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***Cundinablissus callejai*, a new genus and new apterous species of Blissidae (Hemiptera: Heteroptera: Lygaeoidea) from Colombia**

***Cundinablissus callejai*, género nuevo y especie áptera nueva de Blissidae (Hemiptera: Heteroptera: Lygaeoidea) de Colombia**

Harry Brailovsky

Departamento de Zoología, Instituto de Biología UNAM, Apartado Postal 70153, Ciudad de México, 04510, México; e-mail: coreidae@ib.unam.mx. ORCID: <https://orcid.org/0000-0001-7456-5678>

ABSTRACT

The new genus *Cundinablissus* gen. nov., with the single species *C. callejai* sp. nov., is described from Colombia. A key to the known genera of Blissidae with apterous or micropterous condition from the Western Hemisphere is included.

Key words: Insecta, Heteroptera, Blissidae, new genus, new species, apterous, key, Neotropical Region

RESUMEN

Un nuevo género *Cundinablissus* gen. nov., con una sola especie *C. callejai*, sp. nov., de Colombia son descritas. Se incluye una clave para separar los géneros ápteros y micropteros de Blissidae del Continente Americano.

Palabras clave: Insecta, Heteroptera, Blissidae, género nuevo, especie nueva, áptero, clave, región Neotropical.

The Blissidae, previously treated as a subfamily of the Lygaeidae (Henry 1997), is a worldwide group of phytophagous Heteroptera found in all zoogeographic regions (Henry and Sweet 2015). A total of 52 genera of Blissidae are known in the world; of these 21 occur in the Western Hemisphere (Dellapé and Henry 2020). Slater (1979) monographed the family, providing diagnoses for 46 genera, a phylogenetic analysis, and keys to the genera and many of the species (Henry and Sweet 2015). Later, Slater (1986) described *Aulacoblissus* from Venezuela (one species), Štys (1991) added *Howdenoblissus* from Colombia (one species), Brailovsky and Barrera (2012) described *Napoblissus* from Ecuador (one species), and Brailovsky (2015) described *Barrerablissus* from Ecuador (one species) and provided an update key to the six apterous or micropterous New World genera of the family. More recently, Henry and Sweet (2015) added *Wheelerodemus* from the United States of North America (one species), and Minghetti et al. (2020) described *Tympanoblissus* from Ecuador (one species).

Slater (1995) added a new species of *Praetorblissus* from Costa Rica, Dallapé and Montemayor (2009) a new species of *Ischnodemus* from Peru, and Cervantes Peredo and Brailovsky (2013) a new species of *Praetorblissus* from México. Wheeler (2016) provides additional information about the genus *Wheelerodemus*.

In this work, the new blissid genus *Cundinablissus* and its species *C. callejai* are described, based on apterous specimens collected in Colombia. Also, a key to the

apterous and micropterous genera of Blissidae from the Western Hemisphere is presented.

MATERIALS AND METHODS

The following abbreviations are used for the institutions cited here: Instituto de Biología, Universidad Nacional Autónoma de México, México (UNAM); Universidad Nacional de Colombia, Bogotá, Colombia (UNDC). The measurements were obtained using eyepiece micrometer. All measurements are in mm. External and genital structures were studied with a stereoscopic microscope (model Zeiss Stereo Discovery 8). Pictures were taken with a Nikon D200 camera. To remove soft tissues, genitalia were macerated in hot 10% solution of KOH for 5 minutes, rinsed in distilled water, and dissected under stereoscopic microscope Leica MX8.

RESULTS

TAXONOMY

Cundinablissus gen. nov.

Figures 1–5

<http://zoobank.org/02BE15DC-BDAA-4504-AA4C-AB6CD6005883>

Type species. *Cundinablissus callejai* sp. nov., here designated.

Diagnosis. This new genus (Figs. 1-5) is recognized by the combination of open fore coxal cavities, body entirely shiny, without pruinose areas, presence of a ocellus, apterous condition, abdomen lacking a stridulitrum, fore

femur mutic, and the small size and broad, sublinear body form.

Description. Length of males 3.58; females 4.20. Apterous specimens. Body relatively broad, sublinear, shining, without pruinose area; ground color uniformly reddish brown; pubescence simple, scattered, with decumbent and upstanding silvery setae; shallow to deep scattered punctures on head, anterior lobe of pronotal disc, scutellar disc, mesonotum, metanotum and dorsum of abdominal segments; shallow sparse punctures on abdominal sterna; connexival segments and pleural abdominal margins impunctate.

Head. Non-declivent, nearly prognant, wider than long; tylus almost reaching apex of antennal segment I, apically globose, in lateral view higher and longer than jugum; vertex moderately flat; antenniferous tubercle short, truncate; antennal segment I broad, barrel-shaped; segments II and III cylindrical, IV fusiform; antennal segment I the shortest, IV the longest, and II longer than III; ocelli closer to compound eyes than to each other; eyes hemispheric, protruding, not touching anterior margin of pronotum; maxillary plates and genae without modifications; buccula short, apically rounded, not extending base of antennal segment I; rostrum surpassing fore coxae, reaching middle third of mesosternum; rostral segment I reaching anterior margin of prosternum; rostral segment II the longest, I and III subequal, and IV slightly longer than I and III.

Thorax. Pronotum. Wider than long; subrectangular, with barely indicated short collar, broadly rounded; pronotal disc below calli with shallow concavities indicating the limits of the anterior lobe; posterior lobe of pronotal disc conspicuously wrinkled; anterolateral margins evenly convex to nearly parallel-sided, emarginated, broadest at level of calli; anterior margin concave; calli almost flat, foveate; frontal and humeral angles rounded; posterior margin straight. Mesosternum without median furrow; mesonotum straight, strikingly transverse, lateral borders parallel and external margins swelling, slightly folded downward; metanotum simple, not subdivided, straight, strongly depressed at midline, with lateral margins exposed, conspicuously swelling, folded downward, and clearly visible in dorsal position; metathoracic scent gland auricle elongate, slightly rounded distally, ear-like, and moderately curving posteriorly (Fig. 2); evaporative surface transversally furrowed, extending to posterior margin of metapleuron, and extending onto mesopleuron, occupying the posterior margin.

Legs. Fore coxal cavities open, separated by a wide rounded prosternal projection; all trochanters terminating into ventrodistal subspinose axial projection adpressed to the femora; all femora short, moderately incrassate, mutic; tibiae mutic; fore tibiae slightly enlarged distally.

Scutellum. Wider than long; lacking a median elevation.

Hemelytra. Apterous.

Abdomen. Broad, parallel-sided, slightly convex, wider than thorax; abdominal terga almost flat; connexivum raised

above tergum, with prominent spiracles, placed far from upper border; abdominal spiracles II to VI dorsal, VII and VIII ventral; abdominal spiracle II closer to anterior border, III to VIII almost at midline; abdominal sterna lacking a stridulitrum.

Integument. Almost glabrous; dorsal surface and abdominal sterna with sparse, elongate and upstanding silvery setae; head ventrally and thorax glabrous; antennal segments and legs with moderately dense, upstanding silvery setae.

Male genitalia. Genital capsule simple, globose; posteroventral edge entire, rounded (Fig. 4). Paramere. Like in figure 5.

Female genitalia. Abdominal sterna III-V uniformly developed, straight; abdominal sterna VI constricted at midline; sternite VII with fissura along midline. Gonocoxite VIII enlarged, subrectangular; in lateral view with upper and external borders slightly convex, in caudal view with inner borders straight and widely opened; laterotergite VIII quadrate, spiracle visible; laterotergite IX rectangular, slender, longer than laterotergite VIII, with inner and outer borders straight (Fig. 3).

Differential diagnosis. This new genus shares the extreme microptery to apterous condition and fore coxal cavities open with other eight genera: (*Aulacoblissus* Slater, *Barrerablissus* Brailovsky, *Heteroblissus* Barber, *Howdenoblissus* Štys, *Napoblissus* Brailovsky and Barrera, *Praetorblissus* Slater, *Tympanoblissus* Dellapé and Minghetti, and *Wheelerodemus* Henry and Sweet). Although *Ischnodemus* Fieber has a similar wing condition as the above-mentioned genera the fore coxal cavities are closed.

With this group of nine genera *Cundinablissus* gen. nov., shares the presence of ocelli with *Barrerablissus*, *Heteroblissus*, *Praetorblissus*, *Tympanoblissus*, and *Wheelerodemus*. Of these, *Heteroblissus* and *Tympanoblissus* can be distinguished by the presence of a stridulitrum in the abdomen. Furthermore *Barrerablissus*, *Praetorblissus* and *Wheelerodemus* exhibit micropterous condition. *Cundinablissus* is the only known genus, within group, with apterous condition.

Aulacoblissus, *Howdenoblissus*, and *Napoblissus* share the absence of ocellus. In *Aulacoblissus* and *Napoblissus* the fore femur are ventrally armed and the hemelytra are micropterous. In the other two species the fore femur are mutic and apterous. *Cundinablissus*, has ocellus absent in *Howdenoblissus*.

Etymology. Named for its occurrence in the Cundinamarca Department, Colombia.

Key to the known apterous or micropterous genera of Blissidae from the Western Hemisphere (modified from Brailovsky and Barrera 2015)

1. Fore coxal cavities closed behind . *Ischnodemus* Fieber
- Fore coxal cavities open 2

2. Ocelli present 3
- Ocelli absent 8
3. Abdomen with stridulitrum 4
- Abdomen lacking a stridulitrum 5
4. Abdominal venter with a prominent stridulitrum on sternites III–IV; macropterous or micropterous; body completely subshining, lacking pruinose areas *Heteroblissus* Barber
- Abdominal tergites I–II with tymbal organs; apterous; body not entirely shining or subshining with pruinose areas *Tympanoblissus* Dellapé and Minghetti
5. Apterous *Cundinablissus* gen. nov.
- Micropterous 6
6. Fore femur mutic; body elongate, slender, small size, male 3.40–3.84, female 4.28–4.80; prosternum with a median keel *Wheelerodemus* Henry and Sweet
- Fore femur armed; body relatively robust, elongate, longer, male 4.68–12.96, female 8.08; prosternum without median keel 7
7. All femora multispinose; metathoracic scent gland auricle strongly curving anteriorly ... *Praetorblissus* Slater
- Fore femur with two ventral spines; middle and hind femora mutic; metathoracic scent gland auricle moderately curving posteriorly *Barrerablissus* Brailovsky
8. Apterous; fore femur mutic *Howdenoblissus* Štys
- Micropterous; fore femur ventrally armed 9
9. Fore femur armed below and distally with two spines; median mesosternal furrow deep; scutellar disc with median elevation .. *Napoblissus* Brailovsky and Barrera
- Fore femur armed below and distally with a single minute spine median mesosternal furrow absent; scutellar disc flat, lacking a median elevation ... *Aulacoblissus* Slater

***Cundinablissus callejai* sp. nov.**

Figures 1–5

<http://zoobank.org/FF9497C0-6398-439D-9D3D-5ED7DAEE67F1>

Type locality. Colombia, Cundinamarca Department, Cabrera.

Type material. HOLOTYPE: male, COLOMBIA: Cundinamarca, Cabrera, Vereda de Hoyurias, 3390 m, 3°9'18"N-74°39'4"W, 19–22-X-2014, C. Dumar (t.winkler) (UNDC). PARATYPES: same data as holotype: 1 male, 2 females, (1 female UNAM, 1 male, 1 female UNDC). 1 male, 1 female, COLOMBIA: Cundinamarca, Chipaque, Vereda Las Fruticas, collecting in grass, 3570 msnm, 4°34'4"N-79°09'5"W, 9–12-X-2014, C. Dumar (1 male UNAM, 1 female UNDC).

Description. **Male** (holotype). Body above and below shining, without pruinose areas. **Dorsal coloration.** Nearly uniformly reddish brown, becoming castaneous orange on tylus, anterolateral margins of meso-, and metanotum, and apex of scutellum; antennal segments I–III castaneous orange, IV dark reddish brown with basal joint castaneous orange; abdominal segments II–VII shiny reddish orange.

Ventral coloration. Nearly uniformly reddish-brown,

to castaneous- orange on rostral segments I–IV (apex of IV black), acetabulae, coxae, and trochanters; femora and tibiae shiny castaneous orange; tarsi pale yellow orange; evaporative surface dull gray; abdominal sterna and genital capsule shiny reddish orange.

Genitalia. Genital capsule simple, globose; posteroventral edge entire, rounded (Fig. 4). Paramere. Like in figure 5.

Measurements. Male holotype. Body length 3.58 mm. Head length 0.42 mm; width across eyes 0.80 mm; interocular space 0.50 mm; preocular distance 0.32 mm; interocellar distance 0.23 mm; length of antennal segments: I, 0.20 mm; II, 0.37 mm; III, 0.31 mm; IV, 0.52 mm; length of rostral segments: I, 0.28 mm; II, 0.30 mm; III, 0.28 mm; IV, 0.29 mm. Pronotal length 0.58 mm; width across humeral angles 1.22 mm. Scutellar length 0.21 mm; width 0.62 mm.

Female. Coloration similar to that of male holotype. Body dorsally and ventrally uniformly dark reddish-brown, to dark castaneous-orange on tylus, middle third of scutellum, lateral margins of meso-, and metanotum, connexivum, pleural margins of abdominal sterna II–VII, and acetabulae; antennal segments I–III dark castaneous orange, IV dark reddish-brown; rostral segments I–IV dark castaneous orange; coxae, trochanters, and basal third of femora pale castaneous orange; femora, (except basal third), tibiae and tarsi dark castaneous orange; evaporative surface dull gray, strongly contrasting with adjacent shining reddish brown color.

Genitalia. Abdominal sterna III–V uniformly developed, straight; abdominal sterna VI constricted at midline; sternite VII with fissura along midline. Gonocoxite VIII enlarged, subrectangular; in lateral view with upper and external borders slightly convex, in caudal view with inner borders straight and widely opened; laterotergite VIII quadrate, spiracle visible; laterotergite IX rectangular, slender, longer than laterotergite VIII, with inner and outer borders straight (Fig. 3).

Measurements. Female paratype. Body length 4.20 mm. Head length 0.45 mm; width across eyes 0.83 mm; interocular space 0.52 mm; preocular distance 0.34 mm; interocellar distance 0.27 mm; length of antennal segments: I, 0.22 mm; II, 0.42 mm; III, 0.32 mm; IV, 0.55 mm; length of rostral segments: I, 0.29 mm; II, 0.32 mm; III, 0.28 mm; IV, 0.30 mm. Pronotal length 0.60 mm; width across humeral angles 1.35 mm. Scutellar length 0.27 mm; width 0.71 mm.

Distribution. Known only from the type locality.

Etymology. It is a pleasure to dedicate this new species to Dr. Ignacio Calleja distinguished Odontologist and friend for many years. Gender masculine.

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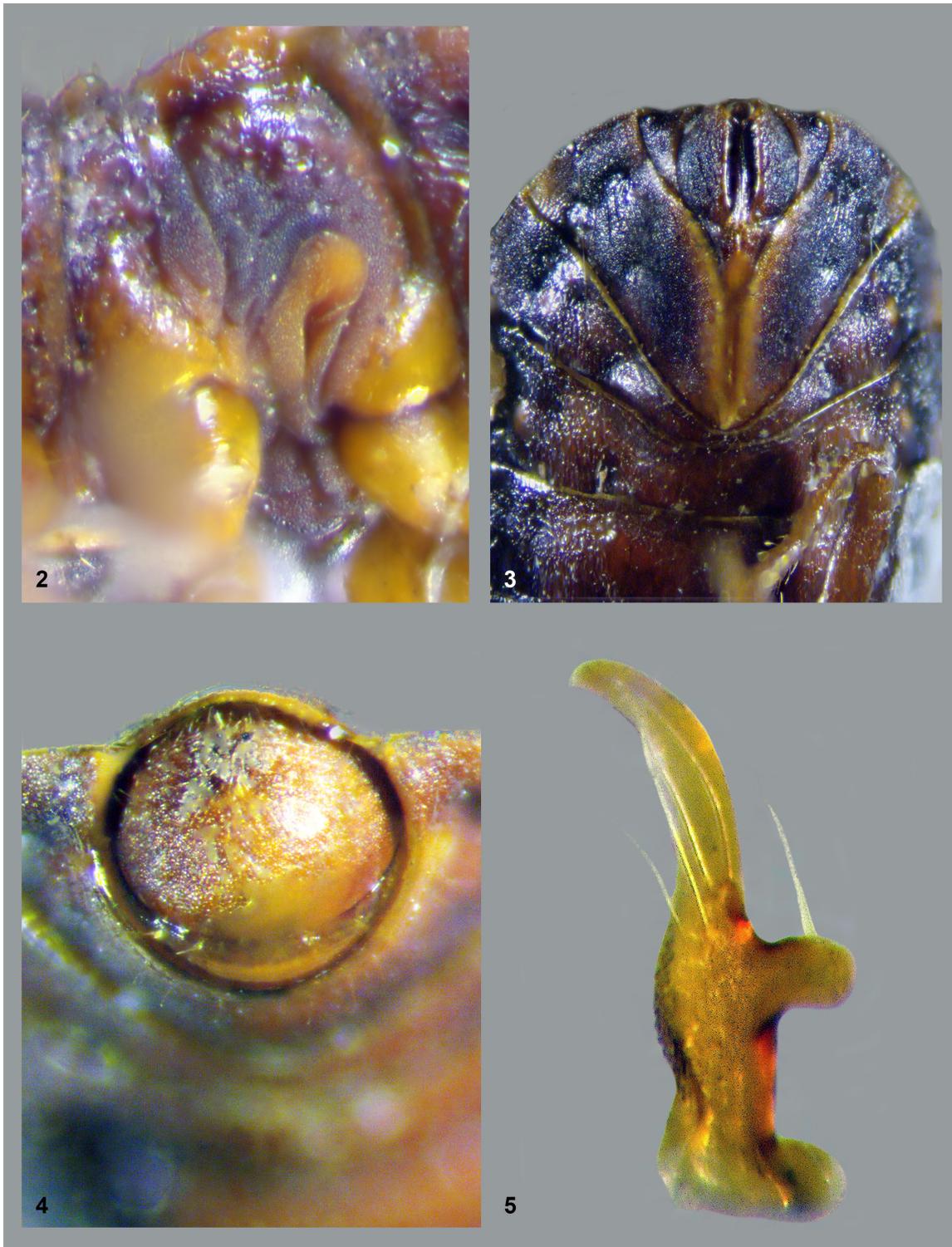
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Figure 1. Dorsal view of *Cundinablissus callejai* gen. nov., sp. nov.



Figures 2–5. *Cundinablissus callejai* gen. nov., sp. nov. **2.** Metathoracic scent gland auricle. **3.** Female genital plates. **4.** Male genital capsule in caudal view. **5.** Paramere.