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Research article

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Longhorned woodboring beetles (Coleoptera, Cerambycidae) from Cusuco National Park, Honduras: new species, new records, and revalidation

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Abstract. An ongoing study of the longhorned beetle fauna in the cloud forests of Cusuco National Park revealed multiple additions to the Honduran fauna. Four new species are described: *Heterachthes caceresae* sp. nov. (Cerambycinae, Neoibidionini), *Oreodera kawasae* sp. nov. (Lamiinae, Acrocinini), *Phrynidius guifarroi* sp. nov. (Lamiinae, Apomecynini), and *Strangalia lunai* sp. nov. (Lepturinae, Lepturini). Additionally, *Lagocheirus parvulus* Casey, 1913 (Lamiinae, Acanthocinini) is revalidated as *Lagocheirus araneiformis parvulus* Casey, 1913 (*Lagocheirus* [sic]). We recorded *Arixiuma varians* (Bates, 1881) (Lamiinae, Hemilophini) for the first time for Honduras. These findings confirm how poorly the invertebrate biodiversity of cloud forests is documented and hints at the large number of species we are losing with the ongoing deforestation.

Keywords. Central America, Neotropical Region, taxonomy, Phytophaga, conservation.

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Introduction

Mesoamerica is one of the world's biodiversity hotspots (Myers *et al.* 2000) and particularly rich in montane forests frequently covered in clouds or mist. These cloud forests are centers of endemism for a wide range of organisms (Jones *et al.* 2008) including invertebrates (Anderson & Ashe 2000). A series of protected areas were installed across Honduras following the Government's Cloud Forest Act (Act 87-1987) to protect the watersheds that provide drinking water for the large cities. Despite the vital importance of cloud forests for biodiversity conservation and ecosystem services (Pope *et al.* 2015), these ecosystems are highly threatened. Deforestation and habitat destruction are global problems, but Honduras possesses one of the highest relative deforestation rates of any Central American country (Magrin *et al.* 2014), and one of the worst rates globally for deforestation in protected areas (Hansen *et al.* 2020). Particularly worrisome is the hostile environment for activists protecting forests and rivers (e.g., Global Witness 2017).

The information available on cloud forest biodiversity remains scattered and particularly the invertebrate fauna is little known (Bruijnzeel & Veneklaas 1998). Possibly one of the better studied cloud forests in Honduras with regards to its biodiversity is Cusuco National Park (CNP) (Martin *et al.* 2021), situated in the Merendón mountain range, close to Guatemala. CNP is recognized as a site of critical importance for the conservation of amphibians, birds, and mammals (Le Saout *et al.* 2013). Also here a large part of the invertebrate biodiversity remains unstudied and unknown. Yearly repeated light trapping surveys resulted in the discovery of a large charismatic longhorn *Derobrachus cusucoensis* Santos-Silva, Mal, Van Roie & Jocqué, 2018 (Coleoptera, Cerambycidae) (Santos-Silva *et al.* 2018). Since then, a more thorough investigation of the longhorned woodboring beetle fauna of CNP has been initiated, of which some results are reported in this work.

We here describe four new species of Cerambycidae from the cloud forests in CNP. The new species were named after Honduran environmental activists in honor of their dedication to protect biodiversity and nature. We further record a new addition to the Honduran longhorn fauna, and provide arguments for the revalidation of *Lagocheirus parvulus* Casey, 1913 as *Lagocheirus araneiformis parvulus*.

Material and methods

Photographs were taken in the MZSP with a Canon EOS Rebel T3i DSLR camera, Canon MP-E 65 mm f/2.8 1-5X macro lens, controlled by Zerene Stacker AutoMontage software. Measurements were taken in mm using measuring ocular Hensoldt/Wetzlar–Mess 10 in the Leica MZ6 stereo microscope, 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
- CBG = Centre for Biodiversity Genomics, University of Guelph, Guelph, Canada
- CNP = Cusuco National Park, Honduras
- FSCA = Florida State Collection of Arthropods, Gainesville, Florida, USA
- MZSP = Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil
- RBINS = Royal Belgian Institute of Natural Sciences, Brussels, Belgium

Results

Class Insecta Linnaeus, 1758
Order Coleoptera Linnaeus, 1758
Suborder Polyphaga Emery, 1886
Superfamily Chrysomeloidea Latreille, 1802
Subfamily Cerambycinae Latreille, 1802
Tribe Neoibidionini Monné, 2012
Subtribe Compsina Martins & Galileo, 2007
Genus *Heterachthes* Newman, 1840

Heterachthes caceresae sp. nov.

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Figs 1–6

Diagnosis

Heterachthes caceresae sp. nov. (Figs 1–6) is similar to *H. viticulus* Martins, 1970 (Figs 7–10), but differs as follows: antennae dark brown; distance between antennal tubercles less than half of basal width of scape; prothorax in male proportionally longer (Fig. 1); pronotum not transversely rugose (Fig. 5). In *H. viticulus*, antennae are reddish, distance between antennal tubercles distinctly greater than half of basal width of scape, prothorax in male proportionally shorter (Fig. 10), and pronotum is distinctly transversely rugose in both sexes (Figs 7–9).

Etymology

This species is named after Berta Isabel Cáceres Flores (Berta Cáceres for short) who supported indigenous communities and was an active opponent of illegal logging and mass plantations. She was murdered at her home in March 2016.

Type material

Holotype

HONDURAS • ♂; Cortés, Cusuco National Park (Base Camp); 20 Jun. 2015; local collector leg.; light trap; RBINS 34.248.

Paratype

HONDURAS • ♂; Cortés, Cusuco National Park (Guanales); 13 Aug. 2015; local collector leg.; MZSP.

Measurements in mm (male holotype/male paratype)

Total length, 14.05/9.85; prothoracic length, 2.95/2.10; anterior prothoracic width, 1.80/1.25; posterior prothoracic width, 1.90/1.35; humeral width, 2.80/1.90; elytral length, 9.00/6.55.

Description

Male holotype (Figs 1–5)

COLORATION. Integument mostly dark brown, dark reddish-brown on some areas; apex of palpomeres yellowish-brown; elytra with two longitudinal light maculae dorsally, one yellowish-brown on anterior half, another pale yellow on posterior half.

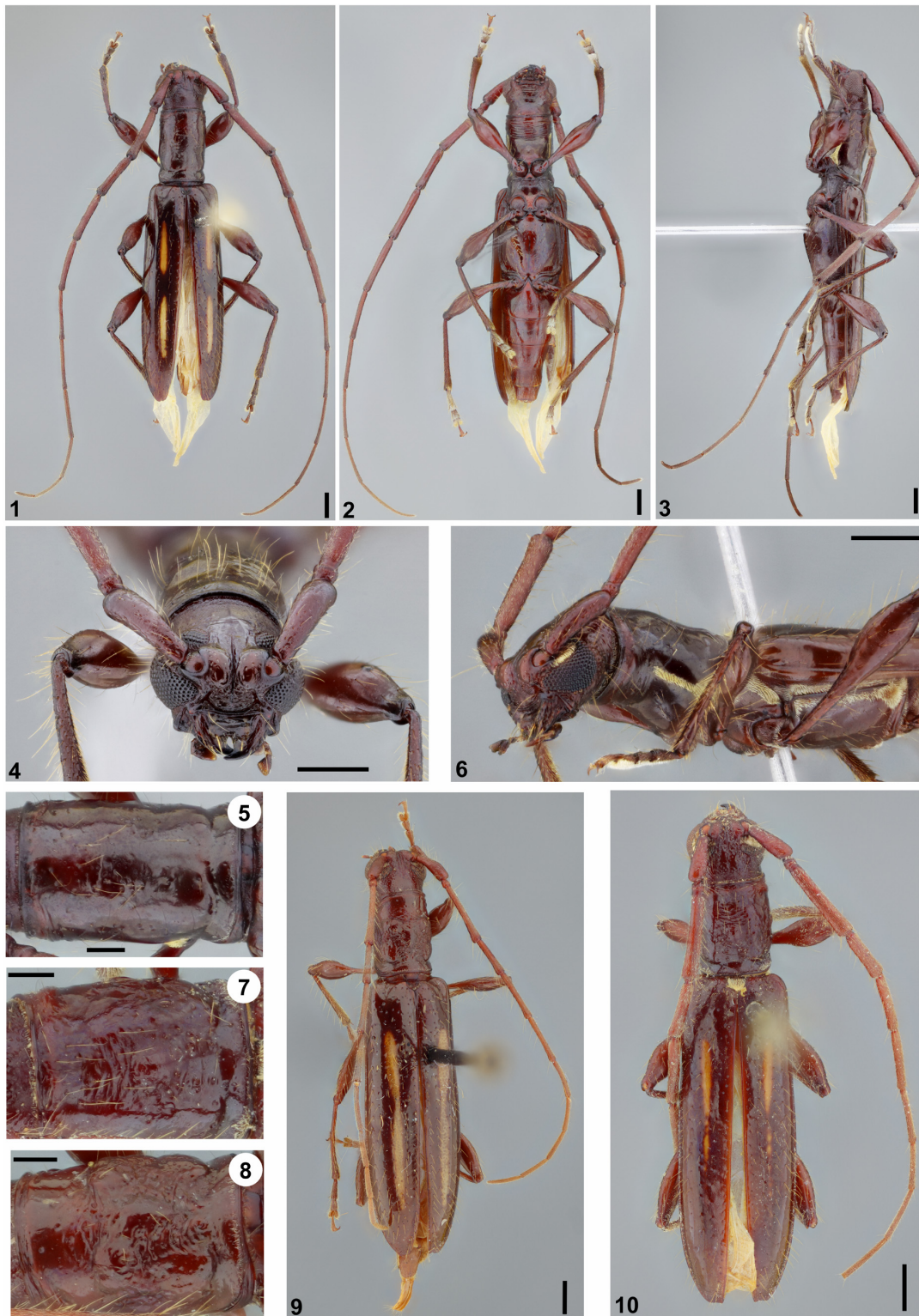
HEAD. Central plate of frons well-delimited, large transversely rugose-punctate; remaining surface of frons finely, sparsely punctate laterally, slightly rugose toward antennal tubercles; with a few short yellowish-white setae, including on posterior area of central plate. Vertex finely, shallowly, sparsely punctate, except area close to prothorax densely micropunctate, with fine punctures interspersed; area

between antennal tubercles and upper eye lobes flattened; with a few long, erect yellowish-brown setae near posterior margin of upper eye lobes. Area behind eyes coarsely, somewhat rugose-punctate close to eye, shallowly, partially confluent punctate close to prothorax on area behind upper eye lobe, transversely striate-punctate close to prothorax on area behind lower eye lobe; with long, erect yellowish-brown setae close to eye, more abundant behind lower eye lobe, glabrous close to prothorax. Genae finely, partially confluent punctate, except smooth apex; with short, sparse yellowish-brown setae, except glabrous apex. Antennal tubercles moderately elevated, with rounded apex; finely, sparsely punctate, with a few short yellowish-white setae. Median groove distinct from clypeus to area between upper eye lobes. Gulae smooth, glabrous on posterior half, transversely striate-punctate, with short, sparse yellowish-brown setae, and long, erect setae of same color interspersed on anterior half. Distance between upper eye lobes 0.43 times length of scape, 0.29 times distance between outer margins of eyes; in frontal view, distance between lower eye lobes 0.63 times length of scape, 0.43 times distance between outer margins of eyes. Antennae 2.4 times elytral length, reaching elytral apex at apex of antennomere VII. Left antenna distinctly 12-segmented; antennomere XI of right antenna with division into a twelfth segment slightly marked. Scape gradually widened toward apex, finely, somewhat abundantly punctate basally, punctures sparser toward apex; with short, sparse yellowish setae, and long, erect setae of same color interspersed (erect setae more abundant ventrally). Pedicel with a few short, yellowish setae dorsally, and a few long, erect setae of same color ventrally. Antennomeres with abundantly yellowish-white pubescence not obscuring integument; antennomeres III–VI with long, erect yellowish setae ventrally, setae gradually sparser toward VI; antennomeres III–X with long, erect yellowish setae apically. Antennal formula based on length of antennomere III: scape = 0.57; pedicel = 0.11; IV = 0.74; V = 0.90; VI = 0.90; VII = 0.78; VIII = 0.77; IX = 0.77; X = 0.74; XI = 1.01 (left antenna: XI = 0.65; XII = 0.36).

THORAX. Prothorax distinctly longer than wide; anterior constriction slightly marked; posterior constriction well-marked; nearly parallel-sided between constrictions. Pronotum with five slightly distinct gibbosities, one on each side of anterior third, one on each side of posterior third, another centrally, least distinct, on posterior half; somewhat finely, sparsely punctate; with long, erect, sparse yellowish-brown setae; with narrow grayish-white pubescent band close to posterior margin, more distinct laterally. Sides of prothorax with a few fine punctures on posterior $\frac{3}{4}$, transversely striate on anterior quarter; with a few long, erect yellowish-brown setae superiorly; area close to prosternum with dense golden pubescent band (yellowish depending on light intensity) from apex of anterior quarter to near procoxal cavity (widened in this latter area), extended to posterior margin on right side. Prosternum smooth, with a few long, erect yellowish-brown setae on posterior half, transversely striate, with a few, both short and long yellowish-brown setae on anterior half. Prosternal process strongly narrowed centrally, glabrous. Mesoventrite with a few short yellowish-brown setae. Mesanepisternum with dense, golden pubescent band superiorly, glabrous on area close to mesoventrite; mesepimeron with abundant yellowish-brown pubescence not obscuring integument. Mesoventral process distinctly flap-shaped on sides of apex, apex centrally emarginate. Metanepisternum with dense golden pubescence. Sides of metaventricle with dense golden pubescence close to metanepisternum (widened posteriorly); remaining surface with long, erect, sparse yellowish-brown setae, except glabrous central area. Scutellum with dense golden pubescence.

ELYTRA. Coarsely, sparsely punctate, with a long erect, yellowish-brown seta emerging from each puncture (punctures and setae absent on light areas); surface lacking pubescence; apex subtruncate, slightly emarginate centrally.

LEGS. Femora pedunculate-clavate, with long, erect, sparse yellowish-brown setae. Tibiae with both, short and long, abundant yellowish-brown setae, except posterior area of ventral surface with dense, bristly yellowish-brown pubescence. Metatarsomere I slightly longer than II–III together.



Figs 1–10. 1–6. *Heterachthes caceresae* sp. nov. 1–5. Holotype, ♂ (RBINS 34.248). 1. Habitus, dorsal view. 2. Habitus, ventral view. 3. Habitus, lateral view. 4. Head, frontal view. 5. Pronotum. 6. Paratype, ♂ (MZSP). Partial lateral habitus. — 7–10. *Heterachthes viticulus* Martins, 1970. 7. Paratype, ♂ (MZSP), pronotum. 8. Paratype, ♀ (MZSP), pronotum. 9. Paratype, ♀ (MZSP), dorsal habitus. 10. Paratype, ♂ (MZSP), dorsal habitus. Scale bars: 1–4, 6, 9–10 = 1.0 mm; 5, 7–8 = 0.5 mm.

ABDOMEN. Ventrites with minute, sparse yellowish-white setae, sparser centrally, and long, erect, sparse yellowish-brown setae on about posterior half (about posterior $\frac{3}{4}$ on ventrite I); apical margin of ventrite V truncate, slightly concave centrally.

Remarks

We consider that the presence of 12 segments in the antennae is a variation or aberration in the holotype. This is because the 12th antennomere on the right antenna is not distinctly separate from the 11th, and the paratype has the antennae distinctly 11-segmented.

Subfamily Lamiinae Latreille, 1825
Tribe Acanthocinini Blanchard, 1825
Genus *Lagocheirus* Dejean, 1835

Lagocheirus araneiformis parvulus Casey, 1913 revalidated
Figs 11–12

Cerambyx ypsilon Voet, 1778?: 11 (nom. nud.).

Lagocheirus parvulus Casey, 1913: 304.

Lagocheirus stroheckeri granulatus Dillon, 1956: 139.

Material examined

HONDURAS • 2 ♀♀; Cortés, Cusuco National Park, Santa Thomas, transect 2; 20 Jul. 2015; beginning of night, ‘disturbed forest’; L. Geeraert and M. Jocqué leg.; RBINS.

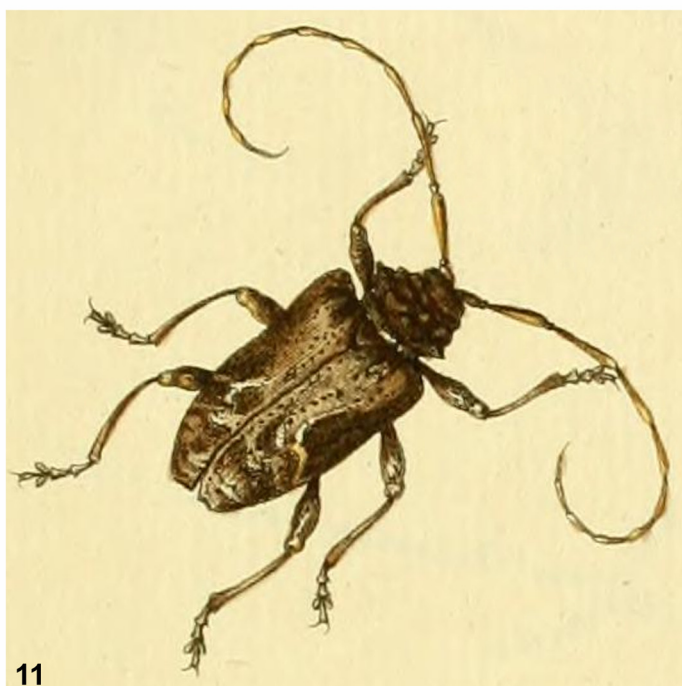
Remarks

Voet (1778?) described *Cerambyx ypsilon* (Fig. 11) from “America septentrionali”. According to Santos-Silva *et al.* (2010) on *Polyrhaphis spinosa* (Drury, 1773) (translated from Portuguese): “...it is worth noting that this work was successively added to new parts from 1766 onward and, contrary to what appears in almost all the catalogs on Cerambycidae, many species are before 1778 and were already published in 1776 (Beckmann 1776). Sherborn (1902) was probably the first to report that Voet’s work (*op. cit.*) did not follow the binominal system ... Anyway, in relation to *Polyrhaphis spinosa*, the name used by Voet (*op. cit.*), only appeared after 1776 because, according to Beckmann (*op. cit.*), in that year the work only included 14 species in *Cerambyx* and eight pages (*Cerambyx horridus* was published on page 15, as species number 59). With the death of Johannes Eusebius Voet, in 1778, the work was unfinished, but in 1796 volume II, in which *Cerambyx* was addressed, already had 24 pages and 24 prints (Dryander & Banks 1796). As the work did not undergo additions between 1778 (Voet’s passing) and 1804 [British Museum (Natural History) 1915], Voet had undoubtedly already included *Cerambyx horridus* [= *Polyrhaphis spinosa*] in his work.” The same reasoning can be used regarding *Cerambyx ypsilon*, which was published on page 11 (Latin part). Nevertheless, the names published by Voet (1766–1806) cannot be considered as nomenclaturally available, as has been indicated by some authors, for example, Alonso-Zarazaga & Lyal (1999), Santos-Silva *et al.* (2010), and Krell (2012).

Schönherr (1817) synonymized *Cerambyx ypsilon* with *Cerambyx araneiformis* Linnaeus, 1767. Dillon (1956) described *Lagocheirus stroheckeri granulatus* based on males and females from the USA (Texas), and Linsley & Chemsak (1995) synonymized it with *L. araneiformis ypsilon*. Dillon (1957) considered *C. ypsilon* as a subspecies of *Lagocheirus araneiformis*, without comment about the synonymy proposed by Schönherr (1817), which is also present in Aurivillius (1922), and Blackwelder (1946). In the same work, Dillon (1957) synonymized *L. parvulus* with *L. araneiformis ypsilon*, which was described by Casey (1913) based on a single male from Panama. Currently, the species is known as *Lagocheirus araneiformis ypsilon*, with *L. parvulus*, and *L. stroheckeri granulatus* as junior synonyms.

It is not possible to be sure whether *Cerambyx ypsilon* is really synonymous with *Lagocheirus parvulus* Casey, 1913 (generic name published as *Lagochirus*, attributed to Erichson (1847), but *Lagocheirus* is by Dejean (1835)). This is because the short description and drawing in Voet (1778?) do not allow confirmation. Unfortunately, Voet's collection is probably lost; according to Santos-Silva *et al.* (2010) discussing *Polyrhaphis armiger* (Schönherr, 1817) (translated from Portuguese): "According to British Museum (Natural History) (1915), the stock from Johannes Eusebius Voet was acquired by Bakhuisen in 1804. We do not know whether Voet's insect collection was part of the material acquired by G. Bakhuisen, but according to Reichard (1827), this insect collection remained in La Haye: "La Haye. Cette ville, qui n'a ni murs ni portes, est entourée d'un large fossé sur lequel on a pratiqué des ponts-levis. Elle surpasse néanmoins plusieurs villes célèbres par la magnificence de ses bâtimens et ses autres ornemens. *Curiosités*: ... les cabinets d'insectes de MM. Voet et Meuschen, le cabinet de conquillages de M. Lyonnet"... [The Hague. This city, which has neither walls nor gates, is surrounded by a wide moat over which drawbridges have been made. It nevertheless surpasses several famous cities by the magnificence of its buildings and its other ornaments. *Curiosities*: ... the insect cabinets of Voet and Meuschen, the cabinet of shells of Mr. Lyonnet ...]." However, it is not within the scope of this work to verify previously proposed synonymies, but only to solve the problem related to the correct name of the species/subspecies. As *Lagocheirus parvulus* is the oldest available name, it is used instead of "ypsilon". Accordingly, the name of the subspecies is *L. araneiformis parvulus*.

The specimens from Honduras examined by us (Fig. 12) agree well with several specimens identified as *L. araneiformis ypsilon* in MZSP collection. However, comparing the original description of *L. stroheckeri* Dillon, 1956 (currently, *L. araneiformis stroheckeri*), as well as photographs of the holotype and allotype of this species with the specimens usually identified as *L. a. ypsilon*, the only reliable difference we have found is the more angulate humerus in *L. stroheckeri*. This suggests that



Figs 11–12. *Lagocheirus araneiformis parvulus* Casey, 1913. **11.** *Cerambyx ypsilon* from Voet (1778?). **12.** Female from Honduras (RBINS). Dorsal habitus. Scale bar = 5.0 mm.

the current subspecies of *L. araneiformis* need a full revision because at least part of them may be just variations of the same taxon (especially *L. stroheckeri*, which is probably synonymous with *L. parvulus*).

Tribe Acrocini Swainson, 1840
Genus *Oreodera* Audinet-Serville, 1835

***Oreodera kawasae* sp. nov.**

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Figs 13–19

Diagnosis

The general appearance of *Oreodera kawasae* sp. nov. is much as that of *O. turnbowi* McCarty, 2001. However, although McCarty (2001) had only provided the length of the holotype male and paratype female, it is possible to see, using photographs of the holotype (see Bezark 2021b), that *O. turnbowi* is proportionally more slender than *O. kawasae* sp. nov. Additionally, comparing the males of *O. kawasae* sp. nov. with the holotype male of *O. turnbowi*, it is possible to provide the following differences: distance between upper eye lobes equal to maximum width of the scape; antennomeres VII and IX not ringed with white pubescence basally; anterolateral tubercles of the prothorax with apex noticeably rounded; elytra at most 4.0 times prothoracic length; centrobasal crest of the elytra not distinctly separated into two tubercles; tarsomeres V shorter and distinctly widened. In the holotype male of *O. turnbowi*, distance between upper eye lobes shorter than maximum width of scape, antennomeres VII and IX distinctly ringed with whitish pubescence basally, anterolateral tubercles of the prothorax nearly conical, elytra is almost 4.5 times prothoracic length, centrobasal crest of the elytra distinctly separated into two distinct tubercles (with punctures between them), and the tarsomeres V are longer and slender. According to McCarty (2001), the mesoventral process in *O. turnbowi* is 1.25 times as wide as the mesocoxal cavity. As we do not know where the width was measured (narrowest area or apex), we are not using this difference (in *O. kawasae* sp. nov., 1.3 times in the narrowest area, 1.5 times in apex).

Oreodera kawasae sp. nov. is also similar to *O. noguerai* McCarty, 2001, but differs by some of the same characters attributed to *O. turnbowi* (body proportions, pubescence on antennomeres VII and IX. Unfortunately, *O. noguerai* is known only from the holotype female, while *O. kawasae* sp. nov. is known only from males, but it also differs by the antennomere III being about 0.7 times as long as scape (twice as long as scape in *O. noguerai*), and apical half of elytral margin without a fringe of sparse, fine, erect setae (present in *O. noguerai*).

The general appearance of *O. kawasae* sp. nov. is somewhat similar to that of *O. advena* Martins & Galileo, 2005, *O. basipenicillata* Tippmann, 1960, *O. undulata* Bates, 1861, and *O. clarkei* Galileo, Santos-Silva & Wappes, 2017 (see photographs of these four species on Bezark 2021b), but differs from them especially by the elytral pubescence pattern, and protarsal length and shape.

Etymology

This species is named after Blanca Jeannette Kawas Fernández (Jeanette Kawas for short) in honor of her never-ending efforts to conserve the fauna and flora of Honduras. She co-established the Prolansate Foundation, which is still committed to protecting the environment while improving the quality of life of the local communities. Jeanette was murdered at her home in February 1995.

Type material

Holotype

HONDURAS • ♂; Cortés, Cusuco National Park (Base camp); 7 Jul. 2017; local collector leg.; RBINS 34.248.

Paratypes

HONDURAS – **Cortés** • 1 ♂; Cusuco National Park; Jun.–Jul. 2015; local collector leg.; RBINS 34.248 • 1 ♂; Cusuco National Park; 17 Jul. 2015; ETC leg.; RBINS 34.248 • 1 ♂; Cusuco National Park, Guanales, in camp; 3 Aug. 2015; local collector leg.; MZSP • 1 ♂; Cusuco National Park, Capuca; 2015; local collector leg.; RBINS 34.248 • 1 ♂; Cusuco National Park, Base camp; 8 Jun. 2015; T. Brown leg.; RBINS 34.248 • 1 ♂; Cusuco National Park; 1 Jul. 2017; local collector leg.; MZSP • 1 ♂; Cusuco National Park, Cantilles; Jun.–Aug. 2015; local collector leg.; RBINS 34.248 • 1 ♂; Cusuco National Park; 6 Jun. 2017; local collector leg.; RBINS 34.248 • 1 ♀; Cusuco National Park, Base Camp transect 3; 15.494° N, 88.214° W; 1513 m a.s.l.; 24 Jun. 2013; Michelle D'Souza leg.; Barcode of Life DNA Voucher specimen; BIN: BOLD ACJ7715, BOLD Proc. ID: GMHGE319-13; CBG.

Measurements in mm (male holotype/male paratypes (8))

Total length, 13.55/8.40–13.95; prothoracic length, 2.35/1.45–2.65; anterior prothoracic width, 2.70/1.65–2.85; posterior prothoracic width, 3.35/2.00–3.90; maximum prothoracic width (between apex of tubercles), 4.05/2.40–4.40; humeral width, 5.60/3.40–5.95; elytral length, 9.75/6.05–9.90.

Description**Male holotype** (Figs 13–17)

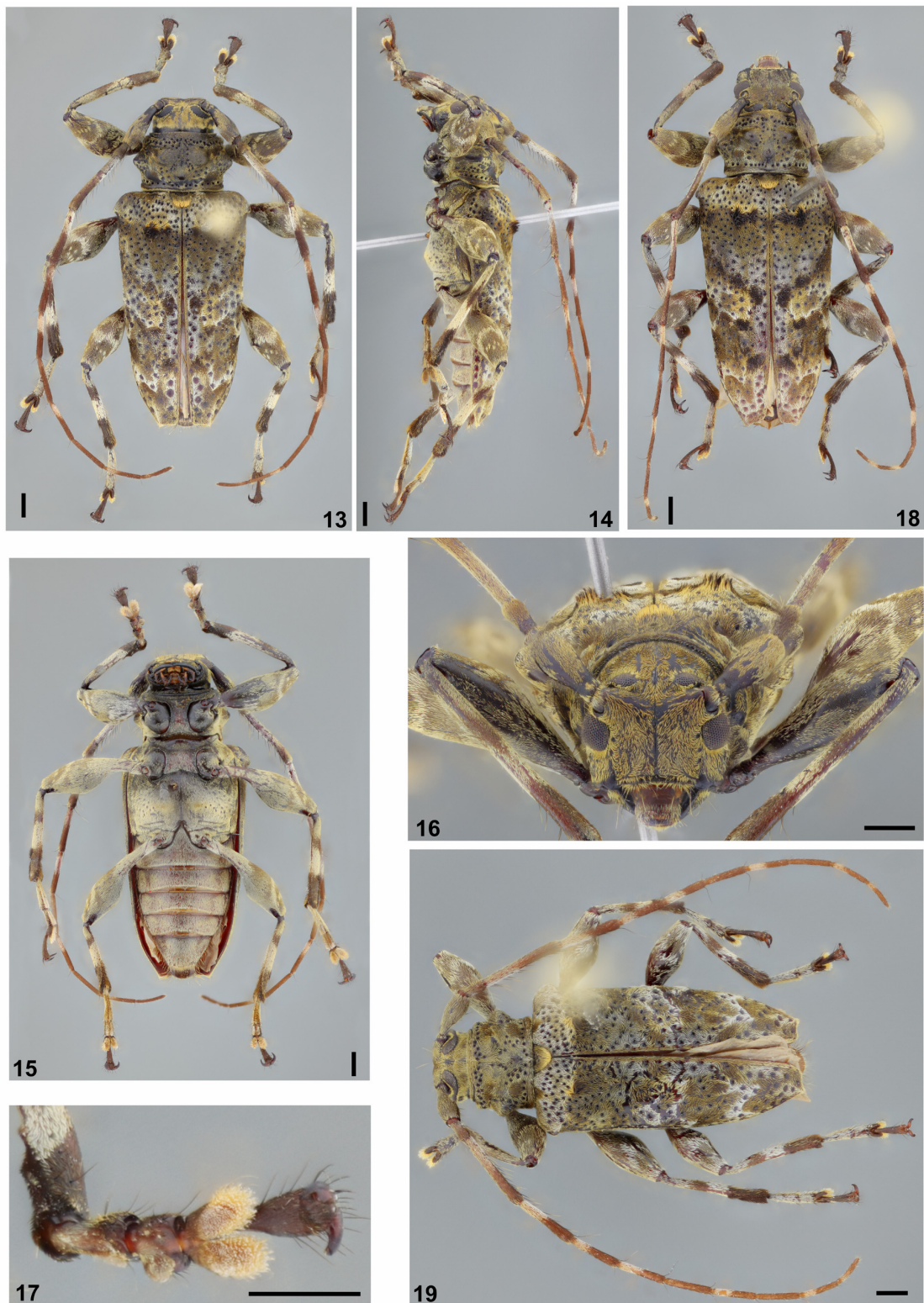
COLORATION. Integument mostly dark brown; mouthparts reddish brown, except blackish labial palpomere II, basal half of labial palpomere III, maxillary palpomeres II–III, and basal half of maxillary palpomere IV; antennomeres brown, especially from IV; apex of abdominal ventrites I–IV reddish brown.

HEAD. Frons densely micropunctate; with yellowish-brown pubescence partially obscuring integument, glabrous along median groove, with one long, erect seta of same color on each side close to eyes. Vertex and area behind upper eye lobes densely micropunctate (punctures slightly more distinct and sparser close to prothorax); with yellowish-brown pubescence, obscuring integument on some areas, yellower close to eyes, and forming irregular, slightly distinct yellowish-white macula behind upper eye lobes on area closer to prothorax. Area behind lower eye lobes with dense yellowish pubescence on wide area close to eye (pubescence more yellowish-white depending on light intensity), glabrous close to prothorax; with a few long, erect yellowish setae close to eye. Antennal tubercles minutely, abundantly punctate; pubescence as on frons. Genae 1.25 times length of lower eye lobes; densely micropunctate; with dense yellowish-brown pubescence (pubescence almost golden close to eye toward clypeus, yellowish-white toward ventral surface), glabrous on apex; with a few long, erect yellowish setae interspersed. Wide central area of postclypeus with pubescence as on frons, but somewhat bristly, with long, erect setae interspersed (setae brown on basal half, yellowish-white on apical half); sides glabrous. Labrum convex, coplanar with anteclypeus on posterior $\frac{2}{3}$, inclined on anterior third; finely, abundantly punctate on posterior $\frac{2}{3}$, nearly smooth on anterior third; with nearly golden pubescence on posterior $\frac{2}{3}$ (pubescence more yellowish-white depending on light intensity), with long, erect setae interspersed (setae dark brown with apex yellowish), glabrous on posterior third, and with fringe of yellow setae on anterior margin. Mandibles with dense yellow pubescence on basal $\frac{2}{3}$, with long, erect, sparse setae of same color interspersed, glabrous on apical third. Gulamentum smooth, shiny, glabrous on posterior half, depressed, opaque, densely micropunctate, with minute yellowish pubescence on anterior half. Median groove distinct from clypeus to prothoracic margin, sulcate, slightly widened between upper eye lobes. Distance between upper eye lobes 0.35 times length of scape, 0.24 times distance between outer margins of eyes; in frontal view, distance between lower eye lobes 0.87 times length of scape, 0.60 times distance between outer margins of eyes. Antennae 2.0 times elytral length, reaching elytral apex at apex of antennomere VII. Scape and pedicel with dense greenish-yellow pubescence dorsally and laterally (pubescence more yellowish-brown depending on light intensity), mostly yellowish-white ventrally; with long, erect, sparse setae ventrally (setae dark basally, yellowish

apically), present on posterior half of scape, throughout on pedicel. Basal half of antennomeres III–IV with yellowish pubescence dorsally, white pubescence on sides and ventral surface of anterior $\frac{2}{3}$, and greenish-brown pubescence on remaining surface; with long, erect setae ventrally (setae dark basally, yellowish apically). Antennomeres V, VI, VIII, and X with white pubescence on basal third, slightly distinct, brownish on remaining surface; with a few long, erect brownish setae apically; with short, erect, sparse yellowish setae throughout. Antennomeres VII and IX with slightly conspicuous brownish pubescence throughout, a few long, erect brownish setae apically, and with short, erect, sparse yellowish setae throughout. Antennomere XI with brownish pubescence, with whitish pubescence interspersed near base, and short, sparse, erect yellowish setae interspersed throughout. Antennal formula (ratio) based on length of antennomere III: scape = 0.67; pedicel = 0.23; IV = 0.79; V = 0.63; VI = 0.63; VII = 0.60; VIII = 0.59; IX = 0.56; X = 0.53; XI = 0.45.

THORAX. Lateral tubercles large, with blunt apex. Pronotum with five large, elevated tubercles: one circular on each side near middle, with rounded apex (these are highest); one elongate placed centrally on posterior half; and one circular, with blunt apex on each side of posterior third (smaller and far from each other than those placed near middle). Pronotal surface with row of coarse and deep punctures near posterior margin, coarse, moderately abundant punctures near anterior margin (slightly finer than on posterior row), and coarse, sparse punctures surrounding tubercles (finer than punctures near anterior and posterior margins); central area with mostly greenish-brown pubescence, and sides and anterior and posterior areas with mostly yellowish-brown pubescence (more pale yellow on some areas, especially toward lateral tubercles of prothorax). Sides of prothorax coarsely, abundantly punctate anteriorly and posteriorly, smooth centrally; with abundant yellowish-brown pubescence not obscuring integument (appearing to be lighter on some areas depending on light intensity); area behind lateral tubercle with long, erect, sparse dark setae. Prosternum with yellowish-brown pubescence, denser laterally. Prosternal process with pale yellow pubescence not obscuring integument (appearing to be yellowish-white depending on light intensity), distinctly denser on posterior half; narrowest area 0.6 times width of procoxal cavity. Mesoventrite with pale yellow pubescence not obscuring integument, except sides with dense yellowish-brown pubescence; mesanepisternum, mesepimeron, and metanepisternum with dense yellowish-brown pubescence (nearly golden depending on light intensity). Narrowest area of mesoventral process 1.3 times width of mesocoxal cavity; apex of mesoventral process 1.5 times width of procoxal cavity. Metaventricle distinctly tumid on sides of posterior $\frac{2}{3}$; with pale yellow pubescence on anterocentral area and between tumid areas, dense, yellow on tumid areas, yellowish-brown on remaining surface; sides coarsely, sparsely punctate (punctures more abundant on tumid areas). Scutellum semicircular; with short yellowish-brown pubescence on basal $\frac{2}{3}$, slightly longer, dense, yellow on posterior third.

ELYTRA. Humeri projected laterally; surface coarsely, abundantly punctate on basal seventh, somewhat finely, sparsely punctate centrally from remaining basal third, coarsely sparsely punctate on remaining surface (punctures distinctly coarser than on basal seventh); apex obliquely truncate; surface, between apex of basal seventh and apex irregularly rugose; with transverse, elevated crest dorsally on apex of basal seventh, slightly more elevated toward its apex, with dense tuft of setae on top (setae yellow basally, black apically, longer on outer area, shorter on inner area, nearly absent between them); circumscutellar region mostly with white pubescence; sides of basal seventh with yellowish-brown pubescence, more yellowish or greenish-brown on some areas; dorsal surface with large, wide Y-shaped white band from about apex of anterior third to about posterior quarter; sides of central area with white pubescence laterally, partially surrounding irregular yellow pubescent macula placed centrally; sides of posterior quarter with nearly V-shaped white pubescent macula; area close to suture on posterior quarter with white pubescent macula; remaining elytral surface mostly with yellowish-brown and greenish-brown pubescence, except subcircular brownish pubescent maculae centrally, close to lateral arms of Y-shaped white band.



Figs 13–19. *Oreodera kawasae* sp. nov. **13–17.** Holotype, ♂ (RBINS 34.248). **13.** Habitus, dorsal view. **14.** Habitus, lateral view. **15.** Habitus, ventral view. **16.** Head, frontal view. **17.** Protarsus. **18–19.** Male paratypes, dorsal habitus. **18.** Specimen 1 (MZSP), habitus, dorsal view. **19.** Specimen 2 (MZSP), habitus, dorsal view. Scale bars = 1.0 mm.

LEGS. Femora mostly with greenish-brown pubescence (appearing to be lighter depending on light intensity), with arched pale yellow pubescent ring on middle of club, and small pale yellow pubescent spots between it and apex. Tibiae with light yellowish-brown pubescent ring on basal third (protibiae) or quarter (meso- and metatibiae), ring with yellowish-white pubescence centrally, ring with sparse brownish pubescence between previous rings, sparse brownish pubescence dorsally and laterally on posterior quarter, bristly yellowish-brown pubescence ventrally on posterior quarter; posterior quarter of ventral surface of protibiae sinuous, with distinct projection on base of this area; dorsal surface of posterior quarter of meso- and metatibiae with short, erect, thick black setae dorsally. Protarsi not noticeably long; inner side of tarsomere II with distinct projection (Fig. 17). Tarsomeres I–II with pale yellow pubescence; tarsomeres III–V with brownish pubescence, shorter and sparser than on anterior segments; metatarsomere I slightly longer than II–III together.

ABDOMEN. Ventrites with yellowish pubescence, partially obscuring integument, denser laterally, except glabrous apex of I–IV; apex of ventrite V rounded (slightly more projected centrally).

Variation (Figs 18–19)

Pubescence on vertex moderately greenish-brown; dense yellow pubescence on scutellum from covering almost entire surface to present only at apex; elytral pubescence somewhat variable, especially shape of white pubescent bands, and number of brownish subcircular areas, which may be very distinct, almost forming oblique band close to arms of Y-shaped white pubescent band, and posterior area of central white pubescent band.

Sequence information

A specimen from CNP of this species has been sequenced by the Centre for Biodiversity Genomics (CBG) as part of a separate project (D'Souza & Hebert 2018, project doi: <https://doi.org/10.5883/DS-MECNP>), but until now it has remained unidentified. The sequence (Cytochrome Oxidase Subunit 1 5' Region) can be accessed through the BOLDSystems database, with ID number GMHGE319-13.

Remarks

Apparently, the new species is somewhat common. Therefore, it is likely that there are many specimens incorrectly identified in the collections.

Tribe Apomecynini Thomson, 1860

Genus *Phrynidius* Lacordaire, 1869

Phrynidius guifarroi sp. nov.

urn:lsid:zoobank.org:act:A45ED7C3-2D75-4648-A768-4B1C64F1768F

Figs 20–25

Diagnosis

Phrynidius guifarroi sp. nov. is similar to *P. jonesi* Gutiérrez, Toledo-Hernández & Noguera, 2020 (Figs 26–30), but differs as follows: pronotum with wide, elevated crest centrally, from anterior fifth to after middle, with its dorsal surface rugose and uniformly convex (Figs 24–25); elytra with nearly glabrous area on basal fifth, close to scutellum and suture; and posterior tubercles of the elytra smaller. In *P. jonesi*, the central crest of the pronotum is nearly conical, placed before the middle (Fig. 26), elytra with large nearly glabrous area placed centrally, and posterior tubercles of the elytra distinctly larger.

Etymology

This species is named after Mario Guifarro from Olancho, Honduras, a hunter and gold miner who turned into a dedicated conservationist when he experienced the degradation of rainforests in eastern Honduras. He was murdered in Moskitia in 2007 while setting up a protected forest zone.

Type material

Holotype

HONDURAS • ♀; Cortés, Cusuco National Park, Danto, close to camp; 29 Jun. 2015; M. Jocqué leg.; RBINS 34.248.

Paratype

HONDURAS • ♀; Cortés, Cusuco National Park, Base Camp, Transect 4; 14 Jul. 2015; T. Brown leg.; MZSP.

Measurements in mm (female holotype/female paratype)

Total length, 11.25/12.05; prothoracic length, 3.05/3.45; anterior prothoracic width, 2.65/3.10; posterior prothoracic width, 2.60/2.90; widest prothoracic width, 3.10/3.45; humeral width, 2.70/3.10; elytral length, 7.30/7.85.

Description

Female holotype (Figs 20–24)

COLORATION. Integument mostly black dorsally and laterally, mostly dark brown ventrally; head mostly black except apex of labrum orangish brown, basal area of anteclypeus, parts of labium, and apex of palpomeres reddish brown; scape, pedicel, and antennomeres III–IV dark brown; remaining antennomeres dark reddish brown. Posterocentral area of pronotum dark reddish brown. Scutellum orangish brown.

HEAD. Frons with dense pale yellowish-brown pubescence obscuring integument, and short, sparse whitish setae interspersed. Vertex and area behind eyes coarsely, sparsely punctate; with dense pale yellowish-brown pubescence obscuring integument, except glabrous median groove. Antennal tubercles moderately elevated, slightly separated from each other, together forming V-shaped sulcus; pubescence as on frons, except narrow glabrous apex. Median groove distinct from clypeus to prothoracic margin (more distinct on vertex). Genae coarsely, sparsely punctate; with dense pale yellowish-brown pubescence except narrow glabrous apex. Wide central area of postclypeus with pubescence as on frons, with long, erect brownish setae near anteclypeus; sides glabrous. Labrum coplanar with anteclypeus at posterior $\frac{2}{3}$, inclined at anterior third; posterior $\frac{2}{3}$ smooth close to anteclypeus, finely punctate close to inclined area; with very sparse yellowish-white pubescence on posterior $\frac{2}{3}$, nearly glabrous close to anteclypeus, and long, erect yellowish-brown setae directed forward close to inclined area; anterior third with moderately short and abundant nearly golden setae. Gula mentum glabrous except narrow anterior area with pale yellowish-brown pubescence not obscuring integument. Lower eye lobes 0.43 times as long as genal length; distance between upper eye lobes 0.42 times length of scape, 0.40 times distance between outer margins of eyes; in frontal view, distance between lower eye lobes 0.75 times length of scape, 0.71 times distance between outer margins of eyes. Antennae 1.55 times elytral length, almost reaching elytral apex. Scape, pedicel, antennomere III, and basal $\frac{4}{5}$ of IV with dense pale yellowish-brown pubescence obscuring integument, and short, sparse, decumbent or arched yellowish-white and brown setae interspersed; apical fifth of antennomere IV, and remaining antennomeres with very sparse yellowish-white pubescence. Antennal formula (ratio) based on length of antennomere III: scape = 0.98; pedicel = 0.09; IV = 0.81; V = 0.32; VI = 0.30; VII = 0.30; VIII = 0.28; IX = 0.30; X = 0.26; XI = 0.28.

THORAX. Prothorax as long as wide; sides arched on anterior quarter, slightly convergent, irregular on posterior $\frac{3}{4}$. Pronotum entirely rugose; in lateral view, distinctly, gradually elevated from anterior margin to near middle, then distinctly, gradually inclined toward posterior margin; with wide, elevated crest centrally, from anterior fifth to after middle, with its dorsal surface rugose and uniformly convex; coarsely, moderately abundantly punctate; with dense pale yellow pubescence, not obscuring punctures, except nearly glabrous posterocentral area, and small, irregular glabrous area on each side of middle.

Sides of prothorax entirely rugose; coarsely, moderately abundantly punctate; with dense pale yellowish-brown pubescence not obscuring punctures. Prosternum with dense pale yellowish-brown pubescence obscuring integument laterally, moderately sparser centrally. Prosternal process gradually widened from base to posterior quarter, strongly, moderately abruptly widened on posterior quarter; with dense pale yellowish-brown pubescence, and irregular areas with slightly sparser pubescence interspersed. Central area of mesoventrite with moderately abundant pale yellowish-brown pubescence distinctly not obscuring integument; sides of mesoventrite, mesanepisternum, mesepimeron, metanepisternum, metaventrite, and mesoventral process with dense pale yellowish-brown pubescence; mesanepisternum coarsely, moderately sparsely punctate; apex of mesoventrite emarginate centrally; metaventrite with short, decumbent, sparse yellowish-white setae interspersed. Scutellum very narrow, transverse, glabrous.

ELYTRA. Entirely rugose, coarsely, deeply, moderately abundantly punctate; widest area (without tubercles) 1.8 times humeral width; with large conical tubercles, with glabrous apex; surface with dense pale yellowish-brown pubescence, except glabrous apex of tubercles and glabrous large area close to scutellum and suture on basal fifth.



Figs 20–23. *Phrynidius guifarroi* sp. nov., holotype, ♀ (RBINS 34.248). **20.** Habitus, dorsal view. **21.** Habitus, ventral view. **22.** Habitus, lateral view. **23.** Head, frontal view. Scale bars = 1.0 mm.



Figs 24–30. 24–25. *Phrynidius guifarroi* sp. nov., prothorax, lateral view. 24. Holotype, ♀ (RBINS 34.248). 25. Paratype, ♀ (MZSP). — 26–30. *Phrynidius jonesi* Gutiérrez, Toledo-Hernández & Noguera, 2020, ♂ (FSCA). 26. Prothorax, lateral view. 27. Head, frontal view. 28. Habitus, dorsal view. 29. Habitus, ventral view. 30. Habitus, lateral view. Scale bars = 1.0 mm.

LEGS. Femora with dense pale yellowish-brown pubescence, glabrous or almost so on apex, and short, decumbent yellowish-white setae interspersed. Tibiae with dense light beige pubescence, and short, decumbent yellowish-white setae interspersed, except almost glabrous area close to apex; apical margin of all tibiae, and dorsal area close to apex of mesotibiae with thick, nearly golden setae. Dorsal surface of tarsomeres with minute, slightly distinct yellowish-brown pubescence, not obscuring integument; central area of apex of tarsomeres I and II with two pairs of short, thick yellowish setae.

ABDOMEN. Ventrites with dense pale yellowish-brown pubescence.

Remarks

The male of *P. jonesi* examined by us is from the same Mexican state as the holotype (Gutiérrez *et al.* 2020): “Chiapas: Montebello lake area, 15-16.VI.1987, J.E. Wappes leg.” (ACMT).

Tribe Hemilophini Thomson, 1860
Genus *Arixiuna* Martins & Galileo, 1992

Arixiuna varians (Bates, 1881)

Hemilophus varians Bates, 1881a: 222.

Hemilophus varians – Bates 1881b: 305. — Lameere 1883: 78 (cat.). — Aurivillius 1923: 587. — Blackwelder 1946: 623 (checklist). — Chemsak & Linsley 1970: 411 (lect.). — Chemsak *et al.* 1992: 159 (cat.). — Gilmour 1965: 634 (cat.). — Noguera & Chemsak 1996: 408 (cat.).

Arixiuna varians – Martins & Galileo 1992: 127. — Monné & Giesbert 1994: 282 (checklist). — Monné 1995: 14 (cat.); 2005: 453 (cat.); 2021: 664 (cat.). — Hovore 2006: 378 (distr.). — Monné & Hovore 2006: 256 (checklist). — Swift *et al.* 2010: 57 (distr.). — Bezark 2021a: 302.

Material examined

HONDURAS • 1 ♂; Cortés, Cusuco National Park, Base camp; 10 Jun. 2017; ED. Leg.; RBINS. **New formal country record**

Remarks

Bates (1881a) described *H. varians* based on a series of males and females from Mexico and Guatemala, and reported on the elytral color (translated from Latin): “Elytra entirely fulvous, or posteriorly black and fulvous anteriorly, or with the humerus fulvous [remaining surface black].”

Martins & Galileo (1992), erected *Arixiuna*, and separated it from *Hemilophus* Audinet-Serville, 1835 by the absence of whitish pubescence on sides of the elytra (present in *Hemilophus*), and from *Cuicirama* Martins & Galileo, 1992 by the non orthogonal humerus (orthogonal in *Cuicirama*) (Martins & Galileo 1992). Later, Galileo & Martins (2005) described *Hemilocrinitus* and separated it from *Arixiuna* especially by the antennal tubercles close to each other (distant in *Arixiuna*).

Hovore (2006) reported the geographical distribution of *Arixiuna varians* as “eMEX (VC), GUA-CR”, meaning that the geographical distribution of the species is from east Mexico (Veracruz), and from Guatemala to Costa Rica. Swift *et al.* (2010) reported that the species occurs from Mexico (Veracruz) to Costa Rica (Heredia). Monné (2021) reported the species as present in Mexico (Veracruz), Guatemala, and Costa Rica. We think that the report by Monné is better because, although it is very probable that the species also occurs in Honduras and Nicaragua, there is no evidence.

Subfamily Lepturinae Latreille, 1802

Tribe Lepturini Latreille, 1802

Genus *Strangalia* Dejean, 1835

Strangalia lunai sp. nov.

urn:lsid:zoobank.org:act:3E106974-DA9C-4583-8C19-1948CF655C00

Figs 31–35

Diagnosis

The general appearance of *Strangalia lunai* sp. nov. is similar to that of *S. beltii* (Bates, 1872), *S. bivittata* (Bates, 1870), *S. doyeni* Chemsak & Linsley, 1976, *S. eickworti* Chemsak & Noguera, 1997, *S. elegans* Giesbert, 1997, *S. emaciata* (Bates, 1880), *S. instabilis* Giesbert, 1985, *S. occidentalis* Linsley & Chemsak, 1976, *S. pectoralis* (Bates, 1885), *S. picticornis* (Bates, 1869), *S. sallaei* (Bates, 1885), *S. saltator* (Bates, 1885), *S. sexocellata* Hovore & Chemsak, 2005, and *S. veracruzana* Hovore & Chemsak, 2005 (see photographs on Bezark 2021b). Males of the new species differ from those of *S. beltii*, *S. bivittata*, *S. elegans*, *S. picticornis*, *S. saltator*, and *S. veracruzana* by the pronotum lacking two longitudinal dark bands (present in all these species); from *S. doyeni* by the pronotum mostly black (orange in *S. doyeni*), and by the sides of the abdominal ventrite V not strongly flap-shaped (noticeably flap-shaped in *S. doyeni*); from *S. eickworti* by the distal antennomeres not distinctly yellowish (distinctly yellowish in *S. eickworti*), and profemora bicolorous (unicolorous in *S. eickworti*); from *S. emaciata* by last antennomeres not distinctly yellowish (distinctly yellowish in *S. emaciata*), and maxillary palpomere IV not widened apically (widely expanded in *S. emaciata*); from *S. instabilis* by the distal antennomeres not distinctly yellowish (distinctly yellowish in *S. instabilis*), and sides of the abdominal ventrite V not strongly flap-shaped (noticeably flap-shaped in *S. instabilis*); from *S. occidentalis* by the sides of the abdominal ventrite V not strongly flap-shaped (noticeably flap-shaped in *S. occidentalis*); from *S. pectoralis* by the elytra proportionally longer (shorter in *S. pectoralis*); from *S. sexocellata* by the antennae only surpassing middle of elytra (reaching elytral apex in *S. sexocellata*). Males of *S. sallaei* are unknown. However, based on other similar species, the pronotum probably has two dark longitudinal bands and the antennae are distinctly bicolorous.

Etymology

This species is named after Carlos Antonio Luna Lùopez (Carlos Luna for short), former director of La Unidad Ambientalista (UMA) and environmental activist. He was murdered in Catacamas, May 1998.

Type material

Holotype

HONDURAS • ♂; Cortés, Cusuco National Park, Base Camp; 12 Jun. 2015; local collector leg.; RBINS 34.248.

Measurements in mm (male holotype)

Total length, 19.50; prothoracic length, 3.00; anterior prothoracic width, 1.45; posterior prothoracic width, 2.90; humeral width, 3.50; elytral length, 11.30.

Description

Male holotype (Figs 31–35)

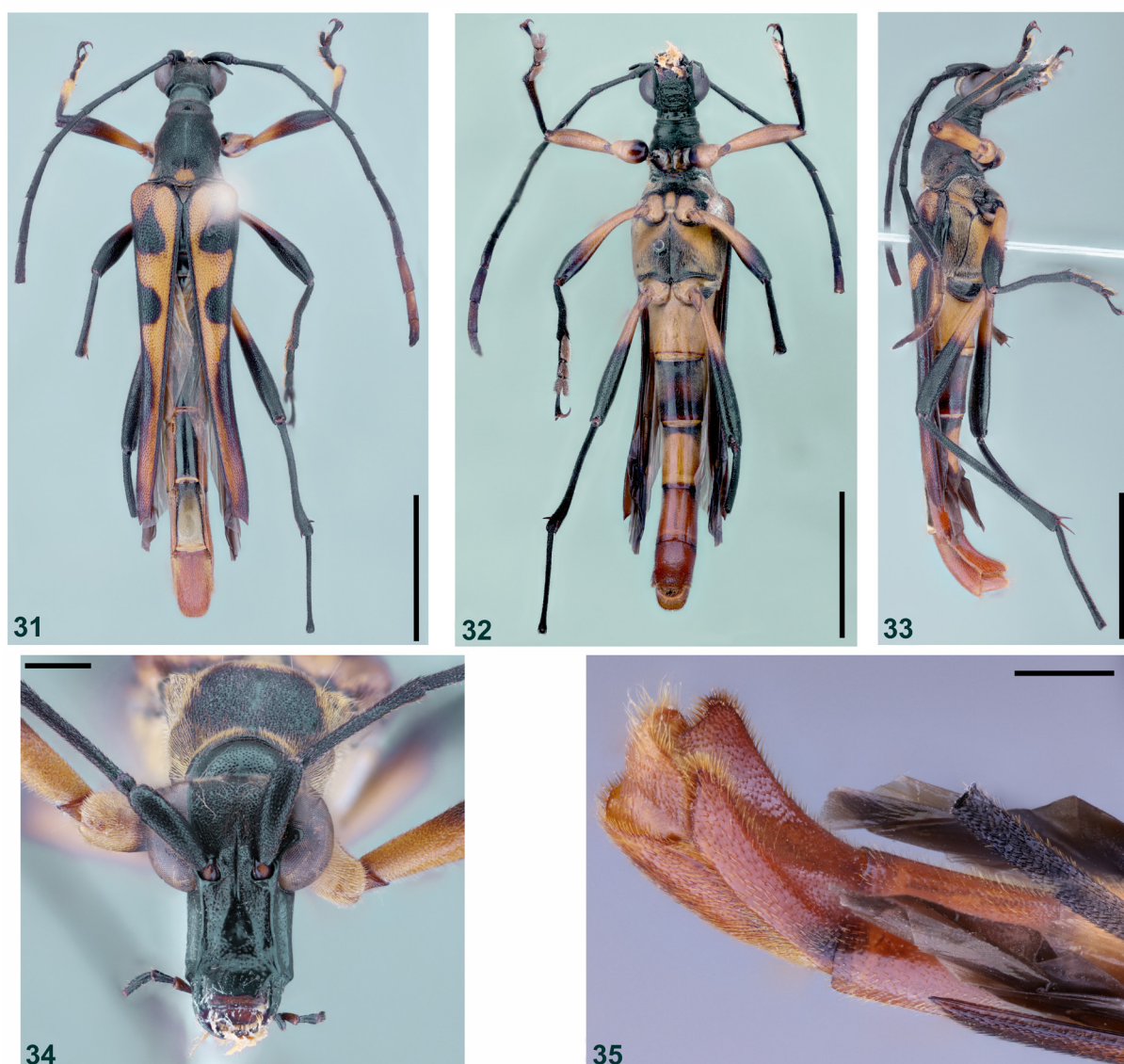
COLORATION. Head mostly black; anterior area of clypeus orangish brown; labrum brown; mouthparts with some areas orangish brown; antennae black except ventral surface of antennomeres IX–XI partially orangish brown; mandibles black. Prothorax black except orange posterocentral macula on pronotum, most of posterolateral angles, and irregular macula on sides of prothorax, between posterolateral angles

and coxal cavity. Mesoventrite dark brown, almost black; mesanepisternum brownish, with large orange macula near mesepimeron, and margins darkened; mesepimeron orange close to metanepisternum; mesoventral process orange except black margins. Metanepisternum brown with irregular orangish areas interspersed. Metaventrite brown (darker on large central area), except wide V-shaped orange macula anteriorly (this macula distinctly widened laterally). Scutellum brown. Elytra mostly orange, except: narrow black band along suture, from scutellum to apex; black epipleural margin, from base to near apex; macula on anterior quarter, fused with epipleural black area, following toward dorsal surface, not reaching black sutural area and humerus (anterior margin of this macula deeply notched laterally and dorsally); black semicircular macula before middle, fused with epipleural black macula, following toward dorsal surface, not reaching black sutural area; large, elongate black macula starting centrally, ending about posterior quarter, distinctly reaching dorsal surface, not reaching black sutural area, with its anterior region fused with black epipleural margin, then gradually separated from epipleural margins toward its narrowed apex (this macula gradually brownish toward its apex); posterior seventh mostly brownish. Pro- and mesocoxae black basally, orange on remaining surface; metacoxae mostly orange, with some areas slightly brownish. Profemora orange except black posterior $\frac{2}{3}$ of dorsal surface and superior area of sides; mesofemora orange except black posterior half of dorsal surface, and entire apex (black posterior area gradually narrowed laterally); metafemora orange on basal half, black on posterior half. Tibiae and tarsi black. Abdominal ventrite I orange except narrow, transverse brownish band close to posterior margin; II black, except orange centrally; III black basally (this area distinctly widened laterally), orange on remaining surface; IV mostly orangish brown, with on brown macula on each side of anterior region, and brown apex; V orangish brown centrally (this area slightly darker than on IV), brown laterally.

HEAD. Frons somewhat elevated along median groove, this area drop-shaped with its widest area toward clypeus, depressed inside, its sides as a carinate projection of antennal tubercles, smooth except a few fine punctures on its widest area; sides and central area close to clypeus finely, abundantly punctate; with short, erect, moderately abundantly yellowish-brown setae on punctate area, with a few long, erect setae of same color interspersed, glabrous on elevated central area; frontoclypeal suture absent. Vertex finely, densely, partially confluent punctate before constricted neck, punctures finer and denser than on frons; neck finely, abundantly punctate, punctures coarser than on anterior region of vertex, not confluent, slightly sparser centrally; area before neck with short, abundant yellowish-brown setae, and a few long, erect setae of same color interspersed; neck with yellowish-brown setae shorter, distinctly sparser than on anterior region of vertex, especially centrally. Tumid area behind upper eye lobes smooth close to vertex, finely, sparsely punctate close to lower eye lobe; neck area finely, sparsely punctate (punctures coarser than on vertex); with abundant erect setae close to vertex, with short, sparse yellowish-brown setae on remaining surface. Tumid area behind lower eye lobes obliquely striate-punctate; neck area longitudinally striate-punctate; with short, sparse yellowish-brown setae, longer, slightly more abundant on tumid area close to inferior margin. Genae about as long as maximum width of lower eye lobe; carinate close to frons and clypeus, longitudinally depressed close to carina; finely, abundantly punctate on depressed area, finely, sparsely punctate on remaining surface; with short, sparse yellowish-brown setae, slightly longer and more abundant close to carina. Clypeus finely, moderately sparsely punctate close to frons, smooth close to labrum; with short, erect, moderately sparse yellowish-brown setae on punctate area, longer laterally, glabrous on smooth area. Labrum with short, sparse golden setae centrally, longer, abundant laterally, and fringe of golden setae on anterior margin. Maxillary palpomeres IV not widened apically, general shape nearly fusiform. Gulamentum somewhat rugose-punctate, with short, erect, moderately abundant yellowish-brown setae, and a few long setae of same color interspersed. Distance between upper eye lobes 0.95 times length of scape, 0.49 times distance between outer margins of eyes; in frontal view, distance between lower eye lobes 0.83 times length of scape, 0.42 times distance between outer margins of eyes. Antennae 1.35 times elytral length, surpassing middle of elytra; with yellowish-brown pubescence not obscuring integument, appearing to be darker due to integument color,

especially depending on angle of light source; antennomeres III–IV cylindrical, antennomere V slightly widened toward apex; antennomeres VI–X subserrate; antennomere XI cylindrical in basal $\frac{2}{3}$, acutely narrowed toward apex in posterior third; sensory depressions on antennomeres VIII–XI eroding apex of segment. Antennal formula (ratio) based on length of antennomere III: scape = 0.68; pedicel = 0.11; IV = 0.82; V = 1.00; VI = 0.86; VII = 0.79; VIII = 0.68; IX = 0.65; X = 0.57; XI = 0.79.

THORAX. Prothorax slightly longer than wide, with anterior constriction well-marked; sides gradually widened from rounded anterolateral angles to acute posterolateral angles, rounded, widened before middle. Pronotum with anterior margin straight, and posterior margin rounded, widely projected centrally; surface finely, densely punctate, except smooth central area near anterior margin, and central longitudinal sulcus from apex of anterior quarter to base of posterior quarter; with abundant golden pubescence close



Figs 31–35. *Strangalia lunai* sp. nov., holotype, ♂ (RBINS 34.248). **31.** Habitus, dorsal view. **32.** Habitus, ventral view. **33.** Habitus, lateral view. **34.** Head, frontal view. **35.** Apex of abdomen. Scale bars = 1.0 mm.

to anterior margin (pubescence absent on smooth area), sides, and on posterocentral orange macula; remaining surface with yellowish-brown pubescence distinctly not obscuring integument. Sides of prothorax finely, densely punctate, except nearly smooth anterior area, and coarse, shallow, sparse punctures interspersed on posterior half; with abundant golden pubescence not obscuring integument, except nearly glabrous anterior area (with a few long, erect setae close to prosternum on this latter area). Prosternum finely, densely punctate on sides of posterior half, punctures sparse centrally, mostly smooth centrally, somewhat rugose-punctate laterally on anterior half; sides with abundant, short, bristly golden setae, distinctly sparser centrally. Prosternal process laminiform on wide central area. Mesoventrite finely, densely punctate except smooth lateral apices; with golden pubescence not obscuring integument, except glabrous smooth areas. Mesoventral process somewhat tumid centrally; with abundant golden pubescence on posterior half. Mesanepisternum and mesepimeron with abundant yellowish pubescence. Metanepisternum and metaventrite with abundant golden pubescence; metaventrite lacking tubercles or carina centrally near apex. Scutellum with abundant golden pubescence.

ELYTRA. Distinctly narrowed from humerus to about middle, then with outer and sutural margins nearly parallel sided toward oblique apex; outer apical angle spiniform; sutural angle with short spiniform projection; moderately coarsely, abundantly punctate throughout; orange area with golden pubescence not obscuring integument, except area closer to dark integument with decumbent, moderately abundant black setae; black area with grayish pubescence not obscuring integument, appearing to be darker depending on angle of light source, especially due to integument color. Femora with yellowish pubescence not obscuring integument, appearing to be darker on black area due to integument color and angle source. Tibiae with golden pubescence, denser posteriorly, especially ventrally; metatibia with tubercle or plate apically.

ABDOMEN. Surpassing elytral apex about middle of fourth segment. Ventrites with abundant yellowish pubescence not obscuring integument; ventrite V excavated for less than $\frac{3}{4}$ its length, with sides not strongly flap-shaped.

Remarks

Strangalia lunai sp. nov. can be included in the alternative of couplet '26' from Giesbert (1997):

- 26(25). Pronotum about as long as width across base; disk with narrow, longitudinal, median, glabrous line 26'
– Pronotum shorter than width across base; disk without glabrous line 27
- 26'(26). Antennae nearly reaching elytral apex; outer elytral margin entirely black; sides of abdominal ventrite V flap-shaped from base to apex. Guatemala *S. zacapensis* Giesbert, 1997
– Antennae distinctly not reaching elytral apex; outer elytral margin not entirely black; sides of abdominal ventrite V not flap-shaped from base to apex. Honduras *S. lunai* sp. nov.

Discussion

By noting the unavailability of the name *Cerambyx ypsilon* Voet, we have eliminated only one of the names currently in use in Cerambycidae attributed to Johannes Eusebius Voet. We know that in some cases there are names in synonymy which need to be used as valid. However, in a few cases, there are no names in synonymy. This creates a curious situation since, formally, these species cannot be considered as described. Therefore, it will be necessary to study each of the names assigned to that author and apply the appropriate solution.

Our results increase the number of known species of Compsina from Honduras to 26; Acrocinini to eight; Apomecynini to 34; and Lepturini to 14. The constant and ongoing discovery of new species of

Cerambycidae illustrates the current incomplete taxonomic overview of this family and suggests that a large number of species remains to be discovered. Unfortunately, the number of longhorn taxonomists worldwide has declined dramatically in recent decades, slowing down the study of this taxon. This is particularly worrisome considering the rapidly accelerating habitat loss such as deforestation in Honduras and globally. Probably many longhorn species and other animals and plants go extinct and disappear before being officially recognized and recorded. A drastic surge in effort is needed to conserve the remaining species, habitats and biodiversity.

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