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from South America (Hemiptera, Coreidae,
Acanthocephalinae)

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Acanthocephala harryi n. sp., female holotype.

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Description of eight new species of the genus *Acanthocephala* Laporte, 1833 from South America (Hemiptera, Coreidae, Acanthocephalinae)

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ABSTRACT

Eight new species of the leaf-footed bug genus *Acanthocephala* Laporte, 1833 (Coreidae, Acanthocephalini) from Colombia and Brazil are described, and *Acanthocephala pleuritica* (Costa, 1863) is redescribed giving the first known locality record of the species. The descriptions include novel characters from male and female genitalia, and from external morphology such as armature of legs. For each species, we provide a habitus photograph of the adult, as well as photographs of male and female genitalia and a distributional map. Affinities with the other species of the genus are also discussed.

RÉSUMÉ

Description de huit nouvelles espèces du genre *Acanthocephala* Laporte, 1833 d'Amérique du Sud (Hemiptera, Coreidae, Acanthocephalinae).

Huit nouvelles espèces du genre *Acanthocephala* Laporte, 1833 (Coreidae, Acanthocephalini) de Colombie et du Brésil sont décrites, et *Acanthocephala pleuritica* (Costa, 1863) est redécrite, donnant la première donnée de répartition connue de l'espèce. Les descriptions incluent de nouveaux caractères sur les genitalia mâles et femelles et sur la morphologie externe, telle que l'armature des pattes. Pour chaque espèce, nous fournissons une photographie de l'habitus de l'adulte, ainsi que des photographies des genitalia mâles et femelles et une carte de répartition. Les affinités avec les autres espèces du genre sont également discutées.

KEY WORDS
Heteroptera,
Acanthocephalini,
Brazil,
Colombia,
male genitalia,
new record,
new species.

MOTS CLÉS
Hétéroptères,
Acanthocephalini,
Brésil,
Colombie,
genitalia mâles,
signalisation nouvelle,
espèces nouvelles.

INTRODUCTION

Coreidae Leach, 1815, commonly known as “leaf-footed bugs” because of the metatibial expansions of many species, is the most diverse of the five families included in Coreoidea Leach, 1815, with *c.* 3100 species and 519 genera from all over the world, from which 158 are exclusively from the Neotropical Region (Packauskas 2010; Schuh & Weirauch 2020; CoreoideaSF Team 2023).

The subfamily Coreinae Leach, 1815 with 32 tribes and two *incerta sedis* genera (CoreoideaSF Team 2023) is the largest subfamily, with a mostly tropical worldwide distribution (Fernandes *et al.* 2015). The Neotropical tribe Acanthocephalini Stål, 1870 groups 19 genera and 104 species (Brailovsky 2021; Olivera *et al.* 2023), with the most diverse genus being the nominotypical *Acanthocephala* Laporte, 1833, with 24 species known from Canada to Argentina (CoreoideaSF Team 2023). They can be recognized by the compressed tylus projected between the genae, the spiny and strongly incrassate metafemora that is more developed in males, and the metatibial expansions on both sexes (Brailovsky 2006; McPherson *et al.* 2011). They exhibit sexual dimorphism in the size and armament of the hind femur (Miller & Emlen 2010), a trait that has been linked to male/male combat and territoriality or female defense polygyny (Miller & Emlen 2010; Miller 2013). The species of *Acanthocephala* are among the largest Coreidae and biggest terrestrial Heteroptera, reaching lengths of *c.* 37 mm, such as *A. pittieri* Montandon, 1895.

Despite its the large size, specific diversity, and the presence of material in museum collections, many species of the genus have not yet been described, mainly due to the lack of recent comprehensive works, except for the revision of the Mexican and the North American species (Brailovsky 2006; McPherson *et al.* 2011). The main obstacle to identify most of the species and to establish confident specific limits have been the difficulty to study carefully the type specimens and the genital structures.

The first author made a comprehensive revisionary study of the genus as part of her PhD Thesis, where the limits of the genus and species were established and the affinities with other genera in the tribe were discussed (Olivera 2022). As a result, in a first contribution *Spilopleura* Stål, 1870 was removed from synonymy under *Acanthocephala* and elevated to generic rank to include two species: *A. parensis* (Dallas, 1852) and *A. ochracea* Montandon, 1895 (Olivera *et al.* 2023). In this work we described eight new species of *Acanthocephala* from South America, and we also redescribe *A. pleuritica* (Costa, 1863) giving the first known locality record of the species. We also include novel characters from male and female genitalia, and from the external morphology such as armature of legs. For each species, we provide a habitus photograph of the adult, as well as photographs of the male and female genitalia and a distributional map. Affinities with the other species of the genus are also discussed.

MATERIAL AND METHODS

ORIGIN OF MATERIAL

The material studied was borrowed from different entomological collections (see list of institutions in abbreviations) and, in some cases, from photographs taken by the curators of the collections after request of the senior author.

METHODS OF STUDY

Specimens were examined under an Olympus SZ1000 and a Nikon SMZ1000 stereomicroscope. Digital images were taken with a Micrometrics 391CU, 3.2m, Accu-Scope digital camera attached to the Nikon SMZ1000 stereomicroscope. Images were stacked using HeliconFocus 6.7.1 software, and the plates were created and numbered in Corel Draw 2018. We selected 34 measurements, as described in Olivera *et al.* (2023), given in millimeters (mm) and are presented as follows: minimum-maximum (median).

For the description of the genitalia the terminology used is that of Singh-Pruthi (1925) for males, and Scudder (1959) and Pluot-Sigwalt & Moulet (2017, 2020) for females. The genital capsule of males and genital segments of females were dissected and cleared with a saturated potassium hydroxide solution (10%), and in the case of the male genitalia, the aedeagus was also immersed in lactic acid for final clearing and better handling. Finally, the dissected structures were washed in distilled water, placed in glycerin for observation and preserved in microvials attached to the same pin of mounted specimens.

Label data are cited verbatim. Lines on labels are separated with ‘/’, contents of different labels are separated with ‘//’, remarks are given between brackets ‘[]’.

ABBREVIATIONS

Institutions

MACN	Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Ciudad Autónoma de Buenos Aires;
MLP	Museo de La Plata, La Plata;
MZSP	Museu de Zoologia de São Paulo, São Paulo, Brazil;
PUJ	Departamento de Biología, Pontificia Universidad Javeriana, Bogotá;
USNM	National Museum of Natural History, Smithsonian Institution, Washington, D.C.;
UNAM	Instituto de Biología, Universidad Nacional Autónoma de México, CD México;
UNAL	Universidad Nacional de Colombia, Bogotá.

External morphology

ci1	scar of abdominal scent gland of segments IV-V;
ci2	scar of abdominal scent gland of segments V-VI;
exd	expansion of dorsal margin of metatibia;
exv	expansion of ventral margin of metatibia;
fi	fisura;
lt	latero-tergite;
pl	plica;
pt8	paratergite VIII;
pt9	paratergite IX.

Male genitalia

ar	paramere arm;
bsh	basal shank of paramere;
cj	conjunctiva;

dapp1	conjunctival dorsal appendix I;
dapp2	conjunctival dorsal appendix II;
dm	dorsal margin of pygophore; do: dorsal opening of pygophore;
ds	dorsal sac of conjunctiva;
ejd	ejaculatory duct;
ejr	ejaculatory reservoir;
end	endosoma;
gp	gonoporal process;
im	inner margin of basal shank of paramere;
om	outer margin of basal shank of paramere;
pha	phallobase;
pdm	postero-dorsal margin of pygophore;
vm	ventral margin of paramere;
vs	vesica.

Female genitalia

da	dorsal apodeme of first gonocoxa;
dd	distal duct of spermatheca;
df	distal flange; di: dilation of spermathecal duct;
fz	flexible zone;
gpI	first gonapophysis;
gpII	second gonapophysis;
gxl	first gonocoxa;
gxII	second gonocoxa;
pd	proximal duct of spermatheca;
pf	proximal flange;
raII	second ramus;
sr	seminal receptacle.

RESULTS

Family COREIDAE Leach, 1815
Genus *Acanthocephala* Laporte, 1833

Acanthocephala angusta n. sp.
(Figs 1-4; 30)

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TYPE MATERIAL. — **Holotype.** Colombia • “♂ Bolívar, Isla / Fuerte, 09,3833°N / 76.1833°W, 10 m, Feb-Abr / 2014, I. Hidalgo // MPUJ-10006 [yellow label] // ME395 [yellow label] [PUJ]” (Figs 1A, C-E; 2A, B, D, F, G).

Paratype. [Colombia] • “♀ Sasaima / 5-XII-[19]72 // MPUJ-HEM0492 // MUJ1.654 [PUJ]” (Figs 1B; 2C, E; 4A-C).

TYPE LOCALITY. — Colombia, Bolivar, Isla Fuerte.

ETYMOLOGY. — From the Latin *angustus*, meaning narrow and referring to the slightly developed expansions of the metatibiae in males and females.

DISTRIBUTION. — Only known from Colombia (Fig. 30).

DESCRIPTION OF HOLOTYPE (FIG. 1A)

General

General color brown to dark brown. Total length 22.50; length of head 2.49.

Head (Fig. 1C, D)

With sparse semierect yellowish setae; vertex brown with two paler areas next to ocelli and on the inner margin of anten-

niferous tubercles. Dorsal margin of tylus straight, reaching dorsal margin of head, apex not projected upwards. Post-tylus depression shallow, 3.6 times shorter than interocellar space. Length of tylus 0.99, length of post-tylus depression 0.24. Eyes globose and protuberant, small in relation to the size of the head. Width of eye 0.67, ocular distance 2.59, synthlipsis 1.44, ocellar distance 1.12, interocellar space 0.86. Buccula subrectangular, reaching the anterior third of eye. Antenna shorter than body length. Scape, pedicel and basiflagellomere reddish brown with abundant short decumbent yellowish setae, and long semierect stiff setae; distiflagellomere light brown with abundant long decumbent yellowish setae, and sparse semierect setae. Length of antennal articles: scape 4.00, pedicel 3.37, basiflagellomere 2.75, distiflagellomere 6.00; width of antennal articles: scape 0.37, pedicel 0.23, basiflagellomere 0.23, distiflagellomere 0.28. Labium brown, apex of segment IV black; extending to mesocoxae. Length of labial segments: I 2.16, II 2.02, III 1.27, IV 1.64.

Thorax

Pronotum (Fig. 1E): with short decumbent yellowish setae, and long erect stiff setae all over the surface, setae more abundant on anterior lobe; anterior lobe and calli smooth; posterior lobe punctate with small sparse rounded tubercles; anterolateral margins straight, with small conical smooth and shiny tubercles; humeral angles unarmed, widened but not elevated, ending in a lateral wide and blunt protuberance; humeral distance slightly larger than width of abdomen; posterolateral margins weakly tuberculated basally; triangular processes short. Width of humeral angles 9.00. Scutellum: as long as wide, punctate with transversal rugosities, and abundant short decumbent yellowish setae and stiff darker erect setae all over the surface; base elevated, apex incrassate and yellowish. Length of scutellum 3.12; width of scutellum 3.12. Thoracic pleurae: brown, with abundant decumbent yellowish setae; proepimeron with sparse rounded tubercles; metathoracic gland auricle and evaporatory area pale brown with conspicuous rugosities, anterior lobe of auricle rounded, posterior lobe elongate (Fig. 2A); supracoxal area of metapleura incrassate posteriorly. Thoracic sternae: brown, with abundant long erect yellowish setae; mesosternal anterior projection concolorous.

Hemelytra. Clavus and corium brown, entirely punctate, with abundant yellowish decumbent setae, costal margin smooth; membrane brown with sparse decumbent yellowish setae, veins concolorous. Length of hemelytra 17.50.

Legs. Protrochanter with a ventral small black setiferous tubercle, meso- and metatrochanters with two black setiferous tubercles ventrally (larger on metatrochanter). Femora with long decumbent yellowish setae, and darker stiff semierect setae becoming erect on ventral margin. Pro- and mesofemora brown paler basally; anterior, dorsal, and posterior margins unarmed; rows of spines on ventral margin ending in a small apical spine, except on posterior row of profemur that ending in a larger spine. Metafemur brown, at least 3.3 times wider than profemur (Fig. 2B); dorsal margin with two rows of conical setiferous tubercles with their

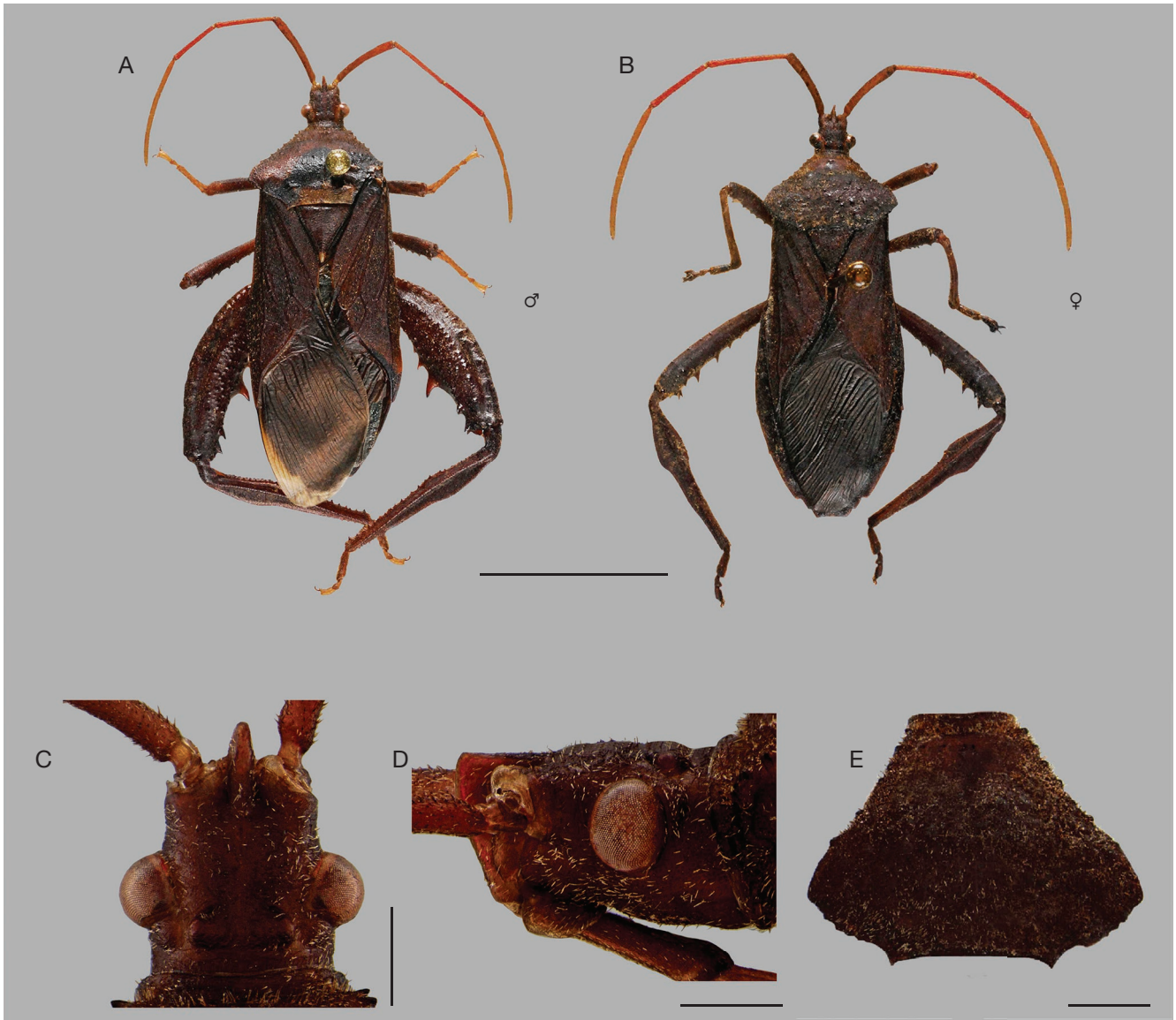


FIG. 1. — *Acanthocephala angusta* n. sp.: **A**, male holotype, dorsal view; **B**, female paratype, dorsal view; **C**, head, dorsal view; **D**, head, lateral view; **E**, pronotum. Scale bars: A, B, 10 mm; C, D, 1 mm; E, 2 mm.

apex black; posterior row with a larger basal tubercle; ventral margin with two rows of spines and tubercles: anterior row with conical spines becoming larger toward the middle and ending in a flat dentate projection, median spine larger; posterior row with rounded tubercles becoming larger toward the apex and ending in a flat dentate projection; anterior and posterior margins with irregular rounded tubercles. Metatibia (Fig. 2D) brown, dorsal expansion fusiform, maximum width at basal third, sinuously narrowing to the apex, ending in an acute angle; distal third armed with small setiferous tubercles; ventral margin slightly expanded, evident on basal third; margin bordered with two rows of conical irregular setiferous tubercles becoming larger to the apex and crossing on distal third forming only one row; anterior and posterior margins unarmed. Tarsi brown. Width of profemur 0.94; length of metafemur 10.25, width 3.12; length of metatibia 10.25, width 1.50.

Abdomen

Length of abdomen 11.37, width 6.87. Terga black, with a rounded yellowish macula around scent glands openings, posterior macula continuing into a longitudinal fringe along tergite VI to anterior region of tergite VII (Fig. 2G); posterior angles of lateral margins of segments III-VII paler. Sterna brown, with abundant decumbent yellowish setae and sparse semierect setae. Abdominal sternite III expanded along all segments, sternite IV expanded only on the anterior half (Fig. 2F). Area of insertion of trichobothria yellowish, surrounding area concolorous with rest of abdomen; lateral areas with rugosities around spiracles. Spiracles black.

Male genitalia (Fig. 3). Pygophore (Fig. 3A, B): dorsal aperture broadly rounded with parandria evident, directed backwards; dorsal margin straight and slightly declivent distally

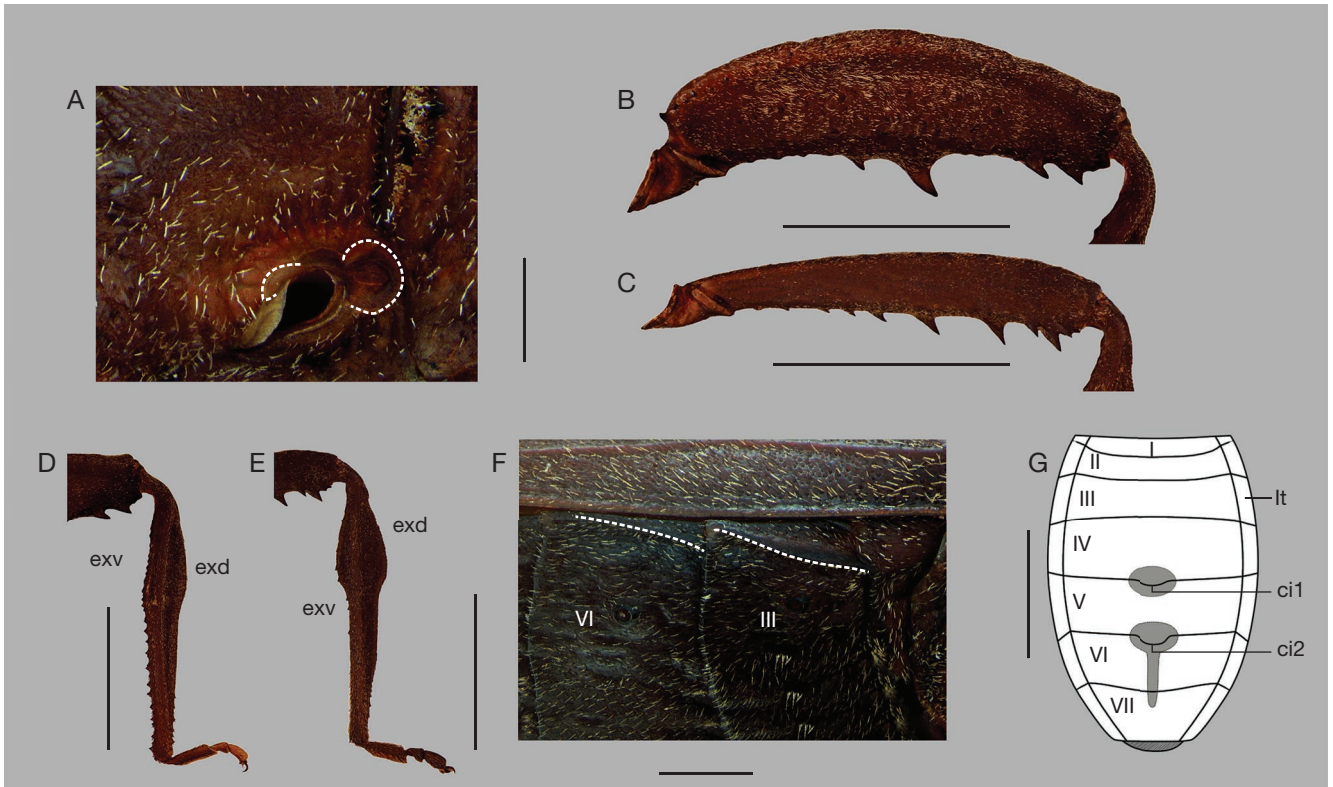


FIG. 2. — *Acanthocephala angusta* n. sp.: **A**, metathoracic gland and evaporatory area; **B**, male metafemur; **C**, female metafemur; **D**, male metatibia; **E**, female metatibia; **F**, lateral expansions on abdominal sternite III, lateral view; **G**, Abdominal tergites in dorsal view. Abbreviations: see Material and methods. Scale bars: A, 0.5 mm; B-G, 5 mm.

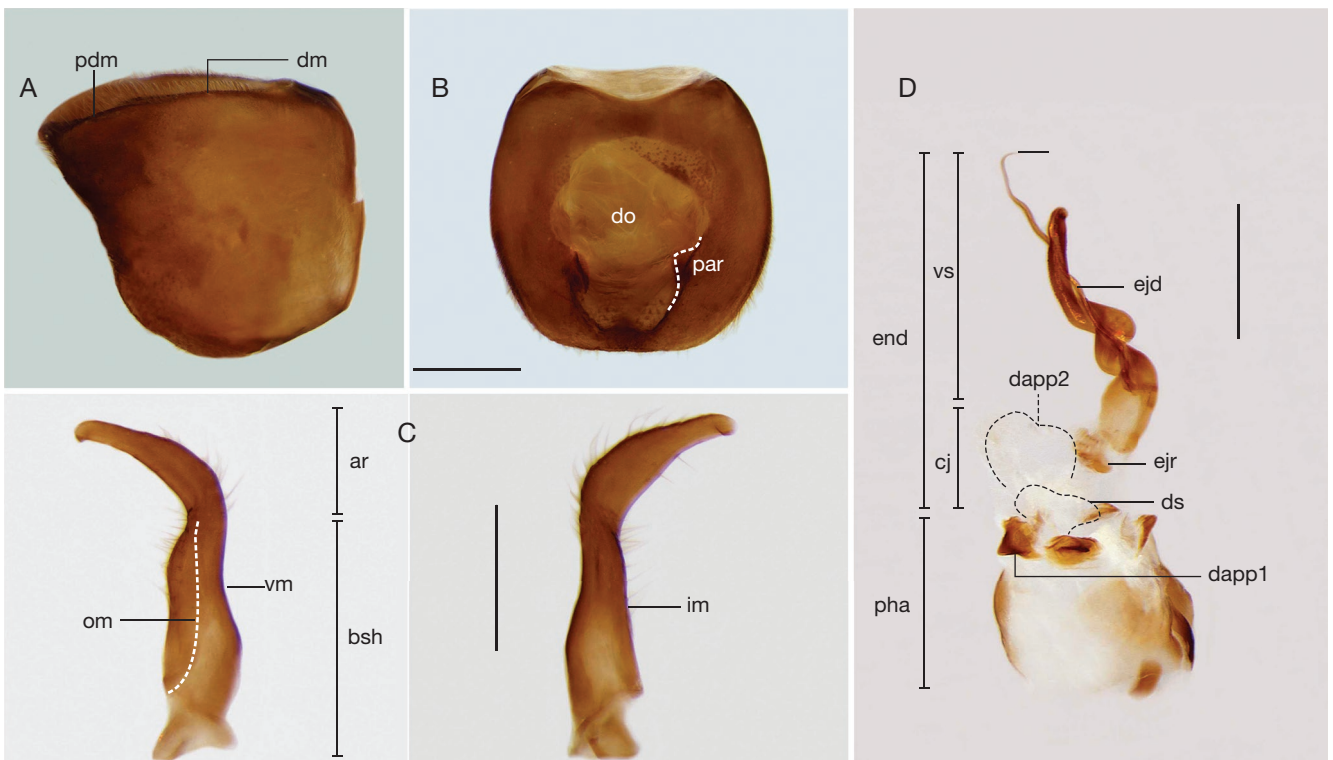


FIG. 3. — *Acanthocephala angusta* n. sp., male genitalia: **A**, pygophore lateral; **B**, pygophore dorsal; **C**, right paramere, lateral views; **D**, aedeagus. Abbreviations: see Material and methods. Scale bars: A, B, D, 1 mm; C, 0.5 mm.

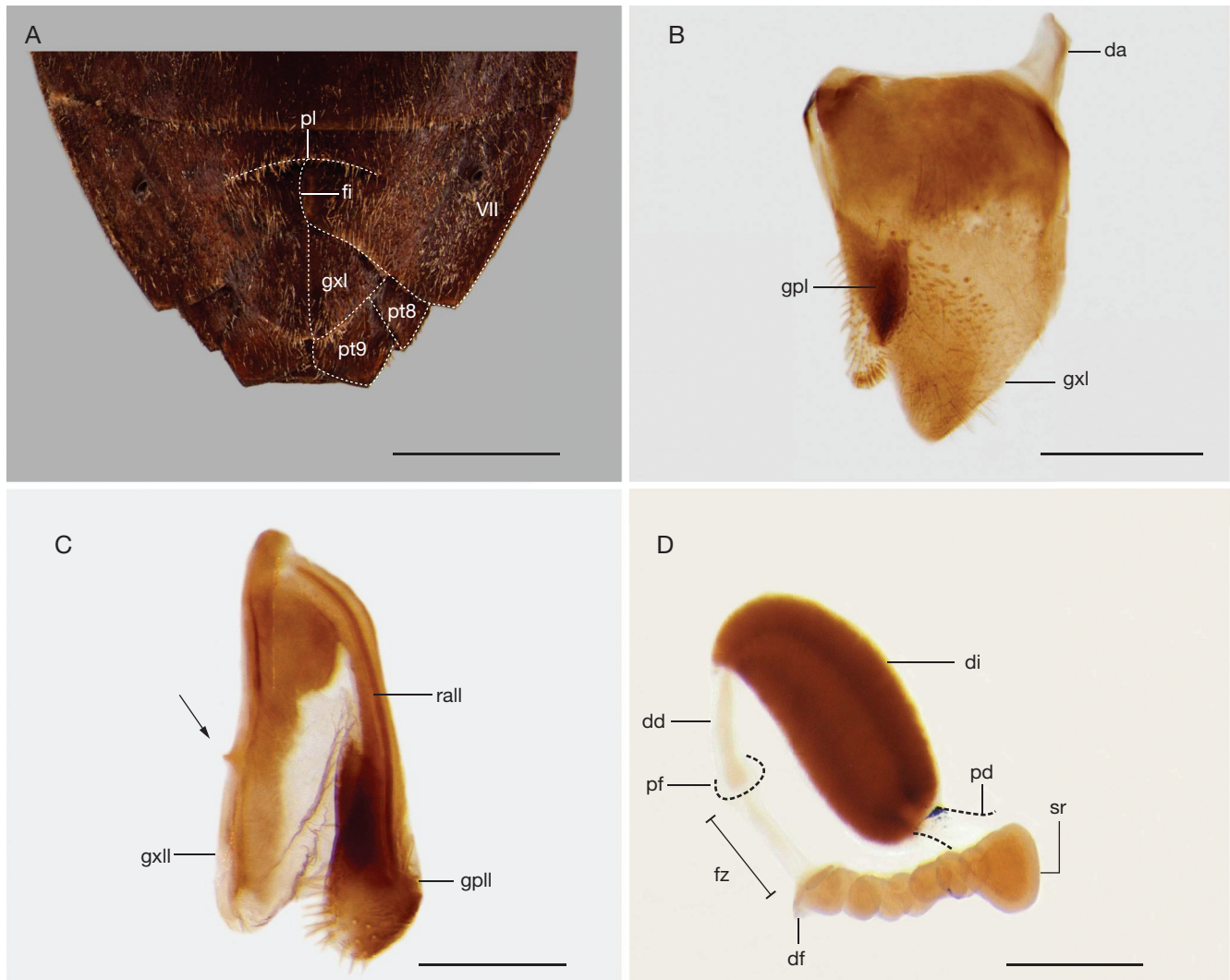


Fig. 4.— *Acanthocephala angusta* n. sp., female genitalia: **A**, pregenital and genital segments; **B**, first gonocoxa and gonapophysis; **C**, second gonocoxa and gonapophysis; **D**, spermatheca. Abbreviations: see Material and methods. Scale bars: A, 2 mm; B, 1 mm; C, D, 0.5 mm.

in lateral view. Parameres (Fig. 3C): Dorsal region of basal shank rounded, narrowing on distal third at the joint with the arm, inner margin straight and not expanded, outer margin straight; arm elongate and narrow, shorter than basal shank. Aedeagus as seen in Figure 3D, conjunctival dorsal appendices I subtriangular, apex of outer margin rounded, with a small median depression in between.

DESCRIPTION OF PARATYPE FEMALE (FIG. 1B)

Thorax

Supracoxal area of metapleura not incrassate posteriorly.

Legs. Anterior row of spines on antero-ventral margin of the left mesofemur with an apical smaller spine. Pro- and mesotrochanters unarmed, metatrochanter with only one minute setiferous tubercle ventrally. Metafemur 1.4 times wider than profemur (Fig. 2C); dorsal margin with two rows of conical setiferous tubercles with their apex dark; anterior and posterior margins with one row of small conical tubercles on distal third. Metatibia (Fig. 2E) with dorsal expansion unarmed,

wider to the apex at basal third, then abruptly narrowing to the apex and ending in an acute angle. Ventral expansion of metatibiae restricted to basal third; margin bordered by two rows of conical setiferous tubercles that cross on distal third forming only one row, and do not reach the apex.

Abdomen

Expansion of lateral margin of sternite III and IV not developed.

Female genitalia (Fig. 4). Sternite VII (Fig. 4A): fisura long, median lobes well-developed, quadrangular, and overlapping with each other; plica convex, close to anterior margin of sternite, as long as the maximum width of first gonocoxae; posterolateral margins extending to the apical third of first gonocoxae. Paratergite VIII overpassing first gonocoxae (Fig. 4A). Dorsal apodeme of first gonocoxae long, wide, and rectangular (Fig. 4B). Second gonocoxae wide, with a well-developed lateral apodeme at middle third, basal region wider than apical region (Fig. 4C). Second gonapophysis as long as second gonocoxa. Spermatheca (Fig. 4D): seminal

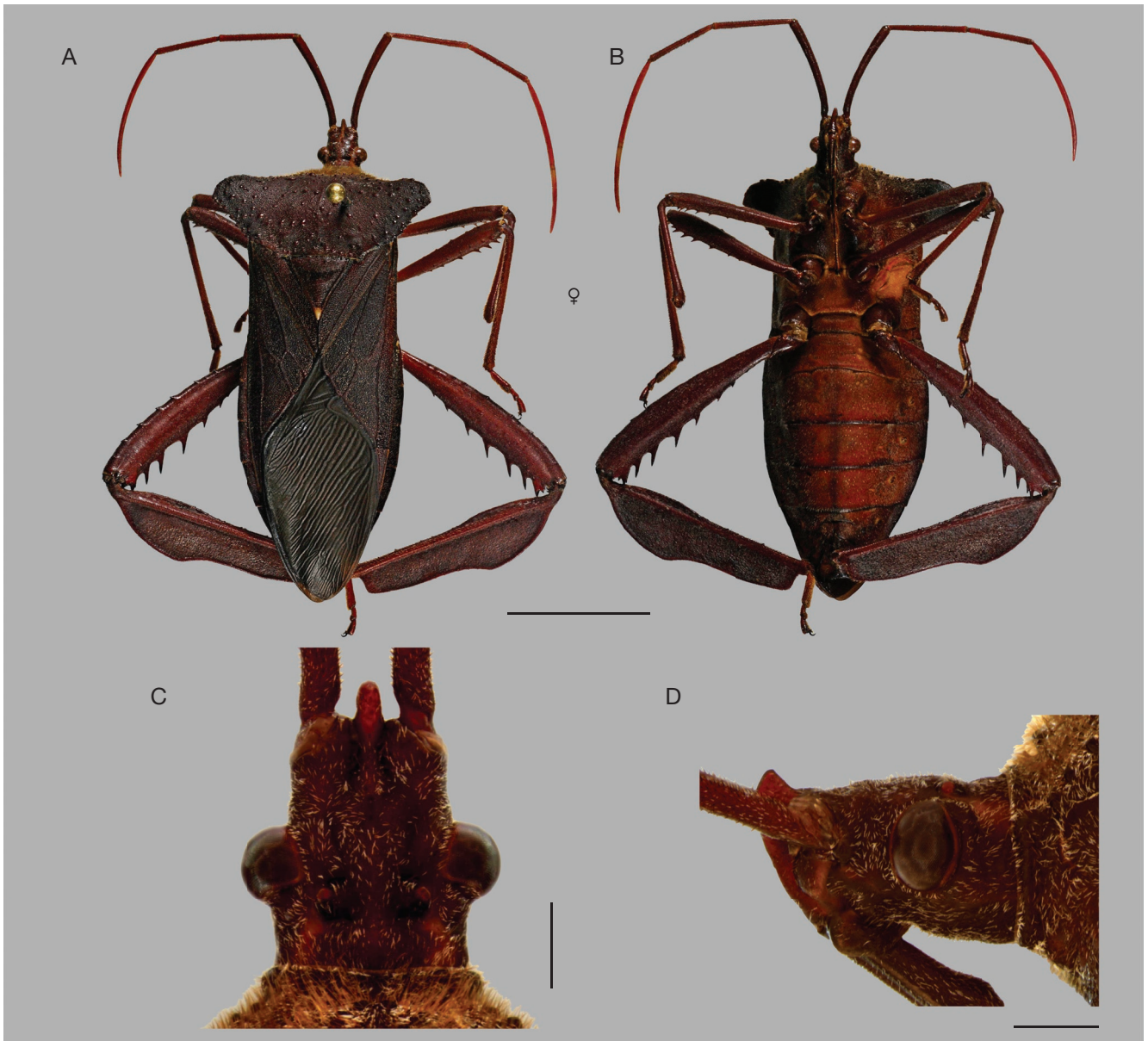


FIG. 5. — *Acanthocephala brunnea* n. sp., female holotype: **A**, dorsal view; **B**, ventral view; **C**, head, dorsal view; **D**, head, lateral view. Scale bars: A, B, 10 mm; C, D, 1 mm.

receptacle apically globose and subtriangular; flexible zone long; distal duct as long as flexible zone; dilation of the spermathecal duct elongate.

PARATYPE MEASUREMENTS (N = 1 ♀)

Total length 21.25; length of head 2.35; length of tylus 0.94; length of post-tylus depression 0.24; width of eye 0.65; ocular distance 2.40; synthlipsis 1.28; ocellar distance 0.99; interocular space 0.74; length of antennal articles: scape 3.87; rest of articles absent.; width of antennal articles: scape 0.38; length of labial segments: I 2.02; II 1.93; III 1.41; IV 1.55; width of humeral angles 8.12; length of scutellum 2.62, width 2.62; length of hemelytra 15.87; width of profemur 0.94; length of metafemur 8.62, width 1.37; length of metatibia 8.75, width 1.62; length of abdomen 11.37, width 6.87.

Acanthocephala brunnea n. sp.
(Figs 5-7; 30)

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TYPE MATERIAL. — **Holotype.** Colombia • “♀ Meta, San Martín, / Vda. Puerto Castro, Finca Hato / Palmera, 3°30'56.56"N / 72°26'0.14"W, 21 nov 2014 – / 11 dic 201 [4], Col: José Ramírez // MPUJ-HEM-10007 [yellow label] // ME373 [yellow label] [PUJ]”.

TYPE LOCALITY. — Colombia, Meta, San Martín, Vda. Puerto Castro, Finca Hato Palmera.

ETYMOLOGY. — From de Latin *brunneus*, brown, to denote the brownish coloration of the species.

DISTRIBUTION. — Colombia (Fig. 30).

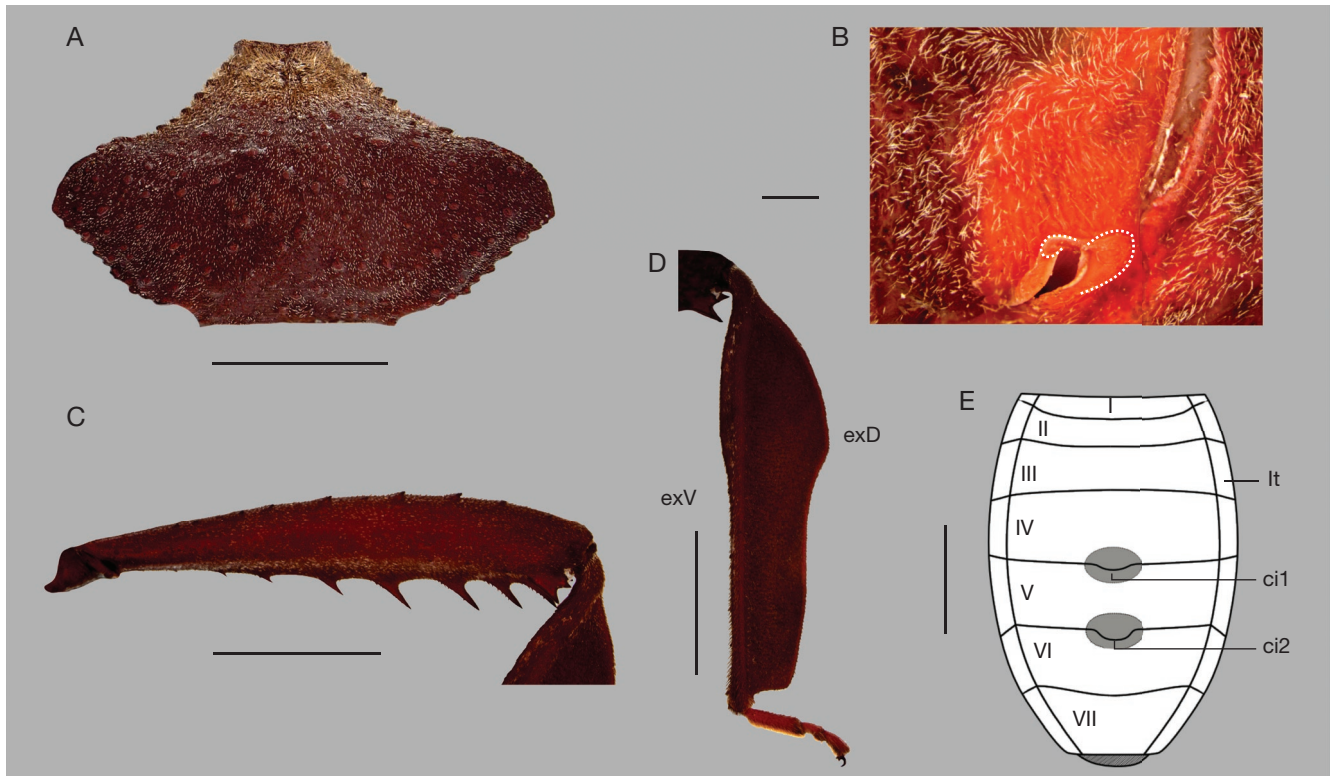


FIG. 6. — *Acanthocephala brunnea* n. sp.: **A**, pronotum, detail of humeral angles and triangular processes; **B**, metathoracic gland and evaporative area; **C**, female metafemur; **D**, female metatibia; **E**, abdominal tergites in dorsal view. Abbreviations: see Material and methods. Scale bars: A, 5 mm; B, 0.5 mm; C-E, 5 mm.

DESCRIPTION OF HOLOTYPE (Fig. 5A, B)

General

General color reddish brown. Total length 29.62, length of head 3.10.

Head (Fig. 5C, D)

With sparse decumbent yellowish setae and semierect sparse setae. Vertex brown with paler areas next to ocelli, ocellar tubercles dark brown. Tylus light brown, dorsal margin of tylus straight at base, apex strongly projected upwards, overpassing dorsal margin of head. Post-tylus depression deep, 1.4 times shorter than interocellar space. Length of tylus 1.34, length of post-tylus depression 0.35. Eyes globose and protuberant, small in relation to the size of the head. Width of eye 0.80, ocular distance 3.15, synthlipsis 1.64, ocellar distance 1.41, interocellar space 0.94. Buccula large, subrectangular, reaching anterior third of eye. Antenna shorter than body. Scape, pedicel, and basiflagellomere reddish brown, with abundant semierect dark long stiff setae; distiflagellomere reddish, with abundant decumbent yellowish setae and semierect sparse shorter setae. Length of antennal articles: scape 6.75, pedicel 5.25, basiflagellomere 4.37, distiflagellomere 10.00; width of antennal articles: scape 0.51, pedicel 0.35, basiflagellomere 0.35, distiflagellomere 0.35. Labium brown, apex of segment IV black; extending to mesocoxae. Length of labial segments: I 2.73, II 2.58, III 1.64, IV 2.16.

Thorax

Pronotum (Fig. 6A): with dense long erect yellowish setae on anterior lobe, and short decumbent yellowish setae all over the surface; anterior lobe smooth with two well-developed rounded tubercles behind margin of collar; calli with two rounded tubercles between them; posterior lobe punctate with abundant, rounded, smooth and shiny tubercles irregularly arranged; anterolateral margins straight with well-developed conical tubercles; humeral angles subtriangular, expanded and slightly elevated over the pronotal disc, tuberculate; humeral distance 1.3 times larger than width of abdomen; posterolateral margins tuberculate, triangular processes extremely short. Width of humeral angles 14.37. Scutellum: wider than long, punctate with transversal rugosities, with abundant decumbent yellowish setae and longer erect and darker setae; base elevated with two small, rounded tubercles, followed by a transverse depression; apex incrassate and yellowish. Length of scutellum 4.46, width 4.23. Thoracic pleurae: brown, with abundant long decumbent yellowish setae; propleura with sparse small tubercles under humeral angles; metathoracic gland auricle and evaporatory area yellowish, anterior and posterior lobes of auricle elongate; evaporatory area with conspicuous rugosities (Fig. 6B), supracoxal area of metapleura not incrassate. Thoracic sterna: brown, with abundant long yellowish erect and decumbent setae; mesosternum with a longitudinal median yellowish stripe, mesosternal anterior projection yellowish.

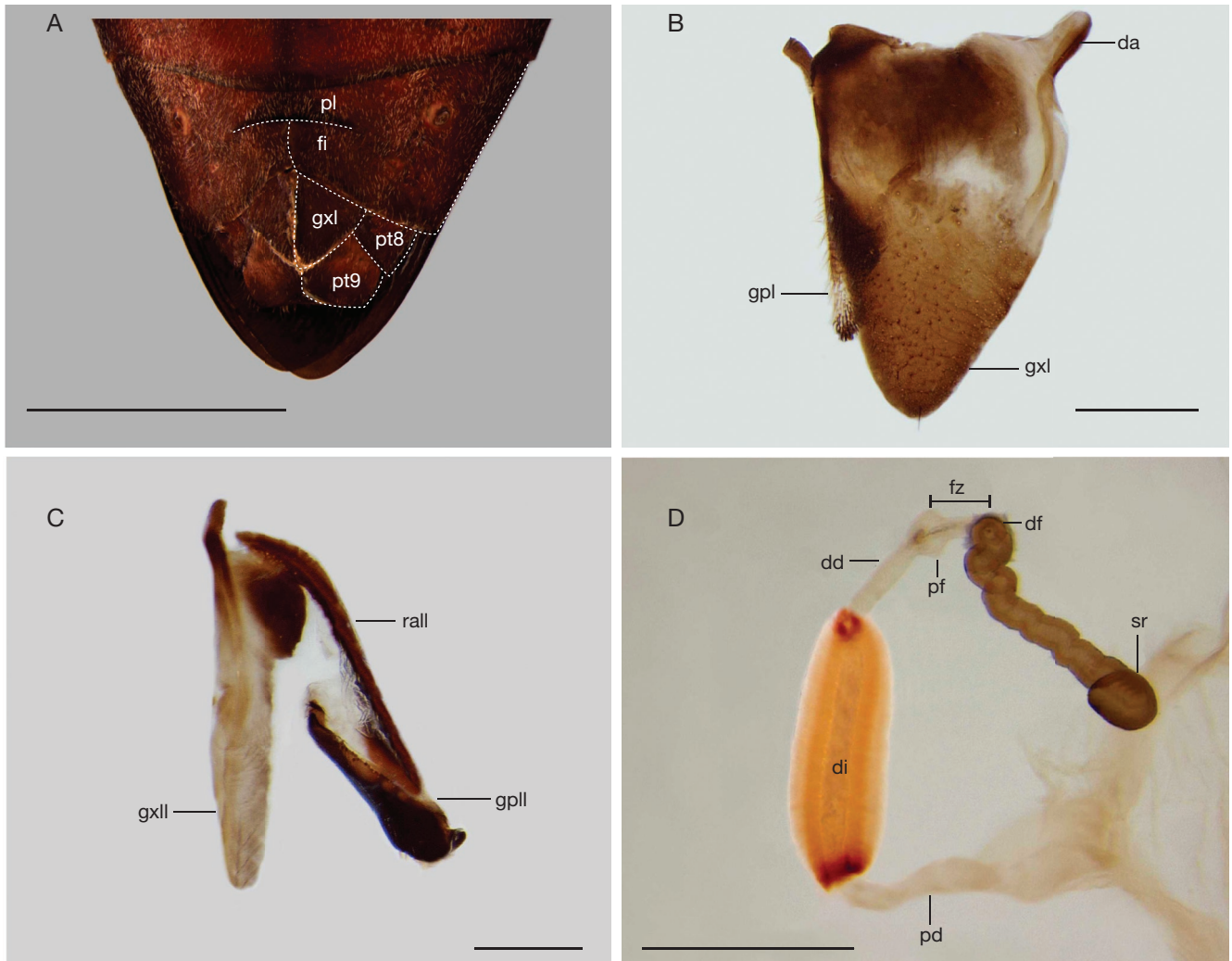


FIG. 7. — *Acanthocephala brunnea* n. sp., female genitalia: **A**, pregenital and genital segments; **B**, first gonocoxa and gonapophysis; **C**, second gonocoxa and gonapophysis; **D**, spermatheca. Abbreviations: see Material and methods. Scale bars: A, 5 mm; B, 1 mm; C, D, 0.5 mm.

Hemelytra. Clavus and corium dark brown, claval suture paler, entirely punctate, with abundant decumbent yellowish setae; costal margin smooth; membrane brown and glabrous, veins concolorous.

Legs. Trochanters unarmed. Femora reddish brown, with short decumbent yellowish setae, and longer and darker semierect setae all over the surface. Anterior, posterior, and dorsal margins of profemur unarmed. Mesofemur with anterior and posterior margins unarmed, dorsal margin with a row of conical setiferous tubercles. Ventral rows of pro- and mesofemora ending in a small apical spine. Metafemur brown, 2.5 times wider than profemur (Fig. 6C); dorsal margin with two rows of conical setiferous tubercles with the apex dark. Ventral margin with two rows of spines; anterior row with narrow conical spines slightly compressed at base, becoming larger to the apex and ending on a bidentate apical projection; posterior row only evidenced by the apical bidentate projection and a few small tubercles only developed from the middle to the apex; anterior and posterior margins unarmed. Tibiae reddish brown.

Pro- and mesotibiae unarmed. Dorsal expansion of metatibia developed (Fig. 6D), maximum width basally, from where it narrows and runs parallel to the tibia until apex and ending in a straight angle; apical margin with a small setiferous tubercle; ventral margin expanded, evident on basal third, margin bordered by two rows of irregular setiferous tubercles becoming larger to the apex and cross at basal third forming only one row distally. Tarsi reddish brown. Width of profemur 0.99; length of metafemur 14.87, width 2.50; length of metatibia 15.00, width 3.62.

Abdomen

Length of abdomen 15.62, width 11.00. Terga black, scars of scent glands surrounded by a yellowish spot (Fig. 6E). Sterna brown except posterior margin of segment IV and V darker, with abundant decumbent yellowish setae and semierect setae all over the surface. Lateral margin of sternites III and IV not expanded. Area of insertion of each trichobothria and surrounding area yellowish. Lateral areas with punctures around spiracles. Spiracles black, surrounding area yellowish.



FIG. 8. — *Acanthocephala carioca* n. sp., male holotype: **A**, dorsal view; **B**, ventral view; **C**, head, dorsal view; **D**, head, lateral view; **E**, pronotum. Scale bars: A, B, 10 mm; C, D, 1 mm; E, 5 mm.

Female genitalia (Figs 7). Sternite VII (Fig. 7A): fisura long, median lobes quadrangular and well-developed, overlapping with each other; plica slightly convex, close to the anterior margin of the sternite, as long as the maximum width of first gonocoxae; posterolateral margins extending to median third of first gonocoxae. Paratergite VIII extending to the apex of first gonocoxae (Fig. 7A). Dorsal apodeme of first gonocoxae narrow, apex rounded (Fig. 7B). Second gonocoxae narrow, basal region more sclerotized than apical region (Fig. 7C). Second gonopophysis as long as second gonocoxae. Spermatheca (Fig. 7D) with seminal receptacle apically globose and oval; flexible zone short; distal duct longer than flexible zone; dilation of the spermathecal duct elongate.

MALE
Unknown.

Acanthocephala carioca n. sp.
(Figs 8-10; 30)

[urn:lsid:zoobank.org:act:C72DCDDD-AD61-4A56-8F3A-4A0A9D3D98FD](https://zoobank.org/act:C72DCDDD-AD61-4A56-8F3A-4A0A9D3D98FD)

TYPE MATERIAL. — Holotype. Brazil • “♂ Rio de / Jan. [green label] [MACN]”.

TYPE LOCALITY. — Brazil, Rio de Janeiro.

ETYMOLOGY. — The specific epithet carioca, a name in apposition, is the demonym for the people from the city of Rio the Janeiro, in the homonym Brazilian state, where the holotype was collected.

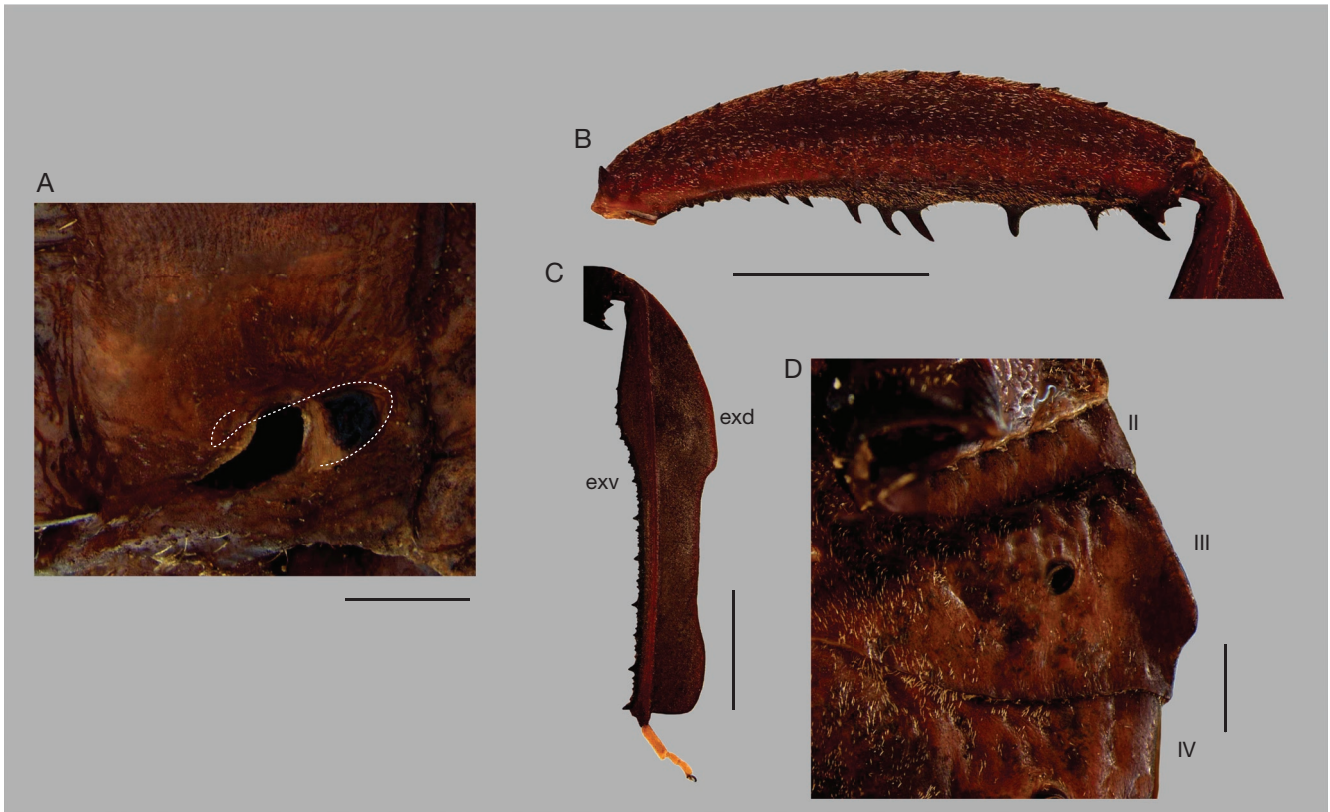


FIG. 9. — *Acanthocephala carioca* n. sp.: **A**, metathoracic gland and evaporatory area; **B**, male metafemur; **C**, male metatibia; **D**, lateral expansions on abdominal sternite III. Abbreviations: see Material and methods. Scale bars: A, 0.5 mm; B, C, 5 mm; D, 1 mm.

DISTRIBUTION. — Only known from Brazil (Fig. 30).

DESCRIPTION OF HOLOTYPE (Fig. 8A, B)

General

General color reddish brown. Total length 27.50, length of head 2.82.

Head (Fig. 8C, D)

With sparse semierect yellowish setae; dorsal surface dark brown with a median longitudinal fringe paler, with two yellowish elongate spots next to outer margin of ocelli, inner region of antennal tubercles and buccula yellowish. Neck and gula paler than dorsal region of head. Dorsal margin of tylus straight, apex not projected upwards, reaching dorsal margin of head. Post-tylus depression deep, two times shorter than interocellar space. Length of tylus 1.152, length of post-tylus depression 0.35. Eyes globose and protuberant, large in relation to the size of the head. Width of eye 0.90, ocular distance 3.14, synthlipsis 1.38, ocellar distance 1.15, interocellar space 0.70. Buccula small and subtriangular, reaching the anterior third of eye. Antennae: Scape with inner side longitudinally ridged; with abundant decumbent yellowish setae and semierect darker stiff setae [pedicel, basi- and distiflagellomeres absent]. Length of antennal articles: scape 6.75; width of antennal articles: scape 0.50. Labium brown, dorsal region of segments I-II and apex of segment IV darker, extending to mesocoxae. Length of labial segments: I 2.39, II 2.11, III 2.02, IV 1.74.

Thorax

Pronotum: reddish brown (Fig. 8E), with sparse semierect and decumbent yellowish setae all over the surface, more abundant on anterior lobe; anterior lobe smooth unarmed, calli with two small rounded tubercles between them; posterior lobe punctate with short rounded smooth and shiny tubercles that turns irregular on posterior region; anterolateral margins straight slightly crenulated; humeral angles expanded, not elevated over pronotal surface, tuberculated, ending in a subacute spine slightly directed backwards; humeral distance 1.2 times longer than width of abdomen; posterolateral margins tuberculated, triangular processes short. Width of humeral angles 12.00. Scutellum: reddish brown, longer than wide, with conspicuous transversal rugosities, and sparse decumbent yellowish short setae; base elevated forming a transversal bridge; apex yellowish and incrassate. Length of scutellum 4.00, width 3.75. Thoracic pleurae: brown, with sparse semierect yellowish setae; anterior lobe of auricle black and elongate, posterior lobe elongate; evaporatory area with conspicuous rugosities (Fig. 9A), supracoxal area of metapleura incrassate posteriorly. Thoracic sterna: brown, with abundant long erect yellowish setae; mesosternal anterior projection paler.

Hemelytra. Clavus and corium reddish brown, with punctures along and next to veins and in the center of the cells, with short decumbent yellowish setae on punctures, veins concolorous; costal margin yellowish and smooth; membrane dark brown and glabrous, veins paler. Length of hemelytra 23.12.

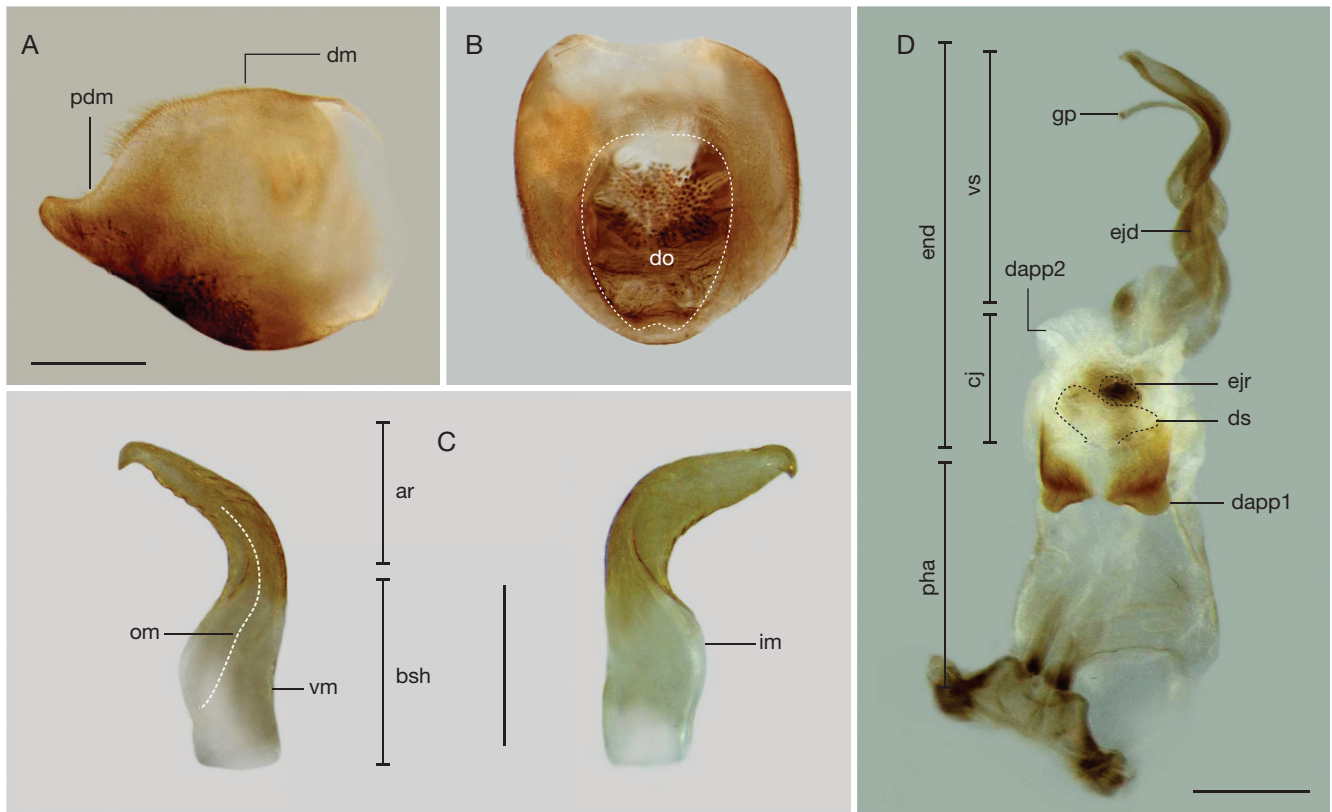


FIG. 10. — *Acanthocephala carioca* n. sp., male genitalia: **A**, pygophore lateral; **B**, pygophore dorsal; **C**, right paramere, lateral views; **D**, aedeagus. Abbreviations: see Material and methods. Scale bars: A, B, 1 mm; C, D, 0.5 mm.

Legs. Pro- and mesotrochanters unarmed, metatrochanters with two small ventral dark brown setiferous tubercles. Femora with decumbent yellowish setae and darker and stiff setae all over the surface, erect setae ventrally. Pro- and mesofemora brown; anterior, posterior, and dorsal margins unarmed; ventral rows of spines ending in a small apical spine. Metafemur reddish brown, 3.6 times wider than profemur (Fig. 9B); dorsal margin with two rows of conical setiferous tubercles with the apex darker; posterior row with a large basal tubercle; ventral margin black with two rows of spines, anterior row with narrow and slightly compressed black spines becoming larger to the middle and ending on a bidentate apical projection; posterior row with dark conical tubercles becoming larger to the apex and ending on an apical bidentate projection; anterior margin unarmed; posterior margin with a row of conical setiferous tubercles, basal tubercle larger with sparse small tubercles ventrally. Pro- and mesotibiae brown, unarmed. Metatibia (Fig. 9C) reddish brown with abundant short decumbent golden setae; dorsal expansion unarmed, gradually enlarging on basal third, maximum width at distal third, from where it slightly narrows and runs parallel to the tibia, then it slightly enlarged apically ending rounded and in a straight angle; ventral margin black, barely expanded on basal third, with two rows of irregular black conical setiferous tubercles becoming larger to the apex and cross at distal third forming only one row. Pro- and mesotarsi pale brown,

metatarsus yellowish. Width of profemur 0.85; length of metafemur 16.25, width 3.13; length of metatibia 18.62, width 4.12.

Abdomen

Length of abdomen 15.62, width 9.25. Terga black. Sterna brown irregularly pigmented, with short decumbent yellowish setae and sparse semierect setae. Abdominal sternite III expanded forming a subtriangular fold (Fig. 9D). Area of insertion of trichobothria and surrounding area yellowish, detached in sternites III and IV, and forming one macula on the rest of the segments. Lateral areas with punctures and rugosities around spiracles. Spiracles black, surrounding area yellowish.

Male genitalia (Fig. 10). pygophore (Fig. 10A, B): dorsal opening broadly rounded, parandria not developed; dorsal margin straight (in lateral view), abruptly declivent at the distal third forming a rounded projection. Parameres (Fig. 10C): basal shank wide, inner margin convex and not expanded, outer margin oblique slightly concave distally; arm elongate, ending in a small curved tooth. Aedeagus as seen in Figure 10D, conjunctival dorsal appendices I lobate apically, with a small median depression between each other.

FEMALE
Unknown.

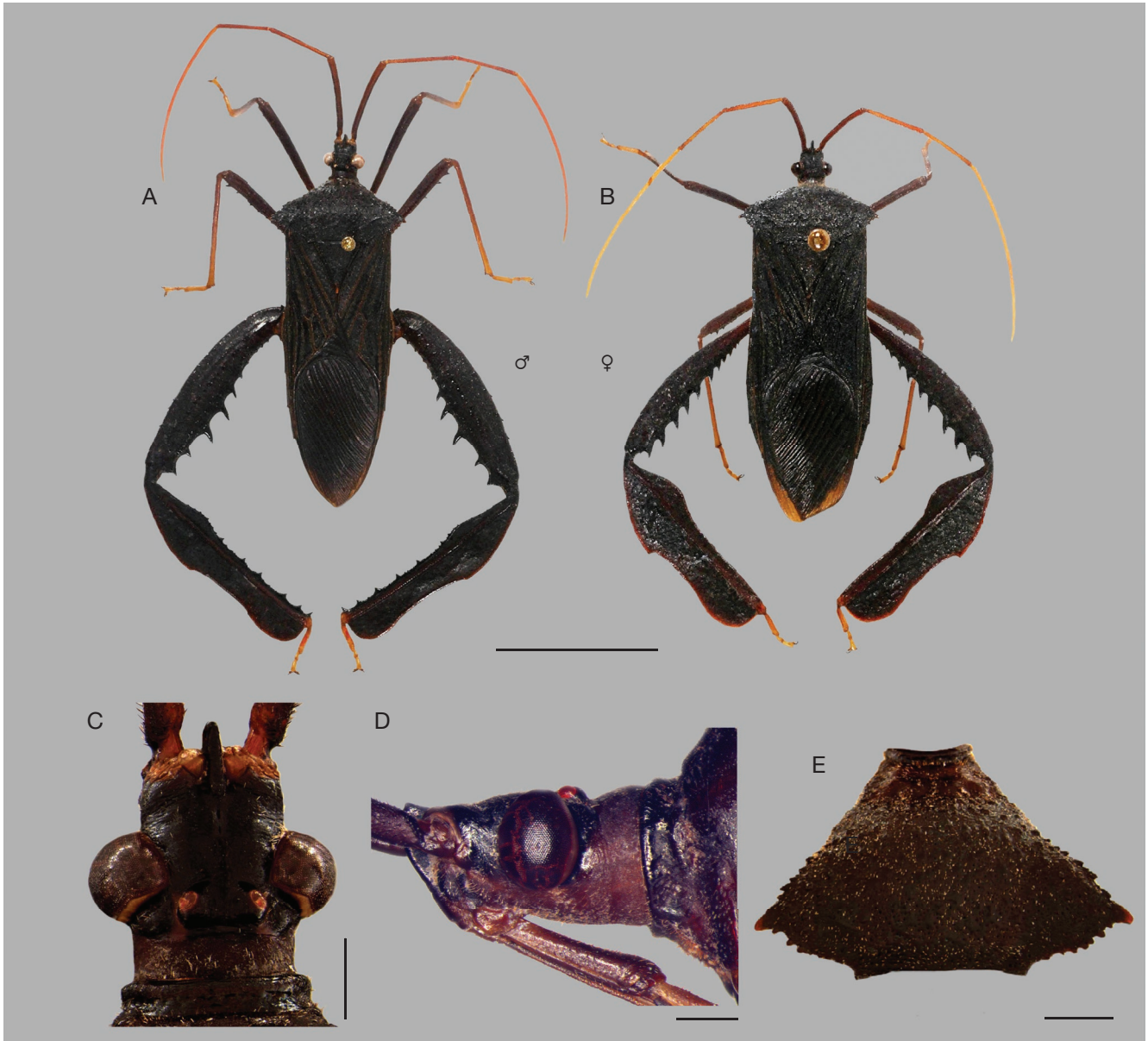


FIG. 11. — *Acanthocephala flaviantennata* n. sp.: **A**, male holotype, dorsal view; **B**, female paratype, dorsal view; **C**, head, dorsal view; **D**, head, lateral view; **E**, pronotum. Scale bars: A, B, 10 mm; C, D, 1 mm; E, 2 mm.

Acanthocephala flaviantennata n. sp.
(Figs 11–14; 30)

[urn:lsid:zoobank.org:act:A2FB3E52-77EA-4B49-8F58-01454047B57D](https://zoobank.org/act:A2FB3E52-77EA-4B49-8F58-01454047B57D)

TYPE MATERIAL. — **Holotype.** Colombia. • “♂ Amazonas / Leticia Monifue / Amena 70 m Chagra / AdHoc 29 Marzo 2005 / Col: Chávez et. Al // COREIDAE 180 / AdHoc Nocturno / Chagra. Chávez / Gl. Hernández / 29 Marzo 2005 // MPUJ-HEM-10008 [yellow label] // ME417 [yellow label] [PUJ]” (Figs 11A, C–E; 12A, B, D, F; 13).

Paratypes. Colombia • “♂ Amazonas / Lorica Comunidad / [unintelligible words] BTF / 29 msnm. 04 Oct 2004 / AdHoc 11:00–11:25 am / Col. S. Arango // adhoc nocturno / Bosque al lado de / chagra / S, Arango, A. Diaz, F. / Sanchez / COREIDAE [PUJ] (Figs 11B; 12C, E; 14A–D)” • “♀ Amazonas Leti / cia. Com Monifue Ame / na BTF. 04 Oct 2004 / 20 msnm. Escobar l., / Tores b, Vasquez c.

// MPUJ-HEM10003 [yellow label] // ME250 [yellow label] [PUJ]” • “♀ Amazonas / Leticia, Monifue Amena / BIF 6 oct 2005 / pitfall, Suarez J. / García A. Cruz D. [MLP]” • “♀ Amazonas / Leticia. Col Estudiantes / Biología E Florez // UNAL-10007 [yellow label] // ME415 [yellow label] [UNAL]”.

TYPE LOCALITY. — Colombia, Amazonas.

ETYMOLOGY. — The name refers to the remarkable yellowish antenna of this species.

DISTRIBUTION. — Only known from Colombia (Fig. 30).

DESCRIPTION OF HOLOTYPE (Fig. 11A)

General

General color dark brown to black, with antennae, and anterior and middle legs paler. Total length 26.50, length of head 2.68.

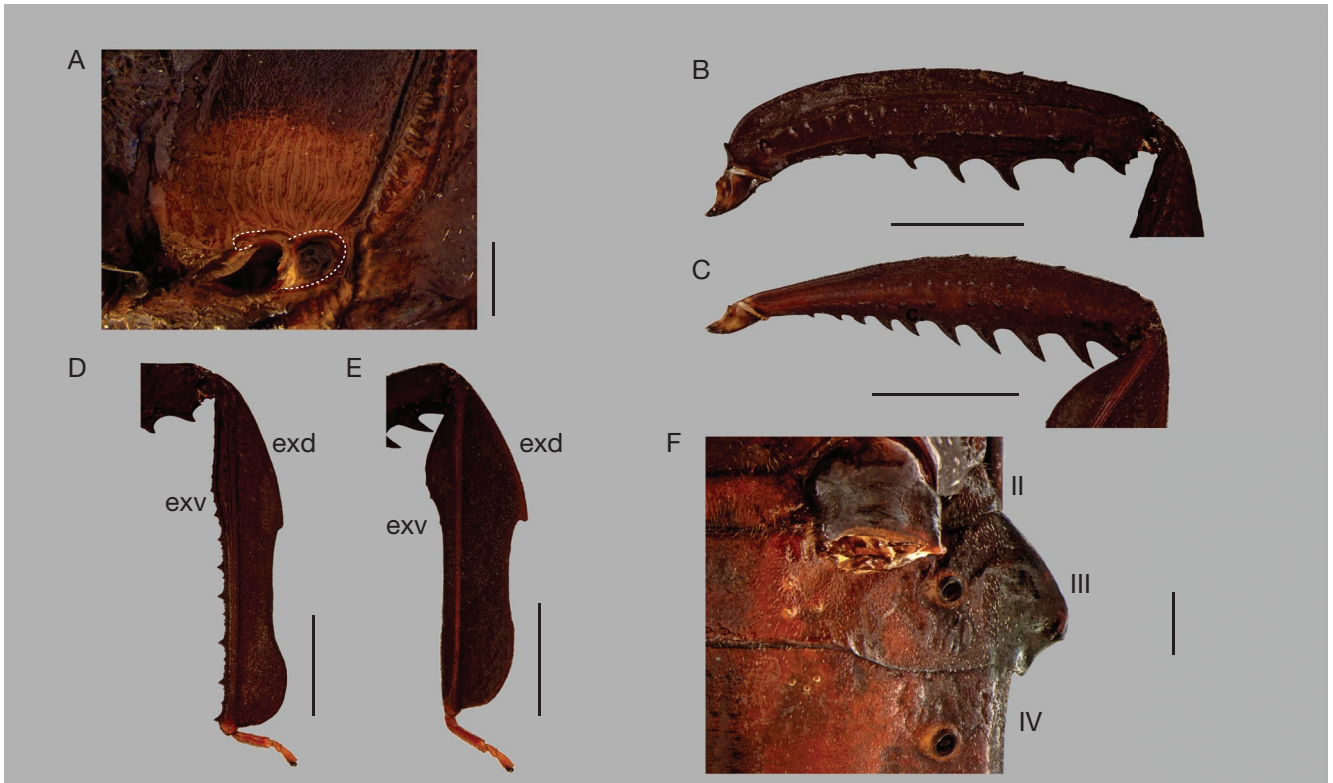


FIG. 12. — *Acanthocephala flaviantennata* n. sp.: **A**, metathoracic gland and evaporatory area; **B**, male metafemur; **C**, female metafemur; **D**, male metatibia; **E**, female metatibia; **F**, lateral expansions on abdominal sternite III, ventral view. Abbreviations: see Material and methods. Scale bars: A, 1 mm; B-E, 5 mm; F, 1 mm.

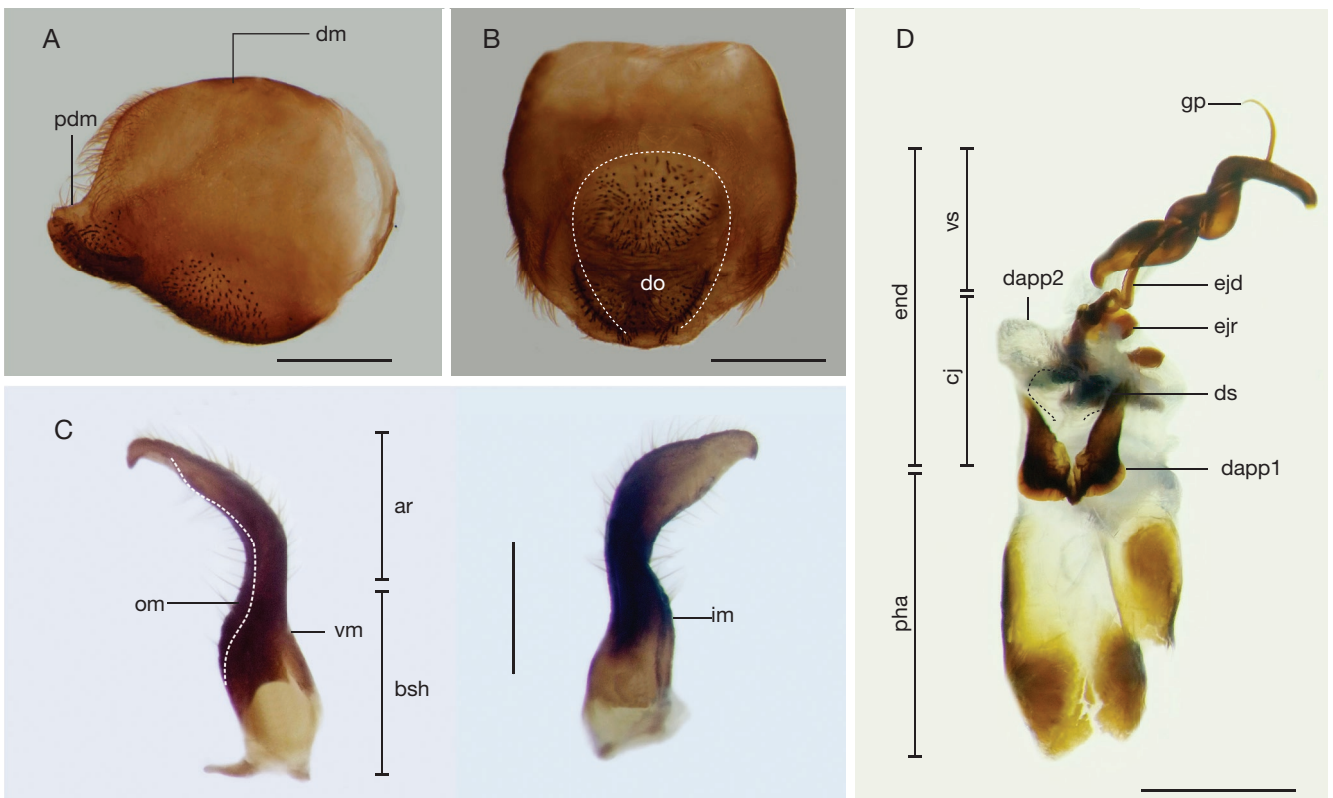


FIG. 13. — *Acanthocephala flaviantennata* n. sp., male genitalia: **A**, pygophore lateral; **B**, pygophore dorsal; **C**, right paramere, lateral views; **D**, aedeagus. Abbreviations: see Material and methods. Scale bars: A, B, D, 1 mm; C, 0.5 mm.

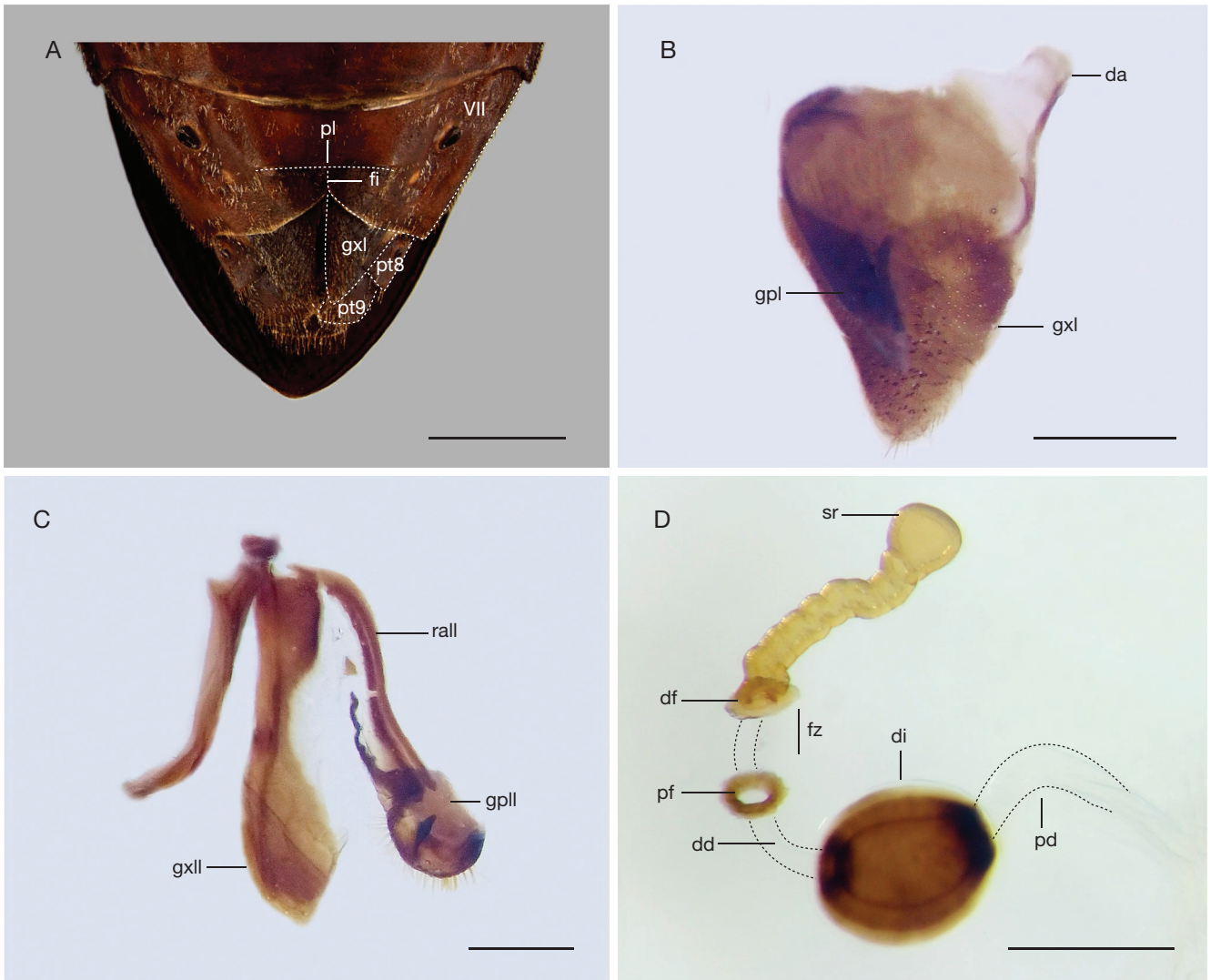


FIG. 14. — *Acanthocephala flaviantennata* n. sp., female genitalia: **A**, pregenital and genital segments; **B**, first gonocoxa and gonapophysis; **C**, second gonocoxa and gonapophysis; **D**, spermatheca. Abbreviations: see Material and methods. Scale bars: A, 2 mm; B, 1 mm; C, D, 0.5 mm.

Head (Figs 11C, D)

With sparse semierect yellowish setae. Paler areas next to ocelli, posterior margin of eye with a yellowish fringe; inner area of antenniferous tubercle, buccula, gula, and neck light brown. Dorsal margin of tylus slightly elevated at base, apex slightly projected upwards, reaching dorsal margin of head. Post-tylus depression deep, 1.8 times shorter than interocellar space. Length of tylus 1.03, length of post-tylus depression 0.38. Eyes globose and protuberant, large in relation to the size of the head; in lateral view, tangential to dorsal margin of head. Width of eye 0.92, ocular distance 3.07, synthlipsis 1.28, ocellar distance 1.08, interocellar space 0.66. Buccula small, subtriangular, reaching the anterior third of eye. Antenna longer than the body. Scape with inner side longitudinally ridged. Scape, pedicel, and basiflagellomere pale brown, with abundant semierect dark stiff setae; distiflagellomere orange, with abundant decumbent yellowish setae and semierect sparse darker stiff setae. Length of antennal articles: scape 6.50, pedicel 5.00, basiflagellomere 4.67, distiflagellomere

13.50; width of antennal articles: scape 0.44, pedicel 0.28, basiflagellomere 0.28, distiflagellomere 0.25. Labium pale brown, apex of segment IV darker; extending to mesocoxae. Length of labial segments: I 2.53, II 2.35, III 1.97, IV 1.83.

Thorax

Pronotum (Fig. 11E): with erect yellowish setae all over the surface, and short decumbent setae on posterior lobe; anterior lobe and calli smooth and unarmed; posterior lobe punctate with short, smooth and shiny tubercles partially anastomosed on posterior region; anterolateral margins straight and slightly crenulated; humeral angles expanded and not elevated, tuberculated, ending in a subacute spine slightly directed backwards; humeral distance 1.2 times longer than width of abdomen; posterolateral margins tuberculated, triangular processes short. Width of humeral angles 10.00. Scutellum: longer than wide, with conspicuous transversal rugosities, and decumbent yellowish setae and sparse darker erect setae; base elevated with two small median tubercles; apex yellowish and

incrassate. Length of scutellum 3.76, width 3.86. Thoracic pleurae: brown, with sparse short semierect yellowish setae; metathoracic gland auricle yellowish, anterior lobe of auricle black and elongate, posterior lobe elongate; evaporatory area paler than rest of pleurae, with conspicuous rugosities (Fig. 12A), supracoxal area of metapleura incrassate posteriorly. Thoracic sterna: brown, with abundant erect yellowish setae; mesosternal anterior projection concolorous.

Hemelytra. Clavus and corium black, with punctures along and next to veins and in the center of the cells, with short decumbent yellowish setae on punctures, veins paler; costal margin smooth; membrane dark brown and glabrous, veins concolorous. Length of hemelytra 21.87.

Legs. Pro- and mesotrochanters unarmed, metatrochanter with two small brown setiferous tubercles ventrally. Pro- and mesofemora dark brown, paler basally; anterior, posterior, and dorsal margins unarmed, ventral rows of spines ending in a large apical spine, except on anterior row of profemur that is smaller. Metafemur dark brown, four times wider than profemur (Fig. 12B); dorsal margin with two rows of conical setiferous tubercles; posterior row with a basal larger tubercle; ventral margin with two rows of spines; anterior row with narrow conical black spines becoming larger to the middle and ending on a bidentate apical projection; posterior row with conical tubercles becoming larger to the apex and ending on an apical bidentate projection; anterior margin unarmed; posterior margin with a row of conical setiferous tubercles, basal tubercle larger. Pro- and mesotibiae unarmed, brown, apical third yellowish. Metatibia dark brown, apex yellowish (Fig. 12D); dorsal expansion unarmed, gradually enlarging on basal third, maximum width distally, from where it slightly narrows to become wider to the apex, and ending rounded forming a straight angle; ventral margin slightly expanded on basal third, bordered by two rows of irregular conical black setiferous tubercles, becoming larger to the apex and cross at distal third forming only one row. Tarsi yellowish. Width of profemur 0.77; length of metafemur 14.75, width 3.19; length of metatibia 16.62, width 3.43.

Abdomen

Length of abdomen 15.37, width 7.87. Terga black. Sterna brown, with short decumbent yellowish setae and sparse semierect setae. Abdominal sternite III expanded forming a subtriangular fold (Fig. 12F). Area of insertion of trichobothria and surrounding area yellowish, detached in sternites III and IV, and forming one macula on the rest of segments. Lateral areas with rugosities around spiracles. Spiracles black, surrounding area yellowish.

Male genitalia (Fig. 13). Pygophore (Fig. 13A, B): Anterior opening rounded, parandria not developed; dorsal margin convex, abruptly declivent posteriorly forming a short protuberance. Parameres (Fig. 13C): Dorsal region of basal shank rounded, narrowing on the distal third, inner margin straight and not expanded, outer margin sinuous; arm broad as long

as basal shank. Aedeagus as seen in Figure 13D, conjunctival dorsal appendices I large, lobate apically, with a small median projection between each other.

DESCRIPTION OF PARATYPE FEMALE (Fig. 11B)

Thorax

Humeral distance as long as width of abdomen. Supracoxal area of metapleura not incrassate posteriorly.

Legs. Metatrochanter unarmed. Metafemur 2.8 times wider than profemur (Fig. 12C). Dorsal margin of metafemur with two rows of dark conical setiferous tubercles; anterior margin unarmed; posterior margin with a row of small conical setiferous tubercles. Ventral margin with two rows of spines; anterior row with compressed conical spines becoming larger to the apex and ending on a bidentate apical projection; posterior row with small tubercles enlarging apically, ending in an apical bidentate projection. Dorsal expansion of metatibia (Fig. 12E) widened to distal region of basal third, where it indents and slightly narrows and widens to the apex, ending rounded and joining the tibia in a straight angle. Expansion of the ventral margin of metatibia developed along all metatibia, rounded on basal third, abruptly constricted and running parallel to the apex, with sparse small setiferous tubercles.

Abdomen

Lateral margin of sternite III not expanded.

Female genitalia (Figs 14). Sternite VII (Fig. 14A): Fisura short, median lobes small and rounded, overlapping with each other; plica straight, close to the posterior margin of the sternite, as long as the maximum width of first gonocoxae; posterolateral margins extending to basal third of first gonocoxae. Paratergite VIII extending to the apical third of first gonocoxae (Fig. 14A). Dorsal apodeme of first gonocoxae short and wide, rectangular (Fig. 14B). Second gonocoxae narrowed at middle, basal region narrower than apical region (Fig. 14C). Second gonapophysis shorter than second gonocoxa. Spermatheca (Fig. 14D) with seminal receptacle apically globose and rounded; flexible zone short; distal duct longer than flexible zone; dilation of the spermathecal duct rounded.

PARATYPES MEASUREMENTS (N = 1 ♂ | 3 ♀)

Total length: ♂ 27.50 / ♀ 26.00-26.87 (26.37); length of head: ♂ 2.66 / ♀ 2.62-2.72 (2.67); length of tylus: ♂ 1.02 / ♀ 0.90-1.06 (0.98); length of post-tylus depression: ♂ 0.35 / ♀ 0.32-0.38 (0.36); width of eye: ♂ 0.96 / ♀ 0.67-1.02 (0.88); ocular distance: ♂ 3.10 / ♀ 3.04-3.14 (3.08); synthlipsis: ♂ 1.25 / ♀ 1.25-1.34 (1.28); ocellar distance: ♂ 1.12 / ♀ 1.12-1.15 (1.13); interocellar space: ♂ 0.64 / ♀ 0.58-0.67 (0.63); length of antennal articles: scape, ♂ 7.25 / ♀ 6.25-6.50 (6.33); pedicel, ♂ 5.12 / ♀ 4.37-4.62 (4.46); basiflagellomere, ♂ 4.62 / ♀ 4.12-4.37(4.25); distiflagellomere, ♂ 13.62 / ♀ 13.12-13.50 (13.33); width of antennal articles: scape, ♂ 0.35 / ♀ 0.38-0.42 (0.40); pedicel, ♂ 0.32 / ♀ 0.29-0.32 (0.30); basiflagellomere, ♂ 0.26 / ♀ 0.26-0.29

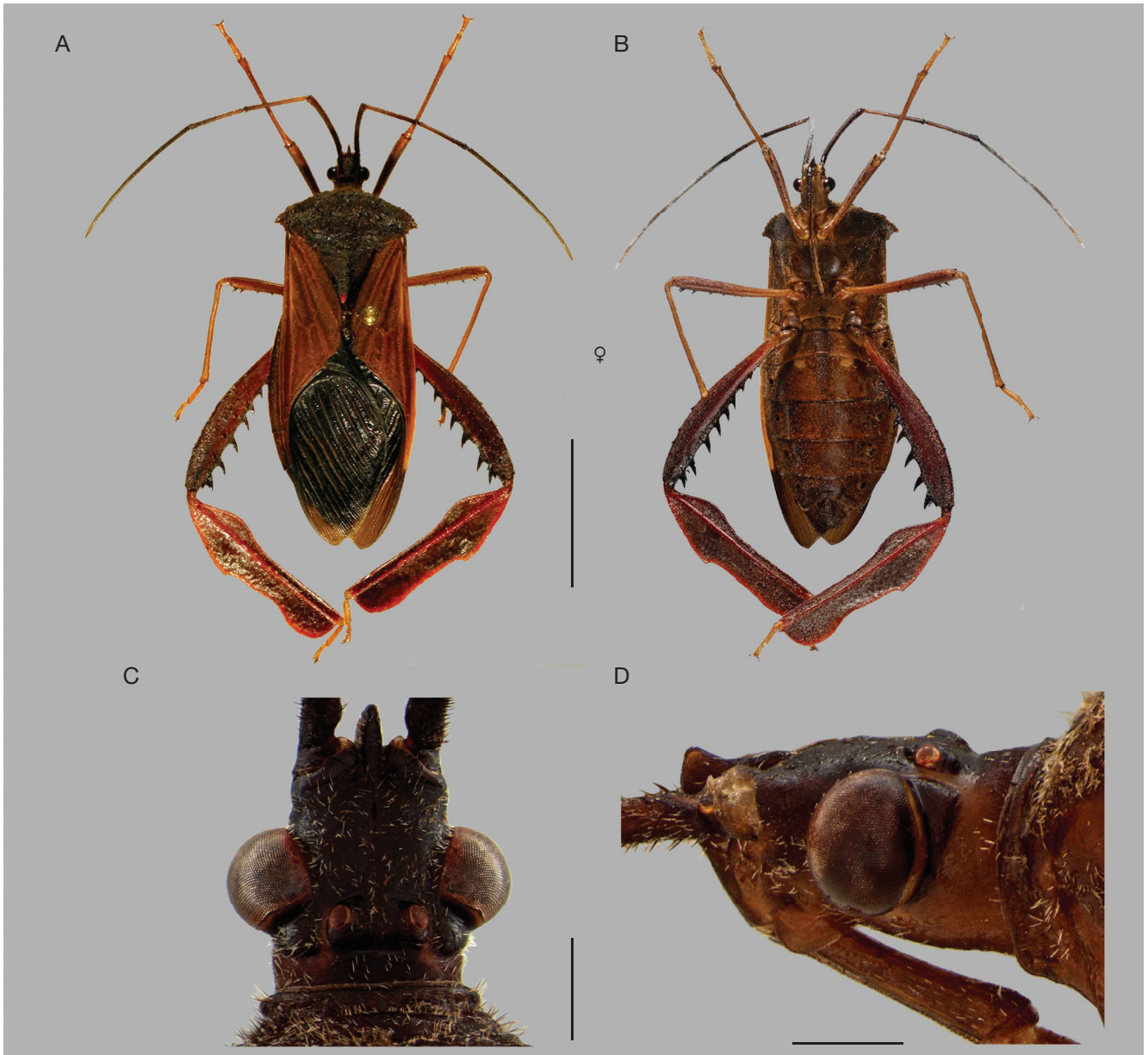


FIG. 15. — *Acanthocephala harryi* n. sp., female holotype: **A**, dorsal view; **B**, ventral view; **C**, head, dorsal view; **D**, head, lateral view. Scale bars: A, B, 10 mm; C, D, 1 mm.

(0.27); distiflagellomere, ♂ 0.26 / ♀ 0.29-0.32 (0.31); length of labial segments: I, ♂ 2.73 / ♀ 2.54-2.73 (2.65); II, ♂ 2.58 / ♀ 2.30-2.54 (2.38); III, ♂ 2.21 / ♀ 1.97-2.21 (2.07); IV, ♂ 1.88 / ♀ 1.74-1.83 (1.80); width of humeral angles: ♂ 10.37 / ♀ 9.50-10.25 (9.87); length of scutellum: ♂ 3.90 / ♀ 3.57-3.99 (3.82); width of scutellum: ♂ 3.67 / ♀ 3.15-3.57 (3.41); length of hemelytra: ♂ 24.50 / ♀ 20.87-23.12 (21.96); width of profemur: ♂ 0.80 / ♀ 0.77-0.79 (0.78); width of metafemur: ♂ 3.43 / ♀ 2.21-2.33 (2.25); length of metafemur: ♂ 16.37 / ♀ 13.62-14.37 (13.87); width of metatibia: ♂ 3.20 / ♀ 4.04-4.23 (4.10); length of metatibia: ♂ 17.50 / ♀ 15.12-16.25 (15.54); length of abdomen: ♂ 16.50 / ♀ 15.37-16.00 (15.58); width of abdomen: ♂ 9.37 / ♀ 9.00-9.50 (9.21).

Acanthocephala harryi n. sp.
(Figs 15-17; 30)

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TYPE MATERIAL. — **Holotype**. Colombia • “♀ Meta, Villavicencio / Vda. La Llanerita / Finca Calaguala / 20-Abr-2005/ Jameo- Transecto T2 // UNAL-10004 [yellow label] // ME261 [yellow label] [UNAL]” (Figs 15; 16; 17).

Paratype. Colombia • “♀ Caquetá, San / José de Fragua, río / Yuruyaco. 1200 m. 1°20'53"N/ 76°6'11"W / 9 Sep 2000/ Col. E. Gonzales [MLP]” • “♀; MUJ 14184; MPUJ-HEM 1377 [PUJ]”.

TYPE LOCALITY. — Colombia, Meta, Villavicencio, Vda. La Llanerita, Finca Calaguala.

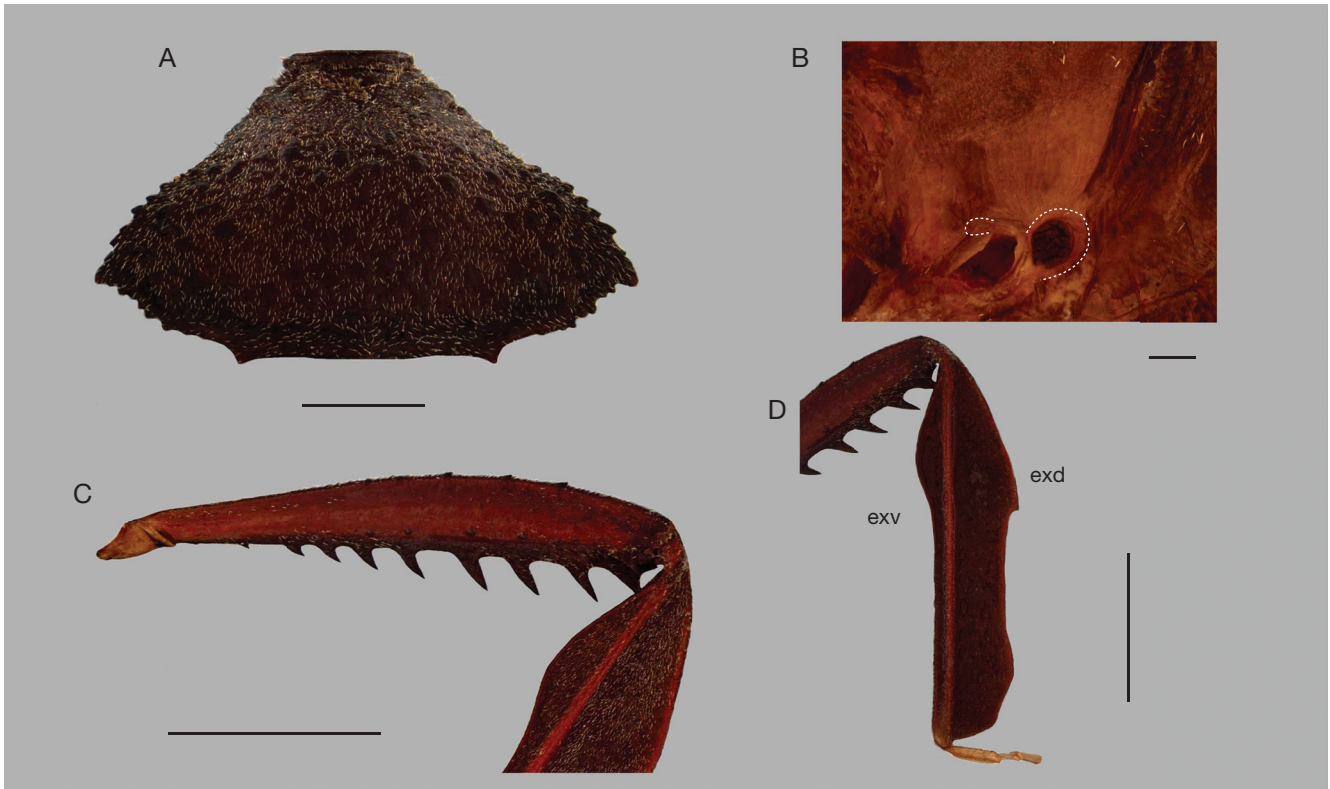


FIG. 16. — *Acanthocephala harryi* n. sp.: **A**, pronotum; **B**, metathoracic gland and evaporative area; **C**, female metafemur; **D**, female metatibia. Abbreviations: see Material and methods. Scale bars: A, 2 mm; B-D, 5 mm.

ETYMOLOGY. — This new species is named in honor of our friend and colleague Dr Harry Brailovsky, recognizing his outstanding contributions to the knowledge of Heteroptera, particularly Neotropical Coreidae.

DISTRIBUTION. — Only known from Colombia (Fig. 30).

DESCRIPTION OF HOLOTYPE (Fig. 15A, B)

General

General color pale brown to black. Total length 25.37, length of head 2.59.

Head (Figs 15C, D)

With sparse semierect yellowish setae, and erect setae longitudinally between ocelli. Dorsal region of head black except paler areas next to ocelli, posterior margin of eyes with a yellowish fringe; inner margin of antenniferous tubercles, buccula, gula, and lateral and ventral neck paler. Tylus strongly projected upwards, overpassing dorsal margin of head. Post-tylus depression deep, 2.2 times shorter than interocellar space. Length of tylus 0.96, length of post-tylus depression 0.29. Eyes globose and protuberant, large in relation to the size of the head, in lateral view, tangential to dorsal margin of head. Width of eye 0.83, ocular distance 2.91, synthlipsis 1.22, ocellar distance 1.02, interocellar space 0.58. Buccula rounded, reaching the anterior third of the eye. Antenna longer than the body. Scape with inner side longitudinally ridged. Scape, pedicel, and basiflagellomere brown, with abundant semierect dark stiff setae; basal half of distiflagellomere brown, apical half yellowish, with abundant

decumbent yellowish setae and sparse semierect darker stiff setae. Length of antennal articles: scape 5.62, pedicel 4.25, basiflagellomere 3.87, distiflagellomere 10.25; width of antennal articles: scape 0.36, pedicel 0.26, basiflagellomere 0.24, distiflagellomere 0.29. Labium pale brown, dorsal extending to segment II and apex of segment IV dark brown, extending to mesocoxae. Length of labial segments: I 2.30, II 2.16, III 1.88, IV 1.78.

Thorax

Pronotum (Fig. 16A): dark brown with short decumbent yellowish setae, and longer and darker erect setae all over the surface; anterior lobe and calli smooth, unarmed; posterior lobe punctate with short, rounded, smooth and shiny tubercles partially anastomosed on posterior region; anterolateral margins straight and with sparse small tubercles; humeral angles tuberculated, slightly expanded and not elevated, ending in a subacute protuberance directed backwards; humeral distance slightly larger than width of abdomen; posterolateral margins tuberculated, triangular processes short. Width of humeral angles 9.50. Scutellum: wider than long, with conspicuous transversal rugosities, and sparse yellowish decumbent and erect setae; base elevated with two barely apparent small median tubercles; apex pale brown, incrassate. Length of scutellum 3.43, width 3.52. Thoracic pleurae: pale brown, with sparse decumbent yellowish setae; metathoracic gland auricle and evaporatory area yellowish with rugosities, anterior lobe of auricle with a central brown macula, rounded, posterior lobe

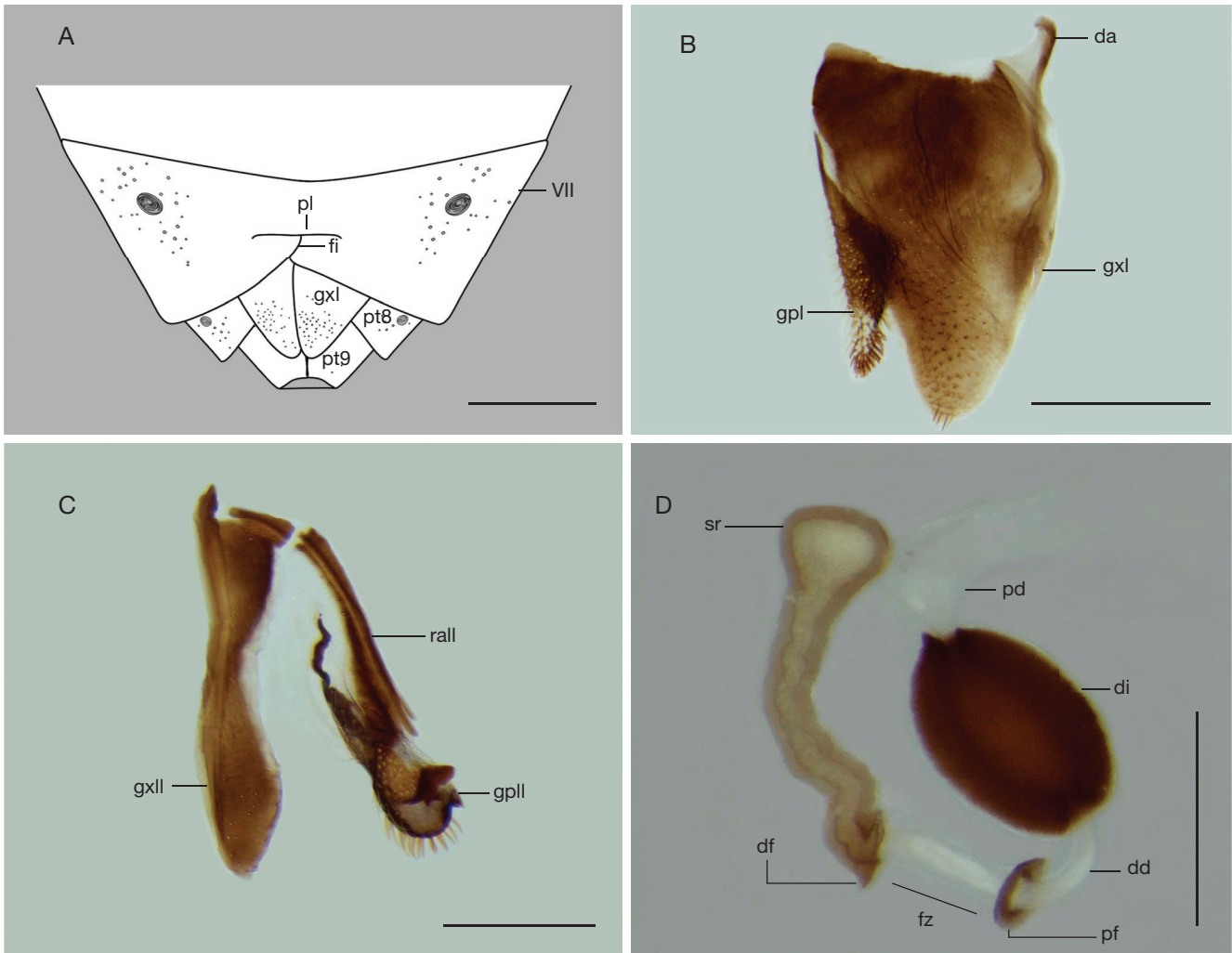


FIG. 17. — *Acanthocephala harryi* n. sp., female genitalia: **A**, pregenital and genital segments; **B**, first gonocoxa and gonapophysis; **C**, second gonocoxa and gonapophysis; **D**, spermatheca. Abbreviations: see Material and methods. Scale bars: A, 2 mm; B, 1 mm; C, D, 0.5 mm.

elongated (Fig. 16B); supracoxal area of metapleura not incrassate. Thoracic sterna: brown, with abundant erect yellowish setae; mesosternal anterior projection paler.

Hemelytra. Clavus and corium pale brown, with punctures along and next to veins and in the center of the cells, with sparse short decumbent yellowish setae on punctures, veins concolor; costal margin unarmed; membrane glabrous, veins paler. Length of hemelytra 20.12.

Legs. Trochanters unarmed. Femora with dark stiff semierect setae all over the surface, and erect setae ventrally. Pro- and mesofemora brown, paler basally; anterior, posterior, and dorsal margins unarmed, anterior ventral row of spines increasing in size towards apex, posterior row with a few tubercles ending in a large apical spine. Metafemur brown, 2.2 times wider than profemur (Fig. 16C); dorsal margin with two rows of black conical setiferous tubercles; ventral margin with two rows of dark brown to black spines becoming larger to the apex and ending on a bidentate apical projection; anterior row with large flat spines; posterior row with small conical

spines; anterior margin unarmed; posterior margin with a short row of small conical setiferous tubercles. Pro- and mesotibiae unarmed, pale brown with apex paler. Metatibia (Fig. 16D) reddish brown, apex yellowish; dorsal expansion unarmed, wider at distal basal third, with a notch from where it slightly narrows to expand again to the apex, ending rounded in a straight angle; ventral expansion developed, rounded on basal third, from where it narrows and runs parallel to the apex, with small sparse setiferous tubercles. Tarsi yellowish. Width of profemur 0.80; length of metafemur 13.00, width 1.97; length of metatibia 13.75, width 3.06.

Abdomen

Length of abdomen 14.38, width 9.63. Terga dark brown to black, irregularly pigmented. Sterna pale brown, with two yellowish areas on sternite I and II under metacoxae; with short decumbent yellowish setae and sparse semierect setae. Lateral margin of sternites III and IV not expanded. Area of insertion of trichobothria and surrounding area yellowish. Sternal lateral areas with punctures and rugosities around spiracles. Spiracles black, surrounding area yellowish.

Female genitalia (Figs 17). Sternite VII (Fig. 17A): fisura short, median lobes small and rounded, overlapping with each other; plica straight, close to the posterior margin of the sternite, shorter than the maximum width of first gonocoxae; posterolateral margins extending to median third of first gonocoxae. Paratergite VIII extending to the apex of first gonocoxae (Fig. 17A). Dorsal apodeme of second gonocoxa long and narrow, apex rounded (Fig. 17B). Second gonocoxae narrowed at the middle, basal region as wide as apical region (Fig. 17C). Second gonapophysis shorter than second gonocoxae. Spermatheca (Fig. 17D): seminal receptacle apically globose and rounded; flexible zone long; distal duct as long as flexible zone; dilation of the spermathecal duct oval.

MALE

Unknown.

PARATYPES MEASUREMENTS (N = 2 ♀)

Total length: 23.25-24.00; length of head: 2.40-2.43; length of tylus: 0.88-0.92; length of post-tylus depression: 0.28-0.32; width of eye: 0.77-0.83; ocular distance: 2.75-2.77; synthlipsis: 1.15-1.17; ocellar distance: 1.02-1.02; interocellar space: 0.51-0.64; length of antennal articles: scape, 5.12-5.75; pedicel, 4.25-4.50; basiflagellomere, 3.50-3.87; distiflagellomere, 10.25-11.87; width of antennal articles: scape, 0.34-0.38; pedicel, 0.26-0.26; basiflagellomere, 0.22-0.24; distiflagellomere, 0.29-0.32; length of labial segments: I, 2.11-2.30; II, 1.92-2.07; III, 1.88-1.97; IV, 1.60-1.765; width of humeral angles: 8.37-9.51; length of scutellum: 3.24-3.43; width scutellum: 3.29-3.43; length of hemelytra: 18.37-20.62; width of profemur: 0.77-0.77; width of metafemur: 1.69-1.92; length of metafemur: 12.12-13.00; width of metatibia: 3.05-3.48; length of metatibia: 13.00-14.37; length of abdomen: 12.50-14.00; width of abdomen: 7.87-8.25.

Acanthocephala macrotuberculata n. sp. (Figs 18-20; 30)

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TYPE MATERIAL. — **Holotype.** Colombia • “♀ Tolima/ Mnpo. Cunday/ vereda el edén/ 500 msn 13-03-[19]99/ B. enciso [PUJ] // MPJ-HEM-10000 [yellow label] // ME356 [yellow label]”.

TYPE LOCALITY. — Colombia, Tolima, Municipio Cunday, Vereda el Edén, 500 m.

ETYMOLOGY. — The name refers to the large tubercles of the pronotum of this species.

DISTRIBUTION. — Only known from Colombia (Fig. 30).

DESCRIPTION OF HOLOTYPE (Fig. 18A, B)

General

General color dark brown to black. Total length 29.37, length of head 2.91.

Head (Fig. 18C, D)

With sparse semierect yellowish setae; head dark brown. Dorsal margin of tylus straight at base strongly projected upwards at apex, overpassing the dorsal margin of head. Post-tylus depression deep, three times shorter than interocellar space. Length of tylus 0.29, length of post-tylus depression 0.29. Eyes globose and protuberant, small in relation to the size of the head. Width of eye 0.86, ocular distance 3.10, synthlipsis 1.49, ocellar distance 1.22, interocellar space 0.86. Buccula large, semicircular, and elongate, reaching the anterior third of eye. Antenna shorter than body length. Scape, pedicel, and basiflagellomere reddish brown, with abundant semierect long dark stiff setae; distiflagellomere orange with abundant decumbent yellowish setae and semierect sparse setae. Length of antennal articles: scape 6.25, pedicel 5.37, basiflagellomere 4.37, distiflagellomere 9.25; width of antennal articles: scape 0.89, pedicel 0.70, basiflagellomere 0.70, distiflagellomere 0.70. Labial segment I brown, segments II-IV paler, apex segment IV black; extending to mesocoxae; segment III shortest. Length of labial segments: I 2.68, II 2.44, III 1.55, IV 2.02.

Thorax

Pronotum (Fig. 19A): with sparse long semierect yellowish setae on anterior lobe, and scattered short decumbent yellowish setae all over the surface; anterior lobe with two well-developed rounded tubercles behind margin of collar; calli with two rounded tubercles between them; posterior lobe punctate with abundant rounded smooth and shiny tubercles irregularly arranged; anterolateral margins straight, with well-developed conical tubercles; humeral angles tuberculated, expanded and slightly elevated, widely acute; humeral distance 1.4 times larger than width of abdomen; posterolateral margins tuberculated, triangular processes short. Width of humeral angles 14.25. Scutellum: longer than wide, punctate with transversal rugosities, with short decumbent yellowish setae, and longer and darker erect setae all over the surface; base elevated with two rounded well-developed tubercles; apex incassate and yellowish. Length of scutellum 3.99, width 3.76. Thoracic pleurae: dark brown, with long decumbent yellowish setae; propleura with well-developed rounded tubercles more abundant under humeral angles; metathoracic gland auricle and evaporatory area orange with rugosities (Fig. 19B), anterior lobe of auricle oval and elongate, posterior lobe elongate; supracoxal area of metapleura not incassate posteriorly. Thoracic sterna: dark brown, with abundant long erect and decumbent yellowish setae; mesosternal anterior projection concolorous.

Hemelytra. Clavus and corium entirely punctate, with sparse short decumbent yellowish setae, basal region of costal margin armed with small setiferous tubercles; membrane with sparse decumbent setae, veins concolorous. Length of hemelytra 23.75.

Legs. Dark brown, except pro- and mesotibiae with the basal region brown becoming yellowish distally, and tarsi paler. Pro- and mesotrochanters unarmed, metatrochanter with one small ventral setiferous tubercle. Pro- and metafemora with short decumbent yellowish setae, and longer and darker semierect

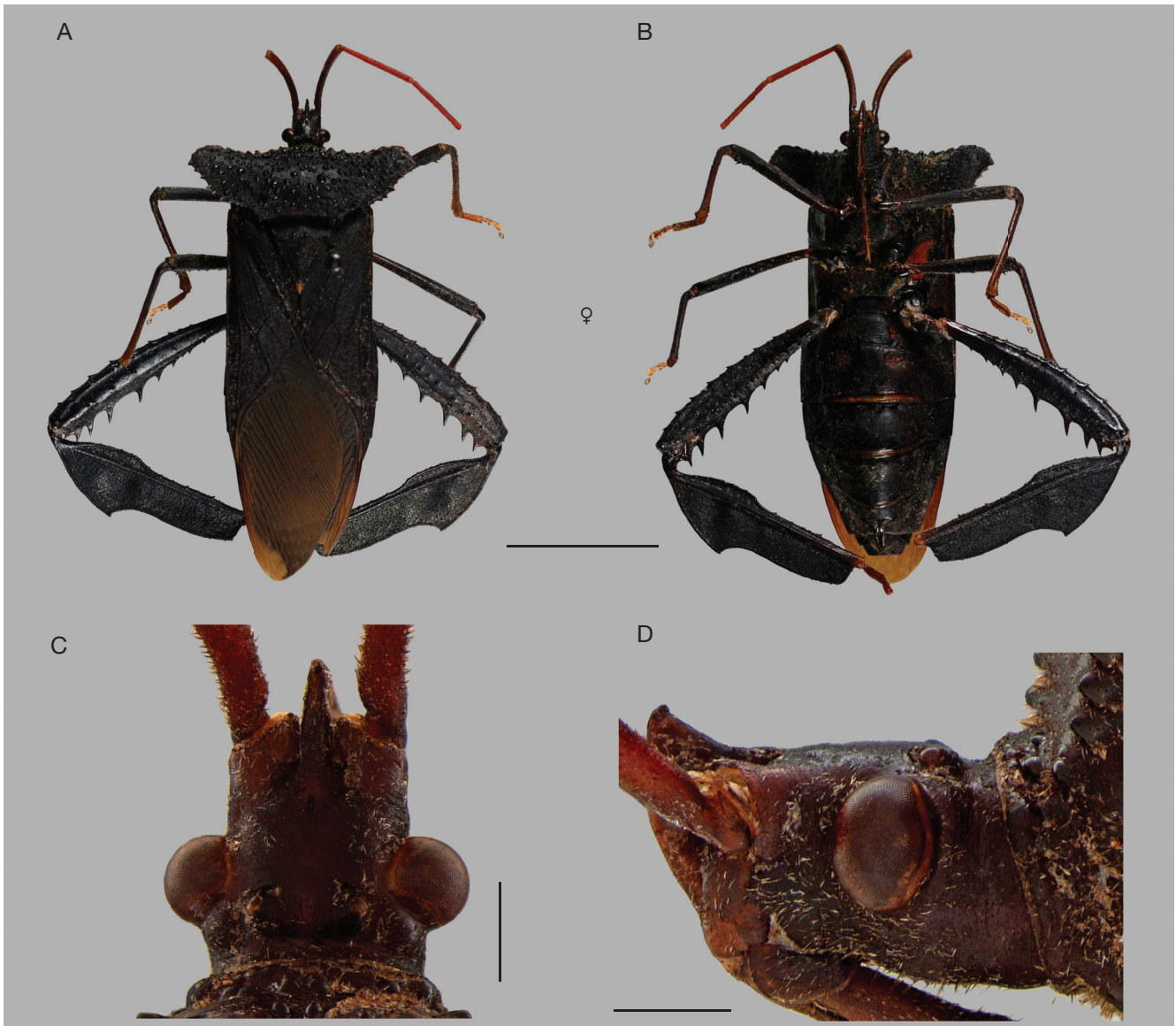


FIG. 18. — *Acanthocephala macrotuberculata* n. sp., female holotype: **A**, dorsal view; **B**, ventral view; **C**, head, dorsal view; **D**, head, lateral view. Scale bars: A, B, 10 mm; C, D, 1 mm.

setae all over their surface. Pro- and mesofemora with two ventral rows of spines ending in a small apical spine, posterior row restricted to apical half. Anterior, posterior, and dorsal margins of profemur unarmed. Anterior margin of mesofemur unarmed, posterior margin with small tubercles, and dorsal margin with one row of conical setiferous tubercles. Metafemur 2.6 times wider than profemur (Fig. 19C); dorsal margin with two rows of conical setiferous tubercles; anterior and posterior margins with a row of small setiferous tubercles; ventral margin with two rows of spines; anterior row with narrow conical spines compressed at base, becoming larger to the apex and ending on a bidentate apical projection; posterior row with small tubercles ending in an apical bidentate projection. Pro- and mesotibiae unarmed. Metatibia (Fig. 19D) black, apex paler; dorsal expansion developed, enlarging basally, with a notch from where it narrows parallel to the tibia until the apex, ending in

a straight angle; distal margin with small sparse setiferous tubercles; ventral margin expanded, barely evident on basal third, margin bordered by two rows of irregular setiferous tubercles becoming larger to the apex and cross at distal third forming only one row. Width of profemur 0.86; length of metafemur 14.12, width 2.31; length of metatibia 14.37, width 4.25.

Abdomen

Length of abdomen 16.87, width 9.75. Terga black, scars of scent gland openings yellowish. Sterna dark brown, with abundant decumbent yellowish setae and semierect setae all over the surface. Lateral margin of sternites III and IV not expanded. Area of insertion of trichobothria yellowish, surrounding area brown. Lateral areas with rugosities around spiracles. Spiracles black, surrounding area concolorous with rest of abdomen.

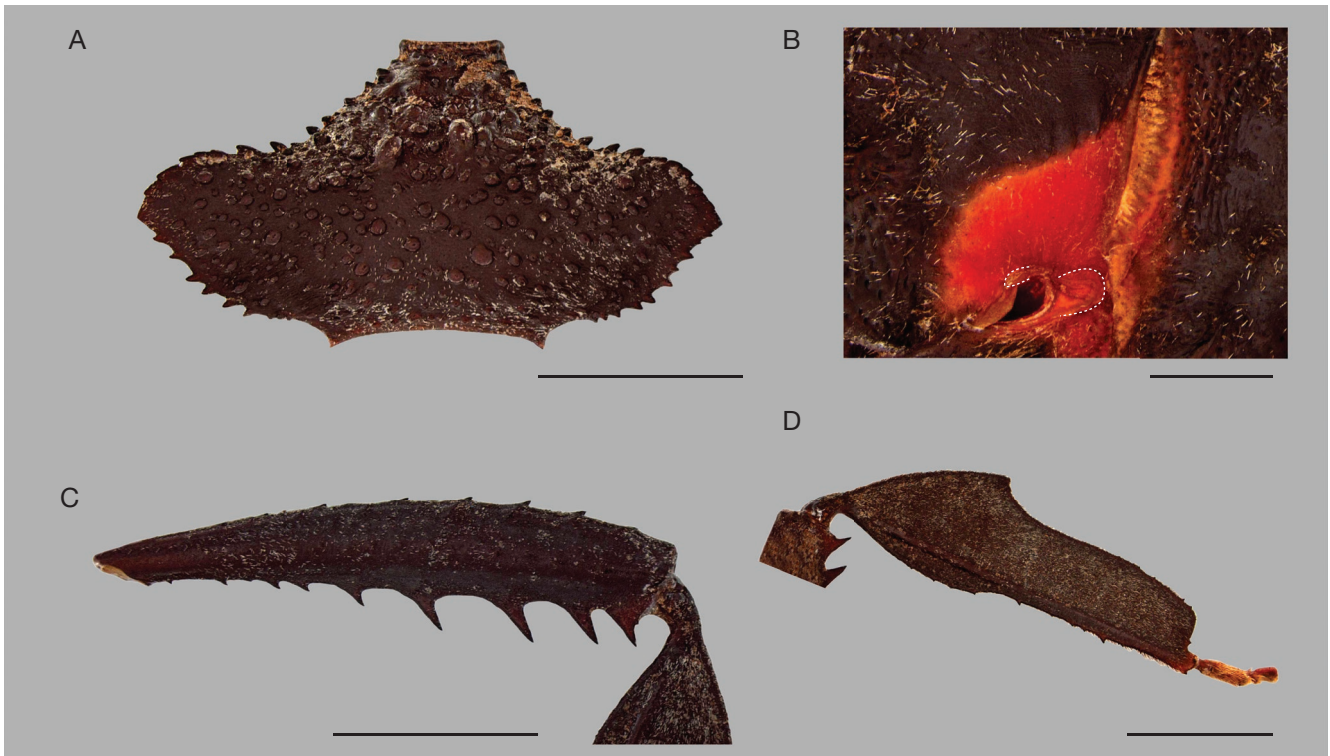


FIG. 19. — *Acanthocephala macrotuberculata* n. sp.: **A**, pronotum; **B**, metathoracic gland and evaporative area; **C**, female metafemur; **D**, female metatibia. Abbreviations: see Material and methods. Scale bars: A, C, D, 5 mm; B, 1 mm.

Female genitalia (Fig. 20). Sternite VII (Fig. 20A): Fisura long, median lobes well-developed, quadrangular, and overlapping with each other; plica straight, close to the anterior margin of sternite, as long as the maximum width of first gonocoxae; posterolateral margins straight not projecting beyond first gonocoxae. Paratergite VIII extending to apical third of first gonocoxae (Fig. 20A). Dorsal apodeme of first gonocoxae wide, apex rounded (Fig. 20B). Second gonocoxae narrow, narrowing to the apex, with a well-developed lateral apodeme at the middle third (Fig. 20C). Second gonapophysis shorter than second gonocoxa. Spermatheca (Fig. 20D): Seminal receptacle apically globose and oval; flexible zone long; distal duct longer than flexible zone; dilation of the spermathecal duct elongate.

MALE

Unknown.

Acanthocephala pilosa n. sp.
(Figs 21–23; 30)

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TYPE MATERIAL. — **Holotype.** Brazil • “♂ Rondonia / 62 km SE Ariquemes / 7–18 Nov 1995 / W.J. Hanson // UNAM-10010 [yellow label] // ME360 [yellow label] [UNAM].”

TYPE LOCALITY. — Brazil, Rondônia, 62 km SE Ariquemes.

ETYMOLOGY. — Referring to the abundant, long setae of the body of this species.

DISTRIBUTION. — Only known from Brazil (Fig. 30).

DESCRIPTION OF HOLOTYPE (Fig. 21A, B)

General

General color reddish brown. Total length 33.12, length of head 3.29.

Head (Figs 21C, D)

With sparse semierect and decumbent yellowish setae. Vertex brown with darker areas behind eyes, inner margin of antenniferous tubercles yellowish. Dorsal margin of tylus curving upward apically, not surpassing dorsal margin of head. Post-tylus depression deep, 2.8 times shorter than interocellar space. Length of tylus 1.28, length of post-tylus depression 0.42. Eyes globose and protuberant, small in relation to the size of the head. Width of eye 0.80, ocular distance 3.62, synthlipsis 1.97, ocellar distance 1.50, interocellar space 1.17. Buccula semicircular, with the margin pale brown, reaching the anterior third of the eye. Antenna pale reddish brown, as long as the body. Scape, pedicel, and basiflagellomere with sparse yellowish decumbent setae and abundant semierect darker stiff setae; distiflagellomere paler, with abundant decumbent yellowish setae and short sparse semierect darker stiff setae. Length of antennal articles: scape 9.00, pedicel 7.12, basiflagellomere 5.75, distiflagellomere 12.00; width of antennal articles: scape 0.75, pedicel 0.50, basiflagellomere 0.37, distiflagellomere 0.37. Labial segments I–II brown, segments III–IV yellowish, apex of segment IV brown; extending to mesocoxae; segment III shortest. Length of labial segments: I 2.96, II 2.77, III 1.83, IV 2.30.

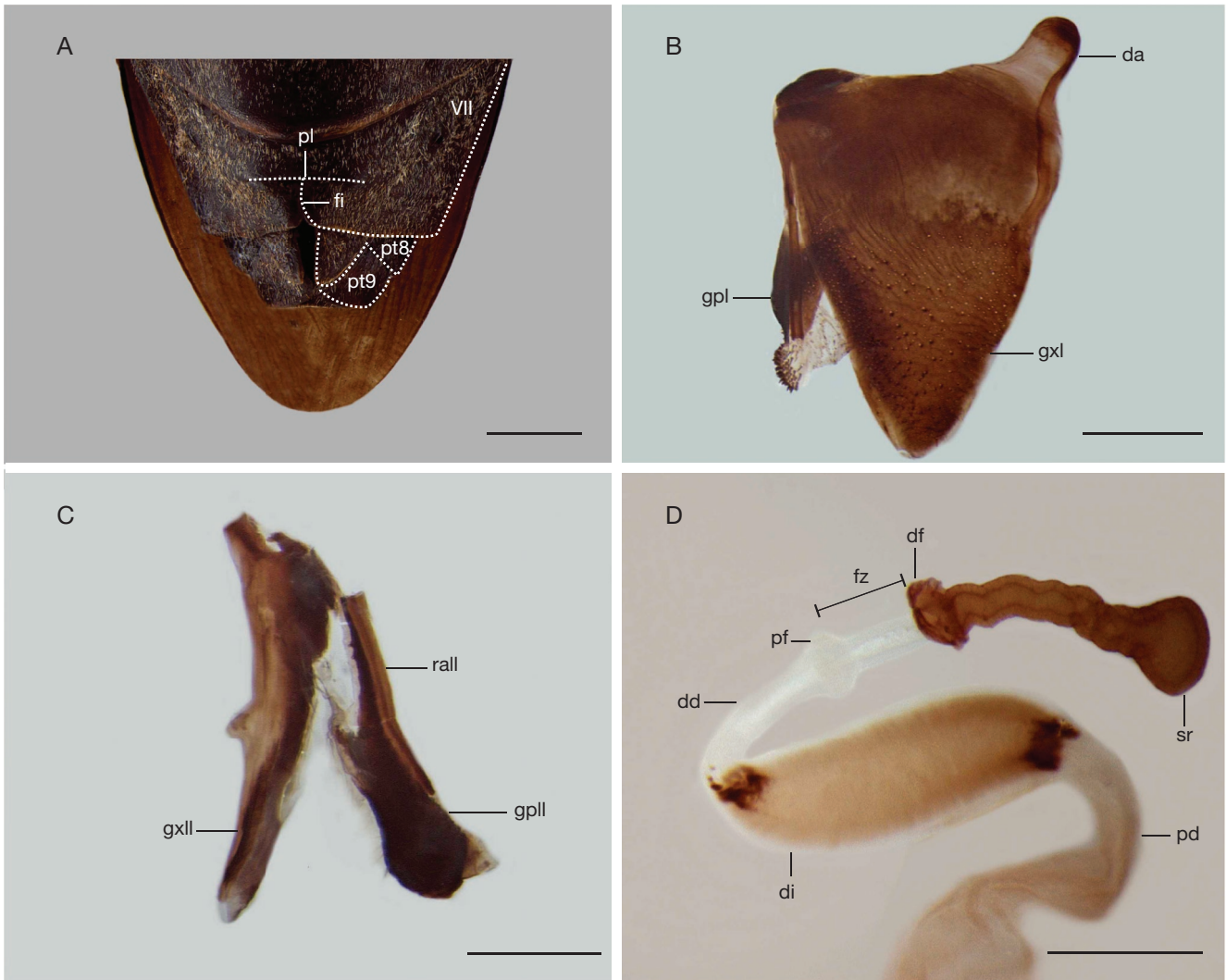


FIG. 20. — *Acanthocephala macrotuberculata* n. sp., female genitalia: **A**, pregenital and genital segments; **B**, first gonocoxa and gonapophysis; **C**, second gonocoxa and gonapophysis; **D**, spermatheca. Abbreviations: see Material and methods. Scale bars: A, 2 mm; B, 1 mm; C, D, 0.5 mm.

Thorax

Pronotum (Fig. 22A): with sparse semierect yellowish setae, and longer decumbent setae forming a dense patch on anterior lobe; anterior lobe and calli smooth and unarmed; posterior lobe punctate with sparse smooth and shiny tubercles more abundant on posterior region and humeral angles; anterolateral margins straight with well-developed conical tubercles; humeral angles wide, expanded and strongly elevated over pronotal surface, ending in a lateral wide spine; humeral distance 1.3 times longer than width of abdomen; posterolateral margin with well-developed tubercles, triangular processes extremely short. Width of humeral angles 15.62. Scutellum: slightly wider than long, punctate, with decumbent yellowish short setae, and darker erect setae all over the surface; base elevated with two well-developed tubercles; apex yellowish and incrassate. Length of scutellum 4.25, width 4.37. Thoracic pleurae: reddish brown, with abundant long decumbent yellowish setae and sparse semierect setae; propleura with scarce small tubercles concentrated under humeral angles;

metathoracic gland auricle and evaporatory area orange, anterior and posterior lobes of auricle elongate; evaporatory area with conspicuous rugosities (Fig. 22B), supracoxal area of metapleura slightly incrassate posteriorly. Thoracic sterna: brown, with abundant long yellowish erect and decumbent setae; mesosternum with a longitudinal yellowish stripe; mesosternal anterior projection yellowish.

Hemelytra. Clavus and corium reddish brown, entirely punctate, with abundant long decumbent yellowish setae; costal margin unarmed; membrane dark brown with sparse decumbent setae, veins concolorous. Length of hemelytra 24.87.

Legs. Protrochanter unarmed, meso- and metatrochanters with two small ventral dark brown setiferous tubercles (larger on metatrochanter). Femora with long decumbent yellowish setae and stiffer setae all over the surface. Pro- and mesofemora brown, paler basally. Anterior, posterior, and dorsal margins of profemur unarmed. Anterior and posterior margins of mesofe-

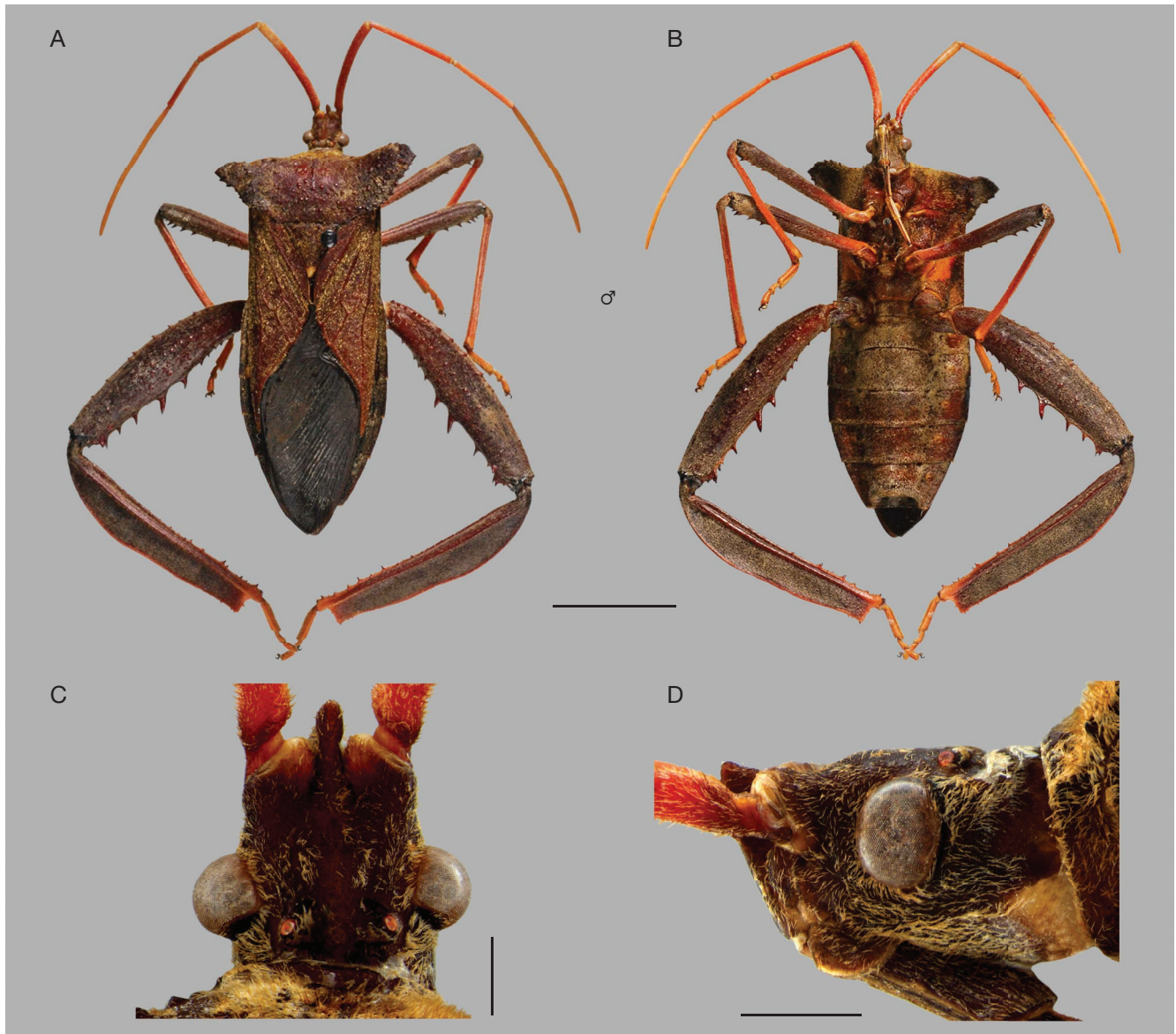


FIG. 21. — *Acanthocephala pilosa* n. sp., male holotype: **A**, dorsal view; **B**, ventral view; **C**, head, dorsal view; **D**, head, lateral view. Scale bars: A, B, 10 mm; C, D, 1 mm.

mur unarmed, dorsal margin with a row of conical setiferous tubercles with their apex darkened; ventral rows of spines on pro- and mesofemora ending in a large apical spine, posterior row with smaller spines. Metafemur brown, 2.8 times wider than profemur (Fig. 22C); dorsal margin with two rows of conical setiferous tubercles with their apex darker, posterior row with smaller tubercles; ventral margin with two rows of spines with their apex darker; anterior row with narrow conical black spines becoming larger to the middle and ending on a tridentate apical projection; posterior row with conical tubercles becoming larger to the apex and ending on an apical bidentate projection; anterior and posterior margins with sparse small setiferous tubercles. Pro- and mesotibiae unarmed, orange. Metatibia (Fig. 22D) brown, apical region, and margin of dorsal expansion orange. Dorsal expansion developed, maximum width at distal basal third, from where it slightly narrows to the apex, ending in a

straight angle; distal margin with small tubercles; apical margin with a small setiferous tubercle at middle; ventral margin slightly expanded on basal third, margin with two rows of irregular setiferous tubercles with their apex dark, becoming larger to the apex and cross at distal third forming only one row. Tarsi orange. Width of profemur 1.37; length of metafemur 17.62, width 3.87; length of metatibia 19.37, width 3.37.

Abdomen

Length of abdomen 16.87, width 11.25. Terga black, scar of scent glands openings and posterior region of segment VI yellowish, continuing with a longitudinal fringe along segment VII (Fig. 22E). Sterna brown, with abundant yellowish decumbent and semierect setae all over the surface. Abdominal sternite III expanded forming a fold. Area of insertion of trichobothria and surrounding area yellowish, detached in

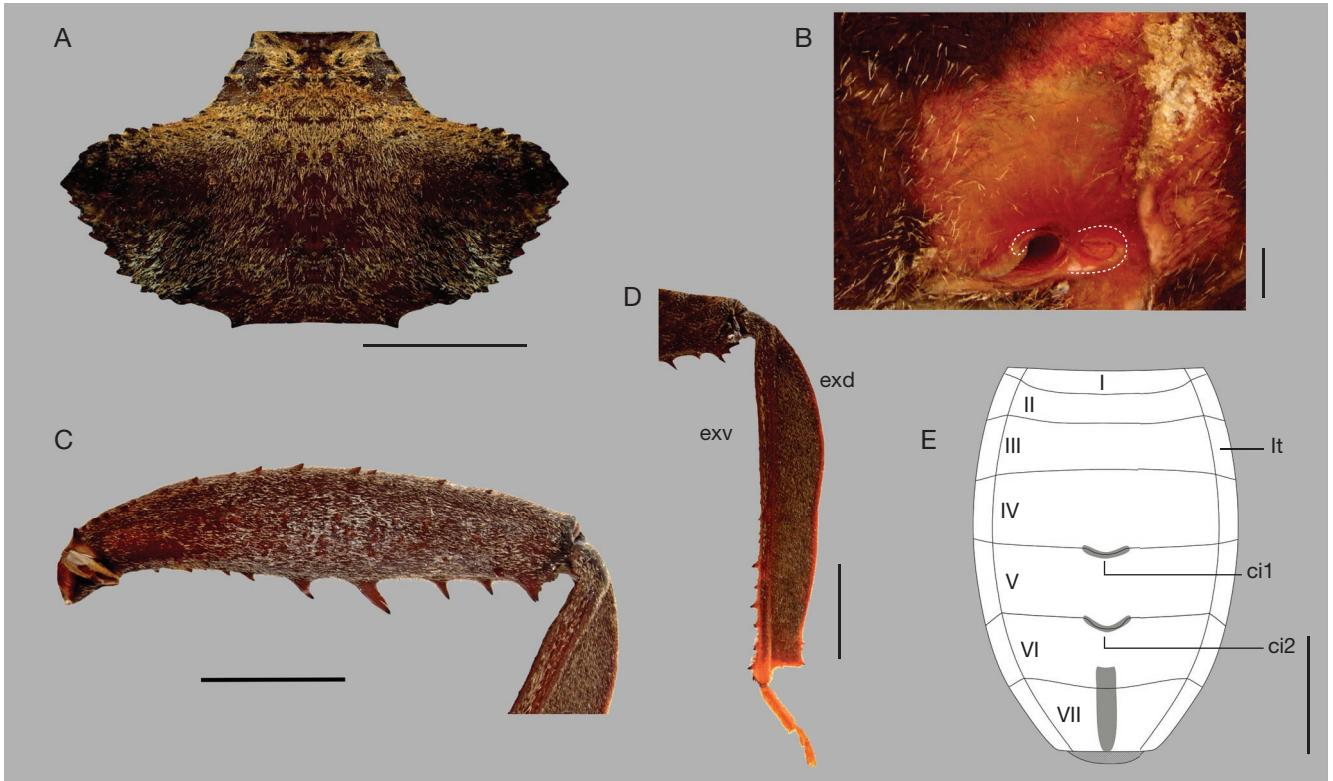


FIG. 22. — *Acanthocephala pilosa* n. sp.: **A**, pronotum; **B**, metathoracic gland and evaporative area; **C**, male metafemur; **D**, male metatibia; **E**, abdominal tergites in dorsal view. Abbreviations: see Material and methods. Scale bars: A, C-E, 5 mm; B, 0.5 mm.

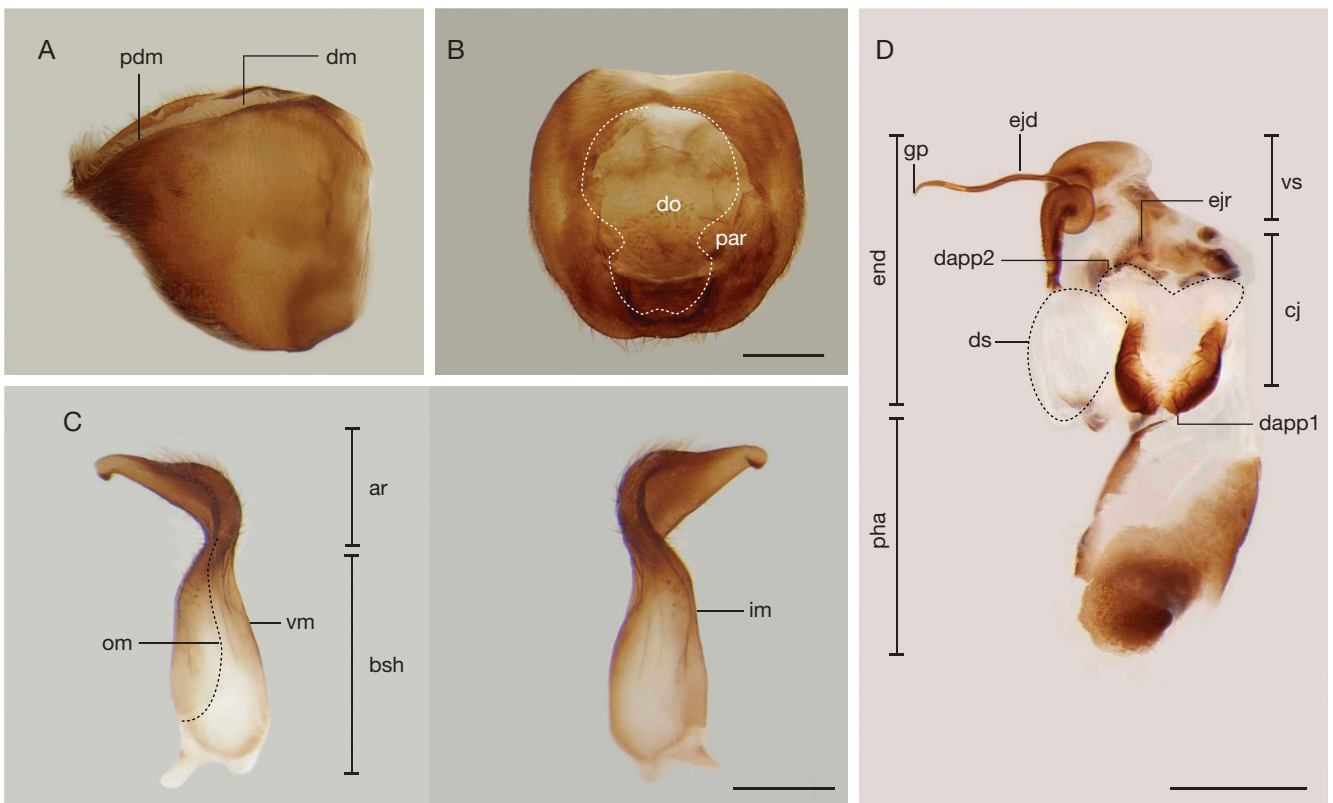


FIG. 23. — *Acanthocephala pilosa* n. sp., male genitalia: **A**, pygophore lateral; **B**, pygophore dorsal; **C**, right paramere, lateral views; **D**, aedeagus. Abbreviations: see Material and methods. Scale bars: A, B, D, 1 mm; C, 0.5 mm.

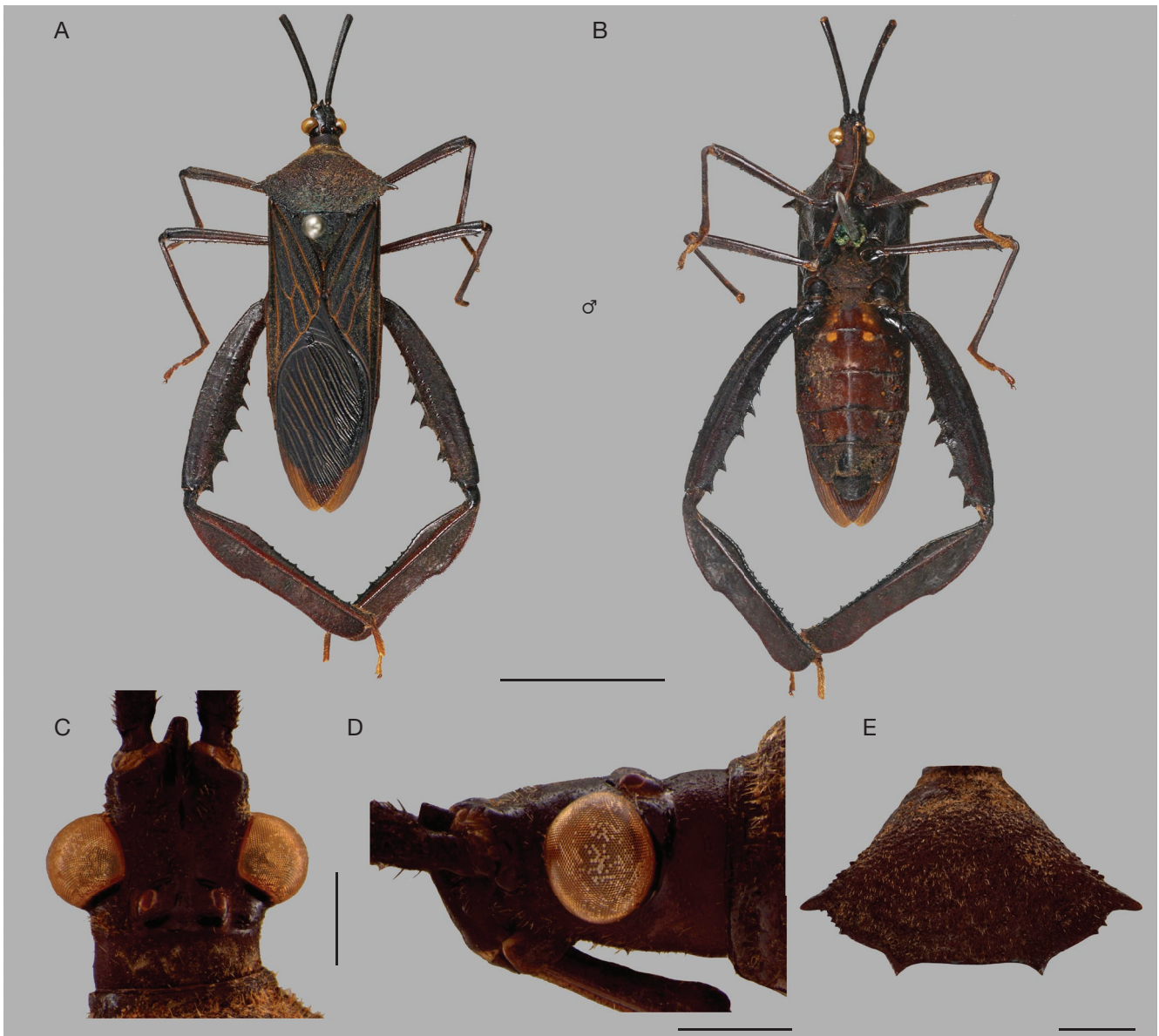


FIG. 24. — *Acanthocephala spinosa* n. sp., male holotype: **A**, dorsal view; **B**, ventral view; **C**, head, dorsal view; **D**, head, lateral view; **E**, pronotum. Scale bars: A, B, 10 mm; C, D, 1 mm; E, 2 mm.

sternites III and IV, and forming one macula on the rest of segments. Lateral areas with punctures and rugosities around spiracles. Spiracles and the surrounding area yellowish.

Male genitalia (Fig. 23). Pygophore (Fig. 23A, B): Dorsal opening rounded, parandria well-developed; dorsal margin in lateral view slightly rounded and declivent posteriorly. Parameres (Fig. 23C): basal shank long, longer than arm; outer region rounded, narrowing to the apex, inner margin straight and not expanded, outer margin concave. Arm broad, subtriangular, ending in a blunt short protuberance. Aedeagus as seen in Figure 23D, conjunctival dorsal appendices I elongate.

FEMALE
Unknown.

Acanthocephala spinosa n. sp.
(Figs 24-26; 30)

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TYPE MATERIAL. — **Holotype.** Colombia • “♂ Río Dagua / From WFH / Rosenberg [USNM]”.

TYPE LOCALITY. — Colombia, Río Dagua.

ETYMOLOGY. — The specific epithet refers to the spine present on the humeral angles of the pronotum of this species.

DISTRIBUTION. — Only known from Colombia (Fig. 30).

DESCRIPTION OF HOLOTYPE (Fig. 24A, B)

General

Total length 23.37, length of head 2.34.

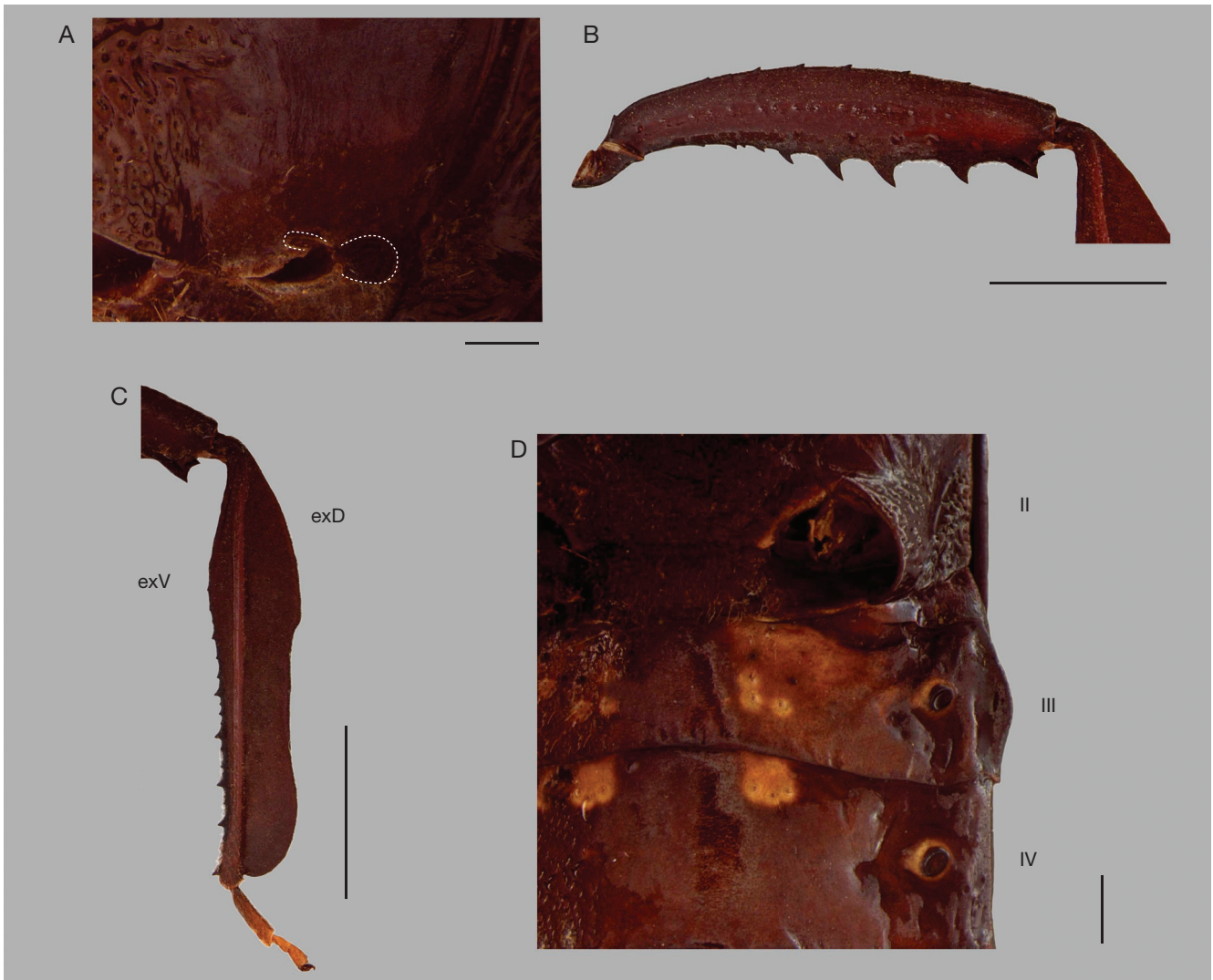


FIG. 25. — *Acanthocephala spinosa* n. sp.: **A**, metathoracic gland and evaporatory area; **B**, male metafemur; **C**, male metatibia; **D**, lateral expansions on abdominal sternite III, ventral view. Abbreviations: see Material and methods. Scale bars: A, 0.5 mm; B, C, 5 mm; D, 1 mm.

Head (Fig. 24C, D)

Dark brown, with two paler areas next to ocelli, posterior margin of eyes with a yellowish fringe, with sparse semierect yellowish setae. Apex of tylus slightly projected upwards, surpassing the dorsal margin of head. Post-tylus depression deep, 1.4 times shorter than interocellar space. Length of tylus 0.79, length of post-tylus depression 0.38. Eyes globose and protuberant, large in relation to the size of the head, in lateral view, surpassing the dorsal margin of head. Width of eye 0.84, ocular distance 2.85, synthlipsis 1.22, ocellar distance 0.96, interocellar space 0.54. Buccula subquadrangular, extending backwards to the anterior third of eye. Scape, pedicel and basiflagellomere dark reddish brown, with abundant semierect dark stiff setae, inner side of scape longitudinally ridged [distiflagellomere absent]. Length of antennal articles: scape 5.75, pedicel 4.50, basiflagellomere, 4.00; width of antennal articles: scape 0.43, pedicel 0.28, basiflagellomere 0.28. Labium dark brown, extending to mesocoxae. Length of labial segments: I 2.16, II 2.11, III 1.60, IV 1.64.

Thorax

Pronotum (Fig. 24E): dark reddish brown, with short recumbent yellowish setae, anterior lobe with erect setae; anterior lobe and calli smooth; posterior lobe strongly punctate, anterolateral margins straight, slightly crenulated distally; humeral angles tuberculated, expanded and slightly elevated, ending in a large lateral spine; humeral distance 1.3 times larger than width of abdomen; posterolateral margin tuberculated, tubercles more developed on anterior region; triangular processes short. Width of humeral angles 8.87. Scutellum: black with its apex yellowish; longer than wide, punctate, with sparse semierect yellowish setae; base elevated. Length of scutellum 3.62, width 3.15. Thoracic pleurae: shiny, brown, with scattered semierect yellowish setae; anterior lobe of auricle black, rounded, posterior lobe elongate (Fig. 25A); supracoxal area of metapleura slightly incassate posteriorly. Thoracic sternae: dark brown, with abundant long erect dark setae; mesosternal anterior projection concolorous.

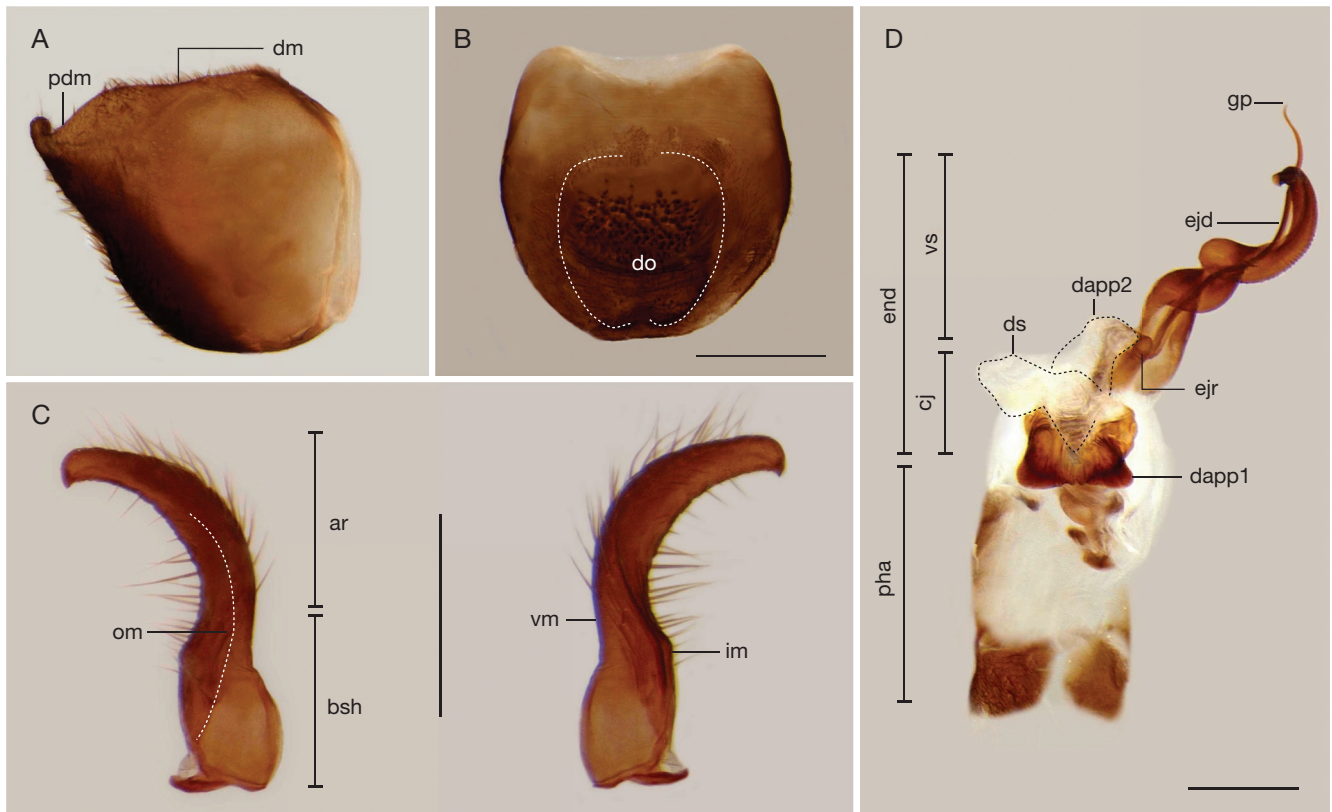


FIG. 26. — *Acanthocephala spinosa* n. sp., male genitalia: **A**, pygophore lateral; **B**, pygophore dorsal; **C**, right paramere, lateral views; **D**, aedeagus. Abbreviations: see Material and methods. Scale bars: A, B, 1 mm; C, D, 0.5 mm.

Hemelytra. Clavus and corium black, veins contrastingly orange; with punctures along and next to veins and in the center of the cells, punctures with short yellowish decumbent setae; costal margin smooth; membrane dark brown, glabrous, with veins paler. Length of hemelytra 19.50.

Legs. Dark brown, metatarsi paler. Pro- and mesotrochanters unarmed, metatrochanter with one small ventral setiferous tubercle. Pro- and mesofemora with dark stiff semierect setae all over the surface and erect setae ventrally; dorsal, anterior, and posterior margins unarmed, anterior row of ventral spines ending in a small apical spine, posterior row on profemur reduced. Metafemur at least three times wider than profemur (Fig. 25B); dorsal margin with two rows of conical setiferous tubercles; ventral margin with two rows of spines; anterior row with large flat black spines becoming larger at middle and ending in a flat bidentate projection; posterior row with conical tubercles becoming larger to the apex and ending in a smaller flat bidentate projection; anterior margin unarmed; posterior margin with a row of conical setiferous tubercles. Pro- and mesotibiae unarmed. Dorsal expansion of metatibia (Fig. 25C) unarmed, gradually enlarging on basal third, from where it slightly narrows to enlarge again to the apex, apical region rounded forming a straight angle with the tibia; ventral margin black, slightly expanded on basal third, bordered with two rows of irregular black conical setiferous tubercles, becom-

ing larger to the apex and crossing on distal third forming only one row. Width of profemur 0.75; length of metafemur 12.50, width 2.35; length of metatibia 13.25, width 2.58.

Abdomen

Length of abdomen 12.50, width 6.87. Terga black, posterior angles of lateral margin of segments II-VII paler. Sterna brown, with scattered short yellowish decumbent setae. Abdominal sternite III expanded forming a slightly developed subtriangular fold (Fig. 25D). Area of insertion of trichobothria and surrounding area yellowish, and individualized on sternite III and forming one macula on the other segments; lateral areas with rugosities around spiracles. Spiracles black, surrounding area yellowish.

Male genitalia (Fig. 26). Pygophore (Fig. 26A, B): dorsal opening rounded, parandria not developed; dorsal margin on lateral view straight abruptly declivent posteriorly ending in a short rounded process. Parameres (Fig. 26C): basal shank narrow, inner margin straight and not expanded, outer margin convex; arm broad, longer than basal shank. Aedeagus as seen in Figure 26D, conjunctival dorsal appendices I subtriangular.

FEMALE
Unknown.

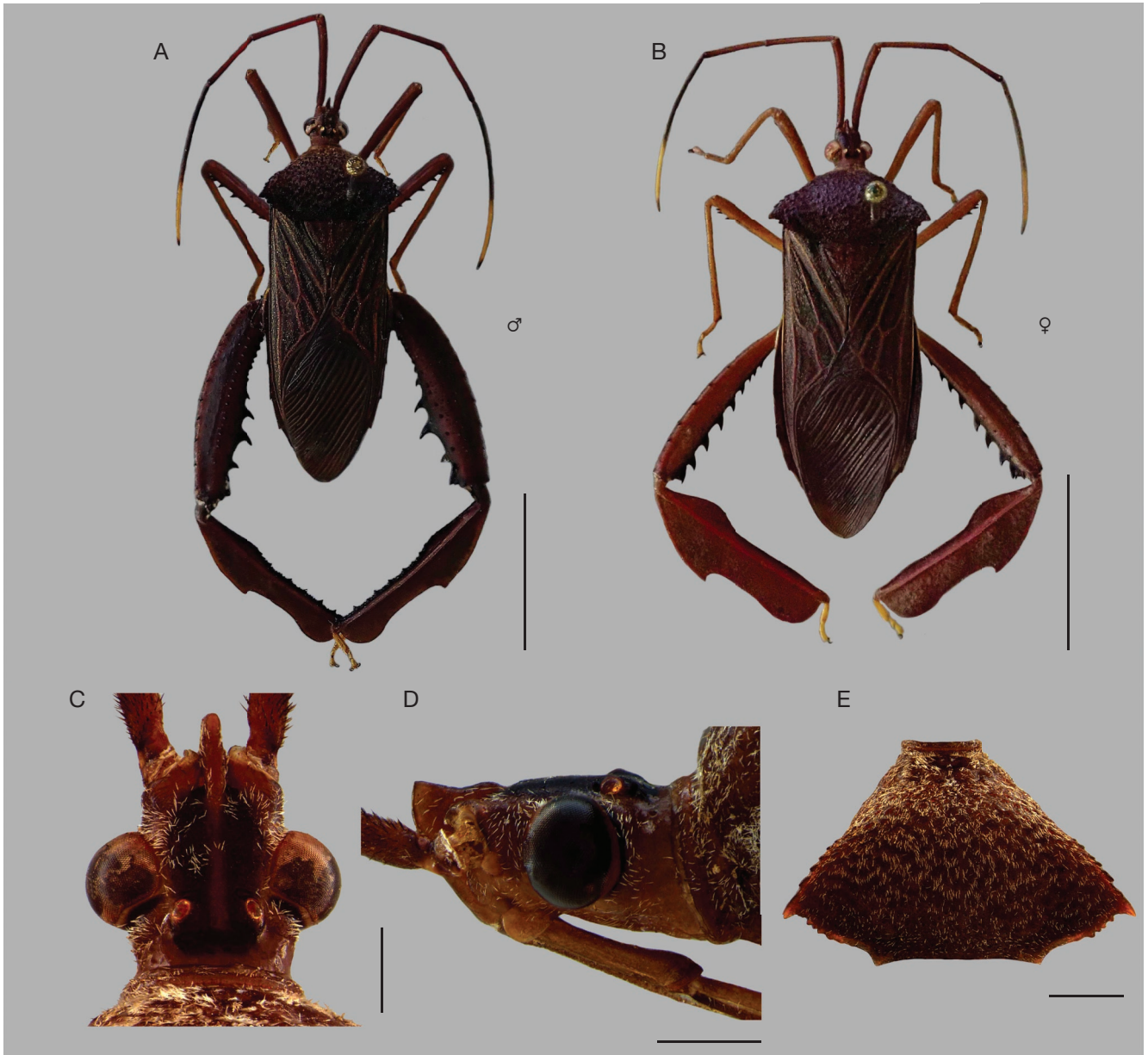


FIG. 27. — *Acanthocephala pleuritica*: **A**, male, dorsal view; **B**, female, dorsal view; **C**, head, dorsal view; **D**, head, lateral view; **E**, pronotum. Scale bars: A, B, 10 mm; C, D, 1 mm; E, 2 mm.

Acanthocephala pleuritica (Costa, 1863)
(Figs 27-30)

Metapodius pleuriticus Costa, 1863: 258 [n. sp., “*patria ignota*”]; 1864: 76. — Walker, 1871: 4: 51.

Acanthocephala pleuritica: Stål, 1870: 152 [n. comb.]. — Lethierry & Severin 1894: 2: 31. — Packauskas 2010: 5: 19. — CoreoideaSF Team 2021: <http://coreoidea.speciesfile.org>, cat. on-line].

MATERIAL EXAMINED. — **Brazil** • 2 ♂; Pará, Itaituba, II-1961, Dirings col.; MZSP • 14 ♀; Taperinha, prox. Santarém; 29.XII.1967 – 9.I.1968; Exp. P. Amaz., #MZSP2132, 2138, 2140, 2142, 2144 (MZSP) • 4 ♂, 4 ♀; Taperinha, prox. Santarém; 1/11.II.1968, Exp. P. Amaz.; #MZSP2005, 2003, 2013, 2014, 2139, 2143, 2146, 2153; MZSP • ♀; Rio Xingu, 21/28.X.1986; F. Val. Col.; #MZSP1985;

MZSP • ♂; Santarém; USNM • ♂; Santa Catarina, Rio Vermelho, IV.1963; Dirings col.; #MZSP2169; MZSP.

DISTRIBUTION. — This species was described without the reference to a place where the specimen was found, that is why subsequently the species was cited from “*patria ignota*”. Here we give some records of the species from Brazil (Fig. 30) and establish a distribution for the species for the first time.

REDESCRIPTION OF MALE (Fig. 27A)
(Measurements taken from one male)

General

Total length 24.25, length of head 2.72.

Head (Figs 27C, D)

Brown, with two longitudinal darker fringes dorsally, posterior margin of eyes with a yellowish fringe followed by a darker area, with sparse semierect yellowish setae. Base of tylus slightly elevated, apex of tylus slightly projected upwards, at level of dorsal margin of head in lateral view. Post-tylus depression deep, 1.6 times shorter than interocellar space. Length of tylus 1.12, length of postylus depression 0.38. Eyes globose and protuberant, not surpassing the dorsal margin of head. Width of eye 0.90, ocular distance 2.98, synthlipsis 1.25, ocellar distance 1.12, interocellar space 0.61. Buccula rounded, extending backwards to the anterior third of eye. Antennae longer than body length. Scape with inner side longitudinally ridged. Scape, pedicel and basiflagellomere pale brown with abundant semierect dark stiff setae, distiflagellomere black with a subapical yellowish band of about $\frac{1}{3}$ of article length (Fig. 27A). Length of antennal articles: scape 5.87, pedicel 4.37, basiflagellomere 4.00, distiflagellomere 11.00; width of antennal articles: scape 0.42, pedicel 2.88, basiflagellomere 2.88, distiflagellomere 0.26. Labium brown, extending to mesocoxae. Length of labial segments: I 2.26, II 2.07, III 1.93, IV 1.64.

Thorax

Pronotum (Fig. 27E): dark brown, with short decumbent and erect yellowish setae, longer and more abundant on anterior lobe; anterolateral margins straight; posterior pronotal lobe with small rounded tubercles on humeral angles; these not elevated, ending in a small spine directed posteriorly; humeral distance 1.2 times larger than width of abdomen; posterolateral margins slightly tuberculated on anterior half; triangular processes short. Width of humeral angles 9.37. Scutellum: dark brown with its apex yellowish; longer than wide, with sparse semierect yellowish setae; with transversal rugosities. Length of scutellum 3.75, width 3.50. Thoracic pleurae: brown, with abundant decumbent yellowish setae forming one patch on propleura, two patches on mesopleura [forming one large patch in some specimens], and one on metapleura (Fig. 28A); methathoracic scent gland auricle and evaporatorium yellowish, anterior lobe of auricle black, rounded, posterior lobe elongate (Fig. 28B). Thoracic sterna: brown, with abundant erect yellowish dark setae; mesosternal anterior projection paler.

Hemelytra. Clavus and corium brown, veins reddish brown, punctures with short yellowish decumbent setae; costal margin smooth; membrane dark brown, glabrous, with veins paler. Length of hemelytra 20.12.

Legs. Pro- and mesotrochanters unarmed, metatrochanter with one small ventral setiferous tubercle. Pro- and mesofemora brown with dark stiff semierect setae all over the surface and erect setae ventrally; dorsal, anterior, and posterior margins unarmed, rows of ventral spines ending in a small apical spine, except the posterior row of profemur ending in a larger spine. Metafemur darker with reddish tonalities and ventral margin black; with dark stiff semierect setae all over the surface and erect setae ventrally; three times wider than

profemur (Fig. 28C); dorsal margin with two rows of dark brown to black conical setiferous tubercles, posterior brown with a larger basal tubercle; ventral margin with two rows of spines, anterior row with conical black spines becoming larger at middle and ending in a flat dentate projection; posterior row less developed with tubercles becoming larger to the apex and ending in a flat dentate projection; anterior margin unarmed; posterior margin with a row of concolor conical setiferous tubercles, basal tubercle larger. Pro- and mesotibiae brown, unarmed. Metatibia dark brown tinged with reddish. Dorsal expansion of metatibia (Fig. 28C) unarmed, gradually enlarging on basal third, from where it slightly narrows to enlarge again to the apex, apical region rounded; ventral margin black, slightly expanded on basal third, bordered with two rows of irregular black conical setiferous tubercles, becoming larger to the apex and crossing on distal third forming only one row. Pro- and mesotarsi brown, metatarsi yellowish. Width of profemur 0.89; length of metafemur 13.67, width 2.75; length of metatibia 15.75, width 3.00.

Abdomen

Length of abdomen 13.25, width 7.87. Terga black, suture between segments IV-V and V-VI yellowish. Sterna pale brown, with scattered short yellowish semierect and decumbent setae more abundant laterally. Abdominal sternite III expanded forming a subtriangular fold (Fig. 28E). Area of insertion of trichobothria and surrounding area yellowish, and individualized on sternite III and IV and forming one macula on the other segments; lateral areas with rugosities around spiracles. Spiracles black, surrounding area paler.

Male genitalia (Fig. 29). Pygophore dark brown to black (Fig. 29A, B), dorsal opening rounded, parandria not developed; dorsal margin on lateral view rounded abruptly declivent posteriorly ending in a rounded projection. Parameres (Fig. 29C) basal shank wide, inner margin convex and not expanded, outer margin slightly concave; arm narrow, shorter than basal shank, ending a recurved process. Aedeagus as seen in Figure 29D, conjunctival dorsal appendices I subtriangular.

REDESCRIPTION OF FEMALES (Figs 27B; 28D)

Apex of tylus more projected upwards than in males. Metafemur (Fig. 28D): Dorsal margin of with two rows of conical setiferous black tubercles; posterior row of spines on ventral margin only developed on distal half, and with small conical black spines becoming larger towards apex; and anterior margin unarmed; posterior margin with a row of small conical dark setiferous tubercles. Metatibia (Fig. 28D): dorsal expansion developed, enlarging basally, with a notch from where it narrows parallel to the tibia till the apex, ending in a straight angle; ventral margin expanded, well-developed and rounded on basal third, then narrowing parallel to the apex; margin sparse setiferous tubercles.

REMARKS

Unfortunately, we were not able to examine the type specimen of this species. According to the original description, Costa

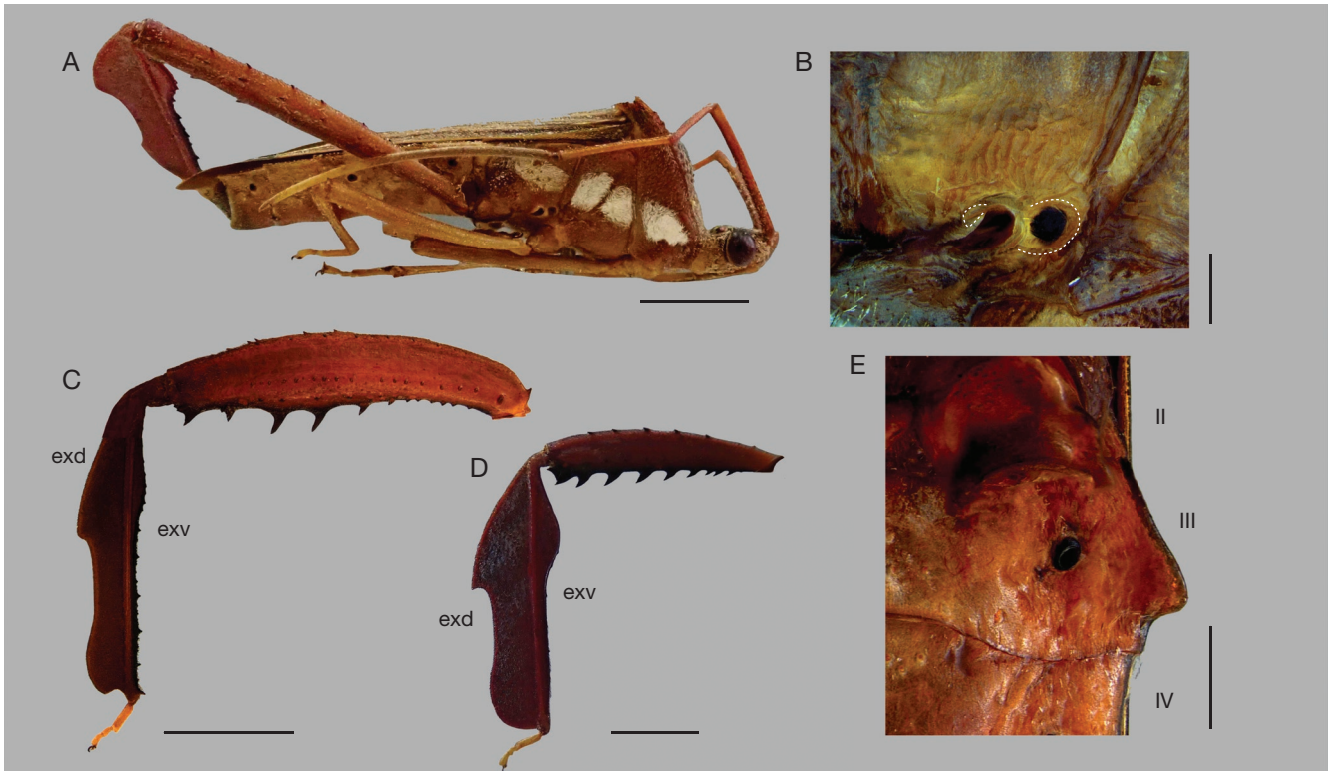


FIG. 28. — *Acanthocephala pleuritica*: **A**, male lateral view; **B**, metathoracic gland and evaporatory area; **C**, male metafemur and metatibia; **D**, female metafemur and metatibia; **E**, lateral expansions on abdominal sternites III, ventral view. Abbreviations: see Material and methods. Scale bars: A, C, D, 5 mm; B, 0.5 mm; E, 1 mm.

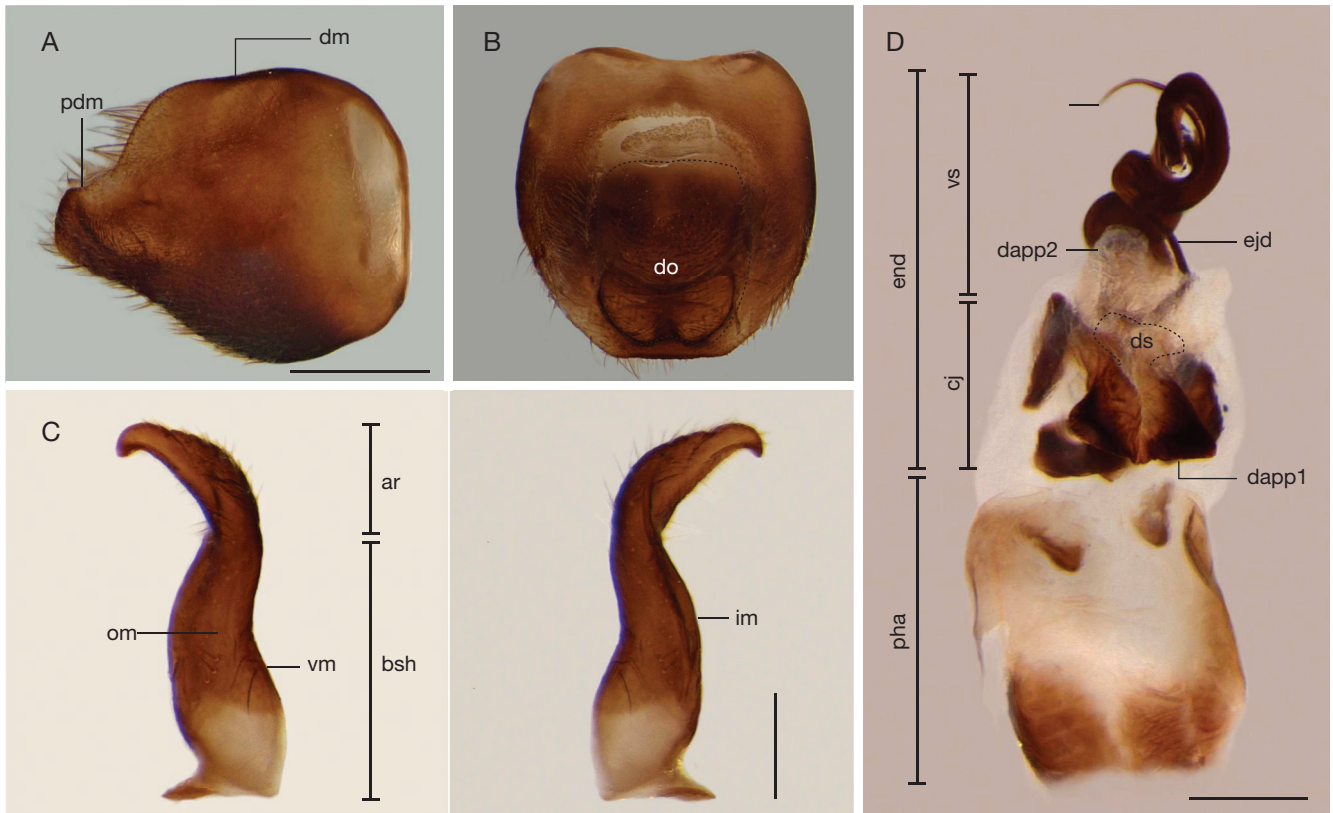


FIG. 29. — *Acanthocephala pleuritica*, male genitalia: **A**, pygophore lateral; **B**, pygophore dorsal; **C**, right paramere, lateral views; **D**, aedeagus. Abbreviations: see Material and methods. Scale bars: A, B, 1 mm; C, D, 0.5 mm.



FIG. 30. — Distributional map of the new species of the genus *Acanthocephala* Laporte, 1833 described in the present work.

(1863) studied a male, which should be deposited in the Museum and Centre of Natural Sciences and Physics, in Italy, with all his collection. Nevertheless, after contacting the curator of this institution, he confirmed that the specimen is lost.

DISCUSSION

The new species *Acanthocephala carioca* n. sp., *A. flaviantennata* n. sp., *A. harryi* n. sp., and *A. spinosa* n. sp. show similarities with *A. latipes* (Drury, 1782), *A. equalis* (Westwood, 1842), *A. pleuritica*, and *A. scutellata* (Signoret, 1862). These species show globose and protuberant eyes, a longitudinal carina on the inner side of the scape, and a rounded apex of the dorsal expansion of the metatibia. *Acanthocephala spinosa* n. sp. is easily separated from these species by the well-developed and laterally directed spine in the humeral angle, and the shape of the short rounded process of the posterior margin of pygophore (Figs 24E; 26A); and *A. carioca* n. sp. can be distinguished by its reddish brown general coloration with only the metatarsus yellowish, and the tapering posterior process of pygophore (Figs 8A, B; 10A). *Acanthocephala flaviantennata* n. sp. and *A. harryi* n. sp. are easily distinguished by their color pat-

tern: The first one is mostly dark brown with the antennae, protibiae, mesotibiae, and tarsi yellowish (Fig. 11A); and the second one is brown to dark brown, with contrastingly yellowish hemelytra (Fig. 15A). Finally, within this group, *A. pleuritica* can be recognized by the bicolored distiflagellomere: Black with a subapical yellowish band; and the four patches of setae on the pleurae (Figs 27A; 28A).

Acanthocephala angusta n. sp. shares with other species of the genus the small, rounded tubercles of the posterior lobe of pronotum, the fusiform or slightly sinuate dorsal expansion of male metatibiae, and a small lateral expansion on abdominal segment III in males. Among this group of species, *A. angusta* n. sp. seems to be related to *A. terminalis* (Dallas, 1852) by the small body size, the unarmed anterior lobe of pronotum, with scarce tubercles on posterior lobe, the anterolateral margins with small conical tubercles, and the rounded humeral angles. Nevertheless, *A. angusta* n. sp. can be distinguished by entirely brown antennae, the tuberculate propleura, and the fusiform and slightly developed dorsal expansion of metatibia in both sexes (Figs 1A; 2C, D); on the other hand, *A. terminalis* shows a contrastingly yellowish basiflagellomere, a smooth propleuron, and a more developed and sinuated dorsal expansion of metatibia in females.

Acanthocephala brunnea n. sp., *A. macrotuberculata* n. sp. and *A. pilosa* n. sp. resemble *A. alata* (Burmeister, 1835), *A. mercur* (Mayr, 1865), *A. pittieri*, and *A. declivis* (Say, 1832), as they share characters such as the wide, expanded and elevated humeral angles; and the straight apex of the dorsal metatibial expansion. Among the setose species of this group, *A. pilosa* n. sp. can be distinguished by the pale reddish brown antenna and yellowish distiflagellomere, and the sparse smooth and shiny tubercles of the posterior lobe of pronotum (Figs 21A; 22A). *Acanthocephala macrotuberculata* n. sp. can be distinguished by the general dark brown to black coloration, with the dark reddish brown antennae; and the abundant and well-developed large tubercles on the posterior lobe of pronotum (Figs 18A; 19A). Finally, *A. brunnea* n. sp. is entirely reddish brown except by the contrasting metathoracic gland and evaporatory area and the tip of scutellum; the posterior lobe of pronotum is punctate with abundant, rounded, smooth and shiny tubercles irregularly arranged; and the triangular processes are extremely short.

Besides the nine species treated in this paper, the following 16 species have been recorded from South America: *Acanthocephala affinis* (Walker, 1871), *A. angustipes* (Westwood, 1842), *A. apicalis* (Westwood, 1842), *A. bicoloripes* (Stål, 1855), *A. concolor* (Herrich-Schäffer, 1841), *A. consobrina* (Westwood 1842), *A. dallasi* Lethierry & Severin, 1894, *A. equalis* (Westwood, 1842), *A. femorata* (Fabricius), *A. fulvitarso* (Herrich-Schäffer, 1851), *A. hamata* Bergroth, 1924, *A. latipes* (Drury, 1782), *A. mercur* (Mayr, 1865), *A. scutellata* (Signoret, 1862), *A. surata* (Burmeister, 1835), and *A. unicolor* (Westwood, 1842). Subsequently, the genus *Acanthocephala* increased its diversity to 32 species, including 25 species recorded from South America.

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