseudogonatopus flavus Olmi).

Distribution. Argentina, Chile, Colombia, Costa Rica, Ecuador, Perú.

Remarks. According to Olmi (1999d), the parthenogenesis of this species is thelytokous (based on specimens from Ecuador). According to one of the authors (Virla, unpublished), females from Argentina, Buenos Aires Province, have antennal segment 10 testaceous and a thelytokous parthenogenesis; females from Argentina, Tucumán Province, have antennal segment 10 brown and an arrhenotokous parthenogenesis. The meaning of this difference has not been explained (probably they are different species) (Virla & Mangione 2000).

3. Gonatopus cobbeni (Olmi, 1987)

(Plate 155B, D, F)


Description. Female. Apterous; length 2.4–3.4 mm. Head testaceous, except vertex brown; antenna brown, except segments 1–2 testaceous and segment 10 white; pronotum brown, except lateral regions reddish or brown-reddish; scutum yellow; rest of mesosoma brown or brown-reddish, except disc and anterior surface reddish-testaceous (occasionally disc brown); metasoma brown-reddish; legs testaceous, except tibiae and clubs of femora darkened. Antenna clavate; antennal segments in following proportions: 6:4:8:5:4:4:4:3.5:7. Head excavated, granulated; frontal line complete; occipital carina absent; POL = 0.5; OL = 1.5; OOL = 6. Palpal formula 3/2. Pronotum crossed by strong transverse impression, shiny, slightly granulated. Mesopleuron transversely striate. Metanotum inclined, transversely striate. Metathorax + propodeum (Plate 155B, F) smooth, shiny, unsulptured, except posterior surface and metapleura dull and transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 10:2:3:9:5:14. Enlarged claw (Plate 155D) with one large subapical tooth and one row of four lamellae. Segment 5 of protarsus (Plate 155D) with two rows of 13 lamellae; distal apex with about 11 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Delphacidae (Guglielmino & Olmi 1997); in the Dutch Antilles (Bonaire Island): Calligypona sp. (Olmi 1987d).

Distribution. Costa Rica, Dutch Antilles.
**4. Gonatopus concinnus** Olmi & Virla, 2009

*(Plate 155A, C, E, G)*


**Description.** 

**Male.** Fully winged; length 2.3 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs testaceous, except coxae, femora and tibiae partly darkened. Antenna filiform; antennal segments in following proportions: 4:4:8:6.5:6.5:6:6:6:7; antennal segment 3 more than three times as long as broad (8:2). Head shiny, hairy, granulated, partly unsculptured; frontal line absent; occipital carina absent;
POL = 6; OL = 2.5; OOL = 3; greatest breadth of posterior ocelli as long as OL; vertex without two oval smooth and shiny areas between posterior ocelli and eyes; temple distinct; occiput concave. Palpal formula 4/2. Scutum finely punctate, unsculptured among punctures, partly granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli (1:2.5). Scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Propodeum dull, completely granulated. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein curved, with distal part much longer than proximal part (16:7). Dorsal process of paramere (Plate 155A) reduced, band-shaped lying along paramere. Tibial spurs 1/1/2.


Distribution. Argentina, Mexico.

5. Gonatopus delphacidis (Olmi, 1984) (Plate 156A)


Description. Female. Apterous; length 3.0 mm. Head testaceous, except vertex dark; antenna brown, except segments 1–2 yellow; prothorax reddish; scutum yellow; rest of mesosoma black, except distal apex of propodeum testaceous; metasoma testaceous-reddish; petiole black; legs testaceous, except metacoxa partly black and stalk of metafemur brown. Antenna clavate; antennal segments in following proportions: 8:4:11:6:5:5:5:5:8:8. Head excavated, shiny, unsculptured; frontal line complete; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 8. Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, unsculptured. Scutum shiny, with some slight longitudinal keels, with two lateral pointed apophyses. Mesopleuron transversely striate. Metanotum shiny, smooth, unsculptured; frontal line complete; occipital carina absent; PROCRUSTAL ANALYSIS


Hosts. Unknown.

Distribution. Brazil.
PLATE 156. A, B. Chelae of holotypes. C. Mesosoma of female holotype in dorsal view. A. Gonatopus delphacidis. B, C. G. drifti. Scale bar 0.13 mm for A, 0.14 mm for B, 0.51 mm for C.

6. Gonatopus drifti (Olmi, 1991)
(Plate 156B, C)


Description. Female. Apterous; length 3.4–4.0 mm. Completely testaceous, except petiole black; occasionally antenna brown, except segments 1–2 testaceous; occasionally antennal segment 10 whitish. Antenna clavate; antennal segments in following proportions: 8:4.5:13:7:5:5:5:5:6:5:9. Head excavated, shiny, smooth, unsculptured; frontal line complete; occipital carina absent; POL = 1; OL = 1.5; OOL = 7.5. Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, smooth, hairy, unsculptured. Scutum shiny, smooth, unsculptured, with two lateral pointed apophyses (Plate 156C). Scutellum unsculptured. Mesopleuron transversely striate. Metanotum inclined, not hollow behind scutellum, shiny, smooth, unsculptured. Metathorax + propodeum shiny, smooth, unsculptured, with posterior surface and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 12:3:5:16:25. Enlarged claw (Plate 156B) with one large subapical tooth and one row of five–seven lamellae. Segment 5 of protarsus (Plate 156B) with two rows of 14–17 lamellae; distal apex with about 13 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Types: ♀ holotype; SURINAME: Pocroc, IX.1959, L.v.d. Drift leg. (MZUS). Paratypes: COSTA RICA: Guanacaste, SW Volcán Cacao, Estación Mengo, 1100 m, 1988–89, Paul Hanson leg., 1 ♂ (AMNH); Guanacaste, 9 km S Santa Cecilia, Estación Pitilla, 700 m, V.1989, Paul Hanson leg., 1 ♂ (AMNH); Limón, 16 km W Guápiles, 400 m, III–V.1990, Paul Hanson leg., 1 ♂ (EBUC); Puntarenas, Golfo Dulce Forest Reserve, 10 km W Piedras Blancas, 100 m, VI–VIII.1989, Paul Hanson leg., 1 ♂ (AMNH). PERU: Cusco, base of
7. **Gonatopus finnamorei** Olmi, 1995

(Plate 157)


**Description. Female.** Apterous; length 2.6–3.0 mm. Completely testaceous, except petiole black. Antenna clavate; antennal segments in following proportions: 8:4:11:6:5:4.5:4.5:4.5:4.5:8. Head (Plate 157B, E) excavated, shiny, smooth, unsculptured; frontal line incomplete, only present in posterior third of face; occipital carina absent; POL = 0.5; OL = 1; OOL = 7. Palpal formula 4/2. Pronotum crossed by little strong transverse impression, shiny, smooth, unsculptured. Scutum shiny, smooth, unsculptured, with two lateral pointed apophyses (Plate 157D). Mesopleuron smooth, unsculptured, except one stria from scutellum to lateral metanotum protrusions. Metanotum shiny, smooth, unsculptured, with sides protruding; lateral protrusions rounded (Plate 157D). Metathorax + propodeum (Plate 157C, D) shiny, smooth, unsculptured, with posterior surface and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 12:2:3.5:10:16. Enlarged claw (Plate 157A) with one large subapical tooth and one row of four–five lamellae. Segment 5 of protarsus (Plate 157A) with two rows of 10–14 lamellae; distal apex with about five–six lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: VENEZUELA: Mérida, La Montana Station, 2436 m (PMA). **Other material:** VENEZUELA: Amazonas, Cerro Yutajé, 05°45’N 66°08’W, 1750 m (MOLC).

**Hosts.** Unknown.

**Distribution.** Venezuela.

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**PLATE 157. ** Gonatopus finnamorei, holotype. **A.** Chela. **B.** Head in frontal view. **C.** Mesosoma in lateral view. **D.** Mesosoma in dorsal view. **E.** Head in dorsal view. Scale bar 0.14 mm for A, 0.42 mm for B and E, 0.50 mm for C and D.
8. *Gonatopus flavoides* Olmi, 1984
(Plate 158)


**Description. Female.** Apterous; length 2.3–2.8 mm. Completely yellow-testaceous, except petiole black; antenna brown, except segments 1–2 and 10 white; occasionally pronotum and vertex of head more or less darkened. Antenna clavate; antennal segments of holotype in following proportions: 13:7:18:9:8:6:7:7:14. Head (Plate 158B) excavated, shiny, slightly alutaceous; frontal line complete; occipital carina incomplete, only very shortly present on sides of posterior ocelli; **POL** = 2; **OL** = 3; **OOL** = 15. Palpal formula 3/2. Pronotum crossed by strong transverse impression, shiny, granulated. Scutum granulated, without lateral pointed apophyses. Metanotum transversely striate, not hollow behind scutellum, with sides rounded (Plate 158D). Metathorax + propodeum with anterior surface little inclined (Plate 158C). Meso-metapleural suture obsolete. Protarsal segments in following proportions: 8:2:5:9:14. Enlarged claw (Plate 158A) with one large subapical tooth and one row of four–five lamellae. Segment 5 of protarsus (Plate 158A) with two rows of 8–17 lamellae; distal apex with about 8–11 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Other material:** ARGENTINA: Jujuy, 5.4 km S La Mendieta, along S. Salvador-S. Pedro Road (Rd 56), parasitized host collected 24.XI.2006, dryinid cocooning 27.XI.2006, M. Olmi reared from a nymph of *Toya propinquia* (Fieber), 1 ♀ (MOLC).

**Hosts.** Delphacidae: in Argentina (Jujuy): *Metadelphax (=Toya) propinquia* (Fieber) (Virla & Olmi 2007a). The hosts listed by Guglielmino & Olmi (1997) and related to Ecuador and Colombia have to be attributed to *Gonatopus chilensis* Olmi, the identification of *G. flavoides* being a mistake.

**Distribution.** Argentina, Brazil, Chile, Grenada, Guadeloupe, Saint Lucia.

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PLATE 158. *Gonatopus flavoides*, holotype. **A.** Chela. **B.** Head in frontal view. **C.** Mesosoma in lateral view. **D.** Mesosoma in dorsal view. Scale bar 0.07 mm for A, 0.32 mm for B, 0.33 mm for C and D.
(Plate 159A–C)


**Description. Female.** Apterous; length 2.7 mm. Head brown, except clypeus, gena and anterior half of face testaceous; antenna brown-testaceous, except segments 1–2 testaceous; propleuron testaceous; pronotum testaceous, except anterior collar and lateral regions brown; scutellum and metathorax + propodeum black; metasoma brown; legs brown, except tarsi, meso- and metatibia, meso- and metatrochanter, stalk of protrochanter and articulations testaceous. Antennae clavate; antennal segments in following proportions: 8:4:9.5:4.5:4:4:4:4:7.5. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 1.5; OOL = 6. Palpal formula 4/2, 5/2 (holotype with right maxillary palpus 5-segmented and left maxillary palpus 4-segmented). Pronotum crossed by strong transverse impression, dull, slightly granulated; disc shiny. Scutum shiny, without lateral pointed apophyses. Mesopleuron granulated, not transversely striate. Metanotum flat, short, not hollow behind scutellum, with sides laterally protruding; protrusions rounded (Plate 159B, C). Metathorax + propodeum dull, granulated (except median stripe of anterior surface shiny and unsculptured); posterior surface of propodeum and metapleuron granulated, not transversely striate. Mesometapleural suture obsolete. Protarsal segments in following proportions: 12:2:4:11:17. Enlarged claw (Plate 159A) with one large subapical tooth and one row of six lamellae and one hair. Segment 5 of protarsus (Plate 159A) with two rows of 4 + 12 lamellae; distal apex with at least 13 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

**Material examined. Type:** ♀ holotype: ARGENTINA: Misiones, Dos de Mayo, 3.XII.1964, A.A. Ogloblin leg. (FCNM).

**Hosts.** Unknown.

**Distribution.** Argentina.

10. Gonatopus hilaris Olmi, 1995
(Plate 159D–G)


**Description. Female.** Apterous; length 2.9–3.6 mm. Head brown, except mandible, clypeus and face testaceous; antenna brown, except segments 1–2 testaceous; prothorax brown; scutum yellow, except lateral regions partly brown; scutellum and metanotum yellow; metathorax + propodeum brown, except lateral regions and distal apex partly testaceous; metasoma brown, partly testaceous; legs brown, except trochanters, part of coxae, stalks of femora, tibiae and tarsi testaceous. In specimen from Argentina, Pirané, head testaceous, except large brown spot on ocellar and frontal region; antenna brown, except segments 1–2 testaceous; prothorax testaceous, except transverse impression of pronotum brown; scutum yellow, except anterior third brown; mesopleuron testaceous and with brown spots; metathorax + propodeum testaceous, except brown spots on metapleuron; metasoma brown-testaceous; legs testaceous, except brown spots on coxae. Antenna clavate; antennal segments in following proportions: 8:5:12:7:5:4:5:4.5:8. Head excavated, shiny, smooth, unsculptured; frontal line complete; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 6. Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, unsculptured. Scutum shiny, unsculptured, without lateral pointed apophyses. Mesopleuron smooth, not transversely striate. Metanotum flat, shiny, smooth, unsculptured, not hollow behind scutellum, with sides laterally protruding; protrusions rounded (Plate 159E, F). Metathorax + propodeum smooth, shiny, unsculptured, except distal half of posterior surface transversely striate. Anterior surface of metathorax + propodeum very inclined (Plate 159E, F). Metapleuron smooth, not transversely striate. In specimen from Argentina, Pirané, disc of metathorax + propodeum with track of median longitudinal furrow. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 13:2:4:12:18. Enlarged claw (Plate 159D) with one large subapical tooth and one row of six–seven lamellae. Segment 5 of protarsus (Plate 159D) with two rows of 19–22 lamellae; distal apex with about 10–11 lamellae. Tibial spurs 1/0/1.
Male. Fully winged; length 2.1 mm. Head black, except mandible, clypeus, gena and small frontal area near clypeus brown-testaceous; antenna brown; mesosoma black; metasoma brown; legs testaceous, except meso- and metacoxa partly brown. Antenna hairy, not distally thickened; antennal segments in following proportions: 5:5:9:8:7:5:8:8:6:5:7:8; antennal segment 3 more than three times as long as broad (9:2). Head shiny, with face unsculptured and vertex and lateral areas slightly irregularly striate; frontal line absent; occipital carina absent; POL = 6; OL = 2; OOL = 2; ocelli very large (greatest breadth of posterior ocelli longer than OOL: 3.5:2); vertex with two oval smooth, slightly striate and shiny areas between posterior ocelli and eyes (areas not anteriorly surrounded by high carina). Palpal formula 4/2. Scutum shiny, punctate and unsculptured among punctures, or very slightly granulated. Notauli complete, posteriorly joint. Scutellum and metanotum shiny, smooth, punctate and unsculptured among punctures. Propodeum dull and completely reticulate rugose (with areolae very small); posterior surface without longitudinal or transverse keels. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein forming angle between distal and proximal parts; distal part of stigmatic vein longer than proximal part (17:9). Dorsal process of paramere (Plate 159G) long and broad, with distal apex pointed and slightly serrate. Tibial spurs 1/1/2.


Other material: ARGENTINA: Formosa, Pirané, XI.2000, E. Virla reared from Megamelus scutellaris (Berg), 2♀♀, 2♂♂ (EGVC).


Distribution. Argentina, Brazil.
(Plate 160A)


**Description. Female.** Apterous; length 2.3–2.7 mm. Completely testaceous, except petiole black, scutum yellow and antennal segment 10 white. In paratype metasoma black and antenna brown, except segments 1–2 testaceous and segment 10 white. Antenna clavate; antennal segments in following proportions: 7:5:8:5:5:4.5:4.5:4.5:7. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 1; OL = 3; OOL = 7. Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, smooth, unsculptured. Mesopleuron not transversely striate. Metanotum hollow behind scutellum, transversely striate, with sides protruding; protrusions pointed. Metathorax + propodeum shiny, smooth, unsculptured in holotype, granulated in paratype, with posterior surface and metapleuron transversely striate. Disc of metathorax + propodeum with slight track of median longitudinal furrow. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 9:2:3:9:15. Enlarged claw (Plate 160A) with one large subapical tooth and one row of six–eight lamellae. Segment 5 of protarsus (Plate 160A) with two rows of 13–17 lamellae; distal apex with about seven lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Ecuador.

![PLATE 160A. Chela of paratype. B, E. Chelae of holotypes. C, D. Mesosoma of female paratype in lateral (C) and dorsal (D, prothorax removed) view. F. Mesosoma of female holotype in dorsal view. G. Genitalia of male paratype. A. *Gonatopus invictus*. B–D. *G. isabelensis*. E–G. *G. krombeini*. Scale bar 0.12 mm for A and B, 0.43 mm for C, 0.34 mm for D, 0.14 mm for E, 0.26 mm for F, 0.07 mm for G.]

12. *Gonatopus isabelensis* Olmi & Virla, sp. nov.
(Plate 160B–D)

**Description. Female.** Apterous; length 2.6–3.1 mm (holotype 2.6 mm). Completely testaceous, except antennal
segments 3–10 brown and petiole black. Antenna clavate; antennal segments of holotype in following proportions: 8:5:15:8:7:5:5:8. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 1.5; OL = 3; OOL = 7; greatest breadth of posterior ocelli shorter than OL (2:3). Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, weakly granulated. Scutum dull, granulated, laterally without pointed apophyses (Plate 160C, D). Mesopleuron transversely striate. Metanotum flat, short, granulated, not hollow behind scutellum, with sides protruding; protrusions rounded (Plate 160C, D). Metathorax + propodeum dull, granulated, with numerous transverse striae on posterior surface of propodeum and metapleuron. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 15:2:5:13:20. Enlarged claw (Plate 160B) with one large subapical tooth and one row of five lamellae. Segment 5 of protarsus (Plate 160B) with two rows of 20 lamellae; distal apex with about 9 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Galapagos Islands (Ecuador).

Etymology. This species is named after the collection locality, Isabela Island.

(Plate 160E–G)


Description. Female. Apterous; length 2.6 mm. Head brown, except mandible, clypeus, malar space and anterior region of face near clypeus testaceous; antenna brown, except segments 1–3 testaceous; mesosoma black, except pronotum brown-black and scutum yellow; metasoma brown; legs brown, except tarsi and trochanters testaceous. Antenna clavate; antennal segments in following proportions: 8:6:9:5:4:4.5:4:4:9. Head excavated, dull, granulated; frontal line complete; occipital carina short, only present behind ocellar triangle; temple distinct; POL = 2; OL = 2.5; OOL = 7. Palpal formula 3/2. Pronotum crossed by strong transverse impression, dull, granulated, with lateral regions shiny and unsculptured. Scutum without lateral pointed apophyses. Mesopleuron transversely striate. Metanotum short, transversely striate, with sides laterally protruding; protrusions pointed (Plate 160F). Metathorax + propodeum smooth, shiny, unsculptured, except posterior surface and metapleurum transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 14:3:9:15. Enlarged claw (Plate 160E) with one large subapical tooth and one row of about five lamellae; distal apex with about 4 lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 1.9–2.2 mm. Head brown, except mandible testaceous; antenna brown; mesosoma brown; metasoma brown-testaceous; legs yellow. Antenna filiform; antennal segments in following proportions: 7:5:10:10:10:9:8:11; antennal segment 3 more than three times as long as broad (10:2). Head shiny, hairy, punctate, unsculptured among punctures; frontal line absent; occipital carina absent; POL = 5.5; OL = 2; OOL = 2.5. Palpal formula 3/2. Scutum dull, granulated. Notauli complete, posteriorly joint. Scutellum and metanotum shiny, smooth, punctate, unsculptured among punctures. Propodeum dull, reticulate rugose, without transverse or longitudinal keels; dorsal surface with strong median longitudinal furrow. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much longer than proximal part (20:8). Dorsal process of paramere (Plate 160G) with distal apex pointed and inner margin serrate. Tibial spurs 1/1/2.


Distribution. Peru.

(Plate 161)


**Description.** *Female.* Apterous; length 3.2–3.7 mm. Testaceous, except petiole black; in paratype from Argentina, Bella Vista, metasoma slightly darkened. Antenna clavate; antennal segments in following proportions: 8:5.5:16:8.5:6.5:6.5:6.5:9.5. Head (Plate 161C, D) excavated, shiny, slightly granulated; frontal line incomplete, only present in front of anterior ocellus; occipital carina absent; holotype with POL = 3; OL = 4; OOL = 9; paratype from Misiones, Loreto, with POL = 2.5; OL = 4; OOL = 8. Palpal formula 4/2. Pronotum (Plate 161E, F) crossed by very strong transverse impression, shiny, smooth, slightly granulated. Scutum shiny, smooth, unsculptured, with two lateral pointed apophyses (Plate 161E, F). Mesopleura with few transverse striae, among which one stria from scutellum to mesopleuron. Metanotum shiny, smooth, unsculptured, not hollow behind scutellum, with sides laterally protruding; protrusions rounded (Plate 161E, F). Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Metapleuron with few transverse striae. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 17:3.5:14:21. Enlarged claw (Plate 161A) with one large subapical tooth and one row of four–five lamellae. Segment 5 of protarsus (Plate 161A) with two rows of 19–24 lamellae; distal apex with about seven–eight lamellae. Tibial spurs 1/0/1.

*Male.* Fully winged; length 1.6 mm. Brown-reddish, except legs testaceous and antenna testaceous-dark. Antenna filiform; antennal segments in following proportions: 3:4:6:5:6:6:6:6:7.5; antennal segment 3 more than three times as long as broad (6:1.5). Head shiny, hairy, unsculptured; frontal line absent; occipital carina absent; temple distinct; POL = 4.5; OL = 2; OOL = 1. Palpal formula 3/2. Scutum, scutellum and metanotum shiny, smooth, hairy, finely punctate, unsculptured among punctures. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli (1:2). Propodeum shiny, smooth, unsculptured or partly very slightly rugose; dorsal surface with median longitudinal furrow; posterior surface without keels. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere (Plate 161B) about as long as paramere, with distal apex slender. Tibial spurs 1/1/2.


Distribution. Argentina, Uruguay.

PLATE 162. A, B. Chelae of holotypes. C. Mesosoma of female holotype in lateral view. D, E. Mesosoma of female from Mexico, near Puerto Morelos, in lateral (D) and dorsal (E, prothorax removed) view. A, C. Gonatopus maidicolus. B, D, E. G. morenoi. Scale bar 0.15 mm for A and B, 0.50 mm for C, 0.48 mm for D, 0.43 mm for E.

15. Gonatopus maidicolus (Olmi, 1987)
(Plate 162A, C)

Gonatopus maidicolus (Olmi): Olmi et al. 2000: 154; Schüepp & Olmi 2012: 60

Description. Female. Apterous; length 3.0 mm. Testaceous-reddish, except petiole and metasoma black and vertex of head darkened; antenna brown, except segments 1–2 yellow; legs testaceous, except club of mesofemur partly darkened. Antenna clavate; antennal segments in following proportions: 6:4:12:7:6:5:5:5:8. Head excavated, shiny, smooth, unsculptured; frontal line complete; occipital carina absent; POL = 2; OL = 2; OOL = 7. Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, smooth, unsculptured. Scutum without lateral pointed apophyses. Mesopleuron transversely striate. Metanotum flat, not hollow behind scutellum, transversely striate, with sides rounded. Metathorax + propodeum (Plate 162C) shiny, smooth, unsculptured, with posterior surface and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 15:3:5:13:20. Enlarged claw (Plate 162A) with one large subapical tooth and one row of five lamellae. Segment 5 of protarsus (Plate 162A) with two rows of 17 lamellae; distal apex with at least seven lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Belize.
(Plate 162B, D, E)

Pseudogonatopus morenoi Olmi 1984: 1284.

**Description. Female.** Apterous; length 1.9–3.0 mm. Head black, except mandible and clypeus testaceous; antenna black, except segments 1–2 testaceous and segment 10 white; mesosoma brown-black, except scutum yellow and distal apex of propodeum testaceous; metasoma brown-black; legs brown, except tarsi and trochanters yellow. Immature specimens with brown-testaceous body. In very small specimen from Mexico, Rancho Loma Bonita, body testaceous-dark, except metasoma brown, antenna totally testaceous and legs testaceous with clubs of femora brownish. Antenna clavate; antennal segments in following proportions: 7:6:8:6:6:5:5:5:8. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 1; OL = 2; OOL = 7. Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, slightly granulated. Scutum and scutellum dull, granulated. Mesopleuron transversely striate. Metanotum slightly hollow behind scutellum, with sides laterally protruding; protrusions rounded (Plate 162D, E). Metathorax + propodeum dull, granulated (occasionally almost unsculptured), except posterior surface and metapleura transversely striate. Meso-metapleural suture complete. Protarsal segments in following proportions: 12:3:4:12:19. Enlarged claw (Plate 162B) with one large subapical tooth and one row of six–nine lamellae. Segment 5 of protarsus (Plate 162B) with two rows of 12–15 lamellae; distal apex with about 10–12 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


**Hosts.** Delphacidae (Guglielmino & Olmi 1997): in Colombia: *Perkinsiella saccharicida* Kirkaldy (Olmi 1984); *Tagosodes orizicolus* (Muir)Guglielmino & Olmi 1997); in Mexico (Quintana Roo): unidentified Delphacidae.

**Distribution.** Colombia, Mexico.

17. *Gonatopus muesebecki* (Olmi, 1984)
(Plate 163A, E, F)

Pseudogonatopus muesebecki Olmi 1984: 1280.

**Description. Female.** Apterous; length 3.6 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna brown, except segments 1–2 and 10 testaceous; mesosoma black, except lateral regions of pronotum reddish; metasoma brown; legs brown, except tarsi testaceous-brown. Antenna clavate; antennal segments in following proportions: 10:5:13:6:5:5:5:5:9. Head very excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 1; OL = 1.5; OOL = 6.5. Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, unsculptured, except disc granulated. Scutum dull, with some longitudinal keels, without lateral pointed apophyses. Mesopleuron transversely striate. Metanotum transversely striate, with sides laterally protruding; protrusions pointed (Plate 163E, F). Metathorax + propodeum smooth, shiny, unsculptured, except posterior surface and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 13:2:5:6:14:24. Enlarged claw (Plate 163A) with one large subapical tooth and one row of five lamellae. Segment 5 of protarsus (Plate 163A) with two rows of 12 lamellae; distal apex with at least 15 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

**Material examined.** Type: ♀ holotype: GUATEMALA: Guatemala (USNM).
Hosts. Unknown.

Distribution. Guatemala.

PLATE 163. A, B, C. Chelae of holotypes. D. Genitalia of male from Guadeloupe. E, G, I. Mesosoma of female holotype in dorsal view (E and I, prothorax removed). F, H, J. Mesosoma of female holotype in lateral view. A, E, F. Gonatopus mueebecki. B, D, G, H. G. variistriatus. C, I, J. G. villamilensis. Scale bar 0.19 mm for A, 0.10 mm for B and C, 0.09 mm for D, 0.45 mm for E, 0.49 mm for F, 0.43 mm for G and H, 0.26 mm for I, 0.38 mm for J.

18. Gonatopus pecki (Olmi) (see Group 10)

19. Gonatopus variistriatus (Fenton, 1927)
(Plates 163B, D, G, H, 164H)

_Pseudogonatopus saccharivorae_ Richards 1972: 544 (synonymized by Olmi 1984); type locality: Bernard Lodge (Jamaica).

Description. Female. Apterous; length 2.2–3.2 mm. Completely yellow-testaceous, except petiole black. Antenna clavate; antennal segments of holotype of _G. variistriatus_ in following proportions: 7:5:5:14:7:6:6:5:5:5:7.5. Head (Plate 164H) excavated, shiny, smooth, hairless, slightly alutaceous; frontal line complete; occipital carina
incomplete, only shortly present on sides of posterior ocelli; POL = 3; OL = 3; OOL = 13. Palpal formula 4/2. Pronotum crossed by strong transverse impression, shiny, smooth, slightly granulated. Scutum shiny, smooth, slightly granulated, usually without lateral pointed apophyses (with two small lateral pointed apophyses in specimen from Jamaica). Mesopleuron transversely striate. Metanotum transversely striate, with sides rounded, with two very small lateral pointed apophyses. Metathorax + propodeum (Plate 163G, H) shiny, smooth, unsculptured, with anterior surface slightly inclined, with numerous transverse striae on posterior surface and metapleuron. Mesopleuropetal suture obsolete. Protopral segment 1 longer than segment 4 (14:12). Enlarged claw (Plate 163B) with one large subapical tooth and one row of four–five lamellae. Segment 5 of protarsus (Plate 163B) with two rows of 8–13 lamellae; distal apex with about four–nine lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 1.9–2.2 mm. Head black or brown, except mandible testaceous; antenna brown; mesosoma black or brown; metasoma brown; legs testaceous-brown. Antenna filiform; antennal segments in following proportions: 4.5:4:7:6:7:6:6:6:7:6; antennal segment 3 more than three times as long as broad (7:1.5). Head finely punctate, unsculptured among punctures; frontal line absent; occipital carina absent; POL = 5; OL = 2; OOL = 2; greatest breadth of anterior ocellus 1.5 times-twice as long as OOL (3:2, or 4:2); vertex with two fading oval smooth and shiny areas between posterior ocelli and eyes (areas not surrounded by high carina). Palpal formula 4/2. Scutum finely punctate, unsculptured among punctures, or partly slightly granulated. Notauli complete, posteriorly separated; minimum distance between notauli much shorter than greatest breadth of anterior ocellus (1:3). Scutellum and metanotum shiny, smooth, unsculptured. Propodeum shiny, partly smooth and partly slightly rugose; anterior half of dorsal surface smooth and unsculptured. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein much longer than proximal part (14:7). Dorsal process of paramere (Plate 163D) slightly rugose; anterior half of dorsal surface smooth and unsculptured. Tibial spurs 1/1/2.


Hosts. Delphacidae (Guglielmino & Olmi 1997): in the Bahamas: Saccharosydne saccharivora (Westwood) (Guglielmino & Olmi 1997); in Guadeloupe: Saccharosydne saccharivora (Westwood) (Olmi 1998d); in Jamaica: Saccharosydne saccharivora (Westwood) (Richards 1972); in Venezuela: Saccharosydne saccharivora (Westwood) (Guagliumi 1962, as Pseudogonatopus sp.).

Natural enemies. In Venezuela, according to Guagliumi (1962, as Pseudogonatopus sp.), G. variistriatus can be parasitized by Echthrodryinus sp. (Encyrtidae). These parasitoids emerge from cocoons.


Remarks. In Venezuela, on sugarcane, according to Guagliumi (1962, as Pseudogonatopus sp.), the parasitisation rate of G. variistriatus on Saccharosydne saccharivora (Westwood) can reach 15–20%.

20. Gonatopus villamilensis Olmi & Virla, sp. nov. (Plate 163C, I, J)

Description. Female. Apterous; length 2.2 mm. Head brown, except mandible testaceous; antenna brown, except segments 1–2 testaceous; prothorax brown; scutum yellow, except anterior third brown; rest of mesosoma black; metasoma brown; legs brown, except tibiae and tarsi testaceous. Antenna clavate; antennal segments in following proportions: 5:4:13:7:6:6:4:4:4:6. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 2; OOL = 6; greatest breadth of posterior ocellus shorter than OL (1:2). Palpal formula 4/2.

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Pronotum crossed by strong transverse impression, shiny, with anterior collar and lateral regions slightly granulated and disc strongly granulated. Scutum dull, granulated. Metanotum transversely striate, with sides protruding: lateral protrusions rounded (Plate 163I, J). Mesopleuron and metapleuron transversely striate. Metathorax + propodeum shiny, with anterior surface sculptured by numerous weak longitudinal striae; posterior surface granulated and sculptured by weak transverse striae. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 13:2:4:10:16. Enlarged claw (Plate 163C) with one large subapical tooth and one row of five lamellae. Segment 5 of protarsus (Plate 163C) with two rows of 17 lamellae; distal apex with about five lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Galapagos Islands (Ecuador).

Group 3

Four species are known in the Neotropical region.

Key to the species (females)

1. Scutum with two strong pointed apophyses located on sides of scutellum (Plate 164B) ........................................................................... G apensis Olmi
   – Scutum without lateral pointed apophyses ........................................................................................................................................................................................................ 2
2. Meso-metapleural suture obsolete ................................................................................................................................................................................................. G vignonai (Olmi)
   – Meso-metapleural suture present and complete ........................................................................................................................................................................ 3
3. Anterior surface of metathorax + propodeum unsculptured ................................................................................................................................. G longichelatus (Fenton)
   – Anterior surface of metathorax + propodeum granulated ................................................................................................................................. G cuyanus Virla & Olmi

1. Gonatopus apensis Olmi, 2010
   (Plate 164A–C)


Description. Female. Apterous; length 3.4–3.9 mm. Completely ferruginous-testaceous, except petiole black and transverse brown stripe including scutellum and lateral pointed apophyses. Antenna clavate; antennal segments in following proportions: 9:5:21:13:9:8:7:7:6:10. Head excavated, shiny, unsculptured; frontal line complete; occipital carina present only behind and shortly on sides of posterior ocelli, laterally not reaching eyes; temple distinct; POL = 1; OL = 1; OOL = 8; greatest breadth of posterior ocelli longer than OL (1.5:1); posterior ocelli touching occipital carina. Palpal formula 4/3, 5/3. Pronotum shiny, unsculptured, crossed by strong transverse impression. Scutum shiny, slightly granulated, with two strong lateral pointed apophyses (Plate 164B, C) located on sides of scutellum. Scutellum shiny, unsculptured, slightly inclined. Metanotum slightly hollow behind scutellum, flat, strongly transversely striate. Metathorax + propodeum shiny, with anterior surface strongly transversely striate, disc unsculptured and posterior surface strongly transversely striate. Meso- and metapleuron shiny, strongly transversely striate. Meso-metapleural suture incomplete (only posterior third present). Protarsal segments in following proportions: 13:3:5:19:28. Enlarged claw (Plate 164A) with one large subdistal tooth and one row of four lamellae. Segment 5 of protarsus (Plate 164A) with two rows of 11 + 9 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

palpal ratio 4/3 (IAVH); Nariño, La Planada Nat. Reserve, Via Hondon, 1°15'N 78°15'W, 1930 m, 16.X–2.XI.2000, Malaise trap N. 1393, G. Oliva leg., 1 ♀ with palpal ratio 4/3 (MOLC).

**Hosts.** Unknown.

**Distribution.** Bolivia, Colombia.

**Remarks.** The type material of *G. apensis* has been compared with the holotype of *G. longicornis* Kieffer, though it has different palpal formula (6/3). They are completely different species.

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**2. *Gonatopus cuyanus* Virla & Olmi, 2007**

(Plate 164D, E)

*Gonatopus cuyanus* Virla & Olmi 2007a: 166.

**Description.** Female. Apterous; length 2.5 mm. Head brown, except mandible, clypeus, anterior margin of face, gena and two short stripes along orbits testaceous; antenna brown, except segments 7–10 and ventral side of segment 1 testaceous; mesosoma black, except sides of pronotum and posterior third of disc of pronotum testaceous-brown; metasoma black; legs brown, except articulations and part of trochanters testaceous. Antenna clavate; antennal segments in following proportions: 8:4:11.5:6.5:5:5.5:4:5:4:4:7. Head excavated, dull, granulated; frontal line complete; occipital carina absent; temple distinct; POL = 1; OL = 3; OOL = 7; greatest breadth of posterior ocelli as long as POL. Palpal formula 5/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum dull, granulated, without lateral points. Scutellum shiny, inclined. Metanotum hollow behind scutellum, flat, granulated. Metathorax + propodeum dull, with anterior surface granulated and posterior surface granulated and transversely striate. Meso- and metapleuron dull, granulated and transversely striate. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 12:2.5:4.5:13:20. Enlarged claw (Plate 164D) with one large subdistal tooth and one row of seven lamellae.
Segment 5 of protarsus (Plate 164D) with two rows of 19 lamellae; distal apex with at least ten lamellae. Tibial spurs 1/0/1.

**Male.** Fully winged; length 1.9 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi testaceous. Antenna hairy, filiform; antennal segments in following proportions: 4:4:5:6:6:5:5:5:5:8; antennal segment 3 three times as long as broad: 6:2. Head dull, granulated and reticulate rugose; frontal line absent; occipital carina absent; temple distinct; POL = 5; OL = 2; OOL = 3; greatest breadth of posterior ocelli as long as OL; vertex with two oval smooth and shiny areas between posterior ocelli and eyes (areas not anteriorly surrounded by high carina). Palpal formula 5/3. Scutum dull, granulated; notauli complete, posteriorly separated; minimum distance between notauli as long as greatest breadth of posterior ocelli. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum dull, completely reticulate rugose, without longitudinal or transverse keels. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein regularly curved, with distal part longer than proximal part (approximately 12:9). Dorsal process of paramere (Plate 164E) about as long as penis and paramere, with distal region broadened and distal margin serrated. Tibial spurs 1/1/2.

**Material examined.** Types: ♀ holotype: ARGENTINA: Mendoza, along Ruta 40, 34°22.03’S 68°32.205’W, 950 m, reared from an unidentified Flatid collected on 10.XI.2005, E. Virla leg. (IFML). Paratype: same locality label as holotype, 1 ♂ (IFML).

**Hosts.** Flatidae (Virla & Olmi 2007a): in Argentina (Mendoza): unidentified species.

**Distribution.** Argentina.

### 3. Gonatopus longichelatus (Fenton, 1927)
(Plate 164F)


**Description.** Female. Apterous; length 3.3 mm. Head brown-reddish, except mandible and clypeus yellow; antenna yellow; mesosoma black, except pronotum reddish, with brown spots on anterior collar; petiole black; metasoma brown-reddish; legs yellow-reddish. Antenna clavate. Head excavated, dull, granulated, with short transverse keels near frontal line; frontal line present; occipital carina absent. Palpal formula 5/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression, with lateral regions sculptured by keels. Scutum dull, sculptured by longitudinal keels. Scutellum shiny, smooth. Metanotum transversely striate. Metathorax + propodeum dull, with anterior surface unsculptured and posterior surface strongly transversely striate. Meso- and metapleuron strongly transversely striate. Meso-metapleural suture distinct. Protarsal segments in following proportions: 14:2:5:15:25. Enlarged claw (Plate 164F) with one large subdistal tooth and one row of six lamellae and one bristle. Segment 5 of protarsus (Plate 164F) with two rows of 10 + 13 lamellae; distal apex with at least 15 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype (No. 40184): BRAZIL: Pernambuco, Bonito Province (USNM).

**Hosts.** Unknown.

**Distribution.** Brazil.

### 4. Gonatopus vignai (Olmi, 1987)
(Plate 164G)

*Agonatopoides vignai* Olmi 1987b: 218.

**Description.** Female. Apterous; length 2.7–3.5 mm. Testaceous, except antennal segments 3–10 brown, petiole black and metasoma darkened. Antenna clavate; antennal segments in following proportions:

Male. Unknown.

Material examined. Types: ♀ holotype: ECUADOR: Pichincha, along Quito-Baeza road, near Pifo, 2600 m, M. Olmi reared from Anchidelphax albiden (Crawford) (AMNH!). Paratype: same locality label as holotype, 1 ♀ (MRSNT).


Distribution. Ecuador.

Group 4

Fourteen species are known in the Neotropical region.

Key to the species (females)

1. Meso-metapleural suture obsolete ................................................................. 2
   – Meso-metapleural suture distinct and complete or incomplete .......................... 4
2. Posterior surface of propodeum transversely striate only near distal apex. .......... G. haitianus (Olmi)
   – Posterior surface of propodeum completely transversely striate ...................... 3
3. Anterior surface of metathorax + propodeum granulated ................................ G. citrinus (Olmi)
   – Anterior surface of metathorax + propodeum unsculptured ............................ G. longicornis Kieffer
4. Anterior surface of metathorax + propodeum completely granulated or granulated and finely transversely striate . . . . . . . . . 5
   – Anterior surface of metathorax + propodeum completely or almost completely unsculptured ................................................. 12
5. Anterior surface of metathorax + propodeum completely granulated, not finely and transversely striate; scutum laterally with or without pointed apophyses ............................................................... 6
   – Anterior surface of metathorax + propodeum granulated and sculptured by fine and transverse striae; scutum laterally with two pointed apophyses .......................................................... 10
6. Metanotum hollow behind scutellum ............................................................... 7
   – Metanotum not hollow behind scutellum ........................................................ 8
7. Posterior surface of metathorax + propodeum transversely striate....................... G. fritzi (Olmi)
   – Posterior surface of metathorax + propodeum not transversely striate ............... G. brasiliensis (Olmi)
8. Scutum with two lateral pointed apophyses .................................................. G. tijucanus (Arle)
   – Scutum without lateral pointed apophyses .................................................... 9
9. Head and prothorax almost totally black ...................................................... G. arnaudi (Olmi)
   – Head and prothorax almost totally or almost totally testaceous-reddish ............ G. rabidanus (Olmi)
10. Body totally or mainly black ........................................................................ G. fernandezii Olmi
    – Body ferruginous, with petiole black ............................................................ 11
11. Body very slender, with scutum more than twice as long as broad; pronotum unsculptured .................................................. G. hibbsi Olmi
    – Body more robust, less slender, with scutum less than twice as long as broad; pronotum granulated ......................................... G. testaceus Cameron
12. Scutum with two lateral pointed apophyses (as in Plate 167A) ......................... G. testaceus Cameron
    – Scutum without lateral pointed apophyses (Plate 168F) .................................. 13
13. At least anterior half of anterior surface of metathorax + propodeum sculptured by numerous fine and transverse striae ................. G. testaceus Cameron
    – Anterior surface of metathorax + propodeum completely unsculptured, not transversely striate .... G. bellottii (Olmi)
14. Metanotum with sides protruding; protrusions pointed; body mostly testaceous-reddish ...... G. menkei (Olmi)
    – Metanotum with sides rounded (Plate 168F), not protruding; body mostly black .................................................. G. punensis (Olmi)
**1. Gonatopus arnaudi (Olmi, 1984)**  
(Plate 165A–C)


**Description. Female.** Apterous; length 3.7–4.4 mm. Head black, except mandible, clypeus and malar space yellow; antenna brown, except segments 1–2 and 6–10 testaceous; mesosoma black; metasoma brown-black; legs testaceous, except coxae blackish. Antenna clavate. Head excavated, dull, granulated; occipital carina absent. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum shiny, with few longitudinal keels. Scutellum not visible. Metathorax + propodeum dull, granulated, with posterior surface not transversely striate. Meso- and metapleuron not transversely striate. Meso-metapleural suture distinct and complete. Segment 1 of protarsus shorter than segment 4 (10:15). Enlarged claw (Plate 165C) with one large subdistal tooth and one row of eight lamellae. Segment 5 of protarsus (Plate 165C) with two rows of 14 + 14 lamellae; distal apex with at least 40 lamellae. Tibial spurs 1/0/1.

**Male.** Fully winged; length 1.7–2.6 mm. Head black, except mandible brown; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs brown. Antenna filiform; antennal segments in following proportions: 5:5:10:5:9:8.5:8:7:7:6:8; antennal segment 3 more than three times as long as broad (13:3). Head dull, granulated; frontal line absent; occipital carina absent; temple distinct; POL = 6; OL = 2; OOL = 4. Palpal formula 6/3. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli as long as greatest breadth of posterior ocelli or slightly longer (4.5:3.5). Scutellum shiny, unsculptured, except anterior margin slightly granulated. Metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, without longitudinal keels. Fore wing hyaline, without dark transverse bands; marginal cell open; marginal cell open; distal part of stigma vein longer than proximal part (15:13). Dorsal process of paramere (Plate 165A, B) long and with distal apex pointed. Tibial spurs 1/1/2.

**Material examined. Types:** ♀ holotype: ECUADOR: Galapagos Islands, Santa Cruz Island, Academy Bay (CAS). Paratype: same locality label as holotype, 1♂ (AMNH). Other material: ECUADOR: Galapagos Islands, Santa Cruz Island, C. Darwin Research Station (DEUCD).

**Hosts.** Unknown.

**Distribution.** Galapagos Islands (Ecuador).
2. *Gonatopus bellottii* Olmi, 1984  
(Plate 165D)

*Apterodryinus bellottii* Olmi 1984: 1369.  

**Description. Female.** Apterous; length 3.4–4.8 mm. Head brown or testaceous-reddish, except mandible, clypeus and anterior region of face (also along orbits) testaceous; antenna brown, except segments 1 and 7–10 or 8–10 testaceous; mesosoma black, except propleuron testaceous-reddish, pronotum testaceous-reddish, with dark transverse impression and scutum testaceous-reddish; metasoma testaceous; legs testaceous, except part of coxae and part of clubs of femora black. Occasionally mesosoma totally testaceous-reddish. Antenna clavate; antennal segments of holotype in following proportions: 14:8:24:15:11:11:9:9:9:13. Head very excavated, shiny, smooth, unsculptured, with hardly visible short transverse keels on anterior half of face and on sides of frontal line; frontal line complete; occipital carina incomplete, only present behind posterior ocelli; POL = 2; OL = 4; OOL = 12. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, smooth, unsculptured, with two lateral pointed apophyses. Scutellum shiny, smooth, unsculptured. Metanotum reduced to short transverse keel behind scutellum. Metanotum not hollow behind scutellum. Metathorax + propodeum shiny, with anterior surface unsculptured and posterior surface strongly transversely striate. Meso- and metapleuron transversely striate. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 25:5:8:24:38. Enlarged claw (Plate 165D) with one large subdistal tooth and one row of seven lamellae. Segment 5 of protarsus (Plate 165D) with two rows of 15–18 lamellae; distal apex with at least nine lamellae. Tibial spurs 1/0/1.

*Male.* Unknown.

**Material examined. Type: ♀ holotype: COLOMBIA: Cundinamarca, Road Facatativá-Anolaima, 2800 m, 2.IX.1969, P. & B. Wygodzinsky leg. (AMNH).**  
**Other material:** ECUADOR: Loja, km 17 Road Loja-Saraguro, 2600 m, 20.VII.1996 (AMNH).

**Hosts.** Unknown.  
**Distribution.** Colombia, Ecuador.

3. *Gonatopus brasiliensis* (Olmi, 1991)  
(Plate 165F)


**Description. Female.** Apterous; length 4.0 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna testaceous; mesosoma black, except some reddish nuances on propleuron and pronotum; metasoma brown; legs testaceous, except coxae, clubs of femora and protibia partly brown. Antenna clavate; antennal segments in following proportions: 10:5:27:20:16:12:9:8:7:9. Head excavated, dull, granulated; frontal line complete; occipital carina incomplete, only shortly present behind posterior ocelli; POL = 1.5; OL = 3; OOL = 9.5. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum dull, granulated, without lateral pointed apophyses. Scutellum inclined, dull, granulated. Metanotum dull, granulated, hollow behind scutellum. Metathorax + propodeum dull, granulated, with posterior surface not transversely striate. Meso- and metapleuron granulated, not transversely striate, located on different planes, because of very broad and step-shaped meso-metapleural suture. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 17:3:6:20:31. Enlarged claw (Plate 165F) with one large subdistal tooth and one row of nine lamellae. Segment 5 of protarsus (Plate 165F) with two rows of about 34 lamellae; distal apex with at least 25 lamellae. Tibial spurs 1/0/1.

*Male.* Unknown.

**Material examined. Type: ♀ holotype: BRAZIL: Mato Grosso do Sul, Três Lagoas, Fazenda Floresta, 13–20.IX.1964 (MZUS).**  
**Hosts.** Unknown.  
**Distribution.** Brazil.
4. Gonatopus citrinus (Olmi, 1984)
(Plate 165E)


Male. Unknown.


Hosts. Unknown.

Distribution. Costa Rica, Cuba.

5. Gonatopus fernandezi Olmi, 1998
(Plate 166A)


Description. Female. Apterous; length 3.6–5.9 mm. Head brown, except mandible, clypeus, anterior region of face and a narrow stripe along orbits testaceous (in paratype from Colombia, Finca Monterrey, head totally ferruginous); antenna testaceous, except segments 5–6, distal half of 4 and occasionally (in paratype from Colombia, Finca Monterrey) proximal extremity of 7 brown or black (in paratype from Colombia, East Caparu Rio Apaporis, antenna totally testaceous); mesosoma black, except scutum yellow (in paratype from Colombia, East Caparu Rio Apaporis, scutum partly yellow and partly black, lateral regions of pronotum, part of metanotum and distal apex of propodeum testaceous; in paratype from Colombia, Finca Monterrey, prothorax ferruginous, except transverse impression of pronotum darkened); petiole black; metasoma testaceous (in holotype), or brown (in paratype from Costa Rica, 08°28′N 83°35′W), or black (in paratype from Colombia, Finca Monterrey), or partly black and partly testaceous (in paratype from Colombia, East Caparu Rio Apaporis); legs totally testaceous (in holotype), or testaceous, except clubs of femora partly brown and coxae with brown spots (in paratype from Costa Rica, 08°28′N 83°35′W), or black or brown, except coxae, trochanters, stalks of femora, part of tibiae and tarsi testaceous (in all paratypes from Colombia). Antenna very slender, clavate; antennal segments of holotype in following proportions: 7:6.5:27:18:15:10:8:7:6:9. Head excavated, dull, granulated and slightly rugose, with two shiny and unsculptured areas on sides of the frontal line (head completely granulated in all paratypes from Colombia); frontal line incomplete, only present in front of anterior ocellus, reaching about mid length of face (frontal line complete in all paratypes from Colombia); occipital carina incomplete, only present behind and on sides of posterior ocelli, extending beyond 0.5 length of OOL (occipital carina not extending beyond 0.5 length of OOL in all paratypes from Colombia); posterior ocelli touching occipital carina; POL = 2; OL = 1; OOL = 11; temple reduced, almost absent. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum dull, granulated, with two lateral pointed apophyses located on sides of scutellum. Metanotum rugose near scutellum, transversely striate on remaining surface, with sides rounded. Metathorax + propodeum shiny, slightly granulated, with posterior surface finely transversely striate. Meso- and metapleural transversely
striate, located on same plane because of very narrow meso-metapleural suture. Meso-metapleural suture very narrow, distinct and complete. Protarsal segments in following proportions: 23:4:7:27:38. Enlarged claw (Plate 166A) with one large subdistal tooth and one row of 8–12 lamellae and one bristle. Segment 5 of protarsus (Plate 166A) with two rows of 31–44 lamellae (in paratype from Colombia, 07°25′N 72°26′W, segment 5 of protarsus with only one row of 13 lamellae); distal apex with at least 27 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil, Colombia, Costa Rica.

6. Gonatopus fritzi (Olmi, 1992)
(Plate 166B, C)


Description. Female. Apterous; length 3.7–4.8 mm. Head testaceous-reddish, except vertex and face partly darkened or brown; occasionally head almost totally black; antenna brown, except segments 1–2 and 9–10 or only 10 whitish; prothorax totally testaceous-reddish, occasionally prothorax testaceous-reddish, with some brown spots; occasionally prothorax black, except lateral regions and posterior margin of pronotum testaceous; rest of mesosoma black; metasoma brown-testaceous; legs testaceous, except clubs of femora darkened. Antenna clavate; antennal segments of holotype in following proportions: 10:5:20:12:10:8:7:6:5:5:8:5. Head excavated, dull, granulated; frontal line complete; occipital carina absent; temple distinct; POL = 1.5; OL = 2.5; OOL = 10. Palpal
formula 6/3; in specimen from Argentina, San Martín de los Andes, palpal formula 4/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum dull, granulated, with median longitudinal keel, without lateral pointed apophyses. Scutellum dull, granulated, inclined. Metanotum dull, granulated, hollow behind scutellum. Metathorax + propodeum dull, granulated, with posterior surface transversely striate. Meso- and metapleuron granulated and transversely striate, located on different planes because of very broad meso-metapleural suture. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 16:4:7:18:26. Enlarged claw (Plate 166B) with one large subdistal tooth and one row of 6–11 lamellae. Segment 5 of protarsus (Plate 166B) with two rows of 19–33 lamellae; distal apex with about 22–28 lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.1 mm. Head black, except mandible testaceous; antenna brown; mesosoma and metasoma black; legs testaceous, except coxae, femora and tibiae partly brown. Antenna filiform; antennal segments in following proportions: 4.5:4.5:7.5:6:6:6:5.5:5.5:8; antennal segment 3 more than three times as long as broad (7.5:2); antennal segment 2 longer than greatest breadth of posterior ocelli (4.5:2). Head dull, granulated and rugose; frontal line absent; occipital carina absent; POL = 5; OL = 2.5; OOL = 3; greatest breadth of posterior ocelli shorter than OL (2:2.5); temple very short, but distinct. Palpal formula 6/3. Scutum dull, granulated; notauli complete, posteriorly separated; minimum distance between notauli shorter than antennal segment 2 (2:4.5) and as long as greatest breadth of posterior ocelli. Scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Propodeum dull, reticulate rugose, without longitudinal or transverse keels. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (15:7). Dorsal process of paramere (Plate 166C) short and pointed, with distal region broadened. Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype: ARGENTINA: Buenos Aires, Moreno (IIS).

Hosts. Issidae and Dictyopharidae: in Argentina (Buenos Aires): an unidentified species of Issidae (Virla & Olmi 2007a); Dictyopharidae: Eudictya similis Melichar; Dorimargus antoniae Melichar.

Distribution. Argentina, Uruguay.

Remarks. A case of mimetism of G. f r i t z i with Camponotus punctulatus Mayr (Hymenoptera: Formicidae) was studied in Argentina by Debandi & Roig-Juñent (1999).

7. Gonatopus haitianus (Olmi, 1986)
(Plate 166D)

Apterodyrinus haitianus Olmi 1986: 86.

Description. Female. Apterous; length 3.7 mm. Ferruginous, except petiole black. Antenna missing in only known specimen. Head slightly excavated, granulated; frontal line complete; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 9. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum shiny, unsculptured. Scutellum not visible. Metanotum shiny, transversely striate, not granulated, with two lateral pointed apophyses. Metathorax + propodeum dull, granulated, with some transverse striae on anterior surface near metanotum; posterior surface not transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 17:3:5:18:27. Enlarged claw (Plate 166D) with one large subdistal tooth and one row of six lamellae. Segment 5 of protarsus (Plate 166D) with two rows of 20 lamellae; distal apex with about 16 lamellae. Tibial spurs 1/0/1.
(Plate 166E)


**Description.** Female. Apterous; length 3.7 mm. Ferruginous, except petiole black. Antenna clavate; antennal segments in following proportions: 10:7:39:31:16:10:9:8:11. Head excavated, shiny, unsulptured; frontal line incomplete, only present in front of anterior ocellus, reaching mid length of face; occipital carina incomplete, only shortly present behind posterior ocelli; temple distinct; POL = 1; OL = 1; OOL = 11. Palpal formula 6/3. Pronotum shiny, smooth, unsulptured, crossed by strong transverse impression. Scutum granulated, very slender, more than twice as long as broad (21–10), with two strong lateral pointed apophyses. Metathorax + propodeum completely sculptured by fine transverse striae, except small unsulptured area between propodeal spiracles. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 24:4:7:30:42. Enlarged claw (Plate 166E) with one large subdistal tooth and one row of nine lamellae. Segment 5 of protarsus (Plate 166E) with two rows of 31 lamellae; distal apex with at least 35 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined. Type:** ♂ holotype: ECUADOR: Pichincha, Rio Palenque, 200 m, 1.IV.1996, Yellow Pan Trap, Peter Hibbs leg. (AMNH).

**Hosts.** Unknown.

**Distribution.** Ecuador.

9. Gonatopus longicornis Kieffer, 1904
(Plate 167)


**Description.** Female (Plate 167A). Apterous; length 2.6–5.0 mm. Totally testaceous-yellow, except petiole black. Antenna clavate (Plate 167D); antennal segments of holotype in following proportions: 8:8:31:23:18:14:9:8:7:10. Head (Plate 167C) shiny or dull, smooth, hairless, unsulptured, except occiput and part of vertex granulated; frontal line incomplete, absent near clypeus; occipital carina absent; POL = 1.5; OL = 2.5; OOL = 13. Palpal formula 6/3. Pronotum shiny, hairless, granulated, crossed by strong transverse impression. Scutum dull, granulated, with two lateral pointed protrusions (Plate 167A). Scutellum hardly visible. Metanotum shiny or dull, transversely striae, not hollow behind scutellum. Metathorax + propodeum (Plate 167A, E) shiny or dull, unsulptured, with posterior surface and part of anterior surface transversely striae. Meso- and metapleuron transversely striae. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 20:3:5:25:37. Enlarged claw (Plate 167B) with one large subdistal tooth and one row of seven lamellae. Segment 5 of protarsus (Plate 167B) with two rows of 15–29 lamellae; distal apex with about 20–25 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined. Type:** ♂ holotype: BOLIVIA: La Paz, Yungas Province, Coroico and Chulumani (=Chilumani), 1600 m, 1891, L. Balzan leg. (MCSNG). Other material: BRAZIL: Santa Catarina, Nova Teutonia, 27°11’S 52°23’W, 11.XI.1938, F. Plaumann leg., 1 ♀ (BMNH). Nearctic region: USA: Florida, Monroe Co., Key West (AMNH).

**Hosts.** Unknown.

**Distribution.** Bolivia, Brazil and Nearctic region (USA).
PLATE 167. Gonatopus longicornis. A. Holotype. Length 4.6 mm. B. Chela of female from Brazil, Nova Teutonia. C. Head of holotype in frontal view. D. Antenna of female holotype. E. Mesosoma of female holotype in lateral view. Scale bar 0.16 mm for B, 0.61 mm for C and D, 0.65 mm for E.

10. Gonatopus menkei (Olmi, 1984)
(Plate 168A)


Male. Unknown.

Material examined. Type: ♀ holotype: COSTA RICA: Cartago, Turrialba, CATIE, Finca La Lola (USNM).

Hosts. Unknown.

(Plate 168B, F)

*Gonatopus punensis* (Olmi); Olmi et al. 2000: 154.

**Description.** Female. Apterous; length 2.6–3.4 mm. Head brown, except mandible testaceous, clypeus and anterior region of face reddish; antenna brown, except segments 1–2 and 9–10 testaceous; pronotum brown, except posterior surface of disc and lateral regions reddish; scutum yellow, except anterior margin black; rest of mesosoma and metasoma black; legs brown, except tarsi, clubs of femora and part of tibiae testaceous. Antenna clavate; antennal segments in following proportions: 9:5:15:7:6.5:5:5:5:5:7. Head excavated, dull, granulated (in specimen from Costa Rica, Santa Rosa National Park, head shiny and unsculptured); frontal line complete; occipital carina absent; temple distinct; POL = 1.5; OL = 1.5; OOL = 7. Palpal formula 6/3. Pronotum granulated, crossed by strong transverse impression. Scutum without lateral pointed apophyses (Plate 168F). Scutellum inclined. Metanotum flat, short, hollow behind scutellum. Metathorax + propodeum shiny, with anterior surface very inclined, shiny, unsculptured; posterior surface transversely striate. Meso- and metapleuron transversely striate. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 12.3:5:15.5:24. Enlarged claw (Plate 168B) with one large subdistal tooth and one row of six-eight lamellae. Segment 5 of protarsus (Plate 168B) with two rows of 22–25 lamellae; distal apex with about 15 lamellae. Tibial spurs 1/0/1.
Male. Unknown.


Hosts. Unknown.

Distribution. Brazil, Costa Rica, Ecuador.

(Plate 168C)


Description. Female. Apterous; length 3.1–3.7 mm. Head testaceous–reddish; antenna brown, except segments 1–2 reddish and 8–10 yellow; mesosoma black, except prothorax and scutum testaceous–reddish (with dark spots on lateral regions of pronotum); metasoma black; fore leg testaceous–reddish; mid- and hind leg brown, occasionally with coxae, trochanters and femora testaceous. Antenna clavate; antennal segments of holotype in following proportions: 10:6:25:16:11:7:6:5:8. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 2; OOL = 11. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum dull, granulated. Scutellum very reduced. Metathorax + propodeum dull, granulated, with posterior surface not transversely striate. Meso- and metapleural suture distinct and complete. Protarsal segments in following proportions: 18:4:7:24:37. Enlarged claw (Plate 168C) with one large subdistal tooth and one row of eight lamellae. Segment 5 of protarsus (Plate 168C) with two rows of 16 lamellae; distal apex with at least 50 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Galapagos Islands (Ecuador).

13. Gonatopus testaceus Cameron, 1888
(Plate 168D, G)


Eucamptonyx secundus Fenton 1927: 5 (synonymized by Olmi 1998d); type locality: Western Ohio (USA); Olmi 1998d: 103.

Agonatopoides jujuyensis Ogloblin 1951: 488 (synonymized by Olmi 1984); type locality: Cerro Perales (Jujuy Prov., Argentina).


Description. Female. Apterous; length 3.7–7.0 mm. Ferruginous, except petiole black. Occasionally antennal segments 3–6 darkened and metasoma black. In specimen from Costa Rica, 10°16’N 84°05’W, colour ferruginous, except some brown spots on vertex of head and mesosoma. Antenna clavate; antennal segments of holotype in following proportions: 20:20:80:62:50:33:20:16:15:21. Head excavated, dull, granulated; frontal line incomplete, absent in anterior half of face; occipital carina incomplete, only shortly present on sides of posterior ocelli; POL = 4; OL = 2; OOL = 25. Palpal formula 6/3. In specimen from Costa Rica, 10°16’N 84°05’W, head granulated, except two large smooth unsculptured areas in front of anterior ocellus, on sides of frontal line. Pronotum shiny,
hairless, granulated, crossed by strong transverse impression. Scutum dull, granulated, with two lateral pointed apophyses. Scutellum dull. Metanotum transversely striate, not hollow behind scutellum. Metathorax + propodeum shiny, granulated, with posterior surface and part of anterior surface transversely striate; occasionally anterior surface unsculptured and partly transversely striate. Metasomal suture usually distinct and complete, occasionally hardly visible or only partly visible. Protergal segments in following proportions: 50:7:14:60:84. Enlarged claw (Plate 168D) with one large subdistal tooth and one row of 6–13 lamellae. Segment 5 of protarsus (Plate 168D) with two rows of 19–47 lamellae; distal apex with 20–40 lamellae. Tibial spurs 1/0/1.

**Male.** Fully winged; length 2.2–2.9 mm. Head black, except mandible brown; antenna brown; mesosoma and metasoma black; legs black, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 5:4:8:6.5:7:6:6:5:5:5:6; antennal segment 3 more than three times as long as broad (8:2.5); antennal segment 2 longer than greatest breadth of posterior ocelli. Head dull, granulated; frontal line absent; occipital carina incomplete, only present behind ocellar triangle; POL = 6; OL = 3; OOL = 4; posterior ocelli touching occipital carina; temple very short, but distinct. Palpal formula 6/3. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than antennal segment 2 (4:5) and longer than greatest breadth of posterior ocelli (4:3). Scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Propodeum dull, reticulate rugose, without longitudinal or transverse keels. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (14:12). Dorsal process of paramere in Plate 168G. Tibial spurs 1/1/2.

**Material examined. Types:** ♀ holotype of *G. testaceus*: Panama: Chiriquí, Chiriquí Quilombo, 2–3000 ft., Champion leg., P. Cameron collection (BMNH); ♀ holotype of *A. jujuyensis*: ARGENTINA: Jujuy, Cerro Perales (IFML); ♀ holotype of *E. secundus*: USA: Western Ohio, 7.VII.1917, in wheat field, J.S. Houser leg. (USNM). Paratype of *E. secundus*: USA: Florida, Seminole Co., Sanford, 2.VI.1926, E.D. Ball leg., 1 ♀ (USNM). **Other material:** ARGENTINA: Buenos Aires (AMNH); Buenos Aires, San Fernando (USNM); Misiones, Dos de Mayo (IIS); Misiones, Loreto (FCNM); Orán, Abra Grande (MCZ); Tucumán, Tapia, 16.III.1993, Malaise trap, Cuzetto & Fidalgo leg. (IFML); BRAZIL: Mato Grosso do Sul, Corumbá, Serra do Urucum, 30.XI.1960, K. Lenke leg. (MZUS); Mato Grosso do Sul, Três Lagoas, Fazenda Floresta, 13–20.IX.1964, Exp. Dep. Zool. Cerrado, 4 ♀ (MZUS); Minas Gerais (PMA); Pará, Melgaço, Caxiuanã, trail at igarapé Ararau, 21–24.XI.2003, 24–27.XI.2003, YPT, A.P. Aguiar & J. Dias leg., 2 ♀ (MPEG) (Coelho et al. 2011); same locality label, trail at igarapé Curaú, 17–20.XI.2003, 1 ♀ (MPEG) (Coelho et al. 2011); same locality label, trail at igarapé Tijucaquara, 18–21.XI.2003, 1 ♀ (MPEG) (Coelho et al. 2011); São Paulo, Ilha de Vitória, 26–27.IX.1964, Exp. Dep. Zool., 1 ♀ (MZUS); São Paulo, Itanhaém, 21–23.IV.1961, U.R. Martins leg., 1 ♀ (MZUS); Pará, Município Melgaço, Caxiuana, Trilha Igapó, Tijucaquara, 18–21.II.2003, YPT, A.P. Aguiar & J. Dias leg., 1 ♀ (MZUS); Pará, Município Melgaço, Caxiuana, Trilha Igapó, Curaú, 17–20.XI.2003, YPT, A.P. Aguiar & J. Dias leg., 1 ♀ (MZUS); Rio de Janeiro, Nova Iguaçu, Reserva Biológica do Tinguá, 22°34′00″S 43°26′07″W, 9–12.III.2002, Armadilha Moericke-bosque, STP Amarante leg., 1 ♀ (MZUS); Epíritu Santo, Cariacica, Reserva Biológica Duas Bocas, 12–13.XII.2003, Malaise trap, M.T. Tavares & eq. Leg., 1 ♀ (UFES). COLOMBIA: Antioquia, San Luis, Rio Claro, El Refugio, 1000 m, 7.IV.1998 (IAVH); Bolivar, Zambrano, Hacienda Monterey, 09°45′N 74°49′W, 12.VIII.1993 (IAVH); Magdalena, Santa María National Park, Bella Vista, 10°48′N 73°39′W, 1500 m, 7.V–1.VI.2001, Malaise trap N. 1745, J. Cantillo leg., 1 ♀ (IA VH). COSTA RICA: Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Guanacaste, W side Volcán Cacao, Sotobosque, 1100 m (AMNH); Heredia, 16 km SSE La Virgen, 10°16′N 84°05′W, 1050–1150 m, 9–12.III.2001, primary forest, E.G. Riley leg., 3 ♀ (DEAM); Limón, Talamanca, Amubri (DBUSU); Puntarenas, Montevede, 10°18′N 84°48′W, 1500 m (CNC, NHMLA); San José (RNHL); San José, Braulio Carrillo National Park, 15 km NE of tunebl, 1800 m (EBUC). DUTCH ANTILLES: Curaçao Island, Piscadera (AMNH); Monteverde, 10°18′N 84°48′W, 1500 m, 7.V–1.VI.2001, Malaise trap N. 1745, J. Cantillo leg., 1 ♀ (IAVH). COSTA RICA: Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Guanacaste, W side Volcán Cacao, Sotobosque, 1100 m (AMNH); Heredia, 16 km SSE La Virgen, 10°16′N 84°05′W, 1050–1150 m, 9–14.III.2001, primary forest, E.G. Riley leg., 3 ♀ (DEAM); Limón, Talamanca, Amubri (DBUSU); Puntarenas, Montevede, 10°18′N 84°48′W, 1500 m (CNC, NHMLA); San José (RNHL); San José, Braulio Carrillo National Park, 15 km NE of tunebl, 1800 m (EBUC). DUTCH ANTILLES: Curação Island, Piscadera (AMNH); Curação Island, Das Chikitne (DEUW); Curação Island, Carmabi (DEUW); ECUADOR: Morona-Santiago, Los Tayos, 3.VIII.1979, Tjette de Vries leg., 1 ♀ (MZUS); Napo, Misahualari (ZIL); Napo, Waoani Ethnic Reserve, 1 km S Onkone Gare Camp, 00°39′10″S 76°26′W, 220 m, VI.1994, canopy fogging, T.L. Erwin leg., 1 ♀ (CNC). FRENCH GUIANA: Roura, Montagne des Chevaux, 4.II.2013, SEAG leg., 1 ♀ (FSAE). GUATEMALA: Alta Verapaz, Trece Aguas (MCZ). MEXICO: Chiapas, 4 mi SW of Palenque (PMA); Chiapas, 5700′, 8.VI.1969, Malaise trap, 1 ♀ (CNC); Oaxaca, 10 mi E of Totolapan, 4000 ft. (DEATM); Guerrero, 6 mi E Xochipala, 13.VII.1985, Jones & Schaffner leg., 1 ♀ (DEATM); Oaxaca, Puerto Escondido (DEATM); Oaxaca, Hwy. 131,
4.4 mi S of San Gabriel, Mixtepec, 2500’ (DETAM); Quintana Roo, 19.3 mi N of Felipe Carillo Puerto, 100’ (PMA); Tabasco, Gratasde Cocona, 7.5 mi E of Teapa, 250 ft. (PMA). PANAMA: Chiriquí, Bugaba, Champion leg., P. Cameron collection, 1♀ (BMNH); Chiriquí, no locality, P. Cameron collection, 1♀ (BMNH); Colón, Canal Zone, Barro Colorado Island (DEUCD); Panamá, Parque Nat. Metropolitano, 24.VIII–3.IX.1999, yellow trap, A. Santos & P. González leg. (MIGBF); Panamá, Taboga Island (USNM); Panamá, Canal Zone, Gamboa (RNHL); Veraguas, Coiba National Park, Coiba Island, Campan. Producción, 1.VIII.1998, yellow trap, R. Cambra & A. Santos leg. (MIGBF). VENEZUELA: Aragua, H. Pittier National Park, Camino La Toma, 1100 m, 20.VIII.1992 (IZAM); Aragua, H. Pittier National Park, km 28 from Rancho Grande, 800 m, 22.IV.1990 (IZAM); Sucre, Cerro Humo, via Las Melenas, 9.7 km NW of Irapa, 10°41’N 82°37’W, 800 m, 11.V.1993 (MOLC).

Nearctic region: MEXICO (Hidalgo, Nuevo Leon, Puebla, Tamaulipas), USA (Arizona, District of Columbia, Florida, Indiana, Kansas, Maryland, Mississippi, Missouri, New Jersey, New York, Ohio, Pennsylvania, Texas, Virginia).

**Hosts.** Acanaloniidae and Flatidae (Guglielmino & Olmi 1997, 2006, 2007): in USA: *Acanalonia conica* (Say) (Olmi 1984) (Acanaloniidae); in USA (Florida): *Cyarda sordida* Fennah (Flatidae), *Metcalfa pruinosa* (Say) (Flatidae) and *Flatormenis chloris* (Melichar) (Flatidae) (Olmi 2003).

**Distribution.** Argentina, Brazil, Colombia, Costa Rica, Dutch Antilles, Ecuador, French Guiana, Guatemala, Mexico, Panama, Venezuela and Nearctic region (Mexico (Hidalgo, Nuevo Leon, Puebla, Tamaulipas), USA).

**Remarks.** Mating described by Olmi (2003): "mating lasted 4½ minutes; during the mating the female ran in the tube and dragged the male body; the male seemed inanimate; when the female looked at a host nymph, it captured the host for preying; during the host feeding the mating continued".

(Plates 152B, D, 168E, H)

*Pseudogonatopus tijucanus* Arlé 1935: 52).


**Description.** **Female.** Apterous; length 3.6–6.0 mm. Head black, except mandible testaceous and elypeus medially brown and laterally testaceous; antenna testaceous; mesosoma black, except scutum yellow; metasoma brown–testaceous; legs totally testaceous, or with coxae, trochanters and femora partly brown. Antenna clavate; antennal segments in following proportions: 10:8:32:20:17:12:8:7:5.5:9. Head excavated, dull, granulated, longitudinally slightly striate; frontal line complete; occipital carina incomplete, only shortly present behind occipital carina. Palpal formula 6/3. Pronotum shiny, hairless, granulated, crossed by strong transverse impression. Scutum dull, granulated. Scutellum very short, transverse. Metanotum not flat, not transversely striate, with two lateral pointed protrusions. Metathorax + propodeum dull, granulated, with posterior surface transversely striate. Meso- and metapleural suture distinct and complete. Protarsal segments in following proportions: 22:3:6:27:37. Enlarged claw (Plate 168E) with one large subdistal tooth and one row of 9–11 lamellae. Segment 5 of protarsus (Plate 168E) with two rows of about 36 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/0/1.

**Male** (Plate 152B, D). Fully winged; length 2.7 mm. Head black, except mandible testaceous; antenna black; mesosoma and metasoma black; legs brown, except tarsi testaceous. Antenna filiform; antennal segments in following proportions: 6:5:11:11:10:10:9:9:8:8; antennal segment 3 more than three times as long as broad (16:3:5). Head dull, granulated; frontal line absent; occipital carina absent; POL = 6.5; OL = 2.5; OOL = 4; temple hardly distinct. Palpal formula 6/3. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli about as long as greatest breadth of posterior ocelli. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum dull, reticulate rugose. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (24:12). Dorsal process of paramere (Plate 168H) short and with distal apex broad. Tibial spurs 1/1/2.

**Material examined. Types.** ♀ holotype: lost (personal communication of Mr. Arlé); BRAZIL: Rio de Janeiro, Pico da Tijuca; neotype ♀ (designated by Olmi 1984): BRAZIL: Rio de Janeiro, Guanabara, Floresta da Tijuca, VI.1966, Alvarenga & Seabra leg. (AEIC). **Other material:** ARGENTINA: Buenos Aires, Tigre (FCNM);
Misiones, Loreto (FCNM); Misiones, Concepcion de la Sierra Dept., Santa Maria (FCNM). COSTA RICA: Puntarenas, Osa Peninsula, Corcovado Nat. Park, Sirena, 08°28’N 83°35’W (AMNH, NHMLA).

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil, Costa Rica.

### Group 5

Three species are known in the Neotropical region.

### Key to the species (females)

1. Scutum with two lateral pointed apophyses (Plate 169D) ................................................. *G. costaricanus* (Olmi)
   – Scutum without lateral pointed apophyses (Plate 169C) .................................................. 2
2. Anterior surface of metathorax + propodeum dull, sculptured by many irregular striae ........... *G. nigrithorax* (Ogloblin)
   – Anterior surface of metathorax + propodeum shiny, unsculptured ................................... *G. bonaerensis* Virla

1. **Gonatopus bonaerensis** Virla, 1997
   (Plates 169A–C, 170)


**Gonatopus bonariensis** (sic) Virla: Cuezzo & Virla 2001: 36.

**Description. Female.** Apterous; length 2.3–2.9 mm. Head darkened or brown, except anterior region of face, clypeus and mandible testaceous; antenna brown, except segments 1, 2 and part of 3 testaceous (antennal segments 8–10 missing in holotype); mesosoma testaceous, occasionally darkened or brown, then scutum always testaceous; metasoma brown; legs testaceous; a specimen from Argentina (Mendoza, 35°12.70’S 69°42.68’W) is completely testaceous, except petiole black.

   Antenna clavate; antennal segments in following proportions: 7.5:5.5:8.5:6:5:4.5:4.5:4.5:10. Head (Plate 169B) strongly excavated in holotype, less excavated or almost flat in some paratypes; head shiny, unsculptured, slightly granulated in front of anterior ocellus; frontal line absent; occipital carina absent; temple distinct; POL = 1; OL = 2; OOL = 7. Palpal formula 3/2 or 2/2. Pronotum smooth, shiny, unsculptured, not crossed by transverse impression. Scutum dull, sculptured by longitudinal keels, without lateral pointed apophyses (Plate 169C). Metanotum transversely straite, not hollow behind scutellum. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. In paratype, disc of metathorax + propodeum irregularly striate. Mesopleura and metapleura transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 12:2.5:3:6:13. Enlarged claw (Plate 169A) with one large subapical tooth and one row of three–four lamellae and one bristle. Segment 5 of protarsus (Plate 169A) with two rows of five–nine lamellae; distal apex with two–five lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Delphacidae (Virla 1997, 2000a; Guglielmino & Olmi 2006): in Argentina: *Delphacodes sitarea* Remes Lenicov & Tesón (Virla 2000a); *Delphacodes kuscheli* Fennah; *Delphacodes latus* Remes Lenicov & Tesón; *Peregrinus maidis* (Ashmead) (Cuezzo & Virla 2001), *Metadelphax (=Toya) propinqua* (Fieber), *Dicranotropis* sp. (Virla 2004) (Plate 170).
PLATE 169. A, E. Chelae of holotypes. B. Head of female holotype in frontal view. C, D. Mesosoma of female holotype in dorsal view. F. Genitalia of male from Costa Rica, Cerro de la Muerte. A, B, C. Gonatopus bonaerensis. D, E, F. G. costaricanus. Scale bar 0.11 mm for A and E, 0.46 mm for B, 0.34 mm for C, 0.43 mm for D, 0.09 mm for F.

PLATE 170. Gonatopus bonaerensis. Larval sacs on Delphacodes sitarea Remes Lenicov & Tesón on Stenotaphrum secundatum (Walt.) Kuntze (Poaceae). Tucumán (Argentina). Sacs on female (length 2.5 mm) (A), male (length 2.0 mm) (B) and IV instar nymph (length 1.5 mm) (C). D. Mature larva emerging from female host.

2. Gonatopus costaricanus (Olmi, 1991)
(Plate 169D–F)


Description. Female. Apterous; length 2.9–3.4 mm. Head brown, except anterior region of face, clypeus and mandible testaceous; antenna testaceous; mesosoma brown, with reddish nuances; metasoma brown; legs testaceous, except clubs of femora and mezo- and metacoxa darkened. Occasionally head brown-testaceous. Occasionally mesosoma black. Antenna clavate; antennal segments in following proportions: 8:5:12:8:6.5:6:6:10. Head excavated, shiny, smooth, unsculptured; frontal line complete; occipital carina absent; POL = 1; OL = 1.5; OOL = 8. Palpal formula 4/2, 3/2 or 2/2. Pronotum smooth, shiny, unsculptured, not crossed by transverse impression. Scutum slightly granulated, with two lateral pointed apophys (Plate 169D). Scutellum shiny, smooth, unsculptured. Metanotum shiny, smooth, unsculptured, inclined, not hollow behind scutellum. In large (mm 3.2) specimen from Ecuador, 00°25.192’S 78°30.571’W, metanotum sculptured by strong transverse keels. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Mesopleuron with anterior third transversely striate. Metapleuron completely transversely striate. Meso-metapleural suture obsolete. In large (mm 3.2) specimen from Ecuador, 00°25.192’S 78°30.571’W, meso-metapleural suture partly present. Protarsal segments in following proportions: 14:3:4:13.5:21. Enlarged claw (Plate 169E) with one large subapical tooth and one row of four–five lamellae. Segment 5 of protarsus (Plate 169E) with two rows of 8–12 lamellae; distal apex with 11–13 lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.6 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black; metasoma brown; legs yellow. Antenna filiform, with segment 3 more than three times as long as broad (11:1:5); antennal segments in following proportions: 6:5:11:13:13:12:12:16. Head shiny, hairy, alutaceous; frontal line absent; occipital carina absent; POL = 6; OL = 2.5; OOL = 2.5; greatest breadth of posterior ocelli as long as OL; temple distinct. Palpal formula 3/2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli slightly shorter than greatest breadth of posterior ocelli (2:2.5). Scutellum shiny, smooth, finely punctate, unsculptured among punctures, slightly granulated near scutum. Metanotum shiny, unsculptured. Propodeum shiny, with posterior surface strongly reticulate rugose; dorsal surface almost smooth, slightly sculptured by irregular striae, with median longitudinal furrow. Fore wing hyaline, without dark transverse bands; marginal cell open. Dorsal process of paramere (Plate 169F) long and slender. Tibial spurs 1/1/2.


Hosts. Unknown.


3. Gonatopus nigrithorax (Ogloblin, 1953)
(Plate 171)

Idologonatopus nigrithorax Ogloblin 1953: 112.

Description. Female. Apterous; length 2.3–4.7 mm. Head brown, except anterior half of face, clypeus and mandible testaceous (occasionally head whitish, except ocellar triangle darkened (occasionally temple darkened); occasionally head more or less testaceous, except some brown spots; occasionally head totally black); antenna testaceous; mesosoma brown; often scutum and scutellum brown; occasionally propodeum testaceous, except some brown spots; petiole brown; metasoma testaceous; occasionally metasoma testaceous or yellow, except brown spots; legs testaceous. Antenna clavate; antennal segments in following proportions:
12:10:26:15:12:11:10:10:9:15. Head excavated, dull, granulated; frontal line incomplete; occipital carina almost completely absent, only shortly present on sides of posterior ocelli; temple distinct (Plate 171C); POL = 3; OL = 4.5; OOL = 13. Palpal formula 3/2. Pronotum crossed by very slight transverse impression, with disc shiny, smooth, slightly punctate, unsculptured among punctures; anterior collar of pronotum dull, granulated (Plate 171A). Scutum rugose, dull. Scutellum short, dull. Metanotum dull, rugose, not hollow behind scutellum. Mesos- and metapleuron transversely or irregularly striate. Metathorax + propodeum dull, granulated, with anterior and posterior surface transversely or irregularly striate. Protarsal segments in following proportions: 24:5:7:18:33. Enlarged claw (Plate 171B) with one large subapical tooth and one row of five–six lamellae. Segment 5 of protarsus (Plate 171B) with two rows of 8–11 lamellae; distal apex with seven–eight lamellae. Tibial spurs 1/0/1.

PLATE 171. Gonatopus nigrithorax. A. Mesosoma of female holotype. B. Chela of paratype. C. Head of female holotype in frontal view. D. Genitalia of male from Robinson Crusoe Island, N side El Yunque. Scale bar 0.45 mm for A, 0.14 mm for B, 0.64 mm for C, 0.11 mm for D.

Male. Fully winged; length 2.6 mm. Head black-brown, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs testaceous-darkened, except coxae partly brown. Antenna filiform, with segment 3 more than three times as long as broad (11:2.5); antennal segments in following proportions: 7:5:11:12:9:10:9.5:9:8:11.5. Head dull, granulated; frontal line complete and thin; occipital carina absent; POL = 6; OL = 2; OOL = 3; greatest breadth of posterior ocelli longer than OL (3:2); temple distinct; vertex with shining, smooth area between posterior ocelli and eyes (area not surrounded anteriorly by prominent apophysis). Palpal formula 3/2. Scutum and scutellum granulated; notauli complete, separated posteriorly; minimum distance between notauli shorter than greatest breadth of posterior ocelli (1:3). Metanotum shiny, punctate, unsculptured among punctures. Propodeum dull, reticulate rugose. Fore wing hyaline, without dark transverse bands; marginal cell open. Dorsal process of paramere (Plate 171D) short and with distal extremity broad and truncated. Tibial spurs 1/1/2.

Hosts. Unknown.

Distribution. Juan Fernández Islands (Chile), Peru.

Group 6

Four species are known in the Neotropical region.

Key to the species (females)

1. Posterior surface of metathorax + propodeum not transversely striate
   - Posterior surface of metathorax + propodeum completely transversely striate
   
   2. Mesosoma totally or almost totally black
   - Mesosoma totally testaceous or testaceous-reddish
   
   3. Head with POL as long as, or longer than OL
   - Head with POL shorter than OL

1. Gonatopus caraibicus (Olmi, 1986)

(Plates 172A–D, 173)


Male. Fully winged; length 2.2 mm. Head black, except mandible testaceous, clypeus brown with margins yellow and anterior region of face testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown; legs yellow, except coxae, clubs of femora and tibiae partly brown. Antenna filiform; antennal segments in following proportions: 4:4.5:6.5:6:5:5:5:5:6; antennal segment 3 less than three times as long as broad (6.5:2.5). Head dull, hairy, granulated; frontal line absent; occipital carina absent; temple distinct; vertex with ovoidal shiny area between posterior ocelli and eyes; POL = 6.5; OL = 3; OOL = 3; greatest breadth of posterior ocelli shorter than OL (2:3). Palpal formula 5/2. Scutum dull, granulated. Notauli complete, posterioiy separated; minimum distance between notauli about as long as greatest breadth of posterior ocelli. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum dull, granulated, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (13:7). Dorsal process of paramere (Plate 172C) reduced, lobe-shaped. Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype: PUERTO RICO: San Juan, Carolina, 23.II.1983, J.A. Torres leg. (NHMLA). Other material: ARGENTINA: Buenos Aires, La Plata (AMNH, FCNM); Buenos Aires, Santa Catalina, from 1.III.1989 to 10.II.1991, ex Exitianus obscurinervis Stål, E. Virla leg. (FCNM); Buenos Aires,

PLATE 172. A, B. Mesosoma of female from Argentina, Tucumán, in dorsal (A) and lateral (B) view (length 1.9 mm). C. Genitalia of male from Argentina, Santa Catalina. D, E. Chelae of holotypes. F. Genitalia of male paratype. A–D. *Gonatopus caraibicus*. E, F. G. sandrae. Scale bar 0.09 mm for C, 0.16 mm for D, 0.15 mm for E, 0.07 mm for F.

PLATE 173. *Gonatopus caraibicus*. Larval sacs on *Exitianus obscurinervis* (Stål) on *Cynodon dactylon* (L.) Pers. (Poaceae). Tucumán (Argentina). Sacs on II instar nymph (length 1.5 mm) (A), and V instar nymph (length 4.2 mm) (B). C. Cocoon and pupa (maximum length of cocoon 5.4 mm).

**Biology.** Information on biology in Virla (1992). The parthenogenesis is thelytokous (Olmi 1999d). (Plate 173)


**Distribution.** Argentina, Puerto Rico.

**Remarks.** The male of *G. carabiicus* is similar to that of *G. peculiari* Brues (Nearctic), but it has complete notaui, whereas in *G. peculiari* the notaui are incomplete.

### 2. Gonatopus sandrae Olmi, 1998

(Plate 172E, F)

*Gonatopus fernandinae* Olmi partim (male from Isabela Island): Abedrabbo et al. 1990: 122.


**Description.** Female. Apterous; length 3.1 mm. Head testaceous-reddish; antenna brown, except segments 1–3 testaceous; mesosoma testaceous-reddish; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 7:4:5:9:5:4:5:4:5:4:6. Head slightly excavated, shiny, slightly granulated; frontal line complete; occipital carina absent; POL = 1; OL = 1.5; OOL = 7; temple distinct. Palpal formula 5/2. Pronotum not crossed by transverse impression, shiny, smooth and unsculptured or slightly granulated. Scutum dull, granulated, without lateral pointed apophyses. Metanotum inclined, not hollow behind scutellum, with sides rounded, without lateral pointed apophyses. Metathorax + propodeum shiny, unsculptured or very slightly granulated. Posterior surface of propodeum, mesopleuron and metapleuron transversely striate. Meso-metapleural suture obsolete (fading track of line visible). Protarsal segments in following proportions: 11,2:5:12:19. Enlarged claw (Plate 172E) with one small subapical tooth and one row of five peg-like hairs and one hair. Segment 5 of protarsus (Plate 172E) with two rows of 4 + 16 lamellae; distal apex with about 11 lamellae. Tibial spurs 1/0/1.

**Male.** Fully winged; length 1.9 mm. Head black, except mandible testaceous; antenna brown; mesosoma black, except metanotum and propodeum brown-light; metasoma and legs brown. Antenna filiform; antennal segments in following proportions: 5:4:7:6.5:6.6:6.6:6.8; antennal segment 3 more than four times as long as broad (7:1.5). Head shiny, very slightly granulated; frontal line complete; occipital carina absent; POL = 5.5; OL = 1.5; OOL = 2. Palpal formula 4/2. Scutum slightly granulated.Notaui incomplete, reaching about 0.8 length of scutum. Scutellum, metanotum and propodeum shiny, smooth, finely punctate, unsculptured among punctures. Fore wing hyaline, without dark transverse bands; distal part of stigma vein longer than proximal part (14:5). Dorsal process of paramere (Plate 172F) long and slender, with darkened part short and broad. Tibial spurs 1/1/2.


**Hosts.** Cicadellidae (Guglielmino & Olmi 1997, 2006): in Ecuador (Galapagos Islands): *Cicadulina tortilla*
Cadwell (Abedrabbo et al. 1990). In Guglielmino & Olmi (1997) and Abedrabbo et al. (1990), this dryinid species was confused erroneously with Gonatopus fernandinae Olmi; this mistake was corrected by the same Guglielmino & Olmi (2006).

**Distribution.** Galapagos Islands (Ecuador).

3. *Gonatopus stephani* Olmi, 1986
(Plate 174A, B)


**Description.** Female. Apterous; length 2.4–2.8 mm. Head usually black, except anterior region of head, clypeus and mandible testaceous; occasionally head brown; rarely head testaceous (in specimen from Mexico, Tuxcacuesco); antenna black, except segments 1–2 or 1–3 testaceous; mesosoma usually black, rarely testaceous-darkened (in specimen from Mexico, Tuxcacuesco); metasoma black, or brown, or testaceous-brown; legs brown, except tarsi, trochanters and articulations testaceous; rarely legs totally testaceous (in specimen from Mexico, Tuxcacuesco). Antenna clavate; antennal segments in following proportions: 7:5:9:5:4:4:4:6. Head faintly excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 1; OL = 1; OOL = 7; temple distinct. Palpal formula 5/2. Pronotum not crossed by transverse impression, shiny, smooth and unsculptured. Metathorax + propodeum dull, granulated. Posterior surface of propodeum, mesopleuron and metapleuron not transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 10:2:3:11:18. Enlarged claw (Plate 174A, B) with one small subapical tooth and one row of four–five peg-like hairs and one hair. Segment 5 of protarsus (Plate 174A, B) with two rows of 17–19 lamellae; distal apex with about four–six lamellae. Tibial spurs 1/0/1.

Male. Unknown.

**Material examined.** Type: ♀ holotype: VENEZUELA: Zulia, Maracaibo (AEIC). Other material: GUATEMALA: 50 km S of Guatemala City, Cerro Redondo, 1050 m (AMNH). MEXICO: Chiapas, Palenque, grass in front of Mayabell Hotel, M. Olmi reared from adults of *Stirellus bicolor* (Van Duzee), parasitized host collected 18.XI.2004, dryinid coocooning 19.XI.2004, dryinid adult emerged 8.XII.2004, 2 ♀ (MOLC); same locality label, M. Olmi reared from adults of *Stirellus bicolor* (Van Duzee), parasitized host collected 18.XI.2004, dryinid coocooning 21.XI.2004, dryinid adult emerged 8.XII.2004, 1 ♀ (MOLC); Jalisco, near Sierra de Manantlán Reserve, Tuxcacuesco, M. Olmi reared from *Polyamia tantilla* Beamer & Tuthill, parasitized host collected 14.X.2003, dryinid coocooning 15.X.2003, 1 ♀ (MOLC); Michoacan, about 15 km N of Morelia, grass along the highway from Morelia to Highway 15, M. Olmi reared from an adult of *Stirellus bicolor* (Van Duzee), parasitized host collected 22.X.2003, dryinid coocooning 24.X.2003, 1 ♀ (MOLC); Patzcuaro Lake, along the road N.120 from Sanabria and Tzintzuntzan, 24.X.2003, M. Olmi reared from nymph of *Polyamia tolteca* Kramer, 1 ♀ (MOLC); Quintana Roo, along the road from Majahual to road N. 307, about 33 km from Majahual, reared from adult of *Stirellus mexicanus* (Osborn & Ball), parasitized host collected 21.XI.2004, dryinid coocooning 21.XI.2004, 1 ♀ (MOLC).

Hosts. Cicadellidae (Guglielmino & Olmi 1997, 2006; Moya-Raygoza & Olmi 2010): in Mexico: Chiapas: *Stirellus bicolor* (Van Duzee); Jalisco: *Polyamia tantilla* Beamer & Tuthill; Michoacan: *Stirellus bicolor* (Van Duzee); *Polyamia tolteca* Kramer; Quintana Roo: *Stirellus mexicanus* (Osborn & Ball).

**Distribution.** Guatemala, Mexico, Venezuela.

(Plate 174C–E)


PLATE 174. A, C. Chelae of holotypes. B. Chela of female from Mexico, Tuxcacuesco. D. Genitalia of male paratype. E. Chela of female from Cuba, Laguito. A, B. Gonatopus stephani. C–E. G. zolnerowichii. Scale bar 0.11 mm for A and B, 0.16 mm for C, 0.08 mm for D, 0.14 mm for E.

Description. Female. Apterous; length 2.0–3.9 mm. Testaceous, except petiole black. Antenna clavate; antennal segments of holotype in following proportions: 7:4.5:9:5.4:5:4:5:4:5:4:3.5:6; antennal segments of specimen from Cuba, Laguito, in following proportions: 6:4:8:4:5:4:4:3:5:5:5. Head shiny, slightly granulated; frontal line complete; occipital carina absent; holotype with POL = 2; OL = 1; OOL = 6. In specimen from Cuba, Laguito, POL = 2; OL = 2; OOL = 5. Palpal formula 4/2. Pronotum shiny, slightly granulated or unsculptured, crossed by very slight transverse impression. Scutum dull, granulated, without lateral pointed apophyses. Metathorax + propodeum shiny, with anterior surface very slightly granulated and posterior surface strongly transversely striate (in specimen from Cuba, Laguito, transverse striae very slight). Meso- and metapleural suture obsolete. Protarsal segments of holotype in following proportions: 11:2:3:10:16. Protarsal segments of specimen from Cuba, Laguito, in following proportions: 8:1.5:2.5:10:14. Enlarged claw (Plate 174C) of holotype with one small subapical tooth, two peg-like hairs and one bristle (in specimen from Cuba, Laguito, seven peg-like hairs). Segment 5 of protarsus (Plate 174C) of holotype with two rows of one (proximal) + 19 lamellae (in specimen from Cuba, Laguito, two rows of two (medial) + 12 lamellae (Plate 174E)); distal apex with 10–12 lamellae (12 in holotype). Tibial spurs 1/0/1.

Male. Fully winged; length 1.6 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown, except articulations and tarsi testaceous. Antenna filiform; antennal segments in following proportions: 3:3:4:3:5:4:3:5:3:5:3:5:3:5:3:5; antennal segment 3 about twice as long as broad (4:2). Head dull, granulated; frontal line absent; occipital carina absent; vertex with ovoidal shiny area between posterior ocelli and eyes; temple distinct; POL = 5; OL = 2; OOL = 2. Palpal formula 3/2. Scutum dull, granulated. Notauli incomplete, reaching about 0.5 length of scutum. Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum shiny, almost completely smooth, irregularly striate. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere (Plate 174D) slender, shorter than paramere. Tibial spurs 1/1/2.


Distribution. Argentina, Cuba, Mexico.
Sixty-one species are known in the Neotropical region.

Key to the species (females)

1. Segment 1 of protarsus approximately twice as long as 4.  
   – Segment 1 of protarsus shorter than, as long as, or slightly longer than segment 4.  
2. Head and mesosoma ferruginous.  
   – Head and mesosoma black or brown.  
   3. Posterior surface of propodeum not transversely striate.  
   – Posterior surface of propodeum transversely striate.  
   4. Disc of metathorax + propodeum without lateral pointed apophyses (Plate 179C); anterior surface of metathorax + propodeum less inclined (Plate 179D).  
   – Disc of metathorax + propodeum with two lateral pointed apophyses (Plate 192B); anterior surface of metathorax + propodeum more inclined (Plate 192C).  
5. Meso-metapleural suture distinct.  
   – Meso-metapleural suture obsolete.  
   – Scutum laterally without pointed apophyses (Plates 194B, 197D), or with two slightly visible pointed apophyses (Plate 176E).  
   7. Stalk between prothorax and metathorax + propodeum very slender, more than twice as long as broad (Plate 175G).  
   – Stalk between prothorax and metathorax + propodeum very slender, more than twice as long as broad (Plate 175G).  
8. Anterior surface and disc of metathorax + propodeum shiny, unsculptured.  
   – Anterior surface and disc of metathorax + propodeum dull, granulated.  
9. Metanotum hollow behind scutellum (Plate 183A, B).  
   – Metanotum not hollow behind scutellum (Plate 197E).  
10. Anterior surface and disc of metathorax + propodeum dull, granulated.  
   – Anterior surface and disc of metathorax + propodeum shiny, unsculptured, at most with slight transverse striae, not granulated.  
11. Head flat; posterior surface of metathorax + propodeum strongly transversely striate.  
   – Head excavated (like Plate 193E); posterior surface of metathorax + propodeum completely granulated, not transversely striate.  
12. Anterior surface of metathorax + propodeum more inclined (Plate 183A, B); scutum, scutellum and metathorax + propodeum black.  
   – Anterior surface of metathorax + propodeum less inclined (Plate 182C, D); scutum, scutellum and metathorax + propodeum ferruginous.  
13. Disc of metathorax + propodeum with track of median furrow; anterior surface of metathorax + propodeum with numerous slight transverse striae.  
   – Disc of metathorax + propodeum without track of median furrow; anterior surface of metathorax + propodeum completely smooth, without transverse striae.  
14. Mesopleuron and metapleuron located on different planes, because of very broad and step-shaped metapleural suture.  
   – Mesopleuron and metapleuron on the same plane.  
15. Head shiny, unsculptured.  
   – Head dull, granulated.  
16. Scutum and anterior surface of metathorax + propodeum shiny, almost completely unsculptured.  
   – Scutum and anterior surface of metathorax + propodeum dull, granulated.  
17. Metathorax + propodeum testaceous-reddish.  
   – Metathorax + propodeum black.  
18. Scutum totally black; vertex of head dull, granulated.  
   – Scutum almost totally yellow; vertex of head shiny, with only ocellar triangle granulated; lateral regions of vertex smooth and unsculptured.  
19. Metathorax + propodeum with strong median longitudinal furrow.  
   – Metathorax + propodeum without median longitudinal furrow.  
20. Mesosoma testaceous or testaceous-reddish.  
   – Mesosoma completely or mostly black.  
   – Antennal segment 3 more than twice as long as segment 1.  
22. Mesopleuron and metapleuron on the same plane.  
   – Mesopleuron and metapleuron located on different planes, because of very broad and step-shaped meso-metapleural suture.
23. Pronotum and metathorax + propodeum unsculptured (except transverse striae present on meso- and metapleura and posterior surface of propodeum) .............................................. G. orbitalis Cameron

24. Pronotum and metathorax + propodeum granulated, with or without transverse striae on meso- and metapleura and posterior surface of propodeum ......................................................... G. trichosoma Virla, Espinosa & Olmi

25. Enlarged claw with few proximal hairs, without lamellae (Plate 198F); segment 5 of protarsus with two rows of small lamellae (Plate 198F) ............................................................. G. whartoni Olmi

26. Stalk between pronotum and metathorax + propodeum very long, longer than disc of pronotum (Plate 176E) .............................................................. G. apicalis Cameron

27. Mesosoma almost totally, or mostly yellow-testaceous, or testaceous-reddish ......................................................... 28

28. Metathorax + propodeum with median longitudinal furrow ............................................................. G. elliptes Kieffer

29. Head flat .................................................. 30

30. Metanotum flat (Plate 178B, C); sides of metanotum slightly rounded (Plate 178B, C) ..................................................... G. bartletti Olmi

31. Enlarged claw with one small subapical tooth very close to distal apex (Plate 181E); segment 5 of protarsus with one row of bristles, without lamellae (Plate 181E), or with one only lamella ................................................................. G. cobenianus Olmi

32. Head and mesosoma shiny, totally or almost totally smooth, unsculptured, except striae on meso- and metapleura and posterior surface of propodeum .................................................. 33

33. Head and mesosoma dull, totally or mostly granulated, or with at least metathorax + propodeum granulated (except striae on meso- and metapleura and posterior surface of propodeum) ................................................................. 45

34. Sides of metanotum rounded (Plates 183E, 187E, F; 191B, 196B, 198A) ......................................................... 34

35. Scutum with two lateral pointed apophyses; segment 5 of protarsus with lamellae beginning in proximal third (195A); labial palpus 3-segmented ............................................................. G. providae Olmi

36. Scutum without two lateral pointed apophyses; segment 5 of protarsus with lamellae located in distal half (190D); labial palpus 2-segmented ............................................................. G. huggeri Olmi

37. Scutum and metanotum without lateral pointed apophyses (Plates 191B, 196B) ......................................................... 38

38. Scutum or metanotum with lateral pointed apophyses (Plates 183E, 187E, F; 198A) ......................................................... 40

39. Segment 5 of protarsus with very short rows of lamellae located in distal half (Plate 180B) ............................................................. G. cavazzutii Olmi

40. Body less slender, with scutum showing two lateral pointed apophyses located on sides of scutellum (Plate 198A) ............................................................. G. vidanoi Olmi

41. Head with OL approximately twice as long as POL ............................................................. G. desantis Olmi & Virla

42. Posterior surface of propodeum smooth, transversely striate only near distal apex ............................................................. G. larsensis Olmi

43. Lateral protrusions of metanotum rounded ............................................................. G. florii Olmi

44. Scutum with two lateral pointed apophyses (as in Plate 175G) ............................................................. G. camphelli Olmi

45. Posterior surface of propodeum granulated, only with posterior third or half transversely striate ............................................................. G. acer Olmi

46. Body very robust (Plate 176D) ............................................................. G. argentina Olmi

47. Labial palpus 2-segmented; scutum without two lateral pointed apophyses ............................................................. G. trista Olmi

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48. Posterior surface of propodeum completely strongly transversely striate .......................... 49
   - Posterior surface of propodeum without transverse striae, or with few striae located near distal apex or in posterior half .......................... 66
49. Mesopleuron and metapleuron dull, granulated, transversely striate and rugose .......................... 50
   - Mesopleuron and metapleuron shiny, unsculptured and with more or less numerous transverse striae .......................... 57
50. Anterior surface of metathorax + propodeum dull, granulated and occasionally reticulate rugose .......................... 51
   - Anterior surface of metathorax + propodeum shiny, unsculptured .......................... 53
51. Scutum laterally with two strong pointed apophyses (Plate 188C) .................................. G forestalis Olmi
   - Scutum laterally without pointed apophyses (Plate 193C) .................................. 52
52. Enlarged claw with proximal half more slender, with one small preapical tooth located very near distal apex (Plate 189A) .................. G guerrerensis Olmi
   - Enlarged claw with proximal half broader, with one small preapical tooth located farther from distal apex (Plate 193B) .................. G oglobini Virla
53. Scutum with two lateral pointed apophyses .................................. 54
   - Scutum without lateral pointed apophyses .................................. 55
54. Pronotum testaceous-reddish, with some brown spots .................................. G flavoniger Olmi
   - Pronotum black .................................. G piceus Olmi
55. Metanotum flat (Plate 193C, D) .................................. G oglobini Virla
   - Metanotum inclined (Plate 191B, C) .................................. 56
56. Enlarged claw with one small preapical tooth located farther from distal apex (Plate 191A) .................. G lacunalis Olmi
   - Enlarged claw with one small preapical tooth located nearer distal apex (Plate 192E) .................. G moyaragyezai Olmi
57. Scutum with two lateral pointed apophyses .................................. 58
   - Scutum without lateral pointed apophyses .................................. 62
58. Metanotum laterally with two pointed protrusions (Plate 175D) .................................. 59
   - Metanotum laterally without pointed protrusions (Plate 193F) .................................. 61
59. Segment 5 of protarsus with two rows of lamellae beginning in proximal half (Plate 195C) .................. G quindiesensis Olmi
   - Segment 5 of protarsus with two rows of lamellae located in distal half (Plates 175A, 179F) .................. 60
60. Species mostly testaceous or brown-reddish .................................. G campbelli Olmi
   - Species mostly black or brown .................................. G acer Olmi
61. Enlarged claw with one small preapical tooth located nearer distal apex (Plate 195E) .................. G regalis Olmi
   - Enlarged claw with one small preapical tooth located farther from distal apex (Plate 176A) .................. G amapaensis Olmi
62. Anterior surface of metathorax + propodeum less inclined (Plate 193G) .................. 63
   - Anterior surface of metathorax + propodeum more inclined (Plate 198I) .................. 64
63. Metanotum with sides rounded (Plate 193F) .................................. G onorei Olmi
   - Metanotum laterally with two pointed protrusions (as in Plate 175D) .................. G campbelli Olmi
64. Lateral protrusions of metanotum rounded (Plate 198I) .................................. G woolleyi Olmi
   - Lateral protrusions of metanotum pointed (Plate 165D) .................................. 65
65. Head dull, totally granulated; anterior surface of metathorax + propodeum with few longitudinal striae .............. G guayasensis Olmi
   - Head shiny, unsculptured, only with occiput granulated; anterior surface of metathorax + propodeum smooth, unsculptured .... .......................... G acer Olmi
66. Head unsculptured .................................. 67
   - Head at least partly granulated .................................. 68
67. Scutum and metanotum without lateral pointed apophyses .................................. G santiaguensis Olmi
   - Scutum with two lateral pointed apophyses (as in Plate 175G) ; metanotum laterally with two pointed protrusions (as in Plate 175D) .................. G campbelli Olmi
68. Scutum with two lateral pointed apophyses (Plate 190F) .................................. 69
   - Scutum without lateral pointed apophyses (Plate 193C) .................................. 70
69. Enlarged claw sickle shaped, with one small subapical tooth located very far from distal apex (Plate 190E) .................. G julianae Olmi & Virla
   - Enlarged claw not sickle shaped, with one small subapical tooth located nearer distal apex (Plate 196C) .................. G silvestrii Kieffer
70. Disc of metathorax + propodeum and posterior surface of propodeum granulated and reticulate rugose, except some transverse striae on posterior half of propodeum .................................. G oglobini Virla
   - Disc of metathorax + propodeum and posterior surface of propodeum granulated or unsculptured, except occasionally some transverse striae on posterior half of propodeum .................................. 71
71. Metanotum inclined (Plate 177C) .................................. G autumnalis Olmi
   - Metanotum flat (Plates 196B, 197H) .................................. 72
72. Species larger, with anterior surface of metathorax + propodeum more inclined (Plate 197H); labial palpus 2- or 3-segmented .......... G taxilanae Olmi
   - Species smaller, slender, with anterior surface of metathorax + propodeum usually less inclined (Plate 196B); labial palpus 2-segmented .................. G silvestrii Kieffer
1. **Gonatopus acer** Olmi, 1991  
(Plate 175A–E)


**Description. Female.** Apterous; length 2.3–2.5 mm. Head black, or brown, or brown-testaceous, except clypeus, mandible and anterior region of face testaceous; antenna totally testaceous, occasionally with segments 7–10 brown; occasionally antenna brown, except segment 10 whitish; mesosoma black, except metasternum and distal apex of propodeum testaceous; occasionally mesosoma brown, or testaceous-reddish; occasionally mesosoma brown-reddish, except scutum yellow; metasoma brown; legs brown, except tarsi, clubs of femora, part of trochanters and metatibia testaceous. In specimen from Honduras, Cusuco National Park, head black, except mandible, clypeus, anterior half of face and part of ventral side testaceous-whitish; mesosoma totally black, except distal apex of propodeum testaceous. Antenna clavate; antennal segments in following proportions: 9:5:9:5:4:4:3.5:4:3.5:5. Head excavated, shiny, unsculptured; occiput granulated; frontal line complete; occipital carina absent; POL = 2; OL = 1.5; OOL = 6. Palpal formula 4/2, 5/2, or 6/3. Palpal formula 4/2 observed in three specimens from Cuba (Versalles, Maibio, Uvero) and in specimen from Mexico (27 mi SW Salina Cruz). Palpal formula 4/2 observed in specimens from Panama (in specimen from 08°39’N 82°12’W right maxillary palpus 4-segmented and left maxillary palpus 5-segmented). Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum laterally without pointed apophyses (Plate 175D, E). Metanotum shiny, smooth, unsculptured, with sides protruding; lateral protrusions pointed (Plate 175D, E). Metathorax + propodeum (Plate 175C, D, E) shiny, unsculptured, with posterior surface transversely striate. Mesopleuron unsculptured, not transversely striate. Metapleuron partly transversely striate. Meso-metapleural suture obsolete. In specimen from Colombia, disc of metathorax + propodeum with slight track of median longitudinal furrow. Protarsal segments in following proportions: 11:2.5:5:12:19. Enlarged claw (Plate 175A, B) with one small subapical tooth and one row of seven–eight peg-like hairs and one hair. Segment 5 of protarsus (Plate 175A) with two rows of 3 (proximal) + 18 lamellae, or 2 (medial) + 16 lamellae; distal apex with about eight–ten lamellae. In specimens from Cuba (Versalles, Maibio, Uvero) and Honduras (Cusuco National Park), segment 5 of protarsus with two rows of lamellae situated in distal half and with more proximal lamella longer than others (Plate 175B). Tibial spurs 1/0/1.

**Male. Unknown.**


**Hosts.** Unknown.
PLATE 175. A, F. Chelae of holotypes. B. Chela of female from Cuba, Maibio. C, D. Mesosoma of female holotype in lateral (C) and dorsal (D) view (pronotum removed in C). E. Mesosoma in lateral view of female from Costa Rica, Las Cruces Biological Station. G. Scutum and scutellum of female holotype in dorsal view. A–E. Gonatopus acer. F, G. G. agilis. Scale bar 0.13 mm for A, 0.12 mm for B, 0.44 mm for C, D and E, 0.20 mm for F, 0.26 mm for G.

Distribution. Colombia, Costa Rica, Ecuador, Cuba, Guatemala, Honduras, Mexico, Nicaragua, Panama, Venezuela.

2. Gonatopus agilis Olmi, 1984 (Plate 175F, G)


Description. Female. Apterous; length 3.7–4.6 mm. Head testaceous; antenna yellow-testaceous; pronotum completely testaceous or black (occasionally black, except reddish nuances on lateral regions); scutum and scutellum yellow; rest of mesosoma black, except posterior extremity of propodeum reddish; metasoma black or brown-reddish; legs testaceous, except coxae and clubs of femora partly brown or totally testaceous. Antenna clavate; antennal segments of holotype in following proportions: 25:15:70:25:21:18:16:13:20. Head excavated, shiny, unsculptured; frontal line complete; occipital carina absent; POL = 5; OL = 4.5; OOL = 20. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, with some longitudinal keels, laterally with two pointed apophyses (Plate 175G). Stalk between pronotum and metathorax + propodeum more than twice as long as broad. Metanotum shiny, not transversely striate, Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron transversely striate. Meso- metapleural suture distinct and complete. Protarsal segments in following proportions: 11:2:3:13:19. Enlarged claw (Plate 175F) with one small subapical tooth and one row of eight peg-like hairs. Segment 5 of protarsus (Plate 175F) with two rows of 4 + 20 or 3 + 15 lamellae; distal apex with about 13–14 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Colombia, Ecuador, Panama.

(Plate 176A)


Male. Unknown.

**Material examined.** Type: ♀ holotype: BRAZIL: Amapá, Porto Platon, IX.1957, J. Lane leg. (MZUS).

**Hosts.** Unknown.

**Distribution.** Brazil.

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**PLATE 176.** A, B, C, F, H. Chelae of holotypes. D. Female from Argentina, Tilimuqui (length 4.5 mm). E. Mesosoma of female holotype in dorsal view. G. Genitalia of male from Argentina, Tilimuqui. A. *Gonatopus amapaensis*. B. *G. amazonicus*. C. *G. antilleanus*. D, G, H. *G. argentinus*. E, F. *G. apicalis*. Scale bar 0.19 mm for A, 0.17 mm for B and C, 0.62 mm for E, 0.21 mm for F, 0.12 mm for G, 0.16 mm for H.
(Plate 176B)


**Description. Female.** Apterous; length 3.2–3.6 mm. Holotype with head brown-reddish, except black ocellar spot; in specimen from Argentina, Loreto, head black, except clypeus and mandible testaceous; antenna of holotype testaceous, except segments 7–10 darkened (antenna of specimen from Argentina, Loreto, totally testaceous); pronotum of holotype reddish, except some black spots on transverse impression (pronotum of specimen from Argentina, Loreto, black, except lateral regions testaceous); scutum of holotype reddish (scutum of specimen from Argentina, Loreto, black); scutellum black; metathorax + propodeum black, except anterior surface of propodeum reddish-dark; metasome black; legs testaceous. Antenna clavate; antennal segments in following proportions: 8:5.5:13:6.5:5.5:5.5:5:4:6. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 2; OOL = 8. Palpal formula 6/3. Pronotum shiny, unsculptured, crossed by strong transverse impression. Scutum and scutellum shiny, unsculptured. Metanotum smooth and unsculptured, or irregularly striate, not hollow behind scutellum. Metathorax + propodeum of holotype with anterior surface shiny, almost completely smooth and partly slightly rugose; metathorax + propodeum of specimen from Argentina, Loreto, with anterior surface completely smooth and unsculptured. Posterior surface of metathorax + propodeum transversely striate. Meso- and metapleuron of holotype unsculptured; in specimen from Argentina, Loreto, mesopleuron and metapleuron transversely striate. Metasomal suture distinct and complete. Protarsal segments in following proportions: 13:6:3:17:26. Enlarged claw (Plate 176B) with one small subapical tooth and one row of eight peg-like hairs. Segment 5 of protarsus (Plate 176B) with two rows of 32 lamellae; distal apex with at least ten lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype (MCZ Type N. 34841): BRAZIL: São Paulo, Serra da Bocaina, São José do Barreiro, 13–17.I.1969, Porter & Garcia leg. (MCZ).

**Other material:** ARGENTINA: Misiones, Loreto, 8.XII.1930, A. Ogloblin leg., 1 ♀ (FCNM).

**Hosts.** Unknown.

**Distribution.** Argentina, Brazil.

5. Gonatopus antilleanus Olmi, 1987
(Plate 176C)


**Description. Female.** Apterous; length 2.3–2.9 mm. Totally testaceous, except petiole black and antennal segments 1 and 5–10 darkened. In specimen from Puerto Rico, Maricao, body totally little darkened. Antennae clavate. Head flat, dull, granulated; frontal line hardly visible; occipital carina absent; temple very prominent; POL = 1.5; OL = 1.5; OOL = 6. In specimen from Puerto Rico, Maricao, head shiny and unsculptured; in specimen from Cuba, Guanímar, vertex of head unsculptured. Palpal formula 3/2. Pronotum dull, slightly granulated, crossed by strong transverse impression. Metanotum smooth, not transversely striate. Metathorax + propodeum dull, slightly granulated, with posterior surface not transversely striate (in specimen from Cuba, Guanímar, posterior surface of propodeum completely transversely striate). Meso- and metapleuron not transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 12:2:3:6:11. Enlarged claw (Plate 176C) with one small subapical tooth and one row of five peg-like hairs. Segment 5 of protarsus (Plate 176C) with two rows of 15–16 lamellae; distal apex with seven–nine lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: DUTCH ANTILLES: Curaçao Island, Hotel Piscadera (DEUW).


**Hosts.** Unknown.

**Distribution.** Cuba, Dutch Antilles, Puerto Rico.
6. *Gonatopus apicalis* Cameron, 1888  
(Plate 176E, F)


**Description.** *Female.* Apterous; length 3.0–4.4 mm. Head brown or black, except mandible, clypeus and anterior region of face yellow; antenna totally yellow, occasionally with segments 8–10 or only 10 brown or darkened; mesosoma black, occasionally with lateral regions of pronotum and stalk between pronotum and metathorax + propodeum yellow-testaceous; metasoma brown-black; legs yellow, except coxae and clubs of femora partly black or brown. Antenna clavate. Head excavated, shiny, smooth, unsculptured; frontal line almost complete, absent near clypeus; occipital carina absent; POL = 4; OL = 7; OOL = 19. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum (Plate 176E) shiny, smooth, unsculptured, laterally with two pointed apophyses. Stalk between pronotum and metathorax + propodeum (Plate 176E) very long, longer than disc of pronotum. Metanotum smooth, not transversely striate, transversely with two small pointed apophyses (Plate 176E); occasionally without lateral pointed apophyses (in specimen from Colombia, 09°37’N 74°54’W). Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleural not transversely striate. In some specimens from Colombia, Bolivar Department, posterior surface of propodeum almost completely smooth, with few transverse striae near distal apex. In specimen from French Guiana, Sàuil, mesosoma completely smooth and unsculptured, except distal third of posterior surface of propodeum transversely striate. Meso-metapleural suture obsolete. Protarsal segments of holotype in following proportions: 43:6:12:55:76. Enlarged claw (Plate 176F) with one small subapical tooth and one row of nine peg-like hairs. Segment 5 of protarsus (Plate 176F) with two rows of 20–25 lamellae; distal apex with about nine lamellae. Tibial spurs 1/0/1.

*Male.* Unknown.


**Hosts.** Unknown.

**Distribution.** Colombia, Costa Rica, Ecuador, French Guiana, Panama, Venezuela.

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7. *Gonatopus argentinus* Olmi, 1986  
(Plate 176D, G, H)


**Description.** *Female.* (Plate 176D): apterous; length 3.1–4.9 mm. Completely ferruginous-testaceous, except

Male. Fully winged; length 2.4–2.5 mm. Head black, except mandible testaceous; clypeus brown, except lateral regions testaceous-yellow antenna brown, except segment 1 testaceous; mesosoma black; metasoma brown-dark; legs brown, except tarsi and articulations testaceous. Antenna hairy, filiform; antennal segments in following proportions: 5:4:8.5:7.5:6.5:7:6.5:7:6.5:10; antennal segment 3 more than three times as long as broad (8.5:2.5). Head shiny, granulated and slightly rugose, laterally with two shiny and smooth areas between posterior ocelli and eyes; frontal line absent; occipital carina absent; occiput concave; temple distinct; POL = 8; OL = 3; OOL = 3; greatest breadth of anterior ocellus as long as OL; temple distinct, much shorter than OL (1:3). Palpal formula 5/2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli as long as greatest breadth of anterior ocellus. Scutellum and metanotum shiny, finely hairy, very finely punctate, unsculptured among punctures. Propodeum dull, completely granulated; dorsal surface with median longitudinal furrow. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmatic vein much longer than proximal part. Dorsal process of paramere (Plate 176G) short and with distal apex broadened, shorter than paramere. Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype (N. 34840): ARGENTINA: Cordoba, NW of Guanaco Muerto, Cruz del Eje, with ants, M. Friz leg. (MCZ). Other material: ARGENTINA: La Rioja, Tilimuqui, 2.XII.2006, Espinosa reared from *Spangbergiella vulnerata* (Uhler), 1 ♀ (IFML); same locality label, 15.XI.2006, 2 ♀♀ (IFML); same locality label, 16.XII.2006, 1 ♀ (MOLC), 1 ♂ (IFML); same locality label, 2.XII.2006, 1 ♀ (IFML); same locality label, 16.XII.2006, 1 ♀ (MOLC), 1 ♂ (IFML); same locality label, 2.XII.2006, 1 ♂ (MOLC).


Distribution. Argentina.

8. *Gonatopus arlei* Olmi, 1984
(Plate 177A)


Description. Female. Apterous; length 2.8–2.9 mm. Head testaceous-reddish, except vertex slightly darkened; antenna brown, except segments 1–3 reddish; prothorax black or brown; scutum yellow; rest of mesosoma black; petiole black; metasoma brown-testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 7:5:15:5:4.5:5:4.5:4:5:4:4. Head excavated, shiny, unsculptured; frontal line complete; occipital carina absent; POL = 2.5; OL = 2; OOL = 8. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum dull, sculptured by some longitudinal keels. Metanotum smooth, not transversely striate. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron transversely striate, located on same plane. Meso-metapleural suture distinct, complete and narrow. Protarsal segments in following proportions: 12:2:4:13:19. Enlarged claw (Plate 177A) with one small subapical tooth and one row of seven peg-like hairs. Segment 5 of protarsus (Plate 177A) with inner side proximally serrated, with two rows of 14 lamellae; distal apex with about ten lamellae. Tibial spurs 1/0/1.
Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, Brazil.

PLATE 177. A, B. Chelae of holotypes. C. Mesosoma of female holotypes in lateral view. D. Genitalia of male from Argentina, 12 km NE Pinamar. A. Gonatopus arlei. B, C, D. G. autumnalis. Scale bar 0.16 mm for A, 0.19 mm for B, 0.66 mm for C, 0.10 mm for D.

9. Gonatopus autumnalis Olmi, 1984

(Plate 177B–D)


Description. Female. Apterous; length 2.8–3.2 mm. Head black, except mandible, clypeus and malar space testaceous; antenna testaceous, except segments 7–10 brown; mesosoma black; metasoma black-brown; legs brown, except coxae black and tarsi testaceous. In specimen from Argentina, 12 km N Pinamar, prothorax almost totally testaceous-darkened. In specimen from Argentina, Las Juntas, antenna totally brown. Antenna clavate; antennal segments in following proportions: 15:6:21:11:9:8:7:6.5:8. Head dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 2; OOL = 11. Palpal formula 6/3. Pronotum hairy, shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum dull, granulated, sculptured by some longitudinal keels. Scutellum granulated. Metathorax + propodeum dull, granulated, with anterior region very inclined (Plate 177C); posterior surface not transversely striate, except few striae near distal extremity and some striae on sides. Meso- and metapleuron not transversely striate. Meso-metapleural suture obsolete. In specimen from Argentina, Las Juntas, metathorax + propodeum with more or less deep median longitudinal furrow. Protarsal segments in following proportions: 16:3:6:21:32. Enlarged claw (Plate 177B) with one small subapical tooth and one row of 6–11 peg-like hairs. Segment 5 of protarsus (Plate 177B) with two rows of 17–22 lamellae; distal apex with about 8–18 lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.2 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown-dark; legs brown-testaceous. Antenna hairy, filiform; antennal segments in following proportions: 4:3.5:8.5:8.8:7:7.5:6.5:8.5; antennal segment 3 more than three times as long as broad (8.5:1.3). Head shiny, slightly granulated, laterally with two shiny and smooth areas between posterior ocelli and eyes; frontal line absent; occipital carina absent; occiput concave; temple distinct; POL = 6; OL = 2; OOL = 2.3; greatest breadth of
posterior ocelli as long as OOL. Palpal formula 4/2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli: 1.5:2.3. Scutellum and metatormum shiny, finely hairy, very finely punctate, unsculptured among punctures. Propodeum dull, reticulate rugose, on dorsal surface partly granulated. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmatic vein longer than proximal part (18:6). Dorsal process of paramere (Plate 177D) short and with distal apex rounded. Tibial spurs 1/1/2.


Hosts. Cicadellidae Deltocephalinae: in Argentina: nymphs of *Faltala furcipennis* Cheng (Virla & Olmi 2007a) and other Deltocephalinae.

Distribution. Argentina, Bolivia.

10. *Gonatopus bartletti* Olmi, 1984 (Plate 178)

*Gonatopus* n. sp.; Bartlett 1939: 497.


*Agonatopus* sp.; Quezada 1979: 1.


Description. Female. Apterous; length 2.6–3.1 mm. Completely yellow-testaceous, except petiole black and metastoma darkened. Head flattened; antennal segments in following proportions: 7:4:12:8:6:5:5:5:7. Head flat, dull, granulated; frontal line complete; occipital carina absent; POL = 1; OL = 2; OOL = 6. Palpal formula 4/2 or 5/2. Pronotum dull, granulated, crossed by strong transverse impression. Scutum dull, very slightly granulated, laterally without pointed apophyses (Plate 178B, C) Scutellum and metatormum dull, very slightly granulated, not transversely striate. Metathorax + propodeum (Plate 178B, C, D, E) dull, very slightly granulated, with posterior surface transversely striate. Meso- and metapleuron not transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 14:2:3:11:16. Enlarged claw (Plate 178F) with one small subapical tooth and one row of about three bristles. Segment 5 of protarsus (Plate 178F) with two rows of 21–22 lamellae extending beyond 0.5 length of segment and partly located on prominence; distal apex with 8–13 lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.1–2.7 mm. Black or brown, except legs testaceous, not banded. Antenna filiform; antennal segments in following proportions: 5:4:9:9:9:7:7:6:8:5; antennal segment 3 more than three times as long as broad (about six times). Head shiny, hairy, slightly granulated; frontal line absent; occipital carina absent; POL = 6.5; OL = 2.5; OOL = 1.5; greatest breadth of posterior ocelli longer than OOL (5:1.5). Palpal formula 4/2. Scutum shiny, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than antennal segment 2 (2:4). Scutellum and metatormum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum shiny, almost smooth, slightly striate; dorsal surface with median longitudinal furrow. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere (Plate 178A) long, slender, with distal apex slightly broadened; basivolsella without notch. Tibial spurs 1/1/2.
PLATE 178. *Gonatopus bartletti*. A. Genitalia of male from Puerto Rico, Mayagüez. B, D. Mesosoma of female holotypes in dorsal (B) and lateral (D) view. C, E. Mesosoma of female from Mexico, El Grullo, in dorsal (C, pronotum removed) and lateral (E) view. F. Chelae of holotype. Scale bar= 0.11 mm for A, 0.39 mm for B, 0.33 mm for C, 0.40 mm for D, 0.41 mm for E, 0.15 mm for F.


Biology. According to Bartlett (1939: as *Baldulus maidis*) the parasitization rate of *Dalbulus maidis* in Puerto Rico could reach 15%. However, the effectiveness of *G. bartletti* was somewhat reduced by *Ooencyrtus* sp. (Encyrtidae), an hyperparasite emerging from the cocoons (see also Guerrieri 2006). The biological cycle was studied by Quezada (1979, as *Agonatopus* sp.) in El Salvador, where the cycle from egg to adult lasts 34–40 days. The biological cycle in Mexico was studied by Rios-Reyes & Moya-Raygoza (2004). At El Grullo (Jalisco, Mexico) the average duration of the development instars was found to be the following: from egg to mature larva emergence: 11.9 days; female pupa: 13.3 days; male pupa: 13.9 days. The female adults live 21.6 days, male adults 1.0 days. The total cycle at 25°C from egg to the adult death lasts 46.6 days in females, 26.6 days in males. The
parthenogenesis of *G. bartletti* is arrhenotokous. Rios-Reyes and Moya-Raygoza found also that the effect on the host produced by *G. bartletti* is more efficient because of the predation than for the parasitization. Moya-Raygoza et al. (2006) and Moya-Raygoza (2007) studied the effects of *G. bartletti* larvae on the mollicute *Spiroplasma kunkelii* Whitcomb (Corn Stunt Spiroplasma, CSS), the agent of Corn Stunt Disease in maize. Whereas CSS does not have any negative or positive effects on *G. bartletti*, on the contrary larvae of *G. bartletti* cause a significant reduction of the populations of CSS in the body of *D. maidis*. This result explains the high parasitism rate by *G. bartletti* in *D. maidis* and the low presence of *S. kunkelii* in the corn leafhopper when CSS and *G. bartletti* overlap throughout their geographic distribution. According to Moya-Raygoza et al. (2006) this result should be explained as follows: 1) the parasitoid produces antibacterial peptides that are toxic to CSS; 2) the parasitoid produces teratocytes that take nutrients from the host for larval development, but these nutrients are required by CSS; 3) the parasitoid affects indirectly CSS through other symbiotic microorganisms; 4) the parasitoid produces proteins, with antibacterial activity, that are present in the venom of the wasp parasitoid. Moya-Raygoza (2007) also studied the effects of the presence of CSS on adults of corn leafhopper exposed to predation by *G. bartletti*. The survival rate of corn leafhopper adults exposed to predation by *G. bartletti* was significantly lower in leafhoppers carrying CSS for 10 incubation days or 20 incubation days than in leafhoppers free of CSS or carrying CSS for 2 incubation days. These data suggest that CSS may increase the susceptibility of leafhoppers to predation by *G. bartletti*.

**Natural enemies.** Hymenoptera Encyrtidae: in Nicaragua *Cheiloneurus flaccus* (Walker) (=*Cheiloneurus cupreicollis* Ashmead) (Guerrieri & Viggiani 2005); in Puerto Rico *Ooencyrtus* sp. (Bartlett 1939).

**Distribution.** Argentina, Bahamas, Belize, Cuba, El Salvador, Mexico, Nicaragua, Puerto Rico, Venezuela and Nearctic region (Mexico (Colima, Jalisco, Mexico, Michoacan, Morelos)).

**Remarks.** The morphology of the egg and larval instars of *G. bartletti* has been studied by Guglielmino et al. (2006).

11. *Gonatopus bolivianus* Olmi, 1984  
(Plate 179A)


Male. Unknown.

**Material examined.** Type: ♀ holotype: BOLIVIA: Beni, Rio Mamoré, 10 km E San Antonio (AMNH).

**Hosts.** Unknown.

**Distribution.** Bolivia.

12. *Gonatopus breviforceps* Kieffer, 1904  
(Plate 179B–E)

**Summary:**

The text describes the species *Balclutha incisa* and provides information on its distribution, morphology, and biological notes. It also mentions the material examined, hosts, and other relevant information.

**Description. Female.** Apterus; length 2.4–3.0 mm. Head black, except mandible, clypeus and anterior region of face yellow (in specimen from the Galapagos Islands, S. Cristobal, head brown, except mandible, clypeus, gena and anterior region of face testaceous); antenna brown, except segments 1–3 yellow; mesosoma and metasoma black or brown; legs yellow, except coxae, clubs of femora and both apexes of meso- and metatibia brown. Antenna clavate; antennal segments in following proportions: 6:4:8:5:4:5:3:5:3:4:6. Head flat, shiny, hairless, granulated; frontal line complete; occipital carina absent; POL = 1.5; OL = 1; OOL = 5. Palpal formula 3/2 or 4/2. Pronotum shiny, granulated, crossed by strong transverse impression. Scutum shiny, granulated, without lateral pointed apophyses (Plate 179C, D). Metanotum not transversely striate, not hollow behind scutellum (Plate 179C, D). Metathorax + propodeum (Plate 179C, D) shiny, completely granulated, with posterior surface not transversely striate. Meso- and metapleuron not transversely striate. Protralsal segments in following proportions: 17:2:2:5:6:5:11. Enlarged claw (Plate 179B) with one small subapical tooth and one row of three–six peg-like hairs. Segment 5 of protarsus (Plate 179B) with inner side proximally not serrate, with two rows of 8–12 very small lamellae; distal apex with six–eight lamellae. Tibial spurs 1/0/1.

**Male.** Fully winged; length 1.3–2.0 mm. Head black, except mandible testaceous; antenna brown, not banded; mesosoma black; metasoma brown; legs brown, not banded. Antenna filiform; antennal segments in following proportions: 5:4:8:8:7:7:6:6:6:7; antennal segment 3 more than three times as long as broad (about 3.25). Head shiny, slightly granulated; frontal line absent; occipital carina absent; POL = 6; OL = 2; OOL = 2; greatest breadth of posterior ocelli longer than OL (4:2). Palpal formula 3/2 or 4/2. Scutum slightly granulated. Notauli incomplete, reaching approximately 0.5–0.7 length of scutum. Scutellum, metanotum and propodeum shiny, smooth, unsculptured. Dorsal surface of propodeum with median longitudinal furrow. Fore wing hyaline, without dark transverse bands; distal part of stigmatal vein longer than proximal part. Dorsal process of paramere (Plate 179E) long and with distal apex pointed; basivolsella without notch. Tibial spurs 1/1/0.


Distribution. Antigua, Argentina, Bahamas, Brazil, Cuba, Dominican Republic, Ecuador, French Guiana, Guatemala, Haiti, Mexico, Peru, Puerto Rico, Venezuela.

PLATE 179. A, B, F. Chelae of holotypes. C, D. Mesosoma (pronotum removed) of female from Dominican Republic, El Rio, in dorsal (C) and lateral (D) view. E. Genitalia of male from Peru, Rio Piedras. A. Gonatopus bolivianus. B–E. G. breviforceps. F. G. campbelli. Scale bar 0.17 mm for A, 0.15 mm for B, 0.35 mm for C, 0.37 mm for D, 0.10 mm for E, 0.12 mm for F.

(Plate 179F)


Description. Female. Apterous; length 3.0–4.1 mm. Head testaceous or brown-reddish, occasionally with vertex darkened; antenna testaceous, except segments 3–10 or 5–8 brown; mesosoma testaceous or brown-reddish; petiole black; metasoma testaceous or brown-reddish, occasionally with posterior third of each segment darkened; legs testaceous, except both extremities of meso- and metafemur brown. Antenna clavate; antennal segments in following proportions: 6:5:15:9:6:5:4:6:5. Head excavated, shiny, unsculptured; frontal line complete; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 6. Palpal formula 3/2, 4/2 or 5/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum dull, slightly granulated, laterally with two pointed apophyses. Metanotum shiny, transversely striate, with two lateral pointed protrusions. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron transversely striate. Metapleuron and propodeum almost completely smooth and not transversely striate. In further specimen from Colombia, Rio Sararamano, posterior surface of propodeum, mesopleuron and metapleuron almost completely smooth and not transversely striate. In further specimen from Colombia, mesosoma with track of meso-metapleural suture. Protarsal segments in following proportions: 13:3:4:14:20. Enlarged claw (Plate 179F) with one small subapical tooth and one row of eight–ten peg-like hairs. Segment 5 of protarsus (Plate 179F) with inner side proximally not serrated, with two rows of 8–20 lamellae extending beyond 0.5 length of segment; distal apex with about 12 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil, Colombia, Costa Rica, Cuba, Ecuador, Mexico, Panama, Peru.

(Plate 180A)


Description. Female. Apterous; length 2.6–3.0 mm. Head brown, except clypeus, mandible and anterior region of face testaceous; in specimen from Colombia, Finca Helechaux, head black, except mandible testaceous; antenna yellow, except segments 9–10 brown; mesosoma black, except prothorax brown; metasoma black; legs brown, except tarsi, part of trochanters and part of tibiae testaceous. Antenna clavate; antennal segments in following proportions: 9:4:12:7:5:3.5:3.5:3.5:6. Head excavated, shiny, unsculptured; frontal line complete; occipital carina incomplete, only shortly present behind ocelli; temple distinct; POL = 1.5; OL = 2; OOL = 7. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, granulated, laterally with two pointed apophyses. Metanotum shiny, smooth, unsculptured, hollow behind scutellum. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Mesopleuron partly transversely striate. Metapleuron completely transversely striate. Meso-metapleural suture distinct and complete, very broad and step-shaped. Mesopleuron and metapleuron located on different planes. Protarsal segments in following proportions: 11:2.5:14:21. Enlarged claw (Plate 180A) with one small subapical tooth and one row of seven peg-like hairs and one bristle. Segment 5 of protarsus (Plate 180A) with two rows of 25–28 lamellae; distal apex with at least 7–12 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Type: ♀ holotype: ECUADOR: Pichincha, Quito, Miraflores Alto, Calle Richter, on grass, M. Olmi leg. (AMNH). Other material: COLOMBIA: Cauca, near Popayán, La Rejoya, Finca Helechaux, 1800 m, collected by hand in secondary forest of Arcadia 2 (quebrada) on Passiflora flowers, 1 ♀ (IAVH). PERU: Cusco, Winayhuaya, 2250 m, CUS-07, by sweeping, Edwin Huamam leg., 1 ♀ (UNSAA).

Hosts. In Ecuador an unidentified species of Cicadellidae.

Distribution. Colombia, Ecuador, Peru.

Remarks. According to Dr. Fernando Fernández (pers. comm.) the female specimen collected in Colombia, Finca Helechaux, mimicks the form and comportment of Crematogaster Lund ants living in the same environment.

15. Gonatopus cavazzutii Olmi, 1987
(Plate 180B–D)


Description. Female. Apterous; length 2.0–2.2 mm. Totally testaceous, except antennal segments 3–10 brown, petiole black and metasoma darkened. Antenna clavate; antennal segments in following proportions: 6:4:8:5:4:4:4:4:4:6. Head excavated, shiny, unsculptured; frontal line complete; occipital carina absent; POL = 1; OL = 2; OOL = 5. Palpal formula 4/2. Pronotum shiny, unsculptured, crossed by strong transverse impression. Scutum dull, granulated. Metanotum flat, rugose, not hollow behind scutellum, with sides rounded. Metathorax +
propodeum (Plate 180D) shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleural suture obsolete. Protarsal segments in following proportions: 12:2:3:11:15. Enlarged claw (Plate 180B) with one small subapical tooth and one row of six peg-like hairs. Segment 5 of protarsus (Plate 180B) with one row of ten lamellae located in distal half of segment; distal apex with about six lamellae. Tibial spurs 1/0/1.

**PLATE 180.** A, B. Chelae of holotypes. C. Chela of gynander specimen. D. Mesosoma of female paratype in dorsal view. A. *Gonatopus casalei*. B–D. *G. cavazzutii*. Scale bar 0.09 mm for A and C, 0.08 mm for B, 0.27 mm for D.

**Male.** Unknown.

**Material examined.** Types: ♀ holotype: ECUADOR: Napo, Baeza, along the road from Baeza to Bermejo, 1800 m, M. Olmi reared from *Planicephalus flavicosta* (Stål) (AMNH). Paratypes: same locality label as holotype, M. Olmi reared from *Planicephalus flavicosta* (Stål), 8♀♀ (6 in AMNH, 2 in MRSNT).


**Natural enemies.** In Ecuador, in the type locality, *Helegonatopus pseudophanes* R. Perkins (Encyrtidae).

**Distribution.** Ecuador.

**Remarks.** In the type locality, together with the type series, a gynander specimen was found. It is deposited in AMNH. Gynander specimens are rare in Dryinidae family (see also *Gonatopus desantisi* Olmi & Virla). The above gynander specimen was described by Olmi (1987b) as follows: aspect of typical winged male of *Gonatopus*, with ovipositor and right chela; fully winged; length 2.4 mm. Black, except some small irregular brown spots on head and legs testaceous. Antenna filiform; antennal segments in following proportions: 6:4:8:9:9:8:8:8:8:10.5. Head slightly convex, shiny, granulated; frontal line absent; occipital carina absent; temple distinct; POL = 6; OL = 3; OOL = 3; greatest breadth of posterior ocelli slightly shorter than OL (2.5:3). Palpal formula 4/2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli (1.5:2.5). Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (18:8). Male genital armature absent. Ovipositor present. Left protarsus without chela. Right protarsus with chela (Plate 180C). Chela provided of rudimentary claw. Enlarged claw (Plate 180C) with one small subapical tooth and one row of two bristles and one peg-like hair. Segment 5 of protarsus (Plate 180C) with one row of eight lamellae located in distal half of segment; distal apex with at least six lamellae. Tibial spurs 1/0/1.
16. *Gonatopus cilipes* Kieffer, 1904  
(Plate 181A–D)


**Description. Female.** Apterous; length 3.8 mm. Head brown, except mandible, clypeus, occiput and anterior region of face yellow-reddish; antenna yellow-reddish, except segments 4–6 brownish (last 4 segments missing in only known specimen); pronotum reddish, except disc slightly brownish and small brown spot on anterior collar; scutum and scutellum reddish; rest of mesosoma reddish, slightly brownish on metapleuron and disc and anterior surface of metathorax + propodeum; petiole brown; metasoma brown, with reddish nuances; legs yellow-reddish. Antennal segments in following proportions: 10:6:20:8:8:7 (last 4 segments missing in only known specimen). Head (Plate 181B) excavated, hairless, with occiput and vertex granulated and part of face unsculptured; occipital carina absent; POL = 1.5; OL = 3; OOL = 10. Palpal formula 4/2. Pronotum hairy, shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum hairy, granulated. Scutellum hairy, shiny, smooth. Metanotum hairless, rugose. Metathorax + propodeum (Plate 181C, D) slightly granulated, with strong median longitudinal furrow and with posterior surface transversely striate. Meso-metapleural suture obsolete. Enlarged claw (Plate 181A) with one small subapical tooth and one row of seven–eight peg-like hairs. Segment 5 of protarsus (Plate 181A) with two rows of 4 + 22 lamellae beginning in proximal third of segment; distal apex with about 14 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: PARAGUAY: Alto Paraguay, Puerto 14 de Mayo, I.1897, G. Boggiani leg. (MCSNG).

**Hosts.** Unknown.

**Distribution.** Paraguay.

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17. *Gonatopus cobbenianus* Olmi, 1987  
(Plates 181E, 182A, B)

Description. Female. Apterous; length 2.0–2.2 mm. Totally testaceous, except petiole black and metasoma partly brown. Antenna clavate; antennal segments in following proportions: 6:4:5:3.5:3.5:3.5:4:4:5.5. Head flat, shiny, with face unsculptured and vertex and occiput alutaceous; frontal line absent; occipital carina absent; temple very prominent, about 0.5 as long as eyes (6:13); POL = 1.5; OL = 1; OOL = 5.5. Palpal formula 4/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum without lateral pointed apophyses (Plate 182A, B). Metanotum very inclined (Plate 182A, B), shiny, smooth, unsculptured. Metathorax + propodeum (Plate 182A, B) shiny, unsculptured, with posterior surface strongly transversely striate. Meso- and metapleuron strongly transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 8:2:3:6:12. Enlarged claw (Plate 181E) with one small subapical tooth and one row of five peg-like hairs. Segment 5 of protarsus (Plate 181E) of holotype with one row of some bristles, without proximal and medial lamellae (in paratype segment 5 of protarsus with one lamella and four bristles); distal apex with six lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Dutch Antilles.

18. Gonatopus contortus Olmi, 1984
(Plate 182E)


Description. Female. Apterous; length 2.2–3.7 mm. Completely reddish-dark, or brown, or testaceous-brown, except mandible, antenna, tarsi and stalks of femora testaceous. Occasionally antenna testaceous, except segments 6–10 brown. Antenna clavate; antennal segments in following proportions: 8:5:10:5:4.5:4.5:4.5:3.5:6. Head slightly excavated, dull or shiny, unsculptured or granulated; frontal line complete; occipital carina absent; POL = 3; OL = 2; OOL = 9. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum and scutellum shiny, smooth, unsculptured. Metanotum flat, shiny, rugose, hollow behind

**Male. Unknown.**

**Material examined.**


**Natural enemies.** In Argentina Helegonatopus pseudophanes R. Perkins (Encyrtidae) (Virila 2000b).

**Distribution.** Argentina, Bolivia, Brazil, Paraguay.

**Remarks.** According to Virila & Olmi (2007b) G. contortus has a thelytokous parthenogenesis.

(Plate 182C, D, F, G).


**Description.** *Female.* Apterous; length 4.5–6.3 mm. Totally ferruginous, except petiole black and metasoma brown-reddish. Occasionally antennal segments 7–10 darkened. Antenna clavate; antennal segments of holotype in following proportions: 19:6:14:12:11:10:9.5:12.5. Head excavated, dull, slightly granulated; frontal line complete; occipital carina absent; temple distinct; holotype with POL = 3; OL = 3.5; OOL = 16; paratype with POL = 2.5; OL = 3.5; OOL = 15. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum dull, granulated, with two lateral pointed apophyses (Plate 182C, D). Scutellum inclined, granulated. Metanotum dull, granulated, hollow behind scutellum (Plate 182C, D). Metathorax + propodeum (Plate 182C, D) dull and granulated, with posterior surface not transversely striate; lateral regions of propodeum slightly
and partially rugose. Meso- and metapleuron dull, granulated, not transversely striate. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 27:5:8.5:30:48.5. Enlarged claw (Plate 182F, G) with one small subapical tooth and one row of 8–11 small lamellae and one bristle. Segment 5 of protarsus (Plate 182F, G) with two rows of about 27–34 lamellae; distal apex with about 18–20 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Paraguay.

### 20. Gonatopus daguerrei Olmi, 1998

(Plate 183A–C)


**Description. Female.** Apterous; length 3.4–3.6 mm. Head ferruginous, with brown ocellar spot; antenna ferruginous (in specimen from Argentina, Tigre, antennal segments 6–10 darkened); prothorax ferruginous; rest of mesosoma, petiole and metasoma black; legs ferruginous. In specimen from Argentina, Las Juntas, scutum yellow. Antenna clavate; antennal segments in following proportions: 10:6:14:7:6:6:5:4:7. Head excavated, dull, granulated; frontal line complete; occipital carina absent; temple distinct; POL = 2; OL = 3; OOL = 9. Palpal formula 6/3. Pronotum crossed by strong transverse impression, with anterior collar dull, granulated and disc shiny, smooth, unsculptured. Scutum rugose, laterally with two pointed apophyses (Plate 183A, B), Metanotum shiny, smooth, about as long as scutellum, hollow behind scutellum (Plate 183A, B), with sides rounded. Metathorax + propodeum (Plate 183A, B) dull, granulated, with posterior surface not transversely striate (in specimen from Argentina, Tigre, posterior surface of propodeum with few transverse striae near distal apex). Mesopleuron granulated, not transversely striate. Metapleuron granulated and strongly transversely striate. Meso-metapleural suture distinct and complete, very broad and step-shaped. Mesopleuron and metapleuron located on different planes. Protarsal segments in following proportions: 13:2.5:5:17:26. Enlarged claw (Plate 183C) with one small subapical tooth and one row of seven–eight peg-like hairs or small lamellae and one hair. Segment 5 of protarsus (Plate 183C) with two rows of 16–27 lamellae; distal apex with about 11–17 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Cicadellidae: in Argentina: unidentified species of Deltocephalinae.

**Distribution.** Argentina.

### 21. Gonatopus desantisi Olmi & Virla, 1992

(Plates 183D–H, 184)

**Gonatopus flavipes** Olmi: De Santis & Virla 1991: 12; Virla 1992: 144 (misid.).

PLATE 183. A, B, F. Mesosoma of holotype in dorsal (A, E) and lateral (B) view (E, pronotum removed). C, D. Chelae of holotypes. F, G. Parameres of males from Argentina, La Bellaca (F) and La Plata (G). H. Genitalia of male from Argentina, Santa Catalina. A–C. Gonatopus daguerrei. D–H. G. desantisii. Scale bar 0.48 mm for A and B, 0.16 mm for C, 0.15 mm for D, 0.27 mm for E, 0.08 mm for F, G and H.

Description. Female. Apterous; length 2.9–3.2 mm. Testaceous, except petiole black and antennal segments 4–10 darkened. Antenna clavate; antennal segments in following proportions: 6:5:14:8:6:5:5:5:5:7. Head excavated, shiny, smooth, unsculptured, in few areas slightly granulated; frontal line complete; occipital carina absent; temple distinct; POL = 1; OL = 2; OOL = 8. Palpal formula 4/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum dull, granulated, with two lateral pointed apophyses located further proximally than scutellum (Plate 183E). Metanotum flat, dull, transversely striate, with sides rounded, without lateral pointed apophyses or protrusions (Plate 183E), not hollow behind scutellum. Metathorax + propodeum (Plate 183E) shiny,
unsculptured, with posterior surface transversely striate. Meso- and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 12:2.3:5.1:13:19. Enlarged claw (Plate 183D) with one small subapical tooth and one row of seven peg-like hairs and one hair. Segment 5 of protarsus (Plate 183D) with two rows of 19 lamellae; distal apex with about nine lamellae. Tibial spurs 1/0/1.

**Male.** Fully winged; length 1.9–2.2 mm. Head brown-black, except mandible testaceous; occasionally clypeus partly yellow-testaceous; antenna brown; mesosoma black; metasoma brown; legs testaceous. Antenna filiform; antennal segments in following proportions: 4.5:4.5:8:9:9:8:8:7:9; antennal segment 3 more than four times as long as broad (8:1.5). Head shiny, hairy, punctate, unsculptured among punctures; frontal line absent; occipital carina absent; POL = 6; OL = 3; OOL = 2.5; greatest breadth of posterior ocelli shorter than OL (2:3); anterior ocellus about as broad as OOL; vertex without oval shiny areas between posterior ocelli and eyes. Palpal formula 4/2. Scutum shiny, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli (1:2). Scutellum and metanotum shiny, smooth, unsculptured. Propodeum shiny, smooth, unsculptured, slightly rugose only on median area of dorsal surface, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (16:8). Dorsal process of paramere (Plate 183F–H) shorter than paramere, with distal apex broadened. Tibial spurs 1/1/2.


PLATE 184. Gonatopus desantisi. Gynander specimen from Argentina, San Miguel de Tucumán (length 2.7 mm).


**Distribution.** Argentina.
Remarks. Two gynander specimens of *G. desantisii* were described by Virla (2001). They were reared by the same Virla in laboratory in Argentina, S. Miguel de Tucumán, from nymphs of Cicadellidae Deltocephalinae. They are deposited in IFML. These are respectively the second and third gynander specimen described in Dryinidae family (after that of *Gonatopus cavazzutii* Olmi (see) from Ecuador). They were described by Virla (2001) as follows:

**Description of gynander specimen N. 52** (Plate 184). A partly winged specimen of *Gonatopus* partly female and partly male, with ovipositor and without chela; length 2.4 mm. Head testaceous (shape and colour of head like those of female head). Antenna brown, except segments 1–3 testaceous. Dorsal region of mesosoma with left half testaceous and right half brown-black, except metanotum totally brown-black; left lateral regions of mesosoma testaceous, except mesopleuron and metapleuron partly brown-black; right lateral regions of mesosoma testaceous, except part of mesopleuron and metapleuron brown-black and most part of prothorax brown-black. The general aspect of mesosoma is that of a male mesosoma, but anteriorly the prothorax shows on the left side a testaceous region, whose shape is similar to that of a female pronotum; in addition, the scutum is mostly female, but the brown-black region shows a track of a notaualus. Only the two hind tegulae are visible; a complete hind wing is articulated to the left tegula, whereas a reduced hind wing is articulated to the right tegula. Metasoma testaceous, except some brown regions on posterior half and near petiole. The shape and colour of metasoma are similar to those of a female metasoma. Ovipositor present. Legs testaceous, except club of meso- and metamemur partly brown. The colour of the legs is similar to that of female legs. The shape of the mid- and hind leg is similar to that of mid and hind male legs. The fore leg has coxa, trochanter, femur and tibia as in the female (but the club of femur is less broad and the trochanter is less long), whereas the tarsus is that of the male. Chela absent. The shape of the fore leg is partly female and partly male. Male genital armature absent. Tibial spurs 1/1/2.

**Description of gynander specimen N. 82.** A partly winged specimen of *Gonatopus* partly female and partly male, with ovipositor and without chela; length 2.2 mm. Head testaceous, except many brown spots (shape of head similar to that of a male, but the colour is intermediate). The right antenna is female, with brown colour, except segments 1–2 and part of 3 testaceous; the left antenna is male, with totally brown colour. Dorsal region of mesosoma brown–black, except longitudinal testaceous stripe on scutum, testaceous spots on prothorax, scutellum and metanotum, whereas the propodeum is almost totally testaceous, with brown spots near anterior margin. The right lateral regions of mesosoma are brown–black, except mesopleuron and metapleuron partly testaceous. The colour of the left lateral regions of mesosoma is similar, but the lateral surfaces of prothorax are partly testaceous. The general aspect of mesosoma is that of a male mesosoma. The wings are complete, but not normally developed. The metasoma is brown. The shape and colour of metasoma are similar to those of a male metasoma. Ovipositor absent. Male genital armature present. Legs testaceous. The shape of the mid- and hind leg is similar to that of mid and hind male legs, but the colour is female. The shape of the right fore leg is female, whereas the shape of the left fore leg is male, with female colour. Chela absent (however, both fore legs are damaged and the distal segments are missing). Tibial spurs 1/1/2.

**22. Gonatopus doellojuradoi** (Ogloblin, 1938)

(Plate 185)

*Dicondylus doellojuradoi* Ogoblin 1938: 38.


**Description.** Female (Plate 185A). Apterous; length 1.9–4.0 mm. Completely ferruginous, or testaceous, or testaceous-reddish, except petiole black; antenna testaceous, except segments 4–10 darkened. Occasionally vertex of head darkened; occasionally head almost totally brown. Occasionally metathorax + propodeum mostly brown, or black, or with brown spots. Antenna clavate; antennal segments in following proportions: 6:5:15:8:6:5:5:5:7. Head excavated, dull, slightly or strongly granulated; frontal line complete; occipital carina absent; temple distinct. Holotype with POL = 2; OL = 3; OOL = 8. Palpal formula 5/2. Pronotum hairless, dull, crossed by strong transverse impression, slightly granulated. Scutum dull, granulated, laterally without pointed apophyses (Plate 185D–I). Scutellum dull, flat, granulated. Metanotum dull, granulated, not transversely striate, not hollow behind
scutellum, without lateral pointed apophyses. Metathorax + propodeum dull, with sparse long hairs, completely granulated, transversely striate only on posterior half of propodeum; occasionally anterior surface of metathorax + propodeum almost entirely unsculptured and shiny. Meso- and metapleuron granulated, not transversely striate. Meso-metapleural suture obsolete. Protarsal segments of holotype in following proportions: 13:3:5:11:20. Enlarged claw (Plate 185B) with one small subapical tooth and one row of seven peg-like hairs. Segment 5 of protarsus (Plate 185B) with two rows of 22–30 lamellae (erroneously Olmi (1984) wrote that there was only one row); distal apex with at least 8–12 lamellae. Tibial spurs 1/0/1.

PLATE 185. Gonatopus doellojuradoi. A. Female from Argentina, La Ovejeria (length 3.6 mm). B. Chela of holotype. C. Genitalia of male from Argentina, Itati. D–I. Different colour patterns of mesosoma: females from Argentina, Ostende (D), La Plata (E), R. Sanez Peña (F), Tigre (G), San Miguel de Tucumán (H) and holotype (I). Scale bar 0.13 mm for B, 0.06 mm for C, 0.66 mm for D–I.

Male. Fully winged; length 1.9 mm: Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown-dark; legs testaceous-darkened. Antenna hairy, filiform; antennal segments in following proportions: 4.5:4.5:8:8:8:7.5:7.5:6.5:9; antennal segment 3 more than three times as long as broad (8:2). Head shiny, slightly granulated, laterally without two shiny and smooth areas between the posterior ocelli and the eyes; frontal line absent; occipital carina absent; occiput concave; temple distinct; POL = 5; OL = 2; OOL = 3; greatest
breadth of anterior ocellus as long as OOL. Palpal formula 4/2. Scutum dull, granulated. Notauli complete, posteriorly joint. Scutellum and metanotum shiny, finely hairy, very finely punctate, unsculptured among punctures. Propodeum dull, completely granulated. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (16:8.5); dorsal process of paramere (Plate 185C) long and with distal apex broadened, longer than paramere. Tibial spurs 1/1/2.


Distribution. Argentina.

23. Gonatopus fernandinae Olmi, 1984
(Plate 186A, C)


Description. Female. Apterous; length 1.9–2.0 mm. Testaceous, except petiole black and metasoma partly brownish. Antenna clavate. Head flat, shiny, hairless, unsculptured; occipital carina absent. Palpal formula 4/2. Pronotum hairless, shiny, crossed by strong transverse impression, unsculptured. Scutum dull, granulated. Metanotum transversely striate. Metathorax + propodeum shiny, slightly granulated, with posterior surface transversely striate. Meso- and metapleural transversely striate. Meso- and metapleural suture obsolete. Segment 1 of protarsus about twice as long as segment 4 (8:4). Enlarged claw (Plate 186C) with one small subapical tooth and one row of five peg-like hairs. Segment 5 of protarsus (Plate 186C) with inner margin proximally serrated, with two rows of 17 lamellae; distal apex with about seven lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 1.7 mm: Totally brown-testaceous. Antenna filiform; antennal segments in following proportions: 4:3:5.5:5.5:4:5:4:3:4:5.6; antennal segment 3 more than three times as long as broad (3.5). Head shiny, hairy, alutaceous; frontal line absent; occipital carina absent; temple distinct; POL = 7; OL = 3; OOL = 2; greatest breadth of posterior ocelli longer than OOL (4.2). Palpal formula 4/2. Scutum shiny, hairy, granulated. Notauli incomplete, reaching about 0.7 length of scutum (erroneously Olmi (1984) wrote that the notauli were “invisible”). Scutellum and metanotum shiny, smooth. Propodeum shiny, smooth, unsculptured; dorsal surface with median longitudinal furrow. Fore wing hyaline, without dark transverse bands; Dorsal process of paramere (Plate 186A) long and with distal apex slender. Tibial spurs 1/1/2.

Material examined. Types: ♂ holotype: ECUADOR: Galapagos Islands, Fernandina Island, W side, 5.II.1964, D.Q. Cagnolaro leg. (CAS). Paratypes: same locality label as holotype, 1 ♀ (AMNH); ECUADOR:
Galapagos Islands, Santa Cruz Island, Academy Bay, Darwin Research Station, 5.II.1964, R.O. Schuster leg., 1 ♀ (CAS), one paratype (AMNH).

Hosts. Unknown. Abedrabbo et al. (1990) and Guglielmino & Olmi (1997) reported Cicadulina tortilla Caldwell as host on the Galapagos Islands. That record is now attributed to Gonatopus sandrae Olmi (see remarks).

Distribution. Galapagos Islands (Ecuador).

Remarks. Abedrabbo et al. (1990) reported the capture in Isabela Island (Galapagos Islands) of a male specimen attributed provisionally to G. fernandinae, but showing a different colour. That specimen was later described as a new species (see Gonatopus sandrae Olmi in group 6).

(Plate 186B, E, D)


Description. Female. Apterous; length 2.3–2.6 mm. Head testaceous; antenna brown, except segments 1–2 and part of 3 testaceous; mesosoma testaceous; petiole black; metasoma brown-dark or black; legs testaceous. Antenna clavate; antennal segments in following proportions: 9:5:12:10:6:6:5:5:5:7. Head flat, dull, slightly granulated; frontal line absent; occipital carina absent; temple distinct, much shorter than eye (4.5:20); POL = 1; OL = 2; OOL = 9. Palpal formula 4/2. Pronotum shiny, unsculptured, crossed by strong transverse impression. Scutum dull, granulated, without lateral pointed apophyses (Plate 186E). Stalk between pronotum and metathorax + propodeum shorter than disc of pronotum (10:17). Scutellum shiny. Metanotum inclined, dull, with sides slightly protruding; lateral protrusions rounded. Metathorax + propodeum (Plate 186E) with anterior surface shiny and unsculptured, with posterior surface dull, slightly granulated and transversely striate. Meso- and metapleural dull, slightly granulated and transversely striate. Meso-metapleural suture obsolete. Metasoma shiny, with white hairs uniformly distributed. Protarsal segments in following proportions: 12:2.5:5:10:16. Enlarged claw (Plate 186B) with one small subapical tooth and one row of four–five peg-like hairs and one hair. Segment 5 of protarsus (Plate 186B) with six–eight lamellae; distal apex with five–six lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.0 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown-dark; legs testaceous, except coxae, trochanters and clubs of femora brown-dark. Antenna
hairy, filiform; antennal segments in following proportions: 8-7-13-17-13-12-10.5-11-10.5-13; antennal segment 3 more than three times as long as broad (13:3). Head shiny, punctate, unsculptured among punctures, laterally with two shiny and smooth areas posterior ocelli and eyes (areas surrounded by very low keels); frontal line absent; occipital carina absent; occiput concave; temple distinct; POL = 7; OL = 2.5; OOL = 3. Palpal formula 4/2. Scutum shiny, finely punctate, unsculptured among punctures, partly very slightly granulated. Notauli complete, posteriorly separated; minimum distance between notauli slightly shorter than greatest breadth of posterior ocelli (1.5:2.0), shorter than antennal segment 2 (1.5:4.0). Scutellum and metanotum shiny, finely hairy, very finely punctate, unsculptured among punctures. Propodeum shiny, almost completely smooth, with numerous irregular striae. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (24:12.5). Dorsal process of paramere (Plate 186D) short and slender, much shorter than paramere. Tibial spurs 1/1/2.


**Hosts.** Cicadellidae (Guglielmino & Olmi 2006): in Argentina: *Agalliana ensigera* Oman (Agalliinae).

**Natural enemies.** In Argentina *Helegonatopus pseudophanes* R. Perkins (Encyrtidae) (Virla 2000b).

**Distribution.** Argentina.

### 25. *Gonatopus fiorii* Olmi, 1986

(Plate 187A)


**Description.** Female. Apterous; length 3.0–3.2 mm. Completely testaceous-reddish, except petiole and metasoma brown and clubs of femora darkened; occasionally scutellum and part of metanotum and mesopleuron darkened or brown; occasionally last antennal segment darkened. Antenna clavate; antennal segments in following proportions: 8:5.5:14:8:7:6:5.5:5:5:6.5. Head excavated, shiny, smooth, unsculptured; frontal line complete; occipital carina absent; POL = 2; OL = 2; OOL = 7. Palpal formula 6/3 (in holotype) or 5/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum and scutellum shiny, smooth, unsculptured. Meso- and metapleural transversely striate. Metanotum with sides protruding; lateral protrusions rounded. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso-metapleural suture obsolete. In specimen from Argentina, Dos de Mayo, meso-metapleural suture slightly visible. Protarsal segments in following proportions: 13:2.5:3.5:15:21. Enlarged claw (Plate 187A) with one small subapical tooth and one row of seven peg-like hairs and one bristle. Segment 5 of protarsus (Plate 187A) with two rows of 21 lamellae; distal apex with about 8–12 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Cicadellidae: in Argentina: unidentified species of Deltocephalinae (E. Virla reared).

**Distribution.** Argentina, Brazil, Colombia.

### 26. *Gonatopus flavipes* Olmi, 1984

(Plate 187B–G)

Description. Female. Apterous; length 2.7–2.9 mm. Completely yellow-testaceous or testaceous-reddish, except petiole black and metasoma brownish. Antenna clavate. Head excavated, shiny, granulated; face unsculptured; frontal line complete; occipital carina absent; POL = 1.5; OL = 2; OOL = 6. Palpal formula 4/2 or 5/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, unsculptured, laterally with two pointed apophyses (Plate 187E–G). Stalk between pronotum and metathorax + propodeum shorter than disc of pronotum (Plate 187E–G). Metanotum smooth, usually not transversely striate. Metathorax + propodeum (Plate 187E–G) shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segment 1 shorter than segment 4 (10:12). Enlarged claw (Plate 187B, C) with one small subapical tooth and one row of five–seven peg-like hairs. Segment 5 of protarsus (Plate 187B, C) with two rows of 13–23 lamellae (occasionally only with one row); distal apex with 9–12 lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.3 mm. Head black, except mandible testaceous; antenna brown; mesosoma and metasoma black; legs brown. Antenna filiform; antennal segments in following proportions: 6:5:11:11:12:10:9:12; antennal segment 3 more than three times as long as broad (11:1.6). Head shiny, slightly granulated; frontal line complete; occipital carina absent; vertex with two flat smooth ovoidal areas between posterior ocelli and eyes; POL = 6.5; OL = 2; OOL = 2; greatest breadth of posterior ocelli as long as OOL. Palpal formula 4/2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli longer than greatest breadth of posterior ocelli (3:2). Scutellum and metastomum shiny, smooth, unsculptured; stigmal vein curved; distal part of stigmal vein longer than proximal part (18:8). Propodeum dull, rugose. Fore wing hyaline; without dark transverse bands. Dorsal process of paramere (Plate 187D) long and with distal apex pointed. Tibial spurs 1/1/2.


Distribution. Argentina, Bolivia, Brazil, Costa Rica, Ecuador, Guadeloupe, Jamaica, Mexico.
27. **Gonatopus flavoniger** Olmi, 1991

(Plate 188A)


**Description. Female.** Apterous; length 3.1 mm. Head brown, except mandible, clypeus and anterior region of face testaceous and occiput brown-testaceous; antenna testaceous; prothorax testaceous-reddish, with some brown spots; scutum yellow; rest of mesosoma black; metasoma brown; legs testaceous, except meso- and metacoxa and club of metafemur darkened. Antenna clavate; antennal segments in following proportions: 6:5:14:8:6:5:4:4:3.5:6. Head excavated, shiny, granulated, except lateral regions of face unsculptured; frontal line complete; occipital carina absent; POL = 1.5; OL = 2; OOL = 7. Both maxillary palpi broken in only known specimen (only with first two segments); labial palpus 3-segmented. Pronotum shiny, slightly granulated, crossed by strong transverse impression. Scutum with two lateral pointed apophyses. Metanotum granulated, transversely striate, not hollow behind scutellum. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron granulated and transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 13:2:4:15:21. Enlarged claw (Plate 188A) with one small subapical tooth and one row of six peg-like hairs and one bristle. Segment 5 of protarsus (Plate 188A) with two rows of one (distal) + 15 lamellae; distal apex with about nine lamellae. Tibial spurs 1/0/1.

*Male.* Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: São Paulo, Serra da Bocaina, III.1973 (PMA).

**Hosts.** Unknown.

**Distribution.** Brazil.


(Plate 188B, C)


**Description. Female.** Apterous; length 3.7–3.9 mm. Head brown, except mandible, clypeus and anterior region of face testaceous; antenna brown, except segments 1–2 and 5–6 (or only 6) testaceous; mesosoma black; metasoma
brown; legs testaceous, except part of coxae, femora and tibiae brown. Antenna clavate; antennal segments in following proportions: 8:6:18:11:9:8:5.5:6:5:8. Head excavated, dull, granulated; frontal line complete; occipital carina absent; temple distinct; POL = 2; OL = 1.5; OOL = 7.5. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum shorter than disc of pronotum, laterally with two strong pointed apophyses (Plate 188C). Metanotum flat, transversely striate, not hollow behind scutellum. Metathorax + propodeum with anterior surface granulated and strongly rugose; posterior surface granulated and strongly transversely striate. Meso- and metapleuron granulated, rugose and transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 16:3:5:20:28. Enlarged claw (Plate 188B) with one small subapical tooth and one row of ten small lamellae and one hair. Segment 5 of protarsus (Plate 188B) with two rows of 8 + 16–19 lamellae; distal apex with 13–20 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Type: ♀ holotype: GUATEMALA: Baja Verapaz, 3.5 km S Purulha, Ranchito El Quetzal, 1825 m, 2.VII.1993, cloud forest litter, R. Anderson leg. (CNC). Other material: HONDURAS: Olancho, La Muralla National Park, 15°05.49’N 86°44.17’W, 1480 m, 4–7.VII.2002, D. Yanega leg., 1 ♀ (DEUCR).

Hosts. Unknown.

Distribution. Guatemala, Honduras.

PLATE 188. A, B, D, E. Chelae of holotypes. C, F, G. Mesosoma (pronotum removed) of female holotypes in dorsal (C, F) and lateral (G) view. A. Gonatopus flavoniger. B, C. G. forestalis. D. G. foucarti. E–G. G. guayasensis. Scale bar 0.11 mm for A, 0.13 mm for B and E, 0.35 mm for C, 0.18 mm for D, 0.34 mm for F and G.

29. Gonatopus foucarti Olmi, 2004
(Plate 188D)


Description. Female. Apterous; length 3.7 mm. Completely yellow-testaceous, except petiole black; antenna testaceous, except segments 9–10 darkened. Antenna clavate; antennal segments in following proportions: 8:6:19:14:11:9:7:6.5:5.5:7. Head excavated, shiny, slightly granulated, except large smooth and unsculptured area in front of anterior ocellus; frontal line incomplete, absent in anterior third of face; occipital carina almost completely absent (only present as short track behind posterior ocelli); POL = 1; OL = 1; OOL = 8. Palpal formula 6/3. Pronotum hairy, crossed by strong transverse impression, with anterior collar and disc shiny, smooth and unsculptured. Scutum shiny, granulated, hairy, laterally with two small pointed apophyses. Scutellum shiny, smooth, flat. Mesopleuron transversely striate. Metanotum short, transversely striate, hollow behind scutellum. Metathorax + propodeum shiny, hairy, with disc and anterior surface unsculptured; posterior surface and
metapleuron transversely striate. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 16:3:4.5:20:29. Enlarged claw (Plate 188D) with one small subapical tooth and one row of ten small lamellae and one hair. Segment 5 of protarsus (Plate 188D) with two rows of 10 + 17 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: BRAZIL: Mato Grosso, Chapada dos Parecis, 30 km N Uirapuru, near ALCOMAT Distillery, 14°15′50.80″S 59°14′02.05″W, 1–15.XII.2001, Malaise trap, Antoine Foucart leg., 1 ♀ (MNHN).

**Hosts.** Unknown.

**Distribution.** Brazil.

30. **Gonatopus guayasensis** Olmi, 1991
(Plate 188E–G)


**Description.** Female. Apterous; length 2.6 mm. Head brown, except mandible, clypeus and anterior region of face testaceous; antenna brown, except segments 1–3 testaceous; mesosoma brown-light, except scutum yellow; metasoma black; legs brown, except tarsi, clubs of femora and part of metatibia testaceous. Antenna clavate; antennal segments in following proportions: 8:4:12:6:5:4:4:4:5. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 6. Palpal formula 5/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum without lateral pointed apophyses (Plate 188F,G). Scutellum shiny, smooth, flat. Metanotum flat, unsculptured, with sides protruding; lateral protrusions pointed (Plate 188F,G). Metathorax + propodeum (Plate 188F,G) shiny, unsculptured, with anterior surface sculptured by some longitudinal striae and posterior surface strongly transversely striate. Disc of metathorax + propodeum with track of median longitudinal furrow. Mesopleuron unsculptured. Metapleural transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 11:2:5:4:14:20. Enlarged claw (Plate 188E) with one small subapical tooth and one row of nine peg-like hairs. Segment 5 of protarsus (Plate 188E) with two rows of 3 (distal) + 13 lamellae; distal apex with about nine lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Ecuador.

31. **Gonatopus guerrerensis** Olmi, 1991
(Plate 189A, B)


**Description.** Female. Apterous; length 2.8–4.2 mm. Head black, except mandible, clypeus, small frontal region near clypeus and two narrow frontal stripes near orbits testaceous; antenna testaceous, except segments 7–10 and most part of 3 brown (occasionally antennal segments 1–6 totally testaceous); mesosoma and metasoma black; fore leg testaceous, except part of coxae and clubs of femora black and outer part of tibiae brown; mid- and hind leg testaceous, except coxae and clubs of femora black. Occasionally trochanters partly black and testaceous. In specimen from Jalisco, El Durazno, antenna black, except segment 5, distal half of segment 4 and proximal third of segment 6 testaceous. Antenna clavate; antennal segments in following proportions: 11:6:20:13:9:8:7:6:6:8. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 2.5; OOL = 8.5. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression. Scutum dull, granulated, sculptured by some longitudinal keels, without lateral pointed apophyses (Plate 189B). Metanotum dull, granulated, transversely striate, not hollow behind scutellum. Metathorax + propodeum dull, granulated, with...
posterior surface transversely striate. Mesopleuron granulated, partly transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 18:3:5:23:32. Enlarged claw (Plate 189A) with one small subapical tooth and one row of 10–12 peg-like hairs and one hair. Segment 5 of protarsus (Plate 189A) with two rows of 18–32 lamellae; distal apex with about 18–20 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Type: ♀ holotype: MEXICO: Morelos, 2 mi N of Cacahuamilpa, 19.VII.1984, J.B. Woolley leg. (USNM). Other material: MEXICO: Guerrero, 6.2 mi SW Xochipala, 5670 ft., 6.VII.1987, Kovarik & Schaffner leg., 1 ♀ (DETAM); Guerrero, 18.2 mi S of Iguala, 300’ (AMNH); Jalisco, about 5 km from Ciudad Guzmán, foot of Nevado de Colima, El Durazno, about 3000 m, M. Olmi reared from parasitized nymph of unidentified Cicadellid, parasitized host collected 15.X.2003, dryinid cocooning 17.X.2003, 1 ♀ (MOLC); Oaxaca, 5 mi SW of Oaxaca, 4700’ (PMA); Puebla, 6.3 mi E Tehuacan, 5900’, 22.VII.1987, Kovarik & Schaffner leg., 1 ♀ (DETAM).

Hosts. In Mexico (Jalisco), unidentified Cicadellidae.

Distribution. Mexico.

Remarks. According to the original label of the holotype, Cacahuamilpa is in Guerrero State; however, the type locality is in Morelos State, not far from the border separating Morelos from Guerrero. The original description of the species was based on the above label: this explains the choice of guerrerensis as specific name. However, this species is also present in Guerrero State.

PLATE 189. A, C. Chelae of holotypes. B. Mesosoma (pronotum removed) of female from Mexico, 18.2 mi S Iguala, in dorsal view. D. Genitalia of male paratype. A, B. Gonatopus guerrerensis. C, D. G. hermosensis. Scale bar 0.21 mm for A, 0.42 mm for B, 0.16 mm for C, 0.10 mm for D.

32. Gonatopus hermosensis Virla & Olmi, 2008
(Plate 189C, D)


Description. Female. Apterous; length 2.9–3.2 mm. Head black, except anterior third of face, clypeus and mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma black; metasoma brown-black; fore leg brown, except distal extremities of coxa, part of trochanter, tarsal segment 4 and chela testaceous; mid- and hind leg brown, except part of trochanters, stalks of femora, tibiae and tarsi testaceous. Antenna clavate; antennal
segments in following proportions: 10:6:19:12:10:8:7:6:5.5:7.5. Head excavated, with occiput and vertex strongly granulated; face almost completely shiny and unsculptured; frontal line almost complete, partly absent in anterior third of face; occipital carina absent; temple distinct; POL = 1; OL = 1; OOL = 8; greatest breadth of posterior ocelli longer than OL (2:1). Palpal formula 6/3. Pronotum dull, hairy, crossed by strong transverse impression, strongly granulated. Scutum dull, strongly granulated, with two strong lateral pointed apophyses on sides of scutellum. Scutellum dull, granulated, flat. Stalk between prothorax and metathorax + propodeum very slender, more than twice as long as broad (16:7). Metanotum dull, slightly hollow behind scutellum, flat, strongly granulated. Metathorax + propodeum dull, hairy, completely strongly granulated, with posterior surface transversely striate. Meso- and metapleuron dull, strongly granulated, not transversely striate. Meso-metapleural suture distinct and complete, very broad and step-shaped. Mesopleuron and metapleuron located on different planes. Protarsal segments in following proportions: 17:3:4:20:27. Enlarged claw (Plate 189C) with one very small subdistal tooth and one row of eight–nine peg-like hairs and one hair. Segment 5 of protarsus (Plate 189C) with two rows of 19 long lamellae + six short lamellae; distal apex with at least 10–12 lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 2.2 mm. Head black, except mandible testaceous; antenna brown, except segment 2 testaceous; mesosoma black; metasoma brown; fore leg brown, except trochanter, stalk of femur, tibia and tarsal segments 1–4 testaceous-whitish; mid- and hind leg brown, except trochanters, stalks of femora, extremities of tibiae and tarsal segments 1–4 testaceous-whitish. Antenna filiform; antennal segment 3 less than twice as long as broad (5:3); antennal segments in following proportions: 4.5:4:5:5:5:5:4.5:4.5:8. Head shiny, slightly striate and punctate, unsculptured among punctures; vertex laterally with two shiny and smooth areas between posterior ocelli and eyes (areas rounded by very low keels); frontal line complete; occipital carina absent; POL = 5; OL = 2; OOL = 3; greatest breadth of posterior ocelli longer than OL (3:2). Scutum dull, granulated. Notauli complete, posteriorly almost joint; minimum distance between notauli shorter than greatest breadth of posterior ocelli (2:3). Scutellum and metanotum shiny, smooth, unsculptured. Propodeum shiny, partly unsculptured and partly slightly irregularly striate. Fore wing hyaline, without dark transverse bands; marginal cell open; stigma vein regularly curved. Dorsal process of paramere (Plate 189D) short and transverse, with proximal part slender and distal apex broadened. Tibial spurs 1/1/2.


Distribution. Argentina.

33. Gonatopus huggerti Olmi, 1992
(Plate 190A–D)


Description. Female. Apterous; length 2.6–3.2 mm. Totally testaceous, except petiole black and metasoma darkened. In specimen from Mexico, Laguna Santa Maria, colour testaceous, except petiole black, metasoma brown, a dark ocellar spot, antenna brown, with segments 1–2 testaceous, two small brown spots on anterior angles of scutum. In specimen from Mexico, 1.3 km from San Marcos, colour totally testaceous-darkened. Antenna clavate; antennal segments in following proportions: 7:4.5:16:8:7:6:6:5:5:7. Head excavated, shiny, slightly granulated; frontal line complete; occipital carina absent; temple distinct; POL = 1; OL = 2; OOL = 7. Palpal formula 4/2 or 5/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum dull, granulated, without lateral pointed apophyses (Plate 190A, B). Metanotum flat, shiny, not hollow behind scutellum,
with sides rounded, not protruding (Plate 190A, B). Metathorax + propodeum (Plate 190A, B) shiny, unsulptured, with posterior surface transversely striate. Meso- and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 14:2.5:3:5:13:19. Enlarged claw (Plate 190D) with one small subapical tooth and one row of 4–6 peg-like hairs and one bristle. Segment 5 of protarsus (Plate 190D) with one row of 12 lamellae located in distal half of segment; distal apex with about 7–16 lamellae. In specimen from Paraguay, Naranjito, segment 5 of protarsus with two rows of three–five + 16 lamellae located in distal half of segment. Tibial spurs 1/0/1.

PLATE 190. A, B. Mesosoma of female holotype in dorsal (A), and lateral (B) view. C. Genitalia of male from Mexico, near Puerto Morelos. D, E. Chelae of holotypes. F. Habitus of female (length 5.3 mm). A–D. *Gonatopus huggeri*. E, F. *G. julianae*. Scale bar 0.46 mm for A and B, 0.10 mm for C, 0.16 mm for D, 0.24 mm for E.

**Male.** Fully winged; length 2.1–2.4 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs yellow, except clubs of meso- and metamor and coxae partly brown. Antenna filiform; antennal segment 3 approximately four times as long as broad (8.5:2); antennal segments in following proportions: 5:4.5:8.5:8:7.5:7:5:7:5:7.9. Head shiny, punctate, unsulptured among punctures; frontal line absent; occipital carina absent; POL = 5; OL = 2; OOL = 2; greatest breadth of posterior ocelli slightly longer than OOL (2.5:2). Palpal formula 4/2. Scutum shiny, punctate, unsulptured among punctures. Notauli complete, posteriorly almost joint; minimum distance between notauli much shorter than greatest breadth of posterior ocelli (0.5:2.5). Scutellum and metanotum shiny, smooth, unsulptured. Propodeum dull, completely reticulate rugose, with areolae small. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein regularly curved. Dorsal process of paramere (Plate 190C) long, with proximal part slender and distal apex broadened. Tibial spurs 1/1/2.

**Material examined.** Type: ♀ holotype (N. 84/1997): PERU: Madre de Dios, Puerto Maldonado, 1.I.1984, L. Huggert leg. (ZIL). Other material: MEXICO: Campeche, 21.2 km W Conhuas along road 186 from Escárcega to Chetumal, M. Olmi reared from a nymph of an unknown Cicadellid, parasitized host collected 19.XI.2004, dryinid cocooning 20.XI.2004, dryinid adult emerged in 2005, 1 ♀ (MOLC); Jalisco, 34th km of road N. 54 from Colima to Ciudad Guzmán, about 1.3 km from San Marcos, grass along the road, M. Olmi reared from *Exitiatus* sp., parasitized host collected 27.X.2003, dryinid cocooning 2.XI.2003 (MOLC); Michoacan, Patzcuaro Lake, along road N. 120 from Sanabria and Tzintzuntzan, grass along road, M. Olmi reared from *Polyyamia tolleca* Kramer, parasitized host collected 24.X.2003, dryinid cocooning 27.X.2003 (MOLC); Nayarit, Laguna Santa Maria, M. Olmi reared from *Polyyamia satur* Ball, parasitized host collected 17.X.2003, dryinid cocooning 18.X.2003.

**Hosts.** Cicadellidae (Guglielmino & Olmi 2006): in Mexico (Jalisco): Exitianus sp.; in Mexico (Michoacan): Polyamia tolteca Kramer; in Mexico (Nayarit): Polyamia satur Ball; in Mexico (Quintana Roo): Planicephalus flavicosta (Stål); Graminella comata (Ball).

**Distribution.** Mexico, Paraguay, Peru.

### 34. *Gonatopus julianae* Olmi & Virla, 2004

(Plate 190E, F)


**Description.** *Female* (Plate 190F). Apterous; length 5.3 mm. Head black, except sides of clypeus yellow and distal half of mandible testaceous; antenna brown; mesosoma black; metasoma brown-black; legs brown, with junctions, tarsi and stalks of femora testaceous. Antenna clavate; antennal segments in following proportions: 10:6:24:14:11:9:8:7:6:7. Head excavated, dull, strongly granulated; frontal line almost complete, partly absent in anterior half of face; anterior half of face with irregular short striae; occipital carina absent; temple distinct; POL = 2; OL = 2; OOL = 10. Palpal formula 6/3. Pronotum dull, hairy, crossed by strong transverse impression, strongly granulated. Scutum dull, strongly granulated, with two strong lateral pointed apophyses on sides of scutellum. Scutellum dull, granulated, inclined. Metanotum dull, not hollow behind scutellum, inclined, strongly granulated. Metathorax + propodeum dull, hairy, completely strongly granulated, with posterior surface not transversely striate, except few transverse striae near posterior extremity. Meso- and metapleural dull, strongly granulated, not transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 16:3:5:5:5:20:30. Enlarged claw (Plate 190E) sickel shaped, with one very small subdistal tooth and one row of seven lamellae. Segment 5 of protarsus (Plate 190E) with two rows of 15 + 5 lamellae; distal apex with at least 32 lamellae. Tibial spurs 1/0/1.

*Male.* Unknown.

**Material examined.** *Type:* ♀ holotype: ARGENTINA: Catamarca, El Rodeo, 28°13’S 65°52’W, 27.II.1999, by sweeping, E. Virla leg. (IFML).

**Hosts.** Unknown.

**Distribution.** Argentina.

### 35. *Gonatopus lacualis* Olmi, 1984

(Plate 191A–D)


**Description.** *Female.* Apterous; length 3.0–3.4 mm. Colour variable from totally testaceous to totally black. Occasionally body black, with testaceous-reddish regions (as in holotype); in this case head testaceous-reddish, with or without brown spot on ocellar region; antenna brown, except segments 1–2 yellow; pronotum reddish, with or without median brown spots on anterior collar and anterior margin of disc; rest of mesosoma and metasoma black; legs black, except trochanters, tarsi and protibia reddish. Antenna clavate; antennal segments in following proportions: 8:5:14:8:7:6:6:6:8. Head excavated, shiny, granulated, except face unsculptured; frontal line complete; occipital carina absent. Palpal formula 4/2 or 5/2. Pronotum shiny, unsculptured, or with some regions granulated, crossed by strong transverse impression. Scutum granulated, sculptured by some longitudinal keels, without lateral pointed apophyses (Plate 191B, C). Stalk between pronotum and metathorax + propodeum shorter.
than disc of pronotum (Plate 191B, C). Metanotum strongly transversely striate, not hollow behind scutellum (Plate 191B, C), without lateral pointed protrusions. Metathorax + propodeum (Plate 191B, C) with anterior surface shiny and unsculptured, with track of longitudinal stripe, occasionally dull and granulated; posterior surface dull, granulated, transversely striate. Meso- and metapleuron dull, rugose, granulated and transversely striate. Meso- metapleural suture obsolete. Protarsal segments in following proportions: 12:2.5:3.5:14:22. Enlarged claw (Plate 191A) with one small subapical tooth and six–seven peg-like hairs. Segment 5 of protarsus (Plate 191A) with two rows of three–four + 16–20 lamellae; distal extremity with about 11 lamellae. Tibial spurs 1/0/1.

**PLATE 191.** A, E, F. Chelae of holotypes. B. Mesosoma (pronotum removed) in dorsal view of female from Chile, Malalcahuello. C. Mesosoma of female holotype in lateral view. D. Genitalia of male from Chile, Volcano Villarica. A–D. Gonatopus lacualis. E. G. larsensis. F. G. matoensis. Scale bar 0.12 mm for A, 0.41 mm for B, 0.56 mm for C, 0.11 mm for D, 0.17 mm for E, 0.25 mm for F.

**Male.** Fully winged; length 2.5 mm. Head black, except mandible testaceous; antenna brown; mesosoma and metasoma black; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segment 3 less than three and a half times as long as broad (8:2.2); antennal segments in following proportions: 5:4:8:7:7:6.5:7:6:8. Head dull, granulated and rugose; face with median longitudinal furrow; frontal line absent; occipital carina absent; POL = 6; OL = 2; OOL = 4; greatest breadth of posterior ocelli as long as OL. Palpal formula 4/2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli about as long as greatest breadth of posterior ocelli. Scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (13:7). Dorsal process of paramere (Plate 191D) broad, shorter than paramere. Tibial spurs 1/1/2.

**Material examined.** Type: ♂ holotype: CHILE: Araucanía, Cautín Province, Villarrica Lake, Puoin (AMNH).

**Other material:** CHILE: Araucanía, Cautín Province, Volcano Villarica (AMNH); Araucanía, Cautín Province, 12 km S Temuco, Quepe (AMNH); Araucanía, Malleco Province, Curacautín, Malalcahuello (AMNH).

**Hosts.** Cicadellidae Deltocephalinae (Guglielmino & Olmi 1997): in Chile: Amplicephalus glaucus (Blanchard) (Olmi 1994a).

**Distribution.** Chile.

36. *Gonatopus larsensis* Olmi, 1993
(Plate 191E)


**Description.** Female. Apterous; length 2.4–3.2 mm. Head brown, except mandible, clypeus and anterior region of face testaceous; antenna brown, except segments 1, 2 and part of 3 yellow; pronotum brown, except lateral regions
testaceous; scutum yellow; scutellum brown; metathorax + propodeum testaceous-reddish, except metanotum yellow and propodeum, mesopleuron and metapleuron darkened; metasoma brown; legs brown, except tarsi, metatibia and articulations yellow. Antenna clavate; antennal segments in following proportions: 7:5.5:14:8:6:5:4.5:4:4:6. Head excavated, shiny, smooth, unsculptured; frontal line complete; occipital carina absent; POL = 2; OL = 1.5; OOL = 7. Palpal formula 4/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, smooth, unsculptured, with two lateral pointed apophyses. In specimen from Brazil, 14°46’S 39°04’W, scutum without lateral pointed apophyses. Metanotum flat, unsculptured, shiny, not hollow behind scutellum, with sides protruding; lateral protrusions rounded. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate only near the distal apex. Meso- and metapleural smooth, not transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 13:2.5:3:14:19. Enlarged claw (Plate 191E) with one small subapical tooth and one row of eight peg-like hairs and one hair. Segment 5 of protarsus (Plate 191E) with two rows of 16–17 lamellae; distal apex with 2–11 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil, Peru.

(Plate 191F)


Description. Female. Apterous; length 5.0 mm. Head black, except mandible, clypeus and anterior region of face testaceous; antenna with segments 1–2 and 5–6 testaceous and segments 3–4 brown (segments 7–10 missing in only known specimen); mesosoma and metasoma black; legs brown, except tarsi, coxae, trochanters and articulations partly testaceous. Antennal segments 1–6 in following proportions: 11:7:27:20:14:11 (segments 7–10 missing in only known specimen). Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 4; OOL = 10. Palpal formula 6/3. Pronotum shiny, almost completely granulated, crossed by strong transverse impression. Scutum dull, granulated, laterally with two pointed apophyses. Stalk between pronotum and metathorax + propodeum about twice as long as broad. Metanotum not hollow behind scutellum. Metathorax + propodeum dull, granulated, with posterior surface transversely striate. Meso- and metapleural granulated and irregularly transversely striate, broad and step-shaped. Meso-metapleural suture distinct and complete. Mesopleuron and metapleural located on different planes. Protarsal segments in following proportions: 21:4:6:29:39. Enlarged claw (Plate 191F) with one small subapical tooth and one row of 13 peg-like hairs. Segment 5 of protarsus (Plate 191F) with two rows of about 38 lamellae; distal apex with about 18 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil.

38. Gonatopus mayanus Olmi, 1995
(Plate 192A–C).


Description. Female. Apterous; length 2.9 mm. Head black, except mandible testaceous; antenna black, except

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Mexico.

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PLATE 192. A, E. Chelae of holotypes. B, C. Mesosoma (pronotum removed) of female holotype in dorsal (B) and lateral (C) view. D. Mesosoma of female holotype in lateral view. F. Genitalia of male from Argentina, Horco Molle. A–C. *Gonatopus mayanus*. D–F. *G. moyaraygozai*. Scale bar 0.18 mm for A, 0.36 mm for B and C, 0.29 mm for D, 0.10 mm for E, 0.06 mm for F.


(Plate 192D–F)


**Description.** Female. Apterous; length 2.0–2.4 mm. Head brown, except clypeus and mandible testaceous (in specimen from Panama, Rancho Frio, anterior third of face testaceous); antenna brown, except segments 1–3 testaceous (in specimen from Panama, Rancho Frio, antennal segment 10 testaceous); mesosoma brown, with distal apex of propodeum testaceous (in females from Panama, Rancho Frio, and Argentina, Rio Cuarto, scutum almost completely yellow); metasoma black; legs testaceous, with articulations, clubs of femora and protibia (in females from Panama, Rancho Frio, and Argentina, Rio Cuarto, legs yellow, except femora and tibiae brown and with brown lateral spot on coxae). In other specimens from Argentina, mesosoma brown, except many testaceou
areas. Antenna clavate; antennal segments in following proportions: 8:4:7:5:4:3:5:3:5:5:5. Head excavated, shiny, unsculptured, with occiput granulated; frontal line complete; occipital carina absent; temple distinct; POL = 1; OL = 1; OOL = 6. Palpal formula 5/2. Pronotum crossed by strong transverse impression, unsculptured. Scutum without lateral pointed apophyses. Metanotum inclined, transversely striate, not hollow behind scutellum (Plate 192D). Metathorax + propodeum (Plate 192D) shiny, unsculptured, except many transverse striae on posterior surface. Meso- and metapleural dull, granulated and transversely striate. Meso-metapleural suture obsolete, only slightly visible near metanotum. Protarsal segments in following proportions: 8:2:4:10:17. Enlarged claw (Plate 192E) with one small subapical tooth and seven peg-like hairs or six peg-like hairs and one hair. Segment 5 of protarsus (Plate 192E) with two rows of approximately 12–17 lamellae; distal extremity with about seven lamellae. Tibial spurs 1/0/1.

Male. Fully winged; length 1.6 mm. Head brown, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown. Antenna filiform; antennal segment 3 approximately twice as long as broad (6:3); antennal segments in following proportions: 5:5:6:6:6:5:5:5:5:5:5:8. Head shiny, smooth, unsculptured; frontal line absent; occipital carina absent; POL = 5; OL = 1; OOL = 2.5; greatest breadth of posterior ocelli longer than OL (2:1). Scutum, scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Notauli complete, posteriorly separated; minimum distance between notauli much shorter than greatest breadth of posterior ocelli (1:2). Propodeum dull, completely reticulate rugose. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein regularly curved. Dorsal process of paramere (Plate 192F) short, with proximal part slender and distal apex broadened. Palpal formula 5/2. Tibial spurs 1/1/2.


Distribution. Argentina, Mexico, Panama.

Remarks. According to Virla & Olmi (2007b), in Argentina, Horco Molle, on 28.I.2004, the parasitisation rate of Dalbulus maidis by Gonatopus moyaraygozai was 5.1 %.

40. Gonatopus oaxacanus Olmi, 1991
(Plate 193A)


Description. Female. Apterous; length 2.2–3.1 mm. Totally testaceous, except petiole and metasoma black. In specimen from Michoacan, 15 km N of Morelia, colour totally ferruginous, except petiole black, metasoma darkened and antenna brown, except segments 1–2 testaceous. Antenna clavate; antennal segments in following proportions: 6:4:5:11:6:5:4:5:4:3:5:5. Head excavated, shiny, with face unsculptured and vertex and occiput slightly granulated; frontal line complete; occipital carina absent; POL = 0.5; OL = 1; OOL = 6. Palpal formula 5/3 or 6/3. Pronotum unsculptured or very slightly granulated, crossed by strong transverse impression. Scutum with two lateral pointed apophyses. Metanotum flat, transversely striate, not hollow behind scutellum. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleural transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 11:2:3.5:13:19. Enlarged claw (Plate 193A) with one small subapical tooth and one row of eight peg-like hairs and one bristle. Segment 5 of protarsus (Plate 193A) with two rows of 17–23 lamellae; distal apex with about 12–14 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Distribution. Mexico.

41. *Gonatopus ogloblini* Virla, 1997
(Plate 193B–E)


Description. Female. Apterous; length 2.4–3.1 mm. Head testaceous, except vertex darkened; antenna brown, except segments 1–2 and part of 3 testaceous, 9–10 whitish (in specimens from Peru, Com. Patapata, antenna brown, except segments 1–2 testaceous); prothorax testaceous, except lateral regions of pronotum brown; rest of mesosoma and petiole black; metasoma brown-testaceous; legs testaceous. Antenna clavate; antennal segments in following proportions: 8:4:13:6.5:7:6:6:5:7.5. Head excavated (Plate 193E), shiny, partly unsculptured and partly slightly granulated mainly on vertex; frontal line complete; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 6. Palpal formula 4/2 or 5/2. Pronotum shiny, unsculptured, with lateral regions dull and granulated, crossed by strong transverse impression. Scutum dull, granulated, without lateral pointed apophyses (Plate 193C, D). Metanotum flat, granulated, transversely striate, not hollow behind scutellum (Plate 193C, D). Metathorax + propodeum (Plate 193C, D) with anterior surface shiny and unsculptured, with posterior surface dull, granulated and transversely striate. Meso- and metapleural dull, granulated, not transversely striate. Meso-metapleural suture obsolete. In specimen from Argentina, Puerto Blest, metathorax + propodeum granulated and rugose, with distal third of posterior surface transversely striate. In specimens from Peru, Com. Patapata, anterior surface of metathorax + propodeum from shiny and unsculptured to dull and granulated or rugose-granulated. Protarsal segments in following proportions: 10:2:3:14.5:20.5. Enlarged claw (Plate 193B) with one small subapical tooth and one row of five–six peg-like hairs and one hair. Segment 5 of protarsus (Plate 193B) with two rows of three (medial) + 15–16 lamellae; distal apex with about 6–11 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Hosts. Cicadellidae: in Mexico (Colima): unidentified species. Distribution. Argentina, Mexico, Peru. Remarks. The holotype has been labelled by Ogloblin Pachygonatopus setosus n. sp.; however this species has never been described by Ogloblin.

42. Gonatopus onorei Olmi, 1987
(Plate 193F–H)


Description. Female. Apterous; length 2.2–2.8 mm. Head black, except clypeus, mandible and anterior region of face testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs brown, except trochanters, tarsi and meso- and metatibia testaceous. Antenna clavate; antennal segments in following proportions: 7:4:10:6:5:5:5:4:6. Head excavated, shiny, unsculptured; frontal line complete; occipital carina absent; POL = 1.5; OL = 2; OOL = 5.5. Palpal formula 4/2. Pronotum shiny, unsculptured, crossed by strong transverse impression. Scutum shiny, punctate, laterally without lateral pointed apophyses (Plate 193F, G). Metanotum rugose. Metathorax + propodeum (Plate 193F, G) shiny, unsculptured, with posterior surface transversely striate, with disc laterally and posteriorly surrounded by more or less deep median longitudinal furrow. Meso- and metapleuron shiny, unsculptured. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 10:2:4:13:18. Enlarged claw (Plate 193H) with one small subapical tooth and one row of six peg-like hairs. Segment 5 of protarsus (Plate 193H) with two rows of one + 15 lamellae located in distal half of segment; distal apex with about ten lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Types: ♀ holotype: ECUADOR: Pichincha, Santo Domingo de los Colorados, San Francisco de Las Pampas, 1650 m, M. Olmi reared from unidentified Cicadellidae (AMNH). Paratypes: same locality label as holotype, 2 ♀♀ (AMNH, MRSNT).


43. Gonatopus orbitalis Cameron, 1888
(Plate 194A, B)


Description. Female. Apterous; length 2.6–4.1 mm. Head brown or black, except mandible and clypeus yellow-reddish; occasionally face partly testaceous; antenna reddish, except segments 7–10 or 3–10 brown; mesosoma and metasoma black; legs testaceous, occasionally brown or black, except tarsi testaceous. Antenna clavate; antennal segments of holotype in following proportions: 34:14:40:25:22:18:16:14:14:18. Head excavated, dull, granulatet, occasionally shiny and unsculptured; frontal line incomplete, absent in anterior half of face; occipital carina absent; POL = 5; OL = 5; OOL = 22. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum (Plate 194B) dull, sculptured by some longitudinal keels, without lateral pointed apophyses. Metanotum very short, smooth, not transversely striate. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron transversely striate. Meso-metapleural suture distinct and complete, broad and step-shaped. Mesopleuron and metapleuron located on different planes. Protarsal
segments in following proportions: 33:6:12:40:65. Enlarged claw (Plate 194A) with one small subapical tooth and one row of 8–11 small lamellae and one bristle. Segment 5 of protarsus (Plate 194A) with two rows of 28–32 lamellae; distal apex with at least 15–30 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Colombia, Mexico, Panama, Trinidad and Tobago, Venezuela.

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PLATE 194. A, C, D. Chelae of holotypes. B. Scutum and scutellum of female holotype. E. Mesosoma of female holotype in lateral view. A, B. Gonatopus orbitalis. C. G. peruvianus. D, E. G. piceus. Scale bar 0.09 mm for A, 0.46 mm for B, 0.13 mm for C, 0.14 mm for D, 0.51 mm for E.

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44. Gonatopus peruvianus Olmi, 1984
(Plate 194C)


Description. Female. Apterous; length 3.2 mm. Head brown, except mandible, clypeus, occiput and face along orbits testaceous; antenna testaceous, except segments 6–10 brown; mesosoma black, except scutum brown-testaceous; metasoma brown-black; legs brown, except tarsi testaceous. Antenna clavate. Head excavated, shiny, smooth, unsculptured; occipital carina absent. Palpal formula 5/2. Pronotum hairy, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, sculptured by some longitudinal keels, laterally with two pointed apophyses. Stalk between pronotum and metathorax + propodeum less than twice as long as broad. Metathorax + propodeum hairy, shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron not transversely striate. Meso-metapleural suture distinct, complete and broad. Mesopleuron and metapleuron located on different planes. Enlarged claw (Plate 194C) with one small subapical tooth and one row of ten peg-like hairs. Segment 5 of protarsus (Plate 194C) with inner side proximally serrate, with two rows of 5 + 17 lamellae; distal apex with about 15 lamellae. Tibial spurs 1/0/1.
Male. Unknown.

Material examined. Type: ♀ holotype: PERU: Huánuco, Monzon Valley, Tingo Maria (CAS).
Hosts. Unknown.
Distribution. Peru.

45. Gonatopus piceus Olmi, 2011
(Plate 194E, D)


Description. Female. Apterous; length 3.7 mm. Head black, except mandible, clypeus and anterior region of face near clypeus and along orbits testaceous; antenna testaceous; mesosoma and metastoma black; legs testaceous, except part of coxae and clubs of femora brown. Antenna clavate; antennal segments in following proportions: 9:7:23:13:10:9:7:6:5:5:7.5. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 2; OL = 2; OOL = 8; greatest breadth of posterior ocelli shorter than OL (1:2). Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression, with disc longer than scutum (24:15). Scutum dull, granulated, with two small lateral pointed apophyses. Metanotum granulated, transversely striate, not hollow behind scutellum. Metathorax + propodeum (Plate 194E) with anterior surface shiny and unsculptured, except many lateral slight longitudinal striae; posterior surface granulated and transversely striate. Meso- and metapleuron granulated and transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 19:3:5:23:32. Enlarged claw (Plate 194D) with one small subapical tooth and one row of 11 peg-like hairs + one hair. Segment 5 of protarsus (Plate 194D) with two rows of 7 + 21 lamellae; distal apex with about 14 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Type: ♀ holotype: MEXICO: Oaxaca, 10 mi E Totolapan, 4000 ft., 20.VII.1987, Kovarik & Schaffner leg. (USNM).
Hosts. Unknown.
Distribution. Mexico.

46. Gonatopus providus Olmi, 1991
(Plate 195A)


Male. Unknown.

Hosts. Unknown.
Distribution. Mexico.
PLATE 195. A, B, D–F. Chelae of the holotypes. C. Chela of paratype. A. Gonatopus providus. B. G. pseudorbitalis. C. G. quindiensis. D. G. saltensis. E. G. regalis. F. G. santiananus. Scale bar 0.22 mm for A, 0.13 mm for B, 0.10 mm for C and F, 0.17 mm for D, 0.14 mm for E.

47. Gonatopus pseudorbitalis Olmi, 1984
(Plate 195B)


Description. Female. Apterous; length 3.0–4.0 mm. Head brown or black, except mandible, clypeus and anterior region of face yellow; antenna yellow, except segments 7–10 or 4–10 brown or black; mesosoma black, except lateral margins of pronotum reddish; metasoma brown or black, with reddish nuances; legs reddish. Antenna clavate. Head excavated or almost flat, shiny, smooth, unsculptured, occasionally with occiput and anterior region of face granulated; occipital carina absent. Palpal formula 6/3. Pronotum shiny, smooth, hairy, unsculptured, crossed by strong transverse impression. Scutum shiny, sculptured by some longitudinal keels. Metanotum smooth, not transversely striate and not hollow behind scutellum. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleural transversely striate. Meso-metapleural suture distinct and complete, narrow. Mesopleuron and metapleuron located on same plane. Segment 1 of protarsus shorter than segment 4 (13:19). Enlarged claw (Plate 195B) with one small subapical tooth and one row of 10–12 peg-like hairs. Segment 5 of protarsus (Plate 195B) with two rows of 4–5 + 18–23 lamellae; distal apex with at least 13 lamellae. Tibial spurs 1/0/1.

Material examined. Types: ♀ holotype: COSTA RICA: Alajuela, S. Juan (AMNH). Paratype: COSTA RICA: Cartago Province, Cartago City, 1 ♀ (AMNH). Other material: COSTA RICA: Alajuela, Café, Chiles de Aguas Zarcas, 300 m (EBUC); Guanacaste, 14 km S Cañas (DBUSU); Guanacaste, 3 km SE Rio Naranjo (DBUSU); Guanacaste, S. Rosa National Park (AEIC).

Hosts. Unknown.


48. Gonatopus quindiensis Olmi, 2004
(Plate 195C)

**Description.** Female. Apterous; length 2.6–3.1 mm. Head black, except mandible, clypeus and anterior fourth of face (including region between antennal toruli) testaceous-reddish; antenna testaceous, except segments 7–10 brown; mesosoma black, except sides of pronotum brown; metasoma brown; legs testaceous, except coxae and femora almost completely brown. Antenna clavate; antennal segments in following proportions: 6:5:13:7:5:5:4:4:4:5. Head excavated, shiny, smooth, unsculptured; frontal line complete; occipital carina shortly visible behind and on sides of posterior ocelli; POL = 1.5; OL = 1.5; OOL = 6. Palpal formula 6/3. Pronotum hairless, crossed by strong transverse impression, with anterior collar and disc shiny, smooth and unsculptured. Scutum shiny, unsculptured, laterally with two pointed apophyses. Scutellum shiny, smooth, unsculptured, flat. Mesopleuron transversely striate. Metanotum short, slightly transversely striate and not or very slightly hollow behind scutellum, laterally with two pointed protrusions. Metathorax + propodeum shiny, with disc and anterior surface completely unsculptured; posterior surface and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 14:2.5:4:17:23. Enlarged claw (Plate 195C) with one small subapical tooth and one row of six–seven peg-like hairs and one hair. Segment 5 of protarsus (Plate 195C) with two rows of 23 lamellae; distal apex with about 11–12 lamellae. Tibial spurs 1/0/1.

**Material examined.** Types: ♀ holotype: COLOMBIA: Quindio, Circasia, vereda Buenavista, Finca Calamar, 4°35'41''N 75°41'50''W, 1450 m, Cultivo de café, trampa de golpe, 12.X.1999, E. Gonzalez leg. (IA VH). Paratypes: same locality label as holotype, 3♀♀ (2 in IAVH, 1 in MOLC); COLOMBIA: Quindio, Circasia, vereda Buenavista, Finca Calamar, Bosque secundario, 11.X.1999, E. Gonzalez leg., 2♀♀ (IA VH, MOLC).

**Hosts.** Unknown.

**Distribution.** Colombia.

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49. **Gonatopus regalis** Olmi, 1987
(Plate 195E)


**Male.** Unknown.

**Material examined.** Type: ♀ holotype: PERU: Cusco, Machu Picchu (MCZ).

**Hosts.** Unknown.

**Distribution.** Peru.

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50. **Gonatopus saltensis** Virla & Olmi, 2008
(Plate 195D)


**Description.** Female. Apterous; length 4.0 mm. Head brown-black, except mandible, clypeus and anterior region of face testaceous; Antenna brown, except segments 1–4 testaceous. Mesosoma black, except lateral margins of pronotum testaceous. Metasoma brown. Legs reddish, except tarsi and protibia testaceous. Antenna clavate;

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina.

51. Gonatopus santiaganus Olmi, 1986
(Plate 195F)


Description. Female. Apterous; length 2.2–2.7 mm. Head, prothorax, scutum and scutellum testaceous-reddish; antenna black, except segments 1–2 testaceous; rest of mesosoma black, except distal apex of propodeum testaceous; metasoma black; fore leg testaceous; mid- and hind leg brown, except coxae, trochanters and club of mesofemur testaceous. Antenna clavate; antennal segments in following proportions: 7:5:14:8:6:6:5:6:4.5 (last segment missing in only known specimen). Head excavated, shiny, unsculptured (or very slightly granulated); frontal line complete, thin; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 7. Palpal formula 5/2. Pronotum shiny, smooth, unsulptured, crossed by strong transverse impression. Scutum dull, granulated. Scutellum dull. Metathorax + propodeum dull, granulated; posterior surface granulated, with only posterior half transversely striate. Meso-metapleuron suture obsolete. Protarsal segments in following proportions: 7:5:14:8:6:6:5:6:4.5 (last segment missing in only known specimen). Head excavated, shiny, unsculptured (or very slightly granulated); frontal line complete, thin; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 7. Palpal formula 5/2. Pronotum shiny, smooth, unsulptured, crossed by strong transverse impression. Scutum dull, granulated. Scutellum dull. Metathorax + propodeum dull, granulated; posterior surface granulated, with only posterior half transversely striate. Meso-metapleuron suture obsolete. Protarsal segments in following proportions: 11:2:3:14:20. Enlarged claw (Plate 195F) with one small subapical tooth and one row of six–seven peg-like hairs and one bristle. Segment 5 of protarsus (Plate 195F) with inner margin proximally not serrated, with two rows of 23–26 lamellae; distal apex with at least nine lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Galapagos Islands (Ecuador).

52. Gonatopus silvestrii Kieffer, 1912
(Plate 196A–C)


Gonatopus carettei Bruch 1915 (synonymized by Olmi 1984); type locality: Puerto S. Julian (S.ta Cruz, Argentina).

Description. Female. Apterous; length 2.9–3.8 mm. Head brown-black, except mandible, clypeus and anterior region of face testaceous or yellow; occasionally head totally testaceous-reddish, or testaceous-reddish with vertex brown; occasionally head brown, except occiput testaceous. Antenna brown, except segments 1–2 yellow;
occasionally antenna testaceous, except segments 4–10 darkened; occasionally antenna brown, except segments 10 and partly 9 whitish. Mesosoma totally testaceous-reddish, or totally brown, or brown except prothorax testaceous; occasionally mesosoma brown, except scutum, scutellum and rarely also metanotum testaceous. Metasoma brown or brown-reddish. Legs reddish, except coxae and clubs of femora partly brown. Antenna clavate. Head excavated, dull, strongly or slightly granulated; occasionally head shiny and unsculptured. Palpal formula 4/2, 5/2. Pronotum crossed by strong transverse furrow; usually pronotum dull and granulated, occasionally shiny and unsculptured. Scutum granulated, usually without two lateral points; rarely with two lateral pointed apophyses; occasionally scutum shiny and unsculptured. Metanotum long, not hollow behind scutellum, granulated. Metathorax + propodeum (Plate 196B) dull, granulated, with posterior surface of propodeum without transverse striae or with few transverse striae near distal apex; occasionally metathorax + propodeum shiny and unsculptured; rarely posterior surface of propodeum completely transversely striate. Meso-metapleural suture obsolete. Protarsal segment 1 approximately as long as segment 4. Enlarged claw (Plate 196C) with one small subapical tooth and one row of six–seven peg-like hairs. Segment 5 of protarsus (Plate 196C) with two rows of 19–25 lamellae; distal apex with about nine lamellae. Tibial spurs 1/0/1.

PLATE 196. A. Genitalia of male from Argentina, 7 km Misiones border. B. Mesosoma in lateral view of female from Brazil, Rezende. C, D, E. Chelae of holotypes. F. Genitalia of male from Argentina, Tilimuqui. G. Head in frontal view. I, J, M. Mesosoma of female holotype in dorsal (I) and lateral (J, M) view (M, pronotum removed). A–C. Gonatopus silvestrii. D. G. spinolai. E. G. tripis. Scale bar 0.06 mm for A, 0.45 mm for B, 0.16 mm for C, D and E.

Male. Fully winged; length 1.5–1.7 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown-black; legs brown, except extremities of femora, protibia, extremities of meso- and metatibia, tarsal segments 1–4 testaceous-withish. Antenna hairy, filiform; antennal segments in following proportions: 4:3.5:6:5:5:4.5:4:3.5:5:5; antennal segment 3 more than three times as long as broad (6:1.5). Head shiny, punctate and granulated, laterally with two shiny and smooth areas between posterior ocelli and eyes (areas rounded by very low keels); frontal line absent; occipital carina absent; occiput concave; temple distinct; POL = 6; OL = 3; OOL = 3; greatest breadth of posterior ocelli shorter than OL (2:3). Palpal formula 4/2. Scutum dull, granulated; notauli complete, posteriorly separated; minimum distance between notauli slightly shorter than greatest breadth of posterior ocelli (1.5:2.0), shorter than antennal segment 2 (1.5:3.5). Scutellum and metanotum shiny, finely hairy, very finely punctate, unsculptured among punctures. Propodeum dull, completely reticulate rugose. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein regularly curved, with distal part longer than proximal part. Dorsal process of paramere (Plate 196A) long and slender, slightly shorter than penis, approximately as long as paramere, occasionally slightly longer than penis. Tibial spurs 1/1/2.

Material examined. Types: lectotype ♂ (designated by Olmi 1984) of G. silvestrii: ARGENTINA: Santa Cruz Province (IEUP); lectotype ♂ (N. 2068) (designated by Olmi 1984) of G.carettei: ARGENTINA: Santa Cruz, Puerto S. Julian, Bea Hiv Station, F. Carette leg. (FCNM). Paralectotype of G.carettei: same locality label as

Hosts. Cicadellidae Deltocephalinae (Guglielmino & Olmi 2006): in Argentina: Amplectophilus simpliciusculus Linnavuori, Amplectophilus sp., Exitianus obscurinervis (Stål), Haldorus sexpunctatus (Berg), Amplectophilus marginellanus var. faminoides Linnavuori, Planicephalus flavicosta (Stål), Plesiomatta mollicella (Fowler) (all quotations from Argentina by Virla & Olmi 1998b, 2007a).

Distribution. Argentina, Brazil.

Remarks. The lectotype of G. silvestrii is in bad conditions because it was kept in alcohol throughout a century; its colour is now testaceous.

53. Gonatopus spinolai Olmi, 1983
(Plate 196D)


Description. Female. Apterous; length 3.0 mm. Head brown-testaceous, except mandible, clypeus, occiput and anterior region of face testaceous; antenna testaceous; metasoma black, except brown spots on lateral regions of pronotum; metasoma black; legs testaceous, except coxae, tibiae and clubs of femora brown. Antenna clavate. Head excavated, shiny, granulated; occipital carina absent. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, sculptured by some longitudinal keels. Scutellum shiny, smooth. Metanotum hollow behind scutellum. Metathorax + propodeum shiny, with numerous transverse keels on anterior and posterior surface; anterior surface with track of median longitudinal furrow. Meso- and metapleural not transversely striate. Meso-metapleural suture distinct and complete. Protarsal segments in following proportions: 8:2:3:8:14. Enlarged claw (Plate 196D) with one small subapical tooth and one row of eight peg-like hairs. Segment 5 of protarsus (Plate 196D) with two rows of 6 + 16 lamellae; distal apex with about 11 lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Types: ♀ holotype: CHILE: La Serena (CAS). Paratype: Chile (no localities), one female (MSC).

Hosts. Unknown.

Distribution. Chile.

54. Gonatopus trichosoma Virla, Espinosa & Olmi, 2010
(Plate 197A–F)

Description. Female. Apterous; length 2.5–6.0 mm. Head black, except mandible and clypeus yellow (in specimens from Argentina, Tilimuqui, head black, except mandible, clypeus and anterior region of face near clypeus (including short stripe along orbits) testaceous; in specimens from Venezuela, head totally testaceous; in specimen from Paraguay, 9 km S San Bernardino, head testaceous-ferruginous, except brown ocellar spot); antenna reddish, except segments 6–10, or 7–10, or 8–10 brown (in specimens from Argentina, Tilimuqui, antenna totally brown); mesosoma black (in specimens from Venezuela, propodeum and anterior collar of pronotum testaceous); metasoma black; legs reddish, except coxae partly black or brown and clubs of femora partly black or brownish (in specimens from Argentina, Tilimuqui, legs black, except tarsi testaceous). Antenna clavate; antennal segment 3 of holotype about as long as segment 1; antennal segments of specimen from Argentina, Tilimuqui, in following proportions: 13:5:18:11:9:7:5:7:6:5:5:8. Head (Plate 197F) excavated, dull, granulated, with sparse long hairs; frontal line complete; occipital carina shortly visible on sides of posterior ocelli; POL = 2; OL = 1.5; OOL = 10; greatest breadth of posterior ocelli as long as POL; temple distinct, longer than POL (3:2). Palpal formula 6/3. Pronotum of holotype (Plate 197D, E) slightly crossed by transverse impression (as in typical Trichogonatopus), dull, granulated, with sparse long hairs. In large specimens from Argentina and Paraguay, pronotum with deep transverse impression as in Gonatopus sensu tricto. Scutum dull, granulated, with or without some longitudinal keels, with sparse long hairs, laterally without two pointed apophyses. Scutellum dull, granulated, inclined. Metanotum short, dull, granulated, not transversely striate, hollow behind scutellum. Metathorax + propodeum (Plate 197D, E) dull, granulated, with sparse long hairs; posterior surface of propodeum, mesopleuron and metapleuron dull, granulated, with sparse long hairs, not transversely striate. Meso- and metapleural suture distinct and complete, very broad and step-shaped. Mesopleuron and metapleuron not located on same plane. Protarsal segments of holotype in following proportions: 15:3:5:20:30; Protarsal segments of a specimen from Argentina, Tilimuqui, in following proportions: 16:3:5:22:33. Enlarged claw (Plate 197B, C) with one small subapical tooth and one row of 8–12 lamellae or peg-like hairs (ten peg-like hairs in holotype). Segment 5 of protarsus (Plate 197B, C) with two rows of 27–43 lamellae (40 in holotype); distal apex not bent at right angle, with at least 15–33 lamellae (15 in holotype). Tibial spurs 1/0/1.

Male. Fully winged; 2.0 mm. Head brown, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi testaceous. Antenna filiform; antennal segment 3 approximately twice as long as broad (5:3); antennal segments in following proportions: 4:4:5:5:5:4:5:4:5:4:7. Head shiny, smooth, punctate, unsculptured among punctures; frontal line absent; occipital carina absent; POL = 5.5; OL = 2.5; OOL = 2; greatest breadth of anterior ocellus as long as OL; temple distinct, shorter than OL (1:2.5). Palpal formula 6/3. Scutum granulated. Notauli complete, posteriorly separated; minimum distance between notauli much shorter than greatest breadth of anterior ocellus (1:2.5). Scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Propodeum shiny, with dorsal surface granulated and with deep median longitudinal furrow; posterior surface shiny, almost completely unsculptured. Fore wing hyaline, without dark transverse bands; marginal cell open; stigmal vein regularly curved, with distal part much longer than proximal part. Dorsal process of paramere (Plate 197A) short, with proximal part slender and distal apex broadened. Tibial spurs 1/1/2.

**55. Gonatopus tristis** Olmi, 1984

(Plate 196E)


**Description.** Female. Apterous; length 2.5–3.2 mm. Completely yellow-testaceous, except petiole black. Antenna clavate. Head excavated, dull, hairless, granulated; occipital carina absent. Palpal formula 4/2 or 5/2. Pronotum dull, granulated, crossed by strong transverse impression. In many specimens from Argentina, head and pronotum shiny and unsculptured. Scutum dull, granulated. Stalk between pronotum and metathorax + propodeum shorter than disc of pronotum. Metanotum dull, transversely striate. Metathorax + propodeum dull, granulated, with posterior surface transversely striate. Meso- and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segment 1 shorter than segment 4 (13:15). Enlarged claw (Plate 196E) with one small subapical tooth and one row of six–eight peg-like hairs. Segment 5 of protarsus (Plate 196E) with two rows of 18–23 lamellae; distal apex with a group of 7–13 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Cicadellidae Deltococephalinae and Gyponinae (Virla et al. 2010): in Argentina (La Rioja): *Curtara pagina* Delong & Freytag (Cicadellidae Gyponinae); *Mendozellus asunctia* Cheng (Cicadellidae Deltococephalinae) (Virla et al. 2010).

**Distribution.** Argentina, Brazil, Paraguay, Venezuela.
56. *Gonatopus tuxtlanus* Olmi, 1987
(Plate 197G, H)


**Description. Female.** Apterous; length 3.4–4.7 mm. Holotype black, except clypeus, mandible and anterior region of face testaceous, antenna brown; in three specimens from Argentina (Los Varela; Oberá; S. Miguel de Tucumán) and in one specimen from Mexico (21.2 km W Conhuas), pronotum partly black or brown and partly testaceous; in specimen from Argentina, Los Varela, antenna totally brown; in two specimens from Argentina (S. Miguel de Tucumán; Oberá) antenna brown, except segments 9–10 whitish; in specimen from Mexico, 21.2 km W Conhuas, antenna brown, except segments 1–2 testaceous. Antenna clavate; antennal segments in following proportions: 12:7:26:15:13:11:9:9:9:10. Head slightly excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 1.5; OL = 1.5; OOL = 10. Palpal formula 6/3 (in holotype and in specimen from Mexico, 21.2 km W Conhuas) or 5/2 (in two specimens from Argentina, S. Miguel de Tucumán and Oberá, and in specimen from Paraguay, 24°09’S 55°31’W). Pronotum hairy, dull, granulated, crossed by strong transverse impression. Scutum dull, granulated, laterally without lateral pointed apophyses. Scutellum dull, rugose. Metanotum flat, rugose, not hollow behind scutellum. Metathorax + propodeum (Plate 197H) dull, granulated; posterior surface with only posterior half transversely striate. Meso- and metapleuron not transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 20:4:6:20:35. Enlarged claw (Plate 197G) with one small subapical tooth and one row of seven–eight peg-like hairs. Segment 5 of protarsus (Plate 197G) with two rows of 24–30 lamellae; distal apex with 14–30 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Cicadellidae (Guglielmino & Olmi 2006): in Argentina: *Planicephalus flavicosta* (Stål); in Mexico (Campeche): *Agallia nielsoni* Freytag.

**Distribution.** Argentina, Mexico, Paraguay.

57. *Gonatopus vidanoi* Olmi, 1994
(Plate 198A–C)


**Description. Female.** Apterous; length 2.6–3.0 mm. Testaceous or testaceous-reddish, except petiole and antennal segments 4–10 black. Occasionally mesosoma darkened or partly brownish. Antenna clavate; antennal segments in following proportions: 7:4:9:4:4:5:4:4:4:6. Head excavated, shiny, smooth, unsculptured, slightly granulated only near eyes, on occiput and near antennal toruli; frontal line complete; occipital carina absent; POL = 1.5; OL = 2; OOL = 6. Palpal formula 3/2 or 4/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum with two lateral pointed apophyses on sides of scutellum (Plate 198A). Metanotum flat, rugose. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron dull, granulated, with few transverse striae. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 11:2:3:10:15. Enlarged claw (Plate 198B) with one small subapical tooth and one row of six–seven bristles. Segment 5 of protarsus (Plate 198B) with one–two rows of 7–11 lamellae; distal apex with about 7–15 lamellae. Tibial spurs 1/0/1.
Male. Fully winged; length 2.1 mm. Head black, except mandible testaceous; antenna, mesosoma and metasoma black; legs brown. Antenna filiform; antennal segments in following proportions: 5:4:9:9:9:8:8:7:10; antennal segment 3 more than four times as long as broad (9:1.5). Head shiny, granulated; frontal line absent; occipital carina absent; POL = 6; OL = 2.5; OOL = 2; greatest breadth of posterior ocelli as long as OOL. Palpal formula 4/2. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli (1:2). Scutellum and metanotum shiny, smooth, unsculptured, or in some regions slightly granulated. Propodeum dull, reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (15:8). Dorsal process of paramere (Plate 198C) about as long as paramere, broad, with numerous short papillae on distal margin. Tibial spurs 1/1/2.


Distribution. Argentina, Bahamas, Chile.

58. Gonatopus virlai Olmi, 1994
(Plate 198D, E)


Male. Fully winged; length 2.0–3.0 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna hairy, filiform; antennal segments in following proportions: 6:5:8:7:7:6:7:6:9; antennal segment 3 less than four times as long as broad (8:2.5). Head dull, granulated and rugose; frontal line absent; occipital carina absent; POL = 8; OL = 3; OOL = 4; greatest breadth of posterior ocelli as long as OL; vertex with oval, shiny area between posterior ocelli and eyes. Palpal formula 6/3. Scutum dull, granulated. Notauli complete, posteriorly separated; minimum distance between notauli about as long as greatest breadth of posterior ocelli. Scutellum and metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, with areolae very small, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (13:9). Dorsal process of paramere (Plate 198E) much shorter than paramere, transverse, with distal apex rounded. Tibial spurs 1/1/2.


Hosts. Cicadellidae Hecalini (Guglielmino & Olmi 1997): in Argentina: Spangbergiella sp. (Virla & Olmi 1994), and Spangbergiella vulnerata Signoret (new host).

Biology. Data on biology in Virla & Olmi (1994). Pupal stage lasts an average of 34.4 days (28–40 days) in female sex; 47–49 days in male sex (only two reared males). Adults live an average of 8.25 days (1.5–16 days).

Distribution. Argentina.

59. Gonatopus whartoni Olmi, 1991
(Plate 198F)


Male. Unknown.


Hosts. Unknown.

Distribution. Mexico.

60. Gonatopus willinki Olmi, 1984
(Plate 198G)


Description. Female. Apterous; length 3.2–3.7 mm. Head reddish, occasionally with vertex partly brownish; antenna reddish, except segments 6–10 or 7–10 brownish; mesosoma reddish, occasionally with metathorax + propodeum partly brownish; petiole black; metasoma black, with reddish nuances on tergite 1; legs reddish, except coxae and clubs of femora brownish. Antenna clavate; antennal segments in following proportions: 10:5:11:6:5:5:4:5:4:5.5. Head excavated, dull, granulated; occipital carina absent. Palpal formula 6/3. Pronotum shiny, unsculptured, crossed by strong transverse impression. Scutum shiny, sculptured by some longitudinal keels, laterally without lateral pointed apophyses. Metanotum flat, shiny, unsculptured, not transversely striate, not or slightly hollow behind scutellum. Metathorax + propodeum shiny, unsculptured, with posterior surface transversely striate. Mesopleuron not transversely striate. Metapleuron transversely striate. Mesopetapleural suture distinct and complete. Protarsal segments in following proportions: 12:2:4:16:24. Enlarged claw
(Plate 198G) without small subapical tooth and with one row of nine peg-like hairs. Segment 5 of protarsus (Plate 198G) with two rows of 7 + 20 lamellae; distal apex with about ten lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: ARGENTINA: Tucumán, San Miguel de Tucumán, 1957 (IFML).

**Other material:** ARGENTINA: Misiones, Loreto (FCNM).

**Hosts.** Unknown.

**Distribution.** Argentina.

### 61. Gonatopus woolleyi Olmi, 1992

(Plate 198H–J)


**Description.** Female. Apterous; length 2.4–3.0 mm. Head brown, except mandible, clypeus and anterior region of face testaceous; antenna testaceous, except segment 1 partly brown and segments 6–7 black (segments 8–10 missing in holotype); mesosoma brown, except scutum and distal apex of propodeum yellow-reddish; metasoma black; legs brown, except chela and meso- and metatarsus testaceous. Antenna clavate; antennal segments of holotype in following proportions: 6:4:10:5:4:5:4:4 (segments 8–10 missing in holotype). Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 1; OL = 1; OOL = 7. Pulpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum without lateral pointed apophyses (Plate 198I, J). Metanotum very inclined, not hollow behind scutellum (Plate 198I, J), with sides protruding; lateral protrusions rounded (Plate 198I, J). Metathorax + propodeum (Plate 198I, J) shiny, unsculptured, with posterior surface transversely striate. Meso- and metapleuron transversely striate. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 11:3:4:12:19. Enlarged claw (Plate 198H) with one small subapical tooth and one row of six–seven peg-like hairs and one bristle. Segment 5 of protarsus (Plate 198H) with one row of 17–20 lamellae (occasionally with two rows of 3 + 17 lamellae); distal apex with about 12 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: MEXICO: Oaxaca, 5.7 mi SE of Quiotepec, 2100’, 21.VII.1987, J.B. Woolley leg. (USNM). Other material: MEXICO: Michoacan, 30 km N of Lazaro Cardenas (DEUCR); Yucatan, 2.1 mi E of Chichen Itza, 100’, 1♀ (AMNH). **Nearctic region:** MEXICO: Nuevo Leon, Carretera 40, 20 km N of Salinas Victoria, 1♀ (AMNH).

**Hosts.** Unknown.

**Distribution.** Mexico.

#### Group 10

Four species are known in the Neotropical region.

**Key to the species (females)**

1. Meso-metapleural suture distinct and complete ................................................................. 2
   - Meso-metapleural suture obsolete .................................................................................... 3
2. Propodeum with stigma located very close to disc (Plate 199D); metanotum not hollow behind scutellum (Plate 199E) ........................................... 2
   - Propodeum with stigma located very far from disc (Plate 164B); metanotum hollow behind scutellum (Plate 164C) ...........................................
3. Posterior surface of propodeum totally granulated, not transversely striate ......................... G. apensis Olmi (see group 3)
   - Posterior surface of propodeum strongly transversely striate ......................................... G. gisellae Virla (see group 2)
4. Metathorax + propodeum with anterior region granulated and disc provided of strong track of median longitudinal furrow ........................................... G. canadensis (Olmi) (see group 2)
1. *Gonatopus canadensis* (Olmi, 1984) (see group 2)

2. *Gonatopus gisellae* Virla, 1997 (see group 2)


(Plate 199A)


**Description. Female.** Apterous; length 2.6–3.4 mm. Head brown-reddish, except mandible, clypeus and anterior region of face testaceous; occasionally vertex with a black band; antenna testaceous-darkened, except segments 1–2 testaceous; mesosoma brown-reddish; petiole black; metasoma brown-reddish; legs brown-reddish, except tarsi and trochanters testaceous; occasionally also part of stalks of meso- and metafemur testaceous. Antenna clavate; antennal segments in following proportions: 7:5:12:5:5:4:5:4:5:4:6.5. Head excavated, shiny, alutaceous or granulated; frontal line complete; occipital carina absent; POL = 1; OL = 1; OOL = 8. Palpal formula 5/2. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Occasionally pronotum with disc and anterior collar granulated and lateral regions unsculptured and sculptured by few longitudinal striae. Scutum shiny, smooth, alutaceous. Metanotum inclined, not transversely striate, not hollow behind scutellum, laterally rising to rounded prominence. Meso- and metapleural suture obsolete. Protarsal segments in following proportions: 15:2:3.5:12:17. Enlarged claw (Plate 199A) with one large subapical tooth and one row of five–seven lamellae and one bristle. Segment 5 of protarsus (Plate 199A) with two rows of about 11–18 lamellae; distal apex with about eight–ten lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined.** Type: ♀ holotype: PERU: Cusco, Machu Picchu, 2600–2800 m, on ruins, 1–2.VII.1964, B. Malkin leg. (MZUS). Other material: HONDURAS: Olancho, La Muralla National Park, 15°05.49’N 86°44.17’W, 1480 m, 4–7.VII.2002, D. Yanega leg., 1 ♀ (DEUCR).

**Hosts.** Unknown.

**Distribution.** Honduras, Peru.

4. *Gonatopus pecki* (Olmi)

(Plate 199B–G)


**Description. Female.** Apterous; length 3.0–5.6 mm. Head totally testaceous; occasionally head brown, except mandible, clypeus and anterior region of face testaceous; occasionally head black, except mandible brown; antenna totally testaceous; occasionally antenna brown, except segments 1–2, or 6–7, or 6–8 whitish; mesosoma totally testaceous; occasionally mesosoma completely black; occasionally mesosoma black, except scutum, posterior surface of propodeum and often also scutellum and pronotum testaceous; petiole black; metasoma testaceous or brown; legs totally testaceous; occasionally club of profemur, protibia, mesocoxa and proximal half of mesofemur darkened; occasionally metacoxa with white or brown spot; occasionally metatrochanter white and metafemur with white spot on inner and outer side. Antenna clavate; antennal segments of holotype of *D. neotropicida* in following proportions: 11:5:22:13:9:9:8:8:6:10; antennal segments of holotype of *P. pecki* in following proportions: 11:5.5:22:14:10:8:7:6:5:9. Head excavated, shiny, smooth, unsculptured or partly granulated; frontal line complete;
occipital carina incomplete, only shortly present on sides of posterior ocelli; holotype of *D. neotropica* with POL = 1; OL = 1; OOL = 8; holotype of *P. pecki* with POL = 0.5; OL = 1.5; OOL = 8. Palpal formula 3/2, 4/2, 5/2, 6/2. Pronotum shiny, smooth, unsculptured or partly granulated, crossed by strong transverse impression. Metanotum transversely striate, not hollow behind scutellum, with two lateral pointed apophyses (Plate 199D, E). Meso- and metapleuron transversely striate. Metathorax + propodeum shiny, smooth, unsculptured, with posterior surface transversely striate. In specimens from Brazil, Caxiuana, anterior surface of metathorax + propodeum partly transversely striate. In large specimens from Panama (Rancho Frio), Peru (04°08’S 73°05’W) and Costa Rica (Agua Buena), anterior surface of metathorax + propodeum sculptured by longitudinal striae and propodeal spiracles very prominent. Meso-metapleural suture distinct and complete, occasionally with posterior part obsolete. Rarely meso-metapleural suture completely obsolete. Protarsal segments of holotype of *D. neotropica* in following proportions: 13:3:6:18:29; Protarsal segments of holotype of *P. pecki* in following proportions: 15:3:6:18:29. Enlarged claw (Plate 199B, C) with one large subapical tooth and one row of five–seven lamellae and one bristle. Segment 5 of protarsus (Plate 199B, C) with two rows of about 11–19 lamellae; distal apex with about 19–20 lamellae. Tibial spurs 1/0/1.

**PLATE 199.** A, B, H. Chelae of holotypes. C, D. Chela (C) and mesosoma in dorsal view (D) of female from Ecuador, Tinalandia (holotype of *Pseudogonatopus pecki*). E. Mesosoma in lateral view of female from Brazil, Estação Científica Ferreira Penna. F, G. Genitalia of male from Costa Rica, Braulio Carrillo National Park (F), and Ecuador, Tinalandia (G). A. *Gonatopus malkini*. B–G. *G. pecki*. H. *G. albomarginatus*. Scale bar 0.18 mm for A, 0.17 mm for B, 0.23 mm for C, 0.65 mm for D and E, 0.08 mm for F, 0.09 mm for G, 0.25 mm for H.
**Male.** Fully winged; length 1.9–2.9 mm. Head almost totally testaceous, except vertex darkened; antenna brown, except segments 1–2 testaceous; mesosoma brown, except propodeum black; metasoma brown; legs testaceous, occasionally darkened. Antenna filiform; antennal segments in following proportions: 5:6:10:9:5:9:8:8:7:7:5:10; antennal segment 3 more than three times as long as broad (10:2). Head shiny, smooth, unsulptured; frontal line absent; temple distinct; occipital carina absent; POL = 4; OL = 1; OOL = 3. Palpal formula 3/2, 4/2. Scutum hairy, alutaceous. Notauli complete, posteriorly separated; minimum distance between notauli shorter than greatest breadth of posterior ocelli (1:3). Scutellum shiny, finely punctate, unsulptured among punctures. Metanotum shiny, hairless, unsulptured. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere (Plate 199F, G) distally pointed. Tibial spurs 1/1/2.

**Material examined.**

**Types:** ♀ holotype of *D. neotropica*: PANAMA: Colón, Canal Zone, Barro Colorado Island (MCZ); ♀ holotype of *Ps. pecki*: ECUADOR: Pichincha, 16 km SE of Santo Domingo de los Colorados, Tinalandia, 500 m, VI–VIII, 1985, S. & J. Peck leg. (PMA). Fifteen paratypes of *Ps. pecki*: same locality label as holotype (AMNH, PMA). COSTA RICA: San José, 9.5 km E of tune of Braulio Carrillo National Park, 1000 m, VII–IX.1989, Malaise trap, Paul Hanson leg. (AMNH, EBUC). ECUADOR: Morona-Santiago, Los Tayos, 3.VIII.1976, Tjitte de Vries leg., 1 ♀ (MZEUS).

**Material examined.**


Distribution. Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Panama, Paraguay, Peru, Venezuela.

**Group 12**

Eleven species are known in the Neotropical region.
Key to the species (females)

1. Meso-metapleural suture distinct ..................................................... 2
   - Meso-metapleural suture obsolete ............................................. 3
2. Metanotum hollow behind scutellum; mesopleuron and metapleuron located on different planes because of very broad and
   step-shaped meso-metapleural suture ........................................ 4
   - Metanotum not hollow behind scutellum; mesopleuron and metapleuron located on same plane because of slightly visible
     meso-metapleural suture, reduced to a slight, not step-shaped line ........................................ 5
3. Enlarged claw with one row of small teeth in proximal half of inner margin (Plate 200B, C, 201A) ......................... 4
   - Enlarged claw without one row of small teeth in proximal half of inner margin (Plate 200A, 203B) ................. 5
4. Metathorax + propodeum with disc and posterior surface smooth and granulated, not rugose, not transversely striate, at most
   with some transverse striae located laterally ................................ 4
   - Metathorax + propodeum with disc strongly reticulate rugose and posterior surface strongly rugose and transversely striate . 5
5. Stalk between pronotum and metathorax + propodeum very long, slender, composed of scutum, scutellum and metanotum,
   about as long as metathorax + propodeum (Plate 203A, C) ......................... 6
   - Stalk between pronotum and metathorax + propodeum very short and broad; metathorax + propodeum approximately two
     to three times as long as stalk (Plate 202) .................................... 7
6. Posterior surface of propodeum completely strongly transversely striate (Plate 203A, C) ................................. 7
   - Posterior surface of propodeum not transversely striate, or at most with few transverse striae near distal extremity ........ 9
   7. Enlarged claw with one small tooth located near distal apex (Plate 201D), occasionally without tooth ........ 9
   - Enlarged claw with one small tooth located far from distal apex (Plate 201H) ........................................ 10
8. Head totally or mostly black or brown (at most with clypeus, mandible and part of face testaceous) .................. 10
   - Head totally or mostly reddish or testaceous-reddish .......... 10
9. Enlarged claw with one long row of lamellae and with subapical tooth located more distally (Plate 201B). .......................... 10
   - Enlarged claw with one shorter row of lamellae and with subapical tooth located more proximally (Plate 203F) .......... 11
10. Mesosoma totally or mostly testaceous-ferrugineous or ferrugineous-reddish ........................................ 11
    - Mesosoma totally or mostly black ........................................... 11
11. Metasoma shiny, unsculptured; body more slender (Plate 202A, B) ................................................................. 11
    - Metasoma dull, granulated; body less slender (Plate 203D) ................................................................. 11

1. *Gonatopus albomarginatus* Cameron, 1888
   (Plate 201H)

*Gonatopus albomarginatus* Cameron 1888: 441.

*Trichogonatopus bogotensis* Kieffer 1909: 337 (synonymized by Olmi 1984); type locality: Bogotá (Colombia).


Description. **Female.** Apterous; length 3.7–5.3 mm. Head black, except mandible and clypeus yellow;
occasionally clypeus black or partly reddish (occasionally head brown; occasionally anterior half of face and part
of ventral side testaceous); antenna totally testaceous or black (occasionally antenna brown, except segments 1–3
and 10 reddish); mesosoma and metasoma black; legs reddish, except coxae brownish or black and tarsi testaceous.
excavated, hairless, dull, granulated, with short transverse keels along orbits; frontal line complete; occipital carina
absent; POL = 4; OL = 7; OOL = 26. Palpal formula 6/3. Pronotum dull, hairy, granulated, not crossed by
transverse impression or slightly impressed. Scutum granulated, with some longitudinal keels, occasionally with
two lateral pointed apophyses. Scutellum hardly visible. Metathorax + propodeum dull, granulated; posterior
surface usually partly transversely striate, occasionally not striate. In specimen from Brazil, 23°39′05″S
45°53′51.8″W, posterior surface of propodeum completely granulated, not transversely striate. Meso-metapleural
suture obsolete. Meso- and metapleuron not transversely striate. Protarsal segments of holotype in following
Enlarged claw (Plate 199H) with one small subdistal tooth and one row of five–seven peg-like hairs or small
lamellae. Segment 5 of protarsus (Plate 199H) with two rows of 14–29 lamellae; distal apex bent at right angle,
with at least 9–29 lamellae. Tibial spurs 1/0/1.
Male. Unknown.

Material examined. Types: ♀ holotype of G. albomarginatus: PANAMA: Chiriqui, Volcán de Chiriqui, 3–4000 ft., Champion leg. (BMNH); ♀ holotype of T. bogotensis: COLOMBIA: Distrito Capital, Bogotá (ZMHUB). Other material: ARGENTINA: Misiones, Loreto Experimental Station (FCNM); Misiones, Concepción Dept., Santa María (FCNM); BRAZIL: Minas Gerais, Pedra Azul (AEIC); Santa Catarina, Nova Teutonia (MCZ, KJHC); São Paulo (AMNH); São Paulo, Estação Biológica de Boracéia, Trilha dos Piões, 23°39'05."

S


Hosts. Unknown.

Distribution. Argentina, Brazil, Colombia, Costa Rica, Panama, Paraguay, Venezuela.

PLATE 200. A. Chela of holotype. B. Chela of female from Colombia, Aracataca (holotype of Trichogonatopus fiorii). C. Chela of female from Brazil, Campo de Jordão. D, E. Head in frontal view (D) and mesosoma in lateral view (E) of female holotype. F. Female holotype (length 6.6 mm). A. Gonatopus goiasensis. B–F. G. hispidus. Scale bar 0.3 mm for A, 0.38 mm for B, 9.29 mm for C, 1.3 mm for D, 0.9 mm for E.


(Plate 200A)


Description. Female. Apterous; length 5.0–7.2 mm. Head black, except mandible, clypeus and narrow region of face near clypeus testaceous; antenna brown, except segments 7–10 and ventral side of segments 1–2 testaceous; mesosoma black; metasoma brown; legs testaceous. Antenna clavate; antennal segments in following proportions: 10:9:34:21:15:12:11:10:9:11. Head excavated, dull, granulated; frontal line complete; occipital carina absent;
temple distinct; POL = 2.5; OL = 2.5; OOL = 13. Palpal formula 6/3. Pronotum dull, granulated, crossed by very slight transverse impression. Scutum dull, granulated, with two lateral pointed apophyses. Scutellum dull, granulated, only partly visible. Stalk between pronotum and metathorax + propodeum very long, slender, composed of scutum, scutellum and metanotum, about as long as metathorax + propodeum. Metanotum inclined, not hollow behind scutellum. Metathorax + propodeum dull, granulated; anterior surface granulated and with narrow longitudinal smooth and unsculptured stripe; posterior surface granulated, only with few transverse striae near distal apex. Meso-metapleural suture obsolete. Meso- and metapleuron not transversely striate. Protarsal segments in following proportions: 30:3:8:34:46. Enlarged claw (Plate 200A) with one small subdistal tooth and one row of ten peg-like hairs. Segment 5 of protarsus (Plate 200A) with two rows of 5 + 20 lamellae; distal apex with about 16 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil.

(Plate 200B–F)


Trichogonatopus fiorii Olmi 1986: 90 (synonymized by Olmi 1993c); type locality: Aracataca (Magdalena Dept., Colombia); Olmi 1993c: 59.

Description. Female (Plate 200F): apterous; length 6.2–8.1 mm. Head black, except mandible and occasionally clypeus yellow (occasionally head totally testaceous; occasionally head testaceous, except vertex black or darkened); antenna brown, except segments 1–3 or 1–5 reddish or brown–testaceous; mesosoma and metasoma black; legs reddish or brown, except black spots on coxae and clubs of femora (occasionally legs black, except tarsi testaceous). Antenna clavate; antennal segments in following proportions: 12:8:32:16:10:9:8:10. Head (Plate 200D) excavated, dull, granulated, with some short keels; frontal line complete; occipital carina absent; POL = 3; OL = 2; OOL = 10. Palpal formula 6/3. Pronotum (Plate 200E, F) granulated, not crossed by a transverse impression or slightly impressed. Scutum dull, granulated, hairy or hairless. Scutellum short, dull, granulated, hairy or hairless. Metanotum not striate. Metathorax + propodeum dull, granulated; posterior surface not transversely striate or striate only on lateral regions. Meso-metapleural suture obsolete. Meso- and metapleuron not transversely striate. Metasoma hairy. Protarsal segments in following proportions: 17:4:5:16:25. Enlarged claw (Plate 200B, C) with one small subdistal tooth, one row of numerous proximal teeth and one row of three–seven bristles or small lamellae. Segment 5 of protarsus (Plate 200B, C) with two rows of 76–78 lamellae extending continuously to distal apex; distal apex bent at right angle. Tibial spurs 1/0/1.

Male. Unknown.


**Hosts.** Cicadellidae (Guglielmino & Olmi 2006): in Argentina: *Spangbergiella* sp. (Deltococephalinae) (Virla & Olmi 1998b).

**Distribution.** Argentina, Bolivia, Colombia, Costa Rica, Ecuador, Honduras, Panama, Venezuela.

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**PLATE 201.** A, B, C, D. Chelae of holotypes. A. *Gonatopus longinoi*. B. *G. marinoae*. C. *G. neotropicus*. D. *G. raptor*. Scale bar 0.25 mm for A, 0.18 mm for B, 0.20 mm for C, 0.31 mm for D.

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(Plate 201A)


**Description.** Female. Apterous; length 5.0–5.5 mm. Head black, except mandible partly testaceous; antenna brown, except segments 2, 10 and proximal region of 3 testaceous; mesosoma black; metasoma brown; legs brown, except meso- and metatarsus and part of coxae and trochanters testaceous. Antenna clavate; antennal segments in following proportions: 12:6:33:15:12:9:8:7:10. Head excavated, dull, granulated, with sparse long hairs; face partly rugose; frontal line complete; occipital carina absent; temple distinct; POL = 3; OL = 2.5; OOL = 11. Palpal formula 6/3. Mesosoma and metasoma covered with sparse long hairs. Pronotum dull, granulated, not crossed by transverse impression. Scutum dull, granulated and rugose, with two lateral pointed apophyses. Metanotum rugose, not hollow behind scutellum. Metathorax + propodeum dull, granulated and strongly reticulate rugose; posterior surface rugose and transversely striate. Meso-metapleural suture obsolete. Meso- and metapleuron granulated and rugose, less rugose than rest of metathorax + propodeum. Protarsal segments in following proportions: 22:5:7:22:35. Enlarged claw (Plate 201A) with one small subdistal tooth, one proximal row of small teeth and one row of five small lamellae and one bristle. Segment 5 of protarsus (Plate 201A) with two rows of about 28 lamellae; distal apex with about 20 lamellae. Tibial spurs 1/0/1.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Costa Rica.
(Plate 201B)


**Description. Female.** Apterous; length 4.2 mm. Head testaceous, except face and ocellar region darkened; antenna brown, except segments 1–2 and proximal part of segment 3 testaceous (segments 7–10 missing in only known specimen); mesosoma black, except prothorax testaceous-ferruginous; petiole black; metasoma brown, with testaceous nuances near petiole; legs testaceous, except clubs of femora and part of tibiae brown. Antenna clavate; antennal segments in following proportions: 11:6:27:16:13:11 (segments 7–10 missing in only known specimen). Head excavated, hairless, dull, granulated; frontal line complete; occipital carina absent; temple absent; POL = 5; OL = 4; OOL = 11. Palpal formula 6/3. Pronotum hairless, dull, granulated, not crossed by a transverse impression. Scutum dull, granulated, with two lateral pointed apophyses. Stalk between pronotum and metathorax + propodeum short. Metanotum granulated, with sides rounded. Metathorax + propodeum hairy, dull, granulated; posterior surface not transversely striate. Meso-metapleural suture obsolete. Meso- and metapleuron granulated, not transversely striate. Metasoma hairy, shiny, unsculptured. Protarsal segments in following proportions: 20:5:7:26:36. Enlarged claw (Plate 201B) with one small subdistal tooth and one row of nine lamellae and one hair. Segment 5 of protarsus (Plate 201B) with two rows of two (proximal) + at least 50 lamellae extending continuously to distal apex; distal apex bent at right angle. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: ARGENTINA: Misiones, Dos de Mayo, 19.XI.1956, A.A. Ogloblin leg. (FCNM).

**Hosts.** Unknown.

**Distribution.** Argentina.

**Remarks.** The holotype is labelled 23 de Mayo: however, this locality does not exist; it is a mistake of Ogloblin. The true type locality should be Dos de Mayo (Virla 1997).

(Plates 201C, 202)


**Description. Female** (Plate 202). Apterous; length 3.2–4.2 mm. Head reddish, occasionally with ocellar region brownish; antenna yellow–reddish, occasionally with segments 5–10 brown; mesosoma black, occasionally with lateral regions of pronotum reddish; metasoma brown–black, except tergite 1 and distal extremity reddish; legs yellow–reddish. Antenna clavate; antennal segments in following proportions: 22:14:53:31:27:23:21:17:16:20. Head excavated, hairless, dull, granulated; with some short transverse keels near orbits; occasionally head unsculptured; frontal line incomplete, absent in anterior half of face; occipital carina absent; POL = 7; OL = 6; OOL = 22. Palpal formula 6/3. Pronotum hairless, dull, granulated, not crossed by transverse impression or slightly impressed; occasionally pronotum unsculptured. Scutum dull, granulated. Metanotum with sides rounded. Metathorax + propodeum hairy, dull, granulated (occasionally unsculptured); posterior surface not transversely striate. Meso-metapleural suture obsolete. Meso- and metapleuron not transversely striate. Protarsal segments in following proportions: 17:3:5:15:22. Enlarged claw (Plate 201C) with one small subdistal tooth and one row of nine lamellae and one hair. Segment 5 of protarsus (Plate 201C) with two rows of two (proximal) + at least 50 lamellae extending continuously to distal apex; distal apex bent at right angle. Tibial spurs 1/0/1.

**Male.** Unknown.

**Material examined. Types:** ♀ holotype: BRAZIL: Santa Catarina, Nova Teutonia, 31.VIII.1944, F. Plaumann leg. (BMNH). Paratypes: same locality label as holotype, 2♀♀ (AMNH, CNC). Other material: BRAZIL: Mato Grosso, Barra do Tapirapé, XII.1962, B. Malkin leg., 1♀ (MZUS); Pará, Melgaço, Caxiuanã, trail at Estação Científica Ferreira Penna, 16–19.XI.2003, YPT, A.P. Aguiar & J. Dias leg., 2♀♀ (MPEG) (Coelho et al. 2011); Rondonia, 62 km S of Ariquemes, Fazenda Rancho Grande (DEUCD); Santa Catarina, Nova Teutonia, 31.VIII.1944, F. Plaumann leg., 1♀ (MCZ); São Paulo, Barueri, 5.II.1959, 8.IX.1965, K. Lenko leg., 3♀♀ (2 in...

Hosts. Unknown.

Distribution. Brazil.

PLATE 202. Gonatopus neotropicus. Female holotype (length 4.2 mm) in dorsal (A) and lateral (B) view.

7. *Gonatopus palliditarsis* Cameron, 1888
(Plate 203A, B, C, E)

*Gonatopus palliditarsis* Cameron 1888: 441.

Description. Female (Plate 203A). Apterous; length 3.7–9.0 mm. Head reddish or ferruginous; occasionally head mostly black; antenna reddish or ferruginous; mesosoma black, except lateral regions of pronotum testaceous or reddish; occasionally scutum partly testaceous; petiole black; metasoma and legs reddish or ferruginous. In specimen from Ecuador, 00°39.10’S 76°26’W, head black, except mandible, clypeus, gena, face shortly along orbits and part of ventral side testaceous; mesosoma black, except lateral margins of pronotum testaceous; metasoma brown–testaceous; legs testaceous, except coxae and femora partly brown. Antenna clavate; antennal segments in following proportions: 11:9:41:27:17:16:13:11:9.5:12; usually antennal segment 3 three – four times as long as segment 1. Head (Plate 203E) excavated, shiny, granulated, hairless; frontal line incomplete, absent in anterior half of face; occipital carina absent; POL = 2; OL = 1.5; OOL = 11. Palpal formula 6/3. Pronotum (Plate 203A, C) shiny, hairy, slightly granulated or unsculptured, crossed by very slight transverse impression. Stalk between pronotum and metathorax + propodeum very long, slender, composed of scutum, scutellum and metanotum, about as long as metathorax + propodeum (Plate 203A, C). Scutum usually transversely striate, with two lateral pointed apophyses (Plate 203A). Scutellum slightly visible. Metanotum usually transversely striate. Metathorax + propodeum hairy, with anterior surface shiny and unsculptured, occasionally partly granulated; posterior surface completely or mostly transversely striate. Meso-metapleural suture obsolete; occasionally meso-
metapleural suture slightly visible (then mesopleuron and metapleuron located on same plane). Mesopleuron granulated, with or without transverse striae. Metapleuron transversely striae. Metasoma hairy. Protarsal segments in following proportions: 17:2.5:5:26:27. Enlarged claw (Plate 203B) with one small subdistal tooth and one row of nine-ten peg–like hairs. Segment 5 of protarsus (Plate 203B) with two rows of 25–28 lamellae; distal apex bent at right angle, with at least 15 lamellae. Tibial spurs 1/0/1. 

PLATE 203. A. Female holotype (length 8.0 mm). B, D, F. Chelae of holotypes. C. Mesosoma of female holotype in lateral view. E. Head of female holotype in frontal view. A, B, C, E. Gonatopus palliditarsis. D. G. rubriceps. F. G. stellaris. Scale bar 0.45 mm for B, 1.36 mm for C, 1.6 mm for D, 0.19 mm for E, 0.17 mm for F.

Male. Unknown.

Material examined. Type: ♀ holotype: PANAMA: Chiriquí, Chiriquí Volcano, 25–4000 ft., Champion leg., P. Cameron collection (BMNH). Other material: ARGENTINA: Misiones, Loreto Experimental Station, 25.IX.1933, 20.II.1934, 15.VII.1935, A. Ogloblin leg., 3♀ (FCNM). BRAZIL: Mato Grosso, Sinop, 12°31'S 55°37'W (AEIC); São Paulo, Fazenda Pau d'Alho-Itú (MZUS). ECUADOR: Napo, Waorani Ethnic Reserve, 1 km S Onkone Gare Camp, 00°39.10’S 76°26’W, 220 m, VI.1994, canopy fogging, T.L. Erwin leg., 1♀ (CNC); Napo, Limoncocha (PMA); Pichincha, Puerto Quito (AMNH); Pichincha, 50 km NW of Quito, Maquipucuna Station, 1300 m, 17.XII.1991 (NAMUK). PANAMA: Chiriquí, Chiriquí Volcano, 25–4000 ft., Champion leg., P. Cameron collection, 6♀ (BMNH); same locality label, 2–3000 ft., 4♀ (BMNH); Chiriquí, Bugaba, Champion leg., P. Cameron collection, 3♀ (BMNH); no locality labels, P. Cameron collection, 2♀ (BMNH).

Hosts. Unknown.

Distribution. Argentina, Brazil, Ecuador, Panama.

8. Gonatopus raptor (Fenton, 1927), new comb.
(Plate 201D)

Chalcogonatopus raptor Fenton 1927: 8.

Description. Female. Apterous; length 4.6–7.5 mm. Head black, except mandible brown-reddish (in specimen from Argentina, Los Castillos, clypeus testaceous, with median region brown); antenna brown, except segments 1–3 or 1–4 and 8–10 yellow (in specimen from Argentina, Los Castillos, antenna brown, except segments 1 and 10
testaceous); mesosoma black; metasoma completely brown-black, or with lateral regions reddish; legs yellow-brown. Antenna clavate; antenial segments in following proportions: 11:5:5:28:15:13:12.5:9:9:8:10. Head excavated, shiny or dull, granulated; frontal line complete; occipital carina absent; temple distinct; occiput hairy; POL = 3; OL = 3; OOL = 10.5. Palpal formula 6/3. Pronotum dull, hairy, smooth, granulated, not crossed by transverse impression or slightly impressed. Scutum and metathorax + propodeum hairy, dull, granulated. Metanotum not hollow behind scutellum. Posterior surface of metathorax + propodeum granulated, not transversely striate. Meso-metapleural suture obsolete. Protarsal segment 1 about as long as 4. Enlarged claw (Plate 201D) with one small subapical tooth, one proximal prominence and three–eight proximal bristles; small subapical tooth occasionally absent (Plate 201D). Segment 5 of protarsus (Plate 201D) with one proximal row of two–six long and slender lamellae, in addition to three rows of about 13–36 lamellae; distal apex with 20–50 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Distribution. Argentina, Ecuador, Panama, Peru.

(Plate 203D)


Description. Female. Apterous; length 5.6 mm. Head totally reddish; antenna brown, except segments 1–4 and 10 testaceous–reddish; mesosoma and metasoma black; legs brown or black, except trochanters, tarsi, stalk of profemur and protibia testaceous. Antenna clavate; antenial segments in following proportions: 12:7:31:16:14:12:8:8:7:10. Head excavated, dull, granulated; frontal line complete; occipital carina absent; POL = 3; OL = 3; OOL = 11. Palpal formula 6/3. Pronotum dull, granulated, not crossed by transverse impression. Scutum dull, granulated, with some longitudinal keels. Scutellum not visible. Metathorax + propodeum dull, granulated; posterior surface only laterally transversely striate, with median region smooth, granulated. Meso-metapleural suture obsolete. Meso- and metapleuron not transversely striate. Protarsal segments in following proportions: 20:5:8:24:36. Enlarged claw (Plate 203D) with one small subdistal tooth and one row of seven peg-like hairs. Segment 5 of protarsus (Plate 203D) with two rows of about 23 lamellae; distal apex bent at right angle, with about eight lamellae. Tibial spurs 1/0/1.

Male. Unknown.

Material examined. Type: ♂ holotype: COLOMBIA: Distrito Capital, Bogotá (ZMHUB).

Hosts. Unknown.

Distribution. Colombia.

(Plate 203F)


Description. Female. Apterous; length 4.0–4.2 mm. Head testaceous, except brown nuances near ocelli; antenna testaceous; mesosoma testaceous; petirole black; metasoma and legs testaceous. In specimen from Mexico, Xpu-Há, body more robust than holotype and colour quite different (head ferruginous-reddish, except ocellar triangle dark; antenna testaceous, except segments 1 and 5–9 brown; mesosoma ferruginous-reddish, except posterior surface of
metathorax + propodeum almost totally black; metasoma testaceous, except half or third of each segment black; legs brown, except part of procoxa, part of trochanters and tarsi testaceous). Antenna clavate; antennal segments in following proportions: 10:6:24:13:11:10:7:6:5:9:5. Head excavated, dull, granulated, with occiput hairy; frontal line absent; occipital carina absent; POL = 3.5; OL = 3.5; OOL = 12. Palpal formula 6/3. Pronotum hairless, dull, granulated, not crossed by transverse impression. Scutum dull, granulated, with two lateral pointed apophyses. Stalk between pronotum and metathorax + propodeum short. Metanotum granulated, with sides rounded. Metathorax + propodeum hairy, dull, granulated; posterior surface not transversely striate. Meso-metapleural suture obsolete. Meso- and metapleuron granulated, not transversely striate. Metasoma hairy, shiny, unsculptured. Protarsal segments in following proportions: 16:4:5:5:17:25. Enlarged claw (Plate 203F) with one small subdistal tooth and one row of four lamellae and one hair (in specimen from Mexico, Xpu-Há, six lamellae and one hair). Segment 5 of protarsus (Plate 203F) with two rows of 6 + 10 lamellae; distal apex bent at right angle, with at least 25 lamellae. In specimen from Mexico, Xpu-Há, segment 5 of protarsus with two rows of 18 + 19 lamellae; distal apex with about 30 lamellae. Tibial spurs 1/0/1.

Male. Unknown.


Hosts. Unknown.

Distribution. Argentina, Mexico.

11. Gonatopus trichosoma Virla, Espinosa & Olmi, 2010 (see group 7)

Species incertae sedis

The following species were described under Labeo Haliday 1833, and Laberinus Ogloblin 1932, genera now synonyms of Gonatopus Ljungh 1810. They are treated here, because only the male is known, so that it is not possible to include them in a group based on female specimens.

1. Gonatopus grenadensis (Ashmead, 1900), comb. nov.

(Plate 204A)

Labeo grenadensis Ashmead 1900: 235; Olmi 1984: 1809.

Description. Male. Fully winged; length 1.87 mm. Head brown-black; antenna brown; mesosomal brown-black; metasoma and legs brown-testaceous. Antenna filiform; antennal segments in following proportions: 5:6:13:12:11:10:9:8:10; antennal segment 3 more than three times as long as broad (4.33). Head shiny, granulated; frontal line absent; temple distinct; occipital carina absent; POL = 8; OL = 2; OOL = 4; greatest breadth of posterior ocellus about as long as OOL; vertex without lateral large smooth areas between posterior ocellus and eye. Palpal formula 6/3. Scutum shiny, granulated. Notauli complete, posteriorly separated; minimum distance between notaulus shorter than antennal segment 2 (4:6). Scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Propodeum reticulate rugose, with areolae small. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere (Plate 204A) long, with inner side rounded; basivolsella without notch. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Type: ♂ holotype: GRENADA: Saint Andrew Parish, Mirabeau Estate (BMNH).

Hosts. Unknown.

Distribution. Grenada.
2. *Gonatopus paranensis* (Ogloblin, 1932), comb. nov.  
(Plate 204B)

*Laberinus paranensis* Ogloblin 1932: 266; Olmi 1984: 1821.

**Description. Male.** Fully winged; length 2.45 mm (according to original description; metasoma and most part of mesosoma missing in holotype). According to original description (colour not visible; holotype mounted in Canada balsam), colour black, except antennal segments 1–2, stalks of all femora, both extremities of tibiae, tarsi, tegulae and metasoma brown. Mandible tridentate. Temple and occipital carina absent. Maxillary palpi of holotype damaged, only with three segments, other segments missing. Labial palpus 2-segmented. Scutum, scutellum and metanotum with sculpture not visible, surely not reticulate rugose. Notauli complete, posteriorly separated. Propodeum reticulate rugose, with median longitudinal furrow on dorsal surface. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere (Plate 204B) long and distally broadened. Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Brazil.

3. *Gonatopus sanctivincenti* (Ashmead, 1894), comb. nov.  
(Plate 204C)


**Description. Male.** Fully winged; length 1.68 mm. Head black, except mandible yellow; antenna brown; mesosoma black; metasoma brown-reddish; legs brown-yellow. Antenna filiform; antennal segments in following proportions: 5:4:8:8:7:7:6:6:6:8; antennal segment 3 less than three times as long as broad (2.66). Head shiny, granulated, with a median furrow in front of anterior ocellus; frontal line absent; temple distinct; occipital carina absent; POL = 7; OL = 3; OOL = 4.5; greatest breadth of posterior ocellus shorter than OL (2.3). Palpal formula 4/2. Scutum shiny, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than antennal segment 2 (2.4). Scutellum and metanotum shiny, smooth, finely punctate, unsculptured among punctures. Propodeum reticulate rugose, with median longitudinal furrow on dorsal surface, without transverse or...
longitudinal keels. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere long (Plate 204C), distally bent, with papillae of outer side; basivolsella with notch. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** **Type:** ♂ holotype: SAINT VINCENT AND THE GRENADINES: Saint Vincent Island (USNM). **Other material:** same locality label as holotype, 1 ♂ (BMNH).

**Hosts.** Unknown.

**Distribution.** Saint Vincent and The Grenadines.

### 4. Gonatopus simulans (Ashmead, 1894), comb. nov.

(Plate 204D)


**Description.** **Male.** Fully winged; length 1.87 mm. Head brown, except mandible yellow; antenna brown; mesosoma brown; metastoma testaceous-reddish; legs yellow. Antenna filiform; antennal segments in following proportions: 5:9:10:9:9:8:8:11; antennal segment 3 more than three times as long as broad (4.5). Head shiny, smooth, finely punctate, unsculptured among punctures; frontal line absent; temple distinct; occipital carina absent; POL = 7; OL = 3; OOL = 3; greatest breadth of posterior ocellus about as long as OL. Palpal formula 4/2. Scutum shiny, granulated. Notauli complete, posteriorly separated; minimum distance between notauli shorter than antennal segment 2 (2:5). Scutellum and metanotum shiny, finely punctate, unsculptured among punctures. Propodeum with dorsal surface smooth, unsculptured, with median longitudinal furrow; posterior surface reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands. Dorsal process of paramere (Plate 204D) long, slender, distally broadened; basivolsella without notch. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** **Type:** ♂ holotype: SAINT VINCENT AND THE GRENADINES: Saint Vincent Island (USNM). **Other material:** same locality label as holotype, 1 ♂ (BMNH).

**Hosts.** Unknown.

**Distribution.** Saint Vincent and The Grenadines.

### 19. Genus Haplogonatopus R. Perkins, 1905


*Monogonatopus* Richards 1939: 200 (synonymized by Olmi & Currado 1979b); type species: *Monogonatopus oratorius* (Westwood 1833), by monotypy.

*Congodryinus* Benoit 1950: 223 (synonymized by Olmi 1984); type species: *Congodryinus katangae* Benoit 1950, by original designation.

**Type species.** *Haplogonatopus apicalis* R. Perkins 1905, by original designation.

**Diagnosis.** **Female:** apterous (Plate 205A, B); palpal formula 2/1; antenna with rhinaria; pronotum not crossed by strong transverse furrow or slightly impressed (Plate 205A, B); enlarged claw with one large subapical tooth and one row of lamellae (Plate 206 B, C, D, E); tibial spurs 1/0/1.

**Male:** Fully winged (Plate 205C, D); occipital carina usually absent, occasionally incomplete, then only present behind and shortly on sides of posterior ocelli; occiput concave; temple present; palpal formula 2/1; tibial spurs 1/1/2.

**Distribution.** Worldwide.


**World species.** Seven species are known, two in the Neotropical region.

**Remarks.** Larvae of *Haplogonatopus* were described by Hernandez (1984) and Hernandez & Bellotti (1984). In Asia *Haplogonatopus* species are known for their long distance passive migrations in host’s body (Mita et al. 2012).
PLATE 205. Haplogonatopus sp. A, B. Female in dorsal (A) and lateral (B) view (length 3.1 mm). C, D. Male in lateral (C) and dorsal (D) view (length 2.5 mm) (from Olmi 1984).

Key to the species (females)

1. Anterior surface of metathorax of metathorax + propodeum unsculptured; species small, with length less than 3.5 mm
   - Anterior surface of metathorax + propodeum transversely striate; species large, with length more than 3.5 mm

   H. hernandezae Olmi

   H. insularis Ogloblin

Males (only the male of H. hernandezae Olmi is known).
1. *Haplogonatopus hernandezae* Olmi, 1984
(Plates 206A–D, 207)


**Description.** Female. Apterous; length 1.6–3.2 mm. Head black, except clypeus and mandible testaceous; occasionally head testaceous-dark; antenna black, except segments 1–2 testaceous and segment 10 brown-testaceous; mesosoma black, except distal apex of propodeum testaceous; occasionally pronotum and scutum brown; occasionally scutum testaceous; metasoma black; legs testaceous, except clubs of femora and tibiae brown. Occasionally body totally testaceous, except petiole black and metasoma brown. Antenna clavate; antennal segments of holotype of *H. hernandezae* in following proportions: 9:5.5:10:6:6:5:5:6:10; antennal segments of holotype of *H. crucianus* in following proportions: 7:4:7:4:3.5:4:3.5:3.5:3.5:7. Head excavated, shiny or dull, granulated or unsculptured; frontal line complete; occipital carina absent or incomplete and only present behind and shortly on sides of posterior ocelli; POL = 1.5; OL = 1.5; OOL = 8 (occasionally OOL = 5). Palpal formula 2/1. Rarely (only seen in one specimen from Argentina) Palpal formula 2/2. Pronotum shiny, unsculptured or slightly granulated, not crossed by strong transverse impression or slightly impressed. Scutum dull, granulated. Scutellum shiny, smooth. Metanotum transversely striate. Metathorax + propodeum shiny, unsculptured, except transverse striae on posterior surface, mesopleuron and metapleuron. Occasionally (in type material of *H. crucianus*) disc of metathorax + propodeum transversely striate. Meso-metapleural suture obsolete. Protarsal segments of holotype of *H. hernandezae* in following proportions: 14:3:4:12:19; protarsal segments of holotype of *H. crucianus* in following proportions: 11:2:3:8:14. Enlarged claw (Plate 206B, C, D) with one subapical tooth and one row of four–six lamellae. Segment 5 of protarsus (Plate 206B, C, D) with two rows of six–eight lamellae; distal apex with about four–eight lamellae. Tibial spurs 1, 0, 1.

**PLATE 206.** A. Genitalia of male from Mexico, Guadaloupe. B, E. Chelae of holotypes. C. Chela of female from Ecuador, Puerto Ayora-Baltra road (holotype of *Haplogonatopus crucianus*). D. Chela of female from Bonaire Island, Flor de Cuba (holotype of *Haplogonatopus bonairensis*). A–D. *Haplogonatopus hernandezae*. E. *H. insularis*. Scale bar 0.09 mm for A, 0.14 mm for B and C, 0.17 mm for D, 0.23 mm for E.

Male (hitherto unknown). Fully winged; length 1.8–2.8 mm. Head brown or black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown or black; legs brown or testaceous. Antenna
filiform; antennal segments of specimen from Mexico, Guadalupe, in following proportions: 7:5:12:13:11:12:10:10:10:13; antennal segment 3 more than six times as long as broad (12:1.5). Antennal segments of specimen from Galapagos Islands, Sierra Negra, in following proportions: 5:4:7:8:8:7:7:5:7:9. Head swollen, shiny, finely punctate, unsculptured among punctures or partly granulated; frontal line absent or hardly visible and complete; occipital carina absent; vertex with two smooth and shiny oval areas between posterior ocelli and eyes; temple distinct. Head of specimen from Mexico, Guadalupe, with POL = 7; OL = 3; OOL = 3; greatest breadth of posterior ocelli shorter than OL (2:3). Head of specimen from Galapagos Islands, Sierra Negra, with POL = 6; OL = 3; OOL = 2. Palpal formula 2/1. Scutum dull, granulated. Notauli complete, posteriorly separated in large specimens, joint in small specimens. Scutellum and metanotum shiny, unsculptured or finely punctate and unsculptured among punctures. Propodeum reticulate rugose, without transverse or longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (17:9 or 15:7). Dorsal process of paramere (Plate 206A) with distal part broadened and ragged. Tibial spurs 1/1/2.


**Neartic region:** MEXICO: Distrito Federal, Guadalupe, parasitized host collected 30.X.1907, dryinid adult emerged 24.XI.1907, A. Koebele leg., No. 2554, reared from female adult of unidentified Delphacid, R. Perkins collection, 1♂ (USNM); Mexico, Chapultepec, parasitized host collected 23.X.1907, dryinid adult emerged 16.I.1908, A. Koebele leg., No. 2581, reared from nymph of unidentified Delphacid, R. Perkins collection, 1♂ (USNM); same locality label, parasitized host collected 21.XI.1907, dryinid adult emerged 15.I.1908, No. 2581, reared from unidentified Delphacid, 1♂ (USNM); same locality label, parasitized host collected 20.XI.1907, dryinid adult emerged 21.1.1908, No. 2581, reared from nymph of unidentified Delphacid, 1♂ (USNM); same locality label, parasitized host collected 21.XI.1907, dryinid adult emerged 12.1.1908, No. 2581, reared from nymph of unidentified Delphacid, 1♂ (USNM); same locality label, parasitized host collected 21.XI.1907, dryinid adult emerged 18.1.1908, No. 2581, reared from nymph of unidentified Delphacid, 1♂ (USNM); same locality label, parasitized host collected 22.XI.1907, dryinid adult emerged 26.1.1908, No. 2581, reared from nymph of unidentified Delphacid, 1♂ (USNM); same locality label, parasitized host collected 20.XI.1907, dryinid adult emerged 21.1.1908, No. 2581, reared from nymph of unidentified Delphacid, 1♂ (USNM); same locality label, parasitized host collected 15.XI.1907, dryinid adult emerged 13.1.1908, No. 2581, reared from nymph of unidentified Delphacid, 1♂ (USNM).


**Biology.** Some aspects of the biology of *H. hernandezae* were treated in Costa Rica by Mora-Kepfer & Espinoza (2005, 2009). The parthenogenesis is thelytokous (Olmi 1999d).

**Natural enemies.** In Santa Cruz Island at El Puntudo (Galapagos Islands) *H. hernandezae* may be parasitized by *Helegonatopus pesudophanes* Perkins 1906, and *Cheiloneurus olmii* Guerrieri & Viggiani 2005 (*Encyrtidae*). This material was reared by M. Olmi in 1989 and identified at first by J.S. Noyes (London). Noyes identified the second species as *Cheiloneurus sp.*, near *gonatopodis* Perkins. Afterwards, Guerrieri & Viggiani (2005) recognized it as a new species, described as *Cheiloneurus olmii*. Further specimens of *Encyrtidae* were also reared in Isabela Island on Sierra Negra, but no adults were obtained. Probably they were belonging to the same species of Santa Cruz Island. Apparently, the two above species of *Encyrtidae* are the same reared by Olmi in 1986 in continental Ecuador, at Cornejo Astorga and Las Pampas, from *Gonatopus flavus* (Olmi).

**Distribution.** Argentina, Brazil, Colombia, Costa Rica, Dutch Antilles, Galapagos Islands (Ecuador), Panama, Peru and Nearctic region (Mexico (Chapultepec, Distrito Federal)).

**Remarks.** *Haplogonatopus hernandezae* Olmi was known only on the basis of female specimens. In 2010 M. Olmi examined a part of R. Perkins collection deposited in USNM. He discovered a couple and 1♂ labelled as follows: MEXICO: Distrito Federal, Guadalupe, parasitized host collected 30.X.1907, dryinid adult emerged 24.XI.1907, A. Koebele leg., No. 2554, reared from female adult of unidentified Delphacid, R. Perkins collection, 1♂ (USNM); Mexico, Chapultepec, parasitized host collected 23.X.1907, dryinid adult emerged 16.I.1908, A. Koebele leg., No. 2581, reared from nymphs of unidentified delphacid, R. Perkins collection, 1♂ and 1♀ on same label (USNM).

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The above male specimens of *H. hernandezae* are like those of *H. crucianus* Olmi 1986, described from the Galapagos Islands, so that the synonymy of these two species is here established. On the other side, the females of both species are so similar, that it is impossible to find good differences.

**Use in biological control.** There are small cases of biological control against *Tagosodes orizicolus* (Muir) (Delphacidae) tried in rice fields of Colombia, Costa Rica and Cuba by an indigenous drynid, *Haplogonatopus hernandezae* Olmi, well known for its thelytokous parthenogenesis (Mora-Kepfer & Espinoza 2009). In Colombia, in 1999, doses of 100, 200 and 300 female individuals of *H. hernandezae* per Ha of the crop were released to control the populations of *T. orizicolus*, reaching a parasitism of 83%. At least in Colombia, the biological control was successful. No data were published about the experiments of biological control conducted in Cuba and Costa Rica. However, it is common knowledge that biological control has replaced the use of synthetic insecticides in Cuba since 1987 (Mora-Kepfer & Espinoza 2009).

2. *Haplogonatopus insularis* Ogloblin, 1953
(Plate 206E)


**Description.** Female. Apterous; length 3.6–4.6 mm. Head testaceous, except ocellar triangle brown; both antennae missing in holotype; mesosoma testaceous, except propleuron, scutum, scutellum, distal apex of propodeum brown and metathorax + propodeum reddish; petiole brown; metasoma partly brown and partly testaceous; legs testaceous. Antenna clavate. Head excavated, dull, granulated; frontal line absent; occipital carina absent; POL = 2; OL = 3; OOL = 10. Palpal formula 2/1. Pronotum shiny, slightly granulated, not crossed by transverse impression. Scutum dull, granulated by some longitudinal keels. Scutellum distinct, short. Metanotum transversely striate. Metathorax + propodeum dull, with transverse striae on anterior surface, posterior surface and mesopleuron. Meso-metapleural suture obsolete. Both protarsi completely missing in holotype. Enlarged claw with one subapical tooth and one row of five lamellae (Plate 206E), segment 5 of protarsus with two rows of eight lamellae and distal apex provided of ten lamellae (Plate 206E). Tibial spurs 1, 0, 1.

Male. Unknown.

**Material examined.** Type: ♀ holotype: CHILE: Juan Fernández Islands, Masatierra Island (=Robinson Crusoe Island), Bahia Cumberland, labelled *Haplogonatopus kuschelianus* (name never used) (FCNM); slide of mouth parts of holotype in MNHNS. Other material: CHILE: Juan Fernández Islands, Masafuera Island (=Alejandro Selkirk Island), Casas Canyon (AMNH).

**Hosts.** Unknown.

**Distribution.** Juan Fernández Islands (Chile).

20. Genus *Neodryinus* R. Perkins, 1905


*Prodryinus partim* Kieffer: Kieffer 1914: 49.


Type species. *Neodryinus koebelei* R. Perkins 1905, by original designation.

**Diagnosis. Female:** Fully winged (Plates 208C, 210A); palpal formula 6/3; antenna with rhinaria; pronotum crossed by strong transverse furrow (Plates 208C, 210A); enlarged claw with one subapical tooth and one row of lamellae, or peg-like hairs, or bristles (Plate 209B, C, D); tibial spurs 1/0/2.

**Male:** Fully winged (Plate 208A, B), occiput straight (Plate 208A); temple absent; occipital carina usually absent; occasionally incomplete, only present behind and shortly on sides of posterior ocelli, laterally not reaching eyes; palpal formula 6/3; tibial spurs 1/1/2.

**Distribution.** Worldwide.

**Hosts.** Flatidae, Nogodinidae, Ricianiidae (Guglielmino & Olmi 1997, 2006).

**World species.** Forty–nine species are known, 16 in the Neotropical region.

**Remarks.** Larvae of *Neodryinus* were described by Guglielmino & Buckle (2003).

### Key to the species

**Females (unknown in the species not present in the key to the females)**

1. Segment 5 of protarsus much longer than enlarged claw (Plate 209B, C) .......................... *N. acuticollis* (Kieffer)
   – Segment 5 of protarsus slightly longer than enlarged claw (Plates 209D, 210C, D) .................. *N. albosignatus* Olmi

2. Fore wing with stigmal vein strongly S-shaped (Plates 210B, 211B) .................................. 3
   – Fore wing with stigmal vein not or slightly S-shaped (Plates 211E, 214F) ............................ 7

3. Distal part of stigmal vein longer than proximal part (Plate 211B) ...................................... 4
   – Distal part of stigmal vein as long as, or shorter than proximal part (Plate 210B) .................. 5

4. Head and scutum granulated, not reticulate rugose; body testaceous-reddish, with irregular brown spots ................................................................. *N. dominicanus* (Evans)
   – Head and scutum granulated and reticulate rugose; body black ................................. *N. albosignatus* Olmi

5. Dorsal surface of propodeum sculptured by many longitudinal and parallel keels .............. *N. brachycerus* (Kieffer)
   – Dorsal surface of propodeum reticulate rugose, not sculptured by many parallel and longitudinal keels .......................... *N. radialis* Olmi

6. Distal part of stigmal vein as long as proximal part (Plate 213C) .................................. 6
   – Distal part of stigmal vein shorter than proximal part (Plate 213G) .............................. *N. peruviana Olmi*

7. Segment 5 of protarsus with two rows both composed of many lamellae (Plates 212C, 213A) ............. 8
   – Segment 5 of protarsus with one row of lamellae; rarely with two rows, then one of two rows is composed of one only lamella (Plates 211D, 212D) . .................................................. 13

8. Segment 1 of protarsus twice as long as segment 4 .............................................. *N. mayanus* Olmi & Virla sp. nov.
   – Segment 1 of protarsus less than twice as long as segment 4 ........................................ 9

9. Scutellum shiny, smooth, not granulated, not reticulate rugose; pronotum and scutum unsculptured between striae and keels, not granulated ............................................ *N. kimseyae Olmi*
   – Scutellum dull, granulated and reticulate rugose or striate; pronotum and scutum granulated between striae and keels ................. 10

10. Segment 5 of protarsus shorter and thicker, with distal part less than three times as long as basal part (Plate 214B) ................................................................. *N. rosanae* Olmi
    – Segment 5 of protarsus longer and more slender, with distal part more than three times as long as basal part (Plates 211D, 212B) .................................................. 11

11. Medial part of segment 5 of protarsus (excluding basal and distal parts) not in entire its length less broad than segment 4 (Plate 212B) .................................................. *N. kaagaypegua* Olmi
    – Medial part of segment 5 of protarsus (excluding basal and distal parts) in entire its length less broad than segment 4 (Plates 211D, 214C) ................................. 12

12. Dorsal surface of propodeum reticulate rugose .............................................. *N. trinitatis* Richards
    – Dorsal surface of propodeum sculptured by numerous parallel longitudinal keels ................ *N. incaicus* Olmi
    – Scutum completely slightly reticulate rugose, without longitudinal keels ..................... *N. maculicornis* (Cameron)
    – Scutum with numerous longitudinal keels, occasionally partly with lateral regions strongly reticulate rugose .......................... *N. incaicus* Olmi

**Males (unknown in the species not present in the key to the males)**

1. Paramere with two dorsal processes (Plates 212A, 214E) ........................................ 2
   – Paramere with one dorsal process (Plates 209A, 211C, 212E, F, 213D, 214A, D) ............... 3

2. Dorsal process of paramere composed of two branches approximately same length (Plate 214E); notauli reaching approximately 0.6 length of scutum .................................... *N. villemantae* Olmi
   – Dorsal process of paramere composed of two branches of different length; inner branch longer than outer branch (Plate 212A); notauli reaching approximately 0.7 length of scutum .................................... *N. kaagaypegua* Olmi
1. Neodryinus acuticollis (Kieffer, 1905)
(Plate 208C, 209A–C).

Dryinus acuticollis Kieffer 1905b: 9.

Description. Female (Plate 208C). Fully winged; length usually 3.7–4.2 mm. Head black, except mandible and clypeus yellow; antenna brown, except segments 1–5 yellow; mesosoma black, except some reddish nuances on posterior margin and lateral regions of pronotum; metasoma black; legs yellow-reddish, except coxae darkened; occasionally legs almost completely brown. Antenna clavate; antennal segments in following proportions: 15:7:26:12:12:9:7:5:5:8. Head flat, hairless, reticulate rugose; occipital carina incomplete, present behind posterior ocelli; POL = 5; OL = 3; OOL = 11; OPL = 1. Palpal formula 6/3. Pronotum (Plate 208C) dull, hairless, irregularly striate, crossed by transverse impression; posterior edges of pronotum rounded, not produced into lobes. Scutum hairy, sculptured by longitudinal keels or reticulate rugose. Scutellum flat, granulated and reticulate rugose. Propodeum reticulate rugose; dorsal surface sculptured by longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part (16:8); stigmal vein slightly S-shaped (Plate 208C). Enlarged claw (Plate 209B, C) with one subapical tooth and one row of five–six bristles. Segment 5 of protarsus (Plate 209B, C) almost twice as long as enlarged claw, with one row of about 20–27 lamellae; distal apex with about 14 lamellae. Tibial spurs 1/0/2.

Male. Fully winged; length 3.6 mm. Head black, except mandible testaceous; antenna black; mesosoma and metasoma black; legs black, except protibia yellow and tarsi yellow except last two segments darkened. Antenna filiform; antennal segments in following proportions: 6:6:13:10:10:9:8:7:9. Head dull, granulated and reticulate rugose; frontal line absent; occipital carina absent; POL = 9; OL = 2.5; OOL = 5. Palpal formula 6/3. Scutum dull, granulated and reticulate rugose. Notauli incomplete, very thin, reaching about 0.7 length of scutum. Scutellum and metanotum dull, granulated. Propodeum reticulate rugose. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Paramere (Plate 209A) with dorsal process distally. Tibial spurs 1/1/2.

Material examined. Type: ♀ holotype: NICARAGUA: Managua, A. & F. Solari leg. (MCSNG). Other material: COSTA RICA: Alajuela, 20 km S of Upala (DBUSU); Guanacaste, 3 km SE of Rio Naranjo (DBUSU); Guanacaste, 14 km S of Cañas (DBUSU); Guanacaste, La Taboga For. Reserve, 9 km SW of Cañas (DBUSU); Guanacaste, 3 km SE of Rio Naranjo, Finca Montezuma (DBUSU); San José, Escazu (AMNH). MEXICO: Yucatan, Ruins of Chichen Itzá (CNC). NICARAGUA: Leon (AMNH); Granada (USNM). PANAMA: Bocas del Toro, Parque Int. La Amistad, Wekso-Teribe, 50 m, 17–24.X.1999, yellow trap, A. Santos leg., 1♀ (MIGBF); Veraguas, Coiba National Park, Coiba Island, Cerro La Torre, 7.III.1998, yellow trap, R. Cambara & A. Santos leg., 2♀ (MIGBF). VENEZUELA: Carabobo, Palmichal, Canosbo, 900 m, 27.VII.1991 (AMNH); Miranda, Guatopo National Park, El Lucero, 9.V.1975 (IZAM).

Hosts. Unknown.

Distribution. Costa Rica, Mexico, Nicaragua, Panama, Venezuela.
PLATE 208. A, B. Male of Neodryinus sp. in dorsal (A) and lateral (B) view (length 3.0 mm). C. Female holotype of Neodryinus acuticollis (length 4.2 mm).

PLATE 209. A. Genitalia of male from Costa Rica, 3 km SE Rio Naranjo. B–D. Chelae of holotypes. A–C. Neodryinus acuticollis. D. N. albosignatus. Scale bar 0.16 mm for A, 0.24 mm for B, 0.18 mm for C and D.
2. **Neodryinus albosignatus** Olmi, 1984  
(Plate 209D)


**Description. Female.** Fully winged; length usually 3.7–5.1 mm. Head black, except mandible testaceous; antenna testaceous, except segments 6–9 black and segment 10 whitish; mesosoma and metasoma black; legs testaceous, except club of profemur black and meso- and metacoxa partly black. Antenna clavate; antennal segments in following proportions: 14:5:30:15:13:9:7:6:5:9. Head excavated, dull, granulated and reticulate rugose; frontal line complete; occipital carina incomplete, present only behind and on sides of posterior ocelli, laterally reaching about 0.5 length of OOL; posterior ocelli touching occipital carina; POL = 3; OL = 2.5; OOL = 10; temple absent. Palpal formula 6/3. Pronotum dull, granulated, crossed by strong transverse impression; disc humped; posterior edges of pronotum rounded, not produced into lobes. Scutum and scutellum dull, granulated and reticulate rugose. Notauli absent. Metanotum dull, very reduced and short. Propodeum with dorsal surface sculptured by numerous parallel longitudinal keels interrupted by transverse keels; posterior surface reticulate rugose, with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (18:11); stigmal vein strongly S-shaped. Protarsal segments in following proportions: 22:3:5:10:18. Enlarged claw (Plate 209D) with one subapical tooth and one row of six bristles. Segment 5 of protarsus (Plate 209D) with two rows of about 25 lamellae extending continuously to distal apex. Tibial spurs 1/0/2.

*Male. Unknown.*

**Material examined. Type: ♂ holotype: BRAZIL: Mato Grosso, Vila Vera, 12°30’S 50°30’W (AEIC). Other material: COSTA RICA: Alajuela, Atenas (RNHL); Guanacaste, NW Volcán Orosí, Cerro El Hacha, 300 m (AMNH); Guanacaste, 14 km S Cañas (DBUSU).**

**Hosts.** Unknown.

**Distribution.** Brazil, Costa Rica.

3. **Neodryinus brachycerus** (Kieffer, 1904)  
(Plate 210)

*Dryinus brachycerus* Kieffer 1904: 351.  


*Male. Unknown.*

Hosts. Unknown.

Distribution. Argentina, Ecuador, Paraguay, Venezuela.

4. Neodryinus dominicanus (Evans, 1969)
(Plate 211B)

Prodryinus dominicanus Evans 1969: 12.

Description. Female. Fully winged; length 3.7 mm. Head testaceous, with or without black ocellar spot; antenna fuscous, except segment 1 testaceous; pronotum testaceous, except two black spots on lateral regions of disc; scutum brown, except U-shaped testaceous spot on median area; scutellum testaceous or brownish; metanotum brown; propodeum completely testaceous or with brown irregular spots; metasoma and legs testaceous. Antenna
clavate. Head slightly excavated, dull, granulated; occipital carina incomplete, present only shortly on sides of posterior ocelli. Palpal formula 6/3. Pronotum dull, granulated, with slight longitudinal keels, crossed by a transverse impression; posterior edges of pronotum rounded, not produced into lobes. Scutum hairy, granulated. Notauli absent. Scutellum granulated. Metanotum very reduced and short. Propodeum reticulate rugose; posterior surface slightly rugose, without longitudinal keels; lateral areas of propodeum slightly rugose. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part; stigmal vein strongly S-shaped (Plate 211B). Protrochanter about four times as long as broad. Segment 1 of protarsus longer than segment 4 (22:12). Enlarged claw (Plate 211A) with one subapical tooth and one row of six peg-like hairs. Segment 5 of protarsus (Plate 211A) with two rows of 10 + 10 lamellae; distal apex with at least 15 lamellae. Tibial spurs 1/0/2.

Male. Unknown.

Material examined. Type: ♀ holotype: DOMINICA: Layou Valley, Clarke Hall (USNM).

Hosts. Unknown.

Distribution. Dominica.

5. Neodryinus forestalis Olmi, 2010
(Plate 211C)


Description. Male. Fully winged; length 3.9 mm. Head black, except teeth of mandible reddish; antenna brown; mesosoma black; metasoma brown; legs brown. Antenna filiform; antennal segments in following proportions: 6:6:20:15:15:13:12:5:10:12. Head dull, granulated; face with median smooth and shiny longitudinal stripe; frontal line absent; occipital carina absent; temple absent; POL = 7; OL = 2; OOL = 6; greatest breadth of posterior ocelli longer than OL (4:2). Palpal formula 6/3. Scutum and scutellum dull, granulated. Notauli incomplete, reaching about 0.7 length of scutum. Metanotum with anterior half dull and rugose, posterior half shiny and unsculptured. Propodeum dull, reticulate rugose. Fore wing slightly entirely darkened; marginal cell open; distal part of stigmal vein slightly longer than proximal part (19:18). Paramere (Plate 211C) with one very short and slender dorsal process located in proximal half of paramere. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Type: ♂ holotype: BOLIVIA: Cochabamba, 109 km E Cochabamba, 17°08.52’S 65°42.54’W, 1400 m, 1–12.II.1999, montane/cloud forest, F. Génier leg. (CNC).

Hosts. Unknown.

Distribution. Bolivia.

6. Neodryinus incaicus Olmi, 1984
(Plate 211D, E)


Description. Female. Fully winged; length usually 3.6–5.3 mm. Head black, except mandible testaceous; antenna testaceous, except segments 6–10 brown; mesosoma black; metasoma brown; legs testaceous, except coxae partly black, clubs of femora partly brown and occasionally tibiae brown. Antenna clavate. Head slightly excavated, dull, hairy, completely reticulate rugose; occipital carina incomplete, present only behind and shortly on sides of posterior ocelli. Palpal formula 6/3. Pronotum dull, hairy, granulated, crossed by transverse impression; posterior edges of pronotum rounded, not produced into lobes. Scutum dull, granulated, sculptured by numerous longitudinal keels; occasionally partly reticulate rugose. Notauli absent. Scutellum dull, granulated, reticulate rugose near anterior margin; occasionally scutellum granulated and with irregular longitudinal keels. Metanotum very reduced and short. Propodeum with dorsal surface sculptured by numerous parallel longitudinal keels; posterior surface reticulate rugose, with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part; stigmal vein slightly S-shaped (Plate 211E). Protrochanter about four times as
long as broad. Protarsal segment 1 about as long as segment 4. Enlarged claw (Plate 211D) with one subapical tooth and one row of seven-eight bristles. Segment 5 of protarsus (Plate 211D) with one row of about 15–20 lamellae (in specimen from Panama, Wekso-Teribe, two rows of 1 + 20 lamellae; in specimens from Brazil, Caxiuãba, two rows of 6 + 9 or 10+12 lamellae). Tibial spurs 1/0/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Brazil, Costa Rica, Ecuador, Mexico, Panama, Peru, Venezuela and Nearctic región (USA).

(Plate 212A, B)


Description. Female. Fully winged; length usually 4.1–5.4 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2, 5 and distal half of 4 testaceous; mesosoma black, except lateral regions of pronotum and dorsal surface of propleuron testaceous; metasoma brown; legs brown, except tarsi and articulations testaceous. Antenna clavate; antennal segments in following proportions: 12:6:30:15:14:9:7:6:5:7.5. Head swollen, dull, granulated and reticulate rugose; frontal line complete; occipital carina incomplete, present only shortly on sides of posterior ocelli, laterally extending beyond 0.5 length of OOL; POL = 3; OL = 2; OOL = 9. Palpal formula 6/3. Pronotum hairy, granulated, crossed by strong transverse impression; posterior edges of pronotum rounded, not produced into lobes. Scutum dull, hairy, granulated and sculptured by numerous irregular longitudinal keels. Notauli absent. Scutellum dull, granulated and sculptured by numerous longitudinal striae. Metanotum short, reduced to transverse row of areolae Propodeum with dorsal surface sculptured by numerous subparallel longitudinal keels; posterior surface reticulate rugose, with two complete longitudinal keels. Fore wing with two dark transverse bands; marginal cell open; stigma vein slightly S-shaped; distal part of stigmatic vein longer than proximal part (17:9). Protarsal segments in following proportions: 22:3:8:15:28. Enlarged claw (Plate 212B) with one large subapical tooth and one row of seven bristles. Segment 5 of protarsus (Plate 212B) with two rows of about 17 lamellae; distal apex with at least ten lamellae; distal part of segment 5 not in entire its length less broad than segment 4 (Plate 212B). Tibial spurs 1/0/2.

Male. Fully winged; length 1.8–2.2 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 5:3.5:10:6.5:7.5:7.5:6.5:6.5:5.5:7. Head swollen, granulated; frontal line complete; occipital carina absent; temple absent; POL = 6; OL = 2; OOL = 9. Palpal formula 6/3. Scutum dull, granulated. Notauli incomplete, reaching about 0.7 length of scutum. Scutellum dull, granulated and with two smooth lateral areas.
Metanotum smooth, shiny, unsculptured, with anterior margin rugose. Propodeum rugose, without transverse or longitudinal keels; dorsal surface with two lateral smooth areas less rugose than remaining part of propodeum. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein shorter than proximal part (7:11). Paramere (Plate 212A) with two pointed dorsal processes. Tibial spurs 1/1/2.


**Hosts.** Unknown.

**Distribution.** Paraguay.

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**Neodryinus kimseyae Olmi, 1987**

(Plate 212C, E)


**Description. Female.** Fully winged; length usually 4.0–4.5 mm. Head black, except mandible testaceous; antenna brown, except segments 1–4 and 8–10 testaceous; mesosoma black; metasoma black, except posterior extremity testaceous; legs black, except tarsi, protibia and part of metafemur testaceous. Antenna clavate; antennal segments in following proportions: 14:6:24:16:11:8:5:5:9. Head dull, granulated and reticulate rugose; frontal line complete; occipital carina incomplete, present only shortly on sides of posterior ocelli, laterally reaching about 0.5 length of OOL; POL = 2; OL = 1.5; OOL = 10; temple absent. Palpal formula 6/3. Pronotum shiny, hairy, sculptured by many striae around disc and anterior collar, unsculptured between striae; pronotum crossed by strong transverse impression; disc very humped; posterior edges of pronotum rounded, not produced into lobes. Scutum shiny, reticulate rugose, unsculptured between keels. Notauli absent. Scutellum shiny, smooth, rugose near anterior margin. Metanotum narrow, reticulate rugose. Propodeum reticulate rugose. Fore wing with two dark transverse bands; distal part of stigmal vein longer than proximal part (18:10). Protarsal segments in following proportions: 23:3:6:15:26. Enlarged claw (Plate 212C) with one subapical tooth and one row of seven peg-like hairs. Segment 5 of protarsus (Plate 212C) with two rows of about 18 lamellae; distal apex with about 12 lamellae. Tibial spurs 1/0/2.
Male. Fully winged; length 2.5 mm. Head black, except teeth of mandible reddish; antenna black; mesosoma black; metasoma brown; legs brown, except protarsus whitish and protibia testaceous; proximal half of meso- and metatarsus whitish. Antenna filiform; antennal segments in following proportions: 5:4.5:10:7:8:7:6:6:8. Head dull, granulated and reticulate rugose; face showing median smooth and shiny longitudinal stripe; frontal line absent; occipital carina absent; temple absent; POL = 7; OL = 2; OOL = 4. Palpal formula 6/3. Scutum dull, granulated and slightly reticulate rugose. Notauli incomplete, reaching approximately 0.5 length of scutum. Scutellum and metanotum dull, granulated. Propodeum dull, reticulate rugose. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein approximately as long as proximal part. Paramere (Plate 212E) with very short and slender dorsal process. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Costa Rica, Panama.

PLATE 212. A. Genitalia of male from Paraguay, Bosque Mbaracayú Nat. Reserve. B, C, D. Chelae of holotypes. E. Genitalia of male from Costa Rica, Escazu. F. Genitalia of male from Honduras, near Tela. A, B. Neodryinus kaaguypegua. C, E. N. kimseyae. D, F. N. maculicornis. Scale bar 0.09 mm for A, 0.27 mm for B, 0.28 mm for C, 0.30 mm for D, 0.11 mm for E, 0.10 mm for F.

9. Neodryinus maculicornis (Cameron, 1888) (Plate 212D, F)

Dryinus maculicornis Cameron 1888: 444.
Dryinus alticola Cameron 1888: 444 (synonymized by Olmi 1984); type locality: Volcán de Chiriquí (Panama).
Prodryinus alticola (Cameron): Kieffer 1914: 52.
Prodryinus maculicornis (Cameron): Kieffer 1914: 52.
Neodryinus alticola (Cameron): Richards 1953: 68.

Description. Female. Fully winged; length usually 4.7–5.0 mm. Head black, except mandible and occasionally clypeus yellow; antenna brown, except segment 5 yellow; occasionally antenna yellow, except segments 5–10 brown; mesosoma black, except lateral regions of pronotum reddish; metasoma brown-black; legs brown, except tarsi brown-testaceous. Antenna clavate. Head slightly excavated, dull, completely reticulate rugose; occipital carina incomplete, present only on sides of posterior ocelli. Palpal formula 6/3. Pronotum dull, hairless, granulated,
crossed by transverse impression; posterior edges of pronotum rounded, not produced into lobes. Scutum hairy, granulated and reticulate rugose. Notauli absent. Scutellum granulated and reticulate rugose. Metanotum very reduced and short. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part; stigmal vein not or slightly S-shaped. Fore trochanters about four times as long as broad. Fore tarsal segment 1 longer than segment 4 (25:17). Enlarged claw (Plate 212D) with one subapical tooth and one row of eight bristles. Segment 5 of protarsus (Plate 212D) with one row of about 22 lamellae; distal apex with at least 15 lamellae. Tibial spurs 1/0/2.

Male. Fully winged; length 2.3 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous; mesosoma and metasoma black; legs black, except tarsi, protibia and stalk of profemur testaceous. Antenna hairy, filiform; antennal segments in following proportions: 5:4:5:9:7:6:5:6:5:5:5:8. Head dull, granulated and slightly rugose; frontal line absent; occipital carina absent; temple absent; POL = 6; OL = 2; OOL = 3. Palpal formula 6/3. Scutum dull, granulated and slightly rugose. Notauli incomplete, reaching about 0.6 length of scutum. Scutellum and metanotum dull, granulated, with two lateral posterior smooth areas. Propodeum dull, reticulate rugose, without transverse or longitudinal keels, without smooth areas. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Paramere (Plate 212F) with dorsal process very long. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Guatemala, Honduras, Panama.

10. Neodryinus mayanus Olmi & Virla, sp. nov. (Plate 213A)

Description. Female. Fully winged; length usually 4.5 mm. Head black, except mandible and lateral regions of clypeus testaceous; antenna testaceous, except segments 6–8 and distal half of segment 5 brown; mesosoma black, except lateral regions of pronotum and dorsal surface of propleuron testaceous; metasoma brown, except distal apex testaceous; legs ferruginous. Antenna clavate; antennal segments in following proportions: 12:6:3:17:14:11:9:6:6:10. Head excavated, dull, hairy, completely granulated and reticulate rugose; frontal line complete; occipital carina incomplete, present only as short lines on sides of posterior ocelli (posterior ocelli touching above short lines), laterally not reaching eyes and extending just beyond 0.5 length of OOL; POL = 3; OL = 2; OOL = 11; greatest breadth of posterior ocellus about as long as OL. Palpal formula 6/3. Pronotum dull, hairy, with disc granulated and rugose, with numerous longitudinal striae on anterior collar and lateral regions; pronotum crossed by strong transverse impression; posterior edges of pronotum rounded, not produced into lobes. Scutum dull, hairy, granulated and reticulate rugose. Notauli absent. Scutellum dull, granulated and rugose, except posterior third unsculptured. Metanotum reduced to a transverse carina. Propodeum with dorsal surface sculptured by numerous subparallel longitudinal keels, connected by transverse carinas; posterior surface dull, reticulate rugose, with two complete longitudinal keels. Fore wing with two dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (19:12). Protarsal segments in following proportions: 27:3:6:13:5:24. Protarsal segment 3 produced into hook. Enlarged claw (Plate 213A) with one large subapical tooth and one row of six hairs. Segment 5 of protarsus (Plate 213A) with two rows of 10+11 lamellae; distal apex with at least 25 lamellae. Tibial spurs 1/0/2.

Male. Unknown.


Hosts. Unknown.

Distribution. Honduras.

Etymology. The species is named mayanus because collected in Honduras, homeland of Maya peoples.
11. *Neodryinus peruvianus* Olmi, 1984

(*Plate 213B*)


**Description.** *Female.* Fully winged; length 5.3 mm. Head black, except mandible testaceous; antenna testaceous, except segments 6–10 brown; mesosoma and metasoma black; legs testaceous, except coxae partly black and clubs of femora and tibiae partly brown. Antenna clavate. Head excavated, dull, hairy, reticulate rugose; occipital carina incomplete, present only behind and shortly on sides of posterior ocelli. Palpal formula 6/3. Pronotum dull, granulated, sculptured by many longitudinal keels on sides of anterior collar, crossed by strong transverse impression; disc raised into carina. Scutum dull, granulated and reticulate rugose. Notauli absent. Scutellum dull, reticulate rugose. Metanotum very reduced and short. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein about as long as proximal part; stigmal vein strongly S-shaped (*Plate 213C*). Protarsal segment 1 longer than segment 4 (17:10). Enlarged claw (*Plate 213B*) with one subapical tooth and one row of eight bristles. Segment 5 of protarsus (*Plate 213B*) with two rows of about 20 lamellae; distal apex with at least 20 lamellae. Tibial spurs 1/0/2.

*Male.* Unknown.

**Material examined.** *Type:* ♀ holotype: PERU: Ucayali, Pucallpa (CAS).

**Hosts.** Unknown.

**Distribution.** Peru.


(*Plate 213D*)

*Neodryinus quinteroi* Olmi 2003: 43.

**Description.** *Male.* Fully winged; length 2.3–2.7 mm. Head black, except mandible partly testaceous; antenna and mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 4:4:8:7:6.5:6:6:6:5:8. Head dull, granulated and reticulate rugose; frontal line absent; occipital carina absent; temple absent; POL = 5; OL = 2; OOL = 3. Palpal formula 6/3. Scutum dull,
granulated. Notauli incomplete, reaching approximately 0.7–0.8 length of scutum. Scutellum with anterior half slightly granulated and posterior half shiny, smooth and unsculptured. Metanotum shiny, smooth, unsculptured. Propodeum dull, reticulate rugose, without longitudinal and transverse keels; posterior surface of propodeum with two lateral shiny and smooth areas. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein slightly shorter than proximal part. Paramere with one very short and very broad dorsal process (Plate 213D). Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Types: ♂ holotype: PANAMA: Veraguas, Coiba National Park, Coiba Island, Cerro La Torre, 30.VII–5.VIII.1998, 270 m, yellow trap, R. Cambra & A. Santos leg. (MIGBF). Paratypes: same locality label as holotype, 1♂ (MIGBF); PANAMA: Veraguas, Coiba National Park, Coiba Island, Cerro La Equis, 8–12.III.1998, 130 m, Malaise trap, R. Cambra & A. Santos leg., 2♂♂ (MIGBF, MOLC).

**Hosts.** Unknown.

**Distribution.** Panama.

13. *Neodryinus radialis* Olmi, 1984
(Plate 213E–G)


**Description.** Female. Fully winged; length usually 4.4–6.0 mm. Head black, except mandible yellow; antenna totally testaceous, or with segments 1–2 and 7–10 brown; mesosoma black; metasoma brown; legs brown, except tarsi brown-testaceous; occasionally legs totally testaceous. Antenna clavate; antennal segments in following proportions: 35:13:61:32:26:20:14:13:10:10. Head dull, hairy, reticulate rugose; frontal line incomplete, absent in anterior third of face; occipital carina incomplete, present only behind and shortly on sides of posterior ocelli; posterior ocelli touching occipital carina; POL = 6; OL = 6; OOL = 24. Palpal formula 6/3. Pronotum (Plate 213F) dull, granulated, sculptured by many longitudinal keels, crossed by strong transverse impression; disc raised into carina. Scutum dull, granulated, with numerous longitudinal keels. Notauli absent. Scutellum dull, granulated and reticulate rugose. Metanotum reduced and short. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein shorter than proximal part; stigmal vein strongly S-shaped (Plate 213G). Protarsal segment 1 about twice as long as segment 4 (22:10). Enlarged claw (Plate 213E) with one subapical tooth and one row of five–seven peg-like hairs. Segment 5 of protarsus (Plate 213E) with two rows of about 19–21 lamellae; distal apex with about 14–20 lamellae. Tibial spurs 1/0/2.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Argentina, Bolivia, Brazil, Ecuador.

(Plate 214A, B)


**Description.** Female. Fully winged; length usually 4.2–5.6 mm. Head black, except mandible and clypeus testaceous; antenna testaceous, except segments 7–10 darkened; mesosoma black, except lateral regions of pronotum and dorsal surface of propleuron testaceous; metasoma brown; legs brown, except tarsi, stalk of
protrochanter and distal apex of procoxa testaceous. Antenna clavate; antennal segments in following proportions: 17:8:29:13:10:7:5:5:5:5:5. Head excavated, dull, hairy, completely granulated and reticulate rugose; ocellar triangle swollen; frontal line complete; occipital carina incomplete, present only as short lines on sides of posterior ocelli (posterior ocelli touching above short lines); POL = 3.5; OL = 3; OOL = 12. Palpal formula 6/3. Pronotum dull, hairy, granulated, with numerous longitudinal striae on lateral regions; pronotum crossed by strong transverse impression; posterior edges of pronotum rounded, not produced into lobes. Scutum dull, hairy, granulated and reticulate rugose. Notauli absent. Scutellum dull, granulated and rugose. Metanotum short, only composed of transverse row of areolae. Propodeum with dorsal surface sculptured by numerous subparallel longitudinal keels; posterior surface dull, reticulate rugose, with two complete longitudinal keels. Fore wing with two dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (14:9). Protarsal segments in following proportions: 23:3:8:15:28. Protarsal segment 3 produced into hook. Enlarged claw (Plate 214B) with one large subapical tooth and one row of five peg-like hairs. Segment 5 of protarsus (Plate 214B) mostly broader than segment 4, with two rows of about 20 lamellae; distal apex with at least 20 lamellae. Tibial spurs 1/0/2.

PLATE 214. A. Genitalia of male from Costa Rica, S. Rosa Park. B, C. Chelae of holotypes. D. Genitalia of male allotype. E. Genitalia of male holotype. F. Stigmal vein of female holotype. A, B. Neodryinus rosanus. C, D, F. N. trinitatis. E. N. villemantae. Scale bar 0.10 mm for A, 0.23 mm for B, 0.21 mm for C, 0.11 mm for D and E, 0.56 mm for F.

Male. Fully winged; length 2.4–2.5 mm. Head black, except mandible testaceous; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 5:4:8:6:5:7:7:6:6:5:7:7. Head swollen, dull, granulated; vertex rugose on sides of posterior ocelli; frontal line absent; occipital carina absent; temple absent; POL = 7; OL = 2; OOL = 3. Palpal formula 6/3. Scutum dull, granulated. Notauli incomplete, reaching about 0.7 length of scutum. Scutellum dull, granulated, with lateral areas shiny and unsculptured. Metanotum shiny, unsculptured, with anterior margin rugose. Propodeum reticulate rugose, without transverse or longitudinal keels; dorsal surface with two lateral areas less rugose than remaining propodeum surface. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein longer than proximal part (12:9); veins of fore wing fading. Paramere (Plate 214A) with dorsal process long and broad. Tibial spurs 1/1/2.

Hosts. Unknown.

15. **Neodryinus trinitatis** Richards, 1951
(Plate 214C, D, F)


Description. Female. Fully winged; length usually 4.7–6.0 mm. Head black, except mandible reddish; antenna brown, except segment 5, distal extremity of segment 4 and ventral side of segment 1 yellow; mesosoma black; occasionally lateral regions of pronotum partly reddish; metasoma black; legs reddish, except coxae partly black. Antenna clavate; antennal segments in following proportions: 35:14:67:38:32:20:15:14:12:19. Head slightly excavated, with face and vertex strongly or slightly reticulate rugose, occasionally with slight longitudinal keels; frontal line complete; occipital carina incomplete, present only behind and shortly on sides of posterior ocelli, laterally extending beyond 0.5 length of OOL; POL = 8; OL = 5; OOL = 25; OPL = 1; temple absent. Palpal formula 6/3. Pronotum dull, hairy, granulated, crossed by transverse impression; disc raised into carina; posterior edges of pronotum rounded, not produced into lobes. Scutum dull, granulated, sculptured by numerous parallel longitudinal keels. Notauli absent. Scutellum dull, granulated. Metanotum very reduced and short. Propodeum reticulate rugose; posterior surface with two longitudinal keels. Fore wing with two dark transverse bands; distal part of stigmal vein much longer than proximal part; stigmal vein not or slightly S-shaped (Plate 214F). Protrochanter about four times as long as broad. Protarsal segment 1 longer than segment 4 (19:14). Enlarged claw (Plate 214C) with one subapical tooth and one row of numerous bristles. Segment 5 of protarsus (Plate 214C) with two rows of about 17 lamellae; distal apex with at least 15 lamellae. Tibial spurs 1/0/2.

Male. Fully winged; length 2.4 mm. Head black, except mandible reddish; antenna brown; mesosoma black; metasoma brown; legs brown, except tarsi brown-testaceous. Antenna filiform; antennal segments in following proportions: 6:5:12.5:9:10:8:8:7:9; antennal segment 3 more than three times as long as broad (12.5:2.5). Head shiny, granulated; face without median longitudinal keel between antennal toruli; occipital carina absent; temple absent; POL = 8; OL = 3; OOL = 6; greatest breadth of posterior ocelli shorter than OOL (3:6). Palpal formula 6/3. Scutum, scutellum and metanotum dull, granulated. Notauli incomplete, reaching about 0.5 length of scutum. Dorsal surface of propodeum with median longitudinal furrow and two lateral smooth unsculptured regions located on sides of above furrow; posterior surface rugose, without areolae and longitudinal keels. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein about as long as proximal part. Paramere (Plate 214D) with dorsal process very long, slender and pointed. Tibial spurs 1/1/2.

Material examined. Types: ♀ holotype: TRINIDAD AND TOBAGO: Trinidad, St. Augustine, VII.1949, ex *Ormenis* on cocoa, J.L. Gregory leg. (BMNH). Paratypes: same locality label as holotype, 2 ♀♀, 4 ♂♂ (including allotype) (BMNH); same locality label as holotype, VIII.1949, 1 ♂ (BMNH). Other material: ARGENTINA: La Rioja, Anillaco, 1–28.II.2001, yellow pan trap, Fidalgo leg., 1 ♀ (IFML); same locality label, 1–31.III.2001, Malaise trap, Fidalgo leg., 3 ♀♀ (IFML). BRAZIL: Espírito Santo, Linhares, Parque Sooretana (AEIC); Mato Grosso, Chapada dos Parecis, 30 km N Uirapuru, near ALCOMAT Distillery, 14°15'50.80''S 59°14'02.05''W, 1–15.XII.2001, Antoine Foucart leg., 1 ♀ (MHNG); Minas Gerais, Belo Horizonte, Pampulha, Universidade Federal de Minas Gerais, 19°52'43.58''W, 830 m, 24.XI.1996 (DBMG); Minas Gerais, Santa Rita do Cedro (MNCNM); São Paulo, Teodoro Sampaio (AEIC), COSTA RICA: Guanacaste, S. Rosa Park (AEIC, AMNH); Guanacaste, NW Volcán Orosí, Cerro El Hacha, 300 m (AMNH, EBUC); Guanacaste, 14 km S of Cañas (DBUSU); Guanacaste, 12 km S of Cañas (DBUSU); Guanacaste, 3 km SE of Rio Naranjo (DBUSU). ECUADOR: Napo, Limoncocha (CNC, FSCA). FRENCH GUIANA: Régina, Montagne de Kaw, Relais Patawa, 19°10'16.78''N 53°00'34.71''W, 2–17.II.2002, Malaise trap, B. Garcete leg., 1 ♀ (MNHNP); Paraguarí, Compañía Naranjo, 3–8.II.1996 (MNHN); San Pedro, General Resquin, Naranjito, 1.1.1994, B. Garcete leg., 1 ♀ (MNHNP). TRINIDAD AND TOBAGO: Trinidad, St. Augustine, VII.1949, ex *Ormenis* on cocoa, J.L. Gregory leg., (AMNH, USNM).
VENEZUELA: Aragua, H. Pittier National Park, Guamifa, 750 m, 25.III.1992 (IZAM); Bolivar, Los Pijiguaos, 600 m, 3–13.VI.1997 (IZAM); Carabobo, Montalban, 1800 m, 3.III.1969 (IZAM); Táchira, La Copas, San Vicente de la Revancha, 2100 m, 28.XI–3.XII.1997 (AMNH).


**Distribution.** Argentina, Brazil, Costa Rica, Ecuador, French Guiana, Paraguay, Trinidad and Tobago, Venezuela.

**Remarks.** The cocoon of *N. trinitatis* is spun under the host cast cuticle (as in *Neodryinus typhlocybae* (Ashmead)).

(Plate 214E)


**Description.** Male. Fully winged; length 2.7 mm. Head black, except mandible brown; antenna brown; mesosoma black; metasoma brown; legs brown, with tarsi and protibia testaceous. Antenna filiform; antennal segments in following proportions: 5:4:11:10:9:9:8.5:8:6.5:8. Head dull, granulated, with some irregular keels and areolae near orbits; frontal line absent; occipital carina absent; temple absent; POL = 7; OL = 2; OOL = 4. Palpal formula 6/3. Scutum dull, granulated. Notauli incomplete, reaching approximately 0.6 length of scutum. Scutellum dull, granulated. Metanotum shiny, smooth, unsulptured. Propodeum dull, reticulate rugose, with two parallel longitudinal keels. Fore wing hyaline, without dark transverse bands; marginal cell open; distal part of stigmal vein shorter than proximal part (9:12). Paramere (Plate 214E) with two dorsal processes. Tibial spurs 1/1/2.

**Female.** Unknown.

**Material examined.** Type: ♂ holotype: BRAZIL: Espirito Santo, Sooretama Reserve, IBAMA, 44 km N-NE Linhares, 19°03′20.7″S 40°08′49.0″W, evergreen forest border, Malaise trap 1, 11–17.X.1999, C. Villemant leg. (MNHN).

**Hosts.** Unknown.

**Distribution.** Brazil.


**Type species.** *Pareucamptonyx costaricanus* Olmi 1991 (=*Pareucamptonyx zulianus* (Olmi 1986)), by monotypy and original designation.

**Diagnosis.** Female: apterous (Plate 215A, B); palpal formula 6/3; pronotum crossed by strong transverse furrow (Plate 215A, B); enlarged claw with distal apex not pointed, without subapical tooth and lamellae, with bristles (Plate 215C, E, D); tibial spurs 1/0/1.

**Male:** Unknown.

**Distribution.** Neotropical.

**Hosts.** Unknown.

**World species.** Two species are known, both in the Neotropical region.

**Key to the species (females)**

1. Species slender, with posterior surface of metathorax + propodeum almost completely smooth, only with few transverse striae near distal apex ................................................................. *P. townesi* (Olmi)
- Species robust, with posterior surface of metathorax + propodeum completely and strongly transversely striate .................. *P. zulianus* (Olmi)

494 - *Zootaxa* 3792 (1) © 2014 Magnolia Press
1. Pareucamptonyx townesi (Olmi, 1984)
(Plate 215E)

Gonatopus townesi Olmi 1984: 1748.

**Description. Female.** Apterous; length 2.0 mm. Head black, except mandible testaceous; antenna testaceous; mesosoma black, except lateral regions of pronotum testaceous; metasoma brown-testaceous; legs testaceous. Antenna clavate, with rhinaria on segments 8–10; antennal segments in following proportions: 6:5:12:7:7:5:4:4:5:5. Head excavated, shiny, smooth, unsculptured; frontal line absent; occipital carina absent; temple distinct; POL = 1.5; OL = 3; OOL = 6. Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, smooth, unsculptured, without lateral pointed apophyses. Metanotum shiny, smooth, unsculptured, not hollow behind scutellum, without lateral pointed apophyses. Metathorax + propodeum with anterior and posterior surface shiny, smooth, unsculptured, except few transverse striae near distal apex of propodeum. Meso-metapleural suture obsolete. Protarsal segments in following proportions: 10:2:5:9:16. Enlarged claw (Plate 215E) with distal apex slightly rounded, not pointed, without subdistal tooth, with one row of four bristles. Segment 5 of protarsus (Plate 215E) with inner margin proximally not serrate, with two rows of two (proximal) + eight lamellae; distal apex with about 12 lamellae. Tibial spurs 1, 0, 1.

**Male.** Unknown.

**Material examined. Type:** ♀ holotype: BRAZIL: Mato Grosso, Sinop, 12°31’S 55°37’W, X.1974, M. Alvarenga leg. (AEIC).

**Hosts.** Unknown.

**Distribution.** Brazil.

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**PLATE 215. A, B.** Female of *Pareucamptonyx zulianus* in dorsal (A) and lateral (B) view (length 3.4 mm; holotype of *P. costaricanus*). **C–E.** Chelae of holotypes. A, B, D. *Pareucamptonyx zulianus*. C. *P. zulianus* (holotype of *P. costaricanus*). E. *P. townesi*. Scale bar 0.16 mm for C, 0.15 mm for D, 0.08 mm for E.
2. Pareucamptonyx zulianus (Olmi, 1986)  
(Plate 215A–D)


**Description.** Female (Plate 215A, B). Apterous; length 3.2–3.4 mm. Head black, except mandible testaceous; antenna brown, except segments 1–2 testaceous and segment 10 whitish (in specimen from Brazil, Floresta da Tijuca, antenna totally testaceous; in specimen from Bolivia, 17°40.49'S 63°27.36'W, antenna brown, except segments 1–2 and 7–10 testaceous); mesosoma black (in specimen from Brazil, Floresta da Tijuca, lateral regions of pronotum reddish); metasoma totally black, or partly brown; legs totally black, or brown, except tarsi testaceous; occasionally articulations of legs, chela and tarsal segments 2–4 testaceous. Antenna clavate, with rhinaria on segments 5–10; antennal segments of holotype of \[G.\] zulianus in following proportions: 10:6:20:12:11:10:7:6:6:10; antennal segments of holotype of \[P.\] costaricanus in following proportions: 11:6.5:20:11:10:8:7:6:5:8. Head excavated, shiny, smooth, finely punctate, unsculptured among punctures; occasionally vertex and face granulated and irregularly striate; frontal line incomplete, only present in front of anterior ocellus; occipital carina absent; holotype of \[G.\] zulianus with \(POL = 1; OL = 2; OOL = 10\); holotype of \[P.\] costaricanus with \(POL = 1; OL = 4; OOL = 9\). Palpal formula 6/3. Pronotum shiny, smooth, unsculptured, crossed by strong transverse impression. Scutum shiny, smooth, sculptured by longitudinal striae, without lateral pointed apophyses (Plate 215A, B). Scutellum not visible. Metanotum inclined, shiny, smooth, unsculptured, not hollow behind scutellum (Plate 215A, B). Metathorax + propodeum with anterior and posterior surface shiny, smooth, unsculptured; posterior surface transversely striate. Meso-metapleural suture obsolete. Mesopleuron smooth, not transversely striate. Metapleuron transversely striate. Protarsal segments in following proportions: 15:3.5:6:15:28 (holotype of \[G.\] zulianus) or 16:4:6:15:26 (holotype of \[P.\] costaricanus). Enlarged claw (Plate 215C, D) with distal apex rounded, not pointed, without subdistal tooth, with one row of six-nine bristles. Segment 5 of protarsus (Plate 215C, D) with two rows of 16–20 lamellae; distal apex with 20–33 lamellae. In specimen from Bolivia, 17°40.49'S 63°27.36'W, segment 5 of protarsus with one row of seven lamellae. Tibial spurs 1, 0, 1.

**Male.** Unknown.


**Hosts.** Unknown.

**Distribution.** Bolivia, Brazil, Costa Rica, French Guiana, Venezuela.

---

**VII. Subfamily Apodryininae Olmi, 1984**


**Type genus.** Apodryinus Olmi 1984; by monotypy and orinal designation.

**Diagnosis.** Female. aperous (Plate 216A, C); mandible with four irregular teeth; occipital carina, subocular sulcus and ocelli absent; occiput convex, not excavated; antenna without tufts of long hairs, with rhinaria; mesosoma composed of fused segments; only propleuron mobile and articulated; pronotum, mesothorax, metathorax and propodeum fused and not articulated among them; protrochanter twice or less than twice as long as broad; segment 5 of protarsus never with one only preapical lamella (Plate 217E); rudimentary claw present; tibial spurs 1/1/1.

**Male** (Plate 215B, D). Fully winged; mandible with three–four teeth (if quadridentate, with one rudimentary
tooth); palpal formula 5/3, 6/3; epicnemium exposed; mesosternum distinct, not fused with mesopleura; fore wing
with costal, median and submedian cells clearly enclosed by pigmented veins; basivolsella with lateral distal
process parallel to distivolsella and reaching at least same level of distivolsella distal apex (Plates 217A, 218G);
tibial spurs 1/1/2.
Distribution. Gondwanian (Argentina, Chile, Galapagos Islands (Ecuador), Australia; Madagascar; South
Africa).
Hosts. Unknown.
World species. Thirteen species are known, two in the Neotropical region.
World genera. Seven genera are known, two in the Neotropical region.
Remarks. The following five genera are not quoted from the Neotropical region: Bocchopsis Olmi 1991
(Australian), Apogonatopus Olmi 2007b (Afrotropical), Gondwanadryinus Olmi 2007b (Afrotropical),
Madecadryinus Olmi 2007b (Afrotropical) and Vannoortia Olmi 2007b (Afrotropical).

Key to the genera
Females (only known in Apodryinus, not in Peckius).
Males
1.
–

Temple long (eye less than twice as long as TL) (Plate 216B); antenna very slender, with segment 3 about three times as long
as segment 2 (Plate 216B, C); mandibles tridentate (Plate 217B) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1. Apodryinus Olmi
Temple very short (eye more than four times as long as TL) (Plate 218A); antenna less slender, with segment 3 less than twice
as long as segment 2 (Plate 218A, B); mandibles with four irregular teeth (Plate 218C) . . . 2. Peckius Olmi & Virla, gen. nov.

22. Genus Apodryinus Olmi, 1984

Type species. Apodryinus masneri Olmi 1984, by monotypy and original designation.
Diagnosis. Female (Plate 216A, C). apterous; head spheroidal, with eyes large (Plate 216A, C); occipital
carina absent; ocelli absent; palpal formula 4/3; antenna geniculated; antennal segments 3–10 with rhinaria (one
per segment, except for 2 rhinaria on 10th segment); mesosoma composed almost completely of fused segments;
only propleuron mobile and articulated; rest of mesosoma with sutures completely obliterated, except suture
between propleura and rest of mesosoma and lateral track of suture between apparent pronotum and mesopleura;
apparent pronotum not crossed by transverse impression; pronotum not separated from mesothorax; antennal
segments 3–10 with rhinaria (one per segment, except two rhinaria on segment 10); enlarged claw (Plate 217E)
with one small subapical tooth and one row of lamellae; segment 5 of protarsus (Plate 217E) with rows of lamellae;
tibial spurs 1/0/1.
Male (Plate 216B, D). Fully winged; mandible tridentate (Plate 217B); palpal formula 6/3 (Plate 217C, D); eye
less than twice as long as TL; antenna very slender, with segment 3 about three times as long as segment 2 (Plate
216B, D); fore wing with costal, median and submedian cells clearly enclosed by pigmented veins; notauli
invisible or incomplete; paramere without inner slender membranous apophysis (Plate 217A).
Distribution. Neotropical.
Hosts. Unknown.
World species. Type species only.

1. Apodryinus masneri Olmi, 1984
(Plates 216, 217)

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PLATE 216. Apodryinus masneri. A, C. Female holotype in dorsal (A) and lateral (B) view (length 3.4 mm). B, D. Male from Chile, Ahoni Alto, in dorsal (A) and lateral (B) view (length 2.4 mm).

Description. Female (Plate 216A, C). Apterous; length 3.2–3.4 mm. Head black, except mandible, clypeus and narrow region near clypeus testaceous-dark; antenna testaceous; mesosoma black, except propleuron and anterior region of apparent pronotum testaceous-dark; metasoma black, except distal apex testaceous; legs brown, except tarsi testaceous-brown. Antenna geniculated and not thickened distally; antennal segments in following proportions: 16:4:8:6:5:5:5:5:5:8; rhinaria present on antennal segments 3–10 (one per segment; segment 10 with two rhinaria); antennal torulus contiguous with upper margin of clypeus. Head swollen, dull, completely reticulate rugose; temple and face hairy; temple very long, about twice as long as eye; ocelli absent; occipital carina absent; frontal line present from clypeus to vertex; clypeus with ventral margin rounded; subocular sulcus absent; mandible with 4 irregular teeth. Palpal formula 4/3. Mesosoma completely composed of fused segments, except propleuron. Propleuron not dorsally visible, present under anterior margin of pronotum. Pronotum, scutum, scutellum, metanotum and propodeum fused, not recognizable. Mesosoma cylindric, with posterior region very inclined (Plate 216C), laterally with track of suture between apparent pronotum and apparent mesopleuron. Mesosoma composed...
of anterior shiny, smooth region, probably corresponding to pronotum. Apparent pronotum unsculptured, laterally with some longitudinal folds. Posterior region of mesosoma (probably corresponding to propodeum) completely reticulate rugose, shiny, unsculptured among areolae, laterally with two dorsal prominent apophyses, in addition to two further lateral less prominent apophyses. Dorsal area behind apparent pronotum less reticulate rugose than posterior regions of mesosoma, probably corresponding to scutum. Spiracles of mesosoma very prominent. Mesometapleural suture absent. Protarsal segments in following proportions: 18:3:4:15:18. Segment 3 of protarsus produced into hook. Enlarged claw (Plate 217E) with one subapical tooth, one row of approximately 18 lamellae on inner side and numerous hairs on outer side. Segment 5 of protarsus (Plate 217E) with two rows of 4 (long) + 13 (short) lamellae; distal apex with about five lamellae. Tibial spurs 1/1/1.

PLATE 217. Apodryinus masneri. A–D. Genitalia (A), mandible (B), labial palpus (C) and maxillary palpus (D) of male from Chile, Ahoni Alto. E. Chela of holotype. Scale bar 0.11 mm for A, 0.56 mm for B, 0.05 mm for C, 0.04 mm for D, 0.12 mm for E.

Male (Plate 216B, D). Fully winged; length 2.4–2.5 mm. Head brown; antenna brown-testaceous; mesosoma brown; metasoma brown-testaceous; legs yellow, except coxae brown. Antenna filiform; antennal segments in following proportions: 8:5:15:16:16:16:14:12:15. Head convex, shiny, rugose; mandible tridentate (Plate 217B); frontal line complete; occipital carina complete; POL = 6; OL = 2; OOL = 3; OPL = 1; TL = 7; temple very long, slightly shorter than eye (7:8). Palpal formula 6/3 (Plate 217C, D). Scutum dull, reticulate rugose. Notauli absent or hardly visible and incomplete, reaching about 0.3 length of scutum. Scutellum and metaventrum shiny, punctate, without sculpture among punctures. Propodeum dull, reticulate rugose, with areolae very broad. Fore wing hyaline, without dark transverse bands; distal part of stigmatic vein longer than proximal part (18:13); marginal cell open. Paramere in Plate 217A. Tibial spurs 1/1/2.


Hosts. Unknown.

Distribution. Argentina, Chile.

**Type species.** *Peckius insularis* Olmi & Virla, sp. nov., hereby designated.

**Diagnosis.** *Male* (Plate 218A, B). Fully winged; mandible with four irregular teeth (Plate 218C); palpal formula 5/3 (Plate 218D, E, F); eye more than four times as long as TL; antenna with segment 3 less than twice as long as segment 2 (Plate 218A, B); fore wing with costal, median and submedian cells clearly enclosed by pigmented veins; epicnemium visible; notauli absent; paramere without inner slender membranous apophysis (Plate 218G).

*Female.* Unknown.

**Distribution.** Neotropical.

**Hosts.** Unknown.

**World species.** Type species only.

**Etymology.** The genus is named after Dr. Stewart B. Peck, the collector of the type series.

1. *Peckius insularis* Olmi & Virla, sp. nov.

(Plate 218)

**PLATE 218.** *Peckius insularis*. A, B. Male paratype in dorsal (A) and lateral (B) view (length 1.7 mm). C–G. Mandible (C), labial palpus (D), maxillary palpus (E, right, F, left) and genitalia of male paratype (G). Scale bar 0.09 mm for C, 0.03 mm for D, 0.23 mm for E, 0.22 mm for F, 0.08 mm for G.
**Description.** Male (Plate 218A, B). Fully winged; length 1.4–1.7 mm. Head black, except mandibles testaceous; antenna brown; mesosoma black; metasoma brown; legs testaceous-darkened. In some paratypes, head and mesosoma brown. Antenna filiform; antennal segments in following proportions: 3:6:7:9:9:8:8:7:8. Head convex, dull, granulated and weakly rugose; mandible with four irregular teeth (Plate 218C); frontal line absent; occipital carina complete; POL = 5; OL = 2; OOL = 4; OPL = 1; TL = 2; temple short, much shorter than eye (2:9). Palpal formula 5/3 (Plate 218D, E, F). Scutum dull, granulated. Notauli absent. Scutellum and metanotum shiny, weakly granulated. Propodeum dull, reticulate rugose, with areolae very small. Fore wing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (14:7); marginal cell open. Paramere in Plate 218G. Tibial spurs 1/1/2.

**Female.** Unknown.


**Hosts.** Unknown.

**Distribution.** Galapagos Islands (Ecuador).

**Etymology.** The species is named *insularis* because collected on the Galapagos Islands.

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**Species incertae sedis**

The following list includes three species whose type material is lost and whose original descriptions are unreliable, so that it is impossible to attribute them to a genus and include in a key.

1. *Anteon bifasciatum* Kieffer, 1908


*Aanteon bifasciatum* Kieffer 1907: 25.

*Callianteon bifasciatus* (Kieffer): Kieffer 1913a: 300.

*Chelogynus bifasciatus* (Kieffer): Kieffer 1914: 188.

**Type:** BELIZE: No localities, J.-D. Johnson leg. The type (only known specimen) was a female specimen originally in Baker's collection. It has not been found in the main world dryinid collections (Olmi 1984). Kieffer (1913b) proposed for this species the new genus *Callianteon*. The original description is unreliable, so that it is impossible to identify this species.

2. *Chelogynus brasiliensis* Arlé, 1935


**Type:** BRAZIL: Rio de Janeiro, Gávea, 19.II.1934, R. Arlé leg. The type (only known specimen) was a female specimen originally in Say's collection. It has not been found in the main world dryinid collections (Olmi 1984). According to Mr. Arlé (pers. comm.) the type has to be considered lost. The original description is unreliable, so that it is impossible to identify this species.

3. *Prodryinus affinis* Arlé, 1935

*Prodryinus affinis* Arlé 1935: 44; Olmi 1984: 1798.
The type (only known specimen) was a female specimen. It has not been found in the main world dryinid collections (Olmi 1984). According to Mr. Arlé (pers. comm.) the type has to be considered lost. Arlé (1935) proposed for this species the new genus Ctenodryinus. The original description is unreliable, so that it is impossible to identify this species.

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