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New species and taxonomical notes in *Gorybia* Pascoe, 1866 (Coleoptera: Cerambycidae: Cerambycinae)

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Abstract. Three new *Gorybia* Pascoe, 1866 (Coleoptera: Cerambycidae: Cerambycinae: Piezocerini), species from Bolivia are described: *G. martinsi* Wappes, Botero and Santos-Silva **new species**; *G. galileoae* Wappes, Botero and Santos-Silva, **new species**; and *G. clarkeorum* Wappes, Botero and Santos-Silva, **new species**. In addition, *G. bispinosa* Martins, Galileo and Limeira-de-Oliveira, 2009 is proposed as a synonym of *G. castanea* (Gounelle, 1909) and *G. maculosa* Martins, 1976 as a synonym of *G. apatheia* Martins, 1976.

Key words. Bolivia, Piezocerini, new species, synonymy, taxonomy.

Introduction

Gorybia Pascoe, 1866 was described for a single Brazilian species (*G. martes* Pascoe, 1866). Subsequently another 52 species were either described or transferred to the genus (three Bates species transferred from *Haruspex* Thomson, 1864, by Martins (1976); two Gounelle species transferred from *Haruspex* by Martins (1976); one new species described by Galileo and Martins (2008), two described by Galileo and Martins (2010); nine new species by Galileo and Martins (2013); 31 described by Martins (1976) (one subsequently placed in synonymy in this paper); one by Martins and Galileo (2007); two by Martins and Galileo (2010); and one new species by Martins et al. (2009) (subsequently placed in synonymy in this paper)) totaling 53 species assigned to the genus. Interestingly, prior to this paper U. R. Martins and M. H. Galileo, individually or together, either authored or transferred 52 of these species to *Gorybia*. In other words, following the initial species description, (*G. martes* Pascoe), they were responsible for every species currently assigned to the genus. Impressive!

Regarding the geographical distribution of species only four are recorded from Central America: *Gorybia chontalensis* (Bates, 1880) recorded from Nicaragua to Panama; *G. reclusa* Martins, 1976 from Guatemala to Panama; *G. armata* Martins, 1976 from Honduras (?); and *G. tibialis* Martins, 1976 from Costa Rica and Panama, with the latter two species also known from South America. All 49 remaining *Gorybia* species are only known from South America. Recently, Martins (2003) revised the South American species. Even more recently Galileo and Martins (2013) revised the Bolivian species, describing nine new species, with 16 then currently known from there. The three new Bolivian species described herein raises to 19 the number known from Bolivia, and combined with the two proposed synonyms, the total number of species assigned to *Gorybia* is now 54.

Materials and Methods

Photographs were taken at MZSP with a Canon EOS Rebel T3i DSLR camera, Canon MP-E 65mm f/2.8 1–5× macro lens, controlled by Zerene Stacker AutoMontage software. Measurements were taken in "mm" using a measuring ocular Hensoldt/Wetzlar - Mess 10 in the Leica MZ6 stereomicroscope, also used in the study of the specimens.

The acronyms used in the text are as follows:

ACMT American Coleoptera Museum (James Wappes), San Antonio, Texas, USA
FSCA Florida State Collection of Arthropods, Gainesville, Florida, USA
MZSP Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil

Taxonomy

Gorybia martinsi Wappes, Botero and Santos-Silva, new species

(Fig. 1–4)

Description. Male. Dorsal surface of head, prothorax, and sutural area of elytra dark brown (the latter widened close to scutellum); ventral surface of head, mouthparts (except palpi) dark reddish-brown; palpi light yellowish brown; scape moderately dark brown; pedicel and antennomeres dark brown except reddish-brown distal area (darkest area slightly lighter toward distal antennomeres); ventral surface of meso- and metathorax mostly dark brown; elytra mostly dark reddish-brown (more dark brown depending on light intensity); legs mostly dark brown, more dark reddish-brown on some areas, especially dorsal surface of femora, except coxae reddish-brown; abdominal ventrite I dark brown, and remaining segments gradually lighter toward V. Some setae are lighter or slightly darker (from yellowish-white to light yellowish-brown depending on light angle and intensity).

Head. Frons finely, moderately asperate-punctate; with abundant, short yellowish-white setae not obscuring integument, interspersed toward vertex with long, scale-shaped light yellowish-brown setae, except glabrous median groove. Area between antennal tubercles and middle of upper eye lobes with sculpturing and setae as on frons; area between posterior half of upper eye lobes with sculpturing and setae as on frons, and punctures somewhat coarser and more distinct; remaining surface of vertex coarsely, abundantly punctate, with both short and very short, visibly sparse yellowish setae. Area behind upper eye lobes with sculpturing moderately asperate-punctate in area close to eye and vertex, coarsely, shallowly, abundantly punctate on remaining surface; with short, decumbent, abundant yellowish setae close to eye (gradually sparser toward lower eye lobe), with very short, sparse yellowish setae on remaining surface. Area behind lower eye lobes shallowly, moderately coarsely, sparsely punctate; with long, erect, pale yellow setae close to eye (gradually longer toward ventral surface), glabrous on remaining surface. Genae with acute apex, projected forward and sideward; with both short and long, yellowish-white setae except glabrous apex. Antennal tubercles with apex moderately elevated and acute; with setae as on frons. Median groove distinct from clypeus to area between upper eye lobes. Gulamentum smooth, glabrous on posterior half, slightly depressed, densely micropunctate, interspersed with coarse, shallow punctures, with both short and long, erect yellowish-white setae. Postclypeus with both, short and long, bristly, moderately sparse yellowish-white setae on wide central area, glabrous laterally. Labrum coplanar with anteclypeus posteriorly inclined anteriorly (wide central area of the latter distinctly concave); with long, erect light yellowish-brown setae laterally on posterior half, and tuft of long light yellowish-brown setae on central area of anterior half (distinctly shorter than on posterior area). Distance between upper eye lobes 0.77 times length of scape; in frontal view, distance between lower eye lobes 1.19 times length of scape. Antennae 1.65 times elytral length, reaching elytral apex at distal third of antennomere X. Scape coarsely, abundantly punctate; with sparse, decumbent yellowish setae interspersed with long, erect, scale-shaped yellowish-white setae. Pedicel finely, sparsely punctate, with sparse yellowish setae on basal half, coarsely, confluently punctate, with long, scale-shaped yellowish-white setae on posterior half. Outer apex of antennomeres III–X acute, projected; antennomeres distinctly carinate; III–IV with

both short and long yellowish setae (long setae more abundant ventrally and apically); V–VI with long, erect, sparse yellowish setae ventrally and apically, remaining surface with minute, sparse yellowish setae; VII–X with long erect yellowish setae distally, and minute, sparse yellowish setae on remaining surface; XI with minute, moderately sparse yellowish setae throughout. Antennal formula (ratio) based on length of antennomere III: scape = 0.70; pedicel = 0.22; IV = 0.85; V = 0.82; VI = 0.82; VII = 0.80; VIII = 0.75; IX = 0.75; X = 0.69; XI = 0.84.

Thorax. Prothorax slightly wider than long; sides uniformly rounded from anterior margin to posterior constriction, which is well-marked. Pronotum moderately coarsely, abundantly asperate-punctate except smooth centrobasal posterior quarter; slightly, longitudinally sulcate centrally from anterior fifth to posterior margin; with short, decumbent, moderately abundant light yellowish-brown setae interspersed with long, erect, scale-shape setae of same color. Sides of prothorax with sculpturing as on sides of pronotum on superior area, gradually with punctures sparser toward prosternum; setae as on sides of pronotum on superior area, sparser, yellowish-white, without scale-shaped setae toward prosternum. Prosternum densely micropunctate on posterior third, interspersed with moderately coarse punctures, gradually less so toward middle, finely striate on wide central area of anterior half, sparsely punctate on sides of this area; with short, sparse, decumbent yellowish-white setae interspersed with a few long, erect setae of same color. Ventral surface of meso- and metathorax with short, decumbent, sparse yellowish-white setae. Scutellum with short, moderately abundant yellowish setae not obscuring integument except glabrous sides.

Elytra. Coarsely, moderately abundantly punctate on basal third, gradually slightly finer and sparser toward apex; apex straight truncate; with a short, clearly distinct, decumbent yellowish seta emerging from punctures, except some punctures with long, erect, scale-shaped or nearly so light yellowish-brown seta (erect setae not distinctly aligned in rows). **Legs.** Femora and tibiae with short, moderately sparse, decumbent yellowish setae interspersed with long, suberect setae of same color; outer apex of metatibiae not projected.

Abdomen. Ventrites finely, sparsely punctate; with short, decumbent, sparse yellowish-white setae interspersed with long, erect setae of same color; apex of ventrite rounded V shaped.

Variation. The only notable difference between the holotype and paratype is the shape of elytral apex: truncate in the holotype, emarginate in the paratype.

Dimensions (mm), holotype/paratype. Total length, 6.20/5.25; prothoracic length, 1.35/1.05; anterior prothoracic width, 1.15/0.95; posterior prothoracic width, 1.10/0.85; maximum prothoracic width, 1.45/1.10; humeral width, 1.65/1.30; elytral length, 4.65/3.70.

Type material. Holotype male from BOLIVIA, *Santa Cruz*: 4 km N Bermejo (Refugio los Volcanes; 1045–1350 m; 18°06′S / 63°36′W), 7–24. X. 2014, Wappes and Morris col. (FSCA, formerly in ACMT). Paratype male, same data as holotype (ACMT).

Remarks. *Gorybia martinsi* sp. nov. differs from all other currently recorded species for Bolivia, by the pronotal pubescence moderately abundant, consisting of short, slender and decumbent setae interspersed with long and remarkably thick setae. Additionally, the decumbent short setae of the elytra are conspicuous, while they are absent or barely visible in all other known Bolivian species.

Following the key from Martins (2003), *Gorybia martinsi* sp. nov. can be included in the alternative of couplet "1" (translated):

1. All the elytral setae with similar shape; when there are setiferous punctures the setae are barely visible **2**

— Elytral setae with two different shapes: long, erect, organized in longitudinal rows; and short, decumbent inside each puncture . . . . . **2′**

2′(1). General color reddish; elytral setae abundant; elytral apex moderately obliquely truncate, with the outer angle somewhat projected (Fig. 5). Brazil (Mato Grosso do Sul) . . . . . ***G. pilosa* Martins, 1976**

— General color dark brown; long, erect elytral setae sparse; elytral apex truncated. Bolivia . . . . . ***G. martinsi*** **Wappes, Botero and Santos-Silva, sp. nov.**

However, if the short, decumbent elytral setae are considered as slightly conspicuous it may also be included in the alternative of couplet "23" (translated):

23′(22). Pronotum with moderately abundant, decumbent short setae interspersed with long, erect thick setae. Bolivia . . . . . ***G. martinsi*** **Wappes, Botero and Santos-Silva, sp. nov.**
— Pronotum without abundant setae **23**
23(23′). Elytra uniformly dark brown; base of pronotum elevated with longitudinal, shining (light-reflecting), smooth sulcus; elytral setae organized in 6–7 longitudinal rows (Fig. 6). Brazil (Bahia, Minas Gerais, São Paulo, Rio Grande do Sul) . . . . . ***G. proxima*** **Martins, 1976**
— Anterior half of elytra brownish, gradually reddish toward apex, or elytra entirely reddish; base of pronotum with microsculptured sulcus; elytral setae organized in 9–10 longitudinal rows (Fig. 7). Brazil (Maranhão, Goiás, Mato Grosso, Mato Grosso do Sul, Minas Gerais, São Paulo) . . . . . ***G. ruficauda*** **(Gounelle, 1909)**

Finally, following Galileo and Martins (2013) key for Bolivian *Gorybia* species it may be included in the alternative of couplet "7" (translated; modified):

7(3). Elytral apex truncated and unarmed . . . . . **7′**
— Elytral apex bispinose or, at least, with outer angle distinctly projected **8**

7′(7). Pronotum reticulate; pronotal setae visibly sparse; elytral punctures visibly abundant, especially on basal half. Bolivia . . . . . ***G. inarmata*** **Galileo and Martins, 2003**
— Pronotum not reticulate; pronotal setae moderately abundant; elytral punctures somewhat sparse throughout. Bolivia . . ***G. martinsi*** **Wappes, Botero and Santos-Silva, sp. nov.**

Etymology. Named to honor Ubirajara R. Martins (now deceased), São Paulo, Brazil, for his unparalleled contribution to our knowledge of New World Cerambycidae, including a truly amazing record of new *Gorybia* species authorship.

Gorybia galileoae Wappes, Botero and Santos-Silva, new species
(Fig. 8–11)

Description. Female. Integument mostly dark brown, almost black; head, antennae, femora, and parts of ventral surface very dark reddish-brown (most distinct with intense light); mouthparts reddish-brown, except maxillary palpomere IV yellowish-brown; elytra with very slightly violaceous reflections; head, prothorax, and ventral surface of mesothorax opaque; remaining surface shining (light-reflecting).

Head. Frons and vertex distinctly reticulate; with short, sparse, decumbent yellowish-white setae interspersed with long, erect, thick setae of same color on frons, more abundant on anterior area. Area behind lower eye lobes coarsely, shallowly punctate close to eye, somewhat rugose on remaining surface; with long, erect yellowish-white setae close to eye. Genae with apex slightly projected, blunt; with very short, sparse yellowish-white setae near eye, and long, erect yellowish-white setae on remaining surface (yellower depending on light intensity). Antennal tubercles with apex moderately elevated and acute; sculpturing as on frons, except nearly smooth distal area; reticulate area with short, decumbent, sparse yellowish-white setae, smooth area glabrous. Gulamentum smooth, glabrous on posterior half, slightly depressed, somewhat opaque, reticulate on anterior half; with short, sparse, decumbent yellowish-setae on anterior half, and a few long, erect, thick yellowish-white setae close to eyes. Postclypeus moderately coarsely punctate on wide central area, smooth laterally; with short, moderately sparse, decumbent yellowish-white setae on wide central area, interspersed with long, erect, thick setae of same color on wide central area, glabrous laterally. Labrum coplanar with anteclypeus at posterior half, inclined, centrally concave at anterior half; with a few short yellowish-white setae centrally, a long, erect, thick setae of same color laterally on posterior half; central area of anterior half with long, erect yellowish-white setae. Distance between upper eye lobes 0.95 times length of scape; in frontal view, distance between lower eye lobes 1.19 times length of scape. Antennae

1.3 times elytral length, nearly reaching elytral apex. Scape coarsely, partially confluently punctate; with minute, sparse yellowish-white setae interspersed with long, erect, thick setae of same color. Antennomeres carinate; pedicel and antennomeres III–IV coarsely, sparsely punctate; remaining antennomeres very finely, sparsely punctate; antennomeres III–IV with minute, sparse yellowish-white setae, and long, erect, thick setae of same color dorsally and ventrally (more abundant ventrally on III); remaining antennomeres with minute yellowish-white setae, more abundant on lateral carina of antennomeres V–IX, and throughout on X–XI, and long, erect, thick setae on apex of V–X; outer apex of antennomere III not projected, projected in IV–X. Antennal formula (ratio) based on length of antennomere III: scape = 0.76; pedicel = 0.16; IV = 0.93; V = 0.96; VI = 0.91; VII = 0.91; VIII = 0.83; IX = 0.83; X = 0.69; XI = 0.73.

Thorax. Prothorax slightly wider than long; sides uniformly rounded from anterior margin to posterior constrictions, which is well-marked. Pronotum coarsely reticulate (reticules smaller posteriorly), except nearly smooth, narrow area close to posterior margin; posterior half slightly, widely sulcate centrally, with anterior area smooth, shining (light-reflecting); with very small, erect yellowish-brown setae emerging from each reticule except some reticules with long, erect, thick yellowish setae (somewhat scale-shaped), distinctly more abundant in transverse, arched area about middle. Sides of prothorax with sculpturing and setae as on pronotum, with long setae absent toward prosternum. Prosternum imperfectly, shallowly reticulate (general appearance more rugose) except narrow anterior area not reticulate; with very small, sparse yellowish setae on posterior 2/3 (setae more whitish depending on light intensity), distinctly sparser on anterior third, and a few long, erect, thick setae of same color on apex of anterior third. Prosternal process with sculpturing and short setae as on posterior area of prosternum, and long, erect, thick setae of same color interspersed. Ventral surface of mesothorax imperfectly reticulate, especially laterally; with short, moderately sparse, decumbent yellowish setae, slightly longer on mesoventral process. Metanepisternum and anterolateral area of metaventrite densely micropunctate; remaining surface of metaventrite coarsely, shallowly, sparsely punctate (punctures smaller toward posterior area and absent on wide posterocentral area); with small, decumbent yellowish setae (more whitish depending on light intensity) emerging from each puncture except some punctures with long, erect, thick setae of same color. Scutellum finely rugose, with a few short yellowish setae.

Elytra. Coarsely, abundantly punctate (punctures slightly finer and sparser toward apex); with two distinct carinae, one dorsally, from near humerus to about middle, another slightly less distinct on lateral curvature, also from near humerus to about middle; with very small yellowish setae emerging from each puncture (gradually smaller toward apex), and long, erect, thick, sparse yellowish-brown setae adjacent to anterior area of some punctures (more abundant on posterior half, moderately aligned in rows on central area); apex emarginate.

Legs. Femora with very short, sparse, decumbent yellowish setae (absent on some areas), interspersed with long, erect, thick setae of same color. Tibiae longitudinally sulcate and carinate dorsally and laterally; densely micropunctate interspersed with sparse asperate punctures; protibiae with sparse, long, erect, thick yellowish setae, except posterior third of ventral surface with short, dense brownish setae; meso- and metatibiae with very small, sparse, decumbent yellowish setae interspersed with long, erect, thick setae of same color, more abundant on posterior ventral surface, especially on posterior third.

Abdomen. Ventrites finely, sparsely punctate; with slender yellowish setae emerging from each puncture, part of them long, part short. Apex of ventrite V moderately narrowly rounded, very slightly emarginate centrally.

Dimensions (mm). Total length, 11.60; prothoracic length, 2.25; anterior prothoracic width, 2.05; posterior prothoracic width, 1.85; maximum prothoracic width, 2.35; humeral width, 2.90; elytral length, 7.80.

Type material. Holotype female from BOLIVIA, *Santa Cruz*: Road to Itai (83 km N Camiri; 890 m; 19°20′S / 63°28′W), 17–18.XII.2011, Wappes, Lingafelter, and Woodley col. (FSCA, previously in ACMT).

Remarks. Following the key from Martins (2003), *Gorybia galileoae* sp. nov. can be included in the alternative of couplet “29” (translated):

29(24). Elytral carina distinct (Fig. 8, 21) . . . . . **29′**
— Elytral carina absent (Fig. 12) **30**

29′(29). Scape contrasting in color with antennomeres; prothorax slightly longer than wide; femora mostly reddish-brown (Fig. 21). Brazil (Maranhão, Piauí, Bahia, Goiás, Mato Grosso, Mato Grosso do Sul, Minas Gerais, São Paulo) . . . . . ***G. castanea*** **(Gounelle, 1909)**
— Scape not contrasting in color with antennomeres; prothorax slightly wider than long; femora dark reddish-brown (Fig. 8) . . . ***G. galileoae*** **Wappes, Botero and Santos-Silva, sp. nov.**

However, it also can be included in the alternative of couplet "35" from Martins (2003), if the elytral carina is not considered distinct (translated):

35(34). Pronotum not reticulate. Brazil (Espírito Santo) . . . . . ***G. acuta*** **Martins, 1976**
— Pronotum reticulate . . . . . **35′**

35′(35). General integument reddish-brown; prothorax slightly longer than wide (Fig. 12). Brazil (Bahia) . . . . . ***G. separata*** **Martins, 1976**
— General integument dark brown, almost black; prothorax slightly wider than long (Fig. 8). Bolivia . . . . . ***G. galileoae*** **Wappes, Botero and Santos-Silva, sp. nov.**

Following the key from Galileo and Martins (2013) the new species can be included in the alternative of couplet "11" (translated):

11(10). Pronotum not reticulate, asperate. Bolivia . . . . . ***G. florida*** **Galileo and Martins, 2013**
— Pronotum reticulate. . . . . **11′**

11′(11). Prothorax distinctly longer than wide; outer apex of metatibiae projected. Bolivia . . . . . ***G. quadrispinosa*** **Galileo and Martins, 2008**
— Prothorax slightly wider than long; outer apex of metatibiae not projected . . . . . ***Gorybia galileoae*** **Wappes, Botero and Santos-Silva, sp. nov.**

Additionally, *Gorybia galileoae* sp. nov. differs from *G. alveolata* Galileo and Martins, 2013 (Fig. 13), and *G. wappesi* Galileo and Martins, 2013 (Fig. 14), with which it shares the pronotum distinctly reticulate and the non-microsculptured elytra, by the general color dark brown, almost black (reddish in these two species). *Gorybia galileoae* differs from *G. guenda* Galileo and Martins, 2013, another Bolivian species with prothorax distinctly reticulate, by the wider prothorax, and by the general color distinctly darker (somewhat reddish in *G. guenda*), but also by the procoxal cavities closed posteriorly (open in *G. guenda*). Finally, the new species differs from *G. inarmata* Galileo and Martins, 2013, by the antennae nearly reaching elytral apex (distinctly not reaching elytral apex in *G. inarmata*).

Etymology. Named to honor Maria Helena Galileo, Porto Alegre-RS, Brazil for her many contributions to the taxonomy of New World Cerambycidae. Maria Helena's taxonomic contributions (along with friend Bira Martins) to the *Gorybia* are unsurpassed.

Gorybia clarkeorum Wappes, Botero and Santos-Silva, new species
(Fig. 15–19)

Description. Female. Integument orangish-brown, lighter in some areas, darker in others. Setae and pubescence yellowish-white, appearing to be white or whitish depending on light intensity.

Head. Frons, vertex, and area behind upper eye lobes coarsely reticulate (distinctly less so between antennal tubercles and upper eye lobes), with reticules and area inside them minutely, densely asperate; with very short, sparse, decumbent setae, interspersed with long, erect, nearly scale-shaped setae from area between antennal tubercles and close to lower eye lobes (absent on area close to prothoracic margin), and a few long, suberect, slender setae also from antennal tubercles. Area behind lower eye lobes densely micropunctate interspersed with moderately coarse, very shallow punctures; with a few long, erect, nearly scale-shaped setae close to eye, glabrous on remaining surface. Genae minutely, densely punctate, becoming somewhat asperate; with very short and sparse, decumbent setae. Antennal

tubercles moderately elevated, in frontal view, with apex acute; with sculpturing as on frons frontally, nearly smooth posteriorly, smooth on distal area; with very short, sparse, decumbent setae, except glabrous distal area. Median groove distinct only between antennal tubercles and anterior margin of upper eye lobes. Gulamentum smooth, glabrous on posterior 2/3; in anterior third, slightly depressed, densely micropunctate, with short, sparse, bristly setae, interspersed with a few long, erect, slender setae laterally, and one long, erect, nearly scale-shaped seta close to each eye. Postclypeus densely micropunctate, except smooth apex of sides; with short, suberect, very sparse setae on wide central area, glabrous laterally. Labrum coplanar with anteclypeus at about posterior third, inclined at anterior 2/3; with long, erect, thick setae laterally, and a few long, slender setae on anterocentral area. Distance between upper eye lobes 0.94 times length of scape; in frontal view, distance between lower eye lobes 1.26 times length of scape. Antennae 1.5 times elytral length, reaching elytral apex slightly after mid-length of antennomere XI. Scape short, with central diameter almost twice basal and distal diameters; coarsely, shallowly, confluently punctate, and densely micropunctate (becoming slightly rugose); with very short, sparse, decumbent setae, interspersed with long, erect, nearly scale-shaped setae. Pedicel with setae as on scape. Antennomeres III–X with very short setae dorsally and ventrally on outer side, gradually denser toward X dorsally; antennomeres III–IV with long, erect, sparse, nearly scale-shaped setae throughout; antennomeres V–X with long, erect, slender, sparse setae distally; outer side of antennomeres III–X carina-shaped, gradually widened toward moderately acute apex (more distinctly from V); antennomere XI with very short, decumbent setae, more abundant toward apex. Antennal formula (ratio) based on length of antennomere III: scape = 0.77; pedicel = 0.24; IV = 0.92; V = 0.97; VI = 0.89; VII = 0.83; VIII = 0.67; IX = 0.67; X = 0.67; XI = 0.95.

Thorax. Prothorax longer than wide; anterior 2/3 nearly parallel-sided (slightly tumid just after mid-length), except convergent area close to anterior margin, strongly constricted from this point toward posterior ninth. Pronotum slightly longitudinally sulcate from anterior third to near apex; sides coarsely reticulate, with reticules and area inside them densely micropunctate; longitudinal central area subsmooth, especially on posterior half; with very short, sparse, decumbent setae, interspersed with long, erect, nearly scale-shaped setae (absent along longitudinal central area). Sides of prothorax with sculpturing and setae as on sides of pronotum, gradually less so toward prosternum. Prosternum densely micropunctate, interspersed with coarse, very shallow punctures; with short, sparse, nearly decumbent setae. Apex of prosternal process with central, wide, rounded lobe. Ventral surface of meso- and metathorax with short, decumbent setae, denser on mesanepisternum, mesepimeron and metanepisternum. Scutellum glabrous. **Elytra.** Coarsely, abundantly punctate; with minute setae emerging from punctures, except some punctures with long, erect, nearly scale-shaped setae; apex with long spine at outer angle, nearly truncate toward sutural angle. **Legs.** Femora strongly pedunculate-clavate; peduncle of metafemora moderately arched; with long, erect, sparse, nearly scale-shaped setae (more abundant and more scale-shaped on femoral club). Tibiae with very short, decumbent, moderately sparse setae interspersed with long, erect, nearly scale-shaped setae dorsally and laterally, and yellowish-brown pubescence on distal half of ventral surface; metatibiae moderately widened toward apex; in side view, apex projected superiorly.

Abdomen. Ventrites with short, decumbent, sparse setae (slightly, gradually more abundant toward V), interspersed with long, erect, slender setae; apex of ventrite V rounded.

Dimensions (mm). Total length, 6.45; prothoracic length, 1.25; anterior prothoracic width, 0.90; posterior prothoracic width, 0.95; maximum prothoracic width, 1.10; humeral width, 1.40; elytral length, 4.35.

Type material. Holotype female from BOLIVIA, *Santa Cruz*: 5 km SSE Buena Vista (17°29′96″S/ 63°39′13″W; 440 m; Flora & Fauna Hotel), 21.II.2004, R. Clarke col. (FSCA, previously in ACMT).

Remarks. Following the key from Martins (2003), *Gorybia clarkeorum* sp. nov. can be included in the alternative of couplet "9" (translated; modified; considering the opaque elytra as being microsculptured):

9(8). Prothorax distinctly rounded laterally; pronotum not reticulate. Brazil (Pernambuco) . . . . . ***G. minima* Martins, 1976**

— Prothorax not distinctly rounded laterally, more parallel-sided anteriorly; pronotum reticulate . . . . . **9′**

9′(9). Female with antennomeres wider, not subcylindrical, with outer distal area distinctly projected from basal antennomeres (Fig. 19). Bolivia . . . . . ***G. clarkeorum* Wappes, Botero and Santos-Silva, sp. nov.**

— Female with antennomeres slender, subcylindrical, with outer distal area not distinctly projected from basal antennomeres (Fig. 20). Brazil (Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo), Paraguay . . . . . ***G. apatheia* Martins, 1976**

Following the key from Galileo and Martins (2013) the new species can be included in the alternative of couplet "2" (translated)

2′(1). Elytra opaque, not microsculptured. Bolivia . . . . . ***G. clarkeorum* Wappes, Botero and Santos-Silva, sp. nov.**

— Elytra microsculptured, at least on anterior half **2**

Gorybia clarkeorum sp. nov. is similar to *G. apatheia*, Martins, 1976, especially specimens of the latter without dark fascia or other markings on elytra, but differs by the antennomeres in female being wider, not subcylindrical and more distinctly widened toward apex including in basal segments. In female of *G. apatheia*, the antennomeres are slender, subcylindrical, and not distinctly widened toward apex in basal antennomeres.

Etymology. Named for Robin O. S. Clarke (collector of the holotype) and his spouse, Sonia who have collected more than 900 cerambycidae species from his Flora and Fauna hotel property near Buena Vista, Santa Cruz Department, Bolivia, many of which have been species new to science.

Gorybia castanea (Gounelle, 1909)

(Fig. 21–30)

Haruspex castaneus Gounelle 1909: 653; Aurivillius 1912: 103 (cat.); Blackwelder 1946: 568 (checklist).

Gorybia castanea; Martins 1976: 338; Monné 1993: 32 (cat.); Monné and Giesbert 1994: 64 (checklist); Martins 2003: 169; Canettieri and Garcia 2000: 47; Monné 2005: 435 (cat.); Monné and Hovore 2006: 111 (checklist); Galileo et al. 2014: 397 (distr.); Martins et al. 2014a: 611 (distr.); Martins et al. 2014b: 611 (distr.); Nascimento et al. 2017: 86 (distr.); Monné 2018: 640 (cat.).

Gorybia bispinosa Martins et al. 2009: 512; Monné et al. 2017: 31 (holotype); Monné 2018: 640 (cat.). **Syn. nov.**

Gounelle (1909) described *Haruspex castaneus* from Brazil (Goiás), based on a large series of specimens of both sexes (Fig. 21). Martins, 1976, transferred the species to *Gorybia* Pascoe, 1866, and reported (translated): "I examined a slide of a cotype belonging to the BMNH [The Natural History Museum, London] (J. S. Moure photograph). The great majority of the cotypes must belong to the Gounelle collection (MNHN) [Muséum national d'Histoire naturelle, Paris]; of this collection, I saw 14 topotypes, probably the syntypes, but without labels of identification. A female (MZSP), improperly labeled as syntype, should not belong to the original series; the label of provenance indicates only "Goiás." However, Martins (2003) pointed out (translated): "A female syntype, with a green label, handwritten by Gounelle, and recorded in the MZSP under # 16077, where is written: "16077 / Haruspex castnaeus Goun. / Cerambycidae / Gounelle 10, pres. [presente] [gift] Gounelle / Jatahy (Est. Goyaz)". Martins (1976: 338) affirmed, mistakenly, that this specimen was not a syntype. A second specimen, male, from MZSP, with typical label "Jatahy, Goyaz", collected by Pujol in XII.1897–I.1898 also, probably, is another syntype; it has a green label of identification handwritten by Gounelle."

Later, Martins et al. (2009) described *G. bispinosa* from Brazil (Maranhão), based on a single male. Examination of the holotype (Fig. 22), and specimens of *G. castanea* (including a syntype), does not reveal differences. The elytral apex in *G. castanea* is somewhat variable, especially the length of the outer spine of the elytra (Fig. 23–30). *Gorybia bispinosa* was compared in the original description with *G. quadrispinosa*. According to the authors, *G. bispinosa* differs from *G. quadrispinosa* by the metatibiae not projected at outer apex, and by the absence of smooth area at center of pronotum. Although the tibial shape is not variable in the specimens of *Gorybia* examined by us, the smooth area at center of pronotum may or may not be present, with gradations between the two extremes. All of which supports placement of *Gorybia bispinosa* Martins as a synonym of *Gorybia castaneus* Gounelle.

Material examined. All from MZSP. BRAZIL, *Maranhão*: Caxias (Campus UEMA, Morro do Alecrim), 1 male, 15–25.I.2009, Oliveira col.; Mirador (Parque Estadual Mirador, Base da Geraldina, 6°37′25″S/45°52′08″W), 2 females, 20.X.2012, Oliveira, Santos and Barros col.; holotype male of *G. bispinosa*, 27.X–01.XI.2008, M.B. Aguiar and A.L. Costa col. *Goiás*: Jataí, 1 female syntype, 1911, Gounelle col.; 2 males, 2 females, XII.1997–I.1998, Pujol col.; Caldas Novas, 1 female, X.1982, C. Coimbra col.; Rio Verde, 1 female, 7.XI.1945, H. Zellibor col. *Distrito Federal*: Planaltina (1000 m), 1 female, 10.XI.1975, V.O. Becker col. *Mato Grosso do Sul*: Rio Verde, 1 female, X.1966, A. Maller col.; Salobra (Zona da Mata) [currently, Miranda], 1 male, 2 females, 18–29.X.1938, exp. Instituto Oswaldo Cruz col. *São Paulo*: Itapolis (Faz. Palmeiras), 1 female, X.1945, F. Lane col.

***Gorybia apatheia* Martins, 1976**
(Fig. 31–35)

Gorybia apatheia Martins 1976: 355; Monné 1993: 32 (cat.); Monné and Giesbert 1994: 64 (checklist); Martins 2003: 166; Monné 2005: 434 (cat.); Monné and Hovore 2006: 111 (checklist); Monné et al. 2010: 242 (distr.); Monné et al. 2017: 31 (holotype); Monné 2018: 639 (cat.).

Gorybia maculosa Martins 1976: 353; Monné 1993: 33 (cat.); Monné and Giesbert 1994: 65 (checklist); Martins 2003: 175; Monné 2005: 435 (cat.); Monné and Hovore 2006: 111 (checklist); Lingafelter et al. 2014: 94 (holotype); Monné 2018: 641 (cat.). **Syn. nov.**

Discussion. Martins (1976) described *G. maculosa* (Fig. 35) based on a single male from Paraguay, and *G. apatheia* (Fig. 31–34) based on 46 specimens (males and females) from Brazil (Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo) in the same publication, and thus have the same priority. According to him, they differ as follows (translated): "Elytral drawing, and sexual punctation differ it [*G. apatheia*] from *G. maculosa*." Still according to him, the pronotum in *G. apatheia* has the anterolateral areas microsculptured, fine and very densely punctate, while in *G. maculosa*, it does not have sexual punctation. However, based on the antennal length of the holotype of *G. maculosa*, the specimen is a female, and not a male. Furthermore, the drawing of *G. apatheia* figured in Martins (1976, 2003) does not represent that species.

Based on the absence of differences, we place *G. maculosa* as a synonym of *G. apatheia*. We chose *G. apatheia* as the valid name, because both sexes are well represented in the type series.-

Material examined. Type series deposited at MZSP. BRAZIL, *Minas Gerais*: Mar de Espanha, 1 paratype male, 28.XII.1928, J.F. Zikán col. *Espírito Santo*: Linhares, 2 paratypes male, X.1972, P.C. Elias col.; 1 paratype male, XI.1972, P.C. Elias col.; 1 paratype female, XII.1967, B. Silva col.; 1 partype male, XI.1967, F.M. Oliveira col. *Rio de Janeiro*: Represa Rio Grande, 2 paratypes male, 15.X.1960, F.M. Oliveira col; 1 paratype male, XII.1960, F.M. Oliveira col.; 1 paratype female, XI.1960, F.M. Oliveira col. *São Paulo*: Ilha dos Búzios, holotype male, 1 paratype male, 1 paratype female,15.X-4.XI.1963, Expedição Departamento de Zoologia col.; Amparo, 1 paratype female, 1925, no other data; 2 paratypes male, no other data; Barueri, 1 paratype female, XII.1966, K. Lenko col.; Itú (Fazenda Pau d'Alho), 1 paratype male, 28–29.X.1965, Martins and Biasi col.

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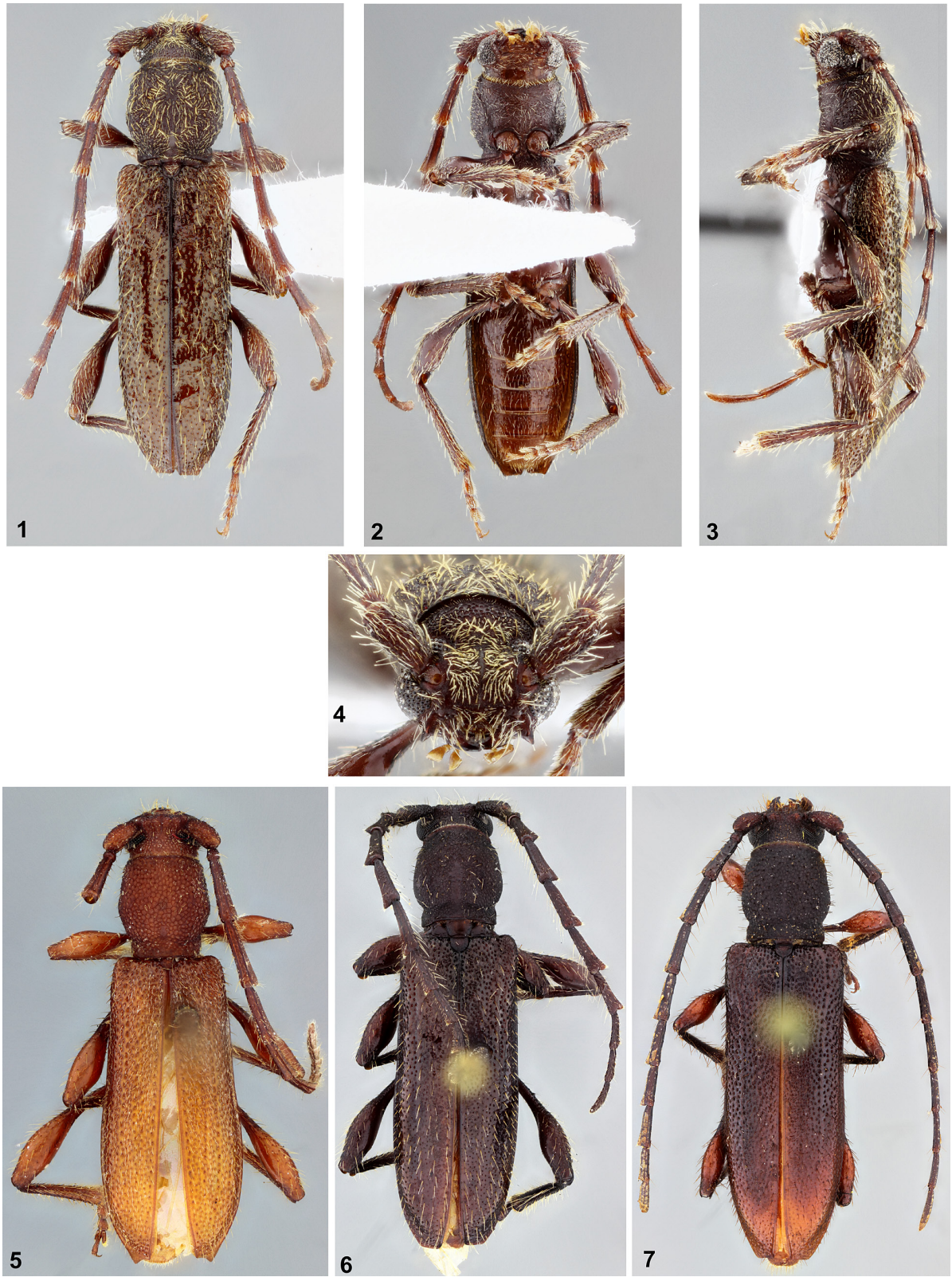
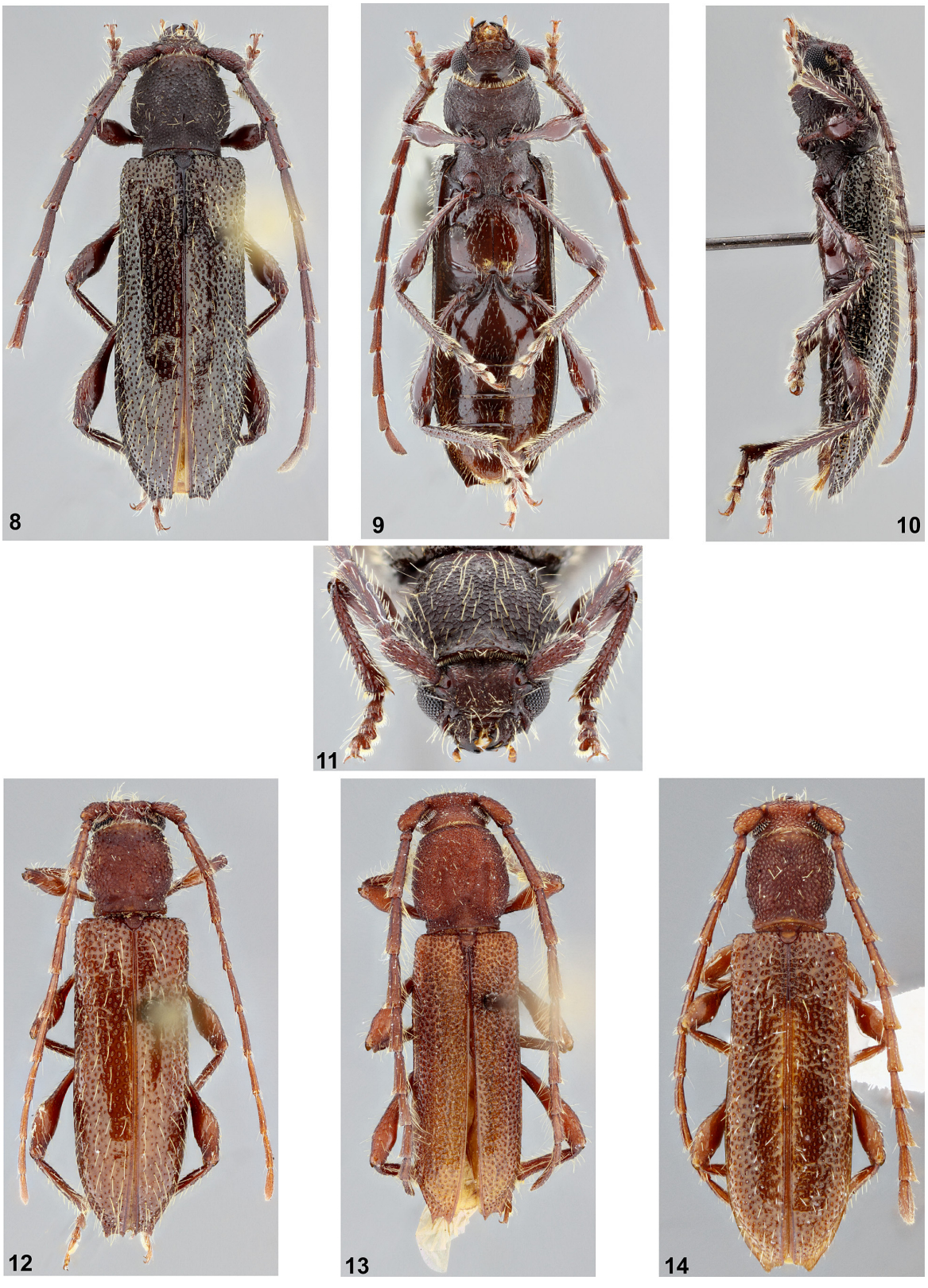
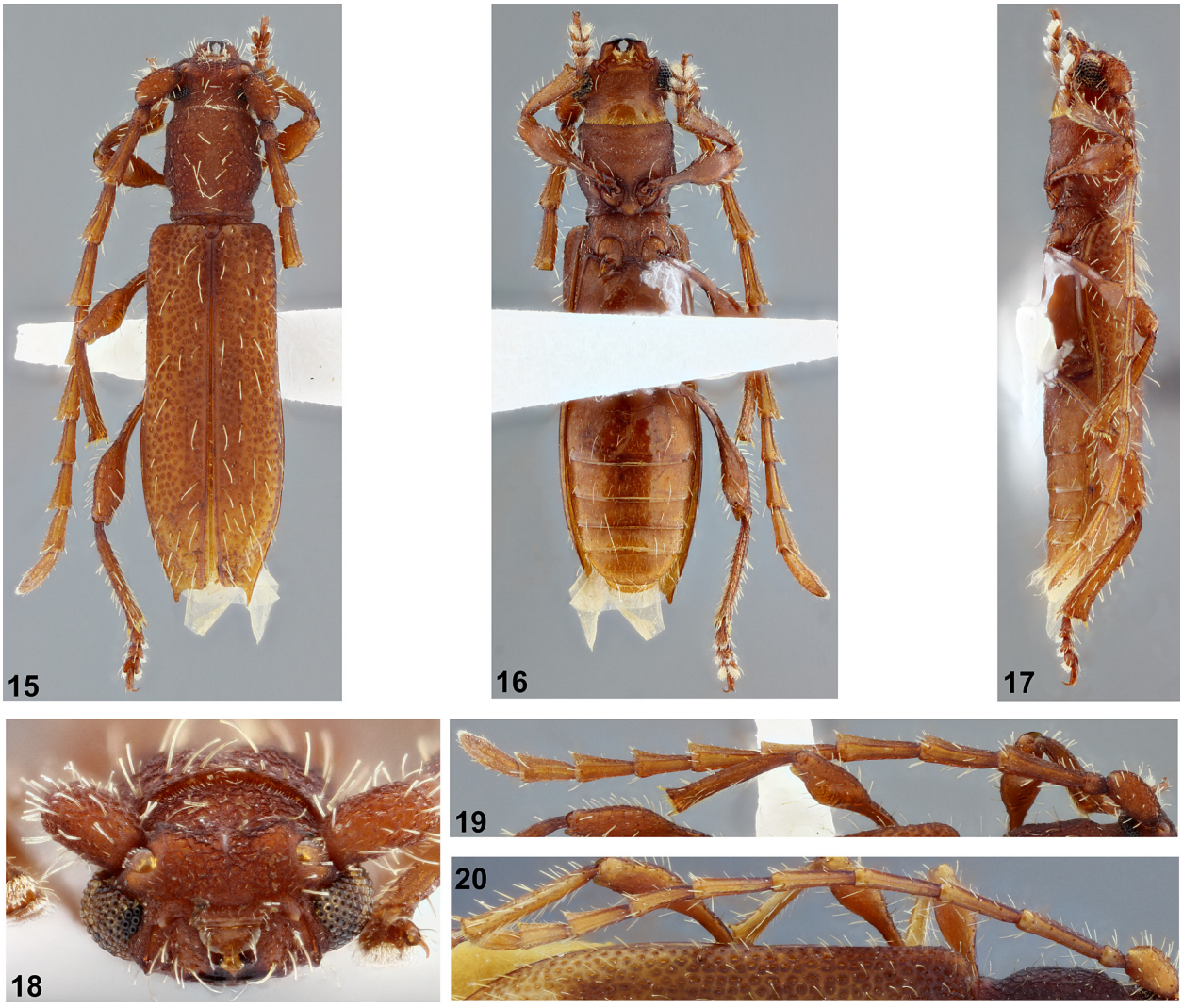


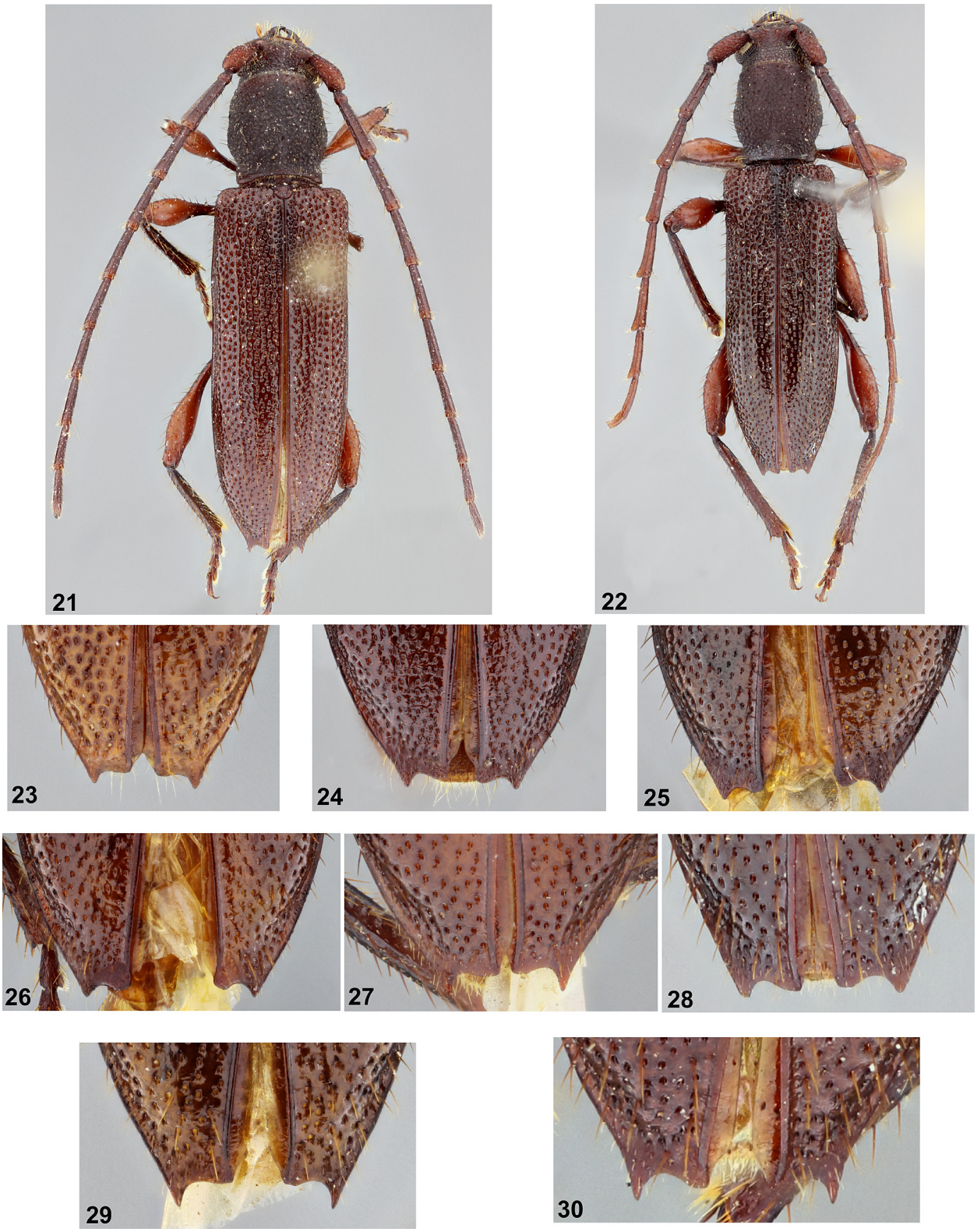
Figures 1–7. 1–4) *Gorybia martinsi* new species, holotype male. **1)** Dorsal habitus. **2)** Ventral habitus. **3)** Lateral habitus. **4)** Head, frontal view. **5)** *G. pilosa*, holotype female, dorsal habitus. **6)** *G. proxima*, holotype male, dorsal habitus. **7)** *G. ruficaudata*, paralectotype female, dorsal habitus.



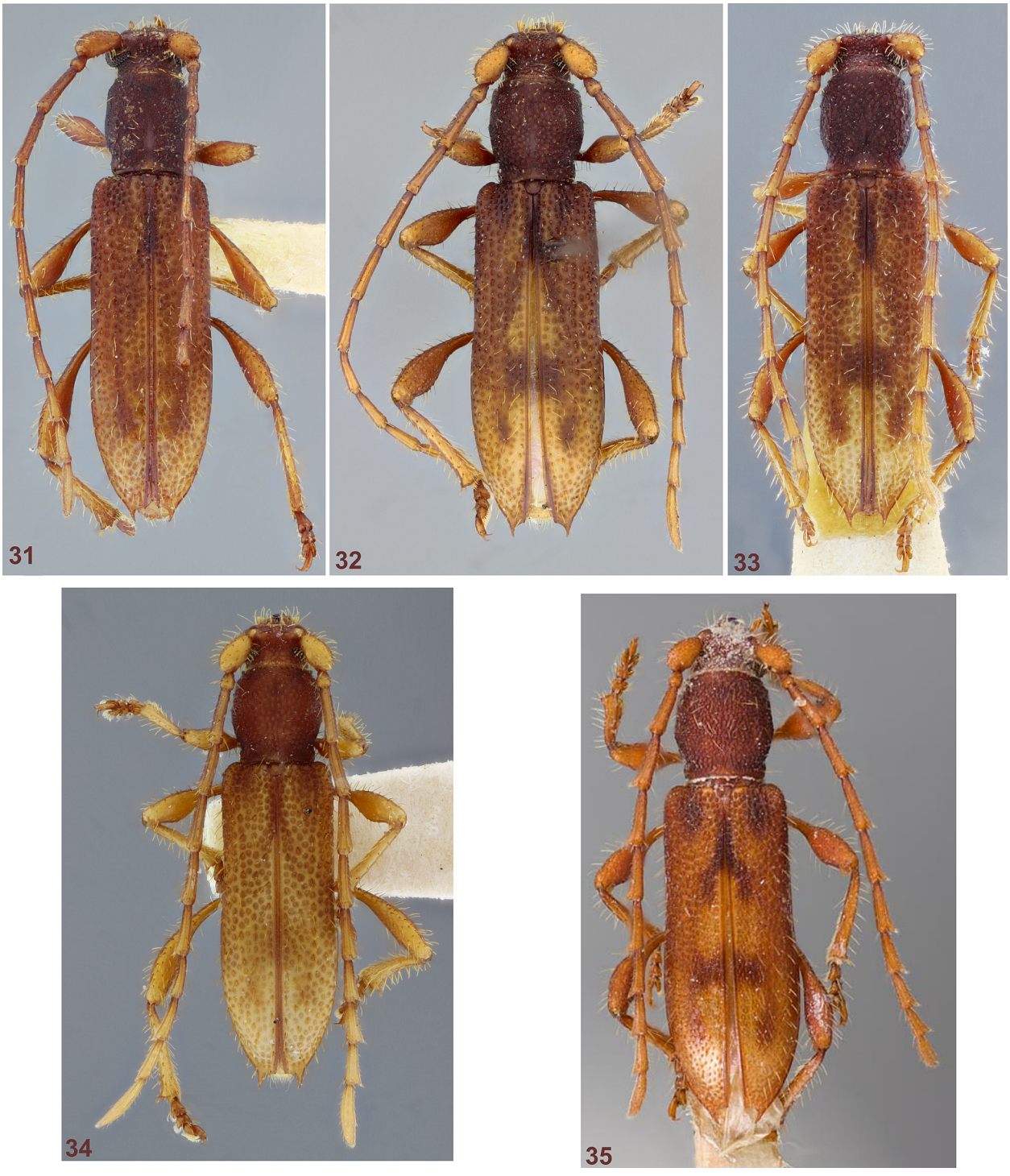
Figures 8–14. 8-11) *Gorybia galileoae* new species, holotype female. **8)** Dorsal habitus. **9)** Ventral habitus. **10)** Lateral habitus. **11)** Head, frontal view. **12)** *G. separata*, paratype female, dorsal habitus. **13)** *G. alveolata*, paratype male, dorsal habitus. **14)** *G. wappesi*, paratype female, dorsal habitus.



Figures 15–20. 15–19) *Gorybia clarkeorum* new species, holotype female. **15)** Dorsal habitus. **16)** Ventral habitus. **17)** Lateral habitus. **18)** Head, frontal view. **19)** Antenna. **20)** *G. apatheia*, paratype female, antenna.



Figures 21–30. *Gorybia castanea*. **21)** Syntype female, dorsal habitus. **22)** *G. bispinosa*, holotype male, dorsal habitus. **23–30)** Elytral apex. **23)** Female, specimen 1. **24)** Female, specimen 2. **25)** Female, specimen 3. **26)** Female, specimen 4. **27)** Male, specimen 1. **28)** Holotype of *G. bispinosa*. **29)** Male, specimen 2. **30)** Syntype of *G. castanea*.



Figures 31–35. 31–34) *Gorybia apatheia*, dorsal habitus. **31)** Holotype male. **32)** Paratype male, specimen 1. **33)** Paratype female. **34)** Paratype male, specimen 2. **35)** *Gorybia maculosa*, holotype, dorsal habitus (from Lingafelter et al. 2018).