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# New species of Dryinidae from Colombia

(Insecta, Hymenoptera, Chrysidoidea)

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Seven new species of Dryinidae from Colombia are described: *Deinodryinus iguaquensis*, *D. multicolor*, *Anteon iguaquense*, *Dryinus tuparrensis*, *D. planadensis*, *D. cerrensis*, and *Gonatopus quindiensis*.

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#### Introduction

The Dryinidae are parasitoids of leafhoppers, planthoppers and treehoppers (Homoptera Auchenorrhyncha) (Guglielmino & Olmi 1997, Olmi 1984, 1994, 1999). The species of the Neotropical region are insufficiently known; the most recent catalogue of the Neotropical species is that of Olmi, Virla & Fernández (2000), in addition to a more recent paper of Olmi (2003).

Recently new investigations in South America resulted in the discovery of seven new species from Colombia described below. The descriptions follow the terminology used by Olmi (1984) and partly revised after Gauld & Bolton (1988) and Olmi (1994, 1999). The measurements reported are relative, except for the total length (head to abdominal tip, without 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; 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 a eye to the occipital carina.

The study techniques were those proposed by Olmi (1984).

The material studied in this paper is deposited in the following collections: FE: Instituto Alexander von Humboldt, Santafé de Bogota, Colombia; OL: M. Olmi's collection, c/o Department of Plant Protection, University of Tuscia, Viterbo, Italy.

#### Subfamily Anteoninae

#### Deinodryinus iguaquensis, spec. nov. Fig. 1A

**Types.** Holotype: 9, Colombia, Boyacá Dept., SFF Iguaque, Cabaña, 5°25'N 73°27'W, 2855 m, 23.IX-11.X.2000, Malaise trap N. 752, P. Reina coll. (FE). – Paratype: 19, Colombia, Cundinamarca Dept., PNN Chingaza, Bosque Palacio, 4°31'N 73°45'W, 2930 m, 31.VIII-13.IX.2000, Malaise trap N. 730, E. Raigoso coll. (OL).

#### Description

**Q**: fully winged; length 4.00-4.62 mm (holotype 4.00 mm); head black, with mandibles, clypeus and genae testaceous; frons black, with a small testaceous spot situated between the antennal toruli near the clypeus and with two testaceous stripes along the orbits; antennae black; mesosoma black, with lateral margins of pronotum and pronotal tubercles testaceous; scutum black, with a large medial testaceous spot in the posterior half; gaster testaceous; legs testaceous, with hind coxae basally black; antennae clavate; antennal segments of the holotype in the following proportions: 15:8:17:13:12:13:12:12:11:14; head slightly con-

vex, shiny; vertex and temples finely punctate, without sculpture among the punctures; frons strongly punctate, granulated and rugose in the holotype; frons almost completely punctate and without sculpture among the punctures in the paratype; frontal line absent (there is a complete longitudinal slender furrow on the place of a keel); frons without lateral keels; vertex behind the ocellar triangle without two oblique keels connecting the posterior ocelli to the occipital carina; occipital carina complete; POL=5; OL=2.5; OOL=10.5; OPL=10; TL=10; pronotum anteriorly crossed by a slight transverse impression, shiny, smooth, punctate, without sculpture among the punctures; posterior surface of pronotum approximately as long as broad, shorter than scutum (11:22), with lateral margins rounded; pronotal tubercles reaching the tegulae; scutum, scutellum and metanotum shiny, punctate, without sculpture among the punctures; notauli incomplete, reaching approximately 0.70 length of scutum; propodeum reticulate rugose, without a transverse keel between dorsal and posterior surface; posterior surface of propodeum almost completely dull and strongly reticulate rugose, except for a very small central area slightly rugose; forewing hyaline, without dark transverse bands; distal part of stigmal vein longer than proximal part (20:13); fore tarsal segments of the holotype in the following proportions: 13:3.5:5.5:9:24; enlarged claw (Fig. 1A) with a lamella-like hair situated further distally than the proximal prominence; segment 5 of front tarsus (Fig. 1A) with two rows of approximately 17-18 lamellae (17 in the holotype); distal apex of segment 5 of front tarsus with a group of approximately 15-17 lamellae (15 in the holotype); tibial spurs 1, 1, 2. δ: unknown.

**Remarks.** For the head partly rugose, the forewing hyaline, the absence of two oblique keels connecting the posterior ocelli to the occipital carina, the notauli reaching approximately 0.70 length of scutum, *Deinodryinus iguaquensis* is very similar to *D. insanus* Olmi, 1989. The main difference between both species regards the shape of segment 5 of front tarsus (with distal part approximately twice or more than twice as long as basal part in *D. insanus*; with distal part less than twice as long as basal part in *D. iguaquensis*).

The female of *D. iguaquensis* can be included in the key to the females of the Neotropical *Deinodryi*nus (Olmi 1989) by replacing couplet 8 as follows:

### Deinodryinus multicolor, spec. nov. Fig. 1B

**Types.** Holotype: 9, Colombia, Boyacá Dept., 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 coll. (FE).

# Description

9: fully winged; length 5.50 mm; head black, with mandibles, clypeus, genae and anterior surface of the frons testaceous; antennae black, with segment 1 mostly testaceous; prothorax yellow-testaceous, wth lateral regions of anterior collar brown; mesothorax, metathorax and propodeum black; gaster testaceous; legs testaceous, with segments 1, 2 and 5 of mid and hind tarsi partly brown; antennae clavate; antennal segments in the following proportions: 19:10:34:26:20:17:13:12:12:15; head slightly convex, shiny, hairy; vertex and temples finely punctate, without sculpture among the punctures; frons strongly sculptured by numerous longitudinal irregular keels; frontal line absent; frons without lateral keels; vertex behind the ocellar triangle without two oblique keels connecting the posterior ocelli to the occipital carina; occipital carina complete; POL=4; OL=4; OOL=12; OPL=9; TL=12; pronotum hairy, anteriorly crossed by a strong transverse impression, shiny, smooth, punctate, without sculpture among the punctures; posterior surface of pronotum transverse, broader than long, with two strong transverse dorsal lobes; posterior surface of pronotum shorter than scutum (14:32), with lateral margins prominent; pronotal tubercles reaching the tegulae; scutum, scutellum and metanotum shiny, punctate, without sculpture among the punctures; notauli thin, incomplete, reaching approximately 0.70 length of scutum; propodeum without a transverse keel between dorsal and posterior surface; dorsal surface of propodeum reticulate rugose, dull; posterior surface of propodeum shiny, not reticulate rugose, sculpured by numerous circular keels situated around a smooth central unsculptured area; forewing with a dark transverse band beneath the pterostigma; distal part of stigmal vein shorter than proximal part (23:29); fore tarsal segments in the following proportions: 16:5:9:20:38; enlarged claw (Fig. 1B) with a lamella-like hair situated further

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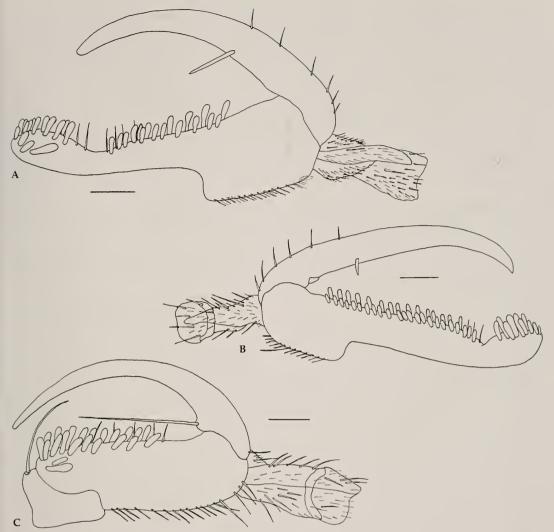


Fig. 1. Chelae. A. Deinodryinus iguaquensis, spec. nov., holotype. B. D. multicolor, spec. nov., holotype. C. Anteon iguaquense, spec. nov., holotype. Scale bars: A: 0.33 mm, B: 0.54 mm, C: 0.24 mm.

distally than the proximal prominence; segment 5 of front tarsus (Fig. 1B) with two rows of approximately 40 lamellae; distal apex of segment 5 of front tarsus with a group of at least 24 lamellae; tibial spurs 1, 1, 2.

ð: unknown.

**Remarks.** For the head sculptured by numerous longitudinal keels, the forewing with a dark transverse band, the antennal segment 3 longer than segment 1, the posterior surface of propodeum with a central smooth area, the absence of two oblique

keels connecting the posterior ocelli to the occipital carina, the region behind the ocelli completely smooth, the mesosoma black, except for the mostly testaceous prothorax, *Deinodryinus multicolor* is very similar to *D. pseudoamoenus* Olmi, 1984. The main difference between these two species regards the ocellar triangle (with POL approximately twice as long as OL in *D. pseudoamoenus*; with POL approximately as long as OL in *D. nulticolor*).

The female of *D. multicolor* can be included in the key to the females of the Neotropical *Deinodryinus* (Olmi 1989) by replacing couplet 28 as follows:

### Anteon iguaquense, spec. nov. Fig. 1C

Types. Holotype: P, Colombia, Boyacá Dept., SFF Iguaque, Cabaña, Carrizal, 2855 m, 5°25'N 73°27'W, 1-23.IX. 2000, Malaise trap N. 614, P. Reina coll. (FE).

#### Description

9: Fully winged; length 2.93 mm; head black, with mandibles testaceous; antennae testaceous, with segments 1-2, part of 3 and 10 brown; mesosoma black; gaster brown; legs testaceous, with hind coxae partly black and with mid and hind clubs of femora partly brown; antennae clavate; antennal segments in the following proportions: 13:7:8:6:5.5:5:5:5:5:7.5; 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, without sculpture among the punctures, slightly rugose on the sides; posterior surface of pronotum very short and transverse, much shorter than scutum (5:18); posterior surface of pronotum much broader than long; pronotal tubercles reaching the tegulae; scutum shiny, smooth, slightly granulated; notauli incomplete, reaching approximately 0.20 length of scutum; scutellum and metanotum shiny, smooth, without sculpture; propodeum reticulate rugose, with a strong transverse keel between dorsal and posterior surface; posterior surface of propodeum without longitudinal keels; forewing hyaline, not crossed by dark transverse bands; distal part of stigmal vein much shorter than proximal part (4:10); fore tarsal segments in the following proportions: 7:2.5:2.5:4:12; segment 5 of front tarsus (Fig. 1C) with basal part much longer than distal part (8:4); enlarged claw (Fig. 1C) with a proximal prominence bearing a long bristle; segment 5 of front tarsus (Fig. 1C) with 2 rows of approximately 15 lamellae; distal apex with a group of 9 lamellae; tibial spurs 1,1,2. ♂: unknown.

**Remarks.** For the segment 4 of front tarsus slightly shorter than segment 1, the posterior surface of propodeum without longitudinal keels, the forewing hyaline, the pronotum and head black with mandibles testaceous, the head granulated and not rugose, *Anteon iguaquense* is similar to *A. micros* Olmi, 1984. The main difference regards the segment 5 of front tarsus (with basal part much longer than distal part in *A. iguaquense*; with basal part approximately as long as distal part in *A. micros*).

The female of *A. iguaquense* can be included in the key to the females of the Neotropical *Anteon* (Olmi 1989) by replacing couplet 13 as follows:

#### Dryininae

#### Dryinus tuparrensis, spec. nov. Fig. 2A

**Types.** Holotype: 9, Colombia, Vichada Dept., PNN Tuparro, Centro, 5°21'N 67°51'W, 100 m, 29.XI-8.XII. 2000, Malaise trap N. 1061, W. Villalba coll. (FE).

#### Description

9: fully winged; length 5.00 mm; head testaceousreddish; antennae testaceous; mesosoma black, with propectus brown and lateral, anterior and posterior margins of pronotum partly testaceous; gaster black; legs brown, with articulations testaceous; hind tibiae partly testaceous; antennae clavate; antennal segments in the 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 (sensu Olmi, 1984) 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 the ocellar triangle and on the sides of the posterior ocelli; POL = 3; OL = 5; OOL = 9; OPL=0.5; temples absent; pronotum dull, hairy, humped, crossed by a weak anterior transverse im©Zoologische Staatssammlung München; download: http://www.biodiversitylibrary.org/; www.biologiezentrum.at

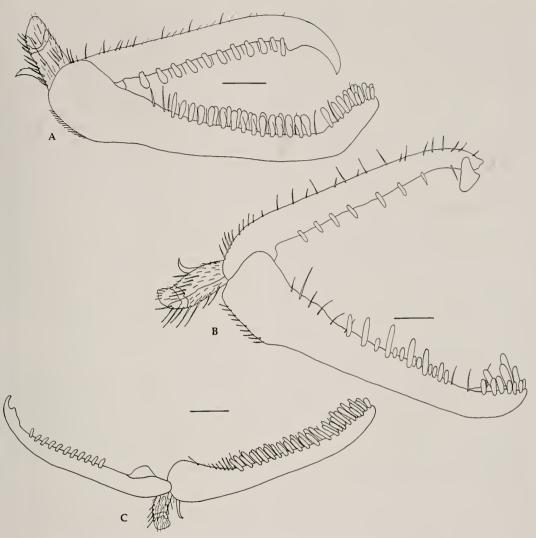


Fig. 2. Chelae. A. Dryinus tuparrensis, spec. nov., holotype. B. D. planadensis, spec. nov., holotype. C. D. cerrensis, spec. nov., holotype. Scale bars: A: 0.52 mm, B: 0.35 mm, C: 0.67 mm.

pression and a strong posterior transverse furrow; anterior collar of pronotum long; posterior collar of pronotum 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 a large smooth and shiny area; pronotal tubercles not reaching the tegulae; scutum dull, reticulate rugose; notauli slightly visible among the areolae of the scutum, but complete and posteriorly separated; minimum distance between the notauli much longer than breadth of the posterior ocelli (12:3); scutellum and metanotum dull, reticulate rugose; propodeum reticulate rugose, with 2 longitudinal keels on the posterior surface; dorsal surface of propodeum slightly shorter than posterior surface; forewing with 3 dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (14:15); fore tarsal segments in the following proportions: 17:5:9:23:36; enlarged claw (Fig. 2A) with a large subdistal tooth and a row of 11 lamellae; segment 5 of front tarsus (Fig. 2A) with 2 rows of 22 lamellae; distal apex with a group of at least 20 lamellae; tibial spurs 1, 1, 2. **Remarks**. For the incomplete occipital carina, the mostly black mesosoma, the reticulate rugose scutum, the antennal segment 4 more than four times as long as broad, the posterior ocelli almost touching the occipital carina, *Dryinus tuparrensis* is similar to *D. catarinae* Olmi, 1984, and *D. kabanus* Olmi, 1989. The main differences regard the colour (the head is totally testaceous-reddish in *D. tuparrensis*, almost completely black in *D. catarinae* and *D. kabanus*) and the sculpture of scutellum and metanotum (reticulate rugose in *D. tuparrensis*, granulated in *D. catarinae* and *D. kabanus*).

*Dryinus tuparrensis* can be included in the key to the females of the Neotropical *Dryinus* (Olmi 1989) by replacing couplet 21 as follows:

- Head granulated, more or less sculptured by irregular longitudinal keels
  15. catarinae Olmi, 1984

# Dryinus planadensis, spec. nov. Fig. 2B

Types. Holotype: <sup>9</sup>, Colombia, Nariño Dept., La Planada Nat. Reserve, Via Hondon, 01°15'N 78°15'W, 1930 m, 2-16.XII.2000, Malaise trap N. 1431, G. Oliva coll. (FE).

# Description

9: fully winged; length 4.93 mm; head black, with clypeus, mandibles, a large frontal median area near the clypeus and two stripes along the orbits testaceous; ventral side of head black; occiput black; antennae testaceous; propleura black; mesosoma black, with scutum, disc and sides of pronotum, posterior half of mesopleura testaceous; gaster brown; legs testaceous; antennae clavate; antennal segments in the following proportions: 14:7:24:13:12:10:9:7.5:7:11; rhinaria (sensu Olmi, 1984) present in the segments 6-10; head convex, dull, granulated; frontal line incomplete, not visible in front of the anterior ocellus; occipital carina incomplete, only visible behind and on the sides of the ocellar triangle, laterally not reaching the eyes; the occipital carina is also visible on the sides of the occiput; POL=6; OL=3; OOL=6; OPL=1; TL=2; breadth of posterior ocelli: 3; propleura almost completely hidden under the pronotum; pronotum dull, hairy, granulated, slightly humped, crossed by an anterior slight transverse furrow and by a posterior deep furrow; posterior collar of pronotum very short, almost absent; pronotal tubercles not reaching the tegulae; scutum dull, hairy, completely granulated and reticulate rugose; notauli absent; scutellum shiny, slightly granulated; metanotum shiny, without sculpture, slightly rugose near the anterior margin; propodeum completely reticulate rugose; dorsal surface of propodeum approximately as long as posterior surface (20:20); posterior surface of propodeum with two longitudinal keels; median area of posterior surface of propodeum dull, reticulate rugose; mesopleura shiny, reticulate rugose; metapleura shiny, transversely striate; forewing with one dark transverse band beneath the pterostigma; distal part of stigmal vein much longer than proximal part (35:10); fore tarsal segments in the following proportions: 21:3:6:18:28; enlarged claw (Fig. 2B) without subdistal teeth, with a row of 7 lamellae in addition to a large distal lamella and a preapical bristle; segment 5 of front tarsus (Fig. 2B) with 2 rows of 14 lamellae; distal apex with a group of at least 15 lamellae; tibial spurs 1, 1, 2. δ: unknown.

**Remarks.** For the absence of notauli and the enlarged claw with a row of lamellae and without a distal row of teeth, *Dryinus planadensis* is similar to *D. forestalis* (Olmi, 1984). The main differences regard the head (excavated in *D. forestalis*, convex in *D. planadensis*) and the enlarged claw (with a large distal lamella in *D. planadensis*, without a large distal lamella in *D. forestalis*).

# Dryinus cerrensis, spec. nov. Fig. 2C

**Types.** Holotype: <sup>Ω</sup>, Colombia, Vichada Dept., Tuparro Nat. Park, Cerro Tomás, 05°21'N 67°51'W, 140 m, 29.VII-8.VIII.2000, Malaise trap N. 506, W. Villalba coll. (FE).

# Description

**Q:** fully winged; length 5.00 mm; bead testaceous; vertex of head with 2 brown spots on the sides of the posterior ocelli; antennae testaceous-darkened, with segments 1-2 light; prothorax testaceous; mesothorax, metathorax and propodeum black; gaster testaceous, with segment 1 basally brown; legs testaceous, with a brown spot on each coxa and clubs of femora darkened; antennae clavate; antennal segments in the following proportions: 12:6:36:17:12:11:9:8:7:8.5; antennal segment 4 more than six times as long as broad (17:2.5); rhina-ria (sensu Olmi, 1984) present in segments 5-10;

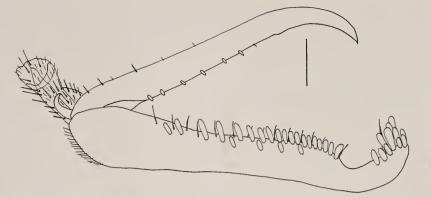


Fig. 3. Chela of Gonatopus quindiensis, spec. nov., paratype from 04°35.41'N 75°41.50'W. Scale bar: 0.33 mm.

head excavated, dull, hairy, granulated and sculptured by numerous irregular longitudinal keels; frontal line complete; occipital carina incomplete, only invisible behind and on the sides of the posterior ocelli; occiput smooth, shiny and without sculpture; POL=2; OL=3; OOL=11.5; OPL=0.5; temples absent; propleura very prominent, dorsally densely hairy, smooth; pronotum shiny, sculptured by numerous longitudinal striae on the anterior collar, on the sides and around the disc; pronotum humped, crossed by two transverse deep furrows; posterior collar of pronotum very short, punctate, densely hairy; anterior collar very long; pronotal tubercles not reaching the tegulae; scutum shiny, covered with thin and long hairs, completely sculptured by numerous subparallel and longitudinal keels; notauli invisible among the longitudinal keels; scutellum shiny, covered with thin and long hairs, completely sculptured by longitudinal and subparallel keels; metanotum dull, very hairy, rugose; propodeum almost completely sculptured by numerous longitudinal and subparallel keels; dorsal surface of propodeum approximately as long as posterior surface, sculptured by numerous longitudinal and subparallel keels; posterior surface of propodeum as sculptured as the dorsal surface, but with two longitudinal keels more robust; the distal fourth of the posterior surface of propodeum is sculptured by transverse keels and partly reticulate rugose; median area of posterior surface of propodeum as sculptured as lateral areas; mesopleura densely hairy, reticulate rugose; metapleura shiny, transversely striate, without sculpture among the striae; forewing with 2 dark transverse bands; distal part of stigmal vein slightly shorter than proximal part (16:17); fore tarsal segments in the following proportions: 24:4:10:22:38; enlarged claw (Fig. 2C) with a large subdistal tooth and a row of 11 lamellae; segment 5 of front tarsus (Fig. 2C) with 2 rows of 23 lamellae; distal apex with a group of at least 24 lamellae; tibial spurs 1, 1, 2. d: unknown.

Remarks. For the incomplete occipital carina, the mostly black mesosoma, the scutum completely sculptured by numerous longitudinal and subparallel keels, the pronotum sculptured by longitudinal striae, the posterior ocelli very near the occipital carina, the segment 1 of front tarsus slightly longer than segment 4, the frons without a central pointed prominence, OL slightly longer than POL, the antennal segment 4 more than  $4 \times$  as long as broad, the dorsal surface of propodeum sculptured by numerous longitudinal and subparallel keels, Dryinus cerrensis is similar to D. kimseyae Olmi, 1984. The main difference regards the stigmal vein (with distal part much longer than proximal part in D. kimseyae, with distal part slightly shorter than proximal part in D. cerrensis).

#### Gonatopodinae

### Gonatopus quindiensis, spec. nov. Fig. 3

**Types.** Holotype:  $\mathcal{P}$ , Colombia, Quindio Dept., 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 coll. (FE). – Paratypes: 1 $\mathcal{P}$ , same locality label (FE); 1 $\mathcal{P}$ , same locality label (OL); 1 $\mathcal{P}$ , Quindio Dept., Circasia, vereda Buenavista, Finca Calamar, Bosque secundario, 11.X.1999, E. Gonzalez coll. (FE); 1 $\mathcal{P}$ , same locality label (OL).

#### Description

**2:** apterous; length 2.56-3.06 mm (holotype 2.56 mm); head black, with mandibles, clypeus and the anterior fourth of the frons (including the region be-

tween the antennal toruli) testaceous-reddish; antennae testaceous, with segments 7-10 brown; mesosoma black, with sides of pronotum brown; gaster brown; legs testaceous, with coxae and femora almost completely brown; antennae distally thickened; antennal segments in the following proportions: 6:5:13:7:5:5:4:4:5; head excavated, shiny, smooth, without sculpture; frontal line complete; occipital carina shortly visible behind and on the sides of the posterior ocelli; POL=1.5; OL=1.5; OOL=6; pronotum hairless, crossed by a strong transverse impression, with anterior collar and disc shiny, smooth and without sculpture; scutum shiny, without sculpture, laterally with two points; scutellum shiny, smooth, without sculpture, flat; metanotum short, slightly transversely striate, laterally with two pointed protrusions; metanotum not or very slightly hollow behind the scutellum; metathorax + propodeum shiny, with disc and anterior surface completely without sculpture; posterior surface of propodeum, mesopleura and metapleura transversely striate; meso-metapleural suture obsolete; fore tarsal segments in the following proportions: 14:2.5:4:17:23; enlarged claw (Fig. 3) with a small subapical tooth and 1 row of 6-7 peg-like hairs, in addition to 1 hair; segment 5 of front tarsus (Fig. 3) with two rows of 23 lamellae; distal apex of segment 5 with a group of approximately 11-12 lamellae; palpal ratio %; tibial spurs 1, 0, 1. ð: unknown.

**Remarks.** Gonatopus quindiensis belongs to *G. orbita*lis Cameron group. For the short fore tarsal segment 1, the meso-metapleural suture obsolete, the mesosoma black, the posterior surface of propodeum transversely striate, the mesopleura and metapleura transversely striate and without sculpture among the striae, the scutum with two lateral points, the metanotum laterally with two pointed protrusions, *G. quindiensis* is very similar to *G. campbelli* Olmi, 1984. The main difference between these two species is visible in the segment 5 of front tarsus: it has two rows of lamellae situated in the distal half in *G. campbelli* (Fig. 1223 in Olmi 1984), whereas in *G. quindiensis* it has two rows of lamellae beginning in the proximal half (Fig. 3).

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