



Biting Midges of the *Dasyhelea cincta* group from Patagonia (Diptera, Ceratopogonidae)

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Abstract

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Key Words

New species

New synonymy

New records

This revision of the *Dasyhelea cincta* group of biting midges in Patagonia recognizes two previously described species and a new species, *Dasyhelea filiductus* Díaz & Spinelli, from Argentinean Patagonia. Descriptions and illustrations are provided for all species as well as the pupa of *D. cincta* (Coquillett). *Dasyhelea albopicta* Ingram & Macfie is recognized as a junior synonym of *D. cincta* (Coquillett) and *D. mediomunda* Minaya is recorded for the first time from Argentina.

Introduction

Biting midges of the genus *Dasyhelea* Kieffer is a large and complex group of Ceratopogonidae with diverse morphology and biology and occurs worldwide in a variety of habitats (Waugh & Wirth 1976). Taxonomically, the recognition of subgenera and/or species groups is still incipient and generally have been applied sporadically only to various regional fauna. Wirth (1952) first recognized 4 species groups in the *Dasyhelea* of North America, the *cincta*, *grisea*, *mutabilis* and *traversae* groups. Waugh & Wirth (1976) revised the *Dasyhelea* of the eastern United States north of Florida, described 9 new species and provided diagnoses for three of Wirth's species groups, but included his *traversae* group within the *grisea* group and proposed the *leptobranchia* group. Wirth & Waugh (1976) described five new species from northeastern Brazil that belong to their new *borgmeieri* group which is virtually identical to the *mutabilis* group. Finally, Grogan & Wieners (2006) proposed the *brevicornis* group for two very small species, one Nearctic (*D. brevicornis* Waugh & Wirth) and one Neotropical (*D. morrisoni* Grogan & Wieners).

Spinelli & Wirth (1984) published a revision of the *cincta* group in the Neotropics which included 11 species but not *D. paracincta* Wirth from the Galapagos Is-

lands. The recently published catalogue of Neotropical Ceratopogonidae (Borkent & Spinelli 2007) included all 12 of these species except for *D. saltensis* Spinelli & Wirth, which inhabits the Nearctic portion of northern Baja California, Mexico. Only two species of the *cincta* group, *D. albopicta* Ingram & Macfie and *D. cincta* (Coquillett) are known to inhabit Patagonia, the austral most area of South America.

During the past 15 years, several collecting trips to Argentinean and Chilean Patagonia have yielded large numbers of specimens of *Dasyhelea* that are now housed in the Museo de La Plata, Argentina. This article presents a revision of the *cincta* group from this region and provides description and illustrations of two previously described species as well as one new species. In addition, *D. albopicta* is recognized as a junior synonym of *D. cincta*.

Methods

All specimens were slide mounted in Canada balsam, examined, measured and drawn using a binocular compound microscope with attached camera lucida. Terms for structures of adults follow those in the Manual of Nearctic Diptera (McAlpine et al. 1981), and those proposed by Nevill & Dyce (1994) for pupae. We have followed the diagnosis of the *cincta* group by Waugh & Wirth (1976).

During this investigation we studied the types of *Dasyhelea albopicta* and *D. penthesileae* Macfie, in the Natural History Museum,

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London (BMNH), as well as the holotype of *D. cincta* and paratypes of *D. mediomunda* from the National Museum of Natural History, Washington, D.C. (USNM). The holotype of our new species is deposited in the collection of the Division Entomología, Museo de La Plata, Argentina (MLPA), and paratypes in the BMNH.

Results

Dasyhelea cincta (Coquillett)

Figures 1–16

Ceratopogon cinctus Coquillett, 1901: 605 (female; USA, Florida).
Culicoides cinctus (Coquillett); Kieffer, 1906: 54 (comb.).

Dasyhelea penthesileae Macfie, 1935: 55 (female, Brazil); Spinelli, 1983: 407 (male, female redescr., pupa; Argentina record).
Dasyhelea cincta (Coquillett); Johannsen, 1943: 788 (comb.); Wirth, 1952: 150 (male, female redescr.; California record); Wirth & Williams, 1957: 9 (notes; Bermudas record); Waugh & Wirth, 1976: 222 (redescr.; distrib.); Spinelli & Wirth, 1984: 597 (syn.: *D. penthesileae*; redescr.); Spinelli & Wirth, 1993: 29 (in list; Argentina); Borkent & Wirth, 1997: 53 (World catalogue); Spinelli, 1998: 325 (in list; Argentina); Borkent & Spinelli, 2000: 25 (catalogue south USA); Borkent & Spinelli, 2007: 60 (Neotropical catalogue).

Dasyhelea albopicta Ingram & Macfie, 1931: 187 (male, female; Argentina); Wirth, 1974: 16 (Neotropical catalogue); Spinelli & Wirth, 1984: 591 (revision *cincta* group); Spinelli & Wirth, 1993: 29 (in list; Argentina); Borkent & Wirth, 1997: 51 (World catalogue); Spinelli, 1998: 325 (in list; Argentina); Borkent & Spinelli, 2000: 24 (catalogue south USA); Borkent & Spinelli, 2007: 59 (Neotropical catalogue). **Syn. n.**

Diagnosis. Only species of the *cincta* group in Patagonia distinguished by the following combination of characters: male with apical margin of hyaline envelope not notched; posterolateral arms of aedeagus slender, with blunt apex, nearly abutting distal margin of hyaline envelope. Female with legs dark brown, except tarsomeres 1–4 whitish, 5 slightly darkened; subgenital plate short, rectangular; spermathecae with short oblique necks. Pupa with respiratory horn wrinkled on its entire length, with 8–9 apical and 14–16 lateral spiracles.

Male. Similar to female with the following notable sexual differences. Antennal flagellum as in figure 1. Palpus (Fig. 2) with third segment bearing scattered sensilla; PR 3.44 (2.88–4.11, n = 10); wing (Fig. 3) length 1.54 (1.14–1.95, n = 10) mm, width 0.47 (0.36–0.60, n = 10) mm, CR 0.49 (0.46–0.54, n = 10). Genitalia (Fig. 4): tergite 9 tapering slightly distally, extending to near level of apex of the gonocoxite, apicolateral process very small, short, with apical seta; cercus with 3–4 conspicuous setae; sternite 9 short, 1/3 as long as wide, apical margin not notched. Gonocoxite stout, 2.1 times longer than greatest width, with short basal anteromedian process; gonostylus 0.8 the length of gonocoxite, broad at base, progressively tapering distally, tip pointed. Parameres (Fig. 5) with curved basal apodeme; basal arm slender, slightly curved, narrowly fused with posteromedian projection, latter progressively tapering to sharp tip. Aedeagus with basal arch extending 0.5 of total length; hyaline envelope reaching

midlength of gonocoxite midlength; basal arm slender; distal portion with posterolateral arm nearly abutting the distal margin of hyaline envelope, apex blunt.

Female. Head dark brown. Eyes contiguous by width of 4–5 ommatidia. Antennal flagellum (Fig. 6) dark brown; AR 1.11 (1.02–1.27, n = 10). Palpus (Fig. 7) dark brown; third segment with 2–3 subbasal capitate sensillae; PR 3.22 (2.87–3.57, n = 10).

Thorax. Scutum dark brown; scutellum pale brown, midportion darker, with 7–9 setae. Legs dark brown, tarsomeres 1–4 whitish, tarsomere 5 infuscated; hind tibial comb with 5 spines; prothoracic TR 1.87 (1.72–2.00, n = 9), mesothoracic TR 1.81 (1.70–2.00, n = 10), metathoracic TR 1.57 (1.37–1.78, n = 10). Wing (Fig. 8) length 1.37 (1.11–1.74, n = 10) mm, width 0.53 (0.45–0.66, n = 10) mm, CR 0.52 (0.51–0.56, n = 10); membrane hyaline, densely covered with macrotrichiae; cubital fork at level of anterior portion of first radial cell. Halter pale brown.

Abdomen. Dark brown. Subgenital plate (Fig. 9) rectangular, low; posterolateral arms slender, curved. Two ovoid spermathecae (Fig. 10), subequal, with short recurved necks, measuring 0.038 by 0.034 mm, and 0.036 by 0.034 mm, necks 0.010 mm; third rudimentary present.

Pupa. Exuviae pale brown. Operculum missing in examined material. Thoracic sensilla as follows: anterodorsal tubercle (ad) raised, rounded, without seta (Figs 11, 14); two dorsolateral tubercles (dl) (Figs 11, 14), raised, each with rounded base, with 2 setae, apical one thin, medium-sized, subbasal one minute; dorsal tubercles (d) (Fig. 12), as follows: i, iii with minute seta, ii pore. Respiratory horn (Figs 11, 14) slender, pale brown, except at base, apical portion dark brown, integument wrinkled on its entire length; 8–9 apical spiracles, 14–16 lateral ones; pedicel short (Figs 11, 14), smooth, M-shaped; P 0.03 mm, RH 0.67 mm, P/H = 0.04. Two ventromedian sensillae (vm), one minute seta, other pore (Fig. 13); two ventrolateral setae (vl), anterior one short, thin seta, posterior one pore (Fig. 13). Abdominal segments with anterolateral spicules. Fourth abdominal segment (Fig. 15) with tubercles as follows: dorsal anterosubmarginal tubercle absent; 4 dorsal posteromarginal tubercle (dpm), each with flattened base, i, iii pore, ii with medium-sized, thin seta, iv with minute seta; 2 lateral posteromarginal tubercle (lpm), each with triangular base, i with medium-sized, thin seta, ii with minute seta; lateral anteromarginal tubercle (lasm) with slender triangular base, without seta; 3 ventral posteromarginal tubercle (vpm), each with flattened base, i pore, ii with minute seta, iii with medium-sized, thin seta. Female caudal segment (Fig. 16) length 0.24 mm, width 0.21 mm, dorsal surface covered with anterolateral spicules; posterolateral process with triangular, broad base, slender, directed laterad; posterior process with quadrangular base, bearing short, thin seta.

Distribution. From USA (California to New York, south to Florida) south through Central and South America to Santa Cruz province, Argentina.

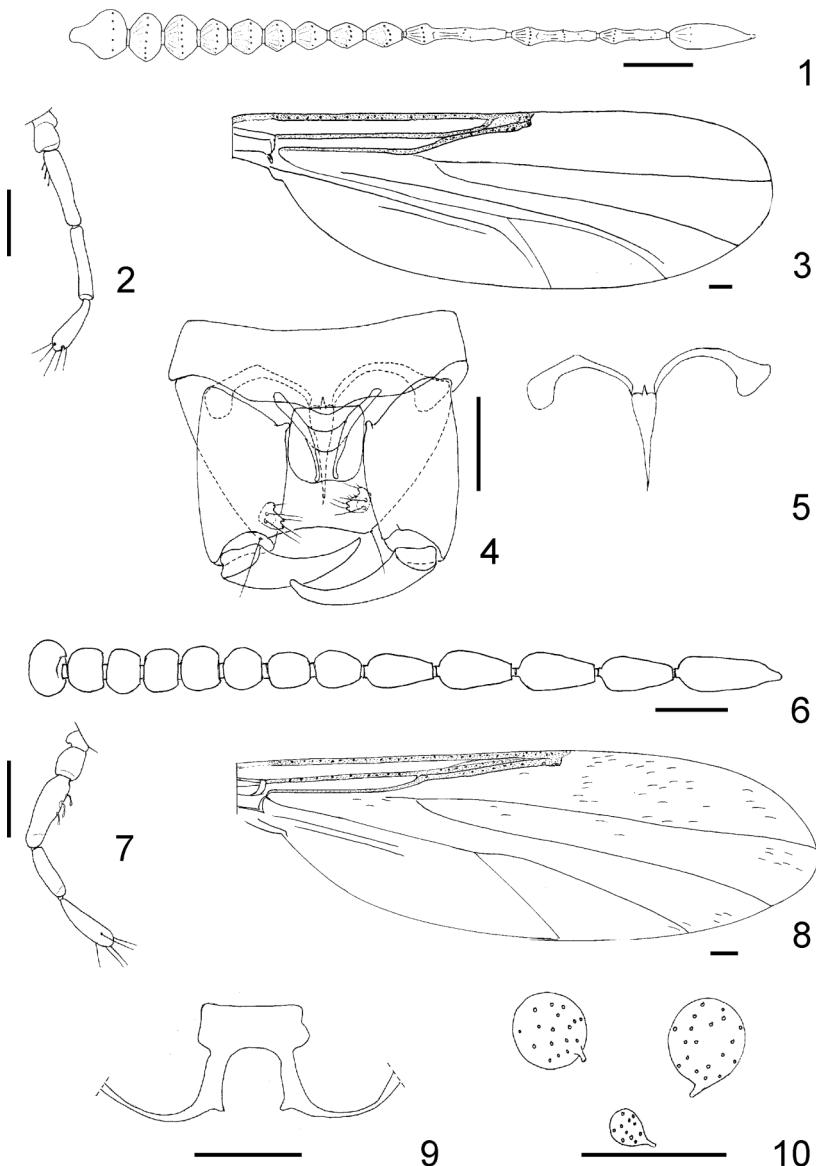
Type of *Dasyhelea cincta*. Holotype female, USA, Florida, Lake Worth, 1901, A. T. Slosson (Type number 5475, USNM, examined).

Type of *D. penthesileae*. Holotype female, Brasil, Est. Piaui, Tutoia, IV/V-1934, E. M. Lourie (In BMNH, examined).

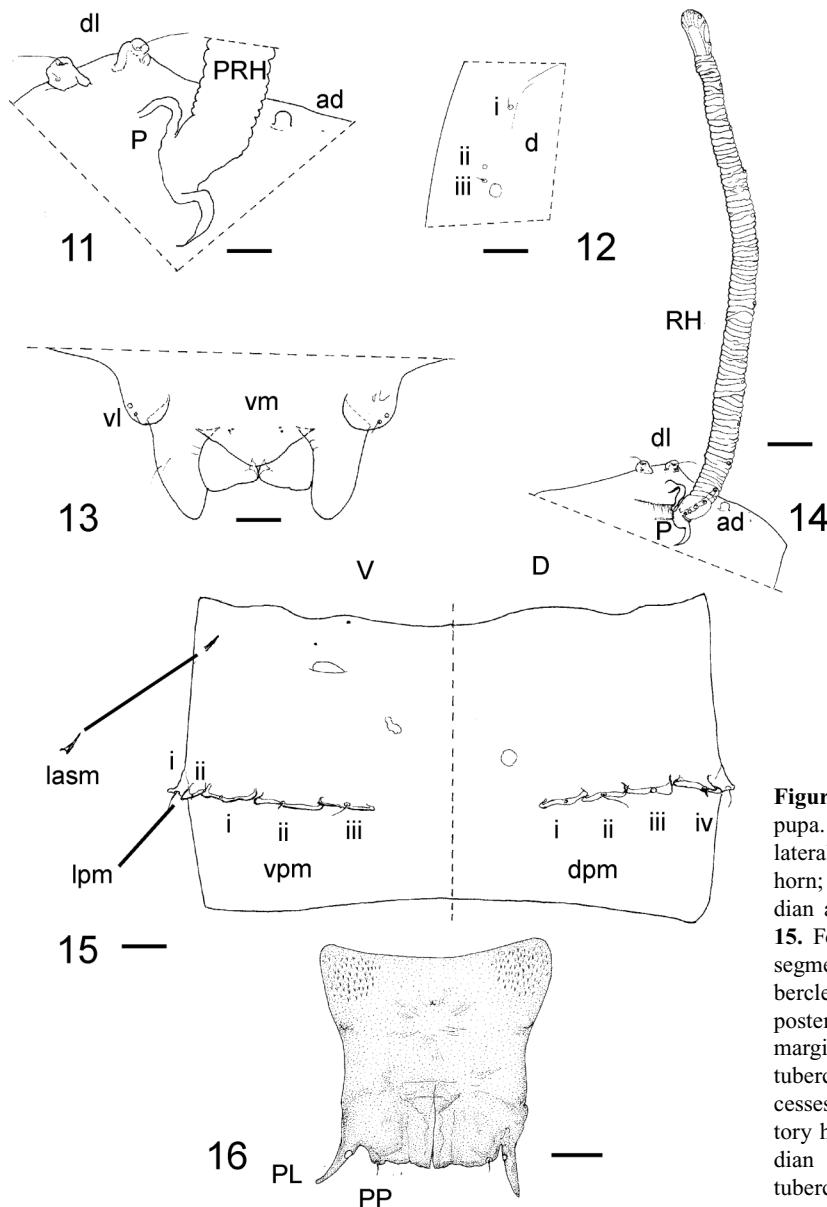
Type of *D. albopicta*. Holotype male, Argentina, prov. Río Negro, lago Gutierrez, 3/14-XII-1926, F. & M. Edwards (In BMNH, examined).

Other specimens examined. Argentina, Buenos Aires prov., Berisso, Los Talas, 20-XII-1981, E. G. Balseiro, 1 female (collected as pupa, reared in laboratory). Neuquen prov., San Martín de los Andes, 15-II-1982, M. Gentili, 1 female; arroyo Pedregoso y ruta provincial N° 67 (5 km O El Portezuelo), 3-II-1986, G. Spinelli, 1 male; lago Aluminé, 22-XII-1996/3-I-1997, G. Spinelli, 3 males, Malaise; same data except 19-I/2-II-1997, G. Spinelli, 1 male. Río Negro prov., Bariloche, 3/14-XII-1926, F. & M. Edwards, 1 male, 1 female (paratypes of *D. albopicta*, NHM); Parque Nacional "Nahuel Huapi", arroyo Blanco y ruta a Cascada de Los Alerces, 24-I-1986, G. Spinelli, 1 male, 1 female; arroyo Blanco y ruta a Tronador, 31-I-1986, G. Spinelli, 5 males, 5 females; Parque Nacional "Nahuel Huapi", río Manso, 1-II-1986,

G. Spinelli, 6 males, 5 females; Parque Nacional "Nahuel Huapi", río Manso medio, La Cantera, 41°21'16" S, 71°42'27.3" W, 764 m, 11/15-XII/I-06/2007, Garré-Montes de Oca, 1 male, 1 female, Malaise; Parque Nacional "Nahuel Huapi", río Manso superior, 41°14'8.1" S, 71°46'58.5" W, 854 m, 7-II/2-III-2007, Garré-Montes de Oca, 1 male, 1 female, Malaise; Parque Nacional "Nahuel Huapi", ruta a Cascada de Los Alerces, 24-I-1988, G. Spinelli, 1 male, 4 females, red; Parque Nacional "Nahuel Huapi", 6 km S Cascada de Los Alerces, 14-II-1989, G. Spinelli, 1 male, 1 female, red; Parque Nacional "Nahuel Huapi", 6.5 km E Cascada de Los Alerces, 14-II-1989, G. Spinelli, 4 males, 3 females; Parque Nacional "Nahuel Huapi", arroyo Blanco, 28-I-1988, G. Spinelli, 1 female; Parque Nacional "Nahuel Huapi", lago Villarino, 5-XII-1992, G. Spinelli, 1 male; Parque Nacional "Nahuel Huapi", arroyo Ñireco (Complejo Challhuaco), 41°11'51.9" S, 71°19'40.5" W, 962 m, 23-I/18-II-2007, Garré-Montes de Oca, 1 female, Malaise; same data except 13/28-II-2007, Garré-Montes de Oca, 1 female; Parque Nacional "Nahuel Huapi", cerro Catedral, Laguna Toncke, 20-II-2007, Cazorla-Donato, 1 male, 1 female; Paraje Chasico, Vertiente, 41°08'28.0" S, 67°35'43.9" W, 961 m, 6-XII-2006, G. Spinelli, 1 male, red; meseta de Somuncurá, estancia "El Rincón", 27-II-1995, G. Spinelli, 2 females, red; meseta de Somuncurá, Chiquaquil, 27-II-1995, G. Spinelli, 1 female, red; lago Steffen, 1-XII-1999, P. Marino, 1 male, 1 female, red; Argentina, Río Negro prov.,



Figures 1–10. *Dasyhelea cincta* (Coquillett), adult. **1–5.** Male; **6–10.** Female. **1, 6.** Flagellum; **2, 7.** Palpus; **3, 8.** Wing; **4.** Genitalia; **5.** Parameres; **9.** Subgenital plate; **10.** Spermathecae (scale bars = 0.05 mm).



Figures 11–16. *Dasyhelea cincta* (Coquillett), pupa. **11.** Detail of anterodorsal tubercle and dorsal lateral tubercle, pedicel and base of respiratory horn; **12.** Detail of dorsal tubercles; **13.** Ventromedian and ventrolateral setae; **14.** Respiratory horn; **15.** Fourth abdominal segment; **16.** Female caudal segment. **ad** – anterodorsal tubercle; **d** – dorsal tubercles; **dl** – dorsal lateral tubercle; **dpm** – dorsal posteromarginal tubercle; **lasm** – lateral anterosubmarginal tubercle; **lpm** – lateral posteromarginal tubercle; **P** – pedicel; **PL** – posterolateral processes; **PP** – posterior processes; **PRH** – respiratory horn; **vl** – ventrolateral setae; **vm** – ventromedian setae; **vpm** – ventral posteromarginal tubercle; (scale bars = 0.05 mm).

Parque Nacional Nahuel Huapi, La Cantera, 41°21'16" S, 71°42'27.3" W, 764 m, 15-I-2007, Garré-M. de Oca, 1 male, 3 females, red; same data except 15-I/7-II-2007, Garré-M. de Oca, 1 male, 3 females, Malaise; same data except 11/30-XII-2007, Garré-M. de Oca, 4 females; Parque Nacional Nahuel Huapi, Mallín la Hieladera, 41°05'13" S, 71°48'26" W, 769 m, 14-XII-2006/8-I-2007, Garré-M. de Oca, 1 female, Malaise. Chubut prov., meseta de Sierra Cuadrada, estancia "Don Eduardo", 1/2-XII-1996, G. Spinelli, 1 male, 2 females, Malaise. Santa Cruz prov., lago del Desierto, 9-XII-1996, G. Spinelli, 2 males.

Discussion. *Dasyhelea cincta* is similar to the Nearctic species *D. pseudocincta* Waugh & Wirth. The adult male of *D. pseudocincta* differs by the rounded distal margin of tergite 9, and by the posterolateral arms of the aedeagus which are bifurcated distally. The anterior margin of the female subgenital plate of *D. pseudocincta* is slightly concave, and the pupal respiratory horn bears 15 apical spiracles and 17 lateral ones.

Characters for distinguishing *D. cincta* from *D. filiductus* Díaz & Spinelli sp. n., may be found in the discussion under the later species.

The synonymy of *D. albopicta* under *D. cincta* is based on examination of the types of both species. The illustration of the male genitalia accompanying the original description of *D. albopicta* depicts the aedeagus as slightly produced beyond the hyaline envelope. However, our examination of the male paratype mounted in Canada balsam revealed that this is not the case in this specimen. Spinelli & Wirth (1984) considered the anterolateral excavation of the hyaline envelope of *D. albopicta* as the most important difference with *D. cincta*, but this is due to the inclined position of this slide-mounted specimen. For this reason and also because all other relevant characters of both species are identical, *D. albopicta* is herein recognized as a junior synonym of *D. cincta* (new synonymy).

Dasyhelea filiductus Díaz & Spinelli sp. n.

Figures 17–26

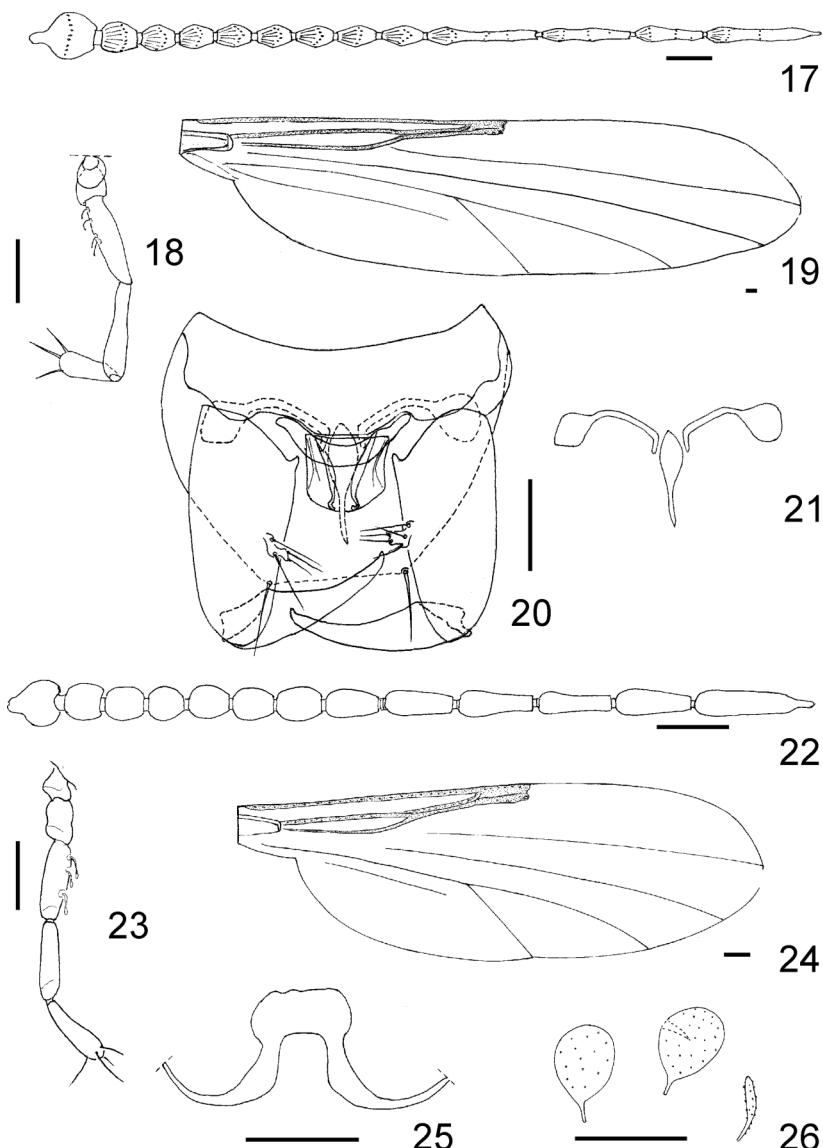
Diagnosis. Only species of the *cincta* group in Patagonia distinguished by the following combination of characters: male with hyaline envelope of aedeagus with lateral wrinkles, parameres not completely fused with the posteromedian projection, and posterolateral arms of aedeagus slender, their tips slightly recurved mesad. Female with very long spermathecal necks.

Male. Similar to female with the following notable sexual differences. Antennal flagellum as in figure 17. Palpus (Fig. 18) with third segment bearing scattered sensilla; PR 3.74 (3.14–4.16, $n = 5$); wing (Fig. 19) length 1.57 (1.38–1.74, $n = 5$) mm, width 0.46 (0.42–0.51, $n = 5$) mm, CR 0.48 (0.47–0.51, $n = 5$). Genitalia (Fig. 20): tergite 9 tapering gradually distally, short, not reaching level of apex of gonocoxite, apicolateral process very small, slender, with apical seta; cercus with 3–4 conspicuous setae; sternite 9 0.2 length of greatest width. Gonocoxite stout, 2.1 times longer than greatest

width, with short anteromedian process; gonostylus 0.8 times longer than gonocoxite, broad at base, nearly straight, tip pointed. Parameres (Fig. 21) with rounded basal apodeme; basal arm slender, slightly curved, incompletely fused with posteromedian projection, which is ovoid anteriorly, stout, well sclerotized, abruptly tapering at midlength, tip hyaline, blunt. Aedeagus with basal arch low, extending to 0.3 of total length; hyaline envelope extending distally to almost reaching midlength of gonocoxite midlength, with lateral marginal longitudinal wrinkles at both sides, apical margin slightly convex; basal arm stout, slightly recurved; posterolateral arm clearly abutting distal margin of hyaline envelope, apex blunt, slightly curved mesad.

Female. Head dark brown. Eyes contiguous by width of 6 ommatidia. Antennal flagellum (Fig. 22) dark brown; AR 1.25. Palpus (Fig. 23) dark brown; third segment with 3 subbasal capitate sensillae; PR 2.99 (2.85–3.14, $n = 2$).

Thorax. Scutum dark brown, scutellum pale brown, with 8–10 setae. Legs pale brown, knees darker; hind



Figures 17–26. *Dasyhelea filiductus* Díaz & Spinelli sp. n. from Patagonia, Argentina, adult. 17–21. Holotype male; 22–26. Allotype female. 17, 22. Flagellum; 18, 23. Palpus; 19, 24. Wing; 20. Genitalia; 21. Parameres; 25. Subgenital plate; 26. Spermathecae (scale bars = 0.05 mm).

tibial comb with 6 spines; prothoracic TR 1.84 (1.69–2.00, n = 2), mesothoracic TR 1.78 (1.64–1.92, n = 2), metathoracic TR 1.72 (1.64–1.80, n = 10). Wing (Fig. 24) length 1.35 (1.29–1.41, n = 2) mm, width 0.52 (0.51–0.54, n = 2) mm, CR 0.51 (n = 2); membrane hyaline, densely covered with macrotrichiae; cubital fork at level of midlength of first radial cell. Halter pale brown.

Abdomen. Dark brown. Subgenital plate (Fig. 25) rectangular moderately long, distal margin roundly irregular; posterolateral arms stout, curved. Two subequal sized pyriform spermathecae (Fig. 26) with very long necks, measuring 0.060 by 0.048 mm, and 0.060 by 0.046 mm, necks 0.016 mm; plus an elongate rudimentary third spermatheca.

Distribution. Argentina, in steppes of Chubut prov., and *Nothofagus* forest of Río Negro prov.

Types. Holotype male, allotype female, Argentina, Chubut prov., meseta Sierra Cuadrada, estancia “Don Eduardo”, 1/2-XII-1996, G. Spinelli, Malaise. Paratypes, 6 males, 1 female, as follows: same data as holotype: 2 males, 1 female; same data except 1-XII-1996, 2 males, luz; Río Negro prov., Parque Nacional “Nahuel Huapi”, río Manso superior, 41°14'8.1'' S, 71°46'58.52'' W, 845 m, 7-II/2-III-2007, Garré-Montes de Oca, 2 males, Malaise.

Derivation of specific epithet. The name of this species refers to the elongate, slender necks of the spermathecae.

Discussion: *Dasyhelea filiductus* is easily distinguished from the other Patagonian species in the *cincta* group by the long, slender necks of the spermathecae. The male is somewhat similar to *D. cincta*, but in this species the hyaline envelope lacks lateral wrinkles and its distal margin is slightly convex, the basal arms of the parameres are not completely fused to the posteromedian projection, and the tips of the posterolateral arms of the aedeagus are recurved.

***Dasyhelea mediomunda* Minaya**

Figures 27–36

Dasyhelea mediomunda Minaya, 1978: 79 (male, female, pupa, Perú); Spinelli & Wirth, 1984: 604 (revision *cincta* group; record from Chile); Borkent & Wirth, 1997: 56 (World catalogue); Borkent & Spinelli, 2000: 25 (in catalogue south of USA); Borkent & Spinelli, 2007: 60 (Neotropical catalogue).

Diagnosis: Only species of the *cincta* group in Patagonia distinguished by the following combination of characters: male with the apical margin of the hyaline envelope deeply notched. Female with subgenital plate broad and the anterior margin slightly concave. Pupa yellowish; respiratory horn with 5 apical and 24 lateral spiracles.

Male. Similar to female with the following notable sexual differences. Antennal flagellum as in figure 27. Palpus (Fig. 28) with third segment bearing scattered sensilla; PR 3.78 (3.50–4.00, n = 3); wing (Fig. 29) length 1.74 (1.62–1.83, n = 4) mm, width 0.54 (0.48–0.60,

n = 4) mm, CR 0.50 (n = 4). Genitalia (Fig. 30): tergite 9 tapering, rounded distally, not extending to apex of gonocoxite, apicolateral process very small, with apical seta; cercus with 3–4 setae; sternite 9 0.2 the length of greatest width. Gonocoxite stout, 1.7 times longer than greatest width, with blunt anteromedian process; gonostyli 0.8 length of gonocoxite, broad at base, nearly straight, tip curved, pointed. Parameres (Fig. 31) with elongate basal apodeme; basal arm slender, slightly curved, not fused to posteromedian projection which progressively tapers distally to sharp tip. Aedeagus with high basal arch extending 0.6 of total length; hyaline envelope reaching gonocoxite midlength, apical margin deeply notched; basal arm stout, straight, apex slightly recurved; posterolateral arm short, not abutting distal margin of hyaline envelope, apex blunt, recurved ventromesally.

Female. Head dark brown. Eyes contiguous by width of 4–5 ommatidia. Antennal flagellum (Fig. 32) dark brown; AR 1.14 (1.05–1.25, n = 9). Palpus (Fig. 33) pale brown; third segment with 3–4 subbasal capitate sensillae; PR 3.49 (3.28–4.00, n = 10).

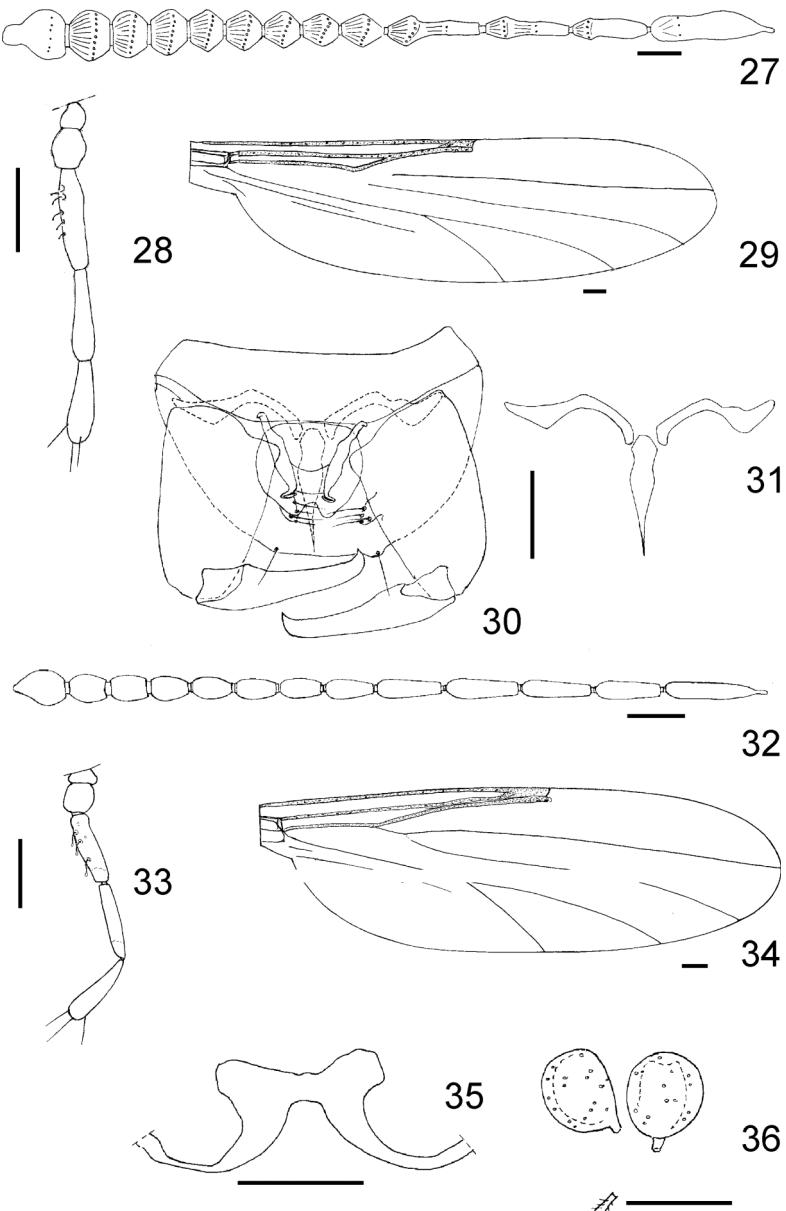
Thorax. Scutum dark brown; scutellum pale brown, midportion darker, with 8–10 setae. Legs pale brown, apex of femora, base of tibiae dark brown; hind tibial comb with 7 spines; prothoracic TR 1.73 (1.61–2.00, n = 9), mesothoracic TR 1.75 (1.56–1.93, n = 9), metathoracic TR 1.41 (1.31–1.47, n = 9). Wing (Fig. 34) length 1.47 (1.23–1.86, n = 9) mm, width 0.57 (0.48–0.69, n = 9) mm, CR 0.51 (0.48–0.54, n = 9); membrane hyaline, densely covered with macrotrichiae; vein M₂ obsolete at midportion; cubital fork considerably proximad of first radial cell. Halter pale brown, apical portion of knob whitish.

Abdomen. Dark brown. Subgenital plate (Fig. 35) somewhat rectangular, broad, anterior margin slightly concave; posterolateral arms stout, curved. Two ovoid spermathecae (Fig. 36), with short straight necks, measuring 0.040 by 0.038 mm, and 0.040 by 0.036 mm, necks 0.006 mm; plus a third very small rudimentary spermatheca.

Distribution. Argentina (Neuquén, Río Negro and Chubut), Perú (Lima), Chile (Valparaíso, Nuble).

Types. Holotype male, Perú, Lima, Laguna “Medio Mundo” 10°55' S, 77°41' W, 13-V-1976, G. Minaya, (MJP).

Specimens examined. Argentina, Neuquén prov., arroyo Pedregoso y ruta provincial N° 67 (5 km O, El Portezuelo), 3-II-1986, G. Spinelli, 1 female; lago Aluminé, 22-XII-1996/3-I-1997, G. Spinelli, 1 male, Malaise; same date except 19-I/2-II-1997, G. Spinelli, 1 female, Malaise; same date except 4-I/18-I-1997, D. Podestá, 1 female, Malaise; 25 km E Zapala, 23-XII-1984, 1 female, laguna Epulaufquén, 22-II-2001, G. Spinelli, 2 females, red; lago Ramos Mexia, 5-II-1984, F. Kaisin, 2 females. Río Negro prov., Parque Nacional “Nahuel Huapi”, lago Villarino, 5-XII-1992, G. Spinelli, 1 male; Parque Nacional “Nahuel Huapi”, arroyo Blanco, 28-I-1988, G. Spinelli, 2 females; Parque Nacional “Nahuel Huapi”, arroyo Blanco y ruta Tronador, 31-I-1986, 2 females; Parque Nacional “Nahuel Huapi”, ruta a Cascada de Los Alerces, 24-I-1988, G. Spinelli, 1 female, red; Parque Nacional “Nahuel Huapi”, río Manso, 1-II-1986, G. Spinelli, 5 females; Parque Na-



Figures 27–36. *Dasyhelea mediomunda* Minaya, adult. 27–31. Male; 32–36. Female. 27, 32. Flagellum; 28, 33. Palpus; 29, 34. Wing; 30. Genitalia; 31. Parameres; 35. Subgenital plate; 36. Spermathecae (scale bars = 0.05 mm).

cional “Nahuel Huapi”, cerro Catedral, laguna Toncke, 20-II-2007, Cazorla-Donato, 2 males, 1 female; General Conesa, XII-1993, G. Spinelli, 2 males. Chubut prov., Gaiman, X-2003, J. Williams, 4 males, luz; same data except 7-I/7-II-2005, G. Cheli, 1 male, 1 female, luz; meseta de Sierra Cuadrada, estancia “Don Eduardo”, 1-XII-1996, G. Spinelli, 1 male, 1 female, luz; same data except 1/2-XII-1996, G. Spinelli, 3 females, Malaise.

Discussion. Adults of *D. mediomunda* are similar to those of *D. australis* Wirth, a species inhabiting the Chilean island of Juan Fernández in the Pacific Ocean. However, the male of *D. australis* differs by the ninth sternite without apicolateal processes, the very shallow distal notch of the hyaline envelope, and parameres with slender apodemes. The female differs by the dark brown legs, ovoid spermathecae, and shorter subgenital plate, represented by a narrow transverse sclerotized band with slender posterolateral arms.

The pupa of *D. mediomunda* is similar to those of *D. cincta*, but the respiratory horn bears 5 apical spiracles and 24 lateral ones (8–9 and 14–16 in *D. cincta*).

This is the first record of *D. mediomunda* from Argentina.

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