

New species, new records, synonymy, and notes in *Eupogonius* LeConte (Coleoptera, Cerambycidae, Lamiinae, Desmiphorini)

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Abstract. New records for *Eupogonius flavocinctus* Bates, 1872, *E. boteroi* Wappes & Santos-Silva, 2020, *E. azteca* Martins, Santos-Silva & Galileo, 2015, *E. subaeneus* Bates, 1872, *E. guerrensis* Wappes & Santos-Silva, 2020, and *E. arizonensis* Knull, 1954 are provided. *Eupogonius sonorensis* Wappes & Santos-Silva, 2020 is synonymized with *E. arizonensis*. The synonymy between *E. pauper* LeConte, 1852 and *Eupogonius fraxini* Knull, 1918 is commented. Two new species are described: *Eupogonius rileyi*, from Costa Rica; and *E. similis*, from Guatemala.

Keywords. Longhorned beetles; Neotropical region; Taxonomy.

INTRODUCTION

Eupogonius LeConte, 1852 is one of the largest genera of Desmiphorini Thomson, 1860. Currently, it includes 62 species distributed from Canada to southern South America (Tavakilian & Chevillotte, 2021). *Eupogonius* is characterized by the antennae 11-segmented, antennomeres with long and erect setae ventrally, and basal segments with long and erect setae throughout, scape shorter than antennomere III, without apical cicatrix, and the elytra parallel-sided and with long and erect setae. Because the general appearance of several species is quite similar, the study of the genus is particularly difficult. This can easily lead to misidentifications when details in morphology are not observed. Often, specimens that at first glance appear to be different species correspond to a single species (e.g., variation in the elytral pubescent pattern in specimens of *E. arizonensis* Knull, 1954 (Fig. 2)). However, specimens that appear to belong to a single species have morphological characters that demonstrate that they belong to different species (e.g., size of the ommatidia and width of upper eye lobes in *Eupogonius azteca* Martins, Santos-Silva & Galileo, 2015 (Fig. 1F) and *Eupogonius subaeneus* Bates, 1872 (Fig. 1G)).

The study of the specimens sent by the late James E. Wappes allowed me to describe two new species, provide new records for six species, and establish a new synonymy.

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 1-5× macro lens, controlled by Zerene Stacker AutoMontage software. Measurements were taken in “mm” using measuring ocular Hensoldt/Wetzlar – Mess 10 in the Leica MZ6 stereomicroscope, also used in the study of the specimens. The references of the known species are restricted to the original descriptions. For full references, see Monné (2021) and Tavakilian & Chevillotte (2021).

The species were identified using original descriptions, redescriptions, photographs of the holotypes, and comparisons with specimens of the MZSP collection.

The collection acronyms used in the text are as follows: **FMNH** – Field Museum of Natural History, Chicago, Illinois, USA; **FSCA** – Florida State Collection of Arthropods, Gainesville, Florida, USA; **FWSC** – Frederick W. Skillman-Jr. collection, Phoenix, Arizona, USA; **MZSP** – Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil.

RESULTS

Eupogonius flavocinctus Bates, 1872 (Figs. 1A-1B)

Eupogonius flavocinctus Bates, 1872: 235.

Remarks: *Eupogonius flavocinctus* was described based on a single specimen from Nicaragua. Chemsak *et al.* (1992) recorded the species from Costa Rica. The material examined allows expanding the geographical distribution of this species considerable toward north. Therefore, it probably also occurs in intermediate countries (Honduras, El Salvador, Guatemala, and Belize).

According to Hovore (1989) on *Eupogonius cryptus* Hovore, 1989: "This species is very similar in appearance to *E. flavocinctus* Bates (Fig. 1A), and the two taxa have been placed as a single species in most collections. *Eupogonius cryptus* differs immediately by its paler pubescent pattern (yellowish-orange in *E. flavocinctus*), presence of submarginal elytral vittae, denser appressed body pubescence, slightly wider pronotum, and denser, more regular dorsal punctation. Also, the basal one-third of the fourth antennal segment, in *E. flavocinctus* is constricted, testaceous, sparsely pubescent, distinctly pale annulate." This information encompasses problems: 1. The color of the pubescent bands is variable in *E. flavocinctus*. In fact, the pubescent bands in the holotype are distinctly paler (see photographs on Bezark, 2021), and the allotype of *E. cryptus* (see photographs on Bezark, 2021) has the pubescent bands distinctly yellower. Furthermore, both pale and yellow pubescent bands may be present in the same specimen; 2. Although the pubescence on basal one-third of the antennomere IV is somewhat variable in *E. flavocinctus*, it is not as sparse as in the illustration presented by Hovore (1989), including in the holotype; 3. The color of the basal one-third (in fact, often basal half) of the antennomere IV is very variable and often, the antennomere is entirely dark; 4. The allotype of *E. cryptus* has the antennomere IV as described by Hovore (1989) to *E. flavocinctus*. Despite these contradictions, we are keeping *E. cryptus* as a different species. This is because according to Hovore (1989), the elytron in *E. cryptus* has four longitudinal pubescent bands, and all specimens of *E. flavocinctus* examined have three longitudinal pubescent bands. Even so, it is necessary to say that the holotype and allotype photographs do not allow us to see the "submarginal vitta extending from humerus to near apex" mentioned in the original description.

Material examined: MEXICO (**new country record**), Veracruz: E slope of Volcán San Martín Tuxtla, 2200', 2 ♂♂, 05.VII.1994, E.F. Giesbert leg. (FSCA); E slope of Volcán San Martín Tuxtla, 3000', 1 ♂, 1 ♀, 05.VII.1994, E.F. Giesbert leg. (FSCA); 18 mi. N San Andrés Tuxtla, 1 ♂, 1 ♀, VI.1954, Kissinger leg. (MZSP); Catemaco, 1 ♂, VI.1954, Kissinger leg. (MZSP); Dos Amates, 1 ♂, 18.VI.1969, Bright & Campbell leg. (MZSP). Chiapas: Sumidero Canyon, 4000', 7 ♂♂, 5 ♀♀, 14.VI.1987, E.F. Giesbert leg. (FSCA); 1 ♂, 15.VI.1987, E.F. Giesbert leg. (FSCA); Ruinas de Chinkultic, 1 ♂, 16.VI.1987, E.F. Giesbert leg. (FSCA); 22 km N Ocozocoautla, 1 ♂, 02.VII.1969, Bright & Campbell leg. (MZSP).

***Eupogonius boteroi* Wappes & Santos-Silva, 2020
(Figs. 1C-1E)**

Eupogonius boteroi Wappes & Santos-Silva, 2020: 12.

Remarks: *Eupogonius boteroi* was described based on a single female from Mexico (Guerrero). The males (Figs. 1C-1D) are similar to females (Fig. 1E), differing only by the antennae slightly longer, and by the shape of the ventrite 5, which is more flattened.

Material examined: MEXICO, Jalisco (**new state record**): MX80, km 206, road to El Coyame, 10 km N of La Huerta, 1 ♂, 1 ♀, 18.VII.2006, Skillman & Hildebrandt leg. (FWSC); 7 km N Autlán on rd. to Microondas San Francisco, 1 ♀, 19.VII.2006, Skillman & Hildebrandt leg. (FWSC); 1 ♀, 22.VIII.2011, Skillman & Turnbow leg. (FWSC); Hwy MX200, 21 km N Melaque Los Angeles Locos, 1 ♂, 10.VII.2006, Skillman & Hildebrandt leg. (FWSC); Jiquilpan, 1 ♀, 25.VII.2011, Skillman & Turnbow leg. (FWSC); 1.2 km S La Cumbre, 1 ♀, 21.VII.2011, Skillman & Turnbow leg. (FWSC); 2 ♂♂, 02.VIII.2011, Skillman & Turnbow leg. (FWSC); 19.2387, -104.70944, @ Pemex [Carretera Guadalajara – Barra de Navidad Puerto Vallarta km 80, San Patricio O Melaque, Cihuatlán], 1 ♂, 06.VII.2006, Skillman & Hildebrandt leg. (FWSC); 1 ♂, 22.VII.2006, Skillman & Hildebrandt leg. (FWSC); 1 ♂, 1 ♀, 05.VII.2018, Skillman & Limon leg. (FWSC); 20 km W Ciudad Guzmán rd Parque National Volcan Nevado de Colima, 1 ♂, 08.VII.2006, F.W. Skillman, D.C. Hildebrandt leg. (FWSC). Colima (**new state record**): 3 km SW Cofradía de Suchitlán, 4000', 1 ♀, 21.VII.1995, J. Rifkind leg. (FWSC); Hwy. 110, Tecolapa, 500', 1 ♀, 20.VII.1995, J. Rifkind leg. (FWSC). Michoacán de Ocampo (**new state record**): MX37, 37 km N of Lazaro Cardenas, 1 ♂, 15.VII.2006, Skillman & Hildebrandt leg. (FWSC). Guerrero: 6 km W El Veintidós, 1 ♂, 16-22.IX.1989, E. Giesbert leg. (FSCA). Chiapas (**new state record**): 19 km N Arriaga, 1 ♂, 23.VI.1987, E. Giesbert leg. (FSCA).

***Eupogonius azteca* Martins, Santos-Silva & Galileo, 2015
(Fig. 1F)**

Eupogonius azteca Martins, Santos-Silva & Galileo, 2015: 87.

Remarks: *Eupogonius azteca* was described based on a couple from Mexico (Veracruz and Chiapas). Wappes & Santos-Silva (2020) examined more males and females from Mexico (Chiapas), and Bezark *et al.* (2022) recorded the species from Guatemala (Suchitpeque). The specimens examined allow us to expand the geographic distribution in Mexico and Guatemala, and also to Honduras.

Material examined: MEXICO, Chiapas: 17 km W Tuxtla Gutierrez, 3300', 1 ♂, 27.VI-08.VII.1986, E. Giesbert leg. (FSCA); 3 ♂♂, 04-06.X.1986, E. Giesbert leg. (FSCA); 4 ♂♂, 4 ♀♀, 21-25.VI.1987, E. Giesbert leg. (FSCA); 33 km NE Tepanatepec, 1 ♀, 22.VI.1987, E. Giesbert leg. (FSCA). Guerrero (**new state record**): 6 km W El Veintidós, 1 ♀, 16-22.IX.1989, E. Giesbert leg. (FSCA). GUATEMALA, Zacapa (**new departement record**): San Lorenzo Quarry Rd, Sierra Las Minas, 15.050609, -89.670787, 675 m, 1 ♂, 29-31.V.2019, Skillman, Wappes & Monzón leg. (FWSC). HONDURAS (**new country record**), Copán: 19 km SW

Santa Rosa De Copán, 1 ♂, 07.X.1993, F.W. Skillman leg. (FWSC). *Francisco Morazán*: Zamorano, Zone 2, 14°00'N, 86°59'W, Nature trail, 2500', 2 ♀♀, 10-11.V.2017, Wappes & Kuckartz leg. (FSCA).

***Eupogonius subaeneus* Bates, 1872
(Fig. 1G)**

Eupogonius subaeneus Bates, 1872: 234.
Eupogonius columbianus Breuning, 1942: 161.

Remarks: *Eupogonius subaeneus* was described based on three specimens from Nicaragua. Bates (1880) expanded the geographical distribution to Guatemala and Costa Rica, and Bates (1885) included Mexico (Oaxaca, Veracruz) and Belize. Later, Aurivillius (1900) recorded the species from Venezuela. *Eupogonius columbianus* was described based on a single specimen from Colombia. Morvan & Roguet (2013) recorded *E. columbianus* from French Guiana. Recently, Wappes & Santos-Silva (2020) synonymized *E. columbianus* with *E. subaeneus*. Monné (2021) did not observe that this synonymy was established. Currently, *E. subaeneus* is known from Mexico (Oaxaca, Veracruz), Guatemala, Belize, Nicaragua, Costa Rica, Colombia, Venezuela, and French Guiana (Tavakilian & Chevillotte, 2021).

Material examined: MEXICO, *Chiapas (new state record)*: Hwy 190, 5 km S Ocosingo, 1 ♂, 15.VI.2009, Skillman & Hildebrandt leg. (FWSC). HONDURAS (**new country record**), *Santa Barbara*: 5 km W Concepción del Sur, 1 ♀, 10.X.1993, Skillman leg. (FWSC); El Merendón, lower slope, 1 ♂, 10.X.1993, Skillman leg. (FWSC). *Copán*: 19 km SW Santa Rosa de Copán, 2 ♂♂, 07.X.1993, Skillman leg. (FWSC). *Francisco Morazán*: Zamorano, Zone 2, 14°00'N, 86°59'W, Nature trail, 2500', 1 ♂, 2 ♀♀, 10-11.V.2017, Wappes & Kuckartz leg. (FSCA). PANAMA (**new country record**), *Panama*: Bayano Dist. 2.5 km W Ipeti, 2 ♂♂, 11-22.V.1996, Wappes, Huether & Morris leg. (FSCA); 5 km W of Ipeti, 1 ♂, 03.VI.1983, Wappes leg. (FSCA). *Colón*: 4.5 km E Palenque, 1 ♂, 25.IV.1992, Wappes leg. (FSCA).

***Eupogonius guerrerensis* Wappes & Santos-Silva,
2020
(Fig. 1H)**

Eupogonius guerrerensis Wappes & Santos-Silva, 2020: 10.

Remarks: *Eupogonius guerrerensis* was described based on a single male from Mexico (Guerrero). The specimens examined allow us to expand the geographic distribution in Mexico.

Material examined: MEXICO, *Jalisco (new state record)*: MX200, 1.2 km S La Cumbre, 2 ♂♂, 4 ♀♀, 19.VII.2011, Skillman & Turnbow leg. (FWSC); 3 km N Tomatlán, 1 ♂, 4 ♀♀, 13.VII.1985, E. Giesbert leg. (FSCA).

***Eupogonius arizonensis* Knull, 1954
(Fig. 2)**

Eupogonius arizonensis Knull, 1954: 127.
Eupogonius sonorensis Wappes & Santos-Silva, 2020: 9.
Syn. nov.

Eupogonius arizonensis was described based on two females from the United States of America (Arizona) (Figs. 2C-2J). Wappes & Santos-Silva (2020) described *E. sonorensis* based on males and females from Mexico (Sonora) and reported that it was similar to *E. arizonensis*, differing by the basal antennal segments proportionally shorter and slightly stouter. The specimens now examined allow us to see that these differences are just intra-specific variations. Therefore, I am synonymizing *E. sonorensis* with *E. arizonensis*.

Material examined: MEXICO, *Sinaloa (new state record)*: El Palmito, 5 ♂♂, 07.VIII.1983, E. Giesbert leg. (FSCA); 1 ♂, 02.VIII.1983, E. Giesbert leg. (MZSP); 1 ♂, 03.VIII.1983, E. Giesbert leg. (FSCA); 2-7 km W El Palmito, 1 ♀, 07.VIII.1983, E. Giesbert leg. (FSCA). *Jalisco*: 20.34558°N, 104.58154°W, MX525, 5 km W Los Volcanes, 1 ♂, 03.VII.2018, Skillman & J.F. Limon leg. (FWSC). GUATEMALA (**new country record**), *Zacapa*: 2 km S San Lorenzo, 5400', 1 ♂, 1 ♀, 03-05.VI.1989, E. Giesbert leg. (FSCA). *Baja Verapaz*: 19-24 km N Salamá, about 4500', 1 ♂, 25-31.V.1989, E. Giesbert leg. (FSCA); 24 km N Salamá, Pantín rd., 1 ♀, 21.V.1995, Giesbert & Monzón leg. (FSCA); Pantín, Finca Santa Rosa, 1 ♂, 02.VI.2019, Wappes, Monzón & Skillman leg. (FSCA). *Alta Verapaz*: Vic. Agua Blanca, 5100', 1 ♂, 01.VI.1989, E. Giesbert leg. (MZSP).

***Eupogonius pauper* LeConte, 1852**

Saperda vestita Say, 1827: 273.
Eupogonius pauper LeConte, 1852: 159.
Eupogonius fraxini Knull, 1918: 132.

Dillon & Dillon (1953) correctly observed the homonymy between *Saperda vestita* Say, 1824 and *S. vestita* Say, 1827, and used *Eupogonius pauper* LeConte, 1852 as a replaced name. Still according to them: "Other names, according to Knull (Ohio Biol. Surv. Bull. xxxix, 1946, p. 264), that might be available here are *E. fulvovestitus* Schaeef. and *E. fraxini* Knull, the ultimate solution depending on a revisional study of the genus." Evidently, the two names cannot be used as a replaced name because they are younger than *E. pauper*. Furthermore, *E. fulvovestitus* is distinctly different from *E. pauper*. According to Mawdsley (1993) only 10 specimens of Cerambycidae from Say's collection survived: *Moneilema inaequalis* Say, 1835 (one specimen) and nine undetermined specimens. Therefore, as the holotype of *Saperda vestita* did not survive, it is necessary to accept the current synonymy with *E. pauper*. According to Mawdsley (1993): "Following Say's death in 1834, the collection was shipped by his widow, Lucy Say, to the Academy of Natural Sciences in

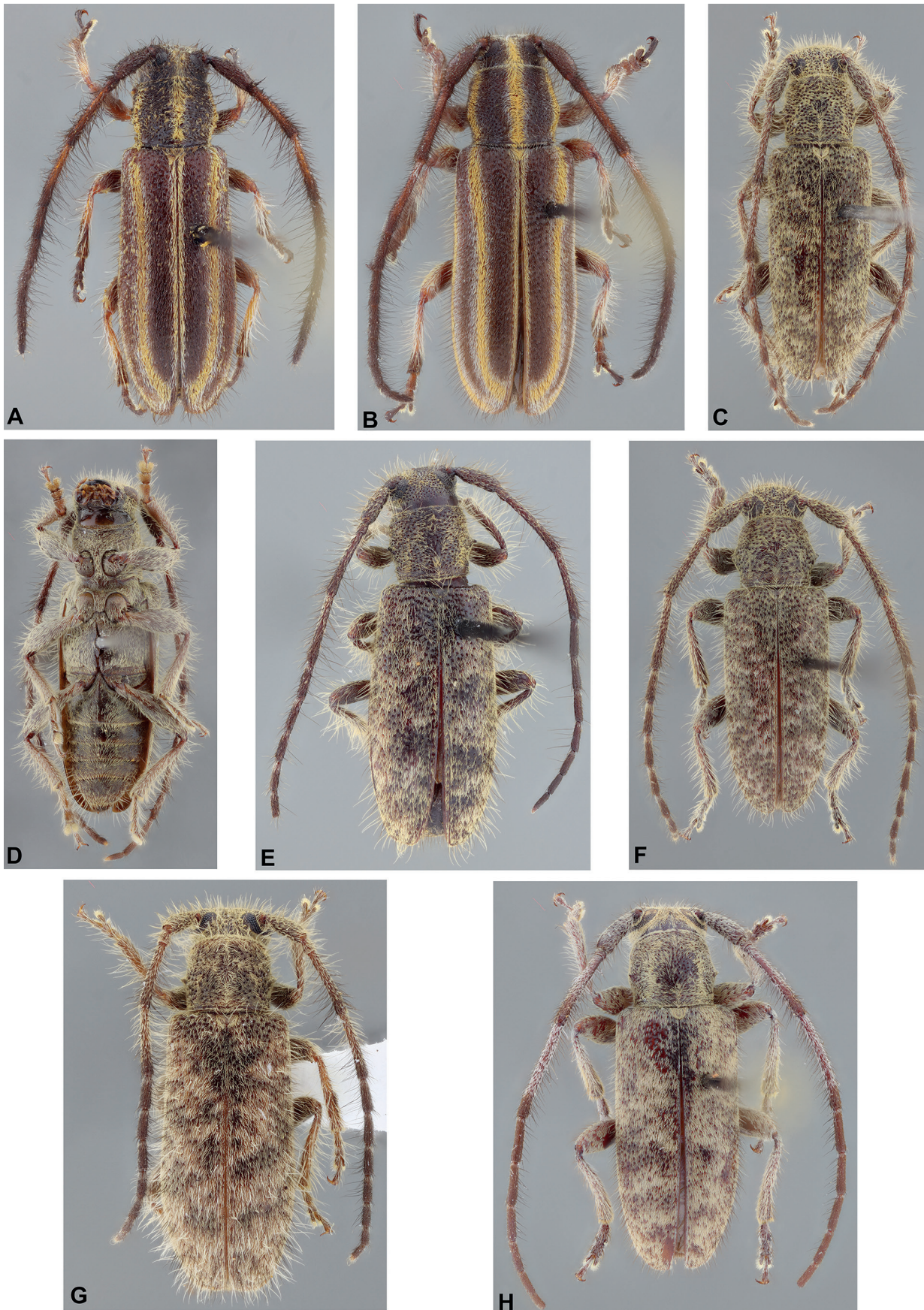


Figure 1. (A-B) *Eupogonius flavocinctus* Bates, 1872, female, dorsal habitus, specimens from Mexico (Chiapas, Sumidero Canyon): (A) Specimen 1; (B) Specimen 2. (C-D) *Eupogonius boteroi* Wappes & Santos-Silva, 2020, male from Mexico (Jalisco, 20 km Ciudad Guzmán): (C) Dorsal habitus; (D) Ventral habitus. (E) *Eupogonius boteroi*, female from Mexico (Jalisco, 1.2 km S La Cumbre), dorsal habitus. (F) *Eupogonius azteca* Martins, Santos-Silva & Galileo, 2015, dorsal habitus, male from Mexico (Chiapas, 17 km W Tuxtla Gutierrez). (G) *Eupogonius subaeneus* Bates, 1872, female from Honduras (Francisco Morazán, Zamorano), dorsal habitus. (H) *Eupogonius guerrerensis* Wappes & Santos-Silva, 2020, male from Mexico (Jalisco, 3 km N Tomatlán).

Philadelphia, where it was advanced in 1836 to T.W. Harris of Cambridge, Massachusetts, for proper curation. Harris was at the time librarian of Harvard College, and his official duties prevented him from examining the collection for almost a year ... When Harris finally was able to examine the collection, he found that many specimens had been destroyed or disarticulated by dermestid larvae." It is possible that some specimens used by Thomas Say to describe new species did not belong to his private collection. However, there is no evidence of this in the description of *Saperda vestita*.

Knull (1946) synonymized *Eupogonius fraxini*, *E. fulvovestitus* Schaeffer, 1905, and *E. pauper* with *E. vestitus* (Say). Knull (1954) revalidated *E. fulvovestitus*. Comparing photographs of the holotype of *E. fraxini* with photographs of the holotype of *E. pauper* (see photographs on Bezark, 2021), it appears that they are not synonyms. In the holotype of *E. pauper*, the prothorax is distinctly narrower in the holotype of *E. fraxini*. However, I prefer do not revalidate *E. fraxini* without a detailed comparison of the holotypes and additional specimens. *Eupogonius pauper* is somewhat similar to *E. arizonensis*, but differs especially by the distance between upper eye lobes much wider: almost twice the maximum diameter of the scape in *E. pauper*; equal or narrower than the maximum diameter of the scape in *E. arizonensis*.

***Eupogonius rileyi* sp. nov.**
(Fig. 3)

Description: Holotype female: Head capsule dark brown except dark reddish-brown ventral surface; anteclypeus yellowish brown close to postclypeus, dark reddish brown close to labrum; labrum dark reddish brown close to anteclypeus, yellowish brown anteriorly; mandibles dark reddish brown basally, black apically; ventral mouthparts mostly yellowish brown with some areas more brownish or reddish brown; scape and pedicel dark reddish brown; antennomere III dark reddish brown on basal half, gradually lighter on apical half; antennomere IV dark reddish brown on basal $\frac{2}{3}$, brown on apical third; antennomeres V-XI brown, except yellowish-brown apex of XI. Prothorax dark reddish brown, darker on margins. Ventral surface of mesothorax dark reddish brown centrally, except dark margins, dark brown laterally. Ventral surface of metathorax dark reddish brown, except blackish posterocentral area of metaventricle. Elytra mostly brown with blackish punctures. Femora dark orangish brown, except large blackish macula on sides of club. Tibiae dark reddish brown basally and apically, orangish brown on wide central area. Tarsi mostly dark brown. Ventral surface of abdomen reddish brown, except dark brown central area of ventrite 5.

Head: Frons coarsely, abundantly punctate; with dense yellowish-brown pubescence obscuring integument, and long, erect whitish setae interspersed, and a few long, erect brownish setae close to eyes. Vertex and area behind upper eye lobes coarsely, moderately sparse-

ly punctate, except central area of vertex with finer and sparser punctures close to prothorax; with yellowish-brown pubescence, obscuring integument close to eyes, not obscuring on wide triangular area of vertex close to prothorax (pubescence gradually sparser toward prothorax); with long, erect whitish setae interspersed. Area behind lower eye lobes with dense yellowish-brown pubescence close to eye, and with long, erect whitish setae interspersed, glabrous close to prothorax. Genae with yellowish-brown pubescence obscuring integument, more pale yellow anteriorly, except almost glabrous apex; with long, erect whitish setae interspersed. Postclypeus with pubescence and erect setae as on frons. Labrum coplanar with anteclypeus at posterior $\frac{2}{3}$, inclined at anterior third; with yellowish-brown pubescence not obscuring integument on posterior third, and long, erect yellowish setae interspersed, erect setae longer, more abundant and yellower laterally; anterior third with long, erect yellowish setae. Gulamentum smooth, glabrous, except narrow anterior area with dense yellowish-brown pubescence, and long, erect whitish setae interspersed. Area of connection between eye lobes with a single row of ommatidia; distance between upper eye lobes 0.45 times distance between outer margins of eyes; in frontal view, distance between lower eye lobes 0.67 times distance between outer margins of eyes. Antennae 1.25 times elytral length, reaching the posterior eighth of elytra. Scape abruptly widened basally, then subcylindrical toward apex; coarsely, abundantly punctate; with abundant yellowish-brown pubescence partially obscuring integument and long, both whitish and brown erect setae interspersed. Pedicel with pubescence and erect setae as on scape. Antennomere III (Fig. 3C) somewhat coarsely, abundantly punctate, slightly widened on posterior third; with abundant yellowish-brown pubescence not obscuring integument, long, erect brown setae interspersed throughout, more abundant ventrally, and a few long, erect yellowish setae interspersed. Antennomere IV (Fig. 3C) distinctly widened on apical third; with abundant pale yellow pubescence not obscuring integument on basal $\frac{2}{3}$, and shorter brown pubescence on apical quarter; with long, erect, abundant yellowish setae throughout on basal $\frac{2}{3}$, longer and more abundant ventrally, and long, erect brown setae ventrally on apical third. Antennomeres V-XI with abundant, short brown pubescence, except apex of XI with pale yellow pubescence; antennomeres V-X with long, erect, sparse brown setae ventrally. Antennal formula based on length of antennomere III: scape = 0.83; pedicel = 0.20; IV = 1.08; V = 0.55; VI = 0.48; VII = 0.48; VIII = 0.41; IX = 0.38; X = 0.31; XI = 0.45.

Thorax: Prothorax wider than long; sides with small, conical tubercle on middle. Pronotum coarsely, moderately sparsely punctate; with abundant yellowish-brown pubescence not obscuring integument, distinctly denser laterally, and slightly denser on longitudinal central region; with long, erect whitish setae interspersed. Sides of prothorax with sculpturing as on pronotum; with abundant yellowish-brown pubescence not obscuring



Figure 2. *Eupogonius arizonensis* Knoll, 1954. (A) Male from Mexico (Sinaloa, El Palmito), dorsal habitus. (B) Female from Mexico (Sinaloa, El Palmito), dorsal habitus. (C-E) Holotype female: (C) Dorsal habitus; (D) Ventral habitus; (E) Lateral habitus. (F-H) Paratype female: (F) Dorsal habitus; (G) Ventral habitus; (H) Lateral habitus. (I-J) Labels: (I) Holotype; (J) Paratype.

integument, and long, erect whitish setae interspersed. Prosternum finely, sparsely punctate; with abundant yellowish-brown pubescence not obscuring integument, denser laterally, and long, erect whitish setae interspersed. Prosternal process with abundant pale yellow pubescence obscuring integument and long, erect whitish setae interspersed; narrowest area 0.38 times procoxal with. Ventral surface of mesothorax with abundant yellowish-brown pubescence, denser laterally. Mesoventral process abruptly elevated anteriorly, slightly longitudinally concave, slightly narrowed toward apex; apical area 0.4 times mesocoxal width; with abundant yellowish-brown pubescence on center of basal half, and yellowish-white pubescence on remaining surface. Ventral surface of metathorax with dense yellowish-brown on metanepisternum, sides, anterior and posterior areas of metaventrite (except central area of posterior area); remaining surface of metaventrite with yellowish-white pubescence not obscuring integument, and long erect, sparse setae of same color interspersed. Scutellum with dense yellowish-brown pubescence, forming fringe on

margins, and a few long, erect whitish setae interspersed.

Elytra: Coarsely, moderately abundantly punctate on basal half, punctures gradually finer, sparser toward apex on apical third; with abundant yellowish-brown pubescence not obscuring integument, slightly paler yellow and denser basally and some irregular areas; with long, erect, both yellowish and brown setae interspersed (brown setae more abundant on posterior $\frac{2}{3}$); apex rounded. **Legs:** Femora subfusiform; with abundant yellowish-brown pubescence, partially obscuring integument on some areas, and long, erect, yellowish setae interspersed. Tibiae with abundant yellowish pubescence not obscuring integument, except apical $\frac{2}{3}$ of ventral surface of protibiae with bristly yellowish-brown pubescence; with long, erect, abundant yellowish-white setae interspersed, longer dorsally, except on apical $\frac{2}{3}$ of ventral surface of protibiae. Metatarsomere I sorter than II-III together.

Abdomen: Ventrites with abundant yellowish pubescence not obscuring integument, and fringe of dense



Figure 3. *Eupogonius rileyi* sp. nov., holotype female: (A) Dorsal habitus; (B) Ventral habitus; (C) Antennomeres III and IV; (D) Lateral habitus; (E) Head, frontal view.

yellow pubescence on apex of 1-4; with long, erect yellowish setae interspersed, more abundant laterally; posterior quarter of ventrite 5 inclined, with apex truncate.

Dimensions (mm): Total length, 8.60; prothoracic length, 1.60; anterior prothoracic width, 1.65; posterior prothoracic width, 1.75; maximum prothoracic width, 2.00; humeral width, 2.60; elytral length, 6.10.

Type material: Holotype female from COSTA RICA, *Puntarenas*: Monteverde, 26.V-03.VI.1984, E. Riley, D. Rider & D. LeDoux leg. (FSCA).

Etymology: This species is dedicated to Edward G. Riley, one of the collectors of the holotype, for his contributions to Coleoptera.

Remarks: *Eupogonius rileyi* **sp. nov.** is similar to *E. comus* Bates, 1885 (see photographs on Bezark, 2021) from Mexico, but differs as follows: erect setae on the ventral surface of antennomeres V-X sparse (not sexual dimorphism); elytra unicolorous; elytra with dense pubescence on circum-scutellar region and the remaining has no distinct areas with sparse pubescence. In *E. comus*, the erect setae on ventral surface of antennomeres V-X are moderately abundant, the elytra are bicolorous, has a large triangular area with sparse pubescence on circum-scutellar region, and the remaining surface has irregular areas with distinct sparse pubescence. Additionally, the antennae in the holotype female of *E. rileyi* are much shorter than in males of *E. comus*, which is not the case in other species of the genus, in which the antennae are only slightly longer in males. It differs from females of *E. intonsus* Martins & Galileo, 2012 (see photograph on Bezark, 2021) by the distinctly larger than the maximum scape diameter (about as wide as the maximum scape diameter in *E. intonsus*), and antennae not reaching the elytral apex (surpassing the elytral apex in *E. intonsus*); from *E. major* Bates, 1885 (see photographs on Bezark, 2021) by the antennomeres V-X without pale pubescence contrasting with integument color (with pale pubescence contrasting with integument color in *E. major*), and antennomere IV distinctly widened toward apex (Fig. 3C) (cylindrical in *E. major*); and differs from *E. triangularis* Linsley, 1935 (see photographs on Bezark, 2021) by the antennomeres V-X without pale pubescence contrasting with integument color (with pale pubescence contrasting with integument color in *E. triangularis*).

***Eupogonius similis* sp. nov.**
(Figs. 4A-4D, 5A-5C)

Description: Holotype female (Figs. 4A-4D, 5B-5C): Integument mostly dark brown; parts of ventral mouthparts brownish; basal third of antennomeres III-IV dark reddish brown; base of antennomeres V-VIII dark reddish brown, darker than on III-IV (distinct only in bright light); apex of antennomere XI yellowish brown. Base of pronotum dark reddish brown. Elytra with irregular red-

dish-brown areas (all of them corresponding to regions where pubescence forms maculae). Apex of femora dark orangish brown. Anterior $\frac{3}{4}$ of tibiae dark orangish brown, except dark brown base.

Head: Frons moderately coarsely, abundantly punctate; with abundant yellowish-brown pubescence not obscuring integument close to eyes and toward vertex, pale yellow toward clypeus, with long, erect white setae interspersed on wide central area, and long, erect brown setae interspersed close to eyes. Vertex and area behind upper eye lobes with sculpturing as on frons; with abundant yellowish-brown pubescence partially obscuring integument, except sparser pubescence on central area close to prothorax of vertex; with a few long, erect brown setae close to eyes. Area behind lower eye lobes moderately coarsely, abundantly punctate (punctures slightly coarser than on vertex toward ventral surface); with abundant yellowish-brown pubescence not obscuring integument, and long, erect white setae interspersed. Genae somewhat finely, sparsely punctate except smooth apex; with pale yellow pubescence partially obscuring integument, except glabrous smooth area, and long, erect white setae interspersed. Postclypeus with pale yellow pubescence not obscuring integument (pubescence more yellowish-brown laterally), and long, erect yellowish setae interspersed. Labrum coplanar with anteclypeus at posterior half, inclined at anterior half; with brownish pubescence not obscuring integument, and long, erect yellowish setae interspersed; anterior margin with dense fringe of golden setae. Gula mentum smooth and glabrous, except narrow anterior region slightly depressed and with yellowish-white pubescence not obscuring integument. Area of connection between eye lobes with irregular row of ommatidia; distance between upper eye lobes 0.37 times distance between outer margins of eyes; in frontal view, distance between lower eye lobes 0.75 times distance between outer margins of eyes. Antennae 1.4 times elytral length, reaching elytral apex. Scape moderately coarsely, abundantly punctate; with brownish pubescence partially obscuring integument (pubescence more brownish close to apex); with long, erect dark setae dorsally, and both, brownish and white setae interspersed ventrally (erect setae longer ventrally). Pedicel with brownish pubescence partially obscuring integument, and yellowish-brown pubescence and long, erect setae interspersed throughout. Antennomere III with yellowish-white pubescence on basal third, brown on remaining surface; with long, erect, moderately abundant brown setae interspersed throughout (erect setae longer ventrally); antennomere IV with yellowish-white pubescence on basal third, brown on remaining surface; with long, erect white setae interspersed on basal third, brown on remaining surface (erect setae longer ventrally); antennomeres V-X with dark pubescence, short whitish setae interspersed, short, erect brown setae interspersed dorsally, and long, erect brown setae interspersed ventrally; antennomere XI with dark pubescence on dark area, whitish on apical area. Antennal formula based on length of antennomere III:



Figure 4. (A-D) *Eupogonius similis*, holotype female: (A) Dorsal habitus; (B) Ventral habitus; (C) Lateral habitus; (D) Head, frontal view. (E-F) *Eupogonius similis*, paratype male: (E) Dorsal habitus; (F) Ventral habitus. (G) *Eupogonius pubicollis* Melzer, 1933, paratype male, dorsal habitus.

scape = 0.64; pedicel = 0.18; IV = 0.85; V = 0.40; VI = 0.40; VII = 0.36; VIII = 0.30; IX = 0.30; X = 0.24; XI = 0.33.

Thorax: Prothorax wider than long; sides with moderately short, conical tubercle about middle. Pronotum moderately coarsely, abundantly punctate; slightly tumid on sides of central area; with yellowish-brown pubescence not obscuring integument, slightly denser laterally and centrally, except almost glabrous sub-elliptical area placed on middle of central area; with long, erect dark setae interspersed, especially on sides, and a few long, erect yellowish-white setae interspersed on sides of anterior third. Sides of prothorax moderately coarsely and abundantly punctate; with abundant yellowish-brown pubescence not obscuring integument, and long, erect yellowish-white setae interspersed (erect setae appearing to be whiter depending on light intensity). Prosternum moderately coarsely, sparsely punctate; with yellowish-brown pubescence not obscuring integument, and long, erect yellowish setae interspersed (appearing to be whiter depending on light intensity). Prosternal process with yellowish-white pubescence basally, gradually yellower toward apex; narrowest area 0.25 times procoxal width. Mesoventrite with sparse yellowish-white pubescence centrally, denser, yellowish-brown laterally; mesanepisternum with yellowish-brown pubescence, distinctly sparser centrally; mesepimeron with abundant

yellowish-brown pubescence. Metanepisternum with yellowish-brown pubescence not obscuring integument, gradually sparser toward apex. Metaventrite moderately finely, sparsely punctate laterally and anteriorly, smooth on remaining surface; with yellowish-brown pubescence not obscuring integument laterally and close to meso- and metacoxal cavities, and yellowish-white pubescence not obscuring integument on remaining surface; with long, erect whitish setae interspersed. Scutellum with abundant yellowish-brown pubescence not obscuring integument (denser apically). **Elytra:** Coarsely, abundantly punctate on basal half, punctures gradually finer, slightly sparser toward apex; apex individually rounded; with large, irregular yellowish-white pubescent maculae throughout, except yellowish-brown pubescence on base; area between these maculae glabrous or with sparse yellowish-brown pubescence; with long, erect, abundant dark setae throughout. **Legs:** Femora with yellowish-white pubescence not obscuring integument on anterior $\frac{3}{4}$, denser, yellowish-brown on posterior quarter; with long, erect whitish setae interspersed. Protibiae with yellowish-white pubescence not obscuring integument dorsally and laterally, shorter, more abundant, yellowish-brown on anterior $\frac{3}{4}$ of ventral surface, dark brown on posterior quarter of ventral surface; dorsal and lateral surfaces with long, erect, abundant whitish setae. Meso- ant metatibiae with yellowish-white pubescence

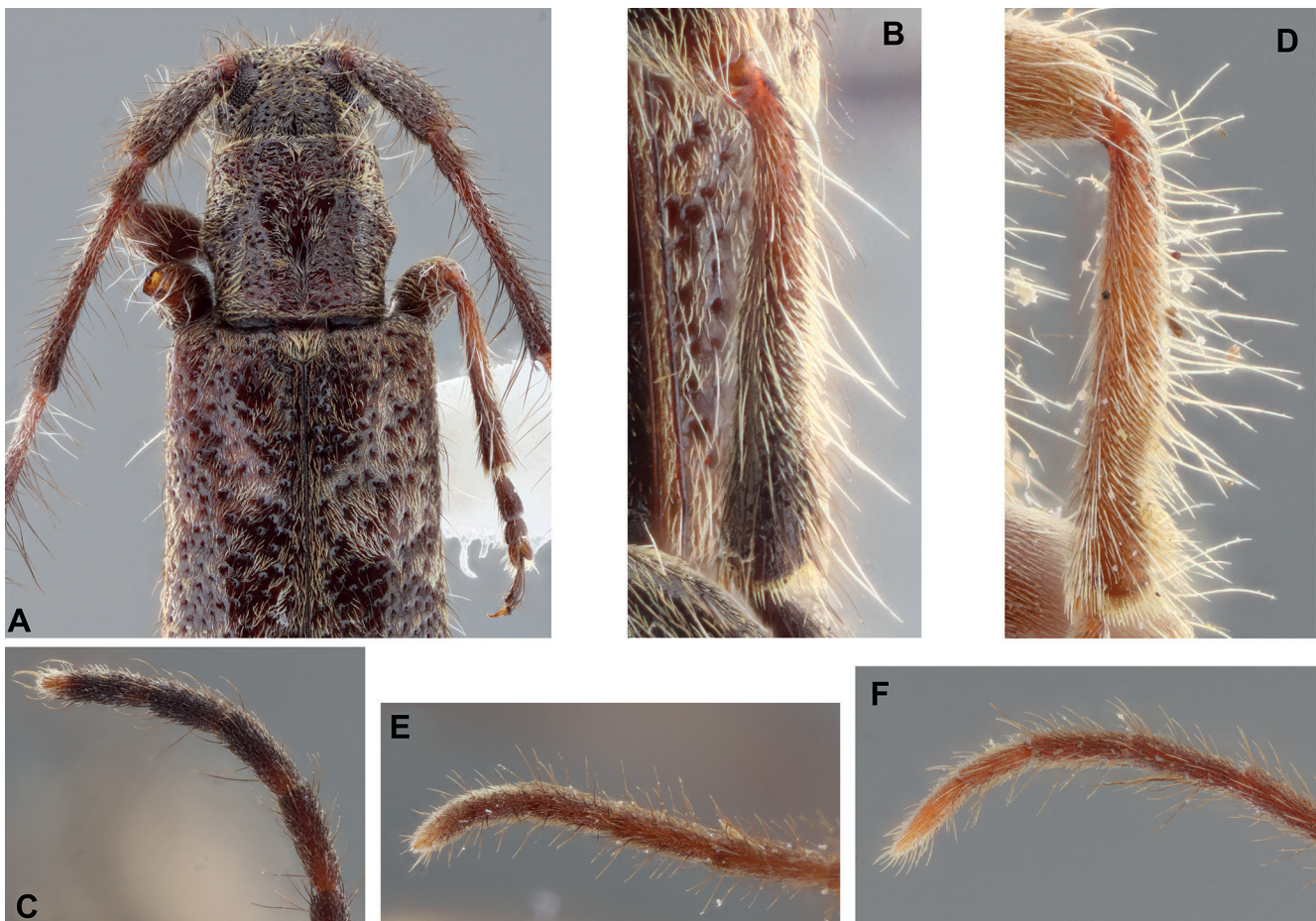


Figure 5. (A-C) *Eupogonius similis*: (A) Paratype male, partial dorsal habitus; (B) Holotype female, mesotibia; (C) Holotype female, antennomeres VIII-XI. (D-F) *Eupogonius pubicollis*, paratypes: (D) Specimen 1, mesotibiae; (E) Specimen 1, antennomeres VIII-XI; (F) Specimen 2, antennomeres VIII-XI.

not obscuring integument, except dark brown pubescence on posterior quarter, and long, erect, abundant whitish setae interspersed; dorsal surface of mesotibiae not sulcate. Metatarsomere I slightly longer than II-III together.

Abdomen: Ventrites 1-4 with sparse yellowish-white pubescence, except dense yellowish-brown pubescence on apex of sides of ventrites 1-3 and nearly entire sides of ventrite 4. Ventrite 5 with minute yellowish-white pubescence, except slightly longer and yellower pubescence on sides and posterior quarter. All ventrites with long, erect, sparse yellowish-white setae interspersed, especially laterally. Apex of ventrite 5 truncate.

Male (Figs. 4E-4F, 5A): Differ from females by the slightly longer antennae, 1.5 times elytral length, reaching elytral apex at posterior third of antennomere X, antennomere IV as long as III, and apex of ventrite 5 centrally emarginate.

Variations: Basal third of antennomere III brown, slightly lighter than remaining surface of the antennomere; basal third of dorsal surface and basal $\frac{2}{3}$ of ventral surface of antennomere IV orangish brown; basal third of dorsal surface of antennomeres V-VIII and basal quarter of IX dark orangish-brown; ventral surface of antennomeres V-VIII almost entirely orangish brown; basal half of antennomere IX orangish brown. Elytra with abundant and irregular orangish-brown maculae. Pubescence on vertex and area behind upper eye lobes short, not obscuring integument; central area of vertex with brownish pubescence. Area of connection between eye lobes with two irregular rows of ommatidia. Prothorax as long as wide (Fig. 5A). Prosternum almost smooth on anterior quarter; with sparse yellowish-white pubescence, and a few long, erect setae interspersed. Erect setae on prosternal process sparser and brownish. Scutellum from almost glabrous to with dense yellowish-brown pubescence obscuring integument.

Dimensions (mm) (holotype female/paratypes male/paratypesfemale): Total length, 7.20/5.10-7.25/5.90-6.15; prothoracic length, 1.30/0.90-1.20/1.00-1.05; anterior prothoracic width, 1.35/0.95-1.20/1.05-1.10; posterior prothoracic width, 1.40/1.00-1.25/1.10-1.15; maximum prothoracic width, 1.55/1.15-1.45/1.25-1.35; humeral width, 2.05/1.55-1.85/1.70-1.75; elytral length, 5.15/3.55-4.55/4.25-4.40.

Type material: Holotype female from GUATEMALA, *El Progreso*: Above Los Albores, 8000', 07-08.V.1991, E. Giesbert leg. (FSCA). Paratypes – GUATEMALA, *El Progreso*: 2 ♂♂, 2 ♀♀, same data as holotype (2 ♂♂, 1 ♀, FSCA; 1 ♀, MZSP); 21 km N Estación de La Virgen, 8000', 1 ♂, 03.VI.1991, J.E. Wappes leg. (FSCA). *Jalapa*: 12 km E Mataquescuintla, 1 ♂, 12.VI.1991, J.E. Wappes leg. (MZSP).

Etymology: Latin, "similis" (similar, resembling); allusive to the resemblance to *Eupogonius pubicollis* Melzer, 1933.

Remarks: *Eupogonius similis* sp. nov. is similar to *E. pubicollis* Melzer, 1933 (Fig. 4), but differs especially by the mesotibiae not sulcate dorsally (Fig. 5B), while it is distinctly sulcate in *E. pubicollis* (Fig. 5D). Additionally, the pronotal pubescence is always less dense than in all specimens of *E. pubicollis* examined, and the antennomere XI is always dark brown. *Eupogonius pubicollis* Melzer, 1933 has some features very variable regardless of sex: antennomere XI pale (Fig. 5F) or brown with only the apex of XI pale (Fig. 5E); prothorax from distinctly slender and elongate (Fig. 4G) to moderately short and wide. However, the other features, as for example the elytral pubescent pattern, bicolorous color of the erect setae on antennomere IV, are very constant. *Eupogonius similis* also has some features very variable, which includes the prothoracic shape. Therefore, the shape of the mesotibiae is the most reliable feature that allows these two species to be separated. *Eupogonius similis* is also similar in the general appearance to *E. boteroi* (Fig. 1E). However, they differ as follows: upper eye lobes narrower, maximum width narrower than half the diameter of the apex of the scape in both sexes (Fig. 5A); ommatidia (Fig. 5A) smaller, finer than most punctures on the vertex; prothoracic lateral tubercles conical (subtriangular-shaped). In *E. boteroi* (Fig. 1E), the upper eye lobes are wider, maximum width larger than half the diameter of the scape in both sexes, ommatidia larger, coarser than most punctures on the vertex, and the lateral tubercles of the prothorax have a subcylindrical projection apically.

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REFERENCES

- Aurivillius, C. 1900. Verzeichniss der von Dr. F. Meinert im Jahre 1891 in Venezuela gesammelten Cerambyciden. *Öfversigt Svenska Vetenskaps-Akademiens Förhandlingar*, 57: 409-421.
- Bates, H.W. 1872. On the longicorn Coleoptera of Chontales, Nicaragua. *The Transactions of the Entomological Society of London*, 1872: 163-238.
- Bates, H.W. 1880. Longicornia. In: Godman, F.D. & Salvin, O. (Eds). *Biologia Centrali-Americana, Insecta, Coleoptera*. Vol. 5. London, Taylor and Francis. p. 17-152 xii + 525 pp. [1879-1885].

- Bates, H.W. 1885. Supplement to Longicornia., In: Godman, F.D. & Salvin, O. (Eds). *Biologia Centrali-Americana, Insecta, Coleoptera*. Vol. 5. London, Taylor and Francis. p. 249-436 xii + 525 pp. [1879-1885].
- Bezark, L.G. 2021. *A photographic Catalog of the Cerambycidae of the World*. New World Cerambycidae Catalog. Available: <http://bezbycids.com/byciddb/wdefault.asp?w=n>. Access: 26/09/2021.
- Bezark, L.G.; Botero, J.P. & Santos-Silva, A. 2022. A new genus and seven new species of Neotropical Lamiinae (Coleoptera, Cerambycidae) with taxonomic notes. *Faunitaxys*, 10(1): 1-20.
- Breuning, S. 1942. Novae species Cerambycidarum. XI. *Folia Zoologica et Hydrobiologica*, 11: 113-175.
- Chemsak, J.A.; Linsley, E.G. & Noguera, F.A. 1992. *Listados faunísticos de México*. II. Los Cerambycidae y Disteniidae de Norteamérica, Centroamérica y las Indias Occidentales (Coleoptera). Mexico, Universidad Nacional Autónoma de México. 204p.
- Dillon, L.S. & Dillon, E.S. 1953. A change of name in the Cerambycidae, with other notes. *Entomological News*, 64: 260-261.
- Hovore, F.T. 1989. Records and descriptions of Costa Rican Cerambycidae, Part I: the Turrialba Valley. *Insecta Mundi*, 3(4): 249-260.
- Knull, J.N. 1918. A new Species of *Eupogonius* (Coleoptera, Cerambycidae) from Pennsylvania. *Entomological News*, 29(4): 132-133.
- Knull, J.N. 1946. The long-horned beetles of Ohio (Coleoptera, Cerambycidae). *Bulletin of the Ohio Biological Survey*, 39: 133-354.
- Knull, J.N. 1954. A new North American *Eupogonius* with note (Coleoptera: Cerambycidae). *Entomological News*, 65(5): 127-128.
- LeConte, J.L. 1852. An attempt to classify the longicorn Coleoptera of the part of America, north of Mexico. *Journal of the Academy of Natural Sciences of Philadelphia*, (2)2: 139-178.
- Martins, U.R.; Santos-Silva, A. & Galileo, M.H.M. 2015. Fourteen new species, one new genus, and eleven new country or state records for New World Lamiinae (Coleoptera, Cerambycidae). *Zootaxa*, 3980(1): 81-105.
- Mawdsley, J.R. 1993. The entomological collection of Thomas Say. *Psyche*, 100(3-4): 163-171.
- Monné, M.A. 2021. *Catalogue of the Cerambycidae (Coleoptera) of the Neotropical region. Part II. Subfamily Lamiinae*. Available: <https://cerambycids.com/catalog>. Access: 09/10/2021.
- Morvan, O. & Roguet, J.-P. 2013. Inventaire des Cerambycidae de Guyane (Coleoptera). *Supplement au Bulletin de liaison d'ACOREP France "Le Coleopteriste"*, 7: 3-44.
- Say, T. 1827. Descriptions of new species of coleopterous inhabiting the United States. *Journal of the Academy of Natural Sciences of Philadelphia*, 5(2): 237-284.
- Tavakilian, G.L. & Chevillotte, H. 2021. *Titan: base de données internationales sur les Cerambycidae ou Longicornes*. Available: <http://titan.gbif.fr>. Access: 09/10/2021.
- Wappes, J.E. & Santos-Silva, A. 2020. Nomenclatural notes on some currently known species of *Eupogonius* LeConte, 1852 (Coleoptera: Cerambycidae: Lamiinae) and description of seven new species. *Insecta Mundi*, 748: 1-20.