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in Hemilophini (Coleoptera: Cerambycidae: Lamiinae)

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Notes, new records, new combinations, a new genus and three new species in Hemilophini (Coleoptera: Cerambycidae: Lamiinae)

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Abstract. The number of specimens in the type series of *Hemilophus leuconotus* Laporte, 1840 (= *Cirrhicera leuconota*) is corrected. *Cirrhicera leuconota* Thomson, 1857 (Coleoptera: Cerambycidae: Lamiinae: Hemilophini), currently considered *lapsus calami* or an error to *C. leuconotus*, and the number of specimens in the type series is also corrected. *Cirrhicera leuconota* is recorded from Guatemala for the first time. The sex of the holotype of *Lamacoscyclus albatrus* Martins, Santos-Silva and Galileo, 2015, is corrected, and a new state record in Mexico is provided. The description of the antennae in females of *Lamacoscyclus* Martins and Galileo, 1991 is discussed; *Malacoscyclus humilis* Bates, 1881 (currently *Lamacoscyclus humilis*) *sensu* Gahan (1892) is discussed and the two varieties described by him, *M. humilis* var. *fulvescens* and *M. humilis* var. *grisescens* (only part of the specimens), as well as *M. usingeri* Linsley, 1935 are transferred to *Schmidarius* Santos-Silva, Heffern, Botero and Nascimento, **new genus**. Additionally, a **new species** from Mexico (Mexico) is described in *Schmidarius* as *S. kondratieffi* Santos-Silva, Heffern, Botero and Nascimento. The correct type-species of *Phoebe* Audinet-Serville, 1835 is determined as *Saperda bicornis* Olivier, 1800 and *Phoebe phoebe* Lepeletier and Audinet-Serville, 1825 and *Phoebe tinga* Martins and Galileo, 1998 are transferred to *Phoebella* Lane, 1966, which is redescribed. *Leucophoebe* Lane, 1976 is synonymized with *Phoebe*. A key to species of Hemilophini with 12-segmented antennae is provided. The differences between *Callanga* Lane, 1973 and *Lapazina* Lane, 1973 are discussed, and a **new species** of *Callanga* from Peru is described as *C. ashaninka* Santos-Silva, Heffern, Botero and Nascimento. A **new species** of *Fredlanea* Martins and Galileo, 1996 from Colombia is described as *F. lazulina* Santos-Silva, Heffern, Botero and Nascimento; a new department record in Colombia is provided for *Fredlanea consobrina* (Lane, 1970) and a chromatic variation in this species is discussed.

Key words. Central America, longhorned beetles, South America, taxonomy.

Introduction

Hemilophini Thomson, 1868 is a large tribe of Lamiinae found exclusively in the Western Hemisphere. According to Tavakilian and Chevillotte (2020), it contains about 560 species distributed in over 130 genera. The features currently used to separate Hemilophini from Aerenicini Lacordaire, 1872, Calliini Thomson, 1864, and Saperdini Mulsant, 1839 are, at best, very weak and controversial.

The tribe Hemilophini was extensively studied by the late Ubirajara R. Martins de Souza (1932–2015) and collaborators, but still encompasses several problems. The limits and definition of some genera are doubtful and probably both the genera and species include synonyms.

In this work, we try to solve some problems in the tribe and describe one new genus and some new species.

Materials and Methods

Photographs were taken in the MZSP with a Canon EOS Rebel T3i DSLR camera and 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 collection acronyms used in the text are as follows:

BMNH Natural History Museum, London, UK

CSUC C. P. Gillette Museum of Arthropod Diversity, Colorado State University, Fort Collins, Colorado, USA

DHCO Daniel Heffern Collection, Houston, Texas, USA

MEFLG Museo Entomológico “Francisco Luis Gallego”, Universidad Nacional de Colombia, Medellín, Colombia

MZSP Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil

TAMU Texas A and M University, College Station, Texas, USA

Results

Cirrhicera leuconota (Laporte, 1840)

(Fig. 1–2)

Hemilophus leuconotus Laporte 1840: 489; Gemminger 1873: 3209 (cat.).

Cirrhicera leuconota; Thomson 1860: 64; 1864: 128; 1878: 15 (types); Bates 1881b: 302; Aurivillius 1923: 592 (cat.); Duffy 1960: 276; Gilmour 1965: 639 (cat.); Chemsak 1972: 88; Chemsak et al. 1992: 158 (checklist); Monné 1995: 38 (cat.); Monné and Giesbert 1994: 283 (checklist); Noguera and Chemsak 1996: 408 (checklist); Terrón 1997: 223 (distr.); Turnbow et al. 2003: 41 (distr.); Monné 2005: 460 (cat.); Monné and Hovore 2006: 258 (checklist); Bezark 2013: 53 (distr.); Monné 2020: 673 (cat.); Bezark 2019: 298 (checklist).

Cirrhicera leuconotus; Bates 1881a: 213; Blackwelder 1946: 624 (checklist).

Cirrhicera leucronota Thomson 1857: 309.

The number of specimens in the type series of *Hemilophus leuconotus* Laporte, 1840 has been reported incorrectly. Also, the status and the number of specimens in the type series of *Cirrhicera leucronota* Thomson, 1860 have been incorrectly listed in catalogs and checklists.

Laporte (1840) described *Hemilophus leuconotus* (Fig. 1) from Mexico without further details. Although he had mentioned the catalog of Dejean, he did not add any additional information about the catalog (year, date, and page): “DEJ., *Cat.*” Even so, the specimens from the Dejean collection (currently deposited at BMNH) are syntypes. According to ICZN (1999: Article 74.2.1): “The type series of a nominal species-group taxon consists of all specimens included by the author in the new nominal taxon (whether directly or by bibliographic reference)...” Additionally, ICZN (1999: Article 72.4.1.1) establishes: “For a nominal species or subspecies established before 2000, any evidence, published or unpublished, may be taken into account to determine what specimens constitute the type series.” The mention of the Dejean catalog is clear evidence. Thus, although the species has been mentioned as having been described based on a single specimen (holotype) (e.g. Tavakilian and Chevillotte 2020), there were at least two specimens.

Later, Thomson (1857) described *Cirrhicera leucronota* from Mexico, also without further details, and mentioned: “CIRRHICERA LEUCRONOTA (Dej. *Cat.* 3^e edit. p. 379) Thomson.” Although the species really appears in Dejean (1836: 379 – third edition), it was present already in the second edition (Dejean 1835: 352). Again, the species has been mentioned as having been based on a single specimen

(holotype) (e.g. Tavakilian and Chevillotte 2020), but there is no doubt that there were syntypes (ICZN 1999: Article 74.2.1). Thus, the syntypes of *Cirrhicera leucronota* and *C. leuconota* belonging to the Dejean collection are the same specimens. Thomson (1860) synonymized *C. leucronota* with *C. leuconota* but did not mention anything about the name “leucronota”. Even so, his text suggests he was making a correction: “Espèces: *C. leuconota*, Cast., *Hist. Nat. des Col.*, II, 489, et Thomson, *Arch. Ent.*, I, p. 309...”. Tavakilian and Chevillotte (2020) pointed out that the synonymy occurred in Thomson (1878). However, as seen above, it occurred in Thomson (1860). The change of the name “leucronota” to “leuconota” in Thomson (1860) cannot be considered an “emendation”, because according to ICZN (1999: 33.2.1): “A change in the original spelling of a name is only to be interpreted as “demonstrably intentional” [ICZN 1999: Article 33.2] when in the work itself, or in an author’s (or publisher’s) corrigenda, there is an explicit statement of intention, or when both the original and the changed spelling are cited and the latter is adopted in place of the former, or when two or more names in the same work are treated in a similar way.” As seen above, none of these conditions are met in Thomson (1860). Accordingly, *Cirrhicera leucronota* Thomson in Thomson (1860) is an incorrect subsequent spelling (ICZN 1999: Article 33.3). It is important to highlight that as the conditions requested by the ICZN (1999: Article 32.5) are not satisfied, it is not possible to consider *C. leuconota* Thomson, 1860 a mandatory change. Following these arguments, it is a mistake to regard *C. leucronota* as an “error”, as it appears in Monné (2020) and Tavakilian and Chevillotte (2020).

Males and females of the species in this genus exhibit sexual dimorphism in the upper eye lobes, slightly wider and distinctly closer to each other in the males. In males of *C. leuconota* (Fig. 2), as well as in those of *C. championi* Bates, 1881, the frons have very dense white or yellowish-white pubescence, while in the females (Fig. 1) it is distinctly sparser, not obscuring the integument; the vertex may or may not have dense pubescent maculae, usually absent in females; the dense pubescent maculae on the sides of the pronotum are somewhat variable, making the central area with sparse pubescence narrower or wider; the dense pubescent macula on the elytra are variable anteriorly, and may or may not reach the base.

Cirrhicera leuconota has been so far recorded from Mexico (Veracruz, Oaxaca, Chiapas), and Honduras (Monné 2020).

Material examined. GUATEMALA (New country record), IZABAL: Morales, 600 m, 1 male, VI.2000, J. Monzon col. (DHCO).

***Lamacoscylus albatu*s Martins, Santos-Silva and Galileo, 2015**

(Fig. 3)

*Lamacoscylus albatu*s Martins et al. 2015: 95; Monné et al. 2017: 71 (holotype); Monné 2020: 706 (cat.).

*Lamacoscylus albatu*s was described from Mexico (Michoacán, Jalisco). The species was previously known only by the holotype and two paratypes (Monné 2019). Mistakenly, the holotype male was listed as being a female.

Material examined. MEXICO, MEXICO (New state record): San Antonio Albarranes, 1 male, 23.VIII.1994, B.C. Kondratieff col. (DHCO, formerly CSUC).

***Lamacoscylus humilis* (Bates, 1881)**

(Fig. 4, 7–12)

Malacoscyclus humilis Bates 1881a: 223; Gahan 1892: 270; Aurivillius 1923: 586 (cat.); Blackwelder 1946: 623 (checklist); Gilmour 1965: 623 (cat.).

Hemilophus humilis; Lameere 1883: 74 (cat.).

Lamacoscylus humilis; Martins and Galileo 1991: 628; Chemsak et al. 1992: 159 (checklist); Monné and Giesbert 1994: 286 (checklist); Monné 1995: 9 (cat.); Noguera and Chemsak 1996: 408 (checklist); Monné 2005: 484 (cat.); Monné and Hovore 2006: 263 (checklist); Martins et al. 2015: 99 (key); Ordóñez-Reséndiz and Martínez-Ramos 2017: 828 (distr.); Monné 2020: 706 (cat.); Bezark 2019: 304 (checklist).

Bates (1881a) based *Malacoscyclus humilis* on a single male from Mexico (Zacatepec – there are several places of this name, in several states) (Fig. 4). *Malacoscyclus* Thomson, 1868 was redescribed by

Bates (1881a), who stated that “the third antennal joint alone in this genus is clothed with long hairs.” However, the species of *Malacoscyclus* (there are species included that may not belong to the genus) have the antennomere III much longer than IV, and with abundant erect setae throughout. In *Lamacoscyclus* Martins and Galileo, 1991, the antennomere III is also longer than IV, but not much longer, and the erect setae are sparser, especially dorsally. Accordingly, we think that the decision of Martins and Galileo (1991) to erect a new genus was correct.

The male holotype of *M. humilis* has the antennomere III cylindrical and almost as wide as the other antennomeres. According to the original description of *Lamacoscyclus*, the erect setae on antennomere III in females are denser than in males. Apparently, this information was based on the antennomere III of the holotype female of *Malacoscyclus usingeri* Linsley, 1935.

According to Gahan (1892), “One male specimen only was known to Mr. Bates when he wrote his description. Mr. H. H. Smith has since sent a long series, including both male and female examples, from the following localities in Guerrero: – Omilteme (8000 ft.), Xucumanatlan (7000 ft.), and Chilpancingo (4600 ft.). The female differs from the male by its somewhat shorter and relatively broader form; by its shorter, thicker, and more densely fringed third antennal joint; [...] In some examples of both sexes the fulvous vittae of the prothorax have extended dorsally so as to cover part of the anterior half of the disk; while in one small male almost the whole upper surface of the head and prothorax is covered with fulvous pubescence. These examples differ in no other respect from the typical form, with which they are, in fact, connected by almost insensible gradations. It is otherwise with the two following varieties [*M. humilis* var. *grisescens*, and *M. humilis* var. *fulvescens*], which might indeed, with some show of reason, be regarded as distinct species.” Although Gahan (1892) did not make very clear the general appearance of the antennomere III in females of *M. humilis* at his disposal, it is possible to infer that it is as in the syntype female of *M. humilis* var. *grisescens* (Fig. 6). However, the female examined by us (Fig. 10–12), has the antennomere III at most only slightly thicker than in the male (Fig. 7–9), and has the erect setae very similar. Accordingly, in our opinion Gahan (1892) confused males and females of the true *M. humilis* (thinking they were all males), which becomes evident because we have a couple also collected by H. H. Smith from a place listed by him. *Malacoscyclus humilis* sensu Gahan (1892) appears to be a mix of at least two species, but most likely three species (see also comments under *Schmidarius grisescens* (Gahan) and *S. flavescens* (Gahan)).

Material examined. MEXICO, GUERRERO: Omilteme (8000 ft.), 1 male, 1 female, July (no further details), H. H. Smith col. (MZSP – donated by F. Du C. Goodman, 1907).

***Schmidarius* Santos-Silva, Heffern, Botero and Nascimento, new genus**

Type species. *Schmidarius kondratieffi* Santos-Silva, Heffern, Botero and Nascimento, sp. nov., present designation.

Description. Female. Head not wider than prothorax; frons without projections, transverse. Gena distinctly longer than lower eye lobe. Antennal tubercles distant from each other. Eyes not divided; posterior margin of eyes distant from base of prothorax; upper eye lobes narrow, distance between them distinctly greater than width of one lobe. Antennae 11-segmented, not reaching elytral apex; scape without basal curvature, without apical cicatrix, shorter than antennomere III; pedicel much shorter than antennomere III and scape; antennomere III distinctly tumid, with dense erect setae throughout; antennomere IV shorter than III; antennomeres IV–XI cylindrical; antennomeres IV–VIII with long, erect, sparse setae on inner surface; antennomere XI not stinger-shaped. Prothorax proportionally short, transverse, about as wide anteriorly as posteriorly; sides without tubercles or strong gibbosities. Prosternal process distinctly narrow centrally, about 0.2 times width of procoxal cavity. Mesoventral process with flap on each side near apex. Elytra not distinctly widened from base to apex; humerus rounded, not projected; humeral carina well marked from base to apex; area between humeral carina and epipleural margin without carinae, without whitish pubescence contrasting with that on dorsal surface, gradually more distinctly visible in dorsal view from basal quarter; dorsal carina from well-marked to slightly distinct; apex individually rounded, without sutural projection; sutural area without long and

erect setae. Metatarsomere I slightly shorter than II–III together; tarsal claws not divided basally, with inner tooth moderately shorter than outer one.

Etymology. The new genus is named in honor of Herbert Schmid (Austria), for his frequent assistance with information and photographs of the type specimens deposited in his collection; the suffix “-arius” is Latin, meaning “belonging to”. Masculine gender.

Remarks. *Schmidarius* gen. nov. is rather similar to *Lamacoscylus* Martins and Galileo, 1991, from which it differs by the antennomere III distinctly tumid and with long, dense and erect setae throughout. In *Lamacoscylus* the antennomere III is cylindrical, similar to the other antennomeres, and the erect setae are much sparser. It differs from *Malacoscylus* Thomson, 1868 by the antennomere III not much longer than IV (much longer in *Malacoscylus*); from *Sybaguasu* Martins and Galileo, 1991 by the scape not curved basally, and vertex not concave (scape curved and vertex concave in *Sybaguasu*); from *Themistonoe* Thomson, 1864 by the pronotum without distinct gibbosities, and elytra with dorsal carina (pronotum with anterolateral gibbosities, and elytra without carina in *Themistonoe*); and from *Cacupira* Martins and Galileo, 1991 by the sutural apex not projected (projected in *Cacupira*).

Martins and Galileo (1991) did not describe the shape of the antennomere III in the original description of *Lamacoscylus*. According to them, the setae on antennomere III are denser in females than in the males of this genus. However, male and female of *L. humilis* have the antennomere III nearly identical. Therefore, we believe that the shape of the antennomere III in *S. usingeri* (see photograph in Bezark 2020) and *S. kondratieffi* is not sexually dimorphic.

Species included. *Schmidarius kondratieffi*, sp. nov.; *S. usingeri* (Linsley, 1935); *S. griseus* (Gahan, 1892); *S. flavescens* (Gahan, 1892).

***Schmidarius usingeri* (Linsley, 1935), new combination**

Malacoscylus usingeri Linsley 1935: 113; Blackwelder 1946: 623 (checklist); Gilmour 1965: 633 (cat.).

Lamacoscylus usingeri; Martins and Galileo 1991: 628; Chemsak et al. 1992: 160 (cat.); Monné and Giesbert 1994: 286 (checklist); Monné 1995: 9 (cat.); Noguera and Chemsak 1996: 408 (cat.); Monné 2005: 484 (cat.); Monné and Hovore 2006: 263 (checklist); Martins et al. 2015: 98 (key); Monné 2020: 707 (cat.); Bezark 2019: 304 (checklist).

The shape of the antennomere III in the holotype female of *Malacoscylus usingeri* is not like that in females of *Lamacoscylus* or *Malacoscylus*, agreeing perfectly with that in the type species of *Schmidarius*. Accordingly, the species is transferred to the latter.

This species remains known only by the holotype from Mexico (Distrito Federal) (Monné 2020).

***Schmidarius fulvescens* (Gahan, 1892), new rank, new combination**

Malacoscylus humilis var. *fulvescens* Gahan 1892: 271; Aurivillius 1923: 586 (cat.); Blackwelder 1946: 623 (checklist); Gilmour 1965: 633 (cat.).

Gahan (1892) described this species as a variety of *Malacoscylus humilis* based on three specimens from two places in Guerrero (Mexico). We know he had a male and a female because the original description provided a drawing of a female, and we have a photograph of a male (Fig. 5). Thus, the syntypes are not three females as reported by Monné (2020) and Tavakilian and Chevillotte (2020). Apparently, the male and female are not of the same species. The male antennomere III agrees better with that of *Lamacoscylus humilis*, while that of the female agrees very well with that of the species of *Schmidarius*. The general shape of the elytra does not agree well with that of *L. humilis* (proportionally narrower and longer, with posterior quarter not widened, and not distinctly rounded toward outer angle). Unfortunately, the photograph at our disposal does not allow further considerations. We propose a new rank and transfer this species to *Schmidarius* based on the drawing in the original description. For the moment, we prefer not to designate a lectotype for this species, as it would be necessary to examine all specimens identified as *Malacoscylus humilis* by Gahan (including the varieties) to know the sex and the true identity of each specimen, which at the moment is not feasible. In the case of lectotype designation, the

specimen chosen should be a specimen with the antennomere III tumid, because Gahan (1892) figured this sex. As in several other cases, varieties have been considered as synonyms of the typical form or have been listed under the original species (e.g. Aurivillius 1923). Currently, according to ICZN (1999), the varieties need to be considered subspecies.

***Schmidarius grisescens* (Gahan, 1892), new rank, new combination**

(Fig. 6)

Malacosylus humilis var. *grisescens* Gahan 1892: 271; Aurivillius 1923: 586 (cat.); Blackwelder 1946: 623 (checklist); Gilmour 1965: 633 (cat.).

Gahan (1892) described this subspecies based on a male and females, not only males as reported by Monné (2020) and Tavakilian and Chevillotte (2020). There is no doubt about this because we have a photograph of a female syntype, and Gahan (1892) also commented that "... in one female example of the var. *grisescens* the punctuation is almost as much concealed as in the present variety [*M. humilis* var. *flavescens*]."

We believe it is very probable that females of *M. humilis flavescens* and *M. humilis grisescens* are the same species. We did not see photographs of males of this subspecies. Accordingly, we do not know if they are *Lamacosylus humilis* or another species [equal or not to males of *M. humilis flavescens*].

See comments under *S. fulvescens* to understand the reasons for not designating a lectotype for this species, and about the status of this variety described by Gahan.

***Schmidarius kondratieffi* Santos-Silva, Heffern, Botero and Nascimento, new species**

(Fig. 13–16)

Description. Female. Integument mostly black; mouthparts reddish brown except nearly black palpomeres (apex of labial palpomeres I–II and maxillary palpomeres I–III narrowly yellowish brown); anteclypeus dark brown close to postclypeus, orangish brown on remaining surface; posterior half of labrum reddish brown; gulamentum mostly brown; base of antennomere III orangish brown; antennomeres IV–VIII pale yellow anteriorly (more orangish depending on light intensity), this area gradually shorter toward VIII, dark brown posteriorly; antennomeres IX–XI dark brown. Coxae partially dark reddish brown; protrochanters pale yellow; meso- and metatrochanters dark reddish brown.

Head. Frons somewhat coarsely, abundantly punctate toward antennal tubercles, finer, sparser toward postclypeus, especially laterally; glabrous except superior area between eyes with dense, nearly black pubescence (this area triangularly projected toward central region); with minute whitish seta within punctures in glabrous area; with long, erect dark setae close to eyes. Vertex and area behind eyes somewhat finely, sparsely punctate (punctures coarser behind lower eye lobes); with dense black pubescence obscuring integument, except glabrous central area between antennal tubercles, nearly glabrous median groove from area between upper eye lobes, and not obscuring integument behind lower eye lobes; with long, erect, sparse dark setae on vertex and area behind upper eye lobes. Genae almost smooth; with dense, transverse white pubescent macula posteriorly close to lower eye lobe, glabrous on remaining surface; with a few long, erect dark setae near white macula. Antennal tubercles with black pubescence (more dark brown anteriorly) not obscuring integument, with long, erect dark setae interspersed. Postclypeus not distinctly separated from frons; finely sparsely punctate in wide central area (punctures sparser in center of this area), nearly smooth laterally; glabrous, with a few long, erect brownish setae centrally near anteclypeus. Labrum coplanar with anteclypeus in posterior half, oblique in anterior half; with transverse row of fine punctures in posterior half close to oblique area, with long, erect yellowish-brown seta in nearly all punctures. Gulamentum smooth, glabrous. Distance between upper eye lobes 0.37 times length of scape (0.30 times distance between outer margins of eyes); in frontal view, distance between lower eye lobes 0.78 times length of scape (0.62 times distance between outer margins of eyes). Antennae 1.25 times elytral length, almost reaching elytral apex. Scape with dense, bristly black pubescence, with long, erect black setae interspersed throughout in posterior 2/3. Pedicel with black pubescence, not obscuring integument dorsally, somewhat bristly, with long, erect black

setae interspersed ventrally. Maximum diameter of antennomere III almost twice length of pedicel; with dense, erect black setae throughout, and longer black setae interspersed. Antennomeres IV–VIII with sparse whitish pubescence in pale yellow area, brownish in dark area (partially interspersed with whitish setae ventrally); with long, erect, sparse black setae ventrally. Antennomeres IX–XI with dark pubescence obscuring integument, with short, erect yellowish setae interspersed; ventral surface of IX may or may not have long, black erect setae (present only on left antennomere in holotype). Dorsal apex of antennomeres III–X with a few long, erect black setae (shorter toward X). Antennal formula (ratio) based on length of antennomere III: scape = 0.67; pedicel = 0.12; IV = 0.62; V = 0.33; VI = 0.27; VII = 0.25; VIII = 0.21; IX = 0.19; X = 0.17; XI = 0.24.

Thorax. Pronotum coarsely, sparsely punctate, punctures coarser, more abundantly posteriorly; with dense black pubescence partially obscuring integument, bristly in some areas, with long, erect black setae interspersed. Sides of prothorax coarsely, somewhat sparsely punctate; pubescence as on pronotum. Prosternum coarsely, abundantly punctate; with grayish-white pubescence not obscuring integument, except longitudinal, narrow white pubescent band on each side. Prosternal process with sparse grayish-white pubescence; narrowest area 0.15 times width of procoxal cavity. Mesoventrite with sparse grayish-white pubescence centrally, denser, dark laterally. Mesanepisternum and mesepimeron with dense blackish pubescence. Mesoventral process with whitish pubescence not obscuring integument. Metanepisternum and metaventrite with dense nearly black pubescence, except glabrous central area of metaventrite, and bristly yellowish-white pubescence posteriorly close to glabrous area. Scutellum with nearly black pubescence partially obscuring integument. **Elytra.** Coarsely, abundantly punctate in basal third, punctures gradually finer toward apex; with dark brown pubescence not obscuring integument (more grayish depending on light intensity); with long, erect, somewhat abundant dark setae interspersed; dorsal carina well-marked; apex individually rounded, sutural angle absent. **Legs.** Femora with grayish pubescence not obscuring integument (appearing to be darker dorsally and laterally due to integument color and light intensity), with long, erect setae of same color interspersed, more abundant ventrally. Tibiae with bristly dark brown pubescence not obscuring integument, with long, erect dark brown setae interspersed; protibiae with a few erect yellowish-white setae near apex.

Abdomen. Ventrites with yellowish-white pubescence not obscuring integument (more grayish depending on light intensity), with long, erect setae of same color interspersed. Apex of ventrite V emarginated centrally, with abundant, long yellowish setae.

Dimensions in mm. Total length 9.05; prothoracic length 1.25; anterior prothoracic width 1.65; posterior prothoracic width 1.70; humeral width 2.60; elytral length 6.75.

Type material. Holotype female from MEXICO, MEXICO: San Antonio Albarranes, 23.VIII.1994, B.C. Kondratieff col. (TAMU, formerly CSUC).

Etymology. It is a pleasure to name this species for Prof. Boris C. Kondratieff, educator and curator at CSUC, who has helped the second author tremendously for the last quarter century.

Remarks. *Schmidarius kondratieffi* sp. nov. differs from *S. usingeri* by the absence of yellow pubescence in the center of the head, pronotum and scutellum (present in *S. usingeri*), and femora entirely dark (bicolourous in *S. usingeri*). It differs from *S. grisescens* and *S. flavescens* by the absence of yellow pubescence on the sides of the head and pronotum (present in both species).

On *Phoebe* Audinet-Serville, 1835

Phoebe is involved in a series of mistakes since its original description (and even before), which includes the type species of the genus, and its characterization and limits. Herein we try to solve these problems and propose a new synonymy.

Lepelletier and Audinet-Serville (1825) described *Saperda phoebe* and included it in their “2° Division. Corps alongé”, and in the “2° Subdivion. Antennes de onze articles dans les deux sexes.” Audinet-Serville (1835) described *Agapanthia* and affirmed that the antennae are 12-segmented. *Agapanthia* was divided into two subgenera, *A. (Agapanthia)* and *A. (Phoebe)*. The latter included three species,

A. octomaculata Audinet-Serville, 1835; *A. cornuta* (Olivier, 1800); and *A. bicornis* (Olivier, 1800) (currently, all of them in *Phoebe*). Audinet-Serville (1835) affirmed that *A. octomaculata* is *Saperda phoebe*: “*Agapanthia octomaculata*. – *Saperda Phoebe*, Encycl. méthod., tom. X, pag. 335, n° 2. Du Brésil.” Apparently, Audinet-Serville (1835) was renaming the species because he was using *Phoebe* as a subgeneric name. Accordingly, the information regarding the number of antennal segments in *Phoebe* is contradictory: 11 in Lapeletier and Audinet-Serville (1825), but 12 in Audinet-Serville (1835). However, although Olivier (1800) did not report the number of antennal segments in *Saperda bicornis* (we do not know if the holotype survived and, if so, where it is, original source was given as collection Raye), the specimens currently assigned to this species agree well with the drawing provided by Olivier (1800), and the antennae are 11-segmented. He also did not record the number of antennal segments in *Saperda cornuta* (we do not know if the holotype still exists and, if so, where it is, original source was given as collection Gevers). Unfortunately, the specimens currently assigned to this species do not agree well with the original description, and it is thus not possible to be sure if the antennae in the true *S. cornuta* are 11 or 12-segmented. However, they are 11-segmented in *S. cornuta sensu auctorum*. *Saperda phoebe* and *Agapanthia (Phoebe) octomaculata* will be discussed below.

Laporte (1840) considered *Phoebe* as a genus different from *Agapanthia*. Pascoe (1858) described *Phoebe cretifera* from Brazil, but did not mention the number of antennal segments. However, photographs of the holotype show 12 segments. Desmarest (1860: 328) designated *Saperda bicornis* Olivier, 1800 as the type species of *Phoebe*: “Un dernier genre, tantôt réuni aux *Saperda*, et tantôt aux *Agapanthia*, est celui des *Phoebe*, Serv., caractérisé par sa tête portant en avant une lunule sailante, dont les pointes s’élèvent plus ou moins en manière de corne, à face antérieure courte et à front bombé, et qui a un corps peu svelte : espèce typique, *S. bicornis*, Oliv., de Cayenne.” Desmarest (1860) used both, “espèce typique” and “type.” However, even when he used “espèce typique”, he meant the type species and not a “typical species of the genus” (ICZN 1999: Article 67.5.1). This is very clear from some examples where he used “genre typique” in the same work, e.g. “Mégaloportes... MEGALOPUS, Fabr., genre typique...”. Thomson (1864) designated *Agapanthia (Phoebe) octomaculata* as the type species. Evidently, the designation by Thomson (1864) is not valid.

Bates (1866) transferred *Phoebe bicornis* to *Amphionycha* Dejean, 1835 (= *Adesmus* Audinet-Serville, 1824). Gemminger (1873) synonymized *P. cretifera* with *P. octomaculata*. Aurivillius (1923) formalized the synonymy between *Saperda phoebe* and *Agapanthia (Phoebe) octomaculata*.

According to Martins and Galileo (1992) (translated): “There are relatively few genera in this tribe [Hemilophini] whose species have antennae with twelve articles, all so far described by Lane (1956, 1966).” They listed *Murupeaca* Martins and Galileo, 1992, *Phoebella* Lane, 1966, *Gagarinia* Lane, 1956, *Tabatinga* Lane, 1966, *Purusia* Lane, 1956, and *Juninia* Lane, 1966. *Phoebe* was not mentioned, although the original description made clear that it has antennae 12-segmented (partially incorrect information), and the species wrongly mentioned as being the type species has antennae 12-segmented. Later, Martins and Galileo (1993) described one more genus in Hemilophini with antennae 12-segmented: *Sibapipunga*.

Martins and Galileo (1998, 2014b) redescribed *Phoebe phoebe*, but did not mention the number of antennal segments. However, *Phoebe* was included in “Grupo E” by Martins and Galileo (2014a), in which the antennae are 11-segmented.

Although we have not seen a photograph of the type of *Saperda phoebe/ Agapanthia (Phoebe) octomaculata*, the original description agrees very well with the holotype of *Phoebe cretaria*. All specimens, male and female, examined by us or studied through photographs have the antennae distinctly 12-segmented. Actually, it is surprising that no one has commented on this, even considering this species as the type species of *Phoebe*. Accordingly, this species that was wrongly considered the type species of the genus, needs to be transferred to another genus. All other species currently allocated to *Phoebe* have antennae 11-segmented, except *Phoebe tinga* Martins and Galileo, 1998, which has antennae distinctly 12-segmented, and is transferred to *Phoebella* Lane, 1966. We thus establish *Phoebella tinga* (Martins and Galileo, 1998) as a **new combination**.

Lane (1976) described *Leucophoebe* for a single species, *L. kempfi* Lane, 1976. According to him (translated): “It is distinguished from *Phoebe* Serville, 1835 (type *P. phoebe*) especially by the structure and frame of the head and by the different proportions between the lengths of the prothorax and elytra. The new genus is structurally more compact.” Martins and Galileo (1998) separated *Leucophoebe* from

Phoebe in the key (translated): “Body elongated; length of the elytra = 2.5-3 times the humeral width; elytral carina often sub-straight; tarsomeres tumid in males... *Phoebe* Audinet-Serville, 1835 / Body shorter; length of the elytra about twice the humeral width; elytral carina curved; tarsomeres in male not tumid.... *Leucophoebe* Lane, 1976.” In the same work they transferred *Amphionycha albaria* Bates, 1872 (at that time *Phoebe albaria*), and *Phoebe pictilis* Lane, 1972 to *Leucophoebe*. Later, Martins and Galileo (2014b) separated *Phoebe* from *Leucophoebe* in the alternative of couplet “5” (translated): “Lower eye lobes developed, longer than gena... 6 [leading to *Phoebe*] / Lower eye lobes as long as gena... 7 [leading to *Leucophoebe*; according to them, females of *Leucophoebe* cannot be separated from those of *Adesmus* Lapeletier and Audinet-Serville, 1825].” However, the body shape of the species currently included in *Phoebe* is variable (see photographs in Bezark 2020) and is often similar or identical to those allocated to *Leucophoebe* (see photographs in Bezark 2020); the elytral length is slightly longer than twice humeral width in the holotype of the type species of *Leucophoebe* and the holotype of *L. albaria* (see photograph in Bezark 2020), and almost 2.5 times in the holotype of *L. pictilis* (in this last case identical to that in the holotype of *Phoebe fryana* Lane, 1966) (see photograph in Bezark 2020); the shape of the protuberances on frons of males of the species of *Phoebe* is very variable (see photographs in Bezark 2020); the humeral carina is variable in *Phoebe*, and may be distinctly curved (e.g. *P. cornuta*) (see photograph in Bezark 2020) or nearly straight (e.g. *P. cava* (Germar, 1823)) (see photograph in Bezark 2020); the lower eye lobes are very variable in the length (Fig. 17, 19, 20, 21, 23, 25, 27); the shape of the metatarsomeres in males are variable in the species of *Phoebe* (Fig. 18, 22, 24, 26, 28) and may be distinctly tumid (e.g. *P. goiana* Martins and Galileo, 1998) (Fig. 24) or not tumid (e.g. *P. alba*) (Fig. 18). Accordingly, we were unable to find a reliable character that would allow *Leucophoebe* to be separated from *Phoebe*. Thus, *Leucophoebe* is considered a junior synonym of *Phoebe*, and therefore the following changes are proposed: *Phoebe kempfi* (Lane, 1976) **comb. new**, *Phoebe albaria* (Bates, 1872) **comb. new** and *Phoebe pictilis* Lane, 1972 **stat. restored**.

On *Phoebella* Lane, 1966

(Fig. 29–33)

Redescription. Head not wider than prothorax; frons with projections in male, with or without transverse carina between projections; frons in female without projections. Antennal tubercles distant from each other. Eyes not divided; area of connection of eye lobes narrow (with 2–3 rows of ommatidia) or very narrow (with one row of ommatidia); distance between upper eye lobes variable. Antennae 12-segmented, distinctly longer than body length in both sexes, especially in male; scape without basal curvature, without apical cicatrix, shorter than antennomere III; pedicel much shorter than antennomere III and scape; antennomeres cylindrical, with long, sparse, erect setae ventrally on III–V or III–VI; antennomere III not tumid, without denser long setae; antennomere IV shorter than III; antennomere XII not stinger-shaped. Prothorax slightly longer than wide, or slightly wider than long; about as wide anteriorly as posteriorly, or slightly wider posteriorly; sides sinuous, without tubercle. Elytra narrowed from base to apex; humeral carina well-marked from base to near apex; area between humeral carina and epipleural margin without carinae, without whitish pubescence contrasting with that on dorsal surface, gradually more distinctly visible in dorsal view from posterior after middle; dorsal surface without longitudinal carinae; apex individually rounded, without projections at outer and sutural angles or slightly obliquely truncate; sutural area without long and erect setae. Metatarsomere I tumid or not; tarsal claws not divided basally, with inner tooth moderately shorter than outer one.

Remarks. *Phoebella* is very similar to *Phoebe*, differing only by the antennae distinctly 12-segmented, while in *Phoebe* they are 11-segmented. It is also similar to *Adesmus* Lapeletier and Audinet-Serville, 1825, differing by the antennae 12-segmented (11-segmented in *Adesmus*) and by the frons in male with distinct projections (absent in *Adesmus*). According to Martins and Galileo (2014a) (translated): “Frons in male with curved spine on each side of a curved elevation between the spines.” Actually, this curved carina between the projections of frons is present or absent depending on the particular species of *Phoebe*, and the projections may or may not be placed near antennal tubercles (e.g. Fig. 21). Accordingly, this feature is useless to separate *Phoebella* from *Phoebe*.

Species included. *Phobella albomaculata* (Gahan, 1889); *P. phoebe* (Lepelletier and Audinet-Serville, 1825); *P. tinga* (Martins and Galileo, 1998).

Key to species of Hemilophini with 12-segmented antennae (adapted from Martins and Galileo 2014a)

Note: there is no reliable feature allowing separation of females in some of these genera.

1. Elytral apex rounded or obliquely truncate without projections at outer angle 2
- Elytral apex perpendicularly truncate in relation to body axis with short spine at outer angle, or obliquely truncate with long or somewhat long spine at outer angle 4
- 2(1). Humeral carina absent *Murupeaca* Martins and Galileo, 1992
- Humeral carina present 3
- 3(2). Frons in male with projections *Phobella* Lane, 1966
- Frons in male without projections *Gagarinia* Lane, 1956
- 4(1). Inner tooth of claws shorter than outer one; antennae in male short, just surpassing elytral apex *Tabatinga* Lane, 1966
- Inner tooth of claws about as long as outer one; antennae in male distinctly surpassing elytral apex 5
- 5(4). Scape with apical cicatrix 6
- Scape without apical cicatrix 7
- 6(5). Frons in male strongly projected centrally, acute and emarginate at apex *Purusia* Lane, 1956
- Frons in male without projections *Purusiella* Dalens, Touroult and Tavakilian, 2010
- 7(5). Frons in male uniformly convex *Juninia* Lane, 1966
- Frons in male with projections *Sibapipunga* Martins and Galileo, 1993

On the differences between *Callanga* Lane, 1973 and *Lapazina* Lane, 1973

Lane (1973) described *Callanga* and, although he had males of at least one species, he did not indicate the length of the antenna in this sex, both in the description of the genus and in the description of *C. trichocera* Lane, 1973 (Fig. 37–40). The antennae in males of *C. trichocera* distinctly surpass the elytral apex (Fig. 40). Lane (1973) also described *C. tenebrosa* (Fig. 34–36), but only provided the sex of the holotype: a female.

In the same work, Lane (1973) described *Lapazina* and, in this case, the description of the genus only provided the length of antennae in the male (Fig. 44) (translated): “antennae one and three-fifths times body length.” In females of *Lapazina* (Fig. 41–43) the antennae are at most slightly longer than the body.

Lane (1973) did not compare *Callanga* with *Lapazina*, which is surprising because they are very similar to each other. The only reliable difference between these genera is in the female antennae: antennomeres V–XI with dense fringe of setae on inferior surface of the former (Fig. 36, 39), absent in the latter (Fig. 43). We were not able to find differences between males of these genera.

Callanga ashaninka Santos-Silva, Heffern, Botero and Nascimento, new species (Fig. 45–52)

Description. Male (Fig. 45–48). Head mostly dark brown, almost black; mouthparts light yellowish brown; mandibles black; antennae dark brown, almost black. Prothorax mostly yellowish brown; pronotum with large T-shaped dark-brown macula anteriorly, transverse “arm” wider, close to anterior margin, longitudinal “arm” narrower, slightly surpassing middle of pronotum; prosternum both reddish and brownish anteriorly. Ventral surface of mesothorax yellowish brown, slightly lighter in some areas. Metanepisternum mostly dark brown in anterior 3/4, gradually reddish brown toward metaventricle, and mostly yellowish brown in posterior quarter. Metaventricle mostly yellowish brown, with L-shaped

brownish macula on each side of posterior half. Basal 3/4 of elytra dark brown laterally, dark reddish brown centrally except dark brown sutural area; posterior quarter mostly light reddish brown, with sutural area and sides dark brown. Coxae and trochanters yellowish brown; femora yellowish brown with apex blackish; tibiae and tarsi dark brown, almost black. Ventrites yellowish brown.

Head. Frons minutely, abundantly punctate; with grayish-white pubescence nearly obscuring integument, except glabrous median groove and narrow area close to eyes; with both long and moderately short, erect, sparse setae of same color interspersed. Vertex minutely, abundantly punctate, with a few fine punctures interspersed; with grayish-white pubescence centrally, sparser than on frons, especially after area between antennal tubercles, nearly glabrous laterally; with long, erect, sparse setae of same color interspersed. Area behind eyes almost glabrous close to vertex, with grayish-white pubescence not obscuring integument on remaining surface, except glabrous narrow area close to eye; with long, erect, sparse setae of same color behind upper eye lobe. Genae with grayish-white pubescence partially obscuring integument, bristly, slightly more yellowish close to postclypeus, except glabrous narrow area close to eye and apex. Wide central area of postclypeus with sculpturing and pubescence as on frons, and sides smooth and glabrous; with long, erect brownish setae interspersed in wide central area. Labrum coplanar with anteclypeus at posterior half, inclined at anterior half; posterior quarter close to anteclypeus finely, sparsely punctate, with minute, sparse, decumbent grayish-white setae; anterior quarter of coplanar area depressed, rugose-punctate, with long, erect, moderately abundantly reddish-brown setae directed forward; posterior region of inclined area with long, erect reddish-brown setae directed forward, except nearly glabrous central area, and remaining surface glabrous. Antennal tubercles with sculpturing, pubescence, and erect setae as on frons. Distance between upper eye lobes 0.28 times length of scape (0.22 times distance between outer margins of eyes); in frontal view, distance between lower eye lobes 0.78 times length of scape (0.61 times distance between outer margins of eyes). Antennae 1.9 times elytral length, reaching elytral apex at base of antennomere VII. Scape with grayish-white pubescence not obscuring integument, denser dorsally; with moderately long, erect grayish-white setae ventrally. Pedicel with grayish-white pubescence not obscuring integument, denser dorsally; with moderately long, grayish-white erect setae ventrally, and at apex of dorsal surface. Antennomeres with grayish-white pubescent ring basally, less conspicuous ventrally, and remaining surface with short brownish pubescence; apex of antennomeres III–IV with short, slightly distinct grayish-white pubescent ring at apex; antennomeres with long, erect grayish-white setae ventrally, gradually shorter toward XI (setae more yellowish-brown depending on light intensity). Antennal formula (ratio) based on length of antennomere III: scape = 0.59; pedicel = 0.10; IV = 0.70; V = 0.41; VI = 0.38; VII = 0.35; VIII = 0.30; IX = 0.27; X = 0.22; XI = 0.27.

Thorax. Prothorax transverse; sides sinuous. Pronotum gibbose on each side of central area and with elongated, subelliptical gibbosity centrally; dark area coarsely, sparsely punctate, with grayish-white pubescence not obscuring integument anterocentrally and around central gibbosity, remaining surface with minute grayish-white pubescence (top of central gibbosity glabrous) and with long, erect sparse grayish-white setae interspersed; lighter area with dense yellowish-brown pubescence and long, erect, sparse grayish-white setae interspersed. Sides of prothorax with dense yellowish-brown pubescence except margins with sparse pubescence. Ventral surface of thorax with yellowish-white pubescence not obscuring integument, sparser on prosternum, prosternal process, mesoventrite, mesoventral process and anterocentral area of metaventricle. Narrowest area of prosternal process slightly wider than 0.2 times width of procoxal cavity. Sides of mesoventral process moderately tab-shaped near apex. Scutellum with sparse grayish-white pubescence. **Elytra.** Coarsely abundantly punctate basally and on sides of basal 3/4, finely, moderately sparsely punctate in remaining basal 3/4, almost indistinctly punctate in posterior quarter and posterior 3/4 of inclined sides; with grayish-white pubescence appearing to be denser in posterior quarter depending on angle source, with short, erect, sparse setae of same color interspersed; humeral carina well-marked from humerus to near apex; carina in inclined area placed very near to humeral carina, slightly less distinct than humeral carina, especially depending on angle source. **Legs.** Femora with yellowish-white pubescence not obscuring integument, bristly ventrally on meso- and metafemora. Protibiae with yellowish-white pubescence dorsally and laterally, with long, erect, sparse setae of same color interspersed, and bristly, dense yellowish-brown pubescence ventrally

(gradually longer toward apex); meso- and metatibiae with sparse yellowish-white pubescence except yellowish-brown, denser, bristly pubescence in central area of posterior 3/4 of dorsal surface and posterior third of ventral surface, and long, erect yellowish-brown setae interspersed.

Abdomen. Ventrites with short yellowish-white pubescence not obscuring integument, slightly longer at apex, with long, erect, sparse setae of same color interspersed. Apex of ventrite V emarginated centrally.

Female (Fig. 49–52). Pronotum with posterocentral brownish macula; wide central area of prosternum mostly brown; prosternal process brown basally, gradually reddish brown toward apex; mesoventrite and mesoventral process dark brown except narrow reddish-brown anterocentral macula on mesoventrite; mesanepisternum and mesepimeron dark brown toward elytra, gradually yellowish brown toward ventral surface; metanepisternum dark brown, almost black; metaventrite mostly dark brown, almost black, with anterocentral area yellowish brown (central area of this region brownish); elytra entirely dark brown; coxae and trochanters mostly dark brown; femora on base and apex yellowish brown centrally (more reddish brown depending on light intensity); ventrites I–IV dark brown, almost black; abdominal ventrite V dark brown, almost black in anterior 3/4, yellowish brown in posterior quarter. Vertex and area behind upper eye lobes nearly glabrous, except grayish-white pubescent band in posterocentral area of vertex; area behind eye with moderately coarse, sparse punctures interspersed; area behind lower eye lobes with moderately long, erect, sparse grayish-white setae interspersed; antennae 1.4 times elytral length, reaching elytral apex at base of antennomere XI; scape slimmer than in male; antennomeres III–IV as in male; antennomeres V–XI with dense yellowish-white pubescence, distinctly longer, bristly ventrally; antennomeres V–XI with long, moderately abundant, erect yellowish setae ventrally; abdominal pubescence distinctly more conspicuous in posterocentral area of ventrites.

Dimensions in mm (holotype male/paratype female). Total length 13.35/13.75; prothoracic length 2.50/2.60; anterior prothoracic width 2.90/3.15; posterior prothoracic width 3.15/3.25; widest prothoracic width 3.25/3.45; humeral width 4.85/4.95; elytral length 9.85/10.15.

Type material. Holotype male from PERU, JUNÍN: Satipo, Rio Venado, IX.2012, local collector (MZSP, formerly DHCO). Paratype female, same data as holotype (DHCO).

Etymology. The epithet of this new species refers to the Asháninka indigenous people living in the area where the holotype was collected. The name “*ashaninka*” is used as a noun in apposition.

Remarks. As the color in the holotype and paratype are considerably different, it is expected to find more chromatic variations in the species.

The male of *Callanga ashaninka* sp. nov. (Fig. 45–48) differs from that of *C. trichocera* (Fig. 40) by the shorter antennae, reaching elytral apex at base of antennomere VII (longer, reaching elytral apex before apex of antennomere V in *C. trichocera*), antennomeres dark brown (antennomeres V–XI orangish-brown in *C. trichocera*), and pronotum with T-shaped dark brown area anteriorly (with transverse dark brown macula in *C. trichocera*). The female of *Callanga ashaninka* sp. nov. (Fig. 49–52) differs from that of *C. trichocera* (Fig. 37–39) by the pubescence and erect setae shorter (Fig. 52) (longer in *C. trichocera* (Fig. 39)), and pronotum with T-shaped dark brown area anteriorly (with transverse dark brown macula in *C. trichocera*). The female of *Callanga ashaninka* sp. nov. differs from that of *C. tenebrosa* (Fig. 34–36) by the pubescence and erect setae shorter (longer in *C. tenebrosa* (Fig. 36)), pronotum with T-shaped dark brown anterior area (entirely dark on wide central area in *C. tenebrosa*), and sides of prothorax entirely yellowish-brown (Fig. 51) (brown with large, transverse yellowish-brown macula in *C. tenebrosa* (Fig. 35)).

The three species of *Callanga* were described from Peru (*C. trichocera* also occurs in Bolivia).

***Fredlanea lazulina* Santos-Silva, Heffern, Botero and Nascimento, new species**
(Fig. 53–56)

Description. Female. Integument mostly blackish-blue; mouthparts reddish brown except mostly brownish maxillary palpomere IV and labial palpomere III; anterior third of labrum reddish brown; elytra orangish except blackish-blue apex, and reddish-brown epipleural margin and inclined area close to dark apical apex.

Head. Frons abundantly micropunctate, with fine punctures interspersed (fine punctures sparser toward clypeus); with minute, almost inconspicuous yellowish-white pubescence absent close to clypeus, denser and longer close to eyes; with a few long, erect black setae close to eyes. Area between antennal tubercles and sides of area between upper eye lobes with dense yellowish-white pubescence, continuing along vertex to prothoracic margin as two slightly divergent bands; central area between upper eye lobes with somewhat dense brown pubescence; remaining central area of vertex with short, very sparse brownish setae; central area of vertex coarsely sparsely punctate, except row of coarse punctures close to each dense pubescent band, and with long, erect, sparse black setae interspersed (absent in area close to prothorax). Area behind eyes coarsely, sparsely punctate (punctures denser, somewhat finer close to eye); with moderately dense brown pubescence close to eye, nearly glabrous on remaining surface; area of connection between eye lobes with longitudinal, dense yellowish-white pubescent band from eye to prothoracic margin. Genae abundantly micropunctate except smooth apex; with dense, large yellowish-white pubescent macula laterally close to inferior margin of eye; with somewhat sparse yellowish-white pubescence frontally close to eye, continuing toward smooth area close to frons, nearly glabrous on remaining surface, and glabrous in smooth area. Antennal tubercles with somewhat abundant brown pubescence not obscuring integument (appearing to be dark due to integument color), with long, erect black setae interspersed. Wide central area of postclypeus densely micropunctate, punctures slightly coarser toward smooth apex; glabrous. Labrum coplanar with anteclypeus at posterior 2/3, oblique at anterior third; posterior 2/3 with slightly depressed large area close to oblique anterior third, separated by area close to anteclypeus by abrupt slope; posterior 2/3 densely micropunctate (punctures slightly coarser than on postclypeus); oblique area densely micropunctate (punctures finer than in central area of postclypeus); posterior 2/3 with minute yellowish pubescence not obscuring integument, with a few long, erect golden setae close to anteclypeus; anterior third glabrous. Gulamentum smooth, glabrous except for a few long, erect dark setae in strongly oblique anterior area. Distance between upper eye lobes 0.35 times length of scape (0.26 times distance between outer margins of eyes); in frontal view, distance between lower eye lobes 0.82 times length of scape (0.61 times distance between outer margins of eyes). Antennae 1.9 times elytral length, reaching elytral apex at apex of antennomere VII. Scape very finely, abundantly punctate except smooth apex; with dark pubescence not obscuring integument, somewhat bristly ventrally, with a few long, erect brownish setae interspersed. Pedicel with somewhat dense and bristly pubescence, with long, erect dark setae interspersed ventrally. Antennomere III with dense, bristly dark pubescence, absent in part of dorsal surface, with long, erect, abundant black setae ventrally and inferior inner area. Antennomeres IV–X with abundant, somewhat bristly (more so ventrally) dark pubescence throughout; with long, abundant, erect dark setae ventrally, gradually shorter and sparser toward X (distinctly sparser on IX and X). Antennal formula (ratio) based on length of antennomere III: scape = 0.57; pedicel = 0.09; IV = 0.63; V = 0.51; VI = 0.48; VII = 0.42; VIII = 0.37; IX = 0.33; X = 0.28; XI = 0.29.

Thorax. Prothorax slightly narrower posteriorly than anteriorly. Pronotum distinctly widely convex about anterior third to posterior quarter; with distinct, rounded tubercle on each side of center of convex area, placed slightly before middle, and longitudinal, slightly distinct central gibbosity placed in convex area, and another comma-shaped tubercle on each side; coarsely, sparsely punctate (punctures absent on tubercles and gibbosity); with dense yellowish-white pubescence laterally, except glabrous comma-shaped tubercles, glabrous in most of central area, with yellowish-brown pubescence in anterior third, not obscuring integument and not reaching anterior margin, and yellowish-brown pubescence posteriorly (in both areas appearing to be darker due to the integument color); with long, erect, sparse brownish setae in area with dense pubescence. Sides of prothorax coarsely, somewhat sparsely punctate; with dense yellowish-white pubescence close to pronotum (continuing that on sides of pronotum), and wide pubescent yellowish-white pubescent band close to prosternum; with a few long, erect brownish setae. Prosternum finely, sparsely punctate; with yellowish-white pubescence not obscuring integument, sparser centrally. Prosternal process with yellowish-white pubescence denser than in central area of prosternum; narrowest area about 0.2 times width of procoxal cavity. Mesoventral process distinctly widened laterally in posterior half; narrowest area about 0.5 times width of mesocoxal cavity. Ventral surface of meso- and metathorax with abundant, short yellowish-white pubescence, but not entirely obscuring integument, except glabrous metathoracic discrimen; metaventrite with erect, sparse yellowish-white

setae interspersed. Scutellum transverse, almost truncate posteriorly, with minute yellowish-white pubescence distinctly not obscuring integument. **Elytra.** Coarsely, abundantly punctate in basal half, punctures finer, sparser toward apex (nearly indistinct in posterior seventh); humeral carina distinct from base to near apex; with two dorsal carinae from base to about posterior quarter; with longitudinal carina between humeral carina and epipleural margin, from base to about middle; apex concave, with outer and sutural angles triangularly projected; with minute yellowish-white pubescence, indistinct depending on viewing angle; with a few somewhat short, erect yellowish-white setae dorsally in posterior quarter, and long, erect, brownish setae on epipleural margin (setae slightly longer and more abundant toward apex). **Legs.** Femora with yellowish-white pubescence not obscuring integument, slightly denser ventrally, especially on meso- and metafemora, with long, erect setae of same color ventrally, slightly more abundant in basal third. Tibiae with yellowish-white pubescence not obscuring integument, yellow and denser ventrally and in area of dorsal sulcus of mesotibiae; with long, erect dark brown setae interspersed (yellowish on anterior third). Tarsi with grayish-white pubescence dorsally, sparser on tarsomere III and part of V (pubescence denser on metatarsi).

Abdomen. Ventrites with yellowish-white pubescence not obscuring integument, shorter centrally (almost indistinct depending on viewing angle); apex of ventrite V strongly emarginate centrally.

Dimensions in mm. Total length 14.70; prothoracic length 2.60; anterior prothoracic width 2.90; posterior prothoracic width 2.70; widest prothoracic width 3.00; humeral width 3.60; elytral length 10.15.

Type material. Holotype female from COLOMBIA, BOYACÁ: Otanche, 05.V.2018, local collector (TAMU, formerly DHCO).

Etymology. The epithet “*lazulina*” refers to lapis lazuli, a deep-blue mineral, alluding to the predominant blackish-blue color of the holotype.

Remarks. Galileo and Santos-Silva (2016) discussed the differences between *Fredlanea* Martins and Galileo, 1996 and *Eulachnesia* Bates, 1872. Even so, the differences between these genera are still very problematic and, depending on the feature considered, *Fredlanea* may in the future prove to be a synonym of *Eulachnesia*. This is particularly true if the humeral carina was considered because both the type-species of *Eulachnesia* (*Amphionycha sapphira* Bates, 1866 = *Saperda humeralis* Fabricius, 1801) and *Fredlanea* (*Eulachnesia velutina* Lane, 1966) have very distinct humeral carina. On the other hand, there are species in both genera lacking humeral carina. The new species is allocated in *Fredlanea* because it has no squamiform setae on the elytra.

Fredlanea lazulina sp. nov. differs from *F. aequatoria* (Bates, 1881), *F. consobrina* (Lane, 1970), *F. flavipennis* (Lane, 1966) and *F. hiekei* (Fuchs, 1970) by the setae on the antennomeres much denser (distinctly sparser in both sexes of these species).

As the separation between *Fredlanea* and *Eulachnesia* is still problematic, we think better to compare the new species with some species of the latter. The general appearance of the new species resembles that of *Eulachnesia boteroi* Monné and Monné, 2015, but the presence of a distinct humeral carina allows the separation of them (absent in *E. boteroi*). *Fredlanea lazulina* differs from *E. cobaltina* Bates, 1881 by the humeral carina well-marked (slightly marked in *E. cobaltina*) and erect setae dense ventrally on antennomeres (sparser in *E. cobaltina*). It differs from *E. humilis* by the punctures on pronotum finer (coarser in *E. cobaltina*) and absence of longitudinal pubescent band in center of pronotum (present in *E. cobaltina*, but often absent centrally).

***Fredlanea consobrina* (Lane, 1970)**

(Fig. 57–60)

Eulachnesia consobrina Lane 1970: 410; Martins and Galileo 1985: 492; Monné and Giesbert 1994: 291 (checklist); Monné 1995: 53 (cat.).

Fredlanea consobrina; Martins and Galileo 1996: 193; Martínez 2000: 99 (distr.); Monné 2005: 471 (cat.); Monné and Hovore 2006: 260 (checklist); Martins and Galileo 2014b: 227; Monné et al. 2017: 70 (holotype); Monné 2020: 688 (cat.); Bezark 2019: 301 (checklist).

This species was based on a single female (Fig. 59–60) from Colombia (Boyacá). We examined a second female also from Colombia, which shows chromatic variation on the elytra (Fig. 57–58). The general appearance resembles that of *F. maculata* Martins and Galileo, 1996, *F. birai* Galileo and Santos-Silva, 2016 and *F. aequatoria* (Bates, 1881), but differs from both by the absence of dorsal elytral carinae (present in these three species); it also differs from *F. maculata* that has the ventral surface of the body with dense grayish-white pubescence throughout (sparser in *F. maculata*), and by all antennomeres entirely dark (some antennomeres mostly yellowish in *F. maculata*).

Material examined. COLOMBIA, CUNDINAMARCA (new department record): Quetame, 1 female (MEFLG 48237), VI.1946, Gallego col. (MEFLG).

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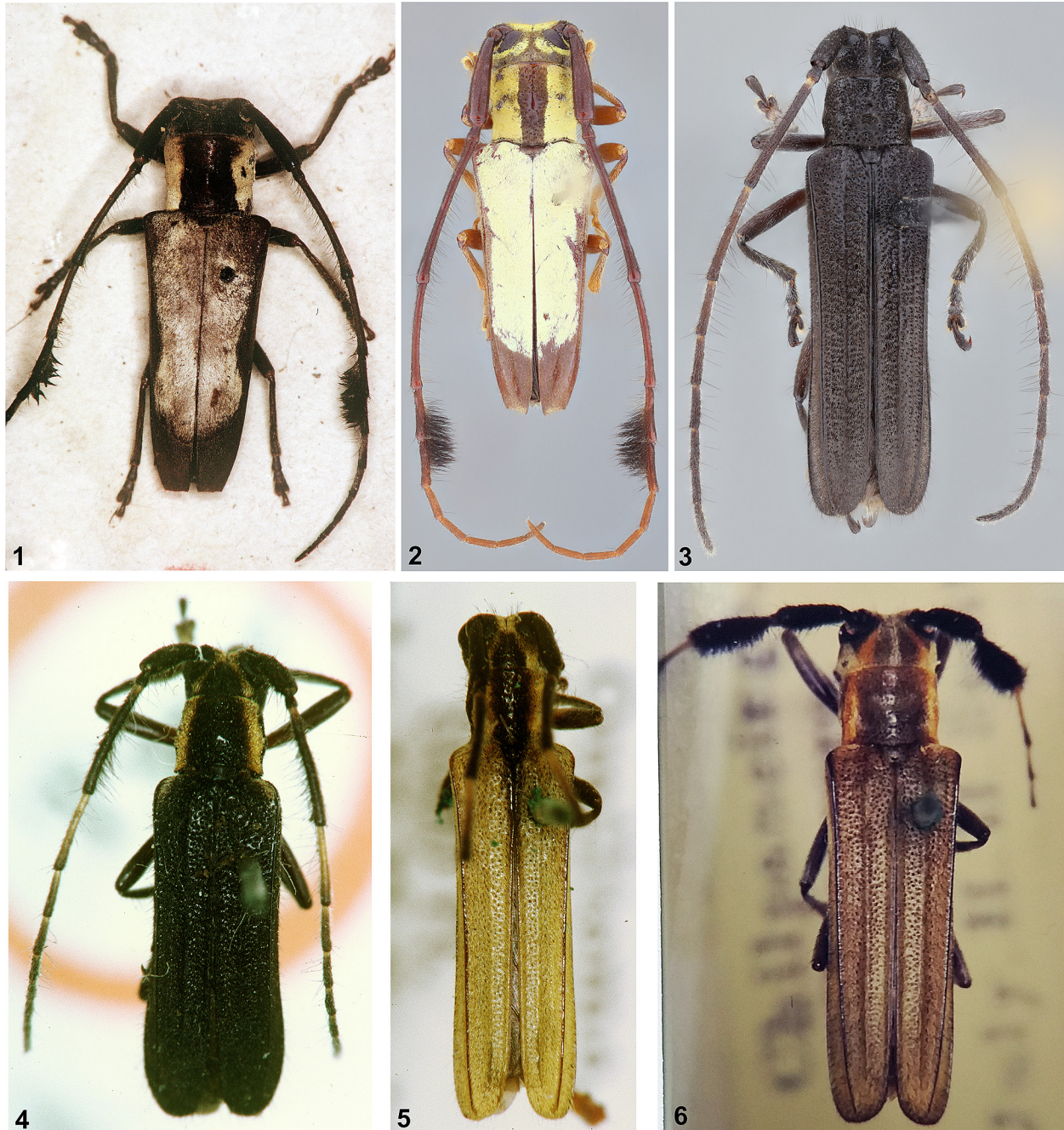
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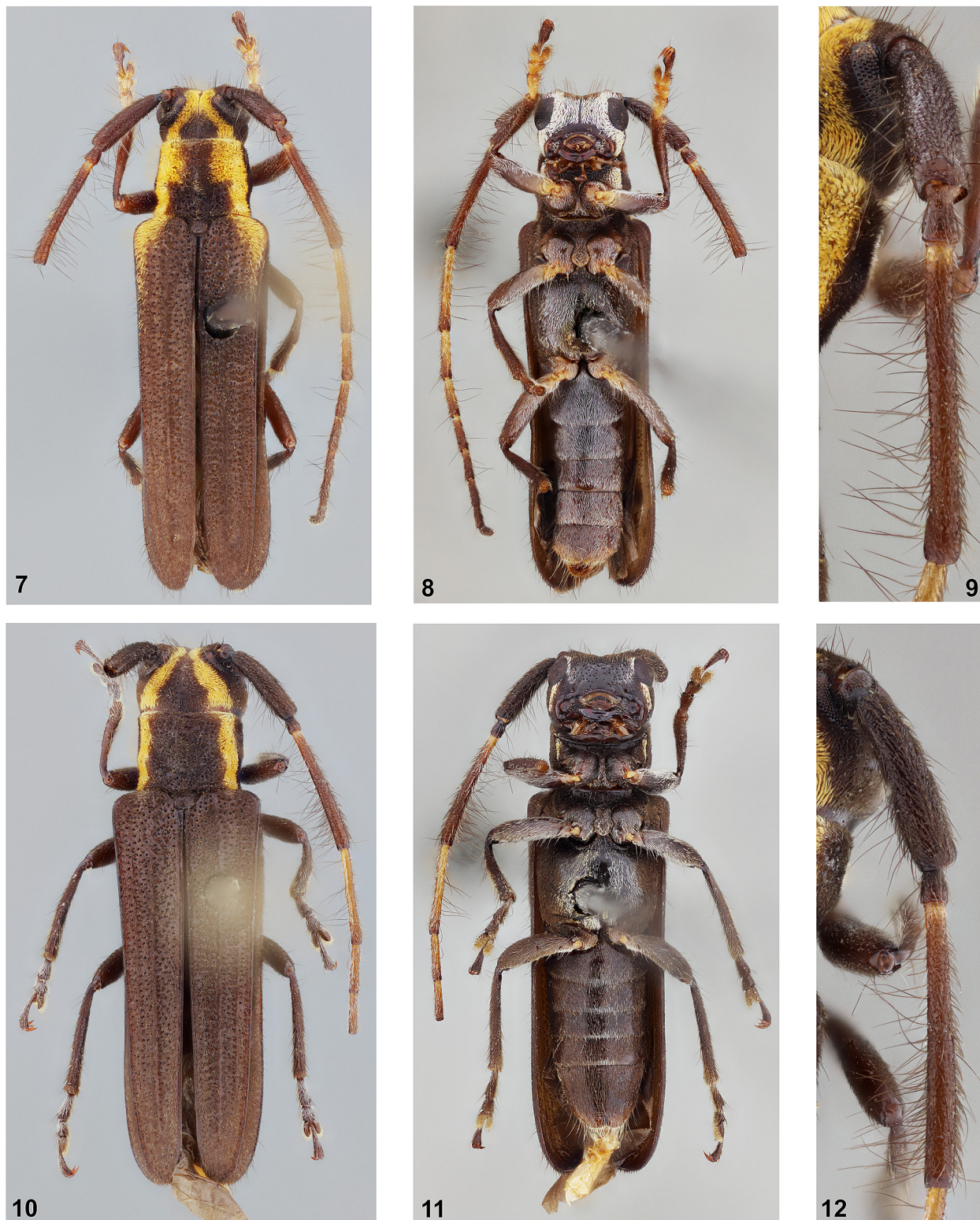
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Figures 1–6. Habitus of Hemilophini spp. 1–2) *Cirrhicera leuconota*, dorsal habitus. 1) Holotype female (*Hemilophus leuconotus*). 2) Male. 3) *Lamacoscylus albatus*, male, dorsal habitus. 4) *Malacoscylus humilis* (*Lamacoscylus humilis*), holotype male, dorsal habitus. 5) *Malacoscylus humilis flavescens* (*Schmidarius flavescens*), syntype male, dorsal habitus. 6) *Malacoscylus humilis flavescens* (*Schmidarius grisescens*), BMNH specimen identified by Bates, dorsal habitus.



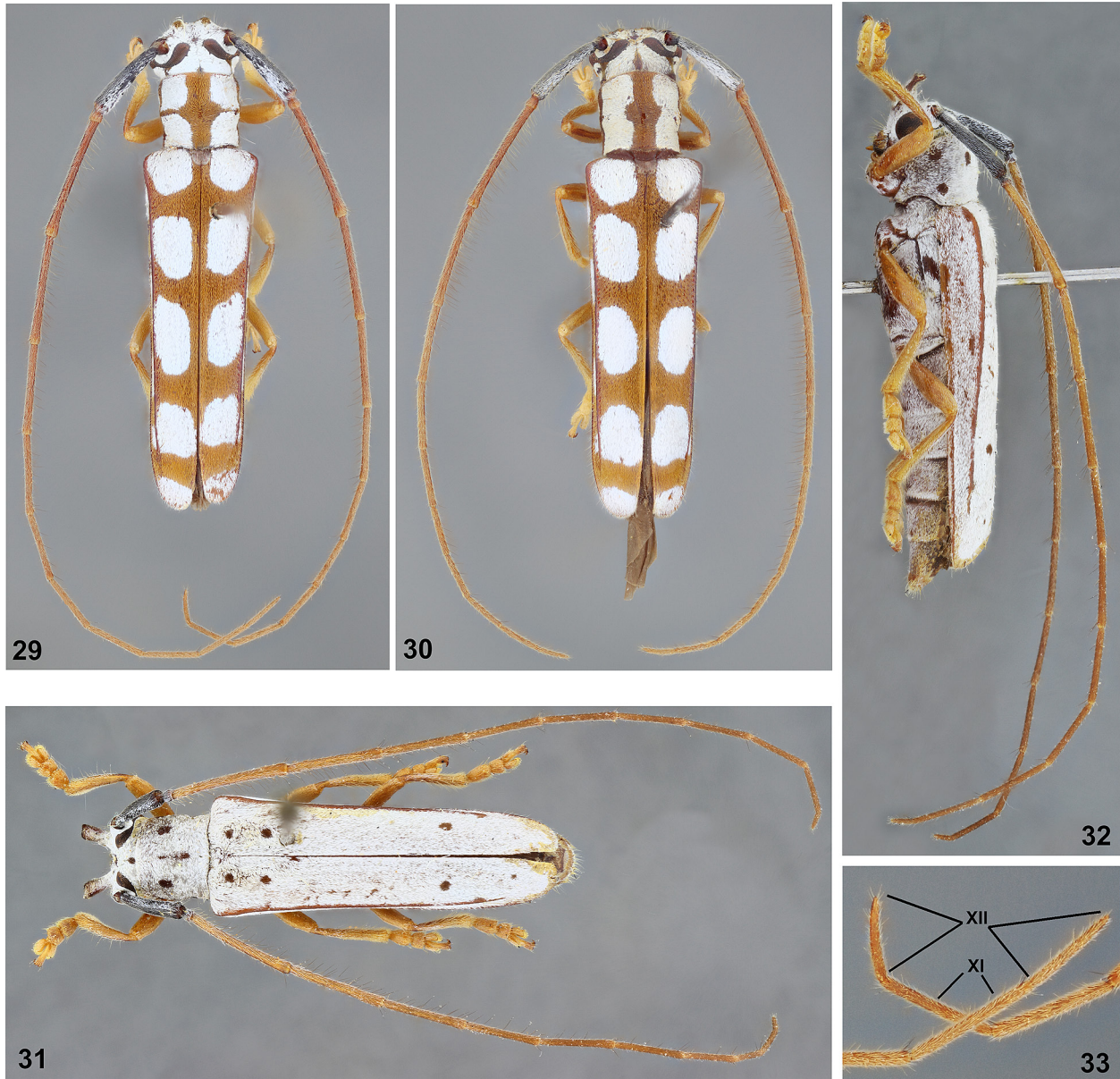
Figures 7–12. *Lamacoscyclus humilis*. 7–9) Male. 7) Dorsal habitus. 8) Ventral habitus. 9) Antennomere III. 10–12) Female. 10) Dorsal habitus. 11) Ventral habitus. 12) Antennomere III.



Figures 13–16. *Schmidarius kondratieffi*, holotype female. 13) Dorsal habitus. 14) Ventral habitus. 15) Lateral habitus. 16) Head, frontal view.



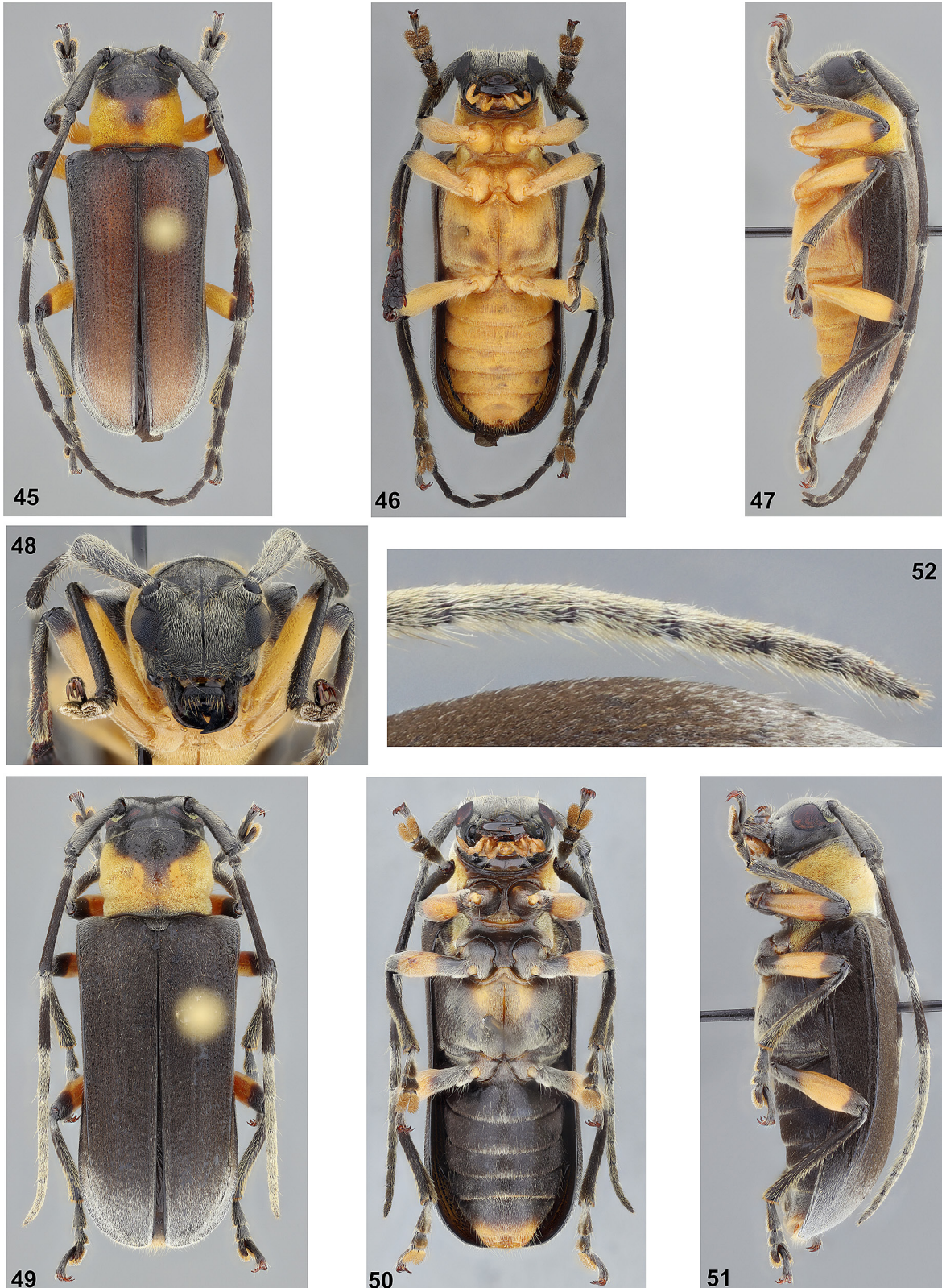
Figures 17–28. Males. 17–18) *Phoebe alba*. 17) Eye and gena. 18) Metatarsus. 19) *Phoebe cava*, eye and gena. 20) *Phoebe mafra*, holotype, eye and gena. 21–22) *Phoebe cornuta*. 21) Eye and gena. 22) Metatarsus. 23–24) *Phoebe goiana*, holotype. 23) Eye and gena. 24) Metatarsus. 25–26) *Phoebe bicornis*. 25) Eye and gena. 26) Metatarsus. 27–28) *Phoebe albaria*. 27) Eye and gena. 28) Metatarsus.



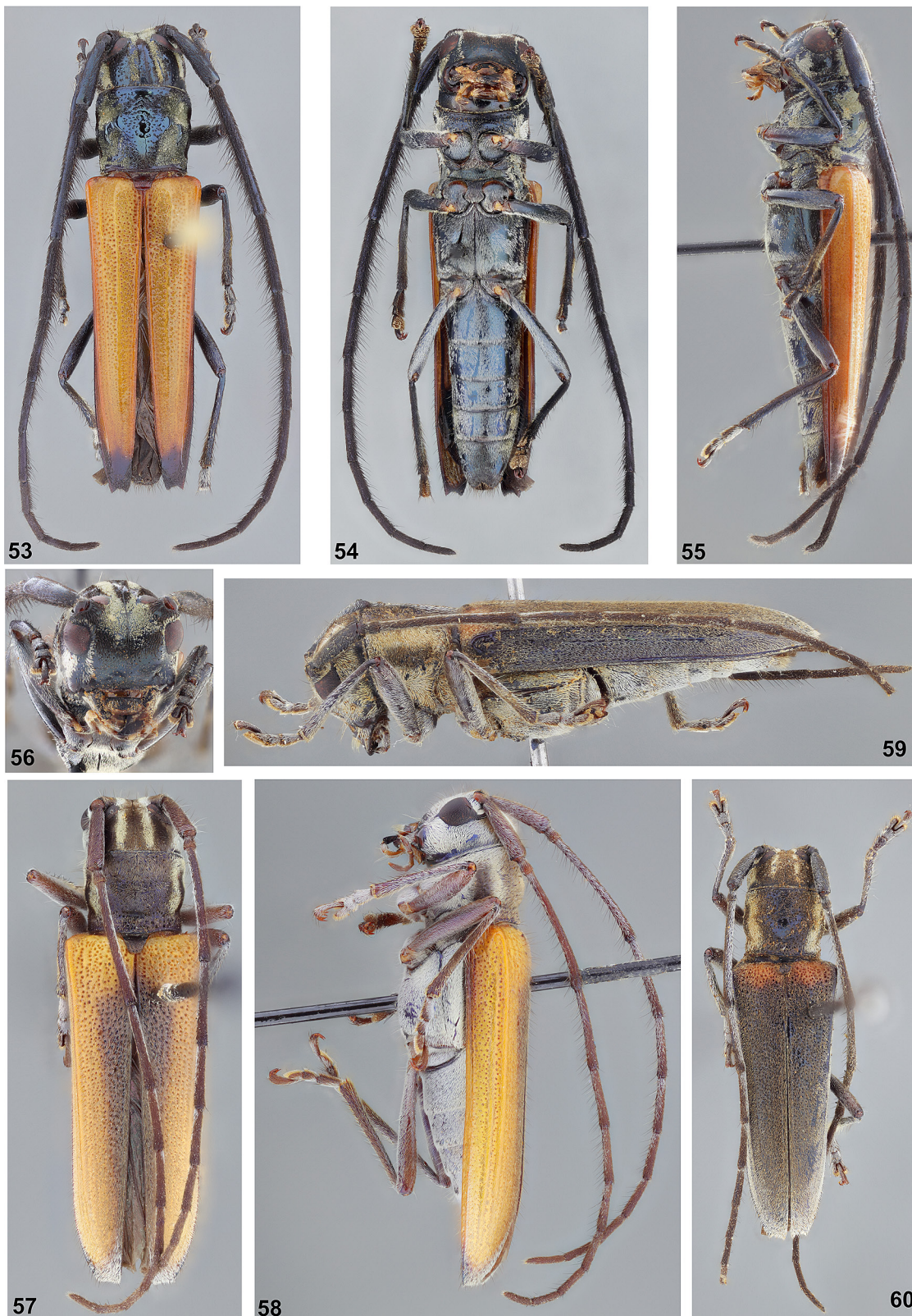
Figures 29–33. *Phobella* spp. **29–30)** *Phobella phoebe*, dorsal habitus. **29)** Male. **30)** Female. **31–32)** *Phobella tinga*, holotype male. **31)** Dorsal habitus. **32)** Lateral habitus. **33)** *Phobella phoebe*, male, antennomeres XI–XII.



Figures 34–44. *Callanga* and *Lapazina* spp. 34–36) *Callanga tenebrosa*, paratype female. 34) Dorsal habitus. 35) Lateral habitus. 36) Distal antennomeres. 37–39) *Callanga trichocera*, paratype female. 37) Dorsal habitus. 38) Lateral habitus. 39) Distal antennomeres. 40) *Callanga trichocera*, paratype male, dorsal habitus. 41–43) *Lapazina fuscipennis*, female. 41) Dorsal habitus. 42) Lateral habitus. 43) Distal antennomeres. 44) *Lapazina fuscipennis*, male, dorsal habitus.



Figures 45–52. *Callanga ashaninka*. 45–48) Holotype male. 45) Dorsal habitus. 46) Ventral habitus. 47) Lateral habitus. 48) Head, frontal view. 49–52) Paratype female. 49) Dorsal habitus. 50) Ventral habitus. 51) Lateral habitus. 52) Distal antennomeres.



Figures 53–60. *Fredlanea* spp. 53–56) *Fredlanea lazulina*, holotype male. 53) Dorsal habitus. 54) Ventral habitus. 55) Lateral habitus. 56) Head, frontal view. 57–60) *Fredlanea consobrina*, female. 57) Dorsal habitus. 58) Lateral habitus. 59) Lateral habitus, holotype. 60) Dorsal habitus, holotype.

