





Two New Species of *Dihammaphora* (Coleoptera, Cerambycidae, Rhopalophorini), with Taxonomical and Geographical Notes for the Genus

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Abstract

Dihammaphora Chevrolat (Arc Nat 1:50–54, 1859) is one of the most diverse genera of Rhopalophorini, with 46 species. It is characterized mainly by species with antennae short and subserrated, with 10 or 11 antennomeres, prothorax cylindrical, and elytra punctuated. In this study, two new species of *Dihammaphora* are described and illustrated, new records are provided to 11 species, and taxonomic notes are given to six species of the genus. We examined 55 specimens and identified 16 species of the genus *Dihammaphora*, including *Dihammaphora aurea* **sp. nov.** from Honduras, and *Dihammaphora cruzi* **sp. nov.** from Brazil. The number of species of *Dihammaphora* is increased to 48, two of them in Central America, resulting in seven species for this region. In Brazil, 24 species are now recognized, being the country with the largest number of species of the genus. This study shows that there is still a deficit of knowledge about the diversity and distribution of *Dihammaphora*.

Keywords Longhorn beetle · New records · Neotropical · Cerambycinae

Introduction

Dihammaphora Chevrolat, 1859 is one of the largest genera of Rhopalophorini, comprising 46 species (Monné 2023; Tavakilian and Chevillotte 2023). The species of this genus are recognized by the following characters: antennae subserrate or subcylindrical, with 10 or 11 antennomeres, prothorax cylindrical, pronotum with a gibbosity on each side near posterior region, and elytra punctuated with a lateral costa from humeri almost to the apex (Napp and Mermudes

2010). This genus is predominantly Neotropical, with a single species reaching the Nearctic region (*Dihammaphora dispar* Chevrolat 1859), 41 species recorded from South America, and only five species recorded in Central America (Monné 2023; Tavakilian and Chevillotte 2023).

The genus was the subject of comparative morphological analysis by Mermudes and Napp (2004) who confirmed its classification in the tribe Rhopalophorini. Napp and Mermudes (2010) proposed for the first time a partial revision of *Dihammaphora* species with 11 antennomeres and described four new species of the genus. Recently, Clarke (2015) described six new species of *Dihammaphora* from Bolivia.

In this study, we describe two new species of the genus, one from Honduras and the other from the Central region of Brazil (Mato Grosso State). We also provide new records of 11 species and taxonomic notes of six species of the genus.

Material and methods

We examined 55 specimens obtained through loans from the following institutions: Coleção Entomológica do Instituto Oswaldo Cruz, Rio de Janeiro, RJ, Brazil (CEIOC); Museu de Ciências Naturais da Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre, RS, Brazil (MCNZ); Museu

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Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil (MNRJ); and Smithsonian Institution—National Museum of Natural History, Washington DC, U.S.A. (USNM). The specimens were identified following original descriptions, redescrptions (Gounelle 1911; Martins 1981; Mermudes 1998; Napp and Mermudes 2010), and the photographs of type specimens available on Bezark (2023).

Photographic images were taken using a Leica M205 stereomicroscope, Leica DFC450 camera, and Leica Application Suite V4.3 software for image stacking. The terminology followed Mermudes and Napp (2004) and Lawrence et al. (2010). Geographic distribution information followed Monné (2023) and the database of Cerambycidae “Titan” organized by Tavakilian and Chevillotte (2023).

Results

We identified 16 species of the genus *Dihammaphora*. Two new species are described below and 11 species have new geographic records. Variations on coloration of six species are described below.

Taxonomy

CERAMBYCIDAE Latreille, 1802

CERAMBYCINAE Latreille, 1802

RHOPALOPHORINI Blanchard, 1845

Dihammaphora Chevrolat, 1859

Dihammaphora aurea sp. nov.

(Fig. 1A–G)

Diagnosis. Antennae with 10 antennomeres. Prothorax (Fig. 1E) orangish with suboval black macula on the centre of the pronotum, and transverse black stripe on posterior margin, ending at posterior pronotal tubercles. Sides of prothorax either with small rounded black macula or lacking in some specimens (Fig. 1F–G).

Description. *Male.* Head (Fig. 1A, D) with black vertex, reaching anterior half of frons, antennal tubercles, and sides behind eyes. Posterior half of the frons and ventral region of head orangish to reddish brown (Fig. 1D). Antennae (Fig. 1A–C) dark brown to black, sometimes with scape slightly lighter. Prothorax (Fig. 1A–G) orangish with suboval black macula on center of pronotum, and transverse black stripe on posterior margin, ending at posterior pronotal tubercles; sides of prothorax (Fig. 1F–G) either with small rounded black macula or lacking. Meso- and metaventrite (Fig. 1C) dark brown. Elytra (Fig. 1A–B) dark brown bronzed. Abdominal ventrites (Fig. 1C) dark brown to reddish. Peduncles of femora, protibiae and protarsi (Fig. 1B)

yellowish brown; femoral club light brown to dark; meso- and metatibiae and meso- and metatarsi dark brown.

Head. Vertex (Fig. 1D) and frons with coarse, deep, and sparse punctures, interstices between punctures microsculptured. Frons, clypeus, labrum and mandible with dense, yellow-orangish pubescence. Antennae (Fig. 1A–C) with 10 antennomeres, extending to about the middle of the elytra. Scape rugose. Scape and antennomere III subequal in length; antennomeres III–V subcylindrical, subequal in length; VI–IX gradually expanding at apex, and decreasing in length; antennomere X elongated, one-third longer than IX.

Thorax. Prothorax (Fig. 1A–C, E–G) subcylindrical. Pronotum with coarse, deep punctures, moderately sparse, and interstices between punctures microsculptured. Pronotum (Fig. 1A, E) with parasagittal stripes of short, decumbent, and dense golden pubescence (either subdivided in the middle or not). Proepimeron, prosternal process, meso- and metaventrite, mesanepisternum and abdominal ventrites with silver pubescence, moderately dense. Metanepisternum with dense and shiny silver pubescence.

Elytra. Glabrous, with dorsal costae extending from anterior margin to near apex (Fig. 1A). Elytral surface with coarse and shallow punctures, arranged in three separated rows on medial third, between the suture and dorsal costae; apical third with four rows of punctures, near the anterior margin, between the dorsal costae and the anterior margin of epipleura with two rows of punctures.

Legs. Peduncles of femora (Fig. 1B) slightly sulcate on inner margin. Metafemora reaching the apex of elytra by apex of club. Metatarsomere I longer than II + III together. Legs with sparse silver pubescence.

Measurements. Holotype male. Total length: 4.8 mm; prothorax length: 1.1 mm; width prothorax: 0.8 mm; elytral length: 3.3 mm; humeral width: 1 mm. Paratypes. Total length: 4.9–5.9 mm; prothorax length: 1.1–1.4 mm; width prothorax: 0.7–0.9 mm; elytral length: 3.2/4.1 mm; humeral width: 1–1.2 mm.

Variation. The apex of metafemora either reaches or exceeds the apex of elytra.

Etymology. Latim, “*aurea*” (golden); allusive to the golden colored pubescence on pronotum.

Type material. *Holotype male.* HONDURAS, [Atlántida]: La Ceiba, vi.[19]28, Dyer, J. col. (USNM). *Paratypes.* 2 males, HONDURAS: [Francisco Morazán]: Tegucigalpa, 12. vi.[19]18, Dyer, J. col. (USNM); 3 males, 11. vi.[19]18. (USNM); 1 female, 11. vi.[19]18. (USNM); 1 male, HONDURAS: [Atlántida], La Ceiba, 14.vi. [19]20, Dyer, F. J. col. (USNM); 1 female, 14.vi. [19]20, Dyer, J. col. (USNM); 2 males, vi.[19]28, Dyer, J. col. (USNM).

Remarks. *Dihammaphora aurea* sp. nov. (Fig. 1A–G) is morphologically similar to *D. aurovittata* Bates, 1880, *D. cylindricollis* Chemsak and Noguera, 1993, *D.*

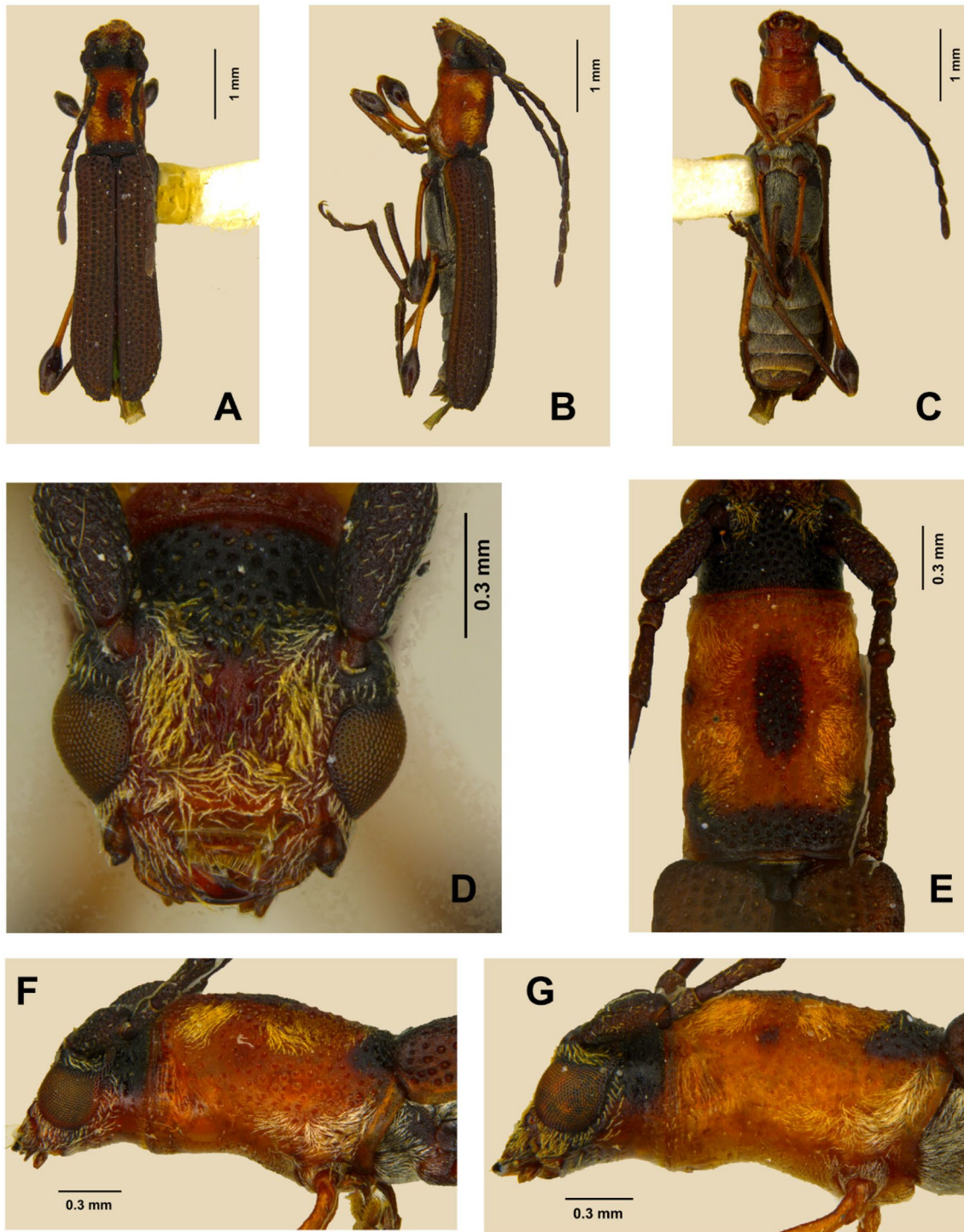


Fig. 1 A–G, *Dihammaphora aurea* sp. nov. A–D, Holotype male: A, Dorsal view; B, Lateral view; C, Ventral view; D, Frontal view; E, Prothorax (Paratype); F, Lateral view of the head and prothorax (Holotype); G, Lateral view of the head and prothorax (Paratype)

espinotibia Clarke, 2015, *D. nigrovittata* Fisher, 1937, *D. parana* (Gemming, 1873), and *D. vittathorax* Gounelle, 1911 because of the presence of black macula on pronotum. *Dihammaphora aurovittata* and *D. cylindricollis* are geographically related to countries of Central America

(Guatemala, Honduras, Nicaragua, Costa Rica) and Mexico, whereas *D. cylindricollis* is recorded only from Mexico. However, *Dihammaphora aurea* sp. nov. is easily distinguished by the suboval black macula on the center of the pronotum and the transverse black stripe on posterior

margin, ending at posterior pronotal tubercles, different from other species (see also the photographs available in Bezark (2023)). *Dihammaphora aurea* sp. nov. has the head distinctly black on vertex, reaching the anterior half of frons, antennal tubercles, and sides behind eyes and the posterior half of the frons and ventral region of the head are orangish to reddish brown (Fig. 1D–G). It differs from *D. cylindricollis*, *D. espinotibia*, *D. nigrovittata*, and *D. vittatithorax*, which have head orange, and from *D. aurovittata* with head entirely black. *Dihammaphora parana* has black head and legs, differing of the new species, which has the peduncles of femora, protibiae and protarsi yellowish, femoral club light brown to dark, meso- and metatibiae, and meso- and metatarsi light brown.

Distribution. *Dihammaphora aurea* sp. nov. is recorded so far only in the type-locality, in La Ceiba, and Tegucigalpa, both in Honduras. On the other hand, *D. espinotibia* is recorded from Bolivia, *D. nigrovittata* (see below, new records to Argentina and Paraguay) and *D. vittatithorax* are recorded from Brazil, and *D. parana* is recorded from Argentina and Paraguay.

Dihammaphora cruzi sp. nov.

(Fig. 2A–C)

Diagnosis. Antennae with 10 antennomeres. Head, scape, prothorax, procoxae, protrochanters, profemora, mesoventrite, meso- and metacoxae, meso- and metatrochanters, and peduncles of meso- and metafemora reddish (Fig. 2A–C). Elytra bicolor, anterior half to near the elytral suture reddish, posterior half dark brown. Elytra with dense yellowish pubescence (Fig. 2A–C).

Description. *Male.* Head, scape, prothorax, procoxae, protrochanters, profemora, mesoventrite, meso- and metacoxae, meso- and metatrochanters, peduncles of meso- and metafemora reddish (Fig. 2A–C); pedicel, protibiae, protarsi dark brown and mesoventrite and abdominal ventrites reddish brown (Fig. 2A–C); antennomeres III–X, metaventrite, club of meso- and metafemora, meso- and metatibiae, meso- and metatarsi black (Fig. 2A–C); elytra bicolorous, anterior half to near the elytral suture reddish, posterior half dark brown (Fig. 2A).

Head. Posterior region of vertex with alveolate and shallow punctures. Vertex (Fig. 2A) with yellowish pubescence, denser near the upper eye lobes; frons, genae, margins of lower eye lobes and mandible with silver pubescence, moderately dense; apex of labrum with erect gold setae; ventral region of head glabrous. Antennae (Fig. 2A) with 10 antennomeres, extending to about the middle of the elytra. Scape robust, slightly longer than antennomere III; III–V subcylindrical with subequal length; VI–IX gradually expanded at apex and decreasing in length; antennomere X elongated, one-third longer than IX. Antennae with sparse silver pubescence.

Thorax. Prothorax (Fig. 2A) subcylindrical. Pronotum (Fig. 2A) with moderately thin and shallow punctures. Pronotum with sparse yellowish pubescence; anterior margin of prosternum glabrous; sides of prothorax with sparse silver pubescence. Mesoventrite, mesanepisternum, mesepimeron, metaventrite, metanepisternum and metepimeron, abdominal ventrites with dense silver pubescence (Fig. 2C).

Elytra. Dorsal costae from anterior margin to apical sixth (Fig. 2A). Elytral surface with thick and shallow punctures, irregularly arranged, between the suture and dorsal costae;

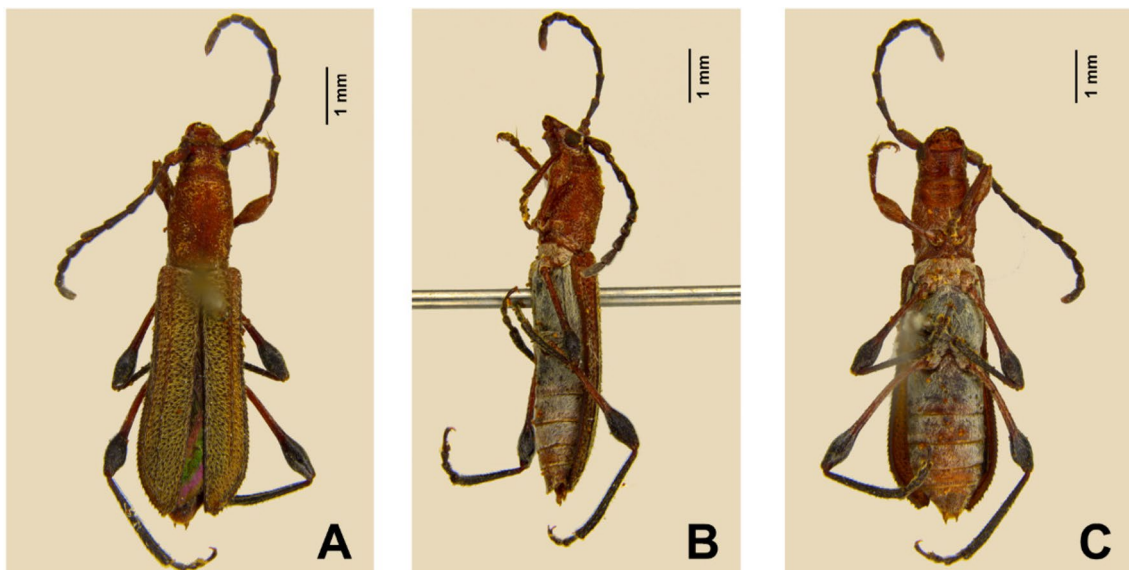


Fig. 2 A–C, *Dihammaphora cruzi* sp. nov., holotype male. A, Dorsal view; B, Lateral view; C, Ventral view

between the dorsal costae and the epipleura with two rows of punctuation. Elytral margin nodose, from anterior sixth to the apex. Elytral apex obliquely truncated. Elytra with dense yellowish pubescence.

Legs. Peduncles of femora (Fig. 2B) distinctly sulcate. Metafemora not reaching the apex of elytra. Metatarsomere I longer than II + III together. Legs with sparse silver pubescence.

Measurements. Holotype, male. Total length: 6.5 mm; prothorax length: 1.6 mm; width prothorax: 1.1 mm; elytral length: 4.3 mm; humeral width: 1.4 mm.

Etymology. The specific name is given in honor to Oswaldo Cruz, founder of the Fundação Oswaldo Cruz, institution where the specimen was deposited.

Type material. *Holotype* male. BRAZIL, *Mato Grosso* [*do Sul*]: Bodoquena, xi.1941. Com. I.O.C (CEIOC).

Remarks. *Dihammaphora cruzi* **sp. nov.** (Fig. 2A–C) is morphologically similar to *Dihammaphora brasileira* Napp and Mermudes, 2010 and *Dihammaphora espinotibia* Clarke, 2015. However, *Dihammaphora cruzi* **sp. nov.** has antennae with 10 antennomeres, extending to about the middle of the elytra, does not have an oval black macula on the center of the pronotum, elytra with dense yellowish pubescence, elytral apex obliquely truncated, mainly apex of tibiae without long spine, and metafemora not reaching the apex of elytra. It differs from *D. brasileira* which have antennae with 11 antennomeres, reaching apical third of the elytra, metafemora surpassing elytral apices by about half the length of club. *Dihammaphora espinotibia* has oval black macula on center of pronotum, elytra subglabrous, with punctuation with microscopic setae, elytral apex rounded, and mesal apex of tibiae with long spine.

Distribution. *Dihammaphora cruzi* **sp. nov.** is recorded only from the type-locality, in the municipality of Bodoquena, Mato Grosso Sul, Brazil, *D. brasileira* (see below, new records to Paraguay) is recorded from Brazil (Bahia, Minas Gerais, and Espírito Santo), and *D. espinotibia* is recorded from Bolivia (Santa Cruz and Tarija).

New geographical records and taxonomic notes

Dihammaphora aepytyus Chevrolat, 1859

(Fig. 3A)

Dihammaphora aepytyus Chevrolat 1859: 54; Monné 2023: 922.

Distribution. BRAZIL (Rio Grande do Sul), ARGENTINA (Santiago del Estero, Entre Ríos, and Buenos Aires), and PARAGUAY. The country record from Brazil is new.

Material examined. 1 female, BRAZIL, *Rio Grande do Sul*: Rio Grande, Estação Ecológica de Tain. 16.x.1985. Rosenau, M. col. (MCZN); 1 male, BRAZIL, *Rio Grande*

do Sul: Rio Grande, Estação Ecológica de Tain. 17.x.1985. Gastal, H.A. col. (MCZN).

Diagnosis. Integument mostly orangish; antennae with 10 antennomeres subcylindrical; prothorax cylindrical; femora with peduncle orangish and club dark brown; elytra yellowish brown; dorsal costae from humeri to near apex (Martins 1981).

Variation. Antennae dark brown or scape and pedicel slightly clear, peduncle of femora yellowish brown.

Dihammaphora auricollis Martins, 1981

(Fig. 3B)

Dihammaphora auricollis Martins 1981: 211; Monné 2023: 923.

Distribution. BOLIVIA (Santa Cruz and Tarija) and ARGENTINA (Salta, Santiago del Estero, and Tucumán). The province record from Santiago del Estero (Argentina) is new.

Material examined. 1 female, ARGENTINA, *S[antiago] del Estero*: Rio Salado. Wagner col. (USNM).

Diagnosis. Integument mostly orangish yellow; antennae with 10 antennomeres subcylindrical; femora orangish; elytra dorsal costae from humeri to the apical third; elytral surface with golden pubescence (Martins 1981).

Dihammaphora aurovittata Bates, 1880

(Fig. 3C)

Dihammaphora aurovittata Bates 1880: 61; Monné 2023: 923.

Dihammaphora aurovittata var. *debilis* Melzer, 1935: 184.

Distribution. MEXICO (Chiapas), GUATEMALA, HONDURAS, NICARAGUA, and COSTA RICA.

Material examined. 1 female, COSTA RICA, El Congo, 20.i.1934, Paez, H. (USNM); 4 females, COSTA RICA, El Congo, 5.ii.1934, Paez, H. (USNM).

Diagnosis. Head black; antennae with 10 antennomeres; antennomeres III–V subcylindrical, VI–IX subserrate and X elongated; prothorax orangish; pronotum and sides of prothorax with elongated black macula, from posterior margin to near anterior margin and sides of prothorax; sides of pronotum with longitudinal golden pubescence; femora with peduncle orangish and club dark brown; elytra black and glabrous; dorsal costae from humeri to the apical third.

Remarks. The colorful pattern of prothorax also encompasses the synonym described by Melzer (1935) from Costa Rica, but *Dihammaphora aurovittata* var. *debilis* has black macula pronotum shorter than *D. aurovittata*.

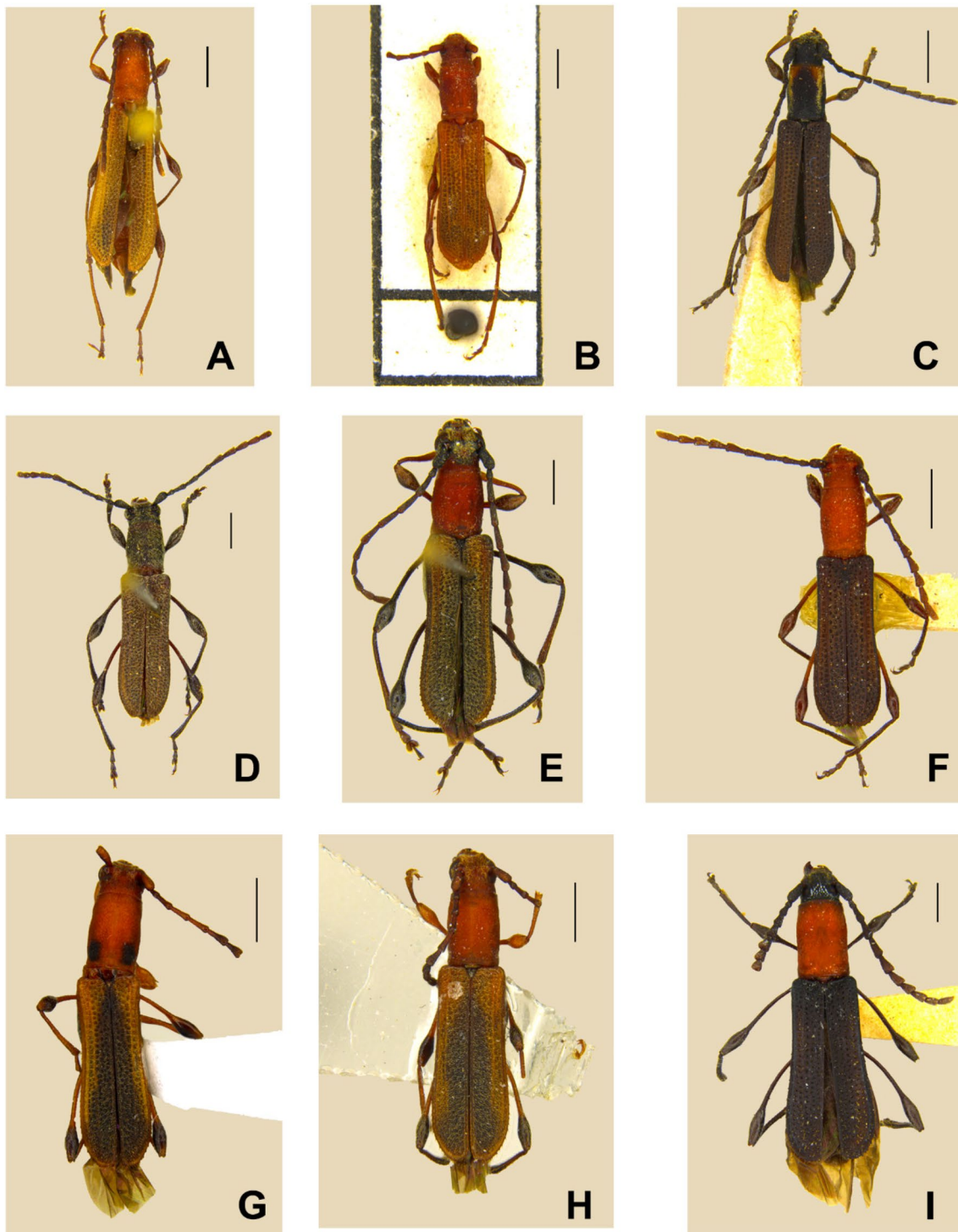


Fig. 3 A–I. **A**, *Dihammaphora aepytus* Chevrolat, 1859; **B**, *Dihammaphora auricollis* Martins, 1981; **C**, *Dihammaphora aurovittata* Bates, 1880; **D**, *Dihammaphora binodula* Chevrolat, 1859; **E**, *Dihammaphora brasileira* Napp & Mermudes, 2010; **F**, *Dihammaphora*

bruchi Aurivillius, 1922; **G**, *Dihammaphora chaquensis* Bosq, 1951 (with two black maculae on prothorax); **H**, *Dihammaphora chaquensis* Bosq, 1951 (without transverse black band on prothorax); **I**, *Dihammaphora ibirajarai* Mermudes, 1998. Scale bar: 1 mm

***Dihammaphora binodula* Chevrolat, 1859**

(Fig. 3D)

Dihammaphora binodula Chevrolat 1859: 54; Monné 2023: 923.**Distribution.** BRAZIL (Rio Grande do Sul), ARGENTINA (Buenos Aires and Corrientes), and URUGUAY. The country record from Brazil and province record from Buenos Aires (Argentina) are new.**Material examined.** 1 female, ARGENTINA, *B[ueno]s A[ire]s*: San Fernando, ix.[1]957. Daguerre, J. col. (USNM). 1 male, BRAZIL, *Rio Grande do Sul*: Rio Grande, Estação Ecológica de Tain. 15.x.1985. Gastal, H.A. leg. (MCNZ); 1 female, BRAZIL, *Rio Grande do Sul*: Rio Grande, Estação Ecológica de Tain. 17.x.1985. Rosenau, M. col. (MCNZ).**Diagnosis.** Integument black; head, prothorax and elytra covered by white pubescence; antennae with 10 antennomeres.***Dihammaphora brasileira* Napp and Mermudes, 2010**

(Fig. 3E)

Dihammaphora brasileira Napp and Mermudes 2010: 879; Monné 2023: 924.**Distribution.** BRAZIL (Bahia, Minas Gerais, and Espírito Santo) and PARAGUAY. The country record from Paraguay is new.**Material examined.** 1 female, PARAGUAY, *Central*: Capiatá, 11.x.1993 (MCNZ).**Diagnosis.** Head, prothorax and prolegs orangish; antennae orangish-brown, with 11 antennomeres; pronotum with silky, yellowish pubescence organized in longitudinal on each side; elytra yellowish-brown, densely clothed by silky, olivaceous pubescence obscuring integument, with dorsal costae prominent from humeri to the apical third (Napp and Mermudes 2010).**Variation.** Posterior margin and ventral region of the head reddish, scape and pedicel black, and antennomeres III-XI dark brown.***Dihammaphora bruchi* Aurivillius, 1922**

(Fig. 3F)

Dihammaphora bruchi Aurivillius 1922: 423; Monné 2023: 924.**Distribution.** BRAZIL (Mato Grosso do Sul), PARAGUAY (Guairá and San Luis), ARGENTINA (Bueno Aires, Catamarca, Salta, Santiago del Estero, Mendoza, Córdoba, and Tucuman), and BOLIVIA (Santa Cruz and Tarija). The country record from Brazil, province record from Tucuman and Buenos Aires (Argentina), and department record from Guairá (Paraguay) are new.**Material examined.** 1 male, BRAZIL, [*Mato Grosso do Sul*]: Corumbá. (MCNZ); 1 female, PARAGUAY, [*Guairá*]: Villarica, ix. 1929, Schade, F. [col] (CEIOC); 1 male, ARGENTINA, *Buenos Aires*, 1933, Rosenbusch, C. J. [col]. (USNM); 1 male, ARGENTINA, *Tucuman*, F. Tippmann, Wien. (USNM); 1 female, ARGENTINA, *Tucuman*, F. Tippmann, Wien. (USNM).**Diagnosis.** Head and prothorax reddish; antennae, elytra and legs black; antennae with 10 antennomeres, antennomeres III-V subcylindrical; VI-IX subserrate decreasing in length; X elongated.**Variation.** Head and prothorax orangish, meso- and metafemora brown or peduncles orangish and club black, and scape reddish; surface of elytra with dorsal costae from the humeri to near the apex.***Dihammaphora chaquensis* Bosq, 1951**

(Fig. 3G–H)

Dihammaphora chaquensis Bosq, 1951: 101; Monné 2023: 924.**Distribution.** BOLIVIA (Santa Cruz, Chuquisaca, and Tarija) and ARGENTINA (Chaco).**Material examined.** 1 male, BOLIVIA, [La Reserva natural El] Corbalan, 06.i.2008, Abrahamszyk, S. col. (MCNZ); 1 female, BOLIVIA, [La Reserva natural El] Corbalan, 06.i.2008, Abrahamszyk, S. col. (MCNZ).**Diagnosis.** Head and prolegs reddish; pronotum reddish with transverse black band on posterior margin; elytra mostly blackish, except humeri and sides of elytra yellowish brown; antennae with 10 antennomeres; surface of elytra with dorsal costae from humeri to apical third.**Variation.** Pronotum with one black macula on each side of the posterior margin (Fig. 3G) or pronotum totally reddish (Fig. 3H).***Dihammaphora ibirajarai* Mermudes, 1998**

(Figs. 3I, 4A)

Dihammaphora ibirajarai Mermudes 1998: 98; Monné 2023: 926.**Distribution.** PANAMA and COLOMBIA (Atlántico, Cundinamarca, Bolívar [Cartagena], and Magdalena [Bonda]). The country record from Panama, and department records from Cundinamarca and Atlántico (Colombia) are new.**Material examined.** 1 female, PANAMA, Trinidad Riv[er], 8.v.[19]11. August Busck. (USNM); 2 males, Panama, Trinidad Riv[er], 9. v.[19]11, August Busck. (USNM); 1 male, PANAMA, Barro Colorado, C[anal] Z[one], 1.vii.[19]23, R.C. Shannon leg. (USNM); 1 female, COLOMBIA, *Cundinamarca*: Fusagasuga, 6.vi.1965, J.A. Ramos

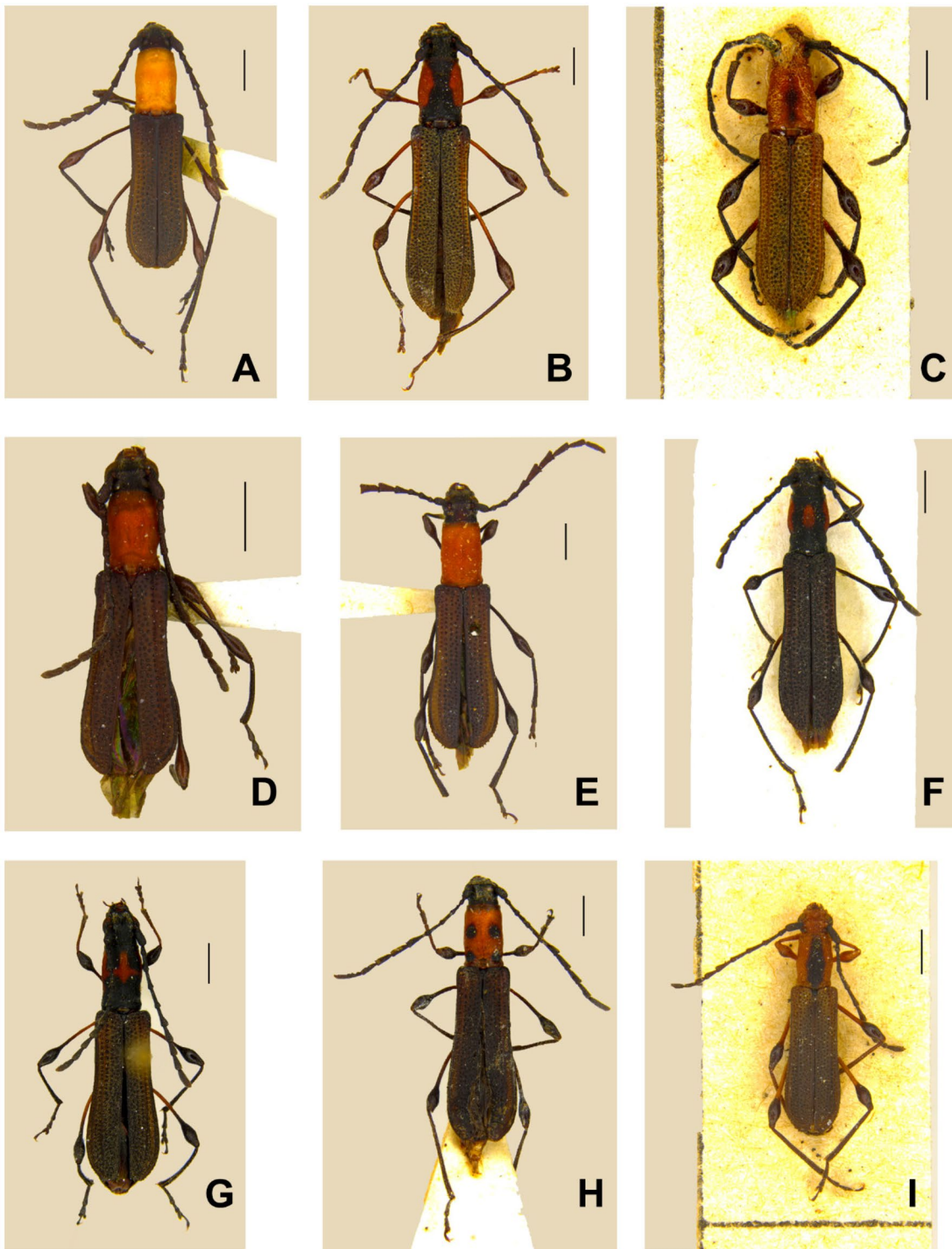


Fig. 4 A–I. **A**, *Dihammaphora ibirajarai* Mermudes, 1998; **B**, *Dihammaphora marginicollis* Chevrolat, 1859; **C**, *Dihammaphora nigrovittata* Fisher, 1937; **D**, *Dihammaphora nitidicollis* Bates, 1870; **E**, *Dihammaphora pusilla* Bates, 1870; **F**, *Dihammaphora signaticol-*

lis Chevrolat, 1859; **G**, *Dihammaphora signaticollis* Chevrolat, 1859; **H**, *Dihammaphora signaticollis* Chevrolat, 1859; **I**, *Dihammaphora vittatithorax* Gounelle, 1911. Scale bar: 1 mm

col. (USNM); 1 female, [COLOMBIA, *Atlántico*]: Sabanilla, acc. 15,918. (USNM).

Diagnosis. Head, antennae, mesoventrite, and elytra black; head with white pubescence; antennae with 11 antennomeres; prothorax reddish; surface of elytra with dorsal costae from humeri to median third (Mermudes 1998; Napp and Mermudes 2010).

Variation. Prothorax yellowish and orangish, head without white pubescence, mesoventrite brownish and elytra bicolor.

Dihammaphora marginicollis Chevrolat, 1859

(Fig. 4B)

Dihammaphora marginicollis Chevrolat 1859: 51; Monné 2023: 927.

Distribution. BRAZIL (Pará and Rio de Janeiro). The Brazilian state record from Pará is new.

Material examined. 2 specimens, BRAZIL: 1853., F. Tippmann, Wien (USNM); 1 specimen, BRAZIL, [Pará]: Itaituba, F. Tippmann, Wien (USNM).

Diagnosis. Head and antennae black; antennae with 10 antennomeres; prothorax reddish; pronotum with a large black area gradually enlarged from apex to base; elytra covered by sparse and short pubescence; surface of elytra with dorsal costae from humeri to near the apex.

Dihammaphora nigrovittata Fisher, 1937

(Fig. 4C)

Dihammaphora nigrovittata Fisher 1937: 151; Monné 2023: 927.

Distribution. BRAZIL (São Paulo, Paraná, and Santa Catarina), ARGENTINA, and PARAGUAY. The countries' records from Argentina and Paraguay are new.

Material examined. 1 specimen, ARGENTINA, Bemberg, 10.iv.1927, R. C. Shannon. (USNM); 1 specimen, PARAGUAY, [Guairá]: Vila Rica, VIII. [19]32, M. Holtz leg. (USNM).

Diagnosis. Head and prothorax orangish; antennae, scutellum, and legs black; antennae with 10 antennomeres; elytra yellowish brown, covered by sparse and short pubescence; surface of elytra with dorsal costae from humeri to near the apex.

Dihammaphora nitidicollis Bates, 1870

(Fig. 4D)

Dihammaphora nitidicollis Bates 1870: 403; Monné 2023: 928.

Distribution. PANAMA and BRAZIL (Amazonas and Pernambuco). The state record from Pernambuco (Brazil) is new.

Material examined. BRAZIL, *Pernambuco*: Bonito Prov., 17.i.[18]89 (Coll. on Cotton) (USNM).

Diagnosis. Integument mostly black; antennae with 11 antennomeres; prothorax reddish; club of femora reddish brown; elytra glabrous; surface of elytra with dorsal costae from humeri to near the apex (Napp and Mermudes 2010).

Host Plant. *Gossypium* sp. (Malvaceae) [New host plant record].

Dihammaphora pusilla Bates, 1870

(Fig. 4E)

Dihammaphora pusilla Bates 1870: 403; Monné 2023: 929.

Distribution. FRENCH GUIANA, BRAZIL (Amazonas, Pará, and Ceará), and BOLIVIA (Santa Cruz). The Brazilian states record from Ceará and Pará are new.

Material examined. 1 specimen, BRAZIL, *Ceará*: Guaraciaba do Norte, 24.v-12.vii.2017, S04°54'27.7", W037°20'42.3", Malaise, Sousa, V.R. col (MNRJ); 1 specimen, Brazil, *Pará*: Santarém. (MCNZ).

Diagnosis. Integument mostly black; antennae with 10 antennomeres; antennomeres III-V subcylindrical, VI-IX subserrate and X elongated; prothorax reddish; elytra glabrous; surface of elytra with dorsal costae from humeri to near the apex.

Variation. Prothorax orangish or reddish.

Dihammaphora signaticollis Chevrolat, 1859

(Fig. 4F–H)

Dihammaphora signaticollis Chevrolat 1859: 51; Monné 2023: 929.

Distribution. BRAZIL (Goiás, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul), PARAGUAY, ARGENTINA (Misiones), and URUGUAY.

Material examined. 2 specimens, BRAZIL, [Goiás]: Brasília, 1853, F. Tippmann, Wien. (USNM); 3 specimens, [BRAZIL], *S[anta] Catarina*: Mafra, F. Tippmann, Wien. (USNM); ARGENTINA, *Misiones*, x-xi.1954, F. Tippmann, Wien. (USNM); 1 specimen, BRAZIL, *Pará*: Itaituba, Tippmann. (USNM); 1 specimen, [BRAZIL], *Rio Grande do Sul*: São Francisco de Paula (FLONA), 28.i. 2006, Moura, L. col. (MCNZ); 2 specimens, [BRAZIL, *Rio Grande do Sul*]: Itaúba (ponto 10) 27.x.1999, Franceschini, Bonaldo & Silva col. (MCNZ); 1 specimen, [BRAZIL], *Rio Grande do Sul*: Triunfo (Copesul), 16–17.ix. 1993, Moura, L. col. (MCNZ); 1 specimen, [BRAZIL], *Rio Grande do Sul*: Triunfo (Copesul), 24.viii. 2004, Ott, R. col. (MCNZ); 1 specimen, [BRAZIL], *Rio Grande do Sul*: Triunfo (Copesul), 29–30.x. 2008, Severo, A. col. (MCNZ); 1 specimen, [BRAZIL], *Rio Grande do Sul*: Derrubadas, P[arque] E[stadual] do Turvo, 20.x.2004,

Heydrich, I. col. (MCNZ); 1 specimen, [BRAZIL], *Rio Grande do Sul*: Derrubadas, P[arque] E[stadual] do Turvo, 29.x.2003, 27°11'58"S, 53°50'42.8"W, Barcellos, A. col. (MCNZ); 1 specimen, [BRAZIL], *Rio Grande do Sul*: Santa Maria, 05.viii.1997, *Ocatea puberula*, Viteck, L. (MCNZ). The state record from Pará (Brazil) is new.

Diagnosis. Integument mostly black; antennae with 10 antennomeres; antennomeres III–V subcylindrical, VI–IX subserrate and X elongated; prothorax orangish; pronotum with different patterns of black macula (Fig. 4F–H); elytra glabrous; surface of elytra with dorsal costae from humeri to apical third.

Remarks. These differences in macula pattern of the pronotum proposed as a variety by Gounelle (1911), all proposed varieties are synonymous of *D. signaticollis*.

Hosts. *Ocatea puberula*, Viteck, L. (Lauraceae).

Dihammaphora vittatithorax Gounelle, 1911

(Fig. 4I).

Dihammaphora vittatithorax Gounelle 1911: 96; Monné 2023: 930.

Distribution. BRAZIL (Bahia and Goiás).

Material examined. 1 specimen, BRAZIL, *Goiás*. (USNM).

Diagnosis. Head prothorax, and prolegs orangish; antennae with 10 antennomeres; pronotum with elongated black macula; peduncle of femora yellowish brown; club of femora dark brown; elytra glabrous; surface of elytra with dorsal costae from humeri to near the apex.

Remarks. The geographic record of this species is kept here because it includes rare specimens, difficult to collect.

Discussion

This study described two new species of *Dihammaphora* and provided new geographic records for the genus. Forty-six species were known in the genus *Dihammaphora* (Tavakilian and Chevillotte 2023) and with the description of two new species herein, the richness of the genus increased to 48 species.

This genus is predominantly Neotropical, with 41 species recorded from South America (Tavakilian and Chevillotte 2023). Six species have country records in Central and South America. Brazil is the country with the largest number of species of *Dihammaphora*, with 20 species (Monné 2023). With the description of *Dihammaphora cruzi* **sp. nov.**, to the Brazilian state of Mato Grosso do Sul and new records of *D. aepytus*, *D. binodula*, and *D. bruchi* to Brazil, this country now has the record of 24 species of the genus *Dihammaphora*. In Central America, five species of *Dihammaphora* were recorded (Monné 2023; Tavakilian and Chevillotte 2023).

With the description of *Dihammaphora aurea* **sp. nov.** to Honduras and the new record of *D. ibirajarai* to Panama, the Central Americas now have records of seven species.

This study shows that there is still a deficit of knowledge about the distribution of *Dihammaphora* and that it still needs more taxonomic studies to know its richness and geographic distribution.

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Nomenclature *Dihammaphora aurea*: <http://zoobank.org/urn:lsid:zoobank.org:act:033BD87D-6CC8-45BC-A99C-C68E53B8A061>, *Dihammaphora cruzi*: <http://zoobank.org/urn:lsid:zoobank.org:act:0025513D-2703-4908-89AD-70F7FB153F79>

Author Contribution The both authors contributed to the study conception and design. GSF and JRMM identified the specimens. GSF photographed the specimens. GSF and JRMM wrote the first draft of the manuscript. The both authors read, commented, and approved the final version of the manuscript.

Declarations

Conflict of Interest The authors declare no competing interests.

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