Zootaxa 4423 (1): 001–085
http://www.mapress.com/j/zt/

Monograph

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

https://doi.org/10.11646/zootaxa.4423.1.1
http://zoobank.org/urn:lsid:zoobank.org:pub:4F320942-FF74-4B36-80B0-30CA224C5DE3

ZOOTAXA

4423

On the West Indian weevil genus *Lachnopus* Schönherr, 1840 (Coleoptera: Curculionidae: Entiminae): descriptions of six new species, a proposal for species-groups, and an annotated checklist

JENNIFER C. GIRÓN[1], CHARLES W. O'BRIEN[2] & M. CHRISTINE ROSE-SMYTH[3]

[1]*Department of Ecology & Evolutionary Biology & Division of Entomology, Biodiversity Institute, University of Kansas, Lawrence, KS 66045, USA. E-mail: entiminae@gmail.com*

[2]*2313 W. Calle Balaustre, Green Valley, AZ 85622, USA. E-mail: cobrien6@cox.net*

[3]*Verdant Isle Orchid Research, P.O. Box 2818, Grand Cayman KY1-1112, Cayman Islands. E-mail: mcrscay@gmail.com*

Magnolia Press
Auckland, New Zealand

Accepted by R. Anderson: 2 Feb. 2018; published: 28 May 2018

JENNIFER C. GIRÓN, CHARLES W. O'BRIEN & M. CHRISTINE ROSE-SMYTH
On the West Indian weevil genus *Lachnopus* Schönherr, 1840 (Coleoptera: Curculionidae: Entiminae): descriptions of six new species, a proposal for species-groups, and an annotated checklist
(*Zootaxa* 4423)

85 pp.; 30 cm.

28 May 2018

ISBN 978-1-77670-372-2 (paperback)

ISBN 978-1-77670-373-9 (Online edition)

FIRST PUBLISHED IN 2018 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: magnolia@mapress.com

http://www.mapress.com/j/zt

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

Table of contents

Abstract 4
Resumen 5
Introduction 5
Materials and methods 6
Description of new species 7
Lachnopus cozumelus Girón & O'Brien sp. nov. 7
Lachnopus karphos Girón & O'Brien sp. nov. 10
Lachnopus lucayanus Girón & O'Brien sp. nov. 14
Lachnopus petilusquamus Girón & O'Brien sp. nov. 18
Lachnopus rhabdotus Girón & O'Brien sp. nov. 22
Lachnopus vanessablockae Girón & O'Brien sp. nov. 25
Lachnopus species-groups 31
Annotated checklist of the extant species of *Lachnopus* Schönherr, 1840: 380 41
Lachnopus Schönherr, 1840: 380 43
Lachnopus acunae de Zayas, 1988: 160 43
Lachnopus acuticollis (Gyllenhal), 1834: 37 44
Lachnopus aereus (Gyllenhal), 1834: 40 44
Lachnopus alboguttatus Marshall, 1934: 622 44
Lachnopus albomaculatus (Gyllenhal), 1834: 37 44
Lachnopus argus (Reiche), 1840: 275 45
Lachnopus atramentarius (Gyllenhal), 1834: 33 45
Lachnopus aulicus (Gyllenhal), 1834: 35 45
Lachnopus aurifer (Drury), 1773: 68 46
Lachnopus bellus Marshall, 1926: 54 46
Lachnopus bivirgatus Marshall, 1934: 621 46
Lachnopus bruneri Marshall, 1933: 59 47
Lachnopus buchanani Marshall, 1933: 59 47
Lachnopus cabocruz de Zayas, 1988: 162 47
Lachnopus campechianus Gyllenhal, 1840: 388 47
Lachnopus canescens Gyllenhal, 1840: 388 48
Lachnopus chirographus (Olivier), 1807: 334 48
Lachnopus chlorophanus (Gyllenhal), 1834: 39 48
Lachnopus coffeae Marshall, 1922: 60 49
Lachnopus consentaneus Perroud, 1853: 487 [103] 49
Lachnopus cozumelus Girón & O'Brien sp. nov. 50
Lachnopus cristalensis de Zayas, 1988: 161 51
Lachnopus curvipes (Fabricius), 1787: 113 52
Lachnopus dentipes Perroud, 1853: 489 [105] 58
Lachnopus distortus Gyllenhal, 1840: 393 58
Lachnopus festivus de Zayas, 1988: 159 58
Lachnopus floridanus Horn, 1876: 101 58
Lachnopus gowdeyi Marshall, 1926: 531 59
Lachnopus granicollis Gyllenhal, 1840: 390 60
Lachnopus guerinii Jacquelin du Val, 1857: 185 61
Lachnopus guttatupunctatus de Zayas 1988: 155 61
Lachnopus hirtus Perroud, 1853: 484 [100] 61
Lachnopus hispidus (Gyllenhal), 1834: 34 61
Lachnopus histrio Marshall, 1926: 534 62
Lachnopus inconditus Rosenschoeld, 1840: 383 62
Lachnopus interruptus Perroud, 1853: 475 [91] 63
Lachnopus karphos Girón & O'Brien sp. nov. 64
Lachnopus kofresi Wolcott, 1941: 104 64
Lachnopus leonorae de Zayas, 1988: 165 64
Lachnopus lineatoguttatus Perroud, 1853: 468 [84] 64
Lachnopus lineicollis (Chevrolat), 1880: 175 65
Lachnopus lucayanus Girón & O'Brien sp. nov. 65
Lachnopus luctuosus (Klug), 1829: 13 65
Lachnopus luxurians (Olivier), 1807: 334 66
Lachnopus magdae de Zayas, 1988: 164 66
Lachnopus mayari de Zayas, 1988: 156 66
Lachnopus memnonius (Gyllenhal), 1834: 42 66
Lachnopus mercator (Olivier), 1807: 335 66

Lachnopus multipunctatus Jacquelin du Val, 1857: 190 67
Lachnopus mundus (Gyllenhal), 1834: 31 67
Lachnopus niveoirroratus Jacquelin du Val, 1857: 189 67
Lachnopus oteroi Marshall, 1933: 60 68
Lachnopus petilusquamus Girón & O'Brien sp. nov. 68
Lachnopus planifrons Gyllenhal, 1840: 385 68
Lachnopus plebejus (Gyllenhal), 1834: 23 68
Lachnopus plumipes Perroud, 1853: 471 [87] 68
Lachnopus pollinarius Gyllenhal, 1840: 387 69
Lachnopus porcus de Zayas, 1988: 158 71
Lachnopus proteus (Olivier), 1807: 336 71
Lachnopus pruinosus (Gyllenhal), 1834: 33 72
Lachnopus rhabdotus Girón & O'Brien sp. nov. 74
Lachnopus seini Wolcott, 1936: 302 74
Lachnopus siboney de Zayas, 1988: 166. 74
Lachnopus sparsimguttatus Perroud, 1853: 481 [97] 74
Lachnopus splendidus Boheman, 1840: 382. 75
Lachnopus spretus (Gyllenhal), 1834: 38 75
Lachnopus sublineatus Perroud, 1853: 478 [94]. 75
Lachnopus trilineatus Chevrolat, 1876: CCXXVIII 76
Lachnopus valgus (Fabricius), 1775: 150 76
Lachnopus vanessablockae Girón & O'Brien sp. nov. 76
Lachnopus villosipes (Boheman), 1834: 43 76
Lachnopus vittatus (Klug), 1829: 13. 77
Lachnopus yaucona Wolcott, 1936: 302 77
List of the fossil species of *Lachnopus* Schönherr, 1840: 380 77
"Lachnopus" dilatatus Théobald, 1937: 184 78
"Lachnopus" recuperatus Scudder, 1893: 52 78
"Lachnopus" robustus Théobald, 1935: 78 78
Lachnopus serraticrus Poinar & Legalov, 2017: 3 79
Characters of taxonomic significance and their variation 79
Taxonomic conflicts found in collections 80
Final considerations. 82
Acknowledgments 82
References 82

Abstract

We here describe and illustrate six new species of the genus *Lachnopus*, the most taxonomically chaotic group of entimines in the Caribbean region. These species are *Lachnopus cozumelus* Girón & O'Brien, **sp. nov.** from Cozumel Island, Mexico, *Lachnopus karphos* Girón & O'Brien, **sp. nov.** from Mayaguana Island in the Bahamas, *Lachnopus lucayanus* Girón & O'Brien, **sp. nov.** from Eleuthera in the Bahamas and Providenciales in the Turks and Caicos Islands, *Lachnopus petilusquamus* Girón & O'Brien, **sp. nov.** from Eleuthera in the Bahamas, *Lachnopus rhabdotus* Girón & O'Brien, **sp. nov.** from Providenciales in the Turks and Caicos Islands and *Lachnopus vanessablockae* Girón & O'Brien, **sp. nov.** from the Cayman Islands. These constitute the first species of the genus described for each island group, and expand the geographical range of the genus, by including the Lucayan Archipelago, the Cayman Islands and Cozumel Island. Individuals of *L. vanessablockae* have been collected on the Cayman endemic banana orchid (*Myrmecophila thomsoniana* (Orchidaceae)), which represents the first reported occurrence of *Lachnopus* weevils as pollinators. In addition, we present an annotated checklist of the species of *Lachnopus*, including collecting localities, host plants, and biological notes obtained from the literature or collection data from labels of collections' specimens. *Lachnopus coffeae* Marshall, 1922 is recorded for the first time for Grand Bahama, which appears to be an introduction associated with citrus from Puerto Rico. We also list the fossil species attributed to the genus. Comments on some morphological characters and their variation across the genus are included. Species-groups within the genus are proposed, including diagnostic features to recognize them. Some taxonomic conflicts found in collections are pointed out. This paper compiles fundamental information, and assembles a framework for future revisionary work on *Lachnopus*.

Key words: Broad-nosed weevils, Caribbean, Lucayan Archipelago, morphological characters, plant associations, orchid pollination, new records

Resumen

En la presente contribución describimos e ilustramos seis especies nuevas del género *Lachnopus*, taxonómicamente, el grupo más caótico de entiminos en la región del Caribe. Estas especies son: *Lachnopus cozumelus* Girón & O'Brien, **sp. nov.** de la isla de Cozumel, México, *Lachnopus karphos* Girón & O'Brien, **sp. nov.** de Isla Mayaguana en las Bahamas, *Lachnopus lucayanus* Girón & O'Brien, **sp. nov.** de Eleuthera en las Bahamas y Providenciales en las islas Turcas y Caicos, *Lachnopus petilusquamus* Girón & O'Brien, **sp. nov.** de Eleuthera en las Bahamas, *Lachnopus rhabdotus* Girón & O'Brien, **sp. nov.** de Providenciales en las islas Turcas y Caicos, y *Lachnopus vanessablockae* Girón & O'Brien, **sp. nov.** de las Islas Caimán. Todas constituyen las primeras especies del género que se describen para cada grupo de islas, y aumentan el rango geográfico del género al incluir el Archipiélago de las Lucayas, las Islas Caimán y la Isla de Cozumel. Individuos de *L. vanessablockae* han sido colectados en la orquídea banana (*Myrmecophila thomsoniana* (Orchidaceae), endémica de las Islas Caimán, representando la primera ocurrencia reportada de *Lachnopus* como polinizadores. En adición, se presenta un listado anotado de las especies de *Lachnopus*, incluyendo localidades de colecta, plantas hospederas y notas biológicas obtenidas de la literatura o de información de colecta en etiquetas de especímenes en colecciones. *Lachnopus coffeae* Marshall, 1922 se reporta por primera vez para Gran Bahama, lo que parece ser una introducción asociada a cítricos desde Puerto Rico. También listamos las especies fósiles atribuidas al género. Comentarios sobre algunos caracteres morfológicos y su variación en el género son incluidos. Se proponen grupos de especies dentro del género, incluyendo caracteres diagnósticos para reconocerlos. Se señalan algunos conflictos taxonómicos encontrados en colecciones. Este trabajo recopila información fundamental y articula un marco de referencia para trabajos futuros de revisión en *Lachnopus*.

Palabras clave: Picudos de rostro corto, Caribe, Archipiélago de las Lucayas, caracteres morfológicos, asociaciones con plantas, polinización de orquídeas, nuevos registros

Introduction

With 67 described species, *Lachnopus* Schönherr, 1840 is currently the most diverse and one of the most widespread groups of entimine weevils (Coleoptera: Curculionidae: Entiminae *sensu* Alonso-Zarazaga and Lyal 1999) in the Caribbean (see O'Brien & Wibmer 1982; de Zayas 1988). Its large diversity is accompanied by high morphological heterogeneity, which reflects the non-monophyly of the genus (Girón & Franz 2012).

The taxonomic identity of *Lachnopus* has been questioned a number of times, mostly because of the resemblance of some of its members to Caribbean *Exophthalmus* Schönherr, 1823 (see Vaurie 1961, van Whervin 1968). The notion of these two genera being synonyms has been rejected recently in a series of works on the "*Exophthalmus* genus complex" (Franz 2010a, 2012, Zhang & Franz 2015, Zhang *et al.*, 2017), as well as on a morphology-based phylogenetic assessment of about half of the known species of *Lachnopus* (Girón & Franz 2012). In the molecular phylogeny presented by Zhang *et al.* (2017), *Lachnopus* is clearly separated from the "*Exophthalmus* genus complex", each group forming, or as part of different clades.

The phylogenetic relationships and taxonomic placement of *Lachnopus* within the Geonemini remain questionable. It was placed in the "Brachyderides" by Schönherr (1826; now a synonym of Brachyderini *sensu* Alonso-Zarazaga and Lyal 1999), in Horn's "Exophthalmini" (1876; now a synonym of Eustylini *sensu* Alonso-Zarazaga and Lyal 1999), in Lacordaire's "Cyphides" (1863; now a synonym of Naupactini *sensu* Alonso-Zarazaga and Lyal 1999), and classified in the "Barynotini" according to van Emden's key (1944; now a synonym of Geonemini *sensu* Alonso-Zarazaga and Lyal 1999). In the latest description of a species attributed to *Lachnopus*—a fossil inclusion in Dominican amber (Poinar & Legalov 2017)—, the genus is placed in the Eustylini *sensu* Alonso-Zarazaga and Lyal (1999), based on morphological features from Franz's (2012) cladogram. More precise definitions of the tribes, along with a revision of *Lachnopus* in the context of its allies, including *Exophthalmus* as well as Caribbean geonemine genera (e.g. *Apotomoderes* Dejean, *Artipus* Sahlberg, and *Ischionoplus* Chevrolat), would provide information that would allow for the appropriate placement of the genus. Here we follow Alonso-Zarazaga & Lyal (1999) and Franz (2012) in placing *Lachnopus* in the Geonemini.

Most species of *Lachnopus* are island endemics (e.g. 26 out of the 27 species recorded from Hispaniola are considered endemic, see table 1, also O'Brien & Wibmer 1982), with the notable exceptions of *L. curvipes* (Fabricius), 1787 and *L. valgus* (Fabricius), 1775 that are considered widespread, particularly throughout the Lesser Antilles (see table 1). Furthermore, monophyletic groups of species recovered by Girón & Franz (2012), tend to be restricted to particular distributional ranges within the Caribbean region (e.g. Hispaniola only; Florida-Cuba).

The natural history of most *Lachnopus* species remains poorly known, however some species of the genus, along with some *Diaprepes*, *Exophthalmus* and *Pachnaeus* (all Eustylini), have been traditionally recognized as citrus pests (e.g. van Whervin 1968, Montes *et al.* 2014). There are records of *Lachnopus* species attacking citrus, banana, mango, coffee, avocado, cotton, eggplant, pine trees, among other cultivars in Florida, Cuba, the Dominican Republic, Jamaica, Puerto Rico and Dominica (de Zayas 1988, Marshall 1922, van Whervin 1968, Wolcott 1923, 1948, Woodruff 1985, Ambrose 1983). At least 51 species in 36 plant families have been recorded as hosts for *Lachnopus* species (Table 2). Despite their negative associations with plant cultivars, damage caused by *Lachnopus* species has usually been considered negligible. There have been no previous observations of *Lachnopus* in a positive relationship with plants (i.e., pollination).

In this work we describe and illustrate six new species: *Lachnopus cozumelus* Girón & O'Brien, **sp. nov.** from Cozumel Island in Mexico, *Lachnopus karphos* Girón & O'Brien, **sp. nov.** from Mayaguana in the Bahamas, *Lachnopus lucayanus* Girón & O'Brien, **sp. nov.** from Eleuthera in the Bahamas and Providenciales in the Turks and Caicos Islands, *Lachnopus petilusquamus* Girón & O'Brien, **sp. nov.** from Eleuthera in the Bahamas, *Lachnopus rhabdotus* Girón & O'Brien, **sp. nov.** from Providenciales in the Turks and Caicos Islands and *Lachnopus vanessablockae* Girón & O'Brien, **sp. nov.** from the Cayman Islands, all constituting the first species of the genus described for each island group. The distributional range for the genus is now expanded to include the Lucayan Archipelago (the Bahamas plus the Turks and Caicos Islands), north of the Greater Antilles, the Cayman Islands, and Cozumel Island (Mexico), in the Western Caribbean. Further, *L. vanessablockae* **sp. nov.** has been observed in the act of pollinating the endemic orchid *Myrmecophila thomsoniana* (Orchidaceae: Laeliinae), therefore comprising the first record of a broad-nosed weevil pollinating an orchid in the New World, as well as the first beneficial association of a *Lachnopus* species with a native plant.

In addition, we present an annotated checklist of the species of *Lachnopus*, in which collection localities, host plants, and biological notes are included. This information was gathered either from bibliographical resources or collection data. Fossil species attributed to *Lachnopus* are also listed. Moreover, we review some morphological characters and their variation across the genus, and discuss the high variability of some species, as evidenced in collections' holdings. Those variations have possibly caused some taxonomic conflicts found in collections nowadays, which we also highlight and discuss. Additionally, we distinguish species-groups within *Lachnopus*, providing a list of features to recognize them, by partly building on the phylogeny presented by Girón & Franz (2012). This paper compiles fundamental information, and assembles a framework for future revisionary work on the genus.

Materials and methods

Information was compiled from original descriptions, checklists and reports from the literature. Species names for the host plants have been updated to the currently valid names.

Collections. The checklist includes the collections where specimens are deposited according to original descriptions. The insect collection abbreviations are adopted from Evenhuis (2017). Collections marked with an asterisk (*) are not listed in Evenhuis (2017). We reviewed the *Lachnopus* specimens from collections highlighted in bold.

ANSP	Academy of Natural Sciences, Department of Entomology, Philadelphia, Pennsylvania, USA.
ASUHIC	Arizona State University Hasbrouck Insect Collection, Tempe, Arizona, USA.
CAS	California Academy of Sciences, San Francisco, California, USA.
CSCA	California State Collection of Arthropods, Sacramento, California, USA.
CWOB	Charles W. O'Brien Collection, Green Valley, Arizona, USA.
CZACC	Colecciones Zoológicas del Instituto de Ecología y Sistemática, Havana, Cuba.*
FMNH	Field Museum of Natural History, Chicago, Illinois, USA.
FSCA	Florida State Collection of Arthropods, Division of Plant Industry, Gainesville, Florida, USA.
INHS	Illinois Natural History Survey, Champaign, Illinois, USA.
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA.
MEBT	Museum of Entomology and Tropical Biodiversity, Río Piedras, Puerto Rico*.

MNHN	Muséum National d'Histoire Naturelle, Paris, France.
NHMB	Naturhistorisches Museum, Basel, Switzerland.
NHMUK	The Natural History Museum [formerly British Museum (Natural History)], London, United Kingdom.
NHRS	Naturhistoriska Riksmuseet, Stockholm, Sweden.
NTCII	National Trust for the Cayman Islands—Insectarium, Grand Cayman, Cayman Islands.*
Poinar	Poinar amber collection, Oregon State University, Corvallis, Oregon, USA.*
RHTC	Robert H. Turnbow, Jr. Collection, Fort Rucker, Alabama, USA.
SEMC	Snow Entomological Museum, University of Kansas, Lawrence, Kansas, USA.
Théobald	Théobald Collection [unknown modern location].*
UAIC	University of Arizona, Tucson, Arizona, USA.
UPRM-INVCOL	University of Puerto Rico Invertebrate Collection, Mayagüez, Puerto Rico.*
USNM	National Museum of Natural History, Washington D.C., USA [formerly, United States National Museum].
UUZM	Museum of Evolution, Zoology section, Uppsala University, Uppsala, Sweden.
Zayas	Fernando de Zayas Collection, Havana, Cuba.*

CZACC harbors the collections of the Cuban naturalist Juan C. Gundlach. It is not listed in Evenhuis (2017), nevertheless its information is available at http://www.ecosis.cu/colecciones-zoologicas/—accessed May 2017.

Type specimen labels include the genus name and species epithet, a gender symbol, and the species' authors, with the year of designation of the types. They are colored red for holotypes and yellow for all the paratypes.

Morphology. The descriptive method used here follows that of Girón & Franz (2010). The morphological terminology follows Torre-Bueno (Nichols 1989), and includes specific terms for structures on the ventral surface of the head and rostrum (Lyal 1995), mouthparts (Ting 1936), posterior tibia (Thompson 1992), and the male and female genitalia (Wanat 2007, Howden 1995). Some of the character states are referred to characters used in Girón & Franz (2012). The species descriptions are based primarily on males, although references to variations in females are included where necessary.

The weevil specimens were examined with an Olympus SZX7 stereomicroscope (magnification: 0.8x -5.6x, with DFPLAPO1x -4 objective lens and 20x eyepieces) equipped with an ocular graticule for measurements of lengths and ratios.

Genital extractions were performed by heating the abdomen in 10% potassium hydroxide at approximately 90°C for 12 minutes, then clearing it in glacial acetic acid for another 20 minutes. After rinsing the abdomen in 80% ethanol, the dissection was executed in glycerin on a microscope slide. Dissected genitalias were packed in microvials in glycerin and pinned under the specimens.

Habitus pictures were taken with a Microptics XLT imaging system, using a Canon MP-E 65mm f/2.8 1–5X Macro Lens mounted on a Canon EOS 6D camera body. Images of internal structures were produced by stacking images taken through an Olympus DP72 camera attached to an Olympus SZX16 microscope (magnification: 0.7–11.5x, with SDF PLAPO1xPF objective lens and 10x eyepieces) for male parts, or an Olympus BX51 compound microscope (magnification: 20–400x) for female parts, and edited in an illustration software program.

Except for the newly described species, the majority of the photographs in this paper were taken at the Biology Department of the University of Puerto Rico at Mayagüez. For the newly described species, equipment from the Biodiversity Institute of the University of Kansas was used. Habitus images are for the most part grouped by species-group and by morphological similarity.

Description of new species

Lachnopus cozumelus Girón & O'Brien sp. nov.

(Fig. 1)

Species recognition. *Lachnopus cozumelus* shares affinities with *L. sparsimguttatus* Perroud, 1853: 481 [97] from Cuba (Figs. 15 A–C), from which it can be distinguished by the nearly straight dorsal outline of frons and

prothorax in lateral view (as opposed to convex), the moderately projecting eyes (as opposed to strongly projecting) and the presence of two main sizes of scales in the general coverage (as opposed to uniformly sized scales throughout the body). In addition, the punctures composing the elytral striae of *L. cozumelus* are not perfectly aligned, which differentiates it from *L. sparsimguttatus* as well as from *L. vanessablockae* Girón & O'Brien. Characters related to the sculpturing of the dorsal surface of the rostrum, and the general configuration of the head can distinguish *L. cozumelus* from the remaining members of the *L. luctuosus* species-group.

Specimens examined. *Holotype:* female "MEX SMiguel/ Cozumel I/ Quintana Roo/ VII 1959/ NLH Krauss" (USNM).

Description. *Body.* Length 6.9 mm, greatest width (near midlength of elytra) 2.6 mm (N = 1); shape in dorsal view elongate (Fig. 1A), length/width ratio 2.6; shape in lateral view subrectangular, with dorsal outline nearly flat (Fig. 1B). Integument brown, slightly paler on antennae and tibiae; surface smooth and even, covered with appressed, irregularly distributed, nonoverlapping scales; scales in two sizes, with smooth surface, sesame seed shaped, white to yellowish white, smaller scales scattered on dorsal surface of pronotum and elytra, larger scales forming groups of 10–20 on elytra, and paired longitudinal bands along pronotum ('luctuosus type' of coverage, see Girón & Franz 2012); with very short, curved, decumbent and translucent sparse narrow scales scattered throughout, setalike scales larger and semierect on elytral declivity.

Head. Shape in dorsal view subconical (Fig. 1D). Eyes in dorsal view large and elliptic, moderately projected from surface of head (Fig. 1D); in lateral view nearly circular, only slightly longer than wide; surface of anterior margin of eye depressed. Frons trapezoid, flat, with median fovea (Fig. 1D); shortest distance between eyes 0.75-times shortest width of dorsal surface of rostrum. Rostrum in dorsal view 0.6-times length of head, as long as greatest width of rostrum at antennal insertion, with lateral margins straight, diverging apically; dorsal surface mesally slightly triangularly impressed, laterally with longitudinal grooves extending between anterior margin of eyes and antennal scrobe; epistomal area flat, undefined, shallowly punctured and shiny (Fig. 1D), with yellowish epistomal setae on each side of apical margin; nasal plate (on apical margin of epistoma) flat, glabrous and shiny, not clearly defined. Rostrum in lateral view forming obtuse angle with head, only slightly longer than basal width; antennal insertion at apical 1/3 of rostrum; scrobe passing below eye, well defined throughout, deep, glabrous and shiny, curved downwards by 45°, with dorsal and ventral margins slightly sinuate, ending at anterior third of eye, posterior region of dorsal margin of scrobe sharply carinated; ventral surface of rostrum with scarce suberect setae; gular suture clearly visible, with basal pit deep and elongate, bifurcating at base of rostrum into hypostomal-labial sutures, anterior pits large and deep, positioned at apical third of rostrum; surface of submentum covered by sparse thick setae, with fine setae at apex; occipital sutures deep, elongate, extending from anterior margin of eyes to midlength of rostrum; postmentum glabrous and very short.

Mouthparts. Mandibles shiny and mostly glabrous; each mandible with few setae on dorsal, outer and ventral surfaces; mandibular scar only slightly raised from surface (Fig. 1D). Maxillae visible along sides of prementum as narrow fusiform sclerites, with setae; prementum trapezoid, 0.8-times as long as greatest width near apex, with external surface reticulate and undulate, bearing long fine setae on apical corners.

Antennae. 12-articulated, yellowish; scape slender, with apex strongly and somewhat abruptly widening in anterior view, extending (in repose) slightly beyond posterior margin of eyes, not reaching anterior margin of prothorax, and passing very close to ventral margin of eye, with sparse fine setalike scales; funicle with 7-antennomeres, 1.2-times longer than scape; funicular antennomeres clavate, sparsely covered by fine, setalike scales and surrounded by row of decumbent preapical setae; basal funicular antennomere slightly enlarged, remaining antennomeres similar in size and shape to each other; antennal club 4-articulated, finely and densely pilose, 3-times longer than its greatest width, 0.5-times length of funicle; club articles gradually decreasing in size towards apex.

Thorax. Pronotum trapezoidal (Fig. 1A), greatest width at base; posterior margin simple (as opposed to carinate, see Girón & Franz 2012, character 17), bisinuate, approximately 1.4-times greater than anterior margin; posterior corners of pronotum forming straight angle; lateral margins convex, nearly parallel along basal 1/3, gradually converging towards anterior impression; dorsal surface sparsely impressed underneath appressed scales and at base of translucent, decumbent setae; posterior surface of pronotum covered by very fine and curved setae; scutellum conspicuous, U-shaped, glabrous, with reticulated and undulated surface. Prothorax in lateral view trapezoidal, dorsal outline nearly straight, approximately 1.5-times longer than ventral outline, with anterior margin straight, and glabrous; lateral surface of prothorax bulging around coxal insertion and dorsal edge, behind anterior

impression; prosternum with anterior and posterior margins fringed by short, translucent, multifid setae; anterior rib (surface between anterior margin and anterior impression) with few long, decumbent to suberect, thick setalike scales; procoxal cavities closed, apparently contiguous, positioned slightly closer to anterior than to posterior margin of prosternum; anterior impression well defined; surface of posterior intercoxal projection strongly produced and covered by scales; prosternum as long as mesoventrite, and 0.8-times length of metaventrite; posterior margin of prosternum elevated over anterior margin of mesoventrite. Mesoventrite with mesocoxal cavities each approximately 3.6-times wider than intercoxal process; surface of anterior area of mesoventrite glabrous and reticulate; lateral surfaces of mesoventrite bulging around coxal insertions and covered by few scales. Mesepimeron and mesepisternum semi-triangular, covered by non-overlapping scales. Metaventrite with deep and wide median posterior fovea; lateral surfaces sparsely covered by scales, postero-laterally bulging (in lateral view, metaventrite gradually produced posteriorly), each terminating abruptly at oblique plica; distance between posterior margin of mesocoxae and anterior margin of metacoxae only slightly longer than length of prosternum; distance separating metacoxal cavities nearly as wide as each metacoxal cavity.

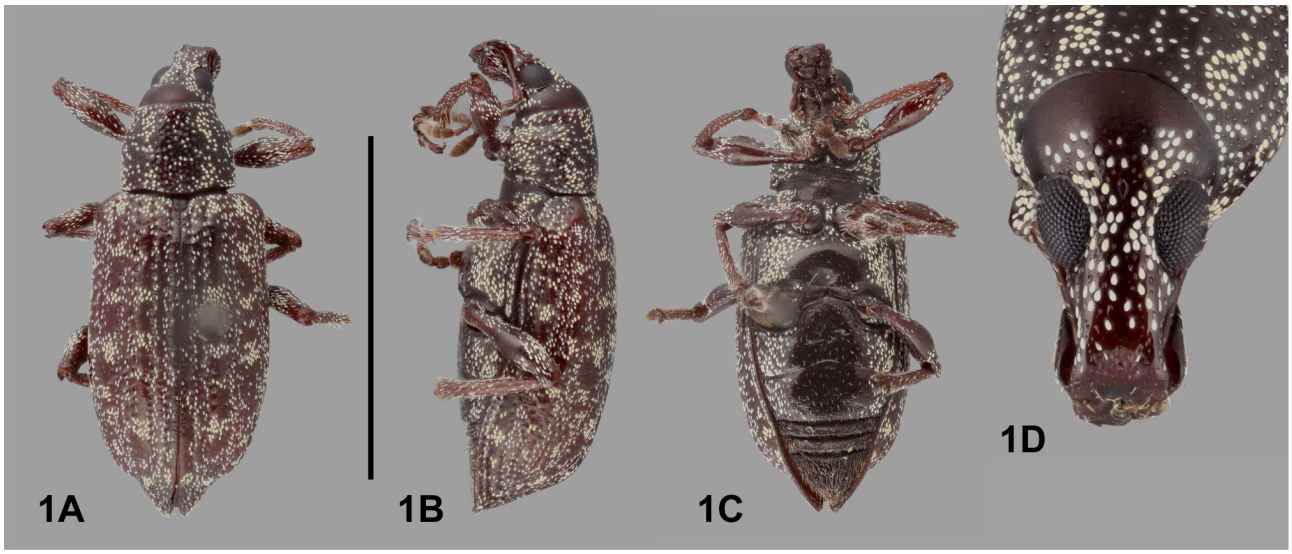

FIGURE 1. *Lachnopus cozumelus* (female). **A.** dorsal view; **B.** lateral view; **C.** ventral view; **D.** head, dorsal view. Scale bar: 5 mm; does not apply to D.

Legs. Femora unarmed, slightly widening apicad of midpoint; anterior femora nearly 4.1-times, median 4.5-times and posterior 5-times longer than greatest width, all sparsely covered by scales, denser along preapical region, with sparse curved setalike scales throughout; femora nearly 1.3-times longer than mesal length of pronotum; posterior surface of metafemora flat and smooth. Tibiae with outer margins straight; protibia slightly curved inwards at apex, anterior and outer surfaces covered by setalike scales and narrow scales; posterior surface covered by short, slightly curved, decumbent setae; inner anterior margin with yellowish, translucent spinelike seta, each with spinelike elevated integument at insertion; meso- and metatibia similar in coverage and surface. Metatibia with apical anterior margin oblique, with fringe of yellowish brown, stout, spiniform setae, and with flange shielding tarsal insertion outwardly, fringed by yellowish brown, larger, spiniform setae, bevel very narrow (corbel enclosed), glabrous and shiny; surface surrounding tarsal condyle glabrous; mucro shorter than tarsal claws, premucro present, bifurcated; tarsi ventrally densely covered with setae, with tarsomeres I and II subtriangular, I approximately 1.3-times longer than II, III bilobed, 1.9-times wider than II, with anterior lobe slightly wider than posterior lobe, IV short, V approximately 3.8-times longer than apical width, 1.6-times longer than I; claws free, simple, nearly 1.8-times longer than joint basal width.

Elytra. Length in dorsal view 1.8-times greatest width; anterior joint margin between humeri, mesally roundly emarginate; width at humeri nearly 1.5-times wider than base of pronotum (Fig. 1A); humeri rectangular, rounded; lateral margins parallel along basal half, then roundly converging towards apex; apex of each elytron angulate; dorsal surface impressed along striae; in lateral view with dorsal outline nearly straight; posterior declivity nearly straight; with 10 complete elytral striae, for the most part uniformly separated from each other by distance similar to basal width of femora; punctures deep and wide, separated from each other longitudinally by distance

approximately 1.5-times length of puncture; each puncture bearing short, curved, decumbent, translucent setalike scale; striae IX and X completely separated along entire length, with striae X sinuate along insertion of metacoxae (more separated from stria IX along metepisternum, closer at metacoxal insertion); additional irregular striae present along posterior half of intervals IV–VII; intervals irregularly covered with variously sized scales, forming series of groupings of 10–20 larger scales along odd intervals ('luctuosus-type' of scale coverage, see Girón & Franz 2012, character 25), with recurvate and decumbent translucent seta on each puncture; with few scalelike setae on declivity and apical margins of elytra.

Hindwings. Fully developed.

Abdomen. Venter (Fig. 1C) with scales only along sides of segments III and IV, with translucent, curved setae scattered throughout surface, gradually denser towards apex of abdomen. Abdominal segment III nearly as long as IV, with mesal surface only slightly concave, anterior margin mesally house-shaped and posterior margin mesally acutely emarginate; IV mesally rather flat, laterally convex, 2-times longer than V and VI jointly, IV slightly longer than VII; segments V–VII separate; surface of V and VI elevating posteriorly; basilateral surfaces of VII depressed, mesal surface elevated and flat, posterior margin of VII roundly angulate.

Terminalia. Not examined.

Etymology. Named after Cozumel Island in Mexico, locality of the only known specimen.

Variation. Though only one specimen has been observed, variation in size, color and density of the scale coverage would be expected for the species.

Natural history. The biology, host plants and habitat of *L. cozumelus* are not known.

Remarks: *Lachnopus cozumelus* constitutes the westernmost point of the distributional range for the genus, as well as the first record for Cozumel Island, Mexico and Central America. Given that characters of the female genitalia are not diagnostic at the species level, the holotype was not dissected.

Lachnopus karphos Girón & O'Brien sp. nov.

(Fig. 2)

Species recognition. *Lachnopus karphos* belongs to the *L. plumipes* species-group (see "*Lachnopus* species-groups" section). It can be distinguished readily from *L. plumipes* Perroud, 1853 and *L. rhabdotus* Girón & O'Brien by the distribution of the scale coverage, which is composed of pale yellowish iridescent scales, rather uniformly distributed, with denser patches on anterior 1/4 and 1/2 of elytral intervals III and V. In addition, the elytral intervals are slightly elevated along basal half (as opposed as along entire length as in *L. rhabdotus*) and lack additional punctures observed in *L. plumipes*. The comparatively flat and narrow pronotum also differentiates *L. karphos* from *L. rhabdotus*. *Lachnopus karphos* also exhibit affinities with some species of the *L. hispidus* species-group, in particular with *L. hispidus* (Gyllenhal), 1834 (Figs. 12 A–C) and *L. niveoirroratus* Jacqelin du Val, 1857 (Figs. 12 D–F), from which it can be distinguished by the lack of suberect elytral setae.

Specimens examined. *Holotype:* male "MAYAGUANA ISLAND/ 3-VIII-63 BAHAMAS/ CHAD M. MURVOSH/ BLACKLIGHT TRAP" (FSCA, dissected).

Description. *Body.* Length 9 mm, greatest width (at elytral humeri) 3 mm (N = 1); shape in dorsal view elongate (Fig. 2A), length/width ratio 3.0; shape in lateral view subrectangular, with dorsal outline only slightly convex (Fig. 2B). Integument dark brown, reddish in legs; surface smooth and even for most part, only slightly elevated along elytral intervals II, IV, VI and VIII; coverage composed of appressed to decumbent, irregularly distributed, variously overlapping scales, and sparse, curved, thick, decumbent and translucent setae throughout body; scales with longitudinally ribbed surface, spathulate to lingulate, iridescent, yellowish light brown; regular hairlike setae limited to apex of rostrum, mouthparts, antennae, legs and ventral surface of body.

Head. Shape in dorsal view trapezoid (Fig. 2D); dorsal surface of head and rostrum covered rather uniformly with narrow, decumbent scales; scale coverage denser on lateral and ventral surfaces of head. Eyes in dorsal view narrow and elliptic, only slightly produced upon surface of head (Fig. 2D); in lateral view semioval, with anterior margin nearly straight, 1.6-times longer than wide, with dorsal and ventral margins nearly straight, parallel along anterior half; ocular sclerite well-defined, particularly along ventral and posterior margins of eye. Frons trapezoid (Fig. 2D), flat, with small median fovea; shortest distance between eyes 1.14-times wider than shortest width of dorsal surface of rostrum. Rostrum in dorsal view 0.6-times length of head, with lateral margins straight, greatest width at anterior margin of eyes; rostrum with lateral longitudinal grooves, densely covered by scales, extending

from anterodorsal corner of eyes to anterodorsal corner of scrobe; epistomal area triangularly impressed, and extending posteriorly until anterior half of rostrum (Fig. 2D), shiny, nearly glabrous, smooth for most part, with long translucent yellowish epistomal setae on each side of apical margin, increasing in size and number towards apex of rostrum; nasal plate (apicad of epistomal setae) perpendicularly positioned with respect to dorsal surface of rostrum, concave, glabrous and smooth. Rostrum in lateral view, forming obtuse angle with head, with dorsal margin straight, nearly as long as greatest width; antennal insertion nearly at apex of rostrum; scrobe directed towards eye, with dorsal margin well defined throughout, and ventral margin not defined posteriorly; scrobe deep, with few smaller scales along ventral margin; dorsal margin of scrobe ending at dorsal third of anterior margin of eye; ventral surface of rostrum with few sparse long decumbent setae around apex; gular suture slightly impressed, clearly visible, ending at large median posterior pit, located at base of rostrum; hypostomal-labial sutures slightly impressed, bifurcating from posterior pit towards apex of submentum; anterior pits small, positioned at apical third of rostrum, on outer sides of hypostomal-labial sutures; submentum surface covered by narrow, decumbent, spathulate scales, with few long setae at apex; occipital sutures reduced and obscured by decumbent scales; postmentum glabrous and very short.

Mouthparts. Mandibles with long setae on dorsal and outer surfaces, with shorter and finer setae on ventral surface; mandibular scar equate with surface (Fig. 2D). Maxillae not visible along sides of base of prementum; prementum trapezoid, slightly shorter than greatest width near apex, with finely reticulate surface, roundly and widely depressed at basal center, bearing long setae along each apical corner.

Antennae. With 12 antennomeres; scape slender, straight, gradually widening along basal 1/3 and along apical 1/3, extending (in repose) to anterior margin of prothorax, and passing over ventral anterior corner of eye, with fine setalike scales; funicle with seven antennomeres, 1.3-times longer than scape; funicular antennomeres clavate, densely covered by setalike scales and surrounded by row of erect preapical setae; funicular antennomere I slightly longer than II, funicular antennomeres II and III similar in size and shape; funicular antennomeres IV to VII similar in size, 0.8-times length of III; antennal club with four antennomeres, finely and densely pilose, 2.6-times longer than greatest width, 0.5-times length of funicle; club antennomere I slightly shorter than II, II and III similar in length, IV slightly shorter than III.

Thorax. Pronotum trapezoid (Fig. 2A), greatest width at base; posterior margin simple (as opposed to carinate), bisinuate, approximately 1.4-times greater than anterior margin; posterior corners of pronotum forming right angle; lateral margins nearly straight, gradually converging from base; dorsal surface nearly flat, slightly impressed at base of each scale and seta; scale coverage rather dense, more so along median longitudinal stripe and lateral stripes along basal half; posterior surface of pronotum covered by fine setae; scutellum conspicuous, U-shaped, rather densely covered by scales. Prothorax in lateral view trapezoid, dorsal outline straight, approximately 1.4-times longer than ventral outline, with anterior margin straight, densely fringed by dense setae and scales; lateral surface of prothorax rather flat, densely covered by scales, with anterior and posterior impressions parallel to anterior and posterior margins respectively, along ventral side. Prosternum with anterior and posterior margins fringed by elongate and plumose scales; anterior rib (surface between anterior margin and anterior impression) fringed by narrow scales; procoxal cavities closed, apparently contiguous, positioned clearly closer to anterior than to posterior margin of prosternum; surface between anterior margin of coxae and anterior impression, glabrous; surface of posterior intercoxal projection elevated and densely covered by scales; prosternum 1.3-times longer than mesoventrite, and 0.8-times length of metaventrite; posterior margin of prosternum equate with anterior margin of mesoventrite. Mesoventrite with mesocoxal cavities each approximately 3-times wider than intercoxal process; surface of mesoventrite rather densely covered by scales; lateral surface of mesoventrite only slightly bulging around coxal insertion, covered by spathulate scales. Mesepimeron and mesepisternum rather triangular, covered by scales, denser and overlapping on mesepisternum. Metaventrite densely covered by scales, with longitudinal, wide median depression; posterolateral portions of metaventrite rather flat; distance between posterior margin of mesocoxae and anterior margin of metacoxae similar to length of prosternum; distance separating metacoxal cavities 0.8-times width of metacoxal cavity.

Legs. Femora unarmed, slightly widening apicad of midpoint; anterior femora nearly 4.7-times, median 4.3-times and posterior 5-times longer than greatest width, all densely covered by scales, with sparse curved setae; femora at least 1.2-times longer than mesal length of pronotum; posterior surface of metafemora flattened. Protibia slightly curved inwards at apical 1/4, outer surface covered by decumbent narrow scales and curved setae; posterior surface sparsely covered by variously sized setae; inner anterior edge with row of yellowish long spiniform setae, each with elevated integument at insertion; mesotibia similar in coverage and surface. Metatibiae with oblique

apical anterior margin, with fringe of numerous, stout, yellowish spiniform setae, and flange shielding outwardly tarsal insertion, fringed by similarly colored, longer, stout, spiniform setae rather uniform in size, becoming sparser towards anterior margin; bevel oblique nearly as wide as tarsal condyle (corbel enclosed), with few spiniform setae; surface surrounding tarsal condyle glabrous, reticulated and with longitudinal elevation along posterior margin; mucro shorter than tarsal claws, premucro present, bifurcated; inner face of metatibiae with scattered, variously sized roundly pointed spines, and densely covered by fine hairlike setae. Tarsi ventrally densely covered with setae, with longer and finer setae around dorsal edges, with tarsomeres I and II subtriangular, I only slightly longer than II, III bilobed, symmetrical, 1.8-times wider than II, IV short, V approximately 4.6-times longer than apical width, 1.3-times longer than I; claws free, simple, nearly 1.7-times longer than joint basal width.

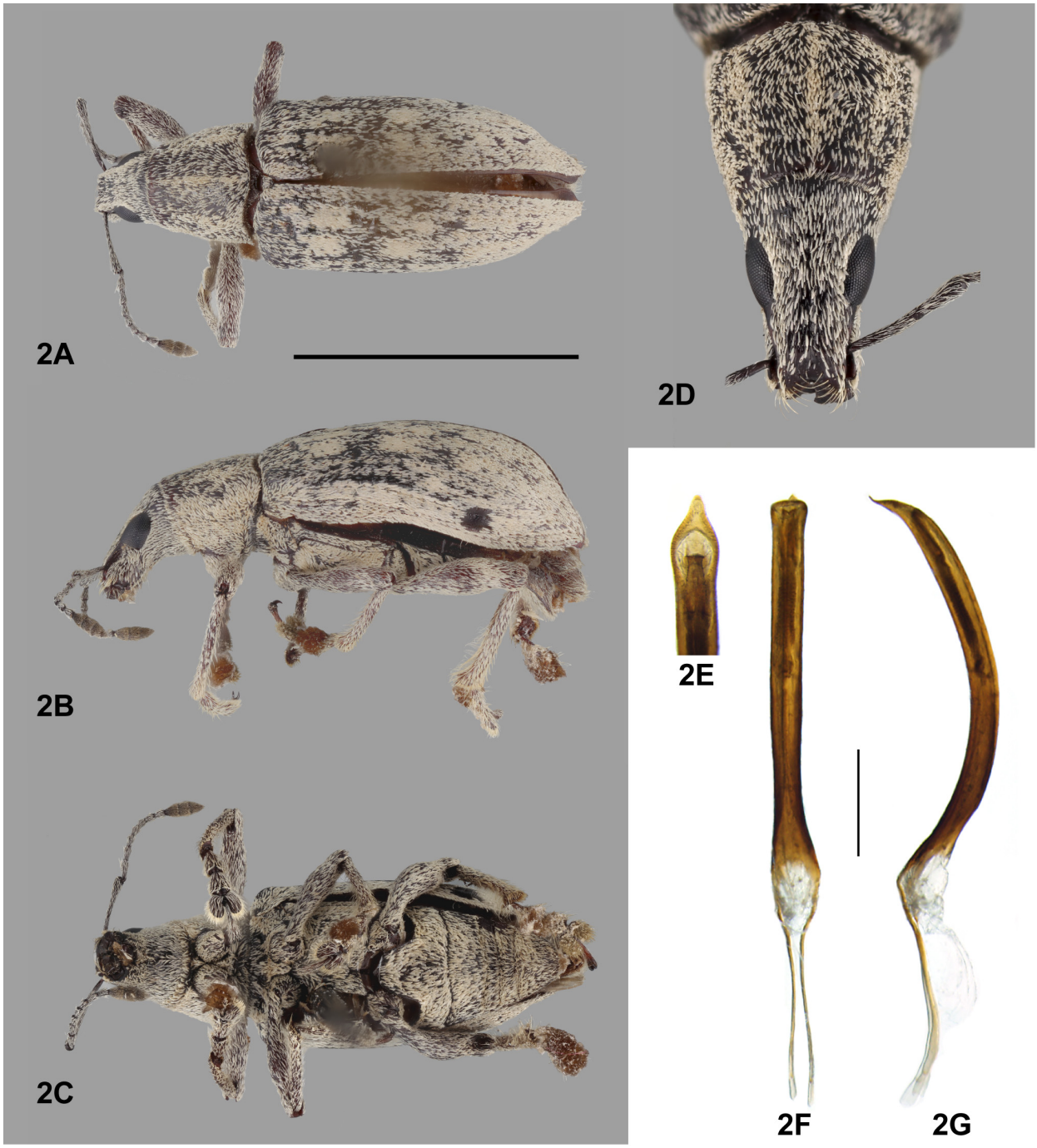

FIGURE 2. *Lachnopus karphos* (male). **A.** dorsal view; **B.** lateral view; **C.** ventral view; **D.** head, dorsal view; **E.** apex of aedeagus; **F.** aedeagus in dorsal view; **G.** aedeagus in lateral view. Scale bar: 5 mm for A–C; 1 mm for F–G.

Elytra. Length in dorsal view 2-times greatest width (at humeri), 1.4-times wider than base of pronotum (Fig. 2B); anterior margin (jointly) bisinuate; humeri rectangular, rounded; lateral margins straight, parallel along basal half, then roundly converging towards apex; apex of each elytron rounded; dorsal surface slightly impressed at basal 1/4 of intervals III and V; in lateral view with dorsal outline nearly straight along basal 2/3; posterior declivity widely rounded; with 10 complete elytral striae, for most part uniformly separated from each other by distance similar to basal width of tibiae; punctures deep, mostly concealed by scales; striae IX and X completely separated along entire length, with striae X sinuate along insertion of metacoxae (more separated from stria IX along metepisternum, closer at metacoxal insertion); anterolateral corner of metepisternum narrowly projecting, leaving distinct notch on outer margin of elytra; scale coverage denser along sides and posterior 1/3 of elytra, with denser patches of overlapping scales at anterior 1/4 and 1/2 of elytral intervals III and V, and with sparse, curved, translucent setalike scales along intervals.

Hindwings. Fully developed.

Abdomen. Venter (Fig. 2C) densely covered with scales, with scattered long, translucent, curved setae, surface with slight, round elevations at insertion of setae. Abdominal segment III approximately 1.7-times longer than IV, with mesal surface only slightly concave, anterior margin mesally bell-shaped and posterior margin mesally slightly roundly emarginate; IV mesally rather flat, nearly as long as V to VI jointly, IV nearly 0.7-times length of VII; posterior corners of IV slightly elevated; segments V–VII separate; surface of V and VI elevating posteriorly; lateral surfaces of VII depressed, mesal surface elevated and flat, posterior margin of VII widely rounded.

Terminalia. Male with tergum VII subquadrate, only slightly wider than long, with lateral areas with fine, appressed spines, mesal area wider than lateral areas, posteriorly widened and extending along lateral and posterior margins; mesal area with irregular surface, depressed at the insertion of simple and long, rather dense setae; tergum VII with anterior margin widely rounded, posterior margin mesally widely angulate. Tergum VIII slightly longer than wide, with anterior margin widely roundly emarginated, posterior margin widely rounded; ventral flap bisinuate, widely triangular, mesally rounded; in lateral view, dorsal outline straight along base, curved at apical 1/3. Sternum VIII composed of two lateral plates, separated by membrane, each somewhat rhomboidal, with apical and inner margins forming right rounded angle, outer margins oblique, with proximal outer corner acutely projected; each plate with fringe of rather long and thick setae along inner apical corner; spiculum relictum present, inverted Y shaped, translucent. Sternum IX (spiculum gastrale) with apodeme 0.8-times length of median lobe, anteriorly expanded into semi-oval lamina, posteriorly bifurcated, furcal arms opposed, elongate, fused along basal half to each other and to apodeme, each basally rounded, apically triangular, with inner apical margins curved outwards; each furcal arm with basal portion occupying nearly 2/3 of lamina, apical portion 3-times longer than medial portion, gradually more sclerotized towards apex. Tegmen with apodeme 0.7-times length of median lobe; tegminal plate fused with basal piece forming ring; tegminal plate with pair of narrow projections (parameres) 0.3-times length of tegminal apodeme, fused along second 1/4, each projection finely denticulate at apex. Aedeagus in dorsal view (Fig. 2F) 7.8-times longer than its greatest width at base, parallel-sided along apical 2/3; dorsal surface sclerotized, mesally longitudinally carinated; ventral surface with basal margin mesally roundly emarginate. Apex of aedeagus (Fig. 2E) narrowly rounded, distance from apical margin of ostium to apex of aedeagus 0.7-times greatest width of aedeagus at ostium. Endophallus with fine small papillae along apical half of median lobe, with mesal plate near apex, closing ostium, with pair of elongated bars at apical 1/5 and pair of oblique plates near midlength. Aedeagus in lateral view (Fig. 2G) dorsally convex, 12.2-times longer than greatest width; dorsal and ventral outlines widely concave along basal 1/3, nearly straight along apical 2/3. Aedeagal apodemes 0.6-times length of aedeagus, anteriorly slightly widened, nearly uniformly curved, narrowly articulating to aedeagus.

Female. Unknown.

Etymology. Named from the Greek *karphos* meaning "chaff" (Brown 1956), in reference to the elongated, yellowish, and curved scales covering the species, that resemble the outer coverings of seeds of grains.

Variation. Though only one specimen has been observed, variation on the density of the scale coverage, as well as in body size would be expected for the species.

Natural history. The biology, host plants and habitat of *L. karphos* are not known.

Remarks: The genus *Lachnopus* was recorded from the Bahamas by Turnbow & Thomas in 2008. The authors list three unidentified species. *Lachnopus karphos* corresponds to the species listed by Turnbow & Thomas (2008) as *Lachnopus* sp. B (from Mayaguana, at FSCA).

***Lachnopus lucayanus* Girón & O'Brien sp. nov.**
(Fig. 3)

Species recognition. *Lachnopus lucayanus* belongs to the *L. splendidus* species-group (see "*Lachnopus* species-groups" section). It can be distinguished readily from its closest allies by the distribution of the scale coverage, forming four longitudinal stripes over the pronotum and forming a fairly regular and uniform spotted pattern over the elytra. In addition, the surface of the elytra is irregular (as opposed to smooth), as it is slightly depressed under the patches of scales.

Specimens examined. *Holotype:* male "Eleuthera, Bahamas/ July 9-15, Wickham// Wickham/ Collection/ 1933" (USNM, dissected).

Paratypes: Same information as holotype (USNM: 2 males, 7 females (one dissected)); "BWI: Turks & Caicos/ Providenciales, 2 km/ NW Wheeland, Blue Hills,/ 14–20.X.1990,/ David & Kathy Matusik" (FMNH: 1 male, dissected); "British West Indies. Middle Caicos, xi.1999, O. Cheesman" (BMNH: 1 male).

Description. *Body.* Length 9.1 mm, greatest width (at elytral humeri) 3.5 mm (N = 3) in males, 10.5–11.0 mm, greatest width (at elytral humeri) 3.9–4.4 mm (N = 2) in females; shape in dorsal view elongate (Fig. 3A), length/ width ratio 2.5–2.7; shape in lateral view subrectangular, with dorsal outline only slightly convex on elytra, more so on prothorax (Fig. 3A). Integument reddish to orange brown; surface smooth and even for most part, only slightly depressed under scale patches of elytra; coverage composed of appressed, irregularly distributed, slightly overlapping scales and sparse very short, decumbent and translucent setae throughout body; scales uniform in size, with smooth surface, oval, iridescent turquoise colored with purplish hues ('splendidus type' of scale coverage, see Girón & Franz 2012); regular hairlike setae limited to apex of rostrum, mouthparts, antennae, legs, apex of elytra and ventral surface of body.

Head. Shape in dorsal view semiglobular (Fig. 3D); dorsal surface of head and rostrum covered by scales forming lateral longitudinal stripes surrounding inner and posterior margin of eyes. Eyes in dorsal view large and elliptic, moderately projected from surface of head (Fig. 3D); in lateral view elliptic, 1.2-times longer than wide, with dorsal margin nearly flat; ocular sclerite well-defined, particularly along posterior margin of eye. Frons trapezoid (Fig. 3D), transversally slightly impressed behind eyes, with small median fovea; shortest distance between eyes half as wide as shortest width of dorsal surface of rostrum. Rostrum in dorsal view 0.8-times length of head, with lateral margins straight, only slightly diverging apically, greatest width at antennal insertion; median longitudinal surface, from midlength of eyes to slightly beyond midlength of rostrum, glabrous, slightly elevated and flat; epistomal area triangularly depressed, and extending posteriorly until anterior third of rostrum (Fig. 3D), shiny, glabrous, shallowly and sparsely punctured, with four long translucent yellowish epistomal setae on each side of apical margin; rostrum of females smoother and flatter than in males; nasal plate (apicad of epistomal setae) perpendicularly positioned with respect to dorsal surface of rostrum, concave, glabrous and shallowly punctured. Rostrum in lateral view perpendicular to head, with dorsal margin only slightly convex, 1.3-times longer than greatest width; antennal insertion nearly at apex of rostrum; scrobe passing below eye, well defined throughout, deep, glabrous and shiny, with sharp dorsal and ventral margins (less so in females), straight for most part, extending slightly beyond anterior margin of eye; dorsal margin of scrobe ending at ventral third of anterior margin of eye; ventral surface of rostrum with sparse long decumbent setae around apex; gular suture deep, clearly visible, ending at posterior pit; anterior pits large and deep, positioned at apical third of rostrum; submentum covered by decumbent setae with long setae on apical half; occipital sutures deep and narrow, extending only along apex of ventral margin of scrobe; postmentum glabrous and very short.

Mouthparts. Mandibles with long fine setae on dorsal, outer and ventral surfaces; mandibular scar only slightly raised from surface (Fig. 3D). Maxillae visible along sides of base of prementum as narrow and elongate triangles bearing 2–4 setae; prementum semipentagonal, 0.8-times as long as greatest width near apex, with external surface smooth and shiny, bearing row of three setae extending along each side at widest point.

Antennae. With 12 antennomeres; scape slender, with apex strongly and somewhat abruptly widened, extending (in repose) almost to posterior margin of eyes, and passing tangential to ventral margin of eye, with sparse fine setae; funicle with seven antennomeres, 2.6-times longer than scape; funicular antennomeres clavate, densely covered by fine, setae and surrounded by row of erect preapical setae; funicular antennomere II slightly longer than I, antennomeres III to VII similar in size, slightly shorter than I; antennal club with four antennomeres, finely and densely pilose, 3.3-times longer than greatest width, 0.4-times length of funicle; club antennomeres I and II, and III and IV similar in length, III slightly shorter than II.

Thorax. Pronotum trapezoid (Fig. 3A), greatest width at base; posterior margin carinate, bisinuate, approximately 2.1 to 2.4-times greater than anterior margin; posterior corners of pronotum forming acute angle; lateral margins slightly convex, converging, more strongly so on apical 1/6; dorsal surface smooth, shiny, with median longitudinal impression, sparsely and very shallowly punctate (more strongly so in males), each puncture with very short, decumbent and translucent setalike scale; scale coverage extending on one pair of longitudinal stripes on each side (stripes may be discontinuous), leaving three glabrous longitudinal stripes, or with irregular patches of scales scattered throughout; anterior and posterior margins somewhat continuously covered by scales; posterior surface of pronotum covered by fine, curved setae; scutellum conspicuous, U-shaped, covered by scales. Prothorax in lateral view trapezoid, dorsal outline convex, approximately 1.5-times longer than ventral outline, with anterior margin glabrous, only slightly convex; lateral surface of prothorax with anterior and posterior impressions parallel to anterior and posterior margins respectively, strongly bulging around coxal insertion and along dorsal edge, covered by longitudinal stripe of scales along anterior margin and continuing along surface of coxal insertion, leaving glabrous area along area between covered coxal insertion and lateral dorsal stripe on prothorax (Fig. 3B). Prosternum with anterior and posterior margins fringed by short, translucent, multifid setae, accompanied by slightly elongated scales on posterior margin; anterior rib (surface between anterior margin and anterior impression) with few long, suberect, thick, translucent setae; procoxal cavities closed, apparently contiguous, positioned slightly closer to anterior than to posterior margin of prosternum; anterior impression undefined around coxae; surface of posterior intercoxal projection slightly elevated and covered by scales; surface surrounding lateral and posterior margins of coxae glabrous and shiny; prosternum 1.5-times longer than mesoventrite, and only slightly shorter than metaventrite; posterior margin of prosternum elevated over anterior margin of mesoventrite. Mesoventrite with mesocoxal cavities each approximately 3-times wider than intercoxal process; surface of anterior area of mesoventrite smooth, shiny, and only shallowly punctured; lateral surface of mesoventrite bulging around coxal insertion, covered by few regular scales. Mesepimeron and mesepisternum semitriangular, densely covered by regular scales slightly overlapping. Metaventrite with deep and wide median posterior fovea, each lateral portion somewhat densely covered by scales, posterolaterally bulging, more strongly so in males (in lateral view, metaventrite gradually produced posteriorly), each terminating abruptly at oblique plica; distance between posterior margin of mesocoxae and anterior margin of metacoxae nearly 1.5-times shorter than length of prosternum; distance separating metacoxal cavities nearly as wide as each metacoxal cavity.

Legs. Femora unarmed, widening apicad of midpoint; anterior femora nearly 3.5-times, median 4.4-5-times and posterior 3.8-4.5-times longer than greatest width, all covered by somewhat scattered scales on basal and apical 1/3, with only scarce setalike scales on widest region; femora slightly longer than mesal length of pronotum; posterior surface of metafemora flattened and smooth in females, with few elevations near base in males. Tibiae with outer margins straight; protibia slightly curved inwards at apical 1/3, surface covered by scarce, decumbent, translucent setalike scales, with only few regular scales at base; coverage of posterior and inner surfaces sexually dimorphic, covered by long, decumbent hairlike setae in males, fewer and spinelike in females, inner surface spinelike elevated at insertion of each seta, more strongly so in females. Metatibiae with apical anterior margin widely convex, with fringe of scarce, stout, yellowish spiniform setae, and flange shielding outwardly tarsal insertion, fringed by dark brown, stout, spiniform setae rather similar in size, becoming thinner, paler and increasing in number towards posterior margin, bevel oblique and extremely narrow, glabrous and shiny (corbel enclosed); surface surrounding tarsal condyle glabrous; mucro shorter than tarsal claws, premucro present, bifurcated; tarsi darker than tibiae, ventrally densely covered with setae, with tarsomeres I and II subtriangular, I approximately 1.5-times longer than II, III bilobed, 1.8-times wider than II, with anterior lobe slightly wider than posterior lobe, IV short, V approximately 4-times longer than apical width, 1.8-times longer than I; claws free, simple, nearly 2-times longer than joint basal width.

Elytra. Length in dorsal view 1.8-times greatest width, only slightly wider than base of pronotum (Fig. 3A); anterior margin (jointly) bisinuate; humeri reduced and oblique; lateral margins straight, converging towards apex in males, parallel until basal 2/3 and roundly converging towards apex in females; combined apex widely rounded; dorsal surface only slightly impressed on areas covered by scales; in lateral view with dorsal outline only slightly convex; posterior declivity nearly straight, forming 45° angle with respect to dorsal outline; area of posterior declivity with sparse, long, suberect setae on males and females; with 10 complete elytral striae, for most part uniformly separated from each other by distance similar to basal width of femora; punctures deep and wide, separated from each other longitudinally by distance approximately 2-times length of one puncture; each puncture

bearing one short, curved, decumbent, translucent setalike scale; striae IX and X completely separated along entire length, with striae X sinuate along insertion of metacoxae (more separated from stria IX along metepisternum, closer at metacoxal insertion); anterolateral corner of metepisternum projecting, leaving distinct notch on outer margin of elytra; intervals irregularly covered with rather uniformly sized scales, forming groupings of 10–60 scales, distributed in somewhat checkered pattern ('splendidus-type' of scale coverage, see Girón & Franz 2012, character 22); interval X slightly produced along basal third of elytra.

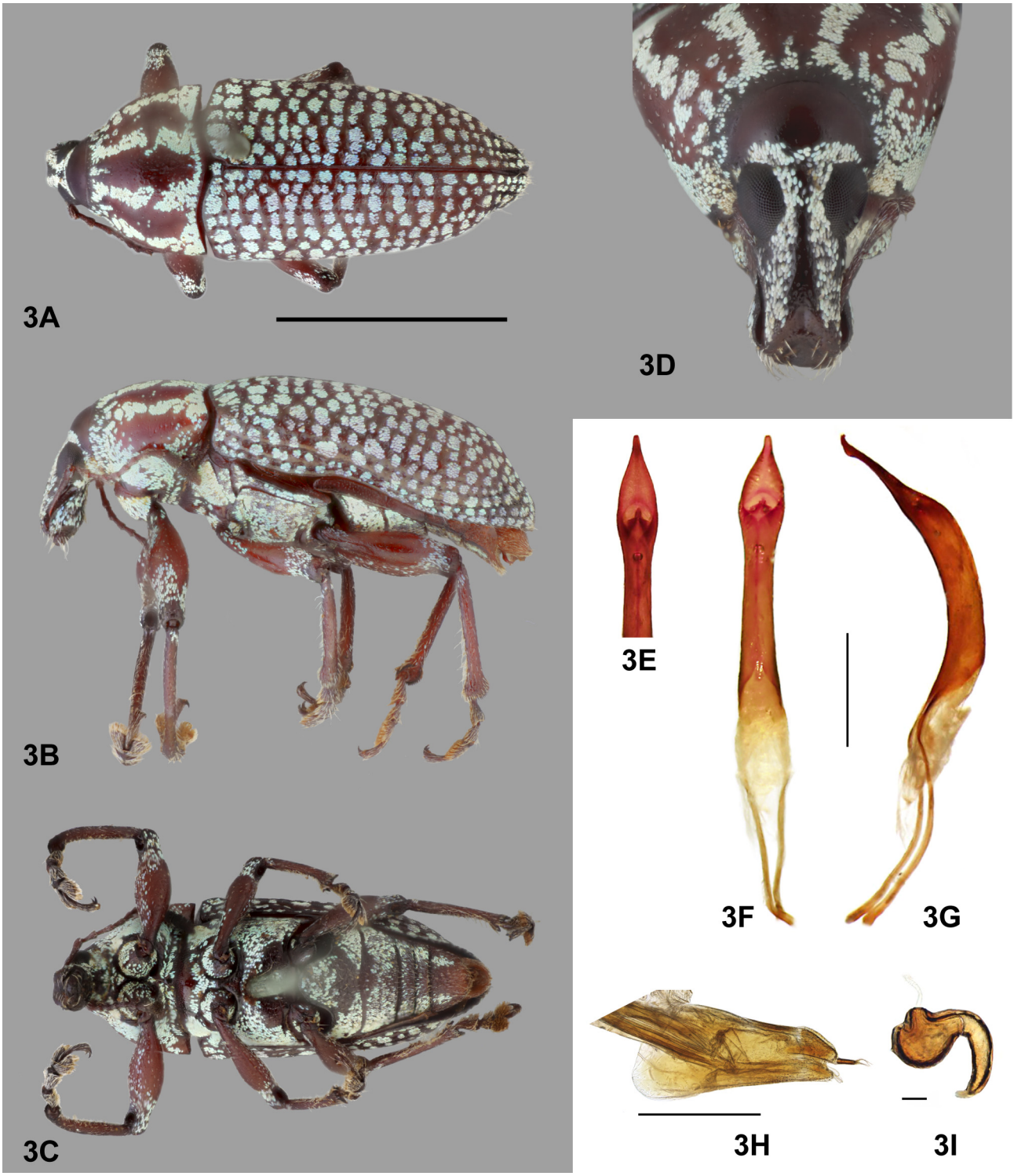

FIGURE 3. *Lachnopus lucayanus* (male). **A.** dorsal view; **B.** lateral view; **C.** ventral view; **D.** head, dorsal view; **E.** apex of aedeagus; **F.** aedeagus in dorsal view; **G.** aedeagus in lateral view. **H.** coxites in lateral view; **I.** spermatheca. Scale bar: 5 mm for A–C; 1 mm for F–H; 0.1 mm for I.

Hindwings. Fully developed.

Abdomen. Venter (Fig. 3C) densely covered with scales on sides, less so along median longitudinal area, anterior margin of III mesally bell-shaped, posterior margin of III mesally slightly acutely emarginate; posterior margins of V and VI fringed with setalike scales; segments V–VII separate. Males: anteromesal surface of III slightly impressed, surface of III to VII with slight, round elevations at insertion of setae, less so on VII; III approximately 1.5-times longer than IV; IV mesally rather flat, approximately 1.3-times longer than V to VI jointly, IV nearly 0.9-times length of VII; surface of V and VI elevating posteriorly; lateral surfaces of VII depressed, mesal surface elevated and flat, posterior margin of VII widely rounded, with mesal emargination; Females: III only slightly longer than IV; surface of III only slightly elevated at insertion of setae; IV mesally rather flat, laterally convex, approximately 2-times longer than V to VI jointly, IV nearly 1.1-times length of VII; surface of V and VI strongly elevating posteriorly, with sharply stepped posterior margin; VII nearly 0.7-times as long as basal width, anterior margin with pair of lateral foveae (see Girón & Franz 2012, character 53), surface of VII with lateral oblique impressions near base, and longitudinally impressed along posterior 2/3; lateral surfaces of VII depressed, posterior margin narrowly rounded.

Terminalia. Male with tergum VII transverse, 1.4-times wider than long, with lateral areas with fine, appressed spines, mesal area basally narrower than lateral areas, posteriorly widened and extending along lateral and posterior margins; mesal area with irregular surface, depressed at the insertion of simple setae; anterior margin of tergum VII nearly straight, posterior margin widely rounded. Tergum VIII as wide as own length along midline, with anterior margin acutely emarginated, posterior margin widely rounded; ventral flap bisinuate, mesally rounded; in lateral view, dorsal outline sinuate. Sternum VIII composed of two lateral plates separated by membrane with small median rooflike plate; each plate with inner margin roundly convex, outer margin nearly straight and proximal outer corner anteriorly projected; spiculum relictum present, as inverted V, translucent. Sternum IX (spiculum gastrale) with apodeme as long as median lobe, anteriorly expanded into asymmetrical, semi-triangular lamina with rounded corners; posteriorly bifurcated, furcal arms opposed, elongate, basally fused, apically triangular, with basal, medial and apical portions similar in size, gradually more sclerotized towards apex, basally fused with apodeme. Tegmen with apodeme 0.6-times length of median lobe; tegminal plate fused with basal piece forming ring; tegminal plate with pair of narrow projections (parameres), nearly 0.25-times length of tegminal apodeme, each projection finely denticulate on apical half. Aedeagus in dorsal view (Fig. 3F) 6.8-times longer than its greatest width, mesally narrowed; dorsal surface sclerotized, with mesal longitudinal carina; ventral surface of aedeagus with mesal longitudinal carina and basal margin mesally acutely emarginate. Apex of aedeagus (Fig. 3E) narrowly rounded, dorsally projecting; distance from apical margin of ostium to apex of aedeagus 1.5-times largest width of aedeagus at ostium. Endophallus with fine small papillae along entire length of median lobe; with pair of lateral sclerites and median sclerite near apex, closing ostium. Aedeagus in lateral view (Fig. 3G) dorsally convex, with lateral profile of ventral surface widely concave, with secondary concavity along apical region; length 8.4-times its greatest width; dorsal and ventral outlines uniformly curved, parallel along mid section. Aedeagal apodemes 0.6-times length of aedeagus, anteriorly slightly widened, nearly uniformly curved.

Female. With tergum VII semioval, with lateral triangular areas with fine, appressed spines, mesal area basally narrower than lateral areas, posteriorly widened and extending along lateral and posterior margins; mesal area with irregular surface, depressed at insertion of simple setae; anterior margin of tergum VII mesally roundly emarginated, with lateral marginal areas more sclerotized; posterior margin narrowly rounded. Tergum VIII narrowly triangular, anterior margin widely roundly emarginate, apical margin narrowly rounded, with long setae on apico-dorsal surface and ventrolateral margin, and tuft of shorter curved setae at apex. Sternum VIII, including apodeme, 1.8-times longer than coxites, lamina occupying nearly posterior half, sagittate, with rounded corners, with anterior half extending dorsally and anteriorly forming somewhat coriaceous sheath around coxites; apical region of lamina with pair of longitudinal rows of setae; apex of lamina with tuft of setae; apodeme of sternum VIII with perpendicular, small, irregular base, apically bifurcated at basal 1/5 of lamina, gradually lighter towards apex, gradually fused with lamina. Coxites+styli (Fig. 3H) nearly as long as lamina of sternum VIII (including antero-dorsal projection); coxites laterally compressed, in lateral view with apical margin mesally deeply emarginate, separating dorsal and ventral sections; each stylus 4-times longer than its greatest width, cylindrical, inserted at ventral corner of dorsal section of each coxite, with 3–5 apical setae; ventral section of coxites in lateral view, nearly as wide as dorsal section, apically rounded, with few long, curled setae at apex. Genital chamber 0.9-times length of sternum VIII, with internal longitudinal sclerotizations. Spermatheca (Fig. 3I) 0.7-times longer than wide,

e-shaped; cornu slightly curved, perpendicular to ramus, with apical projection; ramus and collum pointing approximately in same direction; ramus apically truncate, with rounded corners, adjacent to collum; collum reduced; surface striate along curvature between cornu and corpus.

Etymology. Named after the Lucayan Archipelago, which includes the Bahamas and the Turks and Caicos Islands, where the known specimens were collected.

Variation. Specimens of *L. lucayanus* from Eleuthera in the Bahamas are fairly uniform in coloration and scale pattern. Sexual dimorphism, other than body shape (parallel-sided females vs. gradually narrowing posteriorly from the elytral humeri in males) is not very striking. There is variation in size, with females usually larger. Specimens from Turks and Caicos have scattered patches of scales on the pronotum, which differs from the longitudinal stripes evident in the Eleuthera (Bahamas) specimens. There are also slight differences in the proportions (width/length) of the aedeagus, comparing both localities. The apical emargination of the abdominal segment VII of the male is more markedly defined in the Providenciales specimen.

Natural history. The biology, host plants and habitat of *L. lucayanus* are not known.

Remarks: The genus *Lachnopus* was recorded from the Bahamas by Turnbow & Thomas in 2008. The authors list three unidentified species: *Lachnopus* sp. (from Grand Bahama, at CWOB), *Lachnopus* sp. B (from Mayaguana, at FSCA) and *Lachnopus* sp. C (from Eleuthera, at FSCA). After examining the Bahamas material deposited at FSCA and CWOB, none of the species listed by Turnbow & Thomas (2008) correspond to *L. lucayanus* Girón & O'Brien. *Lachnopus* sp. (from Grand Bahama, at CWOB, *sensu* Turnbow & Thomas 2008) corresponds to *L. coffeae* Marshall, 1922, *Lachnopus* sp. B correspond to *L. karphos* Girón & O'Brien, and *Lachnopus* sp. C corresponds to *L. petilusquamus* Girón & O'Brien.

Lachnopus petilusquamus Girón & O'Brien sp. nov.

(Fig. 4)

Species recognition. *Lachnopus petilusquamus* belongs to the *L. luctuosus* species-group (see "*Lachnopus* species-groups" section). It can be distinguished from closely related species by the very narrow scales all over the body. In addition, the prothorax is coarsely marked, as in *L. luctuosus* (Klug), 1829 (Fig. 14B), and the elytral intervals are slightly elevated as in *L. floridanus* Horn, 1876 (Figs. 14 E–F), from which it can be distinguished by its smaller size and mesally longitudinally impressed frons.

Specimens examined. *Holotype:* male "BAHAMAS: Eleuthera/ Rainbow Bay/ 11-XI-19-XII-1986/ D.B. & R.W. Wiley/ Malaise trap" (dissected, FSCA).

Paratypes: "BAHAMAS: Eleuthera/ Rainbow Bay/ VIII-XII-1988/ D.B. & R.W. Wiley" (CWOB 1 male, FSCA 1 male).

Description. *Body.* Length 5.2 mm, greatest width (at elytral humeri) 2 mm (N = 1); shape in dorsal view elongate (Fig. 4A), length/width ratio 2.6; shape in lateral view subrectangular, with dorsal outline moderately convex (Fig. 4B). Integument brown, paler in antennae, elytra, and tarsi; surface smooth and even for most part, coarsely punctured in prothorax, and slightly elevated along elytral intervals; coverage composed of appressed, irregularly distributed, non-overlapping scales, and sparse, curved, short, decumbent and translucent setae throughout body; scales very narrow and elongated, with smooth surface, iridescent yellowish white; regular hairlike setae limited to apex of rostrum, mouthparts, antennae, legs, apex of elytra and ventral surface of body.

Head. Shape in dorsal view trapezoid (Fig. 4D); dorsal surface of head and rostrum sparsely covered by narrow scales. Eyes in dorsal view wide and elliptic, strongly produced from surface of head (Fig. 4D); in lateral view oval, 1.4-times longer than wide; ocular sclerite well-defined along ventral and posterior margins of eye; anterior and dorsal margins of eye strongly impressed. Frons trapezoid (Fig. 4D), longitudinally widely impressed, median fovea strongly reduced; shortest distance between eyes 0.8-times shortest width of dorsal surface of rostrum. Rostrum in dorsal view 0.7-times length of head, with lateral margins curved, diverging apically, greatest width apicad of antennal insertion; rostrum with shallow lateral and median longitudinal grooves, extending along basal half of rostrum; epistomal area widely, somewhat triangularly impressed, (Fig. 4D), shiny, glabrous, with sparse punctations, with long translucent yellowish epistomal setae on each side of apical margin; nasal plate (apicad of epistomal setae) perpendicularly positioned with respect to dorsal surface of rostrum, slightly concave, glabrous and smooth. Rostrum in lateral view, perpendicular to head, with dorsal margin nearly straight, 0.9-times

length of greatest width; antennal insertion at apical third of rostrum; scrobe passing below eye, well defined throughout, deep, glabrous and shiny, curved downwards by 45°, with dorsal and ventral margins slightly sinuate, extending to anterior margin of eye, posterior region of dorsal margin of scrobe sharply carinate; ventral surface of rostrum with few sparse long decumbent setae around apex; gular suture undefined; ventral surface of head with deep median posterior pit, located at base of rostrum; hypostomal-labial sutures slightly impressed, bifurcating from posterior pit towards apex of submentum; anterior pits deep, positioned at apical fourth of rostrum, on outer sides of hypostomal-labial sutures; submentum surface impressed, covered by fine setae; occipital sutures reduced to elongated and deep lateral pits, positioned at midlength of sides of rostrum; postmentum glabrous and very short; lateral surfaces of apex of rostrum densely covered by setae and piliform scales.

Mouthparts. Mandibles with long setae on dorsal and outer surfaces; mandibular scar only slightly raised from surface (Fig. 4D). Maxillae only visible at sides of base of prementum as narrow and elongate triangles; prementum pentagonal, nearly as long as greatest width near apex, with reticulate surface, bearing few long setae along each apical corner.

Antennae. With 12 antennomeres, yellowish; scape slender, with apex strongly and somewhat abruptly widening at apical third in anterior view, extending (in repose) beyond posterior margin of eyes, not reaching anterior margin of prothorax, and passing tangential to ventral margin of eye, with sparse fine setae; funicle with seven antennomeres, 1.5-times longer than scape; funicular antennomeres clavate, scarcely covered by fine setae and surrounded by row of semierect, preapical, longer setae; funicular antennomere I wider and slightly longer than II, III to VI similar in size and shape, VII slightly larger than VI; antennal club 4-articulated, finely and densely pilose, 2.7-times longer than its greatest width, 0.4-times length of funicle; club articles I and II similar in length, III slightly shorter and IV 0.5-times shorter than III.

Thorax. Pronotum somewhat hexagonal (Fig. 4A), greatest width at midlength; posterior margin simple (as opposed to carinate), bisinuate, approximately 1.4-times greater than anterior margin; posterior corners of pronotum forming obtuse angle; lateral margins convex, converging on apical half; dorsal surface rather flat, with irregularly distributed coarse punctures; scale coverage sparse; scutellum conspicuous, U-shaped, smooth, with few translucent setae, surface convex. Prothorax in lateral view trapezoid, dorsal outline nearly straight, approximately 1.7-times longer than ventral outline, with anterior margin only slightly convex; lateral surface of prothorax with anterior and posterior impressions parallel to anterior and posterior margins respectively, bulging around coxal insertion, sparsely covered by scales. Prosternum with anterior and posterior margins fringed by short plumose setae; anterior rib (surface between anterior margin and anterior impression) nearly glabrous; procoxal cavities contiguous, positioned closer to anterior than to posterior margin of prosternum; surface of posterior intercoxal projection apically elevated and covered by scales, basally widely impressed; surface of prosternum rather sparsely covered by scales; prosternum 1.1-times longer than mesoventrite, and as long as metaventrite; posterior margin of prosternum elevated over anterior margin of mesoventrite. Mesoventrite with mesocoxal cavities each approximately 3-times wider than intercoxal process; surface of anteromesal area of mesoventrite glabrous and reticulate; lateral surface of mesoventrite slightly bulging around coxal insertion, sparsely covered by scales. Mesepimeron and mesepisternum semitriangular, sparsely covered by scales; surface of metepisternum markedly depressed near anterior margin. Metaventrite sparsely covered by scales on lateral areas, mesally glabrous, with large median depression near posterior margin; each posterolateral portion of metaventrite terminating at oblique plica; distance between posterior margin of mesocoxae and anterior margin of metacoxae slightly shorter than length of prosternum; distance separating metacoxal cavities nearly as wide as each metacoxal cavity.

Legs. Femora unarmed, widening apicad of midpoint; anterior femora nearly 4-times, median 4.4-times and posterior 4.3-times longer than greatest width, all sparsely covered by scales, scales denser at apical 1/3, with sparse curved, translucent setae; femora at least 1.1-times longer than mesal length of pronotum; posterior surface of meso and metafemora flattened and smooth. Protibia slightly curved inwards at apical 1/3, surface covered by scales and curved setae; posterior surface covered by scarce fine setae; inner anterior edge with row of brownish spiniform setae, each with spinelike elevated integument at insertion; mesotibia similar in coverage. Metatibiae slightly curved, with oblique apical anterior margin, with fringe of numerous, short, brown spiniform setae, and flange shielding outwardly tarsal insertion, fringed by darker, longer, stout, spiniform setae increasing in size and becoming thinner towards posterior margin, bevel oblique, glabrous and very narrow (corbel enclosed); surface surrounding tarsal condyle glabrous and reticulated; mucro much shorter than tarsal claws, premucro present,

bifurcated; inner face of metatibiae with scattered, variously sized roundly pointed spines, and densely covered by long hairlike setae. Tarsi ventrally densely covered with setae, with tarsomeres I and II subtriangular, equal in size, III bilobed, symmetrical, 1.4-times wider than II, IV short, V approximately 4-times longer than apical width, 2.2-times longer than I; claws free, simple, nearly as long as joint basal width.

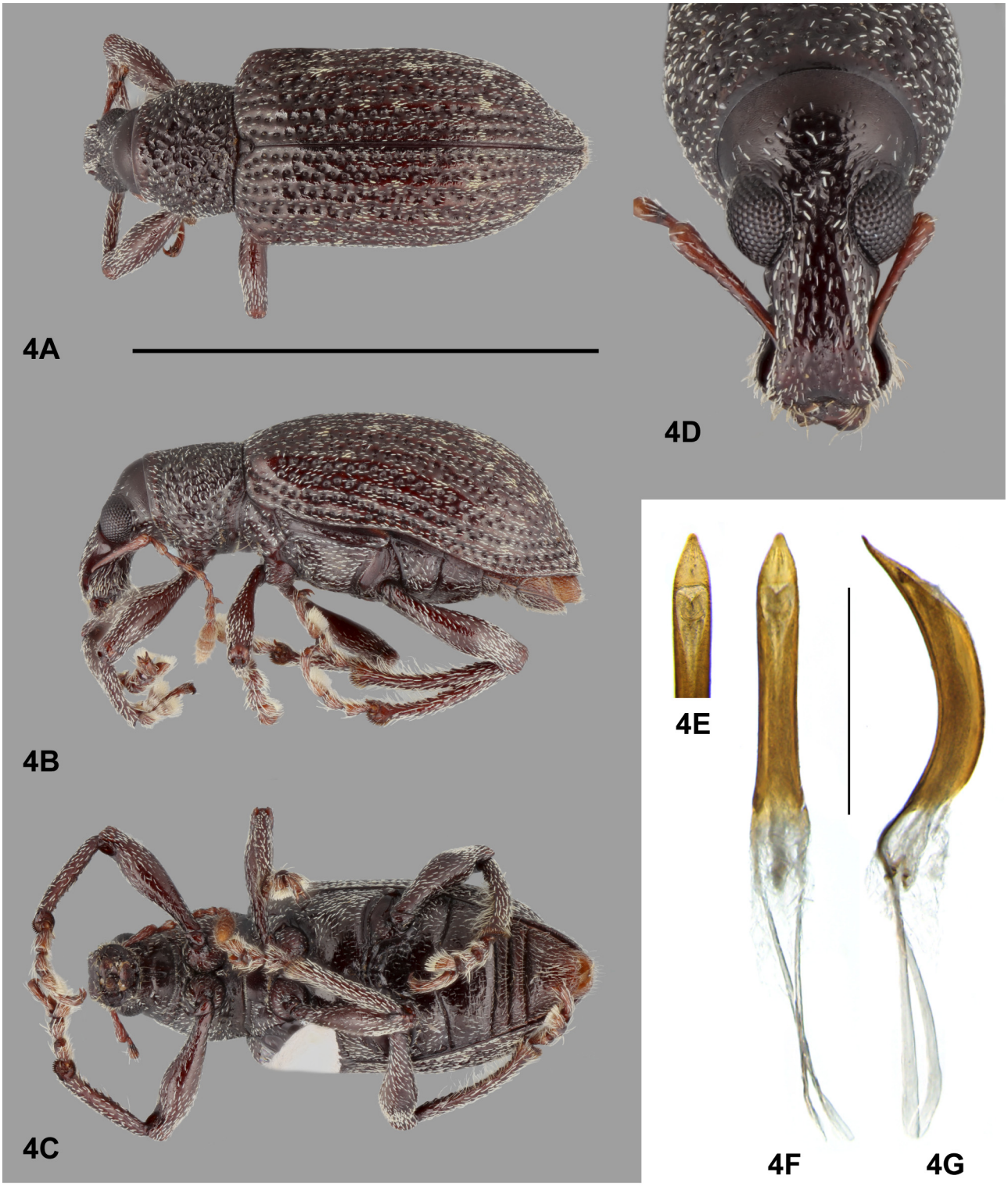

FIGURE 4. *Lachnopus petilusquamus* (male). **A.** dorsal view; **B.** lateral view; **C.** ventral view; **D.** head, dorsal view; **E.** apex of aedeagus; **F.** aedeagus in dorsal view; **G.** aedeagus in lateral view. Scale bar: 5 mm for A–C; 1 mm for F–G.

Elytra. Length in dorsal view 1.6-times greatest width (near midlength), 1.6-times wider than base of pronotum (Fig. 4B); anterior margin (each) oblique until corner of humeri; humeri rectangular, rounded; lateral margins straight, parallel along basal 2/3, then roundly converging towards apex; apex of each elytron rounded; dorsal surface slightly elevated along intervals; in lateral view with dorsal outline moderately convex; posterior declivity widely rounded; with 10 complete elytral striae, with punctures not perfectly aligned, somehow forming zig-zag along striae; punctures deep and wide, bearing curved, translucent seta; striae IX and X completely separated along entire length, with striae X sinuate along insertion of metacoxae (more separated from stria IX along metepisternum, closer at metacoxal insertion); anterolateral corner of metepisternum projecting, leaving distinct notch on outer margin of elytra; elytral coverage composed of scattered narrow scales, denser along apical 1/3, with few spots formed by groups of 6–15 bulkier scales.

Hindwings. Fully developed.

Abdomen. Venter (Fig. 4C) with scattered scales and translucent, curved setae. Abdominal segment III approximately 1.1-times longer than IV, with mesal surface flat, anterior margin mesally bell-shaped and posterior margin mesally acutely emarginate; IV mesally rather flat, approximately 2-times longer than V to VI jointly, IV slightly longer than VII; posterior corners of IV slightly elevated; segments V–VII separate; surface of V and VI elevating posteriorly; lateral surfaces of VII obliquely depressed, mesal surface elevated and flat, posterior margin of VII roundly truncated.

Terminalia. Male with tergum VII transverse, 1.3-times wider than long, with lateral areas with fine, appressed spines, mesal area wider than lateral areas, posteriorly widened and extending along lateral and posterior margins; mesal area with irregular surface, depressed at the insertion of simple setae; anterior margin of tergum VII mesally widely convex, posterior margin nearly straight. Tergum VIII 1.3-times wider than own length along midline, with anterior margin slightly emarginated, posterior margin widely rounded; ventral flap wide, triangular and mesally rounded; in lateral view, dorsal outline basally straight, curved at apical 1/3. Sternum VIII composed of two lateral plates separated by membrane, somewhat rhomboidal, with proximal corners strongly projected: outer acutely, inner roundly; each plate with few long setae along apical margin; spiculum relictum present, Gaussian shaped, translucent. Sternum IX (spiculum gastrale) with apodeme 1.4-times longer than median lobe, with anterior 1/4 laterally expanded, apically rounded; posteriorly bifurcated, furcal arms opposed, sigmoid, fused along basal 1/3 with each other and with apodeme, apically acute and outwardly curved, with basal, medial and apical portions similar in size, gradually more sclerotized towards apex. Tegmen with apodeme nearly as long as median lobe; tegminal plate fused with basal piece forming ring; tegminal plate with pair of narrow projections (parameres), nearly 0.4-times length of tegminal apodeme, fused along basal 1/3, each projection finely denticulate on apical half. Aedeagus in dorsal view (Fig. 4F) 6-times longer than its greatest width near base, parallel-sided for most part; dorsal surface sclerotized along basal half; ventral surface of aedeagus with basal margin mesally roundly emarginate. Apex of aedeagus (Fig. 4E) narrowly rounded, distance from apical margin of ostium to apex of aedeagus 1.3-times greatest width of aedeagus at ostium. Endophallus with fine small papillae along entire length of median lobe; with pair of lateral oblique sclerites near apex, closing ostium, and transverse curved narrow sclerite at base of ostium; with paired antebasal hook shaped sclerites. Aedeagus in lateral view (Fig. 4G) dorsally convex; length 6.2-times its greatest width; dorsal and ventral outlines uniformly curved. Aedeagal apodemes 1.2-times longer than aedeagus, anteriorly slightly widened, nearly straight.

Female. Unknown.

Etymology. Noun in apposition. Named for the very narrow scales composing the scale coverage, with the Latin words *petilus* meaning "thin, slender" and *squama* meaning "scale" (Brown 1956).

Variation. Though only three specimens have been observed, variation in size, color and density of the scale coverage would be expected for the species.

Natural history. The biology, host plants and habitat of *L. petilusquamus* are not known. One of the known specimens was collected in a Malaise trap.

Remarks: The genus *Lachnopus* was recorded from the Bahamas by Turnbow & Thomas in 2008. The authors list three unidentified species. *Lachnopus petilusquamus* corresponds to the species listed by Turnbow & Thomas (2008) as *Lachnopus* sp. C (from Eleuthera, at FSCA and CWOB).

***Lachnopus rhabdotus* Girón & O'Brien sp. nov.**
(Fig. 5)

Species recognition. *Lachnopus rhabdotus* belongs to the *L. plumipes* species-group (see "*Lachnopus* species-groups" section). It can be distinguished readily from *L. plumipes* by the scale coverage, composed of white iridescent scales, denser along the impressed elytral striae. In addition, the elytral intervals are slightly elevated along their entire length, and lack additional punctures present in *L. plumipes*. It can be distinguished from *L. karphos* mostly by the characteristics of the coverage and surface of the elytra, as well as by the wider and convex pronotum of *L. rhabdotus*.

Specimens examined. *Holotype:* male "BWI: Turks & Caicos/ Providencialies, 2 km/ NW Wheeland, Blue Hills,/ 14-20.X.1990,/ David & Kathy Matusik" (FMNH: dissected).

Paratypes: **BRITISH WEST INDIES: Turks & Caicos Islands: Middle Caicos:** Near Bambarra. 4.i.2001 (BMNH: 1 male; CMNC: 1 female); Bambarra, i.2001 (BMNH: 1 female); near Lorimers, along Haulover Trail, 30.i.2002, on *Zanthoxylum flavum*, feeding damage to edges of leaves (BMNH; 1 male, 2 females); Bambarra-Lorimers Road, Armstrong Pond Trail, 25.i.2005, O.D. Cheesman, on *Guapira discolor* (BMNH: 1 male, 1 female).

Description. *Body.* Length 9–11 mm, greatest width (at elytral humeri) 3.5–5.0 mm (N = 3) in males; length 11–12 mm, greatest width (at elytral humeri) 4–5 mm (N = 3) in females; shape in dorsal view elongate (Fig. 5A), length/width ratio 3.1; shape in lateral view subrectangular, with dorsal outline only moderately convex (Fig. 5B). Integument dark reddish brown, paler in legs; surface smooth and even for most part, only slightly elevated along elytral intervals; coverage composed of appressed, irregularly distributed, variously overlapping scales, and sparse, curved, thick, decumbent and translucent setae throughout body; scales with longitudinally ribbed surface, spathulate to lingulate, iridescent, white to grey; regular hairlike setae limited to apex of rostrum, mouthparts, antennae, legs, apex of elytra and ventral surface of body.

Head. Shape in dorsal view trapezoid (Fig. 5D); dorsal surface of head and rostrum covered rather uniformly by narrow scales; scale coverage denser on lateral and ventral surfaces of head, particularly along posteroventral margin of eyes, where scales are wider. Eyes in dorsal view narrow and elliptic, only slightly produced upon surface of head (Fig. 5D); in lateral view semioval, with anterior margin nearly straight, 1.4-times longer than wide, with dorsal and ventral margins nearly straight, parallel along anterior half; ocular sclerite well-defined, particularly along ventral and posterior margins of eye. Frons nearly rectangular (Fig. 5D), flat, with small median fovea in which median longitudinal groove origins, extending to antennal insertion; shortest distance between eyes 1.2-times wider than shortest width of dorsal surface of rostrum. Rostrum in dorsal view 0.9-times length of head, with lateral margins straight, slightly converging apically, greatest width at anterior margin of eyes; rostrum with lateral longitudinal grooves, densely covered by scales, extending from anterodorsal corner of eyes to anterodorsal corner of scrobe; epistomal area triangularly depressed, and extending posteriorly until anterior half of rostrum (Fig. 5D), shiny, glabrous, smooth for most part, with long translucent yellowish epistomal setae on each side of apical margin, increasing in size and number towards apex of rostrum; nasal plate (apicad of epistomal setae) perpendicularly positioned with respect to dorsal surface of rostrum, concave, glabrous and smooth. Rostrum in lateral view, nearly in same axis as head, with dorsal margin straight, 0.9-times length of greatest width; antennal insertion nearly at apex of rostrum; scrobe directed towards eye, with dorsal margin well defined (carinate) throughout, and ventral margin not defined posteriorly; scrobe deep, with few narrow scales on posterior third, slightly bent posteriad of midpoint, extending to anterior margin of eye; dorsal margin of scrobe ending at dorsal third of anterior margin of eye; ventral surface of rostrum with few sparse long decumbent setae around apex; gular suture slightly impressed, clearly visible, ending at large median posterior pit, located at base of rostrum; hypostomal-labial sutures slightly impressed, bifurcating from posterior pit towards apex of submentum; anterior pits small, positioned at apical third of rostrum, on outer sides of hypostomal-labial sutures; submentum surface covered by appressed lingulate scales, with few long setae at apex; occipital sutures reduced to large and deep lateral pits, positioned at midlength of sides of rostrum; postmentum glabrous and very short.

Mouthparts. Mandibles with long setae on dorsal and outer surfaces, with shorter and finer setae on ventral surface; mandibular scar equate with surface (Fig. 5D). Maxillae only visible at sides of base of prementum as narrow fusiform bars; prementum trapezoid, slightly shorter than greatest width near apex, with reticulate surface, roundly and widely depressed at basal center, bearing long setae along each apical corner.

Antennae. With 12 antennomeres; scape slender, slightly bent at basal 1/4, gradually widening along basal 1/4 and along apical 1/3, extending (in repose) beyond posterior margin of eye, without reaching anterior margin of prothorax, and passing over ventral 1/4 of eye, with setalike scales; funicle with seven antennomeres, 1.1-times longer than scape; funicular antennomeres clavate, densely covered by setalike scales and surrounded by row of erect preapical setae; funicular antennomere I 1.4-times longer than II, funicular antennomeres II and III similar in size; funicular antennomeres IV to VII similar in size, 0.7-times length of III; antennal club with four antennomeres, finely and densely pilose, 2.8-times longer than greatest width, 0.45-times length of funicle; club antennomeres I to III gradually slightly shorter, IV half size of III.

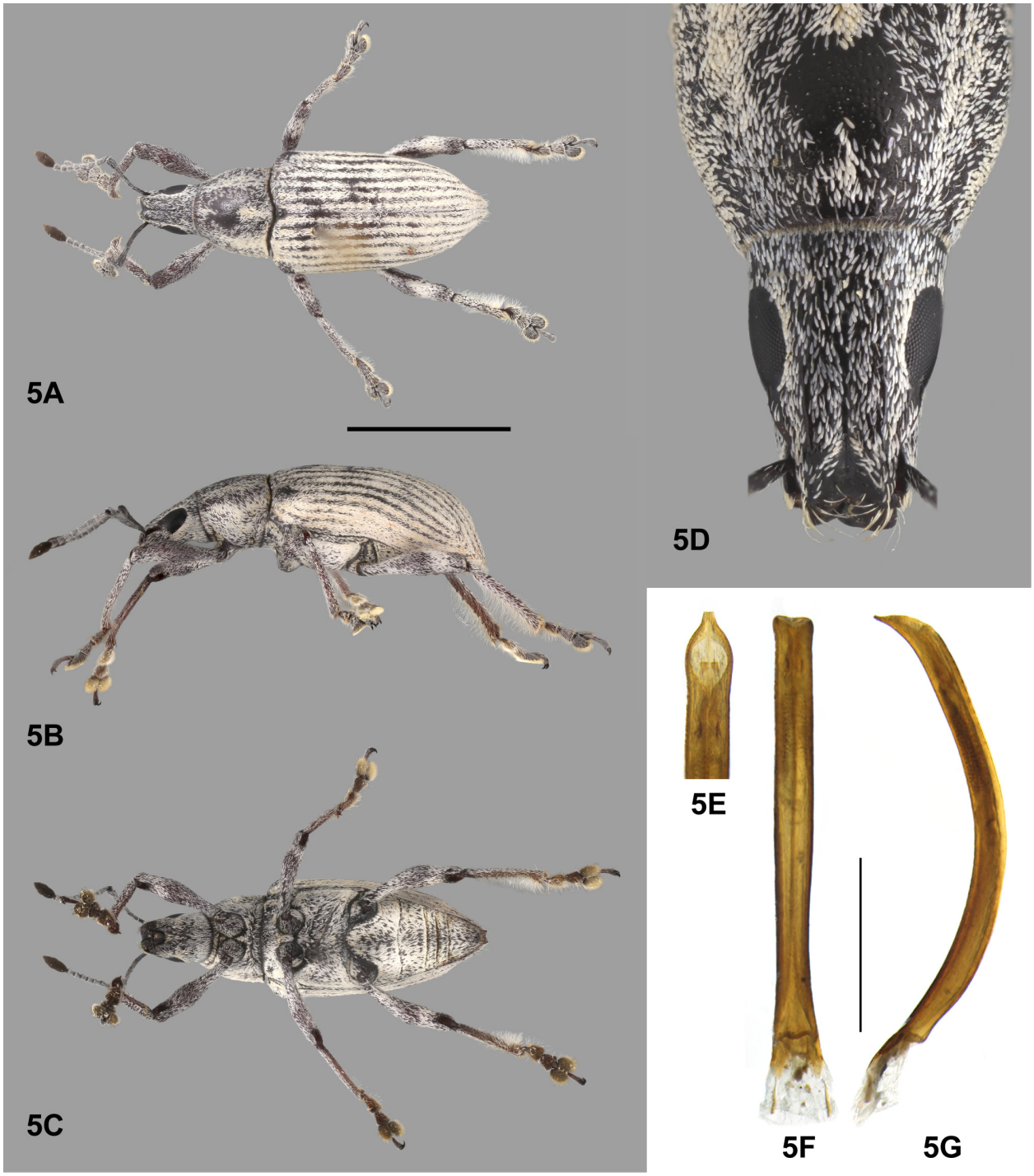

FIGURE 5. *Lachnopus rhabdotus* (male). **A.** dorsal view; **B.** lateral view; **C.** ventral view; **D.** head, dorsal view; **E.** apex of aedeagus; **F.** aedeagus in dorsal view; **G.** aedeagus in lateral view. Scale bar: 5 mm for A–C; 1 mm for F–G.

Thorax. Pronotum trapezoid (Fig. 5A), greatest width at base; posterior margin simple (as opposed to carinate), bisinuate, approximately 1.7-times greater than anterior margin; posterior corners of pronotum forming right angle; lateral margins slightly convex, converging on apical 1/3; dorsal surface moderately convex, impressed at base of each decumbent and translucent seta; scale coverage rather dense, more so along longitudinal lateral and median stripes; posterior surface of pronotum covered by fine and dense setae; scutellum conspicuous, U-shaped, glabrous and smooth, with median impression. Prothorax in lateral view trapezoid, dorsal outline slightly convex, approximately 1.5-times longer than ventral outline, with anterior margin straight, densely fringed by setae; lateral surface of prothorax bulging along dorsal edge, densely covered by scales, with anterior and posterior impressions parallel to anterior and posterior margins respectively. Prosternum with anterior and posterior margins fringed by lingulate and plumose scales; anterior rib (surface between anterior margin and anterior impression) nearly glabrous; procoxal cavities closed, apparently contiguous, positioned clearly closer to anterior than to posterior margin of prosternum; anterior impression undefined around coxae; surface of posterior intercoxal projection strongly elevated and densely covered by scales; prosternum 1.5-times longer than mesoventrite, and only slightly shorter than metaventrite; posterior margin of prosternum equate with anterior margin of mesoventrite. Mesoventrite with mesocoxal cavities each approximately 3.6-times wider than intercoxal process; surface of anterior area of mesoventrite covered by plumose scales; lateral surface of mesoventrite bulging around coxal insertion, covered by lingulate scales. Mesepimeron and mesepisternum semitrapezoid, densely covered by lingulate scales, denser and overlapping on mesepisternum; surface of mesepimeron produced on dorsal half. Metaventrite densely covered by scales, with wide median depression near posterior margin; each posterolateral portion of metaventrite densely covered by overlapping scales, each terminating abruptly at oblique plica; distance between posterior margin of mesocoxae and anterior margin of metacoxae similar to length of prosternum; distance separating metacoxal cavities nearly as wide as each metacoxal cavity.

Legs. Femora unarmed, widening apicad of midpoint; anterior femora nearly 4.2-times, median 4.5-times and posterior 4-times longer than greatest width, all rather densely covered by scales, scales smaller at apex and widest region, with sparse curved setae; femora at least 1.2-times longer than mesal length of pronotum; posterior surface of metafemora flattened and smooth. Protibia slightly curved inwards at apical 1/3, surface covered by decumbent setalike scales and curved setae; posterior surface covered by fine setae and setalike scales; inner anterior edge with row of brownish spiniform setae, each with spinelike elevated integument at insertion; mesotibia similar in coverage, with denser fine setae on inner surface, and more strongly projected spinelike elevations of integument. Metatibiae with oblique apical anterior margin, with fringe of numerous, stout, yellowish brown spiniform setae, and flange shielding outwardly tarsal insertion, fringed by similarly colored, longer, stout, spiniform setae rather uniform in size, becoming thinner towards posterior margin; bevel oblique nearly as wide as tarsal condyle (corbel enclosed), with few spiniform setae; surface surrounding tarsal condyle glabrous, reticulated and dorsally depressed; mucro shorter than tarsal claws, premucro present, bifurcated; inner face of metatibiae with scattered, variously sized roundly pointed spines, and densely covered by fine hairlike setae. Tarsi ventrally densely covered with setae, with longer and finer setae around dorsal edges, with tarsomeres I and II subtriangular, II only slightly longer and wider than I, III bilobed, symmetrical, 1.5-times wider than II, IV short, V approximately 4.5-times longer than apical width, 1.4-times longer than I; claws free, simple, nearly 1.5-times longer than joint basal width.

Elytra. Length in dorsal view 1.9-times greatest width (at humeri), 1.4-times wider than base of pronotum (Fig. 5B); anterior margin (jointly) bisinuate; humeri rectangular, rounded; lateral margins straight, converging towards apex, slightly until basal half, then roundly converging towards apex; apex of each elytron rounded; dorsal surface slightly impressed along elytral striae, slightly elevated along intervals; in lateral view with dorsal outline nearly straight along basal 2/3; posterior declivity widely rounded; with 10 complete elytral striae, for most part uniformly separated from each other by distance similar to basal width of tibiae; punctures deep, concealed by scales; striae IX and X completely separated along entire length, with striae X sinuate along insertion of metacoxae (more separated from stria IX along metepisternum, closer at metacoxal insertion); anterolateral corner of metepisternum projecting, leaving distinct notch on outer margin of elytra; elytral striae covered with rather dense and overlapping lingulate scales, with sparse, curved, translucent setalike scales along intervals.

Hindwings. Fully developed.

Abdomen. Venter (Fig. 5C) densely covered with scales, with scattered long, translucent, curved setae, surface with slight, round elevations at insertion of setae. Abdominal segment III approximately 1.6-times longer than IV, with mesal surface concave, anterior margin mesally bell-shaped and posterior margin mesally slightly roundly

emarginate; IV mesally rather flat, approximately 1.4-times longer than V to VI jointly, IV nearly 0.9-times length of VII; posterior corners of IV slightly elevated; segments V–VII separate; surface of V and VI elevating posteriorly; lateral surfaces of VII depressed, mesal surface elevated and flat, posterior margin of VII widely rounded.

Terminalia. Male with tergum VII subquadrate, only slightly longer than wide, with lateral areas with fine, appressed spines, mesal area at base narrower than lateral areas, posteriorly widened and extending along lateral and posterior margins; mesal area with irregular surface, depressed at the insertion of simple and long, rather dense setae; anterior and posterior margins of tergum VII widely rounded. Tergum VIII slightly wider than own length along midline, with anterior margin roundly emarginated, posterior margin widely rounded; ventral flap bisinuate, mesally narrowly rounded; in lateral view, dorsal outline straight along base, curved at apical 1/3. Sternum VIII composed of two lateral plates, fused along basal half, apically separated, each somewhat semioval, with proximal outer corner anteriorly acutely projected; each plate with fringe of rather long and thick setae along inner apical corner; spiculum relictum present, inverted Y shaped, translucent. Sternum IX (spiculum gastrale) with apodeme 0.9-times length of median lobe, anteriorly expanded into semi-oval lamina; posteriorly bifurcated, furcal arms opposed, elongate, fused along basal 1/4 to each other and to apodeme, apically triangular, with outer apical margins notched, with basal portion occupying half lamina, apical portion longer than medial portion, gradually more sclerotized towards apex. Tegminal apodeme not seen; tegminal plate fused with basal piece forming ring; tegminal plate with pair of narrow projections (parameres), fused along basal 1/6, each projection finely denticulate on apical 1/3. Aedeagus in dorsal view (Fig. 5F) 11.3-times longer than its greatest width, parallel-sided; dorsal surface sclerotized, mesally longitudinally carinated; ventral surface with basal margin mesally narrowly roundly emarginate. Apex of aedeagus (Fig. 5E) narrowly truncate, distance from apical margin of ostium to apex of aedeagus 0.5-times greatest width of aedeagus at ostium. Endophallus with fine small papillae along apical half of median lobe, with pair of lateral elongated plates near apex, closing ostium, with pair of elongated bars at apical 1/5 and pair of oblique plates near midlength. Aedeagus in lateral view (Fig. 5G) dorsally convex, 13.7-times longer than greatest width; dorsal and ventral outlines widely concave at basal 2/3, nearly straight at apical 1/3. Aedeagal apodemes not seen in full; narrowly articulating to aedeagus.

Female. Not Examined.

Etymology. Named from the Greek word *rhabdotos* meaning "striped" (Brown 1956), in reference to the white longitudinal stripes formed by densely arranged scales along the elytral striae.

Variation. There is variation in size, with females being larger than males; the density of the scale coverage is also variable, with the white-striped pattern being preserved for the most part.

Natural history. Specimens of *L. rhabdotus* have been collected On *Guapira discolor* (Nyctaginaceae) and *Zanthoxylum flavum* (Rutaceae).

Lachnopus vanessablockae Girón & O'Brien sp. nov.

(Fig. 6)

Species recognition. *Lachnopus vanessablockae* belongs to the *L. luctuosus* species-group (see "*Lachnopus* species-groups" section). It can be distinguished from its closest allies *L. floridanus* (Fig. 14 D–F) and *L. luctuosus* (Fig. 14 A–C) by the moderately projecting and elongate eyes (as opposed to rounded and strongly projecting); by the smooth surface of its pronotum and elytra (as opposed to coarsely punctate); by the projecting apex of the elytra (as opposed to truncate). The aedeagus of *L. vanessablockae* is narrower and more slender (7-times longer than its greatest width) in comparison with the aedeagi of *L. floridanus* and *L. luctuosus* (5-times longer than greatest width); these structures also differ in the shape of the apex, which is gradually narrowing in *L. floridanus* and *L. luctuosus*, whereas in *L. vanessablockae* it is constricted at the apical margin of the ostium, and then continues as a tonguelike projection. Also *L. vanessablockae* can be distinguished from the widespread *L. curvipes* by the straight and unarmed male metatibia and by the posterior margin of the pronotum being 1.6-times wider than the anterior margin (as opposed to 2-times wider). Additionally, *L. vanessablockae* can be distinguished from *L. cozumelus* by its perfectly aligned elytral striae along the posterior half of the elytra, as well as by characters of the sculpturing of the dorsal surface of the rostrum.

Specimens examined. *Holotype:* male "CI Botanic Park road, 3 Jun 2008, R. Turnbow" (FSCA, dissected).

Paratypes: **CAYMAN ISLANDS: Grand Cayman:** West Bay, 24 Jun 1966, E. J. Gerberg (USNM: 1 female);

Boatswain Point, Lime Tree Estate, 20 Sept 1983, E. J. Gerberg (CWOB: 2 males, including 1 dissected), 2–15 Feb 1987 (FSCA: 1 female), 16 Feb 1985, E. J. Gerberg (CWOB: 1 female), 7 Feb 1987 (FSCA: 1 female); 3 mi. N George Town, 23 Dec 1989, P. H. Freytag (CWOB: 1 male); Rum Point, 3 May 2008, M. C. Thomas (CWOB: 1 male); vic. Gun Bay, Blacklight trap, N 19°21.074' W 81°05.727', 3 Jun 2008, M. C. Thomas, R. H. Turnbow, B. K. Dozier (CWOB: 1 female); vicinity Gun Bay, N 19°21.074' W 81°05.727', 3 Jun 2008, M. C. Thomas (CSCA: 1 male, 1 female; CWOB: 1 male; FSCA: 3 females; INHS: 1 female; SEMC: 1 male); CI Botanic Park road, 3 Jun 2008, R. Turnbow (CWOB: 1 female (dissected); INHS: 1 male); Botanic Garden, 3 Jun 2008, M. C. Thomas, beating (ASUHIC: 1 male, 1 female; CWOB: 2 males; FMNH: 1 male, 1 female; FSCA: 5 males, 1 female); N 19°21.074', W 81°05.727', 4 Jun 2008, R. Turnbow (CWOB: 1 female; SEMC: 1 female); George Town, UCCI, at light, 8 Jun 2008, R. Turnbow (CWOB: 1 male); Mastic Trail, south end, 20 May 2009, coll.: M. C. Thomas (CWOB: 1 male, 1 female; UAIC: 1 male, 1 female), on trees at night (CWOB: 1 male; FSCA: 1 male); Cherry Walk, 19.274N 81.290W, M. C. Rose-Smyth, 6 Jun 2012, within flower 3, Inflor #4, *Myrmecophila thomsoniana* (Rchb. f.) Rolfe, 10:20 AM (NTCII: 1 female); Valley Gardens, 19.276N, 81.276W, M. C. Rose-Smyth, 7 Jun 2012 on *Brassica rapa* L. (Chinese cabbage) (NTCII: 1 male), 8 Jun 2012, on *Guaiacum officinale* L. (Lignum vitae), 21.00 pm (NTCII: 1 female), 9 Jul 2015, collection No. 2015-99, south wall of house at light, 22:10 pm (NTCII: 1 female, dissected); 7 Sep 2015, collection No. 2015-100, south wall of house not at light, 21:30 pm (NTCII: 1 female). **Cayman Brac:** The Creek, 28 Jun 1997, E. A. Dilbert, blacklight trap (CWOB: 1 female (dissected)); N 19°43.158', W 79°47.579', 5 Jun 2008, R. Turnbow (CWOB: 3 males (including 1 dissected), CAS: 1 male, 1 female; USNM: 1 male); Lighthouse Point, N 19°45.072', W 79°43.407', 5 Jun 2008, M. C. Thomas (CWOB: 1 male); West End Point, 6 Jun 2008, R. Turnbow (CWOB: 1 male); N 19°43.158', W 79°47.579', 6 Jun 2008, M. C. Thomas, beating (CWOB: 1 male; FSCA: 1 male, 1 female); N 19°43.158', W 79°47.579', 6 Jun 2008, M. C. Thomas, R. H. Turnbow, B. K. Dozier, blacklight trap (CWOB: 1 female; FSCA: 1 female); N 19°43.158', W 79°47.579', 7 Jun 2008, M. C. Thomas, on dead trees at night (FSCA: 1 female); West End Point, 7 Jun 2008, R. Turnbow (CWOB: 1 male); N 19°43.158', W 79°47.579', 7 Jun 2008, Thomas & Turnbow, blacklight trap (CWOB: 1 female); N 19°43.158', W 79°47.579', 8 Jun 2008, M. C. Thomas, R. H. Turnbow, B. K. Dozier, blacklight trap (CWOB: 1 male, 1 female; FSCA: 1 male); Major Donald Dr., 6 km E jct. Ashton Reid Dr., 22 May 2009, N 19°43.158', W 79°47.579', R. Turnbow (CWOB: 1 female); Bight Rd. at Major Donald Dr., Brac Parrot Preserve, 23 May 2009, M. C. Thomas (CWOB: 1 male, 1 female; FSCA: 1 male, 2 females); Bight Rd., Brac Parrot Preserve, 23 May 2009, Thomas, Turnbow & Ball, blacklight trap (CWOB: 1 male); Major Donald Dr., 4 km E jct. Bluff Rd., 23 May 2009, N 19°71.848', W 79°79.504', Thomas, Turnbow & Ball, blacklight trap (FSCA: 1 female); Brac Parrot Reserve, 23 May 2009, R. Turnbow (CWOB: 1 female); Sovereign Heights, 24 May 2009, R. Turnbow (CWOB: 1 male); **Little Cayman:** .3 mi E Coot Marsh, 26 May 2009, R. Turnbow (CWOB: 1 female, USNM: 1 male); E of Tarpon Lake, 26 May 2009, R. Turnbow (CWOB: 1 male, 1 female; INHS: 1 male, 1 female); Guy Banks Road, 2.4 km E of Blossom Village, 26 May 2009, M. C. Thomas (CWOB: 1 male, FSCA: 1 male); North Coast Road, .1 km W Olivine Kirk Dr., 26 May 2009, Thomas, Turnbow & Ball, blacklight trap (FSCA: 1 male); .3 km. SE Spot Bay, 27 May 2009, R. Turnbow (CWOB: 1 female); Coot Marsh, 27 May 2009, Thomas, Turnbow & Ball, blacklight trap (CWOB: 1 male; FSCA: 1 male).

Description. *Body.* Length 6.5–9.5 mm, greatest width 2.4–3.2 mm (N = 20) in males; length 7.5–11.6 mm, greatest width 2.8–3.0 mm (N = 20) in females; shape in dorsal view elongate to elongate-oval (Fig. 6A), length/width ratio 2.7–3.0 in males, 2.8–3 in females, greatest width from base to midpoint of elytra; shape in lateral view sub-rectangular, with dorsal outline only slightly convex (Fig. 6B). Integument piceous reddish brown, slightly paler on legs, antennae and mouthparts in fully sclerotized mature individuals; yellowish brown in teneral specimens; surface smooth and even, covered with appressed, irregularly distributed, nonoverlapping scales and sparse setae on specific regions of body; scales irregularly sized, with smooth surface, sesame seed shaped to elongate, yellowish white to light brown colored, almost uniformly scattered on dorsal surface of head, pronotum and elytra, except for denser areas on elytra where 10–20 scales are slightly larger and closer, appearing as spots, not forming specific patterns ('luctuosus type' of coverage, see Girón & Franz 2012); with very short, decumbent and translucent sparse setalike scales scattered throughout; elongated setalike scales and actual setae limited to apex of rostrum, mouthparts, antennae, legs (particularly tibiae and tarsi) and ventral surface of body; females usually bear a tuft of long, semierect and thick setae on the elytral declivity (Fig. 6B).

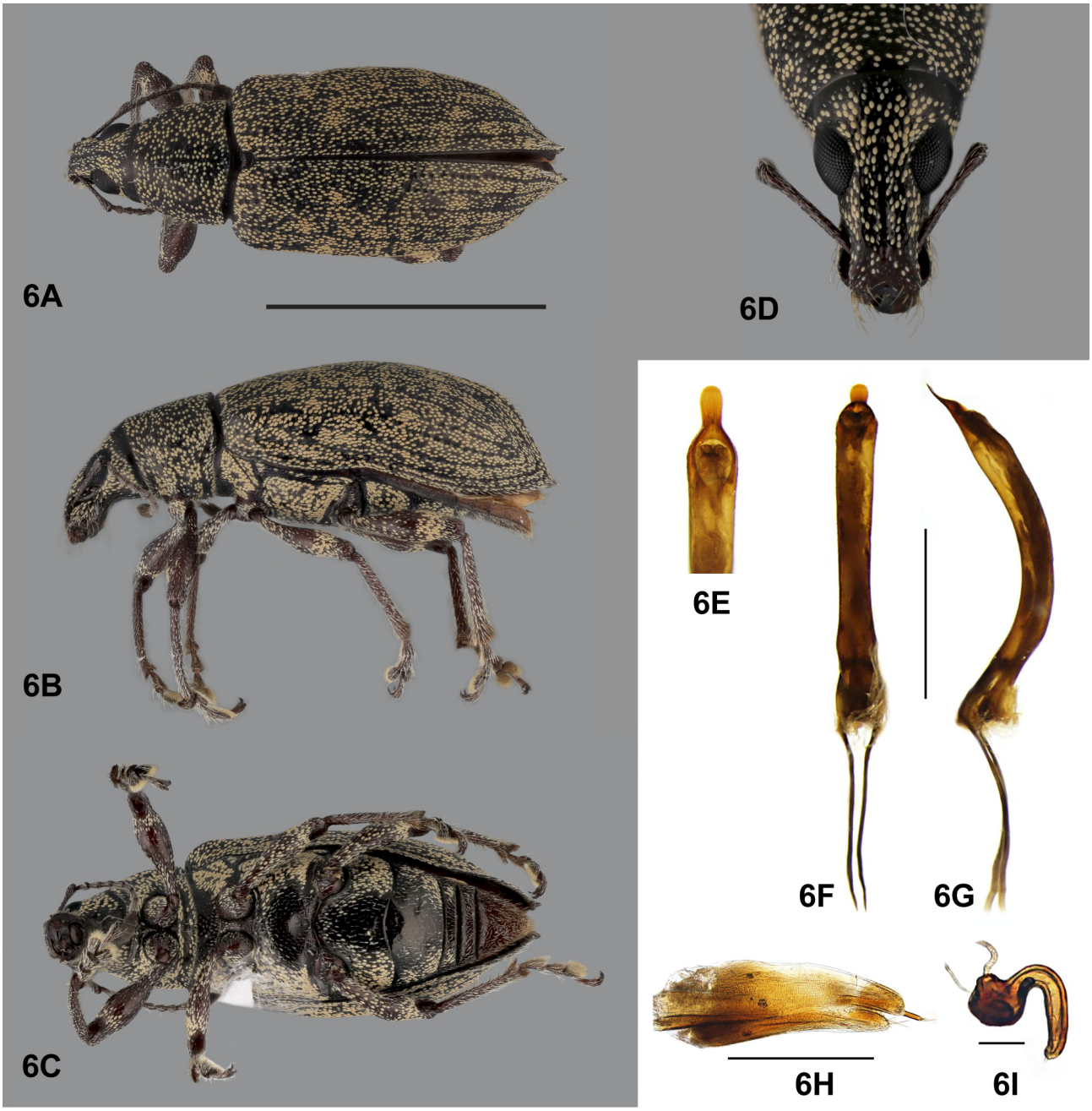

FIGURE 6. *Lachnopus vanessablockae* (female). **A.** dorsal view; **B.** lateral view; **C.** ventral view; **D.** head, dorsal view; **E.** apex of aedeagus; **F.** aedeagus in dorsal view; **G.** aedeagus in lateral view; **H.** coxites in lateral view; **I.** spermatheca. Scale bar: 5 mm for A–C; 1 mm for F–H; 0.1 mm for I.

Head. Shape in dorsal view subconical (Fig. 6D). Eyes in dorsal view large and elliptic, moderately (in females) to strongly projected (in males) from surface of head (Fig. 6D); in lateral view elliptical, 1.3-times longer than wide; surface of anterior margin of eye, including dorsal and ventral anterior areas, depressed (ocular sclerite well defined around anterior margin of eye; see Girón & Franz 2012). Frons trapezoid (Fig. 6D), slightly depressed, with median fovea; shortest distance between eyes only slightly shorter than shortest width of dorsal surface of rostrum. Rostrum in dorsal view 0.75-times length of head, parallel-sided, as long as greatest width of rostrum at antennal insertion; with median longitudinal impression extending from anterior margin of eyes to posterior margin of epistoma, making lateral surfaces seem longitudinally elevated; epistomal area flat, undefined (Fig. 6D), with only few smaller scales and five long yellowish epistomal setae on each side of apical margin; nasal plate (on apical margin of epistoma) flat, glabrous and shiny, not clearly defined. Rostrum in lateral view somewhat

perpendicular to head, only slightly longer than basal width; antennal insertion apicad of midlength of rostrum; scrobe passing below eye, well defined throughout, deep, glabrous and shiny, curved downwards by 45°, with dorsal and ventral margins slightly sinuate, extending to anterior third of eye, separated (at shortest distance) by 0.5-times width of scrobe, posterior region of dorsal margin of scrobe weakly defined; ventral surface with scarce long suberect setae; gular suture clearly visible, with basal pit deep and elongate, bifurcating at base of rostrum into hypostomal-labial sutures, anterior pits large and deep, positioned at apical third of rostrum; surface of submentum covered by sparse setae, with paired long lateral setae at apex; occipital sutures as elongate and deep foveae; postmentum glabrous and very short.

Mouthparts. Mandibles mostly glabrous and shiny; each mandible with few long fine setae, surrounding dorsal, outer and ventral edges of mandibular scar; mandibular scar sessile (equate with surface) (Fig. 6D). Maxillae visible along sides of prementum as narrow and elongate triangles bearing 2–4 setae; prementum pentagonal, 0.8-times as long as greatest width near apex, with external surface reticulate and shiny, bearing row of three setae extending along each side.

Antennae. With 12 antennomeres, reddish; scape slender, with apex strongly and somewhat abruptly widening in anterior view, extending (in repose) beyond posterior margin of eyes, not reaching anterior margin of prothorax, and passing tangential to ventral margin of eye, with sparse fine setalike scales; funicle with seven antennomeres, 1.2-times longer than scape; funicular antennomeres clavate, densely covered by fine, setalike scales and surrounded by row of decumbent preapical setae; basal funicular antennomere slightly elongate, followed by gradually slightly shorter and apically wider antennomeres; antennal club 4-articulated, finely and densely pilose, 3-times longer than its greatest width, 0.4-times length of funicle; club articles I and II similar in length, III slightly shorter and IV slightly shorter than III.

Thorax. Pronotum trapezoid (Fig. 6A), greatest width at base; posterior margin simple (as opposed to carinate, see Girón & Franz 2012, character 17), bisinuate, approximately 1.6-times greater than anterior margin; posterior corners of pronotum forming straight to slightly obtuse angle; lateral margins convex, nearly parallel on basal 2/3, clearly converging on apical 1/3; dorsal surface smooth, sparsely punctate, each puncture with one very short, decumbent and translucent setalike scale; posterior surface of pronotum covered by fine, curved setae; scutellum conspicuous, U-shaped, usually with scarce narrow scales. Prothorax in lateral view trapezoid, dorsal outline nearly straight, approximately 1.7-times longer than ventral outline, with anterior margin straight, and glabrous; lateral surface of prothorax bulging around coxal insertion; prosternum with anterior and posterior margins fringed by short, translucent, multifid setae, accompanied by slightly elongated scales on posterior margin; anterior rib (surface between anterior margin and anterior impression) with row of long, decumbent to suberect, thick setalike scales; procoxal cavities closed, apparently contiguous, positioned slightly closer to anterior than to posterior margin of prosternum; anterior impression well-defined, distinctly foveate at each outer margin of coxae; surface of posterior intercoxal projection slightly elevated and covered by translucent setae; prosternum only slightly longer than mesoventrite, and only slightly shorter than metaventrite; posterior margin of prosternum elevated over anterior margin of mesoventrite. Mesoventrite with mesocoxal cavities each approximately 3-times wider than intercoxal process; surface of anterior area of mesoventrite with scattered multifid setae posteriorly directed; lateral surface of mesoventrite bulging around coxal insertion and covered by regular scales. Mesepimeron and mesepisternum semi-triangular, covered by regular scales slightly overlapping. Metaventrite with deep and wide median posterior fovea; lateral surfaces somewhat densely covered by scales, postero-laterally bulging (in lateral view, metaventrite gradually produced posteriorly), each terminating abruptly at oblique plica; distance between posterior margin of mesocoxae and anterior margin of metacoxae only slightly shorter than length of prosternum; distance separating metacoxal cavities nearly as wide as each metacoxal cavity.

Legs. Femora unarmed, all similar in proportions, widening apicad of midpoint, nearly 3–4-times longer than greatest width, covered by somewhat scattered elongated scales on basal 1/3, with only scarce setalike scales on widest region, followed by band of dense regular scales, and ending with only scarce setalike scales at apex; femora slightly longer than mesal length of pronotum, metafemur approximately 1.3-times longer; posterior surface of metafemora crenulate, with ventral surface elevated as short spines at insertion of setalike scales. Tibiae with outer margins straight; protibia slightly curved inwards at apical 1/3, anterior and outer surfaces covered by setalike scales, slightly denser at apex; posterior surface covered by long, slightly curved, decumbent setae; inner anterior margin with long and slightly thicker setae, surface of margin spinelike elevated at insertion of each seta. Meso- and metatibiae sexually dimorphic, gradually more densely covered by scales on anterior and outer surfaces,

in males gradually more strongly spinose on inner margin and posterior surfaces, as well as more densely covered by setae. Metatibiae with apical anterior margin oblique, with fringe of yellowish brown, stout, spiniform setae slightly increasing in size towards posterior margin, and with flange shielding tarsal insertion outwardly, fringed by yellowish brown, slender and larger, spiniform setae, bevel narrow, glabrous and shiny (corbel enclosed); surface surrounding tarsal condyle glabrous; mucro shorter than tarsal claws, premucro present, bifurcated; tarsi ventrally densely covered with setae, with tarsomeres I and II subtriangular, I approximately 1.5-times longer than II, III bilobed, 1.6-times wider than II, with anterior lobe slightly wider than posterior lobe, IV short, V approximately 3.2-times longer than apical width, slightly longer than I; claws free, simple, nearly 2-times longer than joint basal width.

Elytra. Length in dorsal view 2-times greatest width, 1.4-times wider than base of pronotum (Fig. 6A); anterior margins oblique, only slightly sinuate; humeri rectangular, rounded; lateral margins parallel on basal half, then slightly roundly converging towards apex; apex of each elytron slightly pointed; dorsal surface smooth and even, only slightly impressed around scutellum; in lateral view with dorsal outline only slightly convex; posterior declivity nearly straight; with 10 complete elytral striae, for the most part uniformly separated from each other by distance similar to basal width of femora; punctures deep and wide, separated from each other longitudinally by distance approximately 2-times length of puncture; each puncture bearing short, curved, decumbent, translucent setalike scale; striae IX and X completely separated along entire length, with striae X sinuate along insertion of metacoxae (more separated from stria IX along metepisternum, closer at metacoxal insertion); intervals irregularly covered with variously sized scales, sometimes forming groupings of 10–20 larger scales 'luctuosus-type' of scale coverage, see Girón & Franz 2012, character 25), with recurvate and decumbent translucent setalike scale on each puncture; interval X slightly produced along basal third of elytra; apex sexually dimorphic, densely covered by setalike scales, roundly angulate in males, acutely projected in females. Females with semierect long setae along declivity, outer and apical margins of elytra.

Hindwings. Fully developed.

Abdomen. Venter (Fig. 6C) sparsely covered with scales, denser on sides, gradually sparser towards apex; segments V–VII separate; anterior margin of III mesally bell-shaped, with antero-mesal surface slightly impressed; III approximately 1.3-times longer than IV; posterior margins of V and VI fringed with multifid setae; male: surface of III with slight elevations at insertion of setae; posterior margin of III mesally slightly acutely emarginate; IV mesally rather flat, with apicolateral short oblique creases, approximately 1.4-times longer than V to VI jointly, IV nearly 0.9-times length of VII; surface of V and VI transversely convex, with sharp posterior corners; surface of VII laterally elevated, mesally flat, posterior margin of VII widely rounded; female: surface of III smooth; posterior margin of III widely and roundly emarginate; IV mesally rather flat, strongly elevated from posterior to anterior margin, laterally strongly convex, approximately 1.9-times longer than V to VI jointly, IV nearly 1.1-times length of VII; surface of V and VI rather flat, with sharply stepped posterior margin; VII 0.7-times as long as basal width, anterior margin with pair of lateral foveae (see Girón & Franz 2012, character 53), surface of VII slightly sculptured and somewhat forming pyramidal elevation (base gradually elevating, sides slightly concave, raising towards median longitudinal line); posterior margin of VII narrowly rounded.

Terminalia. Male with tergum VII transverse, 1.5-times wider than long, with lateral areas with fine, appressed spines, mesal area basally narrower than lateral areas, posteriorly widened and extending along lateral and posterior margins; mesal area with irregular surface, depressed at insertion of simple setae; anterior margin of tergum VII abruptly indented, posterior margin widely rounded. Tergum VIII slightly wider than its length along midline, with anterior margin widely, roundly emarginated, posterior margin widely rounded; ventral flap bisinuate, mesally m-shaped; in lateral view, dorsal outline sinuate. Sternum VIII composed of two lateral plates separated by membrane with median rooflike plate; each plate semioval, with proximal outer corner anteriorly projected and anterior margin roundly produced; spiculum relictum present, long and curved, inverted y shaped, translucent. Sternum IX (spiculum gastrale) with apodeme slightly longer than median lobe, anteriorly expanded into asymmetrical, semioval lamina; posteriorly bifurcated; furcal arms opposed, elongate, basally fused to each other and to apodeme, apically triangular; basal portion of furcal arms lightly sclerotized, extending over nearly half length of furcal arm; medial and apical portions, each occupying 1/4 of length of furcal arm, gradually more sclerotized towards apex. Tegmen with apodeme 0.7-times length of median lobe; tegminal plate fused with basal piece forming ring; tegminal plate with pair of narrow projections (parameres), nearly 0.2-times length of tegminal apodeme, each projection finely denticulate on apical half. Aedeagus in dorsal view (Fig. 6F) 7-times longer than

its greatest width, at base of median lobe, narrower along second basal fourth; dorsal surface sclerotized; ventral surface of aedeagus slightly constricted near base, with basal margin mesally acutely emarginate. Aedeagus constricted at apical margin of ostium, continuing as tonguelike projection (Fig. 6E; distance from apical margin of ostium to apex of aedeagus as long as gretest width of aedeagus at ostium. Endophallus with fine small papillae along apical third of median lobe; with pair of lateral sclerites closing the ostium, and pre-basal U-shaped sclerite. Aedeagus in lateral view (Fig. 6G) dorsally convex, with lateral profile of ventral surface widely concave, length 9-times its greatest width; dorsal and ventral outlines irregularly curved, parallel along mid third. Aedeagal apodemes 0.6-times length of aedeagus, anteriorly slightly widened, nearly uniformly curved.

Female. With tergum VII semi-triangular, with lateral oval areas with fine, appressed spines, mesal area posteriorly widened and extending along lateral and posterior margins; mesal area with irregular surface, depressed at insertion of simple setae; anterior margin of tergum VII nearly straight; posterior margin truncated. Tergum VIII narrowly triangular, anterior margin widely roundly emarginate, apical margin narrowly rounded; with long, straight setae on apico-dorsal surface, along ventro-lateral margin, more numerous at apex. Sternum VIII, including apodeme, 1.6-times longer than coxites, lamina occupying nearly posterior third, narrow, sagittate, with anterior half extending dorsally and anteriorly, forming somewhat coriaceous sheath around coxites; apical region of lamina with pair of longitudinal rows of setae; apex of lamina narrowly rounded, with a tuft of setae; apodeme of sternum VIII with perpendicular, small, irregular base; apodeme reaching midpoint of lamina, bifurcated only at apex, fused with lamina. Coxites+styli (Fig. 6H) nearly as long as lamina of sternum VIII (including antero-dorsal projection); coxites laterally compressed, in lateral view with apical margin mesally deeply emarginate, separating dorsal and ventral sections; each stylus 4-times longer than wide, cylindrical, inserted at ventral corner of dorsal section of each coxite, with 2–3 apical setae; ventral section of coxites in lateral view, narrower than dorsal section, apically rounded, with few long straight setae at apex. Genital chamber 0.7-times length of sternum VIII, with internal longitudinal sclerotizations. Spermatheca (Fig. 6I) 0.8-times longer than wide, sickle-shaped; cornu nearly straight, only curved at apex, perpendicular to ramus, apex not projected; ramus and collum pointing approximately in same direction; ramus apically truncate, with rounded corners, adjacent to collum; collum reduced; surface reticulated in corpus and along apical half of cornu.

Etymology. Named in memory of Vanessa Block (1980–2016) who was known as a skilled entomologist among her colleagues at the Illinois Natural History Survey and in recognition of her voluntary work in the Cayman Islands for the National Trust, and the Department of Environment, providing valuable expertise for the maintenance of the national collections.

Variation. Specimens examined range in size from 6.5 to 12 mm, females are usually larger than males; the coloration of the integument is paler in teneral specimens, and range from medium to dark brown in fully sclerotized individuals. The scale coverage varies on preservation, as well as uniformity, ranging from evenly distributed scales, to those forming a spotted pattern on the elytra. Among the examined specimens there was also variation in the degree of projection of the eyes (see description for details).

Natural history. *Lachnopus vanessablockae* had been previously collected in a variety of locations, principally in or near natural habitats, in all three Cayman Islands but with limited or no host details (Thomas *et al.* 2013). Localities recorded from Little Cayman, Cayman Brac and Mastic Trail in Grand Cayman are mostly covered with native vegetation (MCR pers. obs.).

Two female specimens of *L. vanessablockae* were collected inside flowers of the banana orchid, *Myrmecophila thomsoniana* (Orchidaceae), during a pilot study of the phenology and pollinators of the plant, carried out in 2012 by MCR. One of the individuals was found with clear remnants of a full viscidium and one pollinium attached to its elytra. Four pollinia had been deposited on the stigmatic surface of the flower (MCR pers. obs.). *Myrmecophila thomsoniana* is endemic to the Cayman Islands, occurring in a wide range of habitat types (Dressler, 2003; Dressler and Carnevali 2000; Rose-Smyth, 2016). Blooming and fruiting occurs between May and August, coinciding with the onset of the rainy season. Weevils have also been collected at light or found feeding on native *Alvaradoa amorphoides* (Picramniaceae, Wild Spanish Armada), on *Colubrina arborescens* (Rhamnaceae, Snakewood), on *Celtis trinerva* (Cannabaceae), on cultivated *Guaiacum officinale* (Zygophyllaceae, Lignum vitae), and on *Brassica rapa* (Brassicaceae, Chinese cabbage) in a nearby rural garden site in the months of June, July and September. Single mating pairs were observed in the *G. officinale* in June 2012 and *C. arborescens* in July 2017. Among these personal observations made by MCR, *L. vanessablockae* appears to prefer to feed on the Wild Spanish Armada. No further weevil pollination events have been observed. *L. vanessablockae* is therefore considered to be a rare, though effective, pollinator of the Cayman endemic banana orchid.

Remarks: Two species of the genus *Lachnopus* were recorded from the Cayman Islands by Thomas *et al.* (2013). These species were listed as *Lachnopus* sp. 1 (from Grand Cayman, Cayman Brac and Little Cayman, at FSCA and RHTC), and *Lachnopus* sp. 2 (from Cayman Brac and Grand Cayman, at FSCA and RHTC). We have since re-examined the Cayman Islands material deposited at FSCA and RHTC, and the species identifications of these materials made by C. W. O'Brien, are now confirmed to belong to *L. vanessablockae*. Based on the species descriptions, *L. vanessablockae* shares affinities with the Cuban species *L. guttatupunctatus* de Zayas, 1988 and *L. leonorae* de Zayas, 1988, with differences mostly related to the coloration of the integument and the distribution and coloration of the scales. Revision of the de Zayas types and more specimens from Guantanamo Province in Cuba would likely produce more reliable characters to differentiate these species. Specimens previously deposited at RHTC are currently housed at FSCA.

Lachnopus species-groups

The genus *Lachnopus* remains poorly circumscribed, and includes a fairly large number of species that do not necessarily match the characters used by Schönherr's (1826) description, or those of van Emden's key (1944; see Figs. 7 A–C, 27). Through observation of specimens in collections, at least six species-groups can be recognized, based mostly on head configuration, shape and width of the base of the elytra (elytral humeri), and general features of the scale coverage, among others. Species-groups were noticed by a researcher who worked previously with USNM materials, (probably L. L. Buchanan; L. Chamorro (USNM), pers. comm.), who left handwritten notes and drawings in the drawers with the specimens, listing characters of the different morphotypes.

Except for the widespread *L. luctuosus* species-group, *Lachnopus* species-groups exhibit more restricted distributional ranges across the West Indies, partly matching the monophyletic groups recovered by Girón & Franz (2012). In particular, the *L. albomaculatus*, *L. plumipes*, and *L. chlorophanus* species-groups are restricted to Hispaniola, whereas the *L. hispidus* and *L. splendidus* species-groups are distributed across the western West Indies: both species-groups are present in Cuba and Florida, with *L. hispidus* also found in Jamaica and *L. splendidus* in the Bahamas and the Turks and Caicos.

Here we offer a set of external features that allow recognition of the different species-groups. Some of those features were not included in Girón & Franz (2012), due partly to a lack of phylogenetic significance (e.g. highly homplasious across the tree). We add some species to the list of material studied by Girón & Franz (2012).

It is worth noting that not all the species currently grouped in *Lachnopus* have been observed by the authors, particularly, Cuban species described by Fernando de Zayas. Many specimens identified as *Lachnopus* sp. remain in collections. Some of them likely belong to taxa (genera and species) yet to be described.

The L. albomaculatus species-group. So far it includes two species: *Lachnopus albomaculatus* (Figs. 7 A–C) and *L. bellus*, both recorded from Haiti. The species-group is characterized by the following characters: rostrum nearly as long as its widest point, and slightly shorter than head, with lateral margins slightly concave, diverging apically; dorsal surface of rostrum widely depressed; eyes short, strongly projected from surface of head, more so posteriorly; frons only slightly narrower than dorsal widest point of rostrum; humeri rounded, well developed; width of elytra at humeri 1.6-times wider than posterior margin of pronotum; legs robust, reddish, paler than general integument coloration; femora gradually widening towards midpoint, then somewhat abruptly returning to normal size at apical 4/5; posterior tibia of males with several enlarged spines along inner margin.

Lachnopus histrio (Figs. 27 D–F) exhibits a similarly stout body shape, however the configuration of the head is remarkably different (eyes strongly flattened), so for now we refrain from including it in the *L. albomaculatus* species-group.

The L. chlorophanus species-group. (Figs. 8–11). Characters used for recognizing species of this group can be summarized as follows: eyes either moderately large and moderately projecting from surface of head, or short and strongly projecting from surface of head; rostrum usually parallel-sided, with straight margins, usually longer than wide, with widest point either at base or at antennal insertion; frons as wide as or wider than dorsal surface of rostrum at antennal insertion; head rather uniformly covered by scales; pronotum with posterior margin approximately 1.5-times wider than anterior margin; posterior corners of pronotum usually forming right angle; dorsal surface of pronotum rather flat (as opposed to convex); humeri rounded, well developed; width of elytra at humeri approximately 1.3-times wider than posterior margin of pronotum; elytra usually densely and uniformly

covered by scales, usually accompanied by thick and erect setae; scale patterns on elytra typically include green iridescent scales and/or patches of white scales; legs, particularly femora, rather slender.

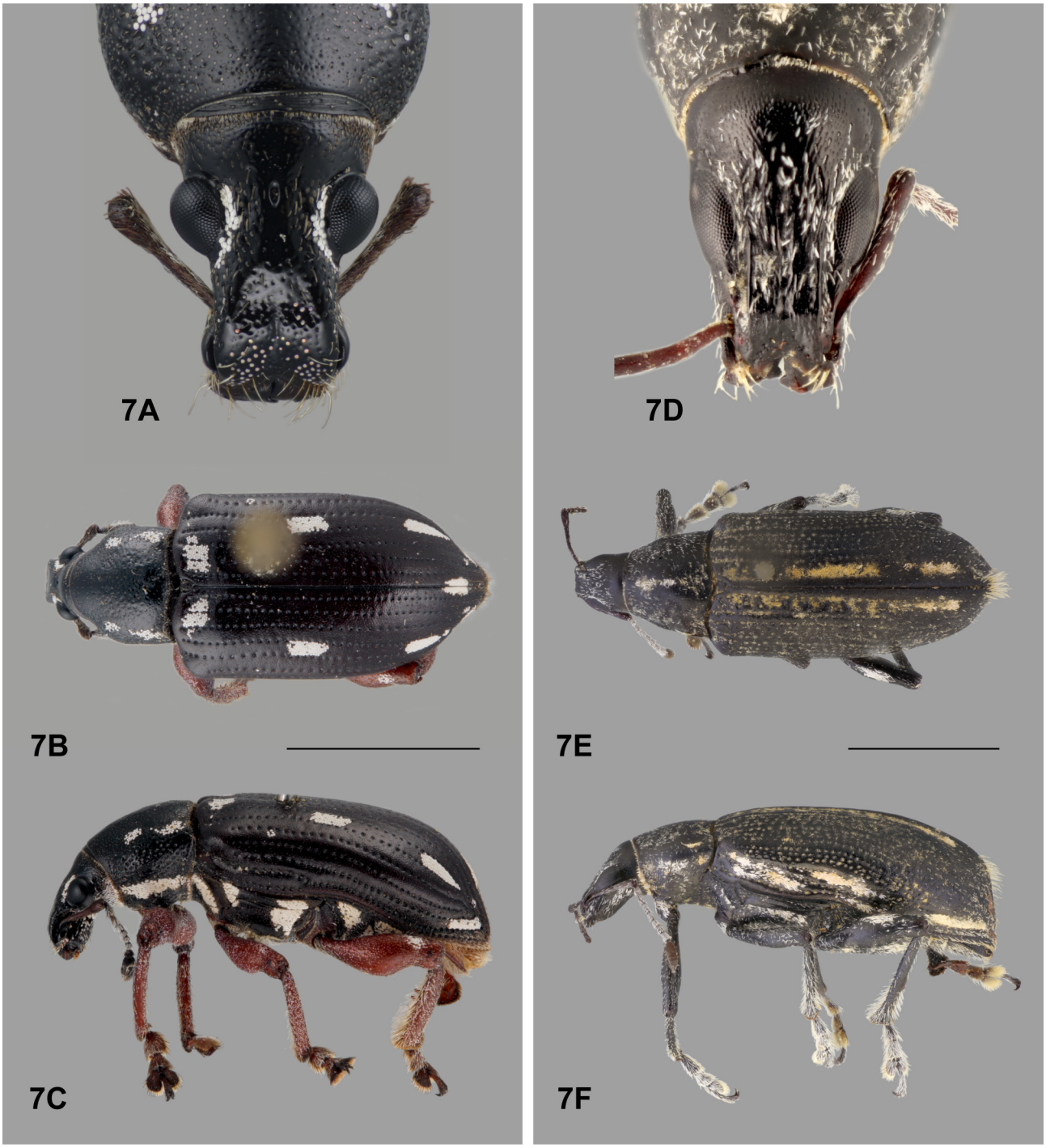

FIGURE 7. *Lachnopus* spp. habitus. ***L. albomaculatus*** (male; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. plumipes*** (female; USNM): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

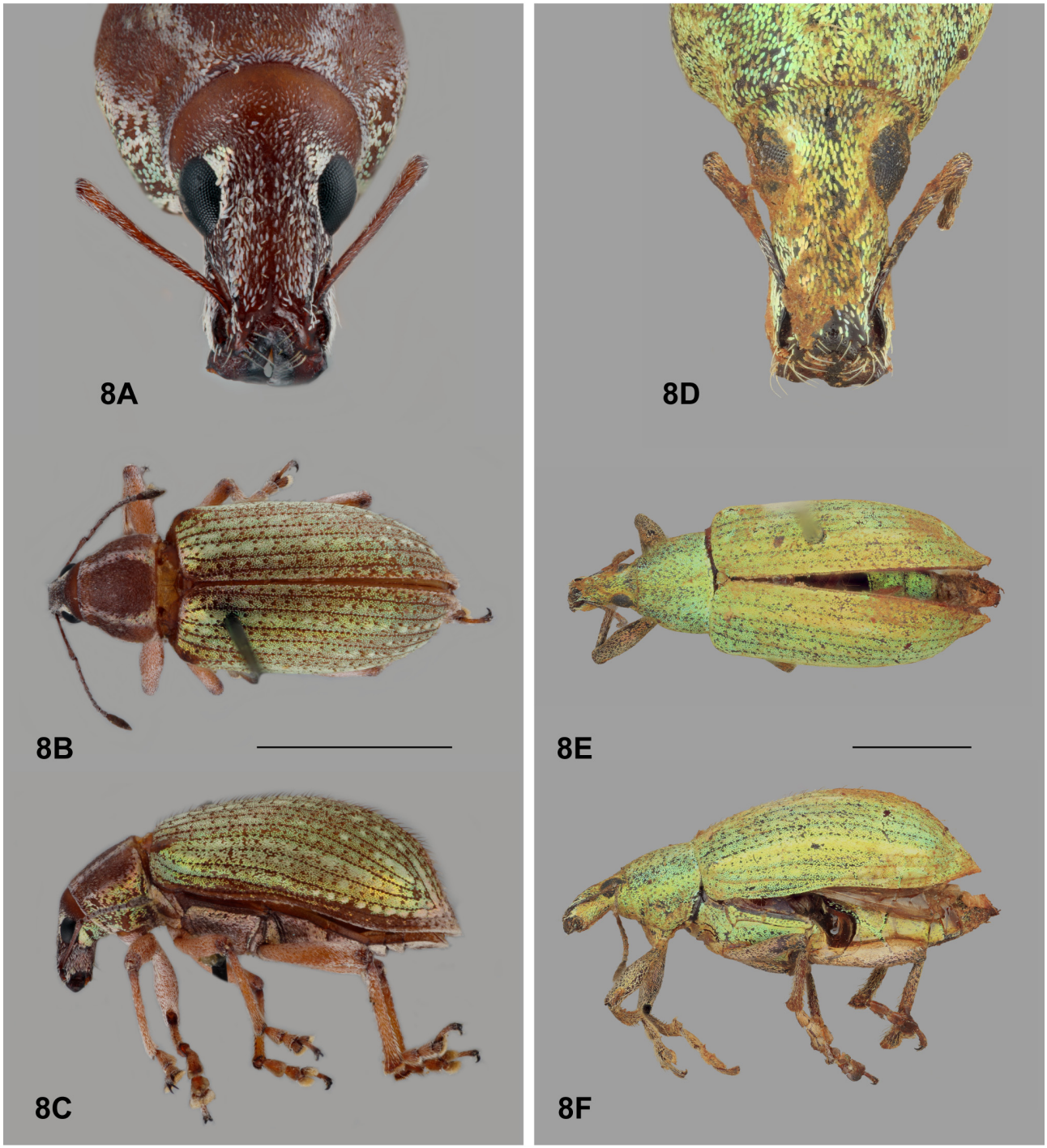

FIGURE 8. *Lachnopus chlorophanus* species-group, habitus. ***L. chlorophanus*** (female; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. aulicus*** (female; USNM): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

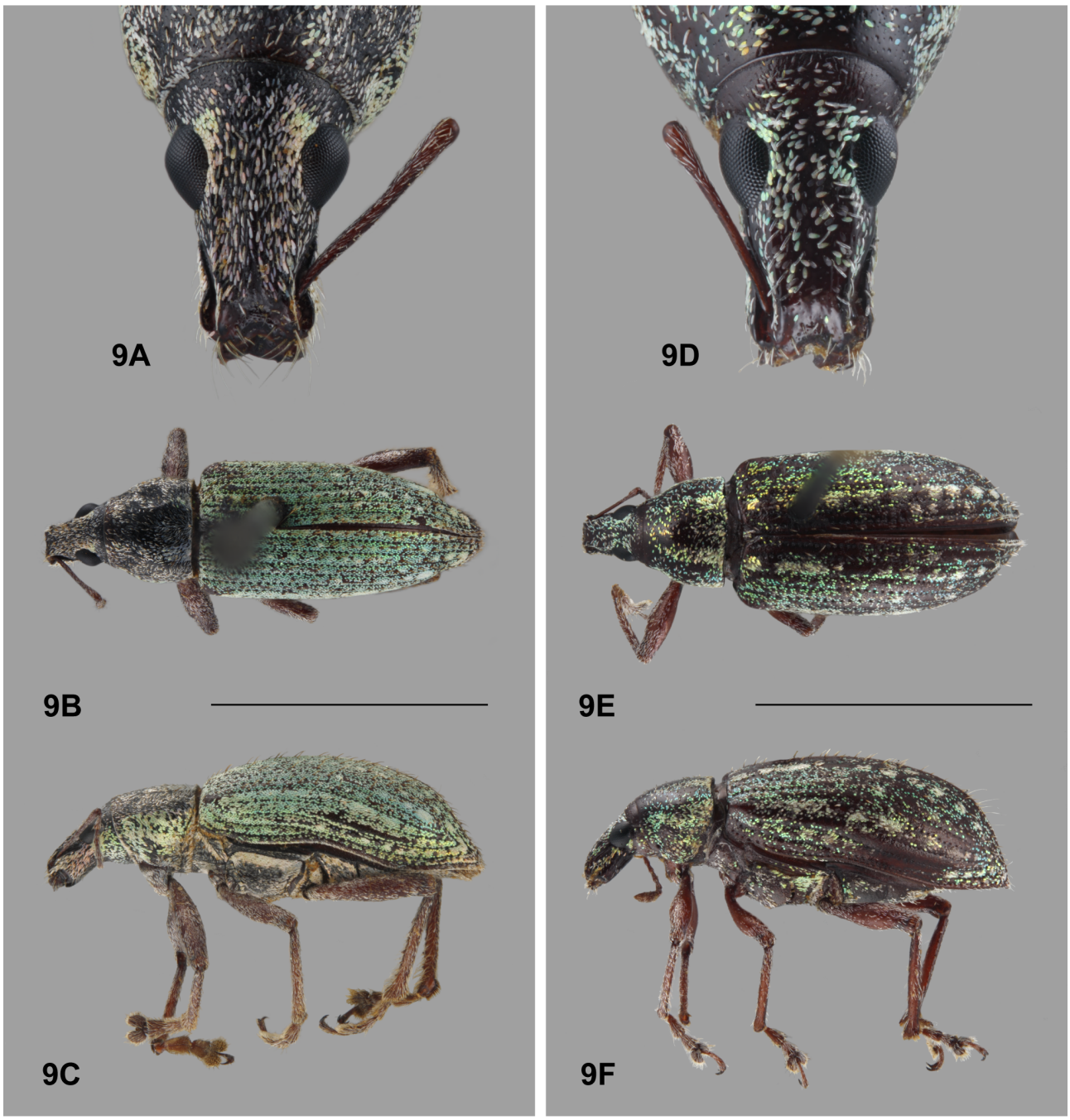

FIGURE 9. *Lachnopus chlorophanus* species-group, habitus. ***L. mercator*** (male; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. mundus*** (female; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

The *L. chlorophanus* species-group includes exclusively Hispaniolan species. For the most part, it is comprised of the *L. proteus–L. mercator* clade of Girón & Franz (2012). Species of this clade share one synapomorphy of the scale coverage (see char. 21 in Girón & Franz 2012), as well as homoplasious characters associated with the configuration of the female coxites. The *L. chlorophanus* species-group is composed of *L. chlorophanus* (Figs. 8 A–C), *L. aulicus* (Figs. 8 D–F), *L. mercator* (Figs. 9 A–C), *L. mundus* (Figs. 9 D–F), *L. planifrons* (Figs. 10 A–C), *L. proteus* (Figs. 10 D–F), *L. inconditus* (Figs. 11 A–C), and *L. spretus* (Figs. 11 D–F), as well as *L. atramentarius*, *L. luxurians* and *L. pruinosus*. Specimens labeled with different names within this species-group in collections are fairly similar, exhibiting differences mainly in the scale coverage coloration and density. It is very likely that

different "morphotypes" of the same entity have been described several times under different names. Particular taxonomic conflicts are highlighted below, in the "Taxonomic conflicts found in collections" section.

The L. hispidus species-group. (Figs. 12–13). The *L. hispidus* species-group includes species from Cuba, Florida, and Jamaica. It is characterized by the following features: eyes medium sized, flat to moderately projected from surface of head; rostrum nearly as long as wide, widest point at base, with straight sides, parallel to apically converging; frons nearly as wide as dorsal surface of rostrum at antennal insertion; surface of frons and rostrum flat and even; posterior corners of pronotum forming acute angle; width of elytra at humeri only slightly wider than posterior margin of pronotum; legs somewhat slender (thin and long), with all femora similar in shape and width.

It shares characters with the Hispaniolan *L. chlorophanus* species-group, as well as with the western *L. splendidus* species-group. Species in the *L. hispidus* species-group correspond to the *L. hispidus-L. gowdeyi* clade in Girón & Franz (2012), namely, *L. hispidus* (Figs. 12 A–C), *L. niveoirroratus* (Figs. 12 D–F), *L. aurifer* (Figs. 13 A–C) and *L. gowdeyi* (Figs. 13 D–F); the cited study discusses other morphological characters that support this species-group.

The L. luctuosus species-group. (Figs. 14–24) This species-group is widespread across the entire range for the genus. It was not recovered as monophyletic by Girón & Franz (2012)'s cladistic analysis. Members of this species-group can be recognized by the following character combination: integument dark reddish brown to black with 'luctuosus type' of scales (smooth, appressed, yellowish light brown to white or bluish, sesame seedlike to elongate, arranged at varying densities); eyes either large and moderately projecting from surface of head, or medium sized and strongly projecting from surface of the head; rostrum usually with diverging concave margins, at least slightly longer than widest point at antennal insertion; frons clearly narrower than dorsal surface of rostrum at antennal insertion (except nearly as wide in *L. sparsimguttatus*, see fig. 15A); pronotum rather cylindrical, with posterior margin usually between 1.4 and 1.7-times wider than anterior margin; posterior corners of pronotum forming right angle; dorsal surface of pronotum flat to slightly convex; humeri rounded, well developed; width of elytra at humeri usually nearly 1.5-times wider than posterior margin of the pronotum; scales on elytra usually forming an irregular spot pattern.

This species-group includes *L. luctuosus* (Figs. 14 A–C), *L. floridanus* (Figs. 14 D–F), *L. sparsimguttatus* (Figs. 15 A–C), *L. bivirgatus* (Figs. 15 D–F), *L. campechianus* (Figs. 16 A–C), *L. lineicollis* (Figs. 16 D–F), *L. coffeae* (Figs. 17 A–C), *L. buchanani* (Figs. 17 D–F), *L. multipunctatus* (Figs. 18 A–C), *L. kofresi* (Figs. 18 D–F), *L. curvipes* (Figs. 19–23), *L. valgus* (Fig. 24), as well as *L. cristalensis*, *L. mayari*, *L. seini*, *L. siboney*, *L. yaucona*, and the newly described *L. cozumelus* (Fig. 1), *L. petilusquamus* (Fig. 4), and *L. vanessablockae* (Fig. 6). Although *L. curvipes*, *L. valgus*, *L. buchanani*, *L. multipunctatus* and *L. kofresi* exhibit exceptions to the general characters for this species-group, they share the most salient features, in particular, the 'luctuosus type' of scale coverage. We have not seen material of *L. bruneri*, *L. dentipes*, *L. distortus*, *L. pollinarius*, and *L. villosipes*, but from authors' comments in original descriptions, regarding affinities with members of the *L. luctuosus* species-group, it is likely that those speceies also belong in here.

The L. plumipes species-group. Species in this group exhibit the following combination of characters: eyes narrow and flat to only slightly produced upon surface of head in dorsal view; rostrum wider than long, widest point at base, with straight, apically converging margins; rostrum with paired longitudinal carinae along dorsolateral margins; frons nearly as wide as dorsal surface of rostrum at antennal insertion; head with median longitudinal depression extending from midpoint of frons to antennal insertion; head rather uniformly covered by seta like scales; antennal scape gradually slightly widening from base, slightly bent at basal 1/3; pronotum with posterior margin approximately 1.6-times wider than anterior margin; dorsal surface of pronotum only slightly convex; humeri rather oblique, well developed; width of elytra at humeri approximately 1.3-times wider than posterior margin of pronotum; integument dark brown, coverage composed mostly by elongated scales.

The *L. plumipes* species-group might be most closely related to the *L. chlorophanus* species-group, although the very distinct head configuration makes it easily recognizable. It also shares some features of the *L. hispidus* species-group. So far, *L. karphos* (Fig. 2), *L. plumipes* (Figs. 7 D–F) and *L. rhabdotus* (Fig. 5) belong to this species-group; nevertheless, there are unidentified specimens in collections (CWOB and USNM) that match the morphological features of the species-group, particularly the shape of the head.

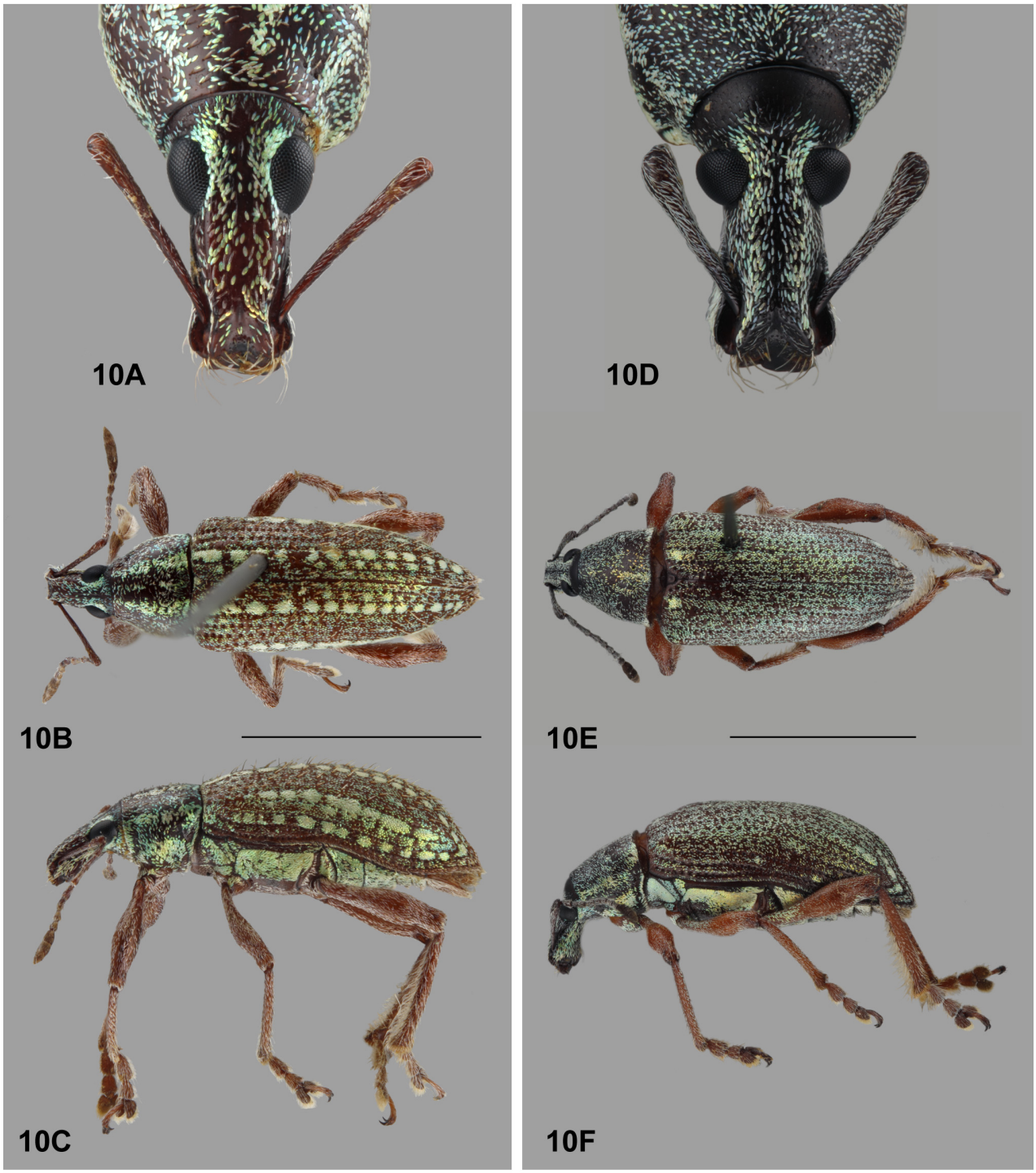

FIGURE 10. *Lachnopus chlorophanus* species-group, habitus. ***L. planifrons*** (male; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. proteus*** (male; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

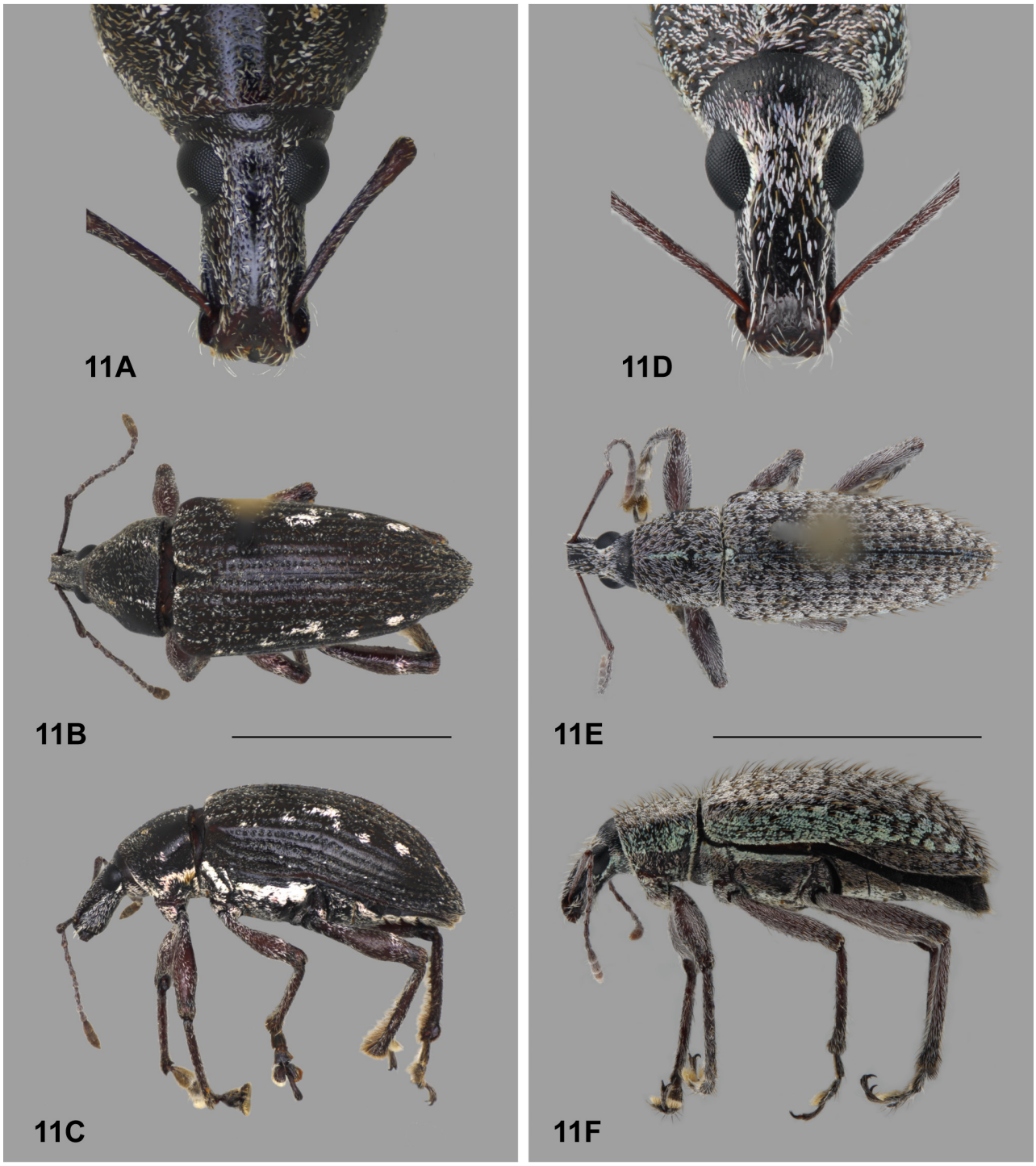

FIGURE 11. *Lachnopus chlorophanus* species-group, habitus. ***L. inconditus*** (male; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. spretus*** (male; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

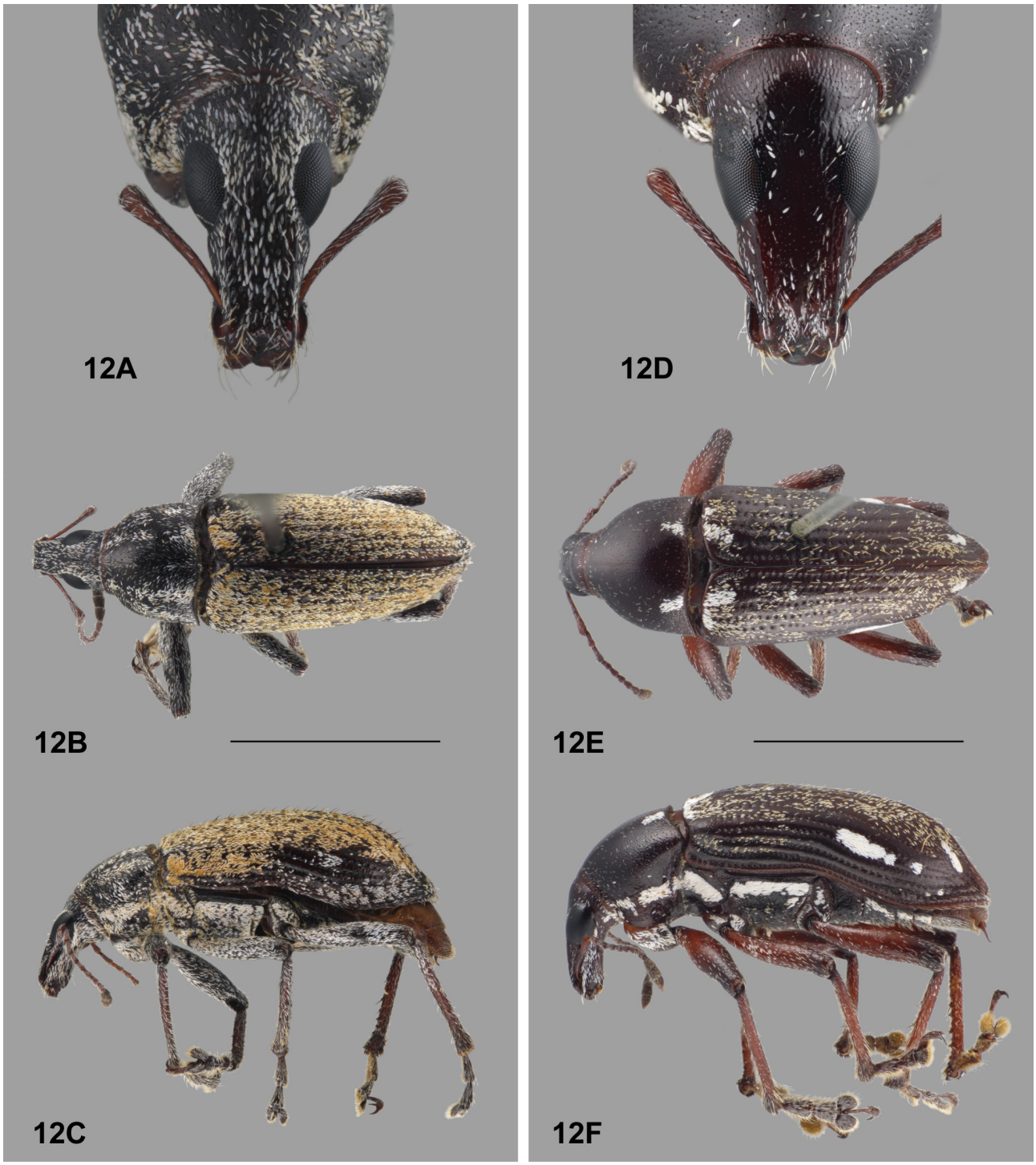

FIGURE 12. *Lachnopus hispidus* species-group, habitus. ***L. hispidus*** (male; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. niveoirroratus*** (male; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

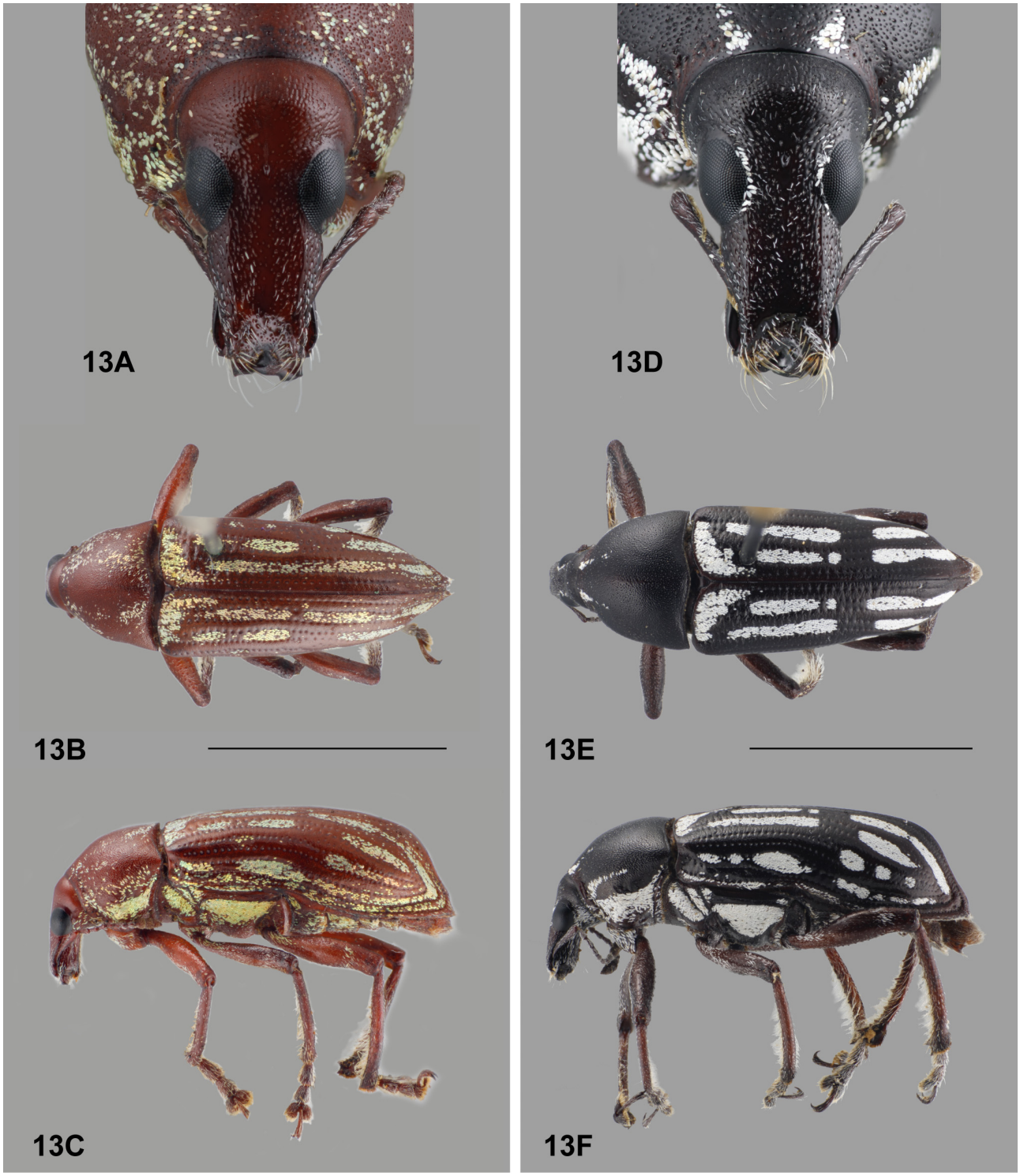

FIGURE 13. *Lachnopus hispidus* species-group, habitus. ***L. aurifer*** (male; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. gowdeyi*** (male; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

From the comments in original descriptions, regarding affinities with *L. plumipes*, it is likely that *L. interruptus* and *L. sublineatus* also belong to the *L. plumipes* species-group. We tentatively include them, even though we have not seen material of those species.

The L. splendidus species-group. The *L. splendidus* species-group includes species from Florida, Cuba, the Bahamas and Turks and Caicos Islands. The following features characterize the species-group: integument orange to reddish brown, with 'splendidus type' of scales (smooth, appressed, iridescent turquoise); body size usually

greater than 12 mm; eyes medium sized, moderately to strongly produced from the surface of head; rostrum at least slightly longer than wide, with widest point at antennal insertion; lateral margins of rostrum parallel to diverging; surface of frons sometimes transversally impressed behind eyes, approximately 0.6-times width of dorsal surface of rostrum at antennal insertion; with median, longitudinal, glabrous, somewhat wide and flat stripe extending from posterior margin of eyes to posterior margin of epistoma; prothorax with posterior margin nearly 2-times wider than anterior margin, appearing swollen (dorsally strongly convex); posterior corners of pronotum forming slightly acute angle (nearly right); width of elytra at humeri only slightly wider than posterior margin of pronotum; femora usually darkened apically.

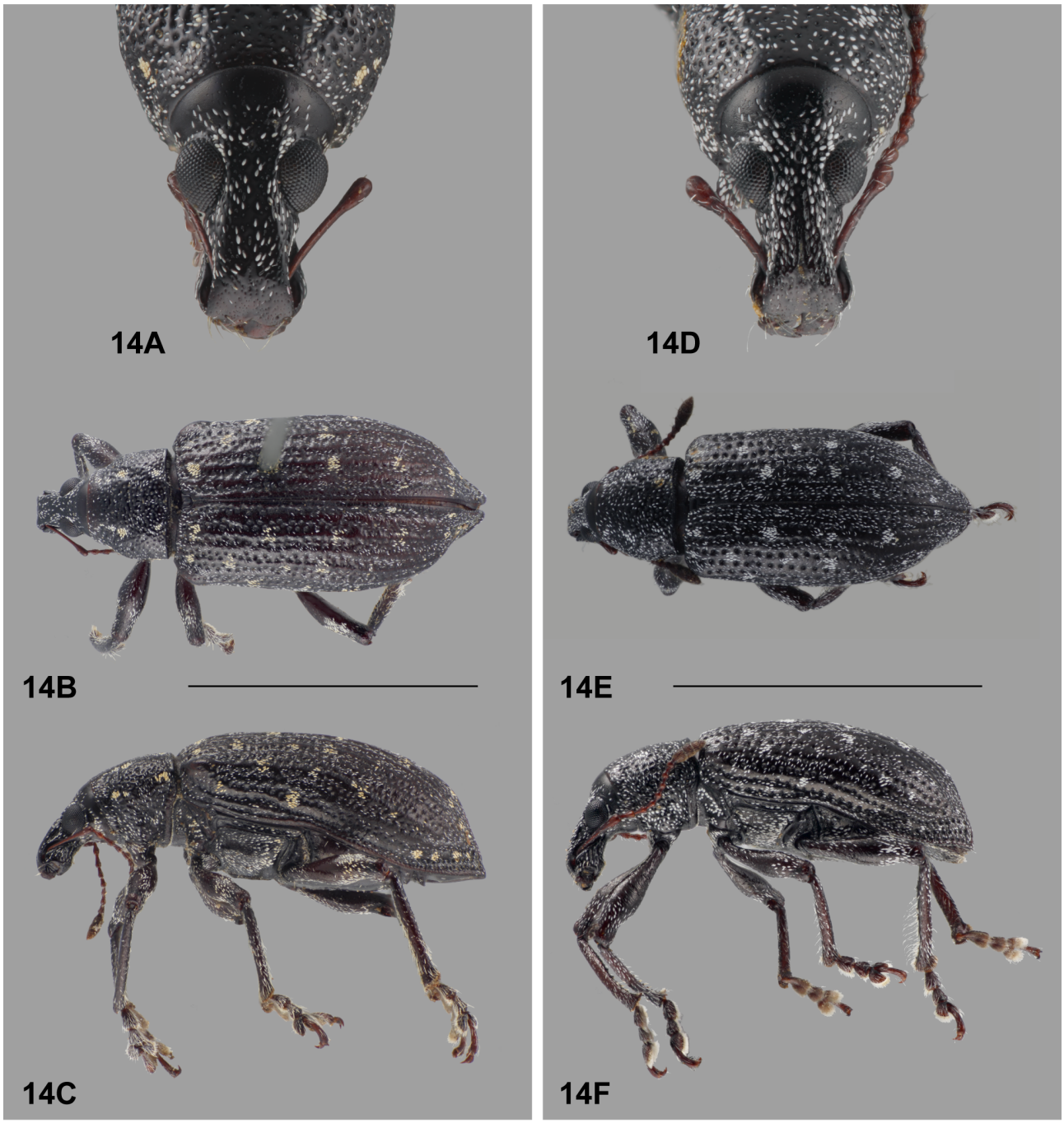

FIGURE 14. *Lachnopus luctuosus* species-group, habitus. ***L. luctuosus*** (male; CWOB)**: A.** head; **B.** dorsal view; **C.** lateral view; ***L. floridanus*** (male; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

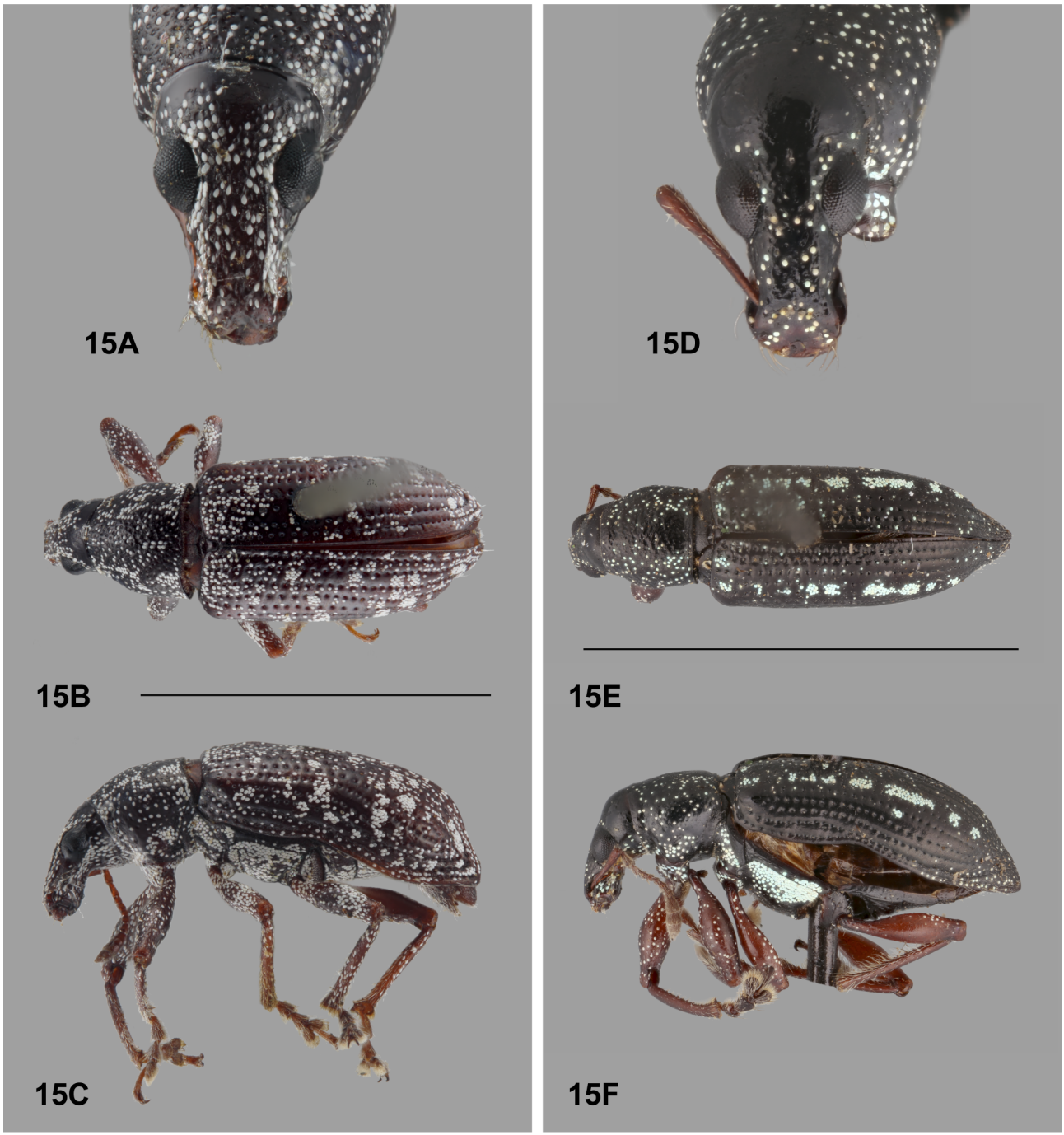

FIGURE 15. *Lachnopus luctuosus* species-group, habitus. ***L. sparsimguttatus*** (male; CWOB)**: A.** head; **B.** dorsal view; **C.** lateral view; ***L. bivirgatus*** (male; USNM)**: D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

This species-group includes the species in the *L. lineatoguttatus–L. guerinii* clade of Girón & Franz (2012): *L. splendidus* (Figs. 25 A–C), *L. lineatoguttatus* (Figs. 25 D–F), *L. vittatus* (Figs. 25 G–I), *L. argus* (Figs. 26 A–C) and *L. guerinii* (Figs. 26 D–F), as well as the newly described *L. lucayanus* (Fig. 3).

Annotated checklist of the extant species of *Lachnopus* Schönherr, 1840: 380

Remarks. For each species, distributional data, host plants, other biological highlights, collections where material is deposited and bibliographic references are presented. Alonso-Zarazaga & Lyal (1999), Blackwelder (1947),

Morrone (1999), O'Brien & Wibmer (1982), Peck (2005), Pérez-Gelabert (2008), Thomas *et al.* (2013) and Turnbow & Thomas (2008) are either checklists or catalogues, where genus and/or species names, synonyms and general distributions (country/island) are provided, with no additional information. Most of the information on particular localities and biological notes come from other bibliographic resources (cited under references), or from label data on the specimens in the reviewed collections. Gundlach (1891) is basically a translation to Spanish from Jacquelin du Val (1857, in French), with additions of specific collecting localities for several species.

Cuban Provinces for the de Zayas species have been modified here to reflect current administrative division of the country; particularly, de Zayas 'Oriente Province' has been split into five different provinces.

In many cases the type locality is "St. Domingue" (either in publications or labels of specimens) and likely refers to Hispaniola, however, specific distributions (Dominican Republic or Haiti) cannot be ascertained.

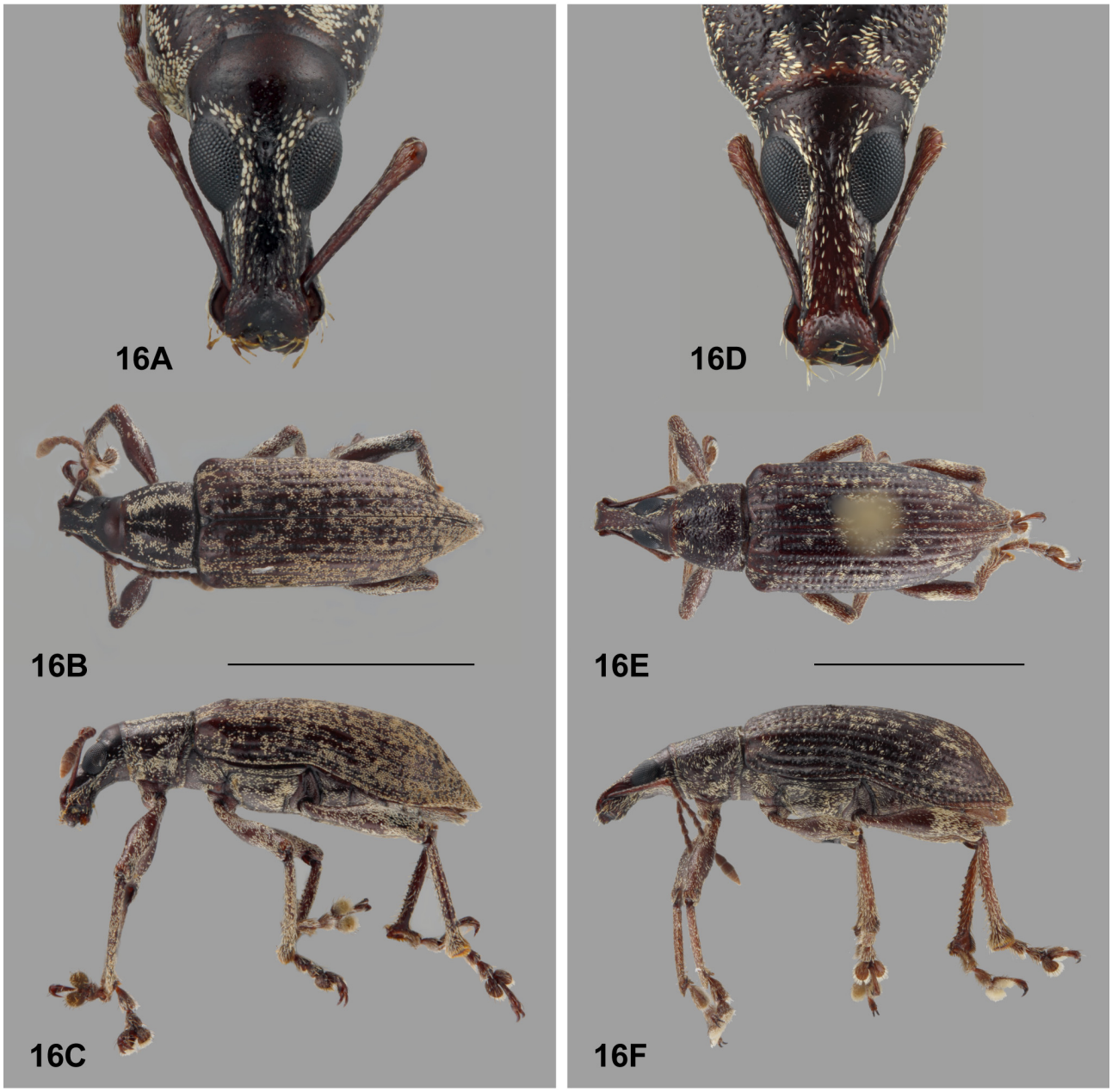

FIGURE 16. *Lachnopus luctuosus* species-group, habitus. ***L. campechianus*** (male; CWOB)**: A.** head; **B.** dorsal view; **C.** lateral view; ***L. lineicollis*** (male; CWOB)**: D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

Most types of authors were deposited in particular collections. For some collections it was possible to confirm the existence of the type material either through their type collection databases or directly with their curators. A question mark (?) was used to indicate that no confirmation was obtained at a particular collection.

New records, extracted from authoritatively identified material in the reviewed collections are denoted by an asterisk (*).

Host plant species names, as well as related animal species (predators) have been updated to reflect current taxonomic status. The list of plants associated with *Lachnopus* species is presented in table 2.

For simplicity and clarity, species are listed in alphabetical order regardless of species-group membership. Species-group affiliation is listed for each species; uncertainty of affiliation is indicated with a question mark (?). For a species-group list, along with general distributions refer to table 1.

Lachnopus Schönherr, 1840: 380

Replacement Name for *Ptilopus.*

Placed on the Official List of Generic Names in Zoology (ICZN 1987).

Menoetius Dejean, 1821: 94

Type species: *Curculio valgus* Fabricius, 1775: 150.

Suppressed for Priority but not for Homonymy.

Placed on the Official Index of Rejected and Invalid Generic Names in Zoology (ICZN 1987; see also Alonso-Zarazaga & Lyal 1999).

Ptilopus Schönherr, 1823: column 1140

Type species: *Curculio aurifer* Drury, 1773: 68.

Suppressed for Priority but not for Homonymy.

Placed on the Official Index of Rejected and Invalid Generic Names in Zoology (ICZN 1987; see also Alonso-Zarazaga & Lyal 1999).

Type species: *Curculio aurifer* Drury, 1773: 68 by original designation.

Distribution: Anguilla, Antigua*, Bahamas* (Eleuthera, Grand Bahama, Mayaguana), Barbuda*, Cayman Islands*, Cuba, Grenada, Guadeloupe, Guana Island*, Hispaniola, Jamaica, Mexico* (Cozumel Island), Mona, Montserrat*, Nevis, Puerto Rico, St. Barthelemy, St. Croix, St. Eustatius, St. John*, St. Kitts, St. Martin*, St. Thomas, St. Vincent, Sint Maarten*, Tobago [Virgin Is.]*, Tortola, Turks & Caicos Islands*, USA (FL), Virgin Gorda*.

References: Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Alonso-Zarazaga & Lyal 1999: 159; Morrone 1999: 140; Peck 2005: 228; Pérez-Gelabert 2008: 135; Franz (2010a); Girón & Franz (2012); Thomas *et al.* 2013: 27; Turnbow & Thomas 2008: 32; ICZN 1987.

Lachnopus acunae de Zayas, 1988: 160

Lachnopus acuñae de Zayas, 1988: 160 (incorrect original spelling)

Distribution: CUBA: Santiago de Cuba Province (Sierra Maestra, Pico Turquino).

Remarks: Described from males and females; specimens from Sierra Maestra have coppery scales, whereas those from Pico Turquino exhibit green scales (de Zayas 1988).

Species-group: Not yet determined.

Collections: Zayas (Type).

References: de Zayas 1988: 160; Peck 2008: 228.

***Lachnopus acuticollis* (Gyllenhal), 1834: 37**
(Figs. 27 A–C)

Ptilopus acuticollis Gyllenhal, 1834: 37
Menoetius acuticollis (Gyllenhal), 1834: 37

Distribution: CUBA: Granma Province (Báyamo), Guantánamo Province (Baracoa), Matanzas Province (Cárdenas).

Host plants: On zarza (*Rubus* sp., Rosaceae).

Remarks: Described from male specimens. Given the morphological features of *L. acuticollis* (particularly the width of the frons, shape of the eyes and length of the rostrum (see fig. 27A), along with large and densely setose corbels (bevel *sensu* Thompson 1992)), and according to the phylogenetic analysis carried out by Girón & Franz (2012), the species does not belong in the genus *Lachnopus*. More studies are needed in order to determine the generic placement of *L. acuticollis*.

Species-group: Likely not *Lachnopus*.

Collections: NHRS (Type); CWOB (compared with type); CZACC; FMNH; UPRM-INVCOL; USNM.

References: Jacquelin du Val 1857: 189; Gundlach 1891: 329; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 140; Peck 2005: 228; Girón & Franz 2012.

***Lachnopus aereus* (Gyllenhal), 1834: 40**

Ptilopus aereus Gyllenhal, 1834: 40
Menoetius aereus (Gyllenhal), 1834: 40
Prepodes blandus Gyllenhal 1834: 26

Distribution: HISPANIOLA.

Remarks: Described from a male.

Species-group: Not yet determined.

Collections: NHRS (Type).

References: Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 140; Pérez-Gelabert 2008: 135.

***Lachnopus alboguttatus* Marshall, 1934: 622**

Menoetius alboguttatus (Marshall), 1934: 622

Distribution: CUBA: Santiago de Cuba Province (Sierra Maestra).

Remarks: Described from a male. Somewhat similar in markings to *L. multipunctatus* Jacquelin du Val, 1857 (Figs. 18 A–C) and *L. niveoirroratus* (Figs. 12 D–F), although *L. alboguttatus* lack erect setae (Marshall 1934).

Species-group: Not yet determined.

Collections: NHMUK (Type).

References: Blackwelder 1947: 796; Marshall 1934: 622; O'Brien & Wibmer 1982: 37; Morrone 1999: 140; Peck 2005: 228.

***Lachnopus albomaculatus* (Gyllenhal), 1834: 37**
(Figs. 7 A–C)

Ptilopus albomaculatus Gyllenhal, 1834: 37
Menoetius albomaculatus (Gyllenhal), 1834: 37

Distribution: HISPANIOLA: HAITI: Sud Province (Les Cayes, Camp-Perrin).

Host plants: Mahogany (*Swietenia mahagoni*, Meliaceae) (from label data).

Remarks: Described from a male. According to Gyllenhal (1834) *L. albomaculatus* is similar in size and appearance to *L. acuticollis* (Figs. 27 A–C). When comparing both species, striking differences are obvious (e.g. figs. 7A and 27A). Given morphological features of *L. albomaculatus* (particularly the width of the frons, shape of the eyes and shape and length of the rostrum (see fig. 7A), along with well developed humeri) and according to the phylogenetic analysis carried out by Girón & Franz (2012), the species does not belong in the genus *Lachnopus*. More studies are needed in order to ascertain the generic placement for *L. albomaculatus*.

Species-group: *L. albomaculatus* species-group.

Collections: NHRS (Type); CWOB; USNM.

References: Gyllenhal 1834: 37; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

Lachnopus argus (Reiche), 1840: 275

(Figs. 26 A–C)

Ptilopus argus Reiche, 1840: 275
Menoetius argus (Reiche), 1840: 275

Distribution: CUBA: Santiago de Cuba Province (Aguadores, Loma de Gato, Santiago de Cuba); USA: Florida (Sugar Loaf Key).

Remarks: The elytra of specimens from Florida (CWOB), as well as some from Cuba (USNM) are darker, with brighter orange pronotum, in comparison with other Cuban specimens (CWOB, USNM); scale coverage on the specimens varies in abundance and coloration of scales, where Florida specimens have fewer and bluish (instead of pale green) scales. *Lachnopus argus* (Figs. 26 A–C) is very similar to *L. guerinii* Jacqelin du Val, 1857 (Figs. 26 D–F; see Jacquelin du Val (1857), Girón & Franz (2012). See discussion on *L. argus vs. L guerinii*.

Species-group: *L. splendidus* species-group.

Collections: CZACC; CWOB; NHRS; USNM. We were unable to determine the location of the type specimen.

References: Jacquelin du Val 1857: 184; Gundlach 1891: 327; Sleeper 1957: 38; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Peck 2005: 228; Girón & Franz 2012.

Lachnopus atramentarius (Gyllenhal), 1834: 33

Ptilopus atramentarius Gyllenhal, 1834: 33
Menoetius atramentarius (Gyllenhal), 1834: 33

Distribution: DOMINICAN REPUBLIC: Azua Province, Barahona Province, Constanza Province, La Romana Province, Monte Cristi Province, San Pedro de Macoris Province; HAITI.

Remarks: Described from a male; according to Gyllenhal (1834), *L. atramentarius* is similar in appearance to *L. pruinosus* Gyllenhal, 1834. See discussion on *L. atramentarius vs. L. inconditus*.

Species-group: *L. chlorophanus* species-group.

Collections: NHRS (Type); CWOB; MEBT; USNM.

References: Gyllenhal 1834: 33; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

Lachnopus aulicus (Gyllenhal), 1834: 35

(Figs. 8 D–F)

Ptilopus aulicus Gyllenhal, 1834: 35
Menoetius aulicus (Gyllenhal), 1834: 35

Distribution: HISPANIOLA.

Remarks: According to Gyllenhal (1834), *L. aulicus* (Figs. 8 D–F) is larger than *L. aurifer* (Figs. 13 A–C), particularly in the width of the elytra. See discussion on the 'chlorophanus conflict'.

Species-group: *L. chlorophanus* species-group.

Collections: NHRS (Type); UUZM (Type); USNM.

References: Gyllenhal 1834: 35; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus aurifer (Drury), 1773: 68

(Figs. 13 A–C)

Curculio aurifer Drury, 1773: 68
Menoetius aurifer (Drury), 1773: 68

Distribution: CUBA; JAMAICA: Mona, Joalmi (see van Whervin 1968), Kingston Harbour, Greenwich (see Gosse 1848), Portland Parish (Blue Mountains), Saint Andrew Parish (Bowden), Saint Elizabeth Parish, Saint Thomas Parish (Morant Bay).

Host plants: In Jamaica: on citrus (*Citru*s spp., Rutaceae) leaves, mango (*Mangifera indica*, Anacardiaceae), ackee (*Blighia sapida*, Sapindaceae), logwood (*Haematoxylum campechianum*, Fabaceae) and avocado (*Persea americana*, Lauraceae) (see van Whervin 1968). General feeder.

Biological notes: Females oviposit groups of eggs in rows on the foliage, either by folding a single leaf or drawing two leaves together and depositing the eggs between the two surfaces; longevity recorded: females: 12–60 days (36 on average); males: 16–65 (47 on average)—from 13 specimens each (see van Whervin 1968).

Remarks: Drury (1773) recognized a high variability in the patterns and the coloration (ash to blue and white) of the scale coverage, as well as variation in the coloration of the elytra from "almost black" to red brown. Two color forms have been recognized according to the color of the scales: white (at Joalmi) and metallic green/blue (at Mona) (van Whervin 1968). See discussion on *L. aurifer vs. L gowdeyi*. Specimens from Cuba have not been found in the reviewed collections.

Species-group: *L. hispidus* species-group.

Collections: NHMUK (Type (?)); CWOB; FMNH; USNM.

References: Drury 1773: 68; Gosse 1848: 350–351; Blackwelder 1947: 796; van Whervin 1968: 6; O'Brien & Wibmer 1982: 37; Woodruff 1985: 373; Morrone 1999: 141; Peck 2005: 228; Girón & Franz 2012.

Lachnopus bellus Marshall, 1926: 54

Menoetius bellus (Marshall), 1926: 54

Distribution: HAITI: Nord-Ouest Department (Saint-Louis-du-Nord).

Host plants: *Coccoloba uvifera*, Polygonaceae.

Remarks: Described from a male. It is similar to *L. albomaculatus* (Figs. 7 A–C), therefore might not be a true *Lachnopus*, but congeneric with *L. albomaculatus*. More studies are needed in order to ascertain the generic placement for both species.

Species-group: *L. albomaculatus* species-group.

Collections: NHMUK (Type); USNM.

References: Marshall 1926a: 54; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus bivirgatus Marshall, 1934: 621

(Figs. 15 D–F)

Menoetius bivirgatus (Marshall), 1934: 621

Distribution: CUBA: Santiago de Cuba (Cumbre, Pico Turquino).

Remarks: Described from males and females. Marshall (1934) comments on the small size and unusual slenderness of this species; the author also indicates *L. bivirgatus* (Figs. 15 D–F) as closely related to *L. coffeae* (Figs. 17 A–C), and provides some characters to differentiate both species.

Species-group: *L. luctuosus* species-group.

Collections: NHMUK (Type); USNM.

References: Marshall, 1934: 621–622; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Peck 2005: 228.

Lachnopus bruneri Marshall, 1933: 59

Menoetius bruneri (Marshall), 1933: 59

Distribution: CUBA: Cienfuegos Province (Buenos Aires), Villa Clara Province (Trinidad Mts).

Remarks: Described from males and females. Marshall (1933) indicates that this species is very similar to *L. buchanani* Marshall, 1933 (Figs. 17 D–F) only larger, and provides characters to differentiate both species.

Species-group: *L. luctuosus* species-group (?).

Collections: NHMUK (Type); USNM (Cotypes).

References: Marshall 1933: 59–60; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Peck 2005: 228.

Lachnopus buchanani Marshall, 1933: 59
(Figs. 17 D–F)

Menoetius buchanani (Marshall), 1933: 59

Distribution: CUBA: Sancti Spíritus Province (Trinidad Mts.: Buenos Aires, San Blas).

Host plants: On *Coffea arabica*, Rubiaceae.

Remarks: Described from males and females.

Species-group: *L. luctuosus* species-group.

Collections: NHMUK (Type); USNM (Cotypes).

References: Marshall 1933: 59; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37 Morrone 1999: 141; Peck 2005: 228.

Lachnopus cabocruz de Zayas, 1988: 162

Distribution: CUBA: Granma Province (Cabo Cruz); La Habana Province (Ciudamar); Santiago de Cuba Province (Daiquirí, Pico Turquino).

Species-group: Not yet determined.

Collections: Zayas (Type).

References: de Zayas, 1988: 162; Peck 2005: 228.

Lachnopus campechianus Gyllenhal, 1840: 388
(Figs. 16 A–C)

Lachnopus adspersus Chevrolat, 1880: 191
Menoetius campechianus (Gyllenhal), 1840: 388

Distribution: GUADELOUPE: Basse-Terre (Bains Jaunes, Gourbeyre, Trois Rivières).

Host plants: *Rumex* spp., Polygonaceae; possibly attacking *Citrus* spp., Rutaceae (see Mauleon & Mademba-Sy 1988).

Remarks: According to Gyllenhal's description (1840), *L. campechianus* (Figs. 16 A–C) is similar in size and general appearance to *L. curvipes* (Figs. 19–23). Hustache (1929) highlights variation in the coloration of the integument; he also comments on the sexual dimorphism of the posterior tibiae, indicating it is likely that Gyllenhal described a female, as the hind tibiae of the males are curved and bearing a large tooth; although, it is likely that Hustache was observing specimens of the widespread *L. curvipes*, which also occur in Guadeloupe. Dissections of male specimens from both species confirm that *L. curvipes* and *L. campechianus* are distinct species, in which males of *L. campechianus* exhibit straight metatibiae (JCG pers. obs.). *Lachnopus campechianus* is also very similar to the sympatric *L. lineicollis* (Chevrolat), 1880 (Figs. 16 D–F), with differences found only in the shape of the aedeagus (see Girón & Franz 2012).

Species-group: *L. luctuosus* species-group.

Collections: NHRS (Type; also Chevrolat's type for *L. adspersus*); CWOB; USNM.

References: Gyllenhal 1840: 388; Hustache 1929: 199; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Mauleon & Mademba-Sy 1988: 231 (table 1); Morrone 1999: 141; Girón & Franz 2012; Peck *et al.* 2014: 125.

Lachnopus canescens Gyllenhal, 1840: 388

Menoetius canescens (Gyllenhal), 1840: 388

Distribution: HISPANIOLA.

Remarks: Described from a female. According to Gyllenhal (1840), it is nearly as long as, but half narrower than *L. curvipes* (Figs. 19–23).

Species-group: Not yet determined.

Collections: NHRS (Type).

References: Gyllenhal 1840: 388–389; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus chirographus (Olivier), 1807: 334

Curculio chirographus Olivier, 1807: 334
Menoetius chirographus (Olivier), 1807: 334

Distribution: HISPANIOLA.

Remarks: According to Olivier (1807), *L chirographus* is slightly smaller and more convex than *L. aurifer* (Figs. 13 A–C).

Species-group: Not yet determined.

Collections: MNHN (Type).

References: Olivier 1807: 334–335; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus chlorophanus (Gyllenhal), 1834: 39
(Figs. 8 A–C)

Ptilopus chlorophanus Gyllenhal, 1834: 39
Menoetius chlorophanus (Gyllenhal), 1834: 39

Distribution: HISPANIOLA: HAITI: Ouest (Port-au-Prince, Cul de Sac).

Remarks: Described from a female. According to Gyllenhal (1834), *L. chlorophanus* (Figs. 8 A–C) is similar in appearance to *L. aulicus* (Figs. 8 D–F). See discussion on the 'chlorophanus conflict'.

Species-group: *L. chlorophanus* species-group.

Collections: NHRS (Type); UUZM (Syntype); CWOB (including specimens compared with type).

References: Gyllenhal 1834: 39; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

Lachnopus coffeae Marshall, 1922: 60

(Figs. 17 A–C)

Menoetius coffeae (Marshall), 1922: 60
Lachnopus coffeae montanus Marshall, 1922: 61 (described as a subspecies, also treated as a variety (Wolcott 1923: 129))
Lachnopus montanus Marshall, 1922: 61—synonymized by Morrone (1999: 141)

Distribution: BAHAMAS*: Grand Bahama (Freeport); PUERTO RICO: Adjuntas, Barceloneta, Caguas, Cayey, Ciales (Cialitos), Guayama, Guaynabo (Pueblo Viejo), Isabela, Jayuya, Maricao (Indiera), Ponce, Salinas, San Juan (Río Piedras), San Sebastián, Yauco.

Host plants: Feeding on coffee (*Coffea arabica*, Rubiaceae) leaves, buds and berries; on tender orange leaves and grapefruit (*Citrus* spp., Rutaceae); on *Vitex divaricata*, Lamiaceae; *Cestrum macrophyllum*, Solanaceae; and *Senna bicapsularis*, Fabaceae (formerly *Isandrina emarginata*). The specimen from Grand Bahama was collected on *Citrus aurantifolia* (Rutaceae).

Biological notes: Not known to occur at elevations lower than 300 m in Puerto Rico; most abundant during April and May; one-year life cycle; eggs laid in flat masses of 50 or more between two overlapped leaves; in captivity lived over 50 days, females laid about 30 eggs that hatched in 10–14 days; eggs parasitized by *Aprostocetus vaquitarum* (formerly *Tetrastichus vaquitarum* Wolcott, 1924) (Hymenoptera: Eulophidae); the greater damage is caused by the adult (van Zwaluwenberg 1917; Wolcott 1923).

Remarks: Described from males and females. The montanus variety, localized in Yauco, was differentiated mostly by characters of the scale coverage (see Marshall 1922). *Lachnopus coffeae*, *L. seini* Wolcott, 1936 and *L. yaucona* Wolcott, 1936 share a distinct shape of the aedeagus (illustrated by Marshall 1922, fig. 1) which was recovered as a synapomorphic trait by Girón & Franz (2012; character 48, state 1: lateral profile of ventral surface of aedeagus, irregular; although convergently present in *L. albomaculatus*, not considered homologous). It is likely that these three species are actually populational variations of the same taxonomic entity. See discussion on the 'coffeae conflict'. There is only one specimen known from the Bahamas, housed at CWOB, previously identified as *Lachnopus* sp. A. The specimen was listed as *Lachnopus* sp. in Turnbow & Thomas (2008); it matches the original description of *L. coffeae*, including the distinct aedeagus, with differences in the scale coverage. The presence of *L. coffeae* in the Bahamas could be attributed to introduction associated with citrus from Puerto Rico.

Species-group: *L. luctuosus* species-group.

Collections: NHMUK (Type); CWOB; MEBT; UPRM-INVCOL; USNM.

References: Marshall 1922: 60–61; Wolcott 1923: 128–129; Wolcott 1948: 386–387; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Turnbow & Thomas 2008: 32; Girón & Franz 2012.

Lachnopus consentaneus Perroud, 1853: 487 [103]

Menoetius consentaneus (Perroud), 1853: 487

Distribution: HISPANIOLA.

Remarks: Described from males and females. According to Perroud (1853), *L. consentaneus* is closely related to *L. hirtus* Perroud, 1853.

Species-group: Not yet determined.

Collections: MNHN (Type [probably destroyed]).

References: Perroud 1853: 487 [103]; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

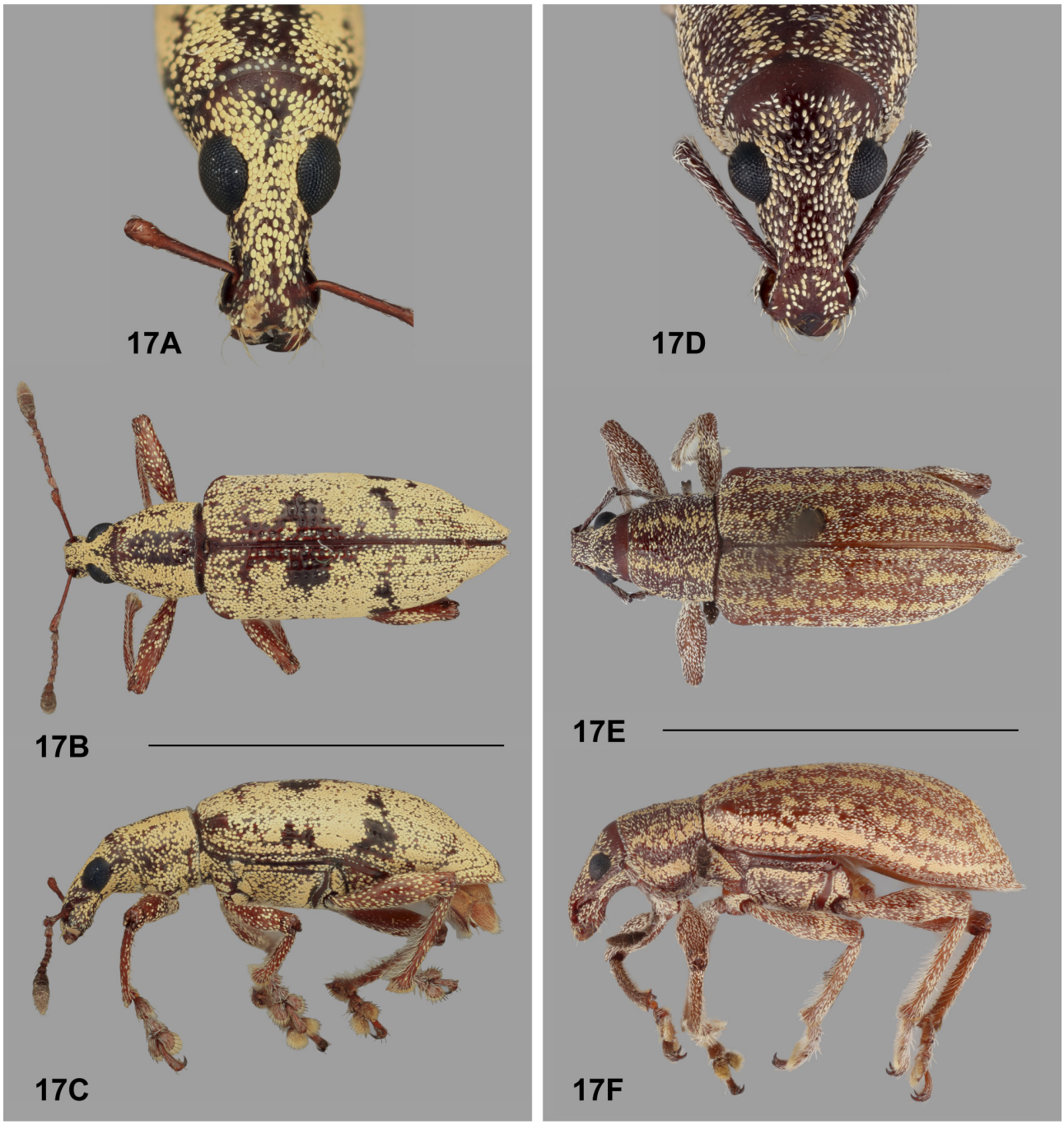

FIGURE 17. *Lachnopus luctuosus* species-group, habitus. ***L. coffeae*** (male; USNM)**: A.** head; **B.** dorsal view; **C.** lateral view; ***L. buchanani*** (male; USNM): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

Lachnopus cozumelus **Girón & O'Brien sp. nov.**
(Fig. 1)

Distribution: MEXICO: Cozumel Island.

Species-group: *L. luctuosus* species-group.

Collections: USNM (Type).

***Lachnopus cristalensis* de Zayas, 1988: 161**

Distribution: CUBA: Holguín Province (Sierra Cristal); possibly Cienfuegos Province (Cumanayagua).

Remarks: Described from females. According to de Zayas (1988) *L. cristalensis* is closely related to *L. hispidus* (Figs. 12 A–C).

Species-group: *L. luctuosus* species-group (?).

Collections: Zayas (Type). A specimen matching the description is deposited at ASUHIC (Catalog #: ASUHIC0053579 [http://symbiota4.acis.ufl.edu/scan/portal/collections/individual/index.php?occid=13014930]).

References: de Zayas, 1988: 162; Peck 2005: 228.

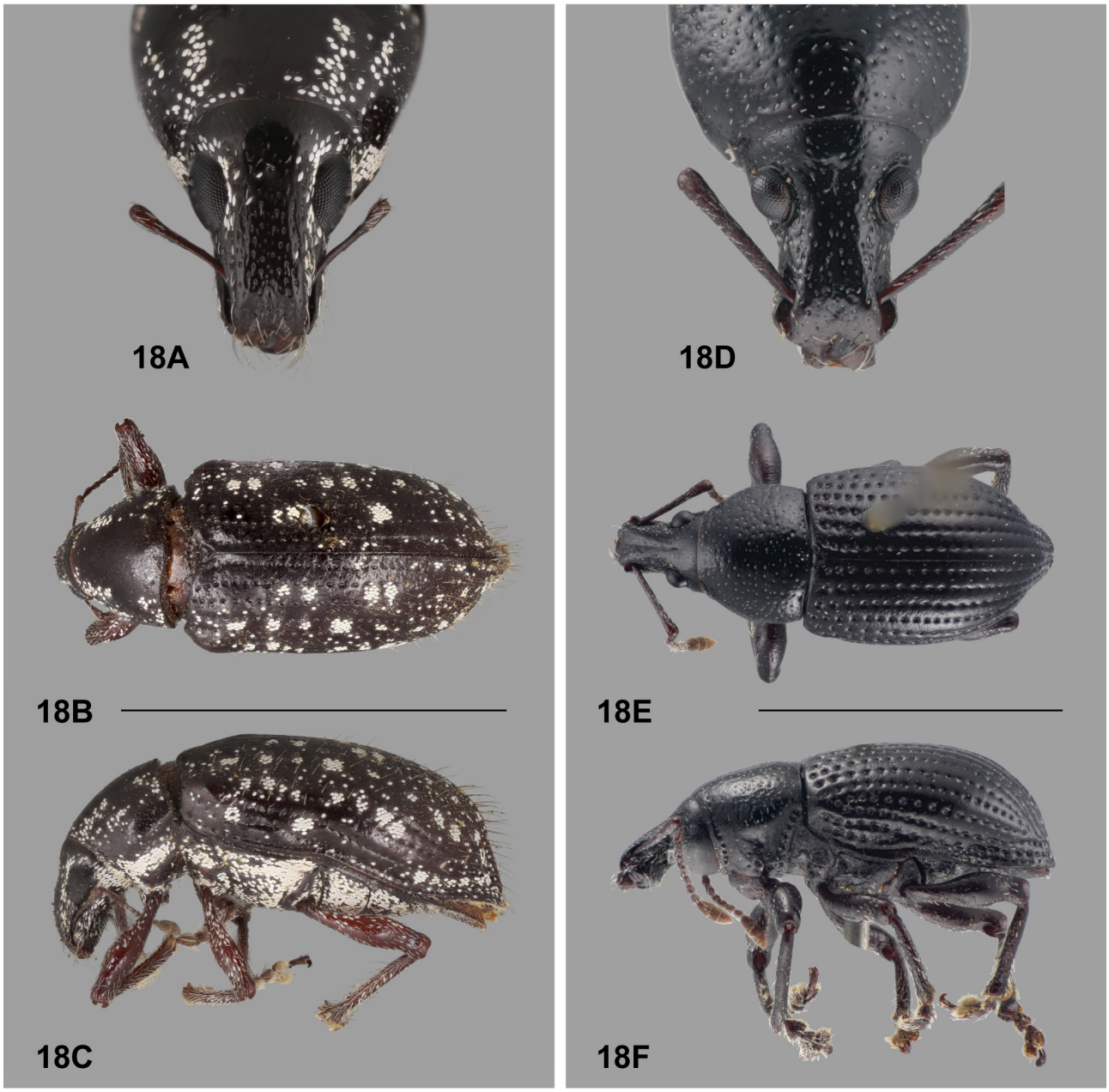

FIGURE 18. *Lachnopus luctuosus* species-group, habitus. ***L. multipunctatus*** (male; USNM)**: A.** head; **B.** dorsal view; **C.** lateral view; ***L. kofresi*** (male; INVCOL)**: D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

***Lachnopus curvipes* (Fabricius), 1787: 113**
(Figs. 19–23)

Curculio curvipes Fabricius, 1787: 113
Curculio calcaratus Olivier, 1807: 350 (considered a variety from Guadeloupe; see O'Brien & Wibmer 1982: 37)
Lachnopus calcaratus (Olivier), 1807: 350—synonymized by Morrone (1999: 141)

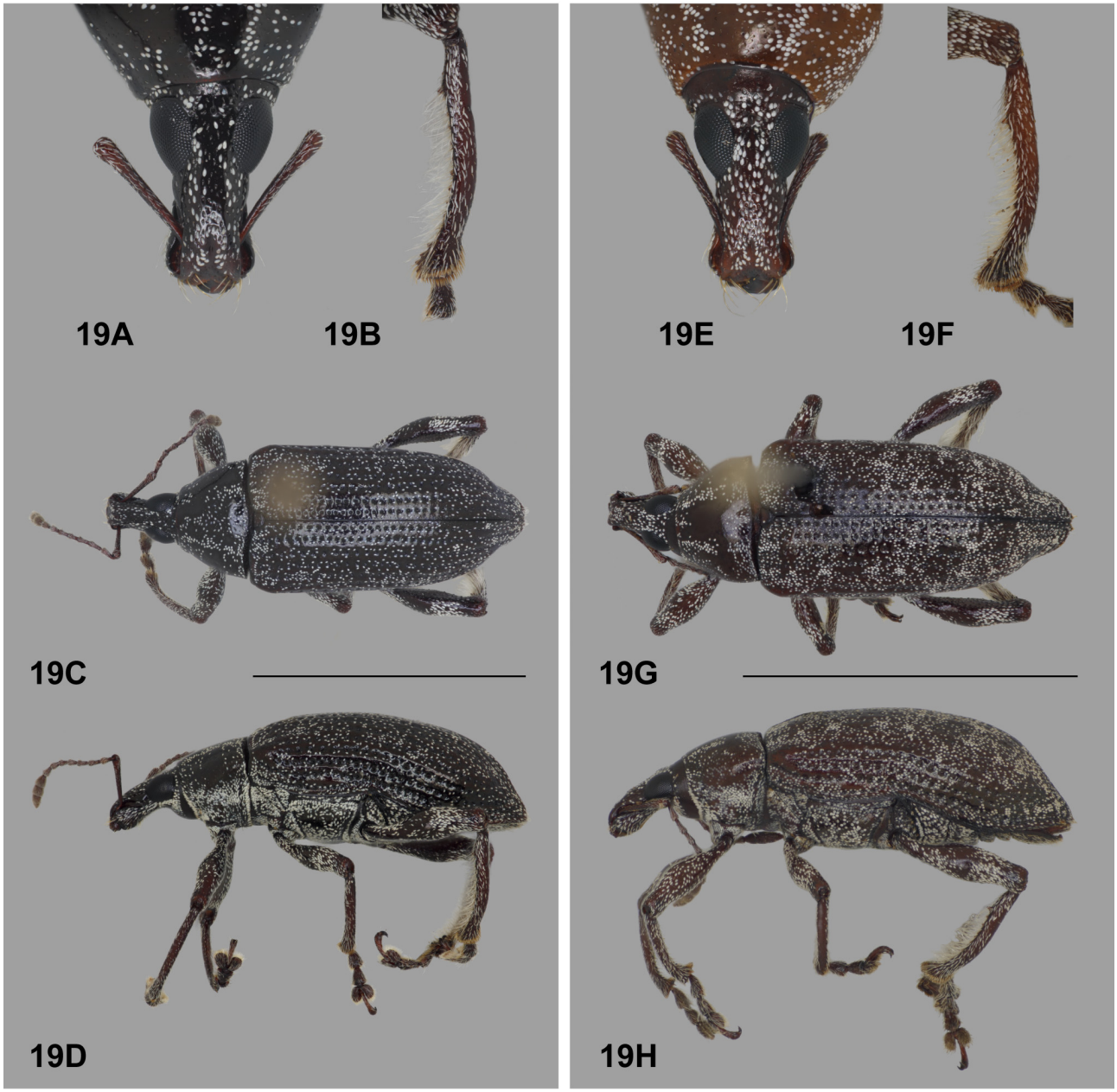

FIGURE 19. *Lachnopus luctuosus* species-group. Males of ***L. curvipes*** (CWOB)**: A–E,** Mayagüez (PR): **A.** head; **B.** dorsal view; **C.** lateral view; **D.** left posterior tibia, outer view; **E–H.** Guánica (PR): **E.** head; **F.** dorsal view; **G.** lateral view; **H.** left posterior tibia, outer view. Scale bar: 5 mm; applies only to dorsal and lateral views.

Distribution: ANTIGUA* (English Harbour, Fig Hill; USNM), BARBUDA* (USNM), DOMINICA (Fig. 23 E–H; Cabrits, Grande Savanne, Morne Trois Pitons, Pont Cassé, Roseau, Pringles Bay, Salisbury), DOMINICAN REPUBLIC, GRENADA* (Calliste; CWOB, USNM), GUADELOUPE, GUANA ISLAND* (USNM), JAMAICA, MONTSERRAT* (Fig. 23 A–D; Plymouth, Galway's Estate; CWOB, USNM), NEVIS (Charlestown), PUERTO RICO (Adjuntas, Arecibo (Santana), Barceloneta, Barranquitas, Bayamón, Cabo Rojo (Boquerón),

Ceiba, Coamo, Comerío, Culebra (Fig. 21 E–H), Dorado, Fajardo, Florida, Guánica (Fig. 19 E–H), Guayanilla, Isabela, Jayuya, Lajas (Parguera (Isla Magueyes)), Lares, Loíza, Luquillo (Mameyes), Manatí, Mayagüez (Fig. 19 A–D), Morovis, Naranjito, Ponce, Quebradillas (Guajataca), Salinas, San Juan (Fig. 20 E–H), Santa Isabel (Fig. 20 A–D), Utuado, Vega Alta, Vega Baja (Algarrobo), Villalba, Yauco, Yabucoa; Vieques (Fig. 21 A–D)), ST. BARTHELEMY, SAINT CROIX* (Christiansted; CWOB, USNM; see taxonomic conflicts section), ST. JOHN* (CWOB, USNM; Fig. 22 E–H), ST. KITTS (Basseterre), ST. THOMAS (Fig. 22 A–D; Estate Bovoni), ST. VINCENT (Kingstown; Bequia), TOBAGO [Virgin Is.]* (USNM), TORTOLA, VIRGIN GORDA* (USNM).

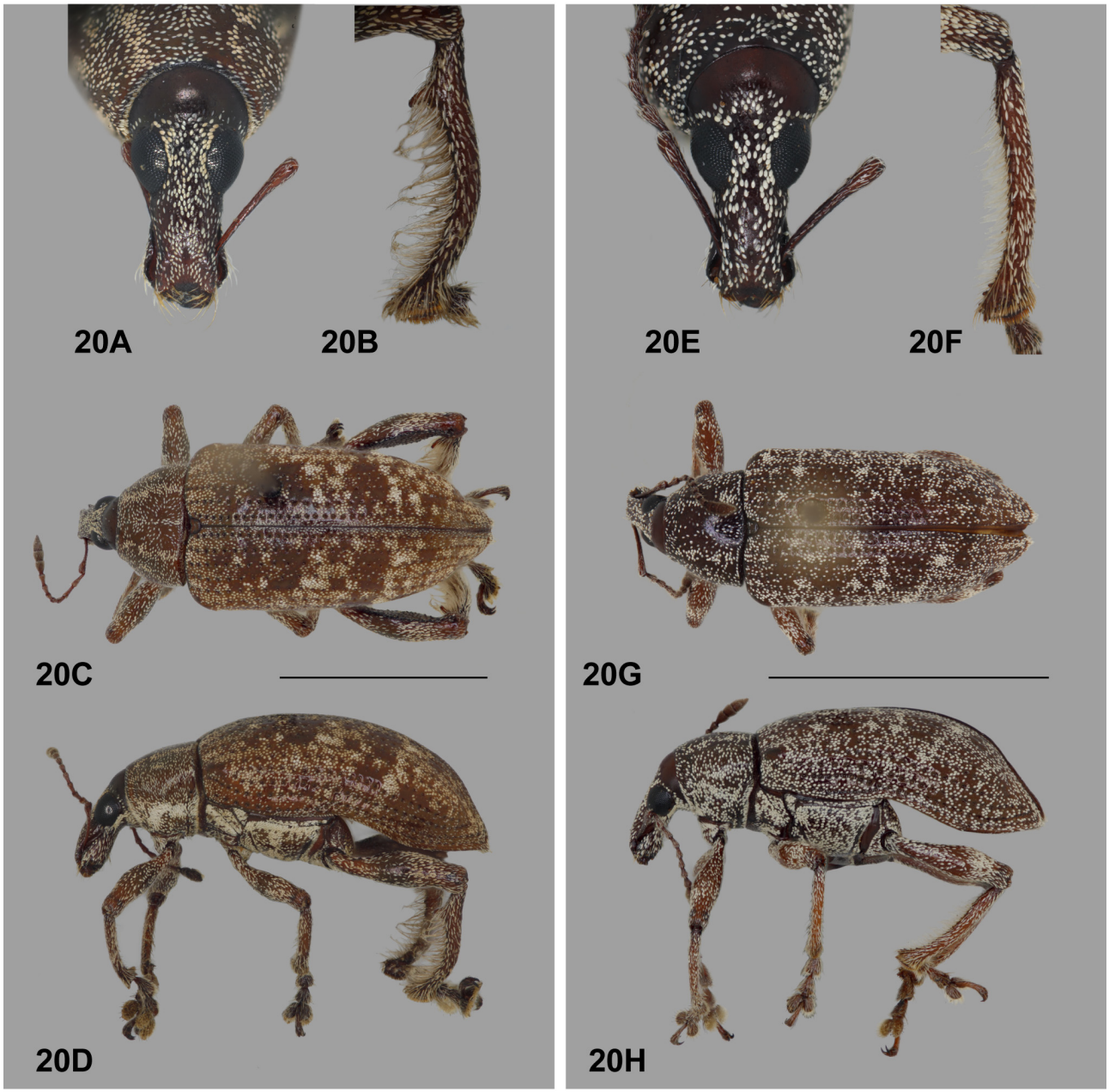

FIGURE 20. *Lachnopus luctuosus* species-group. Males of ***L. curvipes*** (CWOB)**: A–E,** Santa Isabel (PR): **A.** head; **B.** dorsal view; **C.** lateral view; **D.** left posterior tibia, outer view; **E–H.** San Juan (PR): **E.** head; **F.** dorsal view; **G.** lateral view; **H.** left posterior tibia, outer view. Scale bar: 5 mm; applies only to dorsal and lateral views.

Host plants: On *Amaranthus spinosus* (Amaranthaceae), *Inga vera* (Mimosaceae), *Cordia cylindrostachya* (Boraginaceae), *Croton* sp. (Euphorbiaceae), *Coccoloba uvifera* (Polygonaceae), *Dalbergia ecastaphyllum* (Fabaceae), *Waltheria indica* (Sterculiaceae, formerly *Waltheria americana*), *Conocarpus erectus* (Combretaceae),

Cassia occidentalis (Caesalpiniaceae), *Crotalaria* sp. (Fabaceae), flowers of *Randia aculeata* (Rubiaceae); cotton (*Gossypium* sp., Malvaceae), grapefruit and, orange (*Citrus* spp., Rutaceae), cabbage (*Brassica oleracea*, Brassicaceae), Swiss chard (*Beta vulgaris*, Chenopodiaceae), watermelon (*Citrullus lanatus*, Cucurbitaceae), lima bean (*Phaseolus lunatus*, Fabaceae), grapes (*Vitis* spp., Vitaceae) numerous weeds; bushes and trees (see Wolcott 1936: 302), on *Capraria biflora* (Scrophulariaceae, label data) in Puerto Rico. Possibly attacking *Citrus* spp. (Rutaceae) in Guadeloupe (see Mauleon & Mademba-Sy 1988: 230-231); in Dominica, on *Citrus* spp. (Rutaceae, label data; USNM), *Crotalaria sp.* (Fabaceae; label data; USNM); and *Lantana* spp. (Verbenaceae; label data; USNM); *Jatropha* sp. and *Ricinus communis* (both Euphorbiaceae) are recorded as alternative host plants (see Ambrose 1983); on *Guapira fragrans* (Nyctaginaceae; St. Croix; label data; USNM).

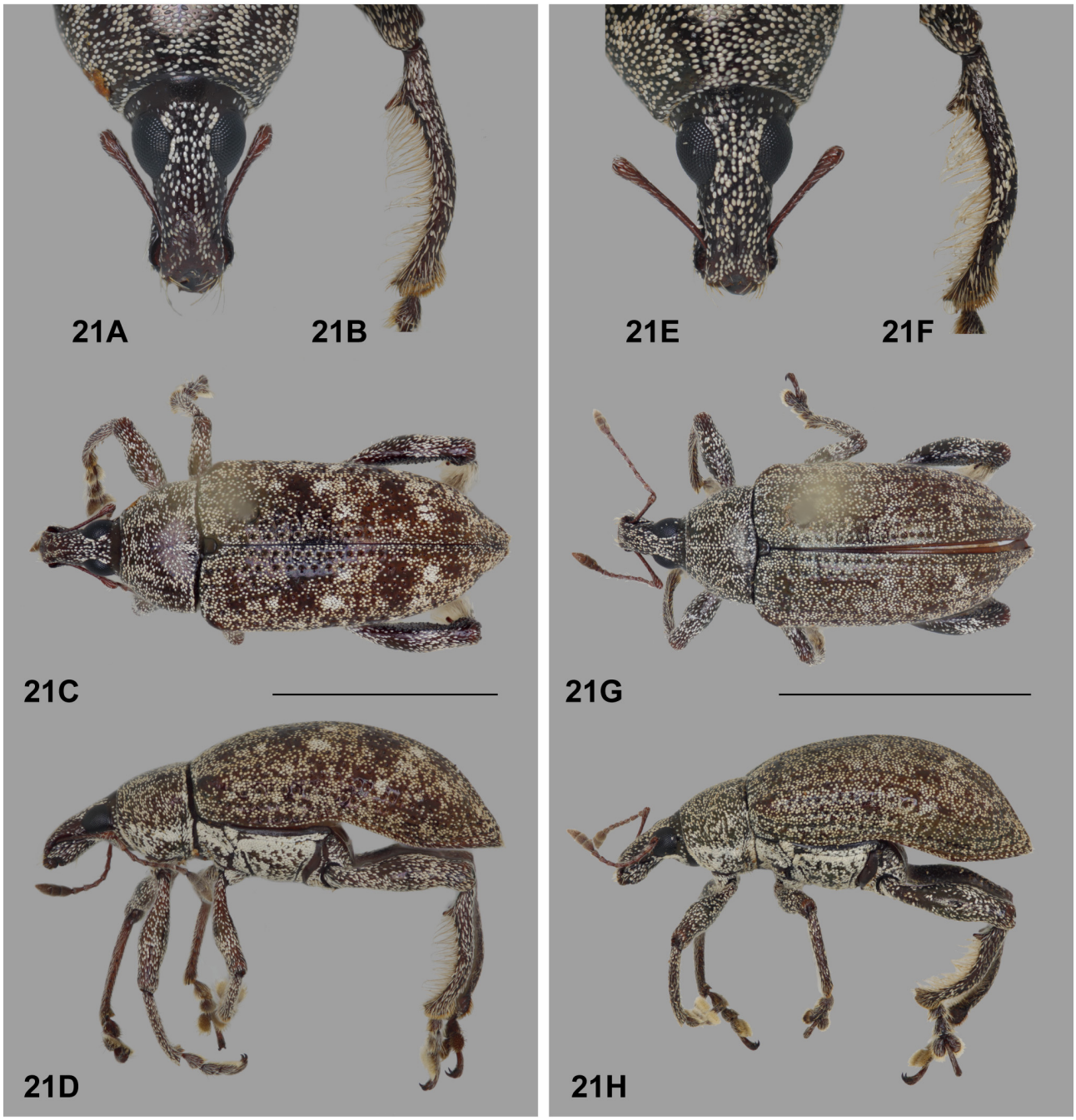

FIGURE 21. *Lachnopus luctuosus* species-group. Males of ***L. curvipes*** (CWOB)**: A–E,** Vieques (PR): **A.** head; **B.** dorsal view; **C.** lateral view; **D.** left posterior tibia, outer view; **E–H.** Culebra (PR): **E.** head; **F.** dorsal view; **G.** lateral view; **H.** left posterior tibia, outer view. Scale bar: 5 mm; applies only to dorsal and lateral views.

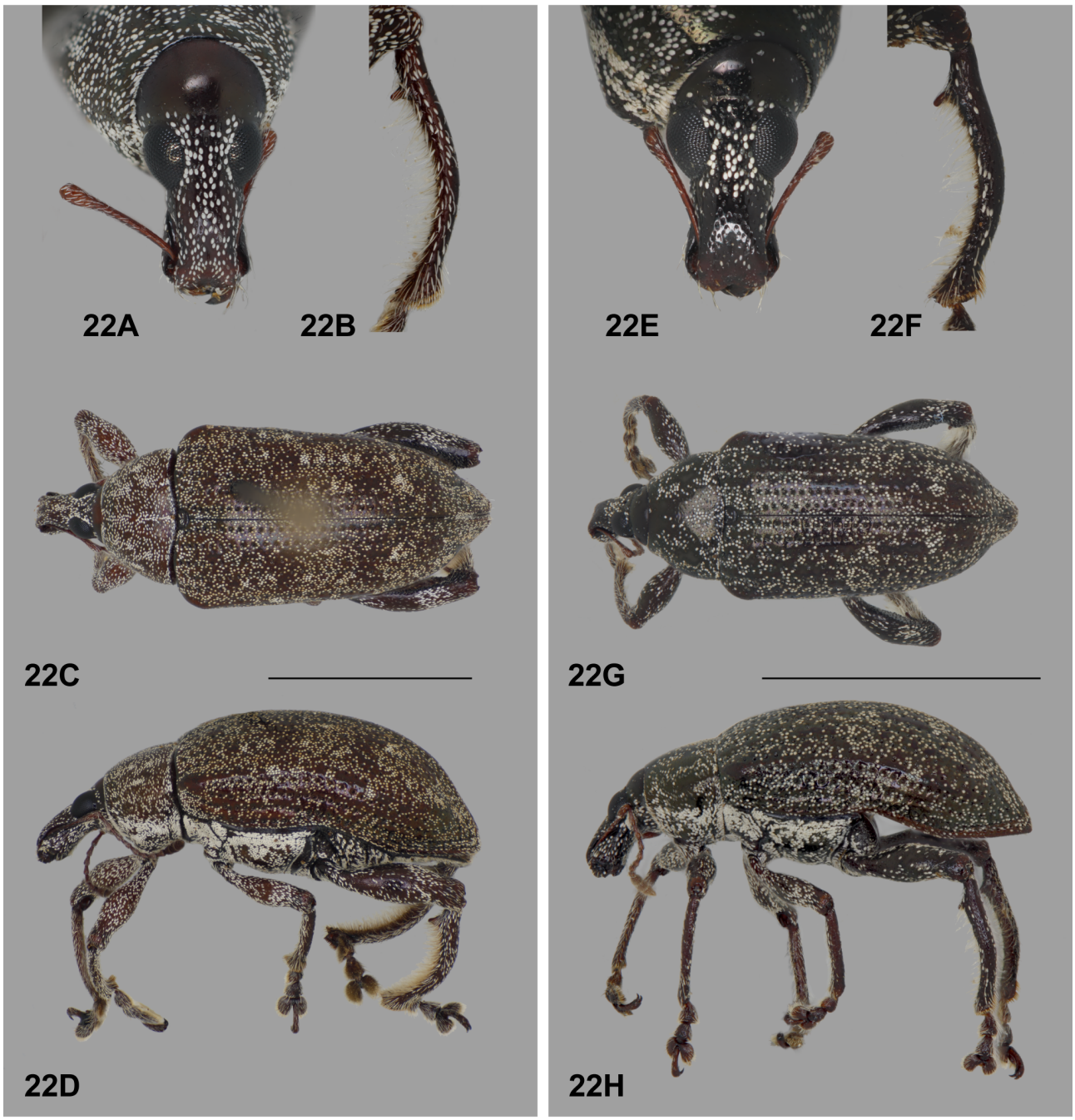

FIGURE 22. *Lachnopus luctuosus* species-group. Males of ***L. curvipes*** (CWOB)**: A–E,** St. Thomas: **A.** head; **B.** dorsal view; **C.** lateral view; **D.** left posterior tibia, outer view; **E–H.** St. John: **E.** head; **F.** dorsal view; **G.** lateral view; **H.** left posterior tibia, outer view. Scale bar: 5 mm; applies only to dorsal and lateral views.

Biological notes: According to Wolcott (1948), adults occur through all the year in every part of Puerto Rico, possibly excepting higher mountains; damage to most economically important plants is negligible; hand picking was implemented on serious infestations. Birds of the coffee groves and of the virgin forests, including cuckoo (*Coccyzus vieilloti* Bonaparte), ani (*Crotophaga ani* Linnaeus), owl (*Megascops nudipes* (Daudin)), kingbird (*Tyrannus dominicensis* (Gmelin), flycatcher (*Myiarchus antillarum* (Bryant)), mockingbird (*Mimus polyglottos* (Linnaeus)), vireo (*Vireo latimeri* Baird), parula warbler (*Setophaga americana* (Linnaeus)), honeycreeper (in Wolcott 1948, probably referring to the bananaquit, *Coereba flaveola* (Linnaeus), commonly known in Puerto Rico as reinita), yellow-shouldered blackbird (*Agelaius xanthomus* (Sclater)), oriole (*Icterus portoricensis* (Bryant)), mozambique (also known as Greater Antillean grackle, *Quiscalus niger* (Boddaert)), tanager (*Nesospingus speculiferus* (Lawrence)), spindalis (*Spindalis portoricensis* (Bryant)), grosbeak (*Passerina caerulea* (Linnaeus)),

grasshopper sparrow (*Ammodramus savannarum* (Gmelin)), lizards such as *Anolis pulchellus* Duméril and Bibron and *A. cristatellus* Duméril and Bibron, as well as the introduced toad *Rhinella marina* (Linnaeus) (formerly *Bufo marinus*) feed on *L. curvipes*.

Remarks: Wolcott (1923) indicated a possible synonymy of *L. curvipes* and *L. valgus*, which are the only species in the genus that have been recorded from more than two landmasses, mostly across the Lesser Antilles. The main character for recognizing both species, and likely the inspiration for both names, is the strongly curved posterior tibia of the males, which is armed with a tooth near the base, and covered by fine and long setae along its ventral surface. Most Caribbean weevils in collections that exhibit these characters (and their accompanying females with straight posterior tibiae) are identified as *L. curvipes*, and only some of them as *L. valgus*, probably mostly based in their previously known distributions.

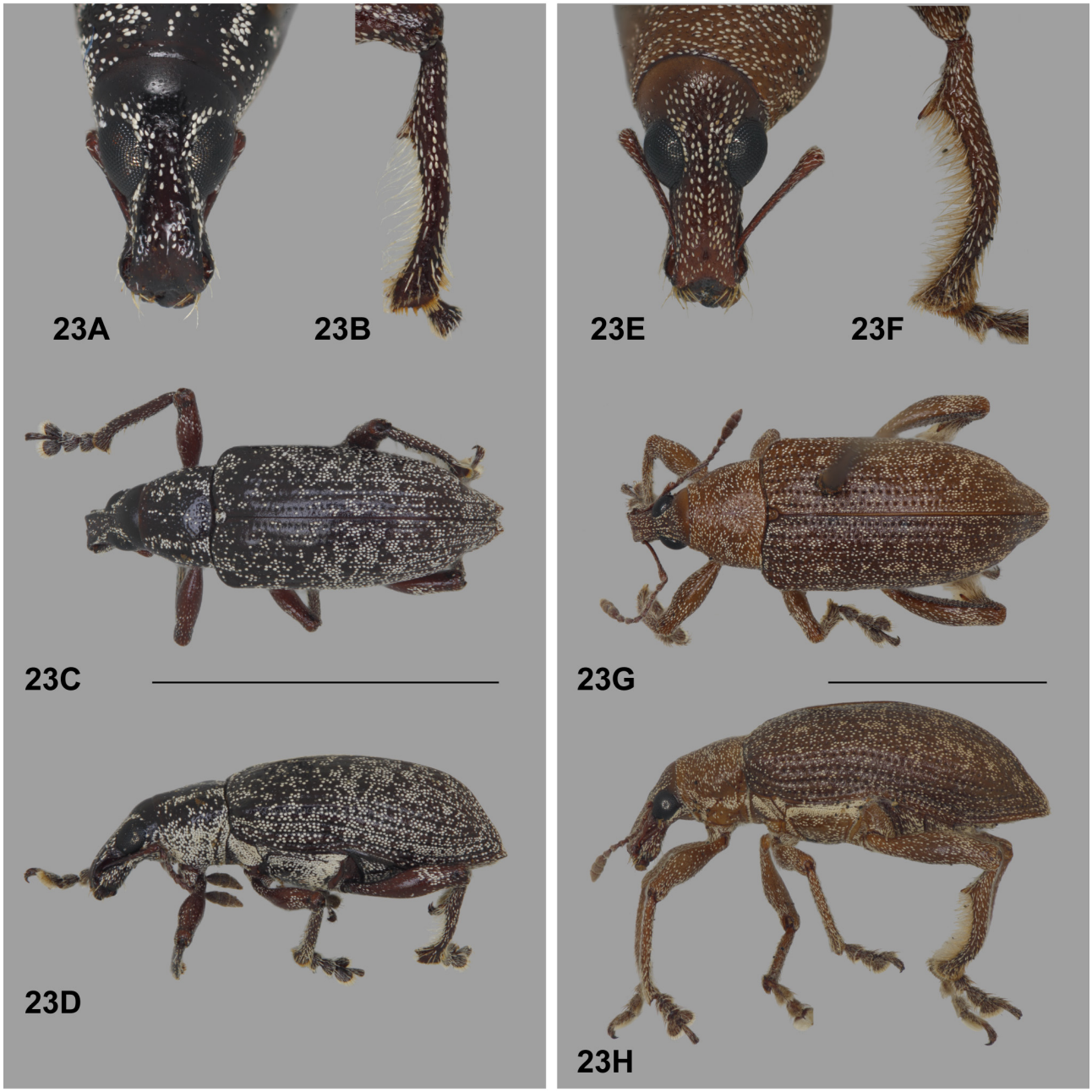

FIGURE 23. *Lachnopus luctuosus* species-group. Males of ***L. curvipes*** (CWOB)**: A–E,** Montserrat: **A.** head; **B.** dorsal view; **C.** lateral view; **D.** left posterior tibia, outer view; **E–H.** Dominica: **E.** head; **F.** dorsal view; **G.** lateral view; **H.** left posterior tibia, outer view. Scale bar: 5 mm; applies only to dorsal and lateral views.

There is an extremely wide range of variation across populations of *L. curvipes* from different regions across Puerto Rico, and from different islands across the Lesser Antilles (see Figs. 19–23). Those variations affect external characters such as body size and shape, coloration and scale coverage of the integument, size and degree of projection of the eyes, degree of curvature of the male metatibia and degree of development of the basal tooth (Girón & Franz 2011; see Figs. 19–23). The variability of the male genitalia in specimens identified as *L. curvipes* overlaps with the characters observed in *L. valgus*, as redescribed by Franz (2010) (see Girón & Franz 2011). See discussion on the 'curvipes conflict'.

Populations of *L. curvipes* from Dominica and Mayagüez (Puerto Rico) are most distinct, particularly in features of the aedeagus, relative to the observed intraspecific variation across populations from other localities (see Girón & Franz 2011).

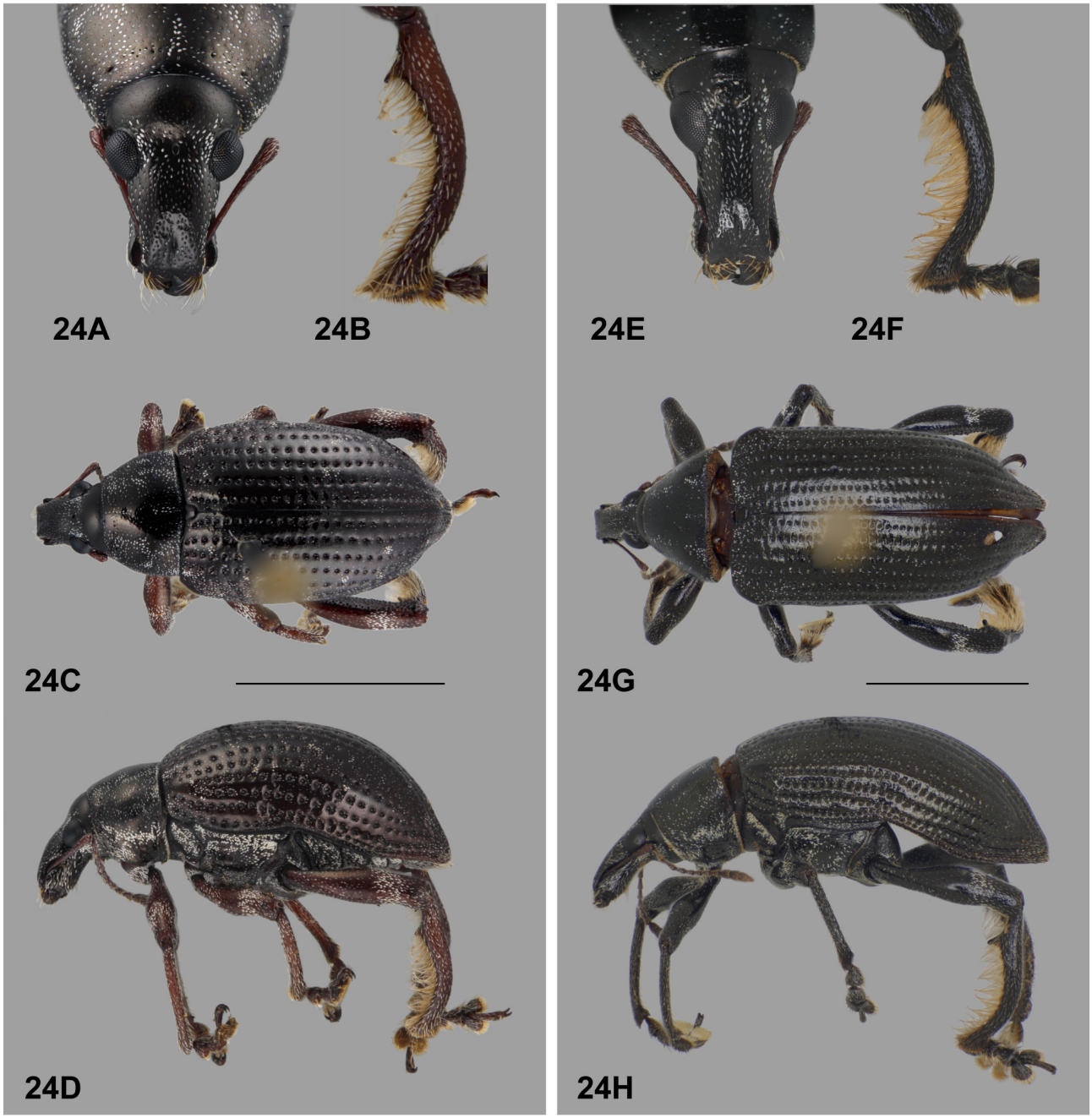

FIGURE 24. *Lachnopus luctuosus* species-group. Males of ***L. valgus*** (CWOB)**: A–E,** St. Barthélemy: **A.** head; **B.** dorsal view; **C.** lateral view; **D.** left posterior tibia, outer view; **E–H.** St. Croix: **E.** head; **F.** dorsal view; **G.** lateral view; **H.** left posterior tibia, outer view. Scale bar: 5 mm; applies only to dorsal and lateral views.

A study with thorough sampling across the distributional range of both species, with the aid of molecular markers would be required to determine species limits, intraspecific variation and distributions.

Specimens of *L. curvipes* from the Dominican Republic and Jamaica have not been found in the reviewed collections.

Species-group: *L. luctuosus* species-group.

Collections: NHMUK (Type (?)); CWOB; MEBT; NHRS; UPRM-INVCOL; USNM.

References: Wolcott 1923: 129; Wolcott 1936: 301–302; Wolcott 1941: 103; Blackwelder 1947: 796; Wolcott 1948: 387–388; Mauleon & Mademba-Sy 1988: 231 (table 1); O'Brien & Wibmer 1982: 37; Ambrose 1983: 60; Morrone 1999: 141; Girón & Franz 2011, 2012; O'Brien & Turnbow 2011: 24.

Lachnopus dentipes Perroud, 1853: 489 [105]

Menoetius dentipes (Perroud), 1853: 489

Distribution: HISPANIOLA.

Remarks: Described from males and females; according to Perroud (1853) the posterior femora of the males bear denticles and/or granules on the postero-ventral surface, the posterior tibiae are curved, armed with spines and with reddish hairs, whereas the posterior tibiae on the females are straight and unarmed. See discussion on the 'curvipes conflict'. Perroud also indicates *L. dentipes* being nearly the size and roughly the shape of *L. plumipes* (Figs. 7 D–F).

Species-group: Not yet determined.

Collections: MNHN (Type [probably destroyed]).

References: Perroud 1853: 489 [105]; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus distortus Gyllenhal, 1840: 393

Menoetius distortus (Gyllenhal), 1840: 393
Curculio valgus Herbst, 1795: 129 [Not Fabricius 775]
Lachnopus valgus (Herbst), 1795: 129 [Not Fabricius 775]

Distribution: WEST INDIES.

Remarks: Described from a male. According to Gyllenhal (1840) *L. distortus* is similar to *L. curvipes* and *L. valgus* (see Figs. 19–24). See discussion on the 'curvipes conflict'.

Species-group: *L. luctuosus* species-group (?).

Collections: NHRS (Type), UUZM (Type).

References: Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Peck 2005: 228.

Lachnopus festivus de Zayas, 1988: 159

Distribution: CUBA: Santiago de Cuba Province (Pico Turquino).

Remarks: Described from males and females.

Species-group: Not yet determined.

Collections: Zayas (Type).

References: de Zayas, 1988: 162; Peck 2005: 228.

Lachnopus floridanus Horn, 1876: 101
(Figs. 14 D–F)

Menoetius floridanus (Horn), 1876: 101

Distribution: USA: Florida (Homestead, Dade Co., Cape Sable, Everglades National Park, Key West, Key Largo).

Host plants: On Solanaceae; on *Solanum torvum*, Solanaceae.

Remarks: According to Horn (1876) this species is similar in size and ornamentation to *L. hispidus* (Figs. 12 A–C). Nevertheless, specimens identified as *L. hispidus* at CWOB and USNM are quite different from *L. floridanus* (compare figs. 12 A–C to figs. 14 A–C).

Species-group: *L. luctuosus* species-group.

Collections: ANSP (Type); CWOB; FMNH; SEMC; USNM.

References: Woodruff 1985: 373; Sleeper 1957: 38; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Girón & Franz 2012.

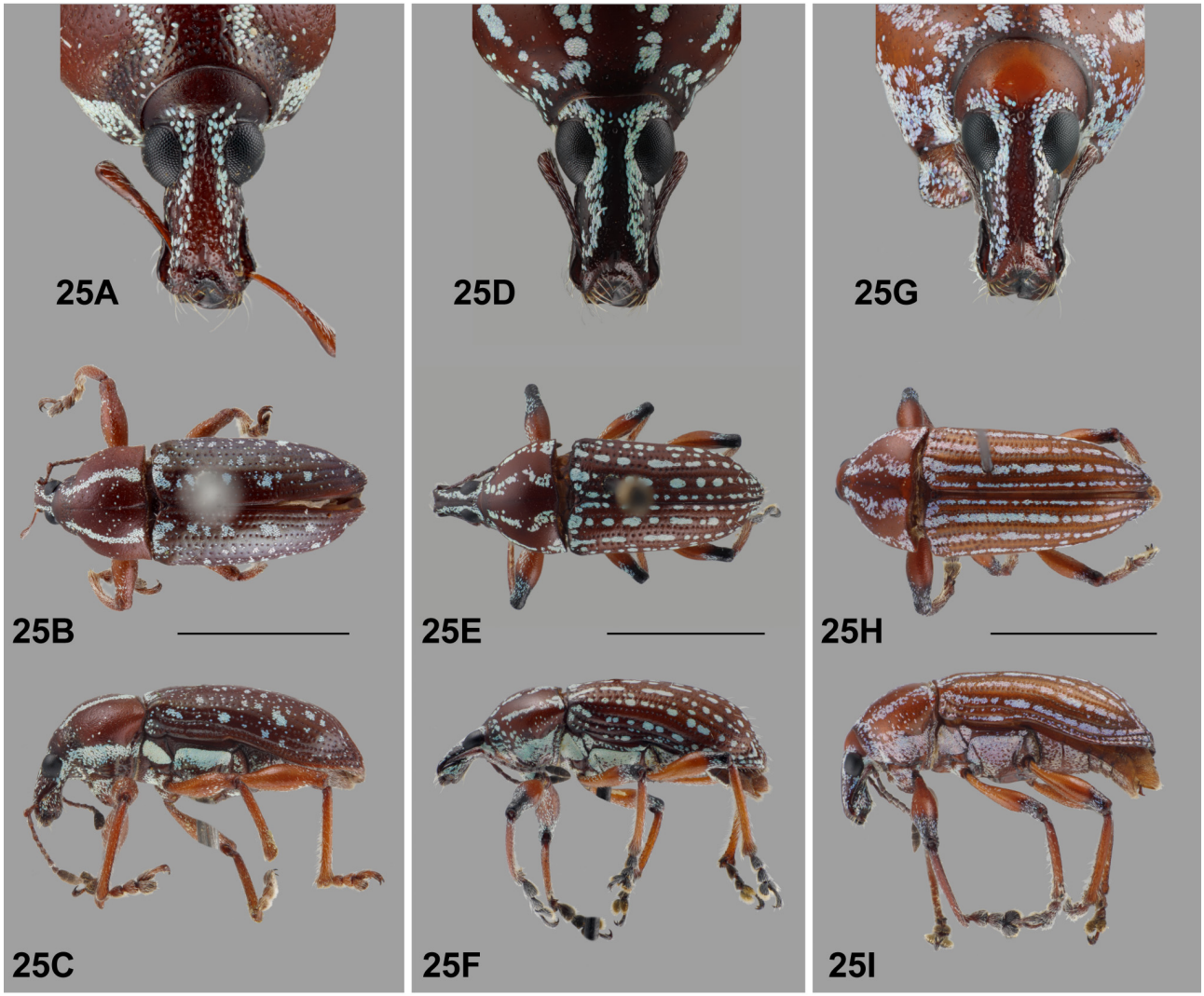

FIGURE 25. *Lachnopus splendidus* species-group, habitus. ***L. splendidus*** (male; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. lineatoguttatus*** (male; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view; ***L. vittatus*** (male; CWOB): **G.** head; **H.** dorsal view; **I.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

***Lachnopus gowdeyi* Marshall, 1926: 531**

(Figs. 13 D–F)

Menoetius gowdeyi (Marshall), 1926: 531

Distribution: JAMAICA: Saint Catherine Parish (Kitson Town); Portland Parish (Cinchona).

Host plants: On *Citrus* spp., Rutaceae (van Whervin 1968, Woodruff 1985).

Remarks: Described from males and females. Marshall (1926b) describes in detail the scale coverage, and provides a set of characters to diagnose the species. See discussion on *L. aurifer vs. L gowdeyi*.

Species-group: *L. hispidus* species-group.

Collections: NHMUK (Type); ASUHIC; CWOB.

References: Marshall 1926b: 531–532; van Whervin 1968: 1; Woodruff 1985: 373, Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Girón & Franz 2012.

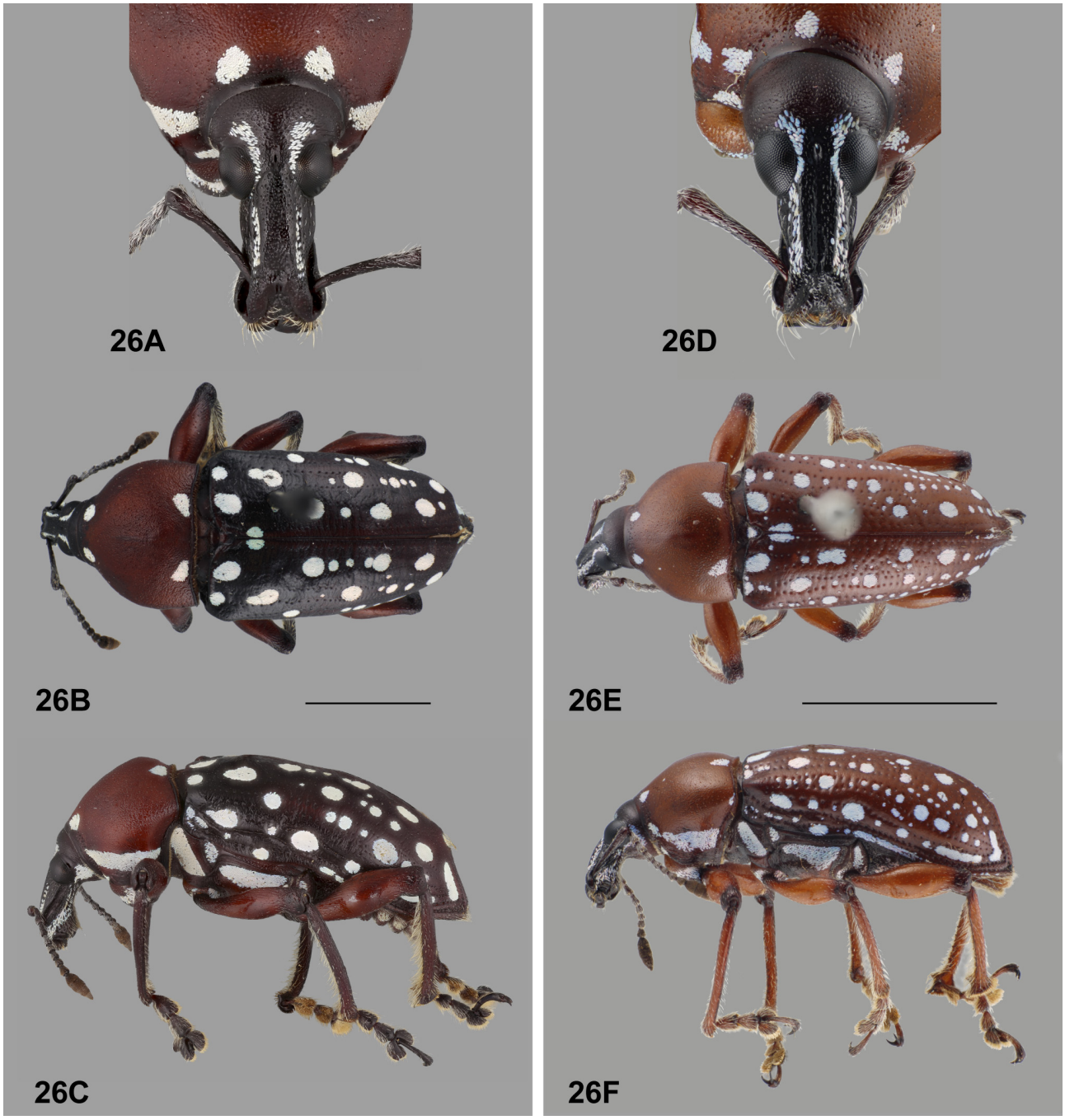

FIGURE 26. *Lachnopus splendidus* species-group, habitus. ***L. argus*** (male; CWOB): **A.** head; **B.** dorsal view; **C.** lateral view; ***L. guerini*** (male; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm; applies only to dorsal and lateral views.

Lachnopus granicollis Gyllenhal, 1840: 390

Menoetius granicollis (Gyllenhal), 1840: 390

Distribution: HISPANIOLA.

Remarks: Described from a male. According to Gyllenhal (1840), *L granicollis* is smaller and narrower than *L. curvipes* (Figs. 19–23), and similar to *L. aereus* but half as large and with a different thorax shape.

Species-group: Not yet determined.

Collections: NHRS (Type).

References: Gyllenhal 1840: 390; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus guerinii Jacquelin du Val, 1857: 185

(Figs. 26 D–F)

Menoetius guerinii (Jacquelin du Val), 1857: 185

Distribution: CUBA.

Remarks: Described from females. According to Jacquelin du Val (1857) *L. guerinii* (Figs. 26 D–F) is very closely related to *L. argus* (Figs. 26 A–C; see also illustrations on Jacquelin du Val (1857: Plate 9 (26, 27)). It can be distinguished by the smaller and more numerous patches of scales on the elytra and the more regular elytral striae. See discussion on *L. argus vs. L guerinii.*

Species-group: *L. splendidus* species-group.

Collections: NHMUK (Type (?)); CWOB; NHRS.

References: Jacquelin du Val 1857: 185–186 + illust. Plate 9; Gundlach 1891: 327; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 37; Morrone 1999: 141; Girón & Franz 2012.

Lachnopus guttatupunctatus de Zayas 1988: 155

Distribution: CUBA: Guantánamo Province (Hacienda de San Carlos).

Remarks: Described from a female.

Species-group: Not yet determined.

Collections: Zayas (Type).

References: de Zayas, 1988: 162; Peck 2005: 228.

Lachnopus hirtus Perroud, 1853: 484 [100]

Menoetius hirtus (Perroud), 1853: 484 [100]

Distribution: HISPANIOLA.

Remarks: Described from males and females. Perroud (1853) compares *L. hirtus* to *L. canescens*.

Species-group: Not yet determined.

Collections: MNHN (Type [probably destroyed]).

References: Perroud 1853: 484 [100]; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus hispidus (Gyllenhal), 1834: 34

(Figs. 12 A–C)

Ptilopus hispidus Gyllenhal, 1834: 34
Menoetius hispidus (Gyllenhal), 1834: 34

Distribution: CUBA: Artemisa Province (Bahía Honda); Camagüey Province (Camagüey, Sola); Ciego de Ávila

Province (Baraguá); La Habana Province (Havana); Granma Province (Báyamo, Cayamas); Holguín Province (Holguín); Isla de la Juventud [formerly Isla de Pinos] (Nueva Gerona); Matanzas Province (Cárdenas, Coliseo); Sancti Spíritus Province (Trinidad); Villa Clara Province (Santa Clara); widespread in the country (see Montes *et al.* 2014); USA: Florida.

Host plants: Pest of *Citrus* spp. (Rutaceae) crops.

Biological notes: Montes *et al.* (2014) have determined that *L. hispidus* develop through a short cycle (with a non-feeding larval stage that lasts between six to nine months). Authors also found an unidentified species of *Cenosoma* (Diptera) parasitizing adults of *L. hispidus* (see Montes *et al.* 2014).

Remarks: Described from a female. *Lachnopus hispidus* (Figs. 12 A–C) is a highly variable species: integument varies from brown to black, with elytra usually densely covered by ochraceous scales (mostly in brown specimens) or nearly glabrous (devoid of scales, mostly in black specimens). Size is variable as well. Darker/glabrate specimens may superficially resemble *L. atramentarius* or *L. inconditus* Rosenschoeld, 1840 (Figs. 11 A–C) from Hispaniola, in dorsal view. Characters of the head clarify the identification.

Species-group: *L. hispidus* species-group.

Collections: NHRS (Type); CWOB; UPRM-INVCOL; USNM.

References: Gundlach 1891: 329; Blackwelder 1947: 796; O'Brien & Wibmer 1982: 38; Woodruff 1985: 373; Vásquez *et al.* 1992: 43, 45; Morrone 1999: 141; Peck 2005: 229; Girón & Franz 2012; Montes *et al.* 2014.

Lachnopus histrio Marshall, 1926: 534

(Figs. 27 D–F)

Lachnopus histrio, var. *erectosetosus* Marshall, 1926: 536
Lachnopus erectosetosus Marshall, 1926: 536—synonymized by Morrone (1999: 141)
Menoetius histrio (Marshall), 1926: 534

Distribution: HAITI: Ouest Department (Port-au-Prince); Sud-Est Department (Le Vanneau).

Host plants: on yellow-flowered composite shrub with prickly leaves (Marshall 1926 on label data; USNM).

Remarks: Described from males and females. Marshall (1926) describes the variety *erectosetosus* as being larger in size, with slightly different color, and bearing longer, more erect setae compared to other specimens of *L. histrio*. Some morphological features of *L. histrio*, particularly the overall shape of the head (Fig. 27D), well developed humeri (Fig. 27E), together with the phylogenetic analysis carried out by Girón & Franz (2012), indicate that the species does not belong in the genus *Lachnopus*. More studies are needed in order to ascertain the generic placement for *L. histrio*.

Species-group: Likely not *Lachnopus*.

Collections: NHMUK (Type); CWOB; USNM.

References: Marshall, 1926b: 534–535; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Girón & Franz 2012.

Lachnopus inconditus Rosenschoeld, 1840: 383

(Figs. 11 A–C)

Menoetius inconditus (Rosenschoeld), 1840: 383

Distribution: DOMINICAN REPUBLIC: Barahona Province (Barahona), Distrito Nacional Province (Santo Domingo (Bajos de Haina)), Pedernales Province (Oviedo), San Cristóbal Province (San Cristóbal), San Pedro de Macorís Province (San Pedro de Macorís); HAITI: Artibonite Department (Gonaïves).

Host plants: On *Citrus* spp., Rutaceae (Woodruff 1985).

Remarks: Described from males, in comparison with *L. pruinosus*. See discussion on *L. atramentarius vs. L. inconditus*.

Species-group: *L. chlorophanus* species-group.

Collections: NHRS (Type); CWOB; FMNH; MEBT; UPRM-INVCOL; USNM.

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Woodruff 1985: 373; Morrone 1999: 141; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

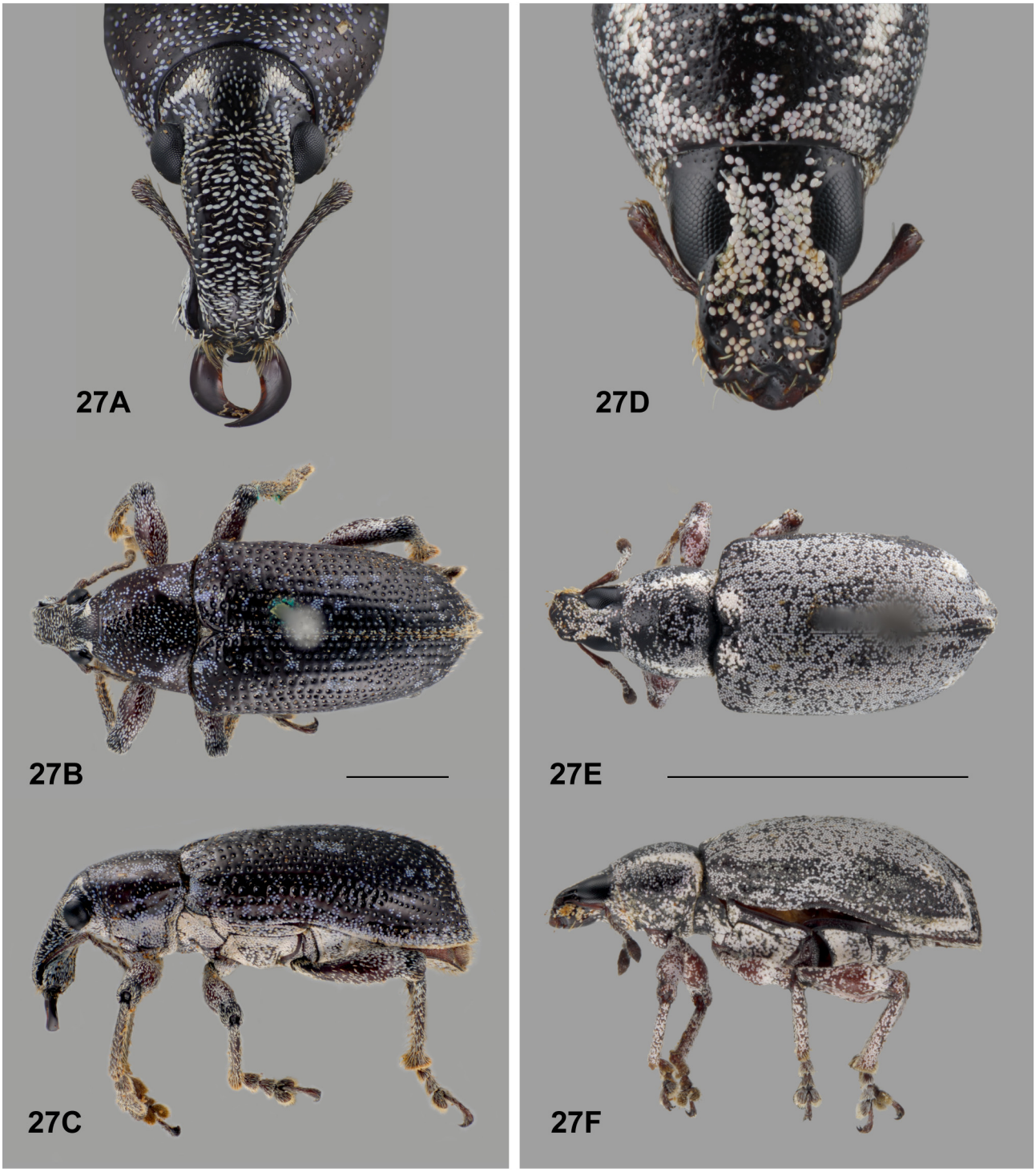

FIGURE 27. *Lachnopus* spp., habitus. ***L. acuticollis*** (male; CWOB)**: A.** head; **B.** dorsal view; **C.** lateral view; ***L. histrio*** (female; CWOB): **D.** head; **E.** dorsal view; **F.** lateral view. Scale bar: 5 mm. applies only to dorsal and lateral views. Species in this plate do not fit van Emden's (1944) concept of *Lachnopus*.

***Lachnopus interruptus* Perroud, 1853: 475 [91]**

Menoetius interruptus (Perroud), 1853: 475 [91]

Distribution: HISPANIOLA.

Remarks: Described from males and females. Perroud (1853) indicates *L. interruptus* is similar to *L. plumipes* (Figs. 7 D–F).

Species-group: *L. plumipes* species-group (?).

Collections: MNHN (Type [probably destroyed]).

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus karphos Girón & O'Brien sp. nov.

(Fig. 2)

Distribution: BAHAMAS: Mayaguana Island.

Remarks: The only known specimen was collected at a blacklight trap.

Species-group: *L. plumipes* species-group.

Collections: FSCA (Type).

Lachnopus kofresi Wolcott, 1941: 104

(Figs. 18 D–F)

Menoetius kofresi (Wolcott), 1941: 104

Distribution: PUERTO RICO: Mona Island (Sendero Capitán, Sendero Carabinero).

Host plants: On eggplant (*Solanum melongena*, Solanaceae).

Remarks: Morphological features of *L. kofresi* do not necessarily match the general 'gestalt' of *Lachnopus* (e.g. small and stongly produced eyes (Fig. 18D), surface nearly devoid of scales (Figs. 18 D–F)), but according to morphological (Girón & Franz 2012) and molecular data (Zhang *et al.* 2017) it is a rightful member of the genus.

Species-group: *L. luctuosus* species-group.

Collections: MEBT (Type series); ASUHIC; CWOB; USNM.

References: Blackwelder 1947: 797; Wolcott 1948: 388; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Franz *et al.* 2009: 88; Girón & Franz 2012; Zhang *et al.* 2017.

Lachnopus leonorae de Zayas, 1988: 165

Distribution: CUBA: Guantánamo Province (Baracoa: La Farola).

Remarks: Described from females and a male. Collected in pine forests (de Zayas 1988), possibly associated with *Pinus cubensis* (Pinaceae).

Species-group: Not yet determined.

Collections: Zayas (Type).

References: de Zayas, 1988: 162; Peck 2005: 229.

Lachnopus lineatoguttatus Perroud, 1853: 468 [84]

(Figs. 25 D–F)

Menoetius lineatoguttatus (Perroud), 1853: 468 [84]
Lachnopus seriepunctatus Jacquelin du Val, 1857: 187

Distribution: CUBA, widespread; Santiago de Cuba (Gran Piedra, Loma del Gato, Sierra Maestra); Villa Clara (El Tocino).

Remarks: Described from males and females. According to Jacquelin du Val (1857: 187), *L. lineatoguttatus* is

entirely similar to *L. vittatus* (Klug), 1829 (Figs. 25 G–I). Perroud (1853: 84) indicates *L. lineatoguttatus* seems to be a variety of *L. vittatus*, with differences in the arrangement of the scale coverage on the pronotum and elytra. More studies, in particular examination of type materials, are needed in order to determine if both species are synonyms.

Species-group: *L. splendidus* species-group.

Collections: MNHN (Type [probably destroyed]); NHMUK; CWOB; CZACC; USNM.

References: Perroud, 1853: 84; Jacquelin du Val, 1857: 187; Gundlach 1891: 328; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Peck 2005: 229; Girón & Franz 2012.

Lachnopus lineicollis (Chevrolat), 1880: 175

(Figs. 16 D–F)

Diaprepes lineicollis Chevrolat, 1880: 175
Diaprepes foveicollis Chevrolat, 1880: 175
Lachnopus foveicollis (Chevrolat), 1880: 175
Diaprepes quadritaenia Chevrolat, 1880: 190
Lachnopus quadritaenia (Chevrolat), 1880: 190
Menoetius lineicollis (Chevrolat), 1880: 175

Distribution: DOMINICA: Saint George Parish (Morne Trois Pitons), Saint Paul Parish (Pont Cassé); GUADELOUPE: Basse-Terre (La Soufrière).

Host plants: Possibly attacking *Citrus* spp., Rutaceae in Guadeloupe (Mauleon & Mademba-Sy 1988: 231 (table 1)). Possibly attacking banana (*Musa acuminata*, Musaceae), and mango (*Mangifera indica*, Anacardiacea) in Dominica (see Ambrose 1983).

Remarks: *Lachnopus lineicollis* is very similar to the sympatric *L. campechianus* (Figs. 16 A–C), with differences found only in the shape of the aedeagus (see Girón & Franz 2012).

Species-group: *L. luctuosus* species-group.

Collections: NHRS (Type); CWOB (including specimens compared with type); FMNH; RHTC.

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Ambrose 1983: 60–61 *Lachnopus* sp. near *campechianus*); Mauleon & Mademba-Sy 1988: 231, Morrone 1999: 141; Peck 2006: 201 (as *Lachnopus* sp.); Peck *et al.* 2014: 125; O'Brien & Turnbow 2011: 24; Girón & Franz 2012.

Lachnopus lucayanus Girón & O'Brien sp. nov.

(Fig. 3)

Distribution: BAHAMAS: Eleuthera; TURKS & CAICOS: Providenciales, Middle Caicos.

Species-group: *L. splendidus* species-group.

Collections: USNM (Type); BMNH (paratype); FMNH (paratype).

Lachnopus luctuosus (Klug), 1829: 13

(Figs. 14 A–C)

Sitona luctuosa Klug, 1829: 13
Prepodes luctuosus Gyllenhal 1834: 26 [Not Klug 1829]
Menoetius luctuosus (Klug), 1829: 13

Distribution: CUBA: Havana (Almendares), Artemisa Province (Bahía Honda, San Antonio de los Baños), Granma Province (Cayamas), Isla de la Juventud, Matanzas Province (Guamacaro), Pinar del Río Province (Viñales: San Vicente).

Host plants: On pineapple (*Ananas comosus*, Bromeliaceae; label data USNM); on leaves of *Citrus sinensis*, Rutaceae.

Species-group: *L. luctuosus* species-group.

Collections: UUZM [Gyllenhal's Type for *Prepodes luctuosus*]; CWOB; SEMC; USNM.

References: Gundlach 1891: 327; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Peck 2005: 229; Girón & Franz 2012.

Lachnopus luxurians (Olivier), 1807: 334

Curculio luxurians Olivier, 1807: 334
Menoetius luxurians (Olivier), 1807: 334

Distribution: HISPANIOLA.

Species-group: *L. chlorophanus* species-group.

Collections: MNHN (Type (?)); NHRS; USNM.

References: Olivier 1808: No. 83 (plate 24, figs. 333 a, b); O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus magdae de Zayas, 1988: 164

Distribution: CUBA: Santiago de Cuba (Pico Turquino, Pico Joaquín, La Gran Piedra).

Remarks: Described from males and females.

Species-group: Not yet determined.

Collections: Zayas (Type).

References: de Zayas, 1988: 162; Peck 2005: 228.

Lachnopus mayari de Zayas, 1988: 156

Distribution: CUBA: Holguín Province (Mayarí); possibly Cienfuegos Province (Mayarí) [see ASUHIC].

Remarks: Collected on pine trees (de Zayas 1988), possibly associated with *Pinus cubensis* (Pinaceae).

Species-group: *L. luctuosus* species-group.

Collections: Zayas (Type). A specimen matching the description is deposited at ASUHIC (Catalog #: ASUHIC0053598 [http://symbiota4.acis.ufl.edu/scan/portal/collections/individual/index.php?occid=13014892]).

References: de Zayas, 1988: 162; Peck 2005: 228.

Lachnopus memnonius (Gyllenhal), 1834: 42

Ptilopus memnonius Gyllenhal, 1834: 42
Menoetius memnonius (Gyllenhal), 1834: 42

Distribution: ST. BARTHELEMY.

Species-group: Not yet determined.

Collections: NHRS (Type); UUZM (Type).

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141.

Lachnopus mercator (Olivier), 1807: 335

(Figs. 9 A–C)

Curculio mercator Olivier, 1807: 335
Menoetius mercator (Olivier), 1807: 335

Distribution: HISPANIOLA: HAITI: Ouest Department (Plain Cul de Sac, Port-au-Prince (Damien)).

Remarks: See discussion on the 'chlorophanus conflict'.

Species-group: *L. chlorophanus* species-group.

Collections: MNHN (Type (?)); UPRM-INVCOL.

References: Olivier 1808: No. 83 (plate 24, figs. 335); Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

Lachnopus multipunctatus Jacquelin du Val, 1857: 190

(Figs. 18 A–C)

Menoetius multipunctatus (Jacquelin du Val), 1857: 190
Lachnopus multipenctatus Jacquelin du Val, 1857: 190 (misspelled by Gundlach 1891: 330)

Distribution: CUBA.

Remarks: According to Jacquelin du Val (1857), *L. multipunctatus* is closely related to *L. niveoirroratus* (Figs. 12 D–F), probably based on the configuration of the head.

Species-group: *L. luctuosus* species-group.

Collections: NHMUK (Type (?)); NHRS.

References: Jacquelin du Val, 1857: 190; Gundlach 1891: 330 (misspelled as *L. multipenctatus*); Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Peck 2005: 228.

Lachnopus mundus (Gyllenhal), 1834: 31

(Figs. 9 D–F)

Ptilopus mundus Gyllenhal, 1834: 31
Menoetius mundus (Gyllenhal), 1834: 31

Distribution: DOMINICAN REPUBLIC: Bahoruco Province, Peravia Province.

Remarks: Gyllenhal (1834) indicates *L. mundus* (Figs. 9 D–F) is similar in size and appearance to *L. aurifer* (Figs. 13 A–C), differing in characters of rostrum and elytra. See discussion on the 'chlorophanus conflict'.

Species-group: *L. chlorophanus* species-group.

Collections: NHRS (Type); ASUHIC; CWOB (including specimens compared with type).

References: Gyllenhal, 1834: 31; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

Lachnopus niveoirroratus Jacquelin du Val, 1857: 189

(Figs. 12 D–F)

Menoetius niveoirroratus (Jacquelin du Val), 1857: 189

Distribution: CUBA: Cienfuegos Province (Cumanayagua), Matanzas Province (El Fundador, Canímar river).

Remarks: Jacquelin du Val (1857) indicates *L. niveoirroratus* must be placed near *L. pollinarius* Gyllenhal, 1840.

Species-group: *L. hispidus* species-group.

Collections: NHMUK (Type (?)); ASUHIC; CWOB; CZACC.

References: Jacquelin du Val, 1857: 189; Gundlach 1891: 330; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Peck 2005: 228; Girón & Franz 2012.

***Lachnopus oteroi* Marshall, 1933: 60**

Menoetius oteroi (Marshall), 1933: 60

Distribution: CUBA: Sancti Spíritus Province (Buenos Aires, Trinidad Mts.).

Remarks: Described from males and females. Marshall (1933) indicates *L. oteroi* is closely related to *L. floridanus*.

Species-group: Not yet determined.

Collections: NHMUK (Type); USNM (Cotypes).

References: Marshall 1933: 60–61; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Peck 2005: 228.

***Lachnopus petilusquamus* Girón & O'Brien sp. nov.**
(Fig. 4)

Distribution: BAHAMAS: Eleuthera.

Species-group: *L. luctuosus* species-group.

Collections: FSCA (Type); CWOB.

***Lachnopus planifrons* Gyllenhal, 1840: 385**
(Figs. 10 A–C)

Menoetius planifrons (Gyllenhal), 1840: 385

Distribution: DOMINICAN REPUBLIC: Pedernales Province.

Remarks: Described from males and females. Gyllenhal (1840) highlights the resemblance and affinity of *L. planifrons* (Figs. 10 A–C) and *L. aulicus* (Figs. 8 D–F). See discussion on the 'chlorophanus conflict'.

Species-group: *L. chlorophanus* species-group.

Collections: NHRS (Type); CWOB; FMNH; MEBT.

References: Gyllenhal, 1840: 385; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

***Lachnopus plebejus* (Gyllenhal), 1834: 23**

Prepodes plebejus Gyllenhal, 1834: 23
Menoetius plebejus (Gyllenhal), 1834: 23

Distribution: HISPANIOLA.

Species-group: Not yet determined.

Collections: NHRS (Type).

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

***Lachnopus plumipes* Perroud, 1853: 471 [87]**
(Figs. 7 D–F)

Lachnopus wolcotti Marshall, 1926: 533
Menoetius plumipes (Perroud), 1853: 471 [87]

Distribution: DOMINICAN REPUBLIC; HAITI: Artibonite Department (Gonaïves).

Host plants: *Casearia ilicifolia*, Flacourtiaceae.

Remarks: Described from males and females. Perroud (1853) describes *L. plumipes* (Figs. 7 D–F) by comparing it in size to *L. argus* (Figs. 26 A–C); he also recognizes that by the shape of the eyes and antennal scrobe, it is close to *L. interruptus* and *L. sublineatus* Perroud, 1853, although different from Schönherr's concept of *Lachnopus*. Marshall (1926) highlights the uniqueness of his *L. wolcotti* "by its very short and much flattened rostrum, the unusually straight scrobes, the very flat eyes, and the additional rows of punctures on the elytra". More studies are needed in order to clarify the generic placement of *L. plumipes* and its allies.

Species-group: *L. plumipes* species-group.

Collections: MNHN (Type [probably destroyed]); NHMUK (Marshall's Type for *L. wolcotti*); USNM (Marshall's Cotype for *L. wolcotti*).

References: Perroud 1853: 87; Marshall, 1926: 533–534, Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

Lachnopus pollinarius Gyllenhal, 1840: 387

Menoetius pollinarius (Gyllenhal), 1840: 387

Distribution: CUBA: Cienfuegos Province (?).

Remarks: According to Gyllenhal (1840) *L. pollinarius* is similar to *L. curvipes* (Figs. 19–23), only slightly longer and narrower.

Species-group: *L. luctuosus* species-group.

Collections: NHRS (Type); CZACC.

References: Gyllenhal 1840: 387; Gundlach 1891: 330; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Peck 2005: 229.

TABLE 1. List of species of *Lachnopus* by species-group, with general distributions. Genus names in parentheses correspond to the original description. Species names marked with an asterisk *likely* belong to corresponding species group. Localities marked with an asterisk constitute new records for the species.
Abbreviations: FL (Florida); CU (Cuba); DR (Dominican Republic); HA (Haiti); HI (Hispaniola- unspecified); JM (Jamaica); PR (Puerto Rico, including Mona and Vieques Islands); AN (Anguilla); AT (Antigua); BA (Barbuda); BH (Bahamas); CI (Cayman Islands); CZ (Cozumel Island, Mexico); DO (Dominica); GI (Guana Island); GR (Grenada); GU (Guadeloupe); MO (Montserrat); NE (Nevis); SB (St. Barthélemy); SC (St. Croix); SE (St. Eustatius); SI (Sint Maarten), SJ (St. John), SK (St. Kitts); SL (St. Lucia); SM (St. Martin); ST (St. Thomas); SV (St. Vincent); TB (Tobago); TC (Turks & Caicos); TO (Tortola); VG (Virgin Gorda); WI (West Indies- unspecified).

Taxon	Distribution
The *L. albomaculatus* species-group	
Lachnopus albomaculatus (Gyllenhal), 1834: 37 (*Ptilopus*)	HA
Lachnopus bellus Marshall, 1926: 54	HA
The *L. chlorophanus* species-group	
Lachnopus atramentarius (Gyllenhal), 1834: 33 (*Ptilopus*)	DR; HA
Lachnopus aulicus (Gyllenhal), 1834: 35	HI
Lachnopus chlorophanus (Gyllenhal), 1834: 39 (*Ptilopus*)	HA
Lachnopus inconditus Rosenschoeld, 1840: 383	DR
Lachnopus mercator (Olivier), 1807: 335 (*Curculio*)	HA
Lachnopus mundus (Gyllenhal), 1834: 31 (*Ptilopus*)	DR
Lachnopus planifrons Gyllenhal, 1840: 385	DR
Lachnopus proteus (Olivier), 1807: 13 (*Curculio*)	DR; HA
Lachnopus spretus (Gyllenhal), 1834: 38 (*Ptilopus*)	DR
Lachnopus luxurians (Olivier), 1807: 334 (*Curculio*)	HI
Lachnopus pruinosus (Gyllenhal), 1834: 33 (*Ptilopus*)	HI

.....continued on the next page

TABLE 1. (Continued)

Taxon	Distribution
The *L. hispidus* species-group	
Lachnopus aurifer (Drury), 1773: 68 (*Curculio*)	CU, JM
Lachnopus gowdeyi Marshall, 1926: 531	JM
Lachnopus hispidus (Gyllenhal), 1834: 34 (*Ptilopus*)	CU, FL
Lachnopus niveoirroratus Jacqelin du Val, 1857: 189	CU
The *L. luctuosus* species-group	
Lachnopus bivirgatus Marshall, 1934: 621	CU
Lachnopus bruneri Marshall, 1933: 59 *	CU
Lachnopus buchanani Marshall, 1933: 59	CU
Lachnopus campechianus Gyllenhal, 1840: 388	GU
Lachnopus coffeae Marshall, 1922: 60	PR, BH*
Lachnopus cozumelus Girón & O'Brien sp. nov.	CZ*
Lachnopus cristalensis de Zayas, 1988: 161	CU
Lachnopus curvipes (Fabricius), 1787: 113 (*Curculio*)	AT*, BA*, DO, DR, GI*, GR*, GU, JM, MO*, NE, PR, SC*, SB, SJ*, SK, ST, SV, TB*, TO, VG*
Lachnopus dentipes Perroud, 1853: 489 [105]*	HI
Lachnopus distortus Gyllenhal, 1840: 393*	WI
Lachnopus floridanus Horn, 1866: 101	FL
Lachnopus kofresi Wolcott, 1941: 104	PR (Mona)
Lachnopus lineicollis (Chevrolat), 1880: 175 (*Diaprepes*)	DO; GU
Lachnopus luctuosus (Klug), 1829: 13 (*Sitona*)	CU
Lachnopus mayari de Zayas, 1988: 156	CU
Lachnopus multipunctatus Jacquelin du Val, 1857: 190	CU
Lachnopus petilusquamus Girón & O'Brien sp. nov.	BH*
Lachnopus pollinarius Gyllenhal, 1840: 387*	CU
Lachnopus seini Wolcott, 1936: 302	PR
Lachnopus siboney de Zayas, 1988: 166	CU
Lachnopus sparsimguttatus Perroud, 1853: 481	CU
Lachnopus valgus (Fabricius), 1775: 150 (*Curculio*)	AN, PR, SB, SC, SI*, SJ*, SM*
Lachnopus vanessablockae Girón & O'Brien sp. nov.	CI*
Lachnopus villosipes (Boheman), 1834: 43 (*Ptilopus*)*	SB; SE
Lachnopus yaucona Wolcott, 1936: 302	PR
The *L. plumipes* species-group	
Lachnopus karphos Girón & O'Brien sp. nov.	BH*
Lachnopus interruptus Perroud, 1853: 475 [91]*	HI
Lachnopus plumipes Perroud, 1853: 471 [87]	DR; HA
Lachnopus rhabdotus Girón & O'Brien sp. nov.	TC*
Lachnopus sublineatus Perroud, 1853: 478 [94]*	CU
The *L. splendidus* species-group	
Lachnopus argus (Reiche), 1840: 275 (*Ptilopus*)	CU; FL
Lachnopus guerinii Jacqelin du Val, 1857: 185	CU
Lachnopus lineatoguttatus Perroud, 1853: 468	CU

.....continued on the next page

TABLE 1. (Continued)

Taxon	Distribution
Lachnopus lucayanus Girón & O'Brien sp. nov.	BH*; TC*
Lachnopus splendidus Boheman, 1840: 382	CU
Lachnopus vittatus (Klug), 1829: 13 (*Ptilopus*)	CU
Species-group not yet determined	
Lachnopus acunae de Zayas, 1988: 160	CU
Lachnopus aereus (Gyllenhal), 1834: 40 (*Ptilopus*)	HI
Lachnopus alboguttatus Marshall, 1934: 622	CU
Lachnopus cabocruz de Zayas, 1988: 162	CU
Lachnopus canescens Gyllenhal, 1840: 388	HI
Lachnopus chirographus (Olivier), 1807: 334 (*Curculio*)	HI
Lachnopus consentaneus Perroud, 1853: 487 [103]	HI
Lachnopus festivus de Zayas, 1988: 159	CU
Lachnopus granicollis Gyllenhal, 1840: 390	HI
Lachnopus guttatupunctatus de Zayas 1988: 155	CU
Lachnopus hirtus Perroud, 1853: 484 [100]	HI
Lachnopus leonorae de Zayas, 1988: 165	CU
Lachnopus magdae de Zayas, 1988: 164	CU
Lachnopus memnonius (Gyllenhal), 1834: 42 (*Ptilopus*)	SB
Lachnopus oteroi Marshall, 1933: 60	CU
Lachnopus plebejus (Gyllenhal), 1834: 23 (*Prepodes*)	HI
Lachnopus porcus de Zayas, 1988: 158	CU
Lachnopus trilineatus Chevrolat, 1876: CCXXVIII	PR
Likely not *Lachnopus*	
Lachnopus acuticollis (Gyllenhal), 1834: 37 (*Ptilopus*)	CU
Lachnopus histrio (Marshall), 1926: 534 (*Ptilopus*)	HA
Fossil species of *Lachnopus*	
"Lachnopus" dilatatus Théobald, 1937: 184	Germany (Lower Oligocene)
"Lachnopus" humatus Scudder, 1893: 53	USA (Upper Eocene)
"Lachnopus" recuperatus Scudder, 1893: 52	USA (Upper Eocene)
"Lachnopus" robustus Théobald, 1935: 78	France (Upper Miocene to Lower Pliocene)
Lachnopus serraticrus Poinar & Legalov, 2017: 3	DR (Upper Eocene to Lower Miocene)

Lachnopus porcus de Zayas, 1988: 158

Distribution: CUBA: Santiago de Cuba Province (Daiquirí).

Remarks: Described from males and females.

Species-group: Not yet determined.

Collections: Zayas (Type).

References: de Zayas, 1988: 162; Peck 2005: 228.

Lachnopus proteus (Olivier), 1807: 336

(Figs. 10 D–F)

Curculio proteus Olivier, 1807: 336

Menoetius proteus (Olivier), 1807: 336

Distribution: HISPANIOLA: DOMINICAN REPUBLIC: Distrito Nacional Province (Santo Domingo), La Vega Province (Constanza), San Pedro de Macorís Province; HAITI: Centre Department (Hinche), Ouest Department (Cul de Sac, Dumay, Mariani, Pétionville, Port-au-Prince), Sud Department (Port-a-Piment).

Remarks: *Lachnopus proteus* stands out among its allies by its small and strongly bulging eyes (Fig. 10D), accompanied by a lack of conspicuous setae over the surface of the body (Figs. 10 E–F). See discussion on the 'chlorophanus conflict'.

Species-group: *L. chlorophanus* species-group.

Collections: MNHN (Type (?)); NHRS (Paratype); CWOB; USNM.

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

Lachnopus pruinosus (Gyllenhal), 1834: 33

Ptilopus pruinosus Gyllenhal, 1834: 33
Menoetius pruinosus (Gyllenhal), 1834: 33

Distribution: HISPANIOLA.

Remarks: Described as slightly smaller than *L. aurifer* (Figs. 13 A–C).

Species-group: Not yet determined.

Collections: NHRS (Type); USNM.

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 141; Pérez-Gelabert 2008: 135.

TABLE 2. List of plant species to which *Lachnopus* species have been associated. Highlighted in bold letters is the only known beneficial (pollination) association.

Plant family	Plant species	*Lachnopus* species	General locality
Amaranthaceae	*Amaranthus spinosus*	*L. curvipes*	Puerto Rico
Anacardiaceae	*Mangifera indica*	*L. aurifer*	Jamaica
		L. lineicollis	Dominica
Boraginaceae	*Cordia cylindrostachya*	*L. curvipes*	Puerto Rico
Brassicaceae	*Brassica oleracea*	*L. curvipes*	Puerto Rico
	Brassica rapa	*L. vanessablockae*	Cayman Islands
Bromeliaceae	*Ananas comosus*	*L. luctuosus*	Cuba
Caesalpiniaceae	*Cassia occidentalis*	*L. curvipes*	Puerto Rico
Cannabaceae	*Celtis trinerva*	*L. vanessablockae*	Cayman Islands
Chenopodiaceae	*Beta vulgaris*	*L. curvipes*	Puerto Rico
Combretaceae	*Conocarpus erectus*	*L. curvipes*	Puerto Rico
Cucurbitaceae	*Citrullus lanatus*	*L. curvipes*	Puerto Rico
Euphorbiaceae	*Croton* sp.	*L. curvipes*	Puerto Rico
	Jatropha sp.	*L. curvipes*	Dominica
	Ricinus communis	*L. curvipes*	Unspecified
Fabaceae	*Crotalaria* sp.	*L. curvipes*	Puerto Rico
			Dominica
	Dalbergia ecastaphyllum	*L. curvipes*	Puerto Rico
	Haematoxylum campechianum	*L. aurifer*	Jamaica
	Phaseolus lunatus	*L. curvipes*	Puerto Rico
	Senna bicapsularis	*L. coffeae*	Puerto Rico

.....continued on the next page

TABLE 2. (Continued)

Plant family	Plant species	*Lachnopus* species	General locality
Flacourtiaceae	*Casearia ilicifolia*	*L. plumipes*	Dominican Republic Haiti
Lamiaceae	*Vitex divaricata*	*L. coffeae*	Puerto Rico
Lauraceae	*Persea americana*	*L. aurifer*	Jamaica
Malvaceae	*Gossypium* sp.	*L. curvipes* *L. valgus*	Puerto Rico
Meliaceae	*Swietenia mahagoni*	*L. albomaculatus*	Hispaniola: Haiti
Mimosaceae	*Inga vera*	*L. curvipes*	Puerto Rico
Musaceae	*Musa acuminata*	*L. lineicollis*	Dominica
Nyctaginaceae	*Guapira fragrans*	*L. curvipes*	St. Croix
	Guapira discolor	*L. rhabdotus*	Turks and Caicos
Orchidaceae	***Myrmecophila thomsoniana***	***L. vanessablockae***	**Cayman Islands**
Picramniaceae	*Alvaradoa amorphoides*	*L. vanessablockae*	Cayman Islands
Pinaceae	*Pinus cubensis*	*L. leonorae* *L. mayari*	Cuba
Polygonaceae	*Coccoloba uvifera*	*L. bellus* *L. curvipes*	Haiti Puerto Rico
	Rumex spp.	*L. campechianus*	Guadeloupe
Primulaceae	*Myrsine coriacea*	*L. yaucona*	Puerto Rico
Rhamnaceae	*Colubrina arborescens*	*L. vanessablockae*	Cayman Islands
Rosaceae	*Rubus* sp.	*L. acuticollis*	Cuba
Rubiaceae	*Coffea arabica*	*L. buchanani* *L. coffeae*	Cuba Puerto Rico
	Randia aculeata	*L. curvipes*	Puerto Rico
Rutaceae	*Citrus* spp.	*L. aurifer* *L. campechianus* *L. coffeae* *L. curvipes* *L. gowdeyi* *L. hispidus* *L. inconditus* *L. lineicollis* *L. sparsimguttatus* *L. splendidus*	Jamaica Guadeloupe Puerto Rico Cuba Dominican Republic Haiti Dominica
	Citrus aurantifolia	*L. coffeae*	Grand Bahama
	Citrus sinensis	*L. luctuosus*	Cuba
	Zanthoxylum flavum	*L. rhabdotus*	Turks and Caicos
Sapindaceae	*Blighia sápida*	*L. aurifer*	Jamaica
Scrophulariaceae	*Capraria biflora*	*L. curvipes*	Puerto Rico
Solanaceae	*Cestrum macrophyllum*	*L. coffeae*	Puerto Rico
	Solanum melongena	*L. kofresi*	Puerto Rico (Mona Is.)
	Solanum torvum	*L. floridanus*	USA: FL
Sterculiaceae	*Waltheria indica*	*L. curvipes*	Puerto Rico
Verbenaceae	*Lantana* spp.	*L. curvipes*	Dominica
Vitaceae	*Vitis* spp.	*L. curvipes*	Puerto Rico
Zygophyllaceae	*Guaiacum officinale*	*L. vanessablockae*	Cayman Islands

***Lachnopus rhabdotus* Girón & O'Brien sp. nov.**
(Fig. 5)

Distribution: TURKS & CAICOS: Providenciales, Middle Caicos.

Species-group: *L. plumipes* species-group.

Collections: USNM (type); BMNH (paratype); FMNH (paratype); BMNH (paratypes); CMNC (paratype).

***Lachnopus seini* Wolcott, 1936: 302**

Menoetius seini (Wolcott), 1936: 302

Distribution: PUERTO RICO: Aibonito, Cayey, Maricao (Indiera), Villalba, Yauco.

Host plants: On *Myrsine coriacea*, Primulaceae (formerly *Rapanea ferruginea*).

Remarks: According to Wolcott (1948), *L. seini* is very similar to *L. coffeae* (Figs. 17 A–C), differing by having a uniform scale coverage. *Lachnopus seini*, *L. coffeae* and *L. yaucona* share a distinct shape of the aedeagus (illustrated by Marshall 1922, fig. 1), which was recovered as a synapomorphic trait by Girón & Franz (2012; character 48, state 1: lateral profile of ventral surface of aedeagus, irregular; although convergently present in *L. albomaculatus*, not considered homologous). It is likely that these three species are actually populational variations of the same taxonomic entity. See discussion on the 'coffee conflict'.

Species-group: *L. luctuosus* species-group.

Collections: NHMUK (Type (?)); MEBT (including specimens from type series); UPRM-INVCOL.

References: Wolcott 1948: 389; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142; Girón & Franz 2012; Zhang *et al.* 2017.

***Lachnopus siboney* de Zayas, 1988: 166**

Distribution: CUBA: Cienfuegos Province (Juaraguá); possibly Camagüey Province (Camagüey) [see ASUHIC].

Remarks: According to de Zayas (1988), *L. siboney* does not seem to be a *Lachnopus* species on first sight. Examination of type material is required in order to confirm the generic placement of *L. siboney.*

Species-group: *L. luctuosus* species-group.

Collections: Zayas (Type). Specimens matching the original description are deposited at ASUHIC (Catalog #: ASUHIC0053596 [http://symbiota4.acis.ufl.edu/scan/portal/collections/individual/index.php?occid=13014874]).

References: de Zayas, 1988: 162; Peck 2005: 229.

***Lachnopus sparsimguttatus* Perroud, 1853: 481 [97]**
(Figs. 15 A–C)

Menoetius sparsimguttatus (Perroud), 1853: 481 [97]

Distribution: CUBA: Western region (see Montes *et al.* 2014)

Host plants: On *Citrus* spp. (Rutaceae) cultivars.

Biological notes: *Lachnopus sparsimguttatus* has been studied because of its economic importance for citrus cultivars in Cuba (see Montes *et al.* 2014). Montes *et al.* (2014) have determined that *L. sparsimguttatus* develop through a short cycle (with a non-feeding larval stage that lasts between six to nine months). These authors also found that females of *L. sparsimguttatus* can lay approximately 30 egg clutches of around 20 eggs each. In addition, the fungus *Beauveria bassiana* has been recognized as a natural enemy of *L. sparsimguttatus*, attacking the larvae in the soil, as well as the adults on the foliage (see Montes *et al.* 2014).

Remarks: Described from males and females. According to Perroud (1853), *L. sparsimguttatus* (Figs. 15 A–C) resembles *L. curvipes* (Figs. 19–23). Both can be distinguished by characters of the elytra and legs; the author also highlights that older specimens may lose scales from the normal coverage.

Species-group: *L. luctuosus* species-group.

Collections: MNHN (Type [probably destroyed]); CWOB.

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142; Peck 2005: 229; Girón & Franz 2012; Montes *et al.* 2014.

Lachnopus splendidus Boheman, 1840: 382

(Figs. 25 A–C)

Menoetius splendidus (Boheman), 1840: 382

Distribution: CUBA: Ciego de Ávila Province (Baraguá), Granma Province (Báyamo, Cayamas), Guantanamo Province (Baracoa), Holguín Province (Mayarí); also from Corralillo (Province uncertain); Central-Eastern region (see Montes *et al.* 2014).

Host plants: On *Citrus* spp. (Rutaceae) cultivars.

Remarks: Described from males and females.

Species-group: *L. splendidus* species-group.

Collections: NHRS (Type); ASUHIC; CWOB (including specimens compared with type); USNM.

References: Jacquelin du Val 1857: 188; Gundlach 1891: 328–329; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142; Peck 2005: 229; Girón & Franz 2012; Montes *et al.* 2014.

Lachnopus spretus (Gyllenhal), 1834: 38

(Figs. 11 D–F)

Ptilopus spretus Gyllenhal, 1834: 38
Menoetius spretus (Gyllenhal), 1834: 38

Distribution: HISPANIOLA, DOMINICAN REPUBLIC: Barahona Province, Dajabón Province, Distrito Nacional Province (Santo Domingo City), El Seybo Province (El Seybo, Miches), Hato Mayor Province (Sabana de la Mar), La Altagracia Province (Boca de Yuma, Higüey, San Rafael de Yuma; Parque Nacional del Este), San Cristóbal Province, San Pedro de Macorís Province (Juan Dolio), Santiago Province (Jacagua).

Remarks: In Schönherr (1840) there is reference to two varieties of *L. spretus*: β, with reddish black integument, with green scales irregularly distributed; γ, with black integument, with scarce green scales. See discussion on the 'chlorophanus conflict'.

Collections: NHRS (Type); ASUHIC; CWOB; MEBT; UPRM-INVCOL; USNM.

References: Schönherr 1840: 389–390; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142; Pérez-Gelabert 2008: 135; Girón & Franz 2012.

Lachnopus sublineatus Perroud, 1853: 478 [94]

Lachnopus sublineatus Jacquelin du Val, 1857: 192 [Not Perroud 1853]
Menoetius sublineatus (Perroud), 1853: 478 [94]

Distribution: CUBA.

Remarks: Described from males and females. According to Perroud (1853) *L. sublineatus* is highly variable in size and coloration, and is close to *L. interruptus* by the shape of the eyes and the elytral sculpture, differing in the length and coloration of the elytra and characters of the antennal scrobe.

Species-group: *L. plumipes* species-group (?).

Collections: MNHN (Type [probably destroyed]); NHRS.

References: Jacquelin du Val, 1857: 192; Gundlach 1891: 330–331, Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142; Peck 2005: 229.

***Lachnopus trilineatus* Chevrolat, 1876: CCXXVIII**

Menoetius trilineatus (Chevrolat), 1876: CCXXVIII

Distribution: PUERTO RICO.

Remarks: Only known from type material (see Wolcott 1948).

Species-group: Not yet determined.

Collections: NHRS (Type (?)).

References: Wolcott 1923: 130; Wolcott 1948: 389; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142.

***Lachnopus valgus* (Fabricius), 1775: 150**
(Fig. 24)

Curculio valgus Fabricius, 1775: 150
Menoetius valgus (Fabricius), 1775: 150
Curculio castilianus Herbst, 1797: 22

Distribution: ANGUILLA, PUERTO RICO, ST. BARTHELEMY (Figs. 24 A–C), ST. CROIX (Figs. 24 D–F), ST. JOHN* (CWOB), ST. MARTIN* (Pic Paradis; CWOB), SINT MAARTEN* (Old Fort Hill; USNM).

Host plants: On cotton (*Gossypium* sp., Malvaceae) (label data).

Remarks: Wolcott (1923) indicated that *L. curvipes* (Figs. 19–23) and *L. valgus* (Fig. 24) are possibly synonyms. The diversity of forms across the distributional range of *L. curvipes* would allow for *L. valgus* to represent a variation within *L. curvipes* (see biological notes on *L. curvipes* above). *Lachnopus valgus* was redescribed by Franz (2010) examining specimens from St. John and St. Croix. See discussion on the 'curvipes conflict'. More studies including DNA analyses would be required to determine taxonomic and geographic limits, as well as to confirm the identity of the specimens attributed to both species.

Species-group: *L. luctuosus* species-group.

Collections: NHMUK (Type (?)); CWOB; NHRS; UPRM-INVCOL; USNM.

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142; Franz 2010: 72–77; Girón & Franz 2011, 2012.

***Lachnopus vanessablockae* Girón & O'Brien sp. nov.**
(Fig. 6)

Distribution: CAYMAN ISLANDS: Cayman Brac (The Creek), Grand Cayman (Cayman Islands Botanic Park, Bodden Town, West Bay), Little Cayman (Coot Marsh, Spot Bay, Tarpon Lake).

Host plants: On *Celtis trinerva* (Cannabaceae), feeding on Wild Spanish Armada (*Alvaradoa amorphoides*, Picramniaceae), and mating on Snakewood (*Colubrina arborescens*, Rhamnaceae), *Myrmecophila thomsoniana* (Orchidaceae), cultivated *Guaiacum officinale* (Zygophyllaceae), and Chinese cabbage (*Brassica rapa*, Brassicaceae).

Biological notes: Adults of *L. vanessablockae* have been found pollinating the Cayman endemic banana orchid (*M. thomsoniana*) and possibly feeding on the tepals. It has also been caught at lights.

Species-group: *L. luctuosus* species-group.

Collections: FSCA (Type); ASUHIC; CAS; CSCA; CWOB; FMNH; INHS; NTCII; RHTC; SEMC; UAIC; USNM.

***Lachnopus villosipes* (Boheman), 1834: 43**

Ptilopus villosipes Boheman, 1834: 43
Menoetius villosipes (Boheman), 1834: 43

Distribution: ST. BARTHELEMY, ST. EUSTATIUS.

Remarks: Described from males and females. According to Boheman (1834), *L. villosipes* is similar in appearance, but is about half the size of *L. curvipes* (Figs. 19–23).

Species-group: *L. luctuosus* species-group (?).

Collections: NHRS (Type).

References: Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142.

Lachnopus vittatus (Klug), 1829: 13

(Figs. 25 G–I)

Ptilopus vittatus Klug, 1829: 13
Ptilopus vittatus Gyllenhal, 1834: 30 [Not Klug 1829]
Menoetius vittatus (Klug), 1829: 13

Distribution: CUBA: Camaguey Province (Sierra de Cubitas); widespread (see Gundlach 1891: 328); Central-Eastern region (see Montes *et al.* 2014).

Host plants: On *Citrus* spp. (Rutaceae) cultivars.

Remarks: Similarity and sympatry with *L. seriepunctatus* (now a synonym of *L. lineatoguttatus*, Figs. 25 D–F) were noted by Jacquelin du Val (1857: 187, describing *L. seriepunctatus*) and by Gundlach (1891: 328). More studies are needed in order to determine if both species are synonyms.

Species-group: *L. splendidus* species-group.

Collections: ASUHIC. We were unable to determine the location of the type specimen.

References: Jacquelin du Val 1857: 186–187, Gundlach 1891: 328; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Morrone 1999: 142; Peck 2005: 229; Girón & Franz 2012; Montes *et al.* 2014.

Lachnopus yaucona Wolcott, 1936: 302

Menoetius yaucona (Wolcott), 1936: 302

Distribution: PUERTO RICO: Adjuntas (Monte Guilarte), Aibonito, Cabo Rojo, Lajas, Maricao (Indiera), Yauco.

Host plants: On *Myrsine coriacea* (Primulaceae, formerly *Rapanea ferruginea*).

Remarks: *Lachnopus yaucona* shares a distinct shape of the aedeagus with *L. coffeae* (Figs. 17 A–C) and *L. seini* (see illustration by Marshall 1922, fig. 1), which was recovered as a synapomorphic trait by Girón & Franz (2012; character 48, state 1: lateral profile of ventral surface of aedeagus, irregular; although convergently present in *L. albomaculatus*, not considered homologous). It is likely that these three species are actually populational variations of the same taxonomic entity. See discussion on the 'coffee conflict'.

Species-group: *L. luctuosus* species-group.

Collections: MEBT (Type); UPRM-INVCOL.

References: Wolcott 1936: 302; Wolcott 1948: 389; Blackwelder 1947: 797; O'Brien & Wibmer 1982: 38; Girón & Franz 2012.

List of the fossil species of *Lachnopus* Schönherr, 1840: 380

There are three publications that include fossil species attributed to *Lachnopus*: Scudder (1893), from the Florissant formation in the United States of America, Théobald (1937) from European deposits (France and Germany), and Poinar & Legalov (2017) from Dominican Amber. Scudder and Théobald specimens are compression fossils that, for the most part, include only fragments of the specimens. Scudder's fossil material has not been reassigned since the original descriptions (H. Meyer, pers. comm.). Because of the fragmentary nature of Scudder's and Théobald's specimens, no reliable assignments to genus can be properly made (A. Legalov, pers. comm.), hence the quotation marks on the genus name indicating uncertainty of the assignment (see Legalov 2015). So far the only species that

can be confidently attributed to *Lachnopus* is *L. serraticrus* Poinar & Legalov (2017) (A. Legalov, pers. comm.), which is a complete specimen preserved in amber.

"Lachnopus" dilatatus Théobald, 1937: 184

Type Locality: GERMANY: Baden-Württemberg (Kleinkems).

Geologic epoch: Lower Oligocene.

Collections: NHMB (Type).

References: Théobald 1937: 184; Legalov 2015: 1498.

Remarks: Described from a right elytron, and compared with *L. recuperatus* and *L. humatus* (see below). According to Dr. Walter Etter, the holotype corresponds to the new museum number NMB F1315, and the counterpart to NMB F2214. "Usually part and counterpart do not receive two different numbers (instead 'a' and 'b' after the number), but here evidently the relation of these two was only later detected" (W. Etter, pers. comm.).

"Lachnopus" humatus Scudder, 1893: 53

Type Locality: USA: Colorado (Florissant).

Geologic epoch: Upper Eocene.

Collections: MCZ (Syntypes; Catalog numbers: Entomology PALE-69, PALE-70).

References: Scudder 1893: 53; Legalov 2015: 1498.

Remarks: The specimen PALE-69 consists of an elytron accompanied by a leg and part of the pronotum, whereas PALE-70 is represented only by an elytron. Photographs of the specimens can be found in the database of zoological Collections of MCZ (http://mczbase.mcz.harvard.edu; accessed Aug 10 2017). Basic information on Florissant fossils can also be searched through the Florissant Fossil Beds database at https://planning.nps.gov/flfo/tax3_Search.cfm; accessed Aug 10 2017).

"Lachnopus" recuperatus Scudder, 1893: 52

Type Locality: USA: Colorado (Florissant).

Geologic epoch: Upper Eocene.

Collections: MCZ (Syntypes; Catalog numbers: Entomology PALE-66, Entomology PALE-67 and Entomology PALE-68).

References: Scudder 1893: 53; Legalov 2015: 1493.

Remarks: The specimens are represented by entire bodies. Photographs of the specimens can be found in the database of zoological Collections of MCZ (http://mczbase.mcz.harvard.edu; accessed Aug 10 2017). Basic information on Florissant fossils can also be searched through the Florissant Fossil Beds database at https://planning.nps.gov/flfo/tax3_Search.cfm; accessed Aug 10 2017).

"Lachnopus" robustus Théobald, 1935: 78

Type Locality: FRANCE: Puy-de-Dôme Department (Lac Chambon).

Geologic epoch: Upper Miocene to Lower Pliocene.

Collections: Théobald.

References: Piton & Théobald 1935: 78–79; Legalov 2015: 1495.

Remarks: The specimen attributed to *L. robustus* is lying on its side. Théobald describes structures of head, thorax, legs and elytra. The author also highlights *L. robustus* differs from the previously known species: *Lachnopus recuperatus* and *L. humatus* (mistakenly cited as *L. humeratus*), both from Florissant in Colorado.

***Lachnopus serraticrus* Poinar & Legalov, 2017: 3**

Type Locality: DOMINICAN REPUBLIC [amber mine in cordillera septentrional, north of the country].

Geologic epoch: Upper Eocene to Lower Miocene.

Collections: Poinar (Type, accession # 14).

References: Poinar & Legalov 2017: 3.

Remarks: The authors state that this species belongs in the tribe Eustylyni and provide characters for such placement that according to A. Legalov (pers. comm.), correspond to characters used by Franz (2012) and Girón & Franz (2012). The estimated age of the fossil ranges between 45–15 mya according to information provided by Poinar & Legalov (2017).

Characters of taxonomic significance and their variation

In 1826 Schönherr provided the following general characters for *Ptilopus* [now an invalid name, synonym of *Lachnopus*]: antennae somewhat long, delicate; funicular antennomeres obconic, gradually slightly shorter towards apex; club elongate-oval; rostrum smooth, apically emarginate; scrobe straight, extending towards ventral margin of eye; eyes large, moderately projected, oval; thorax anteriorly narrow, dorsally moderately convex; elytra oval, elongate, acuminate; legs elongated, tibiae arcuate for the most part, ventrally setose, metatibiae in males, with a basal tooth (translated from Latin in Schönherr 1826). Characters to identify the genus *Lachnopus* were provided by van Emden (1944) in his key to genera of Brachyderinae of the world: rostrum weakly and evenly convex throughout; antennal scape extending to, or slightly passing beyond middle of eye; frons between eyes conspicuously narrower than dorsal surface of rostrum; head not constricted posteriad of eyes; eyes only moderately convex; humeri only slightly wider than posterior margin of pronotum; femora unarmed; tibiae ventrally denticulate; and metatibial corbel (i.e. bevel *sensu* Thompson 1992) lacking scales. Nevertheless, not all the species currently assigned to *Lachnopus* fit Schönherr's (1826) nor van Emden's (1944) concept of the genus (e.g. see Figs. 7 A–C, 27).

The identification of *Lachnopus* species can be regarded as highly challenging. The fairly large number of species, significant proportion of island-endemic species, high intraspecific and/or populational variation (e.g. biological notes for *L. curvipes*; Figs. 19–23) and the somewhat prominent sexual dimorphism (in comparison to other entimine species), contribute to the taxonomic chaos in this genus. Some of the commonly used character systems are discussed here in order to account for their variation, taxonomic utility and the taxonomic conflicts that have emerged from such variation. Other relevant characters were listed for each species-group.

Integument and scale coverage. The integument in *Lachnopus* species ranges from yellowish and reddish brown to black (e.g. Fig. 13). In most species the coloration of the integument is uniform throughout the body, however in some species different structures are differently colored (e.g. darker elytra in *L. argus*, Figs. 26 B–C). Coloration of the integument also varies with age (maturity) of the specimen (teneral vs. completely sclerotized), and variation among populations can also be noticeable (see *L. curvipes*, Figs. 19–23).

The scales of *Lachnopus* species vary in shape, coloration, distribution and density. Usually scales are oval to sesame seedlike, with a smooth surface and lay flat on the integument; some species exhibit rather elongate scales and thick, erect setae may be present. Coloration of the scales range from white to ochraceous and light brown, to iridescent green, blue and pink; scale coloration also can be uniform throughout the body, or specific areas can bear differently colored scales (e.g. green scales on elytra, pink scales on legs, or elytral scales forming color patterns). Scales can be absent (e.g. *L. kofresi*, Fig. 18 D–F), uniformly scattered or uniformly dense throughout the body, or forming specific patterns of bands, stripes or patches of scales over the glabrous surface (e.g. Figs. 25–26).

Within species, there can be variation in the coloration of the scales, with populations exhibiting the same scales distribution pattern, only differently colored (e.g. see biological notes on *L. aurifer*). It is also important to consider that scale coverage can be lost by abrasion, age of the specimen at collection time or depending on how well preserved it is.

For these reasons, and although some species can be generally recognized by their coloration or pattern, caution must be applied when using exclusively scale coverage characters as diagnostic, as it can lead to misidentifications.

Head. At least four head configurations (particular combinations of the components and their features; observed in dorsal view) can be recognized among *Lachnopus* species. According to van Emden (1944), the frons in *Lachnopus* is clearly narrower than the dorsal surface of the rostrum, nevertheless, there are species in which the frons is as wide as the dorsal surface of the rostrum, and even a few with a frons wider than the dorsal surface of the rostrum. This feature is enhanced by the shape and size of the eyes, which can range from elongated and flat (e.g. *L. plumipes*, Fig. 7A), sometimes larger and strongly produced from the surface of the head (e.g. *L. lineicollis*, Fig. 16A), to short, spherical and protruding from the surface of the head (e.g. *L. kofresi*, Fig. 18D).

The shape of the rostrum is also variable; lateral margins can be straight or concave, parallel, converging or diverging anteriorly. Rostral length varies among species, ranging from slightly wider than long (see the *L. plumipes* species-group), to nearly 2-times longer than its basal width; the length of the rostrum exhibits sexual dimorphism, with the males usually having slightly more slender rostrums than the females. Longitudinal carinae and/or grooves are also common and variable among *Lachnopus* species, although rarely described.

Sexually dimorphic characters. Females are usually larger and parallel-sided in comparison to males, which are usually smaller and with the sides of the body gradually converging posteriorly from the elytral humeri.

The rostrum of the males is usually slightly more slender than the female's, which is opposite to the usual general condition in weevils (see Oberprieler *et al.* 2007).

In many species the posterior tibiae of the males bear dense (particularly so over the inner surface), fine, long setae, whereas in females all tibiae are similarly covered by sparse, short, fine setae. An extreme case of these particular features is exhibited by *L. curvipes* and *L. valgus*, in which the male posterior tibiae are, in addition, curved and bear a variably large tooth near the base; although, there is a wide range of variation in the development of these leg features among males of different populations (see Figs. 19–24).

Many females bear semierect setae on the posterior declivity of the elytra (e.g. *L. plumipes*, Figs. 7 E–F). Males lack those particular setae, however, males of setose species (e.g. *L. spretus*, Figs. 11 D–F) will have setae all over the surface of the elytra.

Taxonomic conflicts found in collections

As it is true for many other groups of organisms, there is a trend for authors to describe species by comparing them to other species known to them at the time (e.g. Gyllenhal 1834, 1840), though not necessarily making comparisons to closely related, or even geographically closely-distributed species, which possibly could have led to the independent description of the same unit with different species names, occasionally by the same author.

By reviewing specimens in collections, often authoritatively identified and even compared with types, there are cases where males and females, of apparently the same entity, are identified as different species (e.g. *L. atramentarius* and *L. inconditus* (CWOB); see below); it also happens that specimens with nearly the same coverage pattern, but with different colorations have two different names (e.g. *L. aurifer* and *L. gowdeyi* (CWOB), Fig. 13; see below). In other cases, specimens with scale coverage at various degrees of preservation (scale coverage well preserved vs. denuded) are grouped under different species names. Another situation, though less common occurs when large and small specimens are separated. Therefore, it is plausible that the high intraspecific (populational) variability of some *Lachnopus* species has led to the description of different morphotypes of the same entity as different species.

Here we highlight a series of taxonomic conflicts found in the reviewed collections, in order to create awareness for future works. One way to settle the conflicts would be directly revising the type material, however, that is beyond the scope of this paper.

Lachnopus argus vs. Lachnopus guerinii. Jacquelin du Val (1857) describes *L. guerinii* (Figs. 26 D–F) and compares it to *L. argus* (Figs. 26 A–C), indicating a close relationship between them. The author highlights differences in the pattern of the elytral coverage and illustrates both species on the same plate (tab. 9). However, more recent work by Girón & Franz (2012) showed the two species share a series of character states (including two synapomorphies and nine homoplasies), but no conclusive characters differentiating the two.

Despite their large size and striking appearance, specimens of both species are scarce in collections. Differences in scale coverage noticed by Jacquelin du Val can be attributed to variation among populations. Study of the types of both species, as well as a thorough review of collections would lead to clarification of the situation.

Lachnopus atramentarius vs. Lachnopus inconditus. *Lachnopus atramentarius* was described from "Insula St. Domingo" by Gyllenhal (1834). *Lachnopus inconditus* (Figs. 11 A–C) was described from "S. Domingo" by Rosenschoeld (1840). Both species have been recorded from the Dominican Republic and Haiti. In collections, specimens identified as either species are very similar to each other, being different usually only in the density of the scale coverage. There is some degree of sexual dimorphism in the length of the rostrum. Specimens labeled as *L. atramentarius* collected in Haiti were not found at the reviewed collections. It is likely that both names apply to a single highly variable taxon. It would be necessary to study and compare the holotypes of both species, in order to establish clear delimitations.

Lachnopus aurifer vs. Lachnopus gowdeyi. Both species are recorded from Jamaica. For *L. aurifer* Drury (1773) recognized variation in the coloration of the elytra from "almost black" to red brown, as well as a high variability in the patterns and coloration (ash to blue and white) of the scale coverage. In 1968 van Whervin recognized two color forms according to the color of the scales: white (at Joalmi) and metallic green/blue (at Mona). By comparing specimens identified as *L. aurifer* (Figs. 13 A–C) with specimens identified as *L. gowdeyi* (Figs. 13 D–F), morphological similarities and color differences are obvious. It is possible that *L. gowdeyi* corresponds to the almost black with white scales variation of *L. aurifer* described by van Whervin (1968). This conflict is also problematic as it involves the type species of *Lachnopus*.

The 'chlorophanus conflict'. This conflict includes several species of the *L. chlorophanus* species-group: *Lachnopus chlorophanus* (Figs. 8 A–C), *L. luxurians*, *L. mercator* (Figs. 9 A–C), *L. mundus* (Figs. 9 D–F), and *L. pruinosus*. Specimens identified as any of those species are very similar to each other, varying mostly in size and characters related to the scale coverage. The general coverage coloration includes bright green iridescent scales on head, pronotum and elytra, accompanied by longitudinal rows of whitish spots or stripes along pronotum and elytra, particularly along the sides on the posterior half. Variation in these characters could be attributed to differences among populations.

Lachnopus aulicus (Fig. 8 D–F) can be distinguished from the species involved in this conflict by the dense and uniform scale coverage, composed of bright green scales, lacking the whitish specks that are present in most of the other species (only a female specimen observed—USNM).

Specimens identified as *L. proteus* (Figs. 10 D–F) might also be included in this conflict. *Lachnopus proteus* (*sensu* Girón & Franz 2012) would be distinguished from the remainder species by the lack of long, semierect thick setae on the general coverage (Figs. 10 E–F), accompanied by comparatively smaller and strongly produced eyes (Fig. 10A).

Lachnopus spretus (Fig. 11 D–F) is readily excluded from this conflict due to its predominantly grey coverage accompanied by long and thick setae all over the surface.

Girón & Franz (2012) recovered part of this species-group as monophyletic, although with low support. For that analysis, male specimens for *L. mundus* (Fig. 9 D–F), and females for *L. mercator* (Fig 9 A–C) were not available. Also *L. luxurians* and *L. pruinosus* were not included in the study.

The 'coffeae conflict'. There are at least three species involved in this conflict: *Lachnopus coffeae* (Figs. 17 A–C), *L. seini* and *L. yaucona*. All of them occur in Puerto Rico and exhibit partly overlapping distributions. All three species share a distinct shape of the aedeagus (illustrated by Marshall 1922, fig. 1), which constitutes a synapomorphic trait (see Girón & Franz 2012; character 48, state 1). Based on the original descriptions, and identified material in collections, most differences between the three species are related to the size of the individuals, and the coloration and density of their scale coverage, which may indicate that these three entities are actually populational variations of the same taxonomic unit. The addition of a new record for *L. coffeae* from Grand Bahama could potentially be attributed to introduction related to citrus cultivars from Puerto Rico. Population-level sampling, with the aid of molecular techniques would provide information to clarify these issues.

The 'curvipes conflict'. (Figs. 19–24) *Lachnopus curvipes* (Figs. 19–23) and *L. valgus* (Fig. 24) are the most widespread species of the genus. The variability of the external characters of *L. curvipes*, include body size and shape, coloration and coverage of the integument, and to a lesser extent, the size and degree of projection of the eyes (see Figs. 19–23). Variation can also be observed in the unique male metatibia (which is shared by both species): there is variability in slenderness, curvature and degree of development of the basal tooth that it bears. All the variation in *L. curvipes* can overlap with the characters of *L. valgus*. The most striking differences between both species are limited to features of head configuration; although such characters could possibly be explained by variations among populations of *L. curvipes*.

In order to resolve this conflict, it would be necessary to study the holotypes of both species, as well as material from their full distributional range, which has been expanded in this contribution. Molecular techniques certainly would be helpful in order to determine how many species are involved and if island morphotypes correspond to populational variations, or actually constitute definite species.

Because of affinities with *L. curvipes* and/or *L. valgus* indicated in the original descriptions, *L. dentipes*, *L. distortus*, *L. pollinarius*, and *L. villosipes* may also be included in this conflict.

Final considerations

Some characters in Girón & Franz (2012) need to be revisited, perhaps reinterpreted. Also, there are characters that have not been considered, for example characters of the scrobe (particularly in dorsal view), elevations and depressions on the rostrum, the structure of the apex of the posterior tibiae, characters of the elytral striae, wing venation, among others.

For decades, weevils from the Caribbean have been deposited in collections, and identified as *Lachnopus* sp.. Many of them do not match Schönherr's (1826) nor van Emden's (1944) generic concept, or even fit in the species-groups delimited here. The problem is made worse when Caribbean Eustyline-like weevils [those that cannot be confidently placed in known genera such as *Exophthalmus* or *Diaprepes*, very diverse in Hispaniola, pers. obs.] are considered. A thorough revision of *Lachnopus* and its allies is definitely required, also in order to ascertain its tribal placement.

Study of type material, revision of Caribbean material in other collections, as well as increasing sampling throughout the entire (and expanded) distributional range would be fundamental when tackling the full revision of the genus. A revisionary work would likely split the genus and synonymize several of the known species names, thereby improving our understanding of the diversification of the broad nosed weevils in the West Indies.

Acknowledgments

Authors are grateful to curators who checked their materials for us: Nico Franz (ASUHIC), Michael. C. Thomas and Robert H. Turnbow Jr. (FSCA), Alejandro Segarra, Edda Martínez Caléz and Hariette Pérez (MEBT), Walter Etter (fossils at NHMB), and Maxwell V. L. Barclay (NHMUK). We are also indebted to curators who facilitated the review of collections at their care (Lourdes Chamorro (USNM), and Crystal Maier (FMNH). Lourdes Chamorro also provided the photographs of *L. aulicus* and *L. coffeae*. The Biology Department of the University of Puerto Rico at Mayagüez, as well as the Biodiversity Institute of the University of Kansas granted the use of their respective photographic equipments. We are also grateful to Stuart Mailer and Vanessa Block for assistance in the Cayman Islands. Kevin McKinney (USGS) and Herbert W. Meyer (Denver Museum of Nature & Science) provided valuable information on the Florissant fossil specimens. Andrei Legalov (Russian Academy of Sciences) kindly provided information and comments on fossil species. Special thanks to the Interlibrary Loan Team at the Libraries of the University of Kansas, and the Biodiversity Heritage Library for providing access to essential references used for the completion of this work.

References

Alonso-Zarazaga, M.A. & Lyal, C.H.C. (1999) *A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera): (Excepting Scolytidae and Platypodidae)*. Entomopraxis, Barcelona, 315 pp.

Ambrose, E. (1983) Note on a banana fruit-scarring beetle, *Lachnopus* sp., in Dominica, West Indies. *Tropical agriculture*, 60, 60–61.

Blackwelder, R.E. (1947) Checklist of the coleopterous insects of Mexico, Central America, the West Indies, and South America. *Bulletin of the United States National Museum*, 185 (5), 765–925. https://doi.org/10.5479/si.03629236.185.3

Brown, R.W. (1956) *Composition of scientific words, revised edition*. Smithsonian Institution Press, Washington, D.C., 882 pp.

de Zayas, F. (1988) *Entomofauna Cubana Orden Coleoptera. Separata descripción de nuevas especies*. Editorial Científico-Técnica, La Habana, 212 pp.

Dejean, P.F.M.A. (1821) *Catalogue de la collection de Coléoptères de M. le Baron Dejean*. Chez Crevot, Libraire, Paris, 136 pp.
https://doi.org/10.5962/bhl.title.11259
Dressler, R.L. (2003) "*Schomburgkia*" *thomsoniana*, a case of confused identity. *Orquideologia*, 22 (3), 227–235.
Dressler, R.L. & Carnevali, G. (2000) The wild banana orchid of the Cayman Islands. *Orchid Digest*, 64, 81–83.
Evenhuis, N.L. (2017) The insect and spider collections of the world website. Available from: http://hbs.bishopmuseum.org/codens/ (accessed 29 August 2017)
Franz, N.M., O'Brien, C.W. & Ruiz Nuñez, D. (2009) New records of weevils (Coleoptera: Curculionoidea) from Mona Island, Puerto Rico. *Solenodon*, 8, 82–98.
Franz, N.M. (2010a) Redescriptions of critical type species in the Eustylini Lacordaire (Coleoptera: Curculionidae: Entiminae). *Journal of Natural History*, 44, 41–80.
https://doi.org/10.1080/00222930903383495
Franz, N.M. (2010b) Revision and phylogeny of the Caribbean weevil genus *Apotomoderes* Dejean, 1834 (Coleoptera, Curculionidae, Entiminae). *ZooKeys*, 49, 33–75.
https://doi.org/10.3897/zookeys.49.303
Franz, N.M. (2011) *Melathra huyenae* Franz, a new genus and new species of Entimine weevil (Coleoptera: Curculionidae: Entiminae) from Southwestern Hispaniola. *The Coleopterists Bulletin*, 65 (4), 352–362.
Franz, N.M. (2012) Phylogenetic reassessment of the *Exophthalmus* genus complex (Curculionidae: Entiminae: Eustylini, Geonemini). *Zoological Journal of the Linnean Society*, 164, 510–557.
https://doi.org/10.1111/j.1096-3642.2011.00774.x
Girón, J.C. & Franz, N.M. (2010) Revision, phylogeny, and historical biogeography of the genus *Apodrosus* Marshall, 1922 (Coleoptera: Curculionidae: Entiminae). *Insect Systematics & Evolution*, 41, 339–414.
https://doi.org/10.1163/187631210x538799
Girón, J.C. & Franz, N.M. (2011) *Lachnopus curvipes* Fabricius, 1787 and its radiation on the Caribbean region (Coleoptera: Curculionidae: Entiminae). SysEB Ten Minute Paper, Annual Meeting of the Entomological Society of America, Reno, NV, XI-15-2011. Available from: https://drive.google.com/open?id=188tzqI8cMUystoTotz58nB0L-FN67hGd (accessed 26 March 2018)
Girón, J.C. & Franz, N.M. (2012) Phylogenetic assessment of the Caribbean weevil genus *Lachnopus* Schönherr (Coleoptera: Curculionidae: Entiminae). *Invertebrate systematics*, 26 (1), 67–82.
https://doi.org/10.1071/is11033
Gosse, P.H. (1848) XXXIX. On the insects of Jamaica. *Journal of Natural History*, 1 (5), 349–352.
https://doi.org/10.1080/03745485809496119
Gundlach, J. (1891) *Contribución a la entomología Cubana. Vol. 3. Parte Quinta: Coleópteros*. Impresos de A. Alvarez y Compañía, Habana, 404 pp.
https://doi.org/10.5962/bhl.title.49760
Gyllenhal, L. (1834) *In*: Schönherr, C.J., *Genera et species Curculionidum, cum synonymia hujus familae species novæ / a C.J. Schoenherr; species novae aut hactenus minus cognitae, descriptionibus a L. Gyllenhal, C. H. Boheman entomologis aliisillustratæ*. Tome 2. Roret, Paris, 669 pp.
https://doi.org/10.5962/bhl.title.8952
Gyllenhal, L. (1840) *In: Schönherr, C.J., Genera et species Curculionidum, cum synonymia hujus familae species novæ / a C.J. Schoenherr; species novae aut hactenus minus cognitae, descriptionibus a L. Gyllenhal, C. H. Boheman entomologis aliis illustratæ. Tome 6*. Roret, Paris, 488 pp.
https://doi.org/10.5962/bhl.title.8952
Horn, G.H. (1876) *In*: LeConte, J.L. & Horn, G.H. (1876).
Howden, A.T. (1995) Structures related to oviposition in Curculionoidea. *Memoirs of the Entomological Society of Washington*, 14, 53–102.
Hustache, A. (1929) Curculionides de la Guadeloupe. *Faune des Colonies Françaises*, 3 (3), 165–267.
International Commission on Zoological Nomenclature (1987) Official Lists and Indexes of Names and Works in Zoology, Opinion 1451. *Bulletin of Zoological Nomenclature*, 44 (3), 205–206.
Jacquelin du Val, P.N.C. (1857) Insectes. Ordre des Coléoptères, Linn. *In*: Sagra, M.R. de la, *Histoire Physique, politique et naturelle de l'Ile de Cuba*, 7, pp. 137–328, illus. [Curculionoidea, pp. 171–236, tab. 9]
https://doi.org/10.5962/bhl.title.51128
Lacordaire, J.T. (1863) Histoire naturelle des insectes: Genera des Coléoptères ou exposé méthodique et critique de tous les genres proposés jusqu'ici dans cet ordre d'insectes. Tome Sexième. Contenant la famille des Curculionides. Librairie encyclopédique de Roret, Paris, 637 pp. [in French]
LeConte, J.L. & Horn, G.H. (1876) The Rhynchophora of America, north of Mexico. *Proceedings of the American Philosophical Society*, 15 (96), i–xvi, 1–455.
https://doi.org/10.5962/bhl.title.38329
Legalov, A.A. (2015) Fossil Mesozoic and Cenozoic weevils (Coleoptera, Obrienioidea, Curculionoidea). *Paleontological Journal*, 49 (13), 1442–1513.
https://doi.org/10.1134/S0031030115130067

Lyal, C.H.C. (1995) The ventral structures of the weevil head (Coleoptera: Curculionoidea). *Memoirs of the Entomological Society of Washington*, 14, 35–51.
Marshall, G.A.K. (1922) Some injurious Neotropical weevils (Curculionidae). *Bulletin of Entomological Research*, 13, 59–71. https://doi.org/10.1017/s0007485300045247
Marshall, G.A.K. (1926a) Two New Species of Curculionidae (Col.) from Haiti. *Bulletin of Entomological Research*, 17 (1), 53–54. https://doi.org/10.1017/S0007485300019076
Marshall, G.A.K. (1926b) On new Neotropical Curculionidae (Col.). *Annals & Magazine of Natural History*, 18, 530–543. https://doi.org/10.1080/00222932608633549
Marshall, G.A.K. (1933) New Neotropical Curculionidae (Col.). *Annals & Magazine of Natural History*, 18, 530–543. https://doi.org/10.1111/j.1365-3113.1993.tb00970.x
Mauleon, H. & Mademba-Sy, F. (1988) Un ravageur des argumes aux Antilles Francaises: *Diaprepes abbreviatus*. L. *Fruits*, 43 (4), 229–234.
Montes Díaz, M., Broche Guevara, R., Hernández Batista, M.R., Gómez Pacheco, M., Hernández Espinosa, D. & Rodríguez Tapia, J.L. (2014) Curculiónidos que atacan los cítricos en Cuba y sus enemigos naturales. Available from: http://www.fao.org/docs/eims/upload/cuba/5380/UltimoCurculi%C3%B3nidos%20Trabajo%20FAO.pdf (accessed 21 August 2017)
Morrone, J.J. (1999) The species of Entiminae (Coleoptera: Curculionidae) ranged in America south of the United States. *Anales del Instituto de Biología*, Serie Zoología, 70 (2), 99–168.
Nichols, S.W. (Compiler.) (1989) *The Torre-Bueno Glossary of Entomology*. New York Entomological Society, New York, 840 pp.
Oberprieler, R.G., Marvaldi, A.E. & Anderson, R.S. (2007) Weevils, weevils, weevils everywhere. *Zootaxa*, 1668, 491–520.
O'Brien, C.W. & Wibmer, G.J. (1982) Annotated checklist of the weevils (Curculionidae *sensu lato*) of North America, Central America, and the West Indies (Coleoptera: Curculionoidea). *Memoirs of the American Entomological Institute*, 34, 1–382.
O'Brien, C.W. & Turnbow, R.H. Jr. (2011) An annotated list of the Curculionoidea (Coleoptera) of Dominica (Excluding Scolytinae and Platypodidae). *Insecta Mundi*, 179, 1–31.
Olivier, G.A. (1807). *Entomologie, ou Histoire naturelle des insectes, avec leurs caractères génériques et spécifiques, leur description, leur synonymie, et leur figure enluminée. Coléoptères*. *Vol. 5*. De l'Imprimerie de Baudoin, Paris, 612 pp. https://doi.org/10.5962/bhl.title.61905
Olivier, G.A. (1808) *Entomologie, ou Histoire naturelle des insectes, avec leurs caractères génériques et spécifiques, leur description, leur synonymie, et leur figure enluminée. Coléoptères. Vol. 8*. De l'Imprimerie de Baudoin, Paris, 34 pls. [pls. 66–100] https://doi.org/10.5962/bhl.title.61905
Peck, S.B. (2005) A checklist of the beetles of Cuba with data on distributions and bionomics (Insecta: Coleoptera). *Arthropods of Florida and neighboring land areas*, 18, 1–214.
Peck, S.B. (2006) The beetle fauna of Dominica, Lesser Antilles (Insecta: Coleoptera): diversity and distribution. *Insecta Mundi*, 20 (3–4), 165–209.
Peck, S.B., Thomas, M.C. & Turnbow, R.H. Jr. (2014) The diversity and distributions of the beetles (Insecta: Coleoptera) of the Guadeloupe Archipelago (Grande-Terre, Basse-Terre, La Désirade, Marie-Galante, Les Saintes, and Petite-Terre), Lesser Antilles. *Insecta Mundi*, 352, 1–156.
Perez-Gelabert, D.E. (2008) Arthropods of Hispaniola (Dominican Republic and Haiti): A checklist and bibliography. *Zootaxa*, 1831, 1–530.
Perroud, B.P. (1853) Descriptions de quelques Coléoptères nouveaux ou peu connus. *Annales de la Société Linnéenne de Lyon*, 2 (1), 389–528. [reprinted also as pp. 3–142]
Piton L. & Théobald, N. (1935) La faune entomologique des gisements Mio-Pliocènes du Massif Central. *Revue des sciences naturelles d'Auvergne*, 1, 65–104.
Poinar, G. Jr. & Legalov A.A. (2017) Five new species from the subfamily Entiminae (Coleoptera: Curculionidae) in Dominican amber. *Palaeontologia Electronica*, 20.2.21A, 1–13. https://doi.org/10.26879/698
Rose-Smyth, M.C. (2016) Typification of *Myrmecophila thomsoniana* (Orchidaceae). *Kew Bulletin*, 71, 22. https://doi.org/10.1007/s12225-016-9639-4
Rosenschoeld, E.M. (1840) *In*: Schönherr, C.J., *Genera et species Curculionidum, cum synonymia hujus familae species novæ / a C.J. Schoenherr; species novae aut hactenus minus cognitae, descriptionibus a L. Gyllenhal, C. H. Boheman entomologis aliis illustratæ. Tome 6*. Roret, Paris, 495 pp. https://doi.org/10.5962/bhl.title.8952
Schönherr, C.J. (1823) Curculionides [Tabula synoptica familiae Curculionidum]. *Isis von Oken*, 10, 1132–1146.
Schönherr, C.J. (1826) *Curculinidum dispositio methodica cum generum characteribus, descriptionibus atque observationibus variis, seu prodromus ad synonymiae insectorum, part IV*. Impressit Adolphus Deutrich, Leipzig, X + 338 pp. https://doi.org/10.5962/bhl.title.9327
Schönherr, C.J. (1834) *Genera et species Curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae, descriptionibus a Dom. Leonardo Gyllenhal, C. H. Boheman, et entomologis aliis illustratae*. *Vol. 2 (1 & 2)*.

Roret, Paris, 669 pp. [2 (1): pp. 1–326; 2 (2): pp. 329–669]
https://doi.org/10.5962/bhl.title.8952
Schönherr, C.J. (1840) *Genera et species Curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae, descriptionibus a Dom. Leonardo Gyllenhal, C. H. Boheman, et entomologis aliis illustratae*. *6 (1)*. Roret, Paris, 474 pp.
https://doi.org/10.5962/bhl.title.8952
Scudder, S.H. 1893. Tertiary Rhynchophorous Coleoptera of the United States. *Monographs of the United States Geological Survey*, 21, 1–206.
https://doi.org/10.5962/bhl.title.9006
Sleeper, E.L. (1957) Notes on the Curculionoidea: 14. A Contribution to the Knowledge of the Curculionoidea. *The Ohio Journal of Science*, 57 (1), 38–42
Ting, P. (1936) The mouth parts of the coleopterous group Rhynchophora. *Microentomology*, 1, 93–114.
Thomas, M.C., Turnbow, R.H. Jr. & Steiner, W. (2013) An annotated checklist of the Coleoptera (Insecta) of the Cayman Islands, West Indies. *Insecta Mundi*, 280, 1–56.
Théobald, N. (1937) Les insectes fossiles des terrains oligocènes de France. *Bulletin mensuel de la Société des Sciences de Nancy*, 1, 1–473.
Turnbow, R.H. Jr. & Thomas, M.C. (2008) An annotated checklist of the Coleoptera (Insecta) of the Bahamas. *Insecta Mundi*, 34, 1–64.
Thompson, R.T. (1992) Observations on the morphology and classification of weevils (Coleoptera, Curculionoidea) with a key to major groups. *Journal of Natural History*, 26, 835–891.
https://doi.org/10.1080/00222939200770511
van Emden, F. (1944) A key to genera of Brachyderinae of the World. *Annals & Magazine of Natural History*, 11 (80), 503–532.
https://doi.org/10.1080/00222934408527452
van Whervin, L.W. (1968) *The citrus weevils of Jamaica and some of their parasites*. Citrus Research, University of the West Indies, Kingston, ii + 23 pp.
Van Zwaluwenberg, R.H. (1917) Insects affecting coffee in Porto Rico. *Journal of Economic Entomology*, 10, 513–517.
https://doi.org/10.1093/jee/10.6.513
Vázquez, L.L., Valdés, E. & Amor, J.C. (1992) New manifestations of pests on economically important plants during the period from 1970 to 1991 in Cuba. *Bollettino del Laboratorio di entomologia agraria Filippo Silvestri*, 49, 41–52.
Vaurie, P. (1961) A review of the Jamaican species of the genus *Exophthalmus* (Coleoptera, Curculionidae, Otiorhynchinae). *American Museum Novitates*, 2062, 1–41.
Wanat, M. (2007) Alignment and homology of male terminalia in Curculionoidea and other Coleoptera. *Invertebrate Systematics*, 21, 147–171.
https://doi.org/10.1071/IS05055
Wolcott, G.N. (1923) "Insectae Portoricensis". A preliminary annotated check-list of the insects of Porto Rico, with descriptions of some new species. *Journal of the Department of Agriculture of Porto Rico*, 7, 1–313.
Wolcott, G.N. (1948) The insects of Puerto Rico. *Journal of Agriculture of the University of Puerto Rico*, 32, 1–975.
Woodruff, R.E. (1985) Citrus weevils in Florida and the West Indies: preliminary report on systematics, biology and distribution (Coleoptera: Curculionidae). *The Florida Entomologist*, 68, 370–379.
https://doi.org/10.2307/3495121
Zhang, G. & Franz, N.M. (2015) Systematics of Eustylini—Reclassification of the *Exophthalmus* genus complex (Curculionidae). Annual Meeting of the Entomological Society of America, Minneapolis, MN. Available from: https://www.scribd.com/doc/293115047/zhang-exophthalmus?secret_password=kILSmiyJpOPGWqPErlFX (accessed 26 January 2018)
Zhang, G., Basharat, U., Matzke, N. & Franz, N.M. (2017) Model selection in statistical historical biogeography of Neotropical insects—The *Exophthalmus* genus complex (Curculionidae: Entiminae). *Molecular phylogenetics and evolution*, 109, 226–239.
https://doi.org/10.1016/j.ympev.2016.12.039