

## Description of Two New Species of *Gonatopus* Ljungh from Argentina (Hymenoptera: Chrysoidea: Dryinidae)

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ABSTRACT: Two new species of the genus *Gonatopus* Ljungh from Argentina are described: *G. saltensis* new species, from Salta, El Quebrachal, and *G. hermosensis* new species, from Buenos Aires, Monte Hermoso.

KEY WORDS: Hymenoptera, Dryinidae, *Gonatopus*, new species, Argentina

Dryinidae (Hymenoptera: Chrysoidea) are parasitoids of leafhoppers, plant-hoppers and treehoppers (Hemiptera Auchenorrhyncha) (Guglielmino and Olmi, 1997, 2006, 2007).

*Gonatopus* Ljungh is a genus proposed in 1810 for one species, *G. formicarius* Ljungh, inhabiting Sweden. Since then about 377 more species have been described from all continents (Olmi, 1999) and the genus was revised by Olmi (1984, 1993). However, in recent years many new species were described, so that a new monograph is now considered necessary.

The species of *Gonatopus* inhabiting Argentina were studied in the last twenty five years mainly by Mangione and Virla (2004), Olmi (1984, 1986, 1991, 1998), Olmi and Virla (1993, 2004, 2006), Olmi, Virla and Fernandez (2000), Virla (1992, 1994, 1995, 1997, 1998, 2000a, 2000b, 2001, 2003, 2004), Virla and Mangione (2000) and Virla and Olmi (1994, 1998, 2001, 2007).

In 2007 we examined specimens of *Gonatopus* from Argentina collected by the authors and have found two new species described herein.

### Material and Methods

The descriptions follow the terminology used by Olmi (1984, 1994, 1999). The measurements reported are relative, except for the total length (head to abdominal tip, without the antennae), which is expressed in millimetres.

In the descriptions POL is the distance between the inner edges of the two 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.

Rearing data are abbreviated as follows: C: collection date of parasitised host; Cc: emergence date of mature dryinid larva; E: emergence date of dryinid adult.

All material studied in this paper is deposited in the following collections:

IMLA: Instituto de Zoología de la Fundación Miguel Lillo, Universidad Nacional de Tucumán, S. M. de Tucumán, Argentina.

MOLC: Massimo Olmi's collection, c/o Department of Plant Protection, University of Tuscia, Viterbo, Italy.

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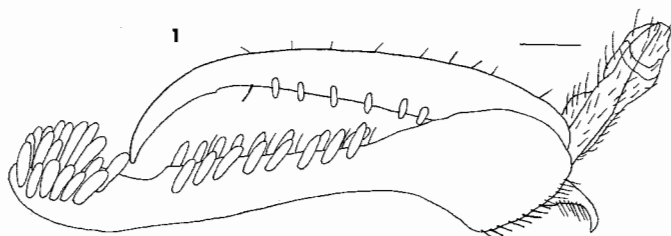


Fig. 1. *Gonatopus saltensis*: Chela of holotype (scale bar = 0.08 mm).

## Results

### *Gonatopus saltensis* Virla and Olmi, new species

(Fig. 1)

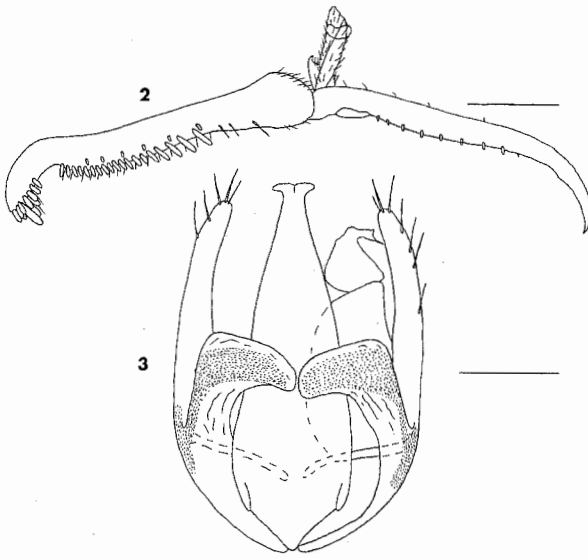
**DIAGNOSIS:** Similar to *Gonatopus orbitalis* Cameron, 1888 and *G. whartoni* Olmi, 1991. Distinguished from *G. orbitalis* by the sculpture of anterior surface of metathorax + propodeum (granulated in *G. saltensis*; without sculpture in *G. orbitalis*) and from *G. whartoni* by the different chela (in *G. whartoni* enlarged claw with a few proximal hairs, with no lamellae (Fig. 63 B in Olmi, 1991); segment 5 of fore tarsus with two rows of small lamellae (Fig. 63 B in Olmi, 1991); in *G. saltensis* enlarged claw with a long row of lamellae, in addition to 1 hair (Fig. 1); segment 5 of fore tarsus with two rows of longer lamellae (Fig. 1).

**FEMALE:** Apterous. Body length: 4.00 mm. Head brown-black, except mandibles, clypeus and the anterior region of face testaceous; Antennae brown, except segments 1–4 testaceous. Mesosoma black, except lateral margins of pronotum testaceous. Gaster brown. Legs reddish, except tarsi and fore tibiae testaceous. Antennae clavate; antennal segments in the following proportions: 11:5.5:16:11:8:7:6:6:6.5:8. Head slightly excavated, dull, strongly granulated; frontal line complete; occipital carina absent; POL = 3; OL = 3; OOL = 10; greatest diameter of posterior ocelli: 2. Maxillary palpi 6-segmented. Labial palpi 3-segmented. Pronotum shiny, crossed by a strong transverse furrow, very slightly granulated. Scutum granulated, without two lateral pointed apophyses. Scutellum dull, granulated, inclined. Metanotum short, granulated, hollow behind the scutellum. Metathorax + propodeum dull, granulated, with posterior surface of propodeum sculptured by numerous transverse striae. Meso-metapleural suture distinct and complete. Mesopleura and metapleura dull, granulated, completely transversely striate, situated on different planes because the meso-metapleural suture is large and step-shaped. Fore tarsal segments in the following proportions: 15:3:5:14:24. Enlarged claw (Fig. 1) with a small subapical tooth and 1 row of 6 lamellae, in addition to 1 hair. Segment 5 of fore tarsus (Fig. 1) with two rows of 16 lamellae; distal apex with a group of at least 18 lamellae. Tibial spurs 1, 0, 1.

**MALE:** Unknown.

**ETYMOLOGY:** The specific name derives from the Latin adjective *saltensis* (inhabiting Salta Province).

**MATERIAL EXAMINED:** HOLOTYPE: Female, **ARGENTINA:** Salta Province: El Quebrachal, 25°15.35'S 64°01.50'W, 6 January 1999, wild grasses, E. Virla coll. (IMLA).



Figs. 2-3. *Gonatopus hermosensis*: 2. Chela of holotype (scale bar = 0.18 mm); 3. Male genitalia (left volsellae removed) (scale bar = 0.08 mm).

***Gonatopus hermosensis* Virla and Olmi, new species**

(Figs. 2 and 3)

**DIAGNOSIS:** The female is similar to that of *Gonatopus agilis* Olmi, 1984. Distinguished by the sculpture of anterior surface of metathorax + propodeum (granulated in *G. hermosensis*; without sculpture in *G. agilis*). The male is similar to those of *G. zolnerowichi* (Olmi, 1991), *G. caraibicus* (Olmi, 1986) and *G. moyaraygozai* Olmi, 1991. Distinguished from the male of *G. zolnerowichi* by the complete notauli (incomplete in *G. zolnerowichi*) and from *G. caraibicus* and *G. moyaraygozai* by the sculpture of propodeum (at least partly granulated or reticulate rugose in *G. caraibicus* and *G. moyaraygozai*; smooth and irregularly striate in *G. hermosensis*). In addition, the male genitalia of *G. hermosensis* (Fig. 2) are completely different from those of *G. zolnerowichi* (Fig. 21 in Virla and Olmi, 2007), *G. caraibicus* (Fig. 32 in Virla and Olmi, 2007) and *G. moyaraygozai* (Fig. 4 in Virla and Olmi, 2007).

**FEMALE:** Apterous. Body length: 2.87–3.25 mm (holotype 3.25 mm). Head black, except anterior third of face, clypeus and mandibles testaceous. Antennae brown, except segments 1–2 testaceous. Mesosoma black. Gaster brown-black. Fore legs brown, except distal extremities of coxae, part of trochanters, tarsal segment 4 and chelae testaceous. Mid and hind legs brown, except part of trochanters, stalks of femora, tibiae and tarsi testaceous. Antennae clavate; antennal segments in the 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 without sculpture; frontal line almost complete, partly missing in the anterior third of the face; occipital carina absent; temples distinct; POL = 1; OL = 1; OOL = 8; greatest diameter of posterior ocelli: 2. Maxillary palpi 6-segmented. Labial palpi 3-segmented. Pronotum dull, hairy, crossed by a strong transverse impression, strongly granulated. Scutum dull, strongly granulated, with two strong lateral points situated

on the sides of the scutellum. Scutellum dull, granulated, flat. Stalk between prothorax and metathorax + propodeum very slender, more than twice as long as broad (16:7). Metanotum dull, flat, strongly granulated, slightly hollow behind the scutellum. Metathorax + propodeum dull, hairy, completely strongly granulated, with posterior surface transversely striate. Mesopleura and metapleura dull, strongly granulated, not transversely striate. Meso-metapleural suture distinct and complete. Mesopleura and metapleura situated on different planes, because the meso-metapleural suture is very broad and step-shaped. Fore tarsal segments in the following proportions: 17:3:4:20:27. Enlarged claw (Fig. 2) with a very small subdistal tooth and a row of 8–9 peg-like hairs (8 in the holotype) + 1 hair. Segment 5 of front tarsus (Fig. 2) with two rows of 19 long lamellae + 6 short lamellae; distal apex with a group of at least 10–12 lamellae. Tibial spurs 1, 0, 1.

**MALE:** Fully winged. Body length: 2.25 mm. Head black, except mandibles testaceous. Antennae brown, except segment 2 testaceous. Mesosoma black. Gaster brown. Fore legs brown, except trochanters, stalks of femora, tibiae and tarsal segments 1–4 testaceous-whitish. Mid and hind legs brown, except trochanters, stalks of femora, extremities of tibiae and tarsal segments 1–4 testaceous-whitish. Antennae filiform; antennal segment 3 less than twice as long as broad (5:3); antennal segments in the following proportions: 4.5:4:5:5:5:5:5:4.5:4.5:8. Head shiny, slightly striate and punctate, without sculpture among the punctures; vertex laterally with two shiny and smooth areas situated between the posterior ocelli and the eyes (these areas are rounded by slight keels); frontal line complete; occipital carina absent; POL = 5; OL = 2; OOL = 3; greatest diameter of posterior ocelli: 3. Maxillary palpi 6-segmented. Labial palpi 3-segmented. Scutum dull, granulated. Notauli complete, posteriorly almost joint; minimum distance between notauli shorter than greatest diameter of posterior ocelli (2:3). Scutellum and metanotum shiny, smooth, without sculpture. Propodeum shiny, partly without sculpture and partly slightly irregularly striate. Forewing hyaline, without dark transverse bands; marginal cell open; stigmal vein regularly curved. Dorsal process of the parameres (Fig. 3) short and transverse, with proximal part slender and distal apex broadened. Tibial spurs 1, 1, 2.

**ETYMOLOGY:** The specific name derives from the Latin adjective *hermosensis* (inhabiting Monte Hermoso).

**MATERIAL EXAMINED:** HOLOTYPE: Female, **ARGENTINA:** Buenos Aires Province: Monte Hermoso, 38°59.09'S 61°17.15'W, on dunes, C. 7 December 2007, Cc. 15 December 2007, E. 7 January 2008, M. Olmi reared from a nymph of *Coelidia* Germar (Cicadellidae Coelidiinae) (IMLA). PARATYPES (MOLC): same locality label and host: 1 male, C. 7 December 2007, Cc. 11 December 2007, E. 10 January 2008; 2 females, C. 7 December 2007, Cc. 15 December 2007, E. 7 January 2008; 1 female, C. 7 December 2007, Cc. 15 December 2007, E. 10 January 2008.

**REMARKS:** the opposite sexes of *G. hermosensis* were associated because the only reared individual male mated with the female specimen emerged on January 10, 2008.

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