Zootaxa 4830 (3): 401–454
https://www.mapress.com/j/zt/

Article

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

https://doi.org/10.11646/zootaxa.4830.3.1
http://zoobank.org/urn:lsid:zoobank.org:pub:3F1707BD-8CA9-429D-B22C-AA1B703762E8

Review of the enigmatic Neotropical leafhopper genus *Brazosa* Oman and other potentially related Athysanini genera (Hemiptera: Auchenorrhyncha: Cicadellidae: Deltocephalinae), with descriptions of South American new genera and species

J. ADILSON PINEDO-ESCATEL[1,2*] & CHRISTOPHER. H. DIETRICH[2,3]
[1]*Centro Universitario de Ciencias Biológicas y Agropecuarias, Universidad de Guadalajara, km 15.5 carretera Guadalajara–Nogales, Las Agujas, Zapopan, C.P. 45110, Apdo. Postal 139, Jalisco, México*
[2]*Illinois Natural History Survey, Prairie Research Institute, University of Illinois at Urbana–Champaign, 1816 S. Oak St., Champaign, IL 61820, USA*
[3] *https://orcid.org/0000-0003-4005-4305*
[*]*Corresponding author.* *adilson1030@gmail.com;* *https://orcid.org/0000-0002-7664-860X*

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Accepted by A. Sanborn: 17 Jul. 2020; published: 14 Aug. 2020

Abstract

Three new Neotropical athysanine (Deltocephalinae) leafhopper genera, *Spaltumtettix* Pinedo-Escatel & Dietrich **gen. nov.**, *Pseudonapo* Pinedo-Escatel & Dietrich **gen. nov.**, and *Goiattus* Pinedo-Escatel **gen. nov.**, and 4 new species, *S. coloradus* Pinedo-Escatel & Dietrich **sp. nov.** (Peru), *P. waorani* Pinedo-Escatel & Dietrich **sp. nov.** (Ecuador), *P. huanucensis* Pinedo-Escatel & Dietrich **sp. nov.** (Peru), and *G. reyesi* Pinedo-Escatel **sp. nov.** (Brazil), are described and illustrated. In addition, the genera *Zabrosa* Oman, *Napo* Linnavuori & DeLong, *Pseudalaca* Linnavuori and *Brazosa* Oman are revised and redescribed. Six new species are described in *Brazosa*: *B. campinacu* Pinedo-Escatel & Dietrich **sp. nov.** (Brazil), *B. espatula* Pinedo-Escatel & Dietrich **sp. nov.** (Brazil), *B. encrustada* Pinedo-Escatel & Dietrich **sp. nov.** (Brazil), *B. mildredireanae* Pinedo-Escatel **sp. nov.** (Peru), *B. negra* Pinedo-Escatel & Dietrich **sp. nov.** (Peru and Bolivia) and *B. beni* Pinedo-Escatel & Dietrich **sp. nov.** (Bolivia). *Brazosa caesarea* Linnavuori & Heller **comb. nov.** is transferred to *Spaltumtettix*. The South American species *Z. aquareza* Linnavuori & DeLong **syn. nov.** is proposed as junior synonym of *Z. unicampi* Menezes. Keys to species of each genus are provided. Unusual aspects of the morphology of these genera are discussed and a comparative table is provided.

Key words: Tropics, Auchenorrhyncha, morphology, taxonomy, new species

Resumen

Se describen e ilustran tres nuevos géneros Neotropicales de chicharritas athysaninas (Deltocephalinae), *Spaltumtettix* Pinedo-Escatel & Dietrich **gen. nov.**, *Pseudonapo* Pinedo-Escatel & Dietrich **gen. nov.** y *Goiattus* Pinedo-Escatel **gen. nov.**, y 4 nuevas especies, *S. coloradus* Pinedo-Escatel & Dietrich **sp. nov.** (Perú), *P. waorani* Pinedo-Escatel & Dietrich **sp. nov.** (Ecuador), *P. huanucensis* Pinedo-Escatel & Dietrich **sp. nov.** (Perú) y *G. reyesi* Pinedo-Escatel **sp. nov.** (Brasil). Además, se revisan y redescriben los géneros *Zabrosa* Oman, *Napo* Linnavuori & DeLong, *Pseudalaca* Linnavuori y *Brazosa* Oman. Seis nuevas especies son descritas en *Brazosa*: *B. campinacu* Pinedo-Escatel & Dietrich **sp. nov.** (Brasil), *B. espatula* Pinedo-Escatel & Dietrich **sp. nov.** (Brasil), *B. encrustada* Pinedo-Escatel & Dietrich **sp. nov.** (Brasil), *B. mildredireanae* Pinedo-Escatel **sp. nov.** (Perú), *B. negra* Pinedo-Escatel & Dietrich **sp. nov.** (Perú and Bolivia) y *B. beni* Pinedo-Escatel & Dietrich **sp. nov.** (Bolivia). *Brazosa caesareus* Linnavuori & Heller **comb. nov.** es transferida a *Spaltumtettix*. La especie sudamericana *Z. aquareza* Linnavuori & DeLong **syn. nov.** es propuesta como una sinonimia de *Z. unicampi* Menezes. Se proveen claves para las especies de cada género. Se discuten aspectos inusuales de la morfología de estos géneros y se proporciona una tabla comparativa de ellos.

Palabras clave: Tropicos, Auchenorrhyncha, morfología, taxonomia, nuevas especies

Introduction

Subtropical and tropical zones of the New World have a rich but still largely undescribed leafhopper fauna (Dietrich & Wallner 2002; Dietrich & Rakitov 2002). Deltocephalinae is the most diverse subfamily of Cicadellidae, including >1,070 genera in 39 tribes, of which Athysanini Van Duzee is the largest. However, this tribe is poorly defined and not monophyletic. A recent comprehensive phylogenetic analysis of the subfamily did not include a sufficient number of athysanine genera to resolve relationships confidently or support dividing the tribe into smaller monophyletic groups of genera (Zahniser & Dietrich 2013). Many endemic Neotropical genera of Deltocephalinae

are enigmatic due to bizarre morphological features that obscure their affinities and often give them a superficial resemblance to other leafhopper subfamilies (Linnavuori 1959; Linnavuori & DeLong 1976, 1978; Dietrich & Rakitov 2002). Nevertheless, many of the unusual forest-dwelling Neotropical Athysanini included in the phylogenetic analysis of Zahniser & Dietrich (2013) grouped together in a clade with the endemic New World tribes Pendarini and Scaphytopiini. A more recent analysis including more taxa and gene regions (Lin Lu, Northwest A&F University, *pers. comm.*) also placed the endemic Neotropical tribe Bahitini in this large New World clade. This suggests that, despite the high morphological diversity found among the Neotropical Athysanini, they are closely related to other Deltocephalinae inhabiting the forests of Central and South America.

Among the unusual Neotropical Athysanini are the genera *Brazosa* Oman and *Zabroza* Oman, which have an arched crown/pronotum and bright orange dorsal spots resembling those found in many Idiocerini (Eurymelinae). These two genera appear to belong to a larger group of Neotropical Athysanini that includes species with bold dorsal markings including paired black spots and orange lines or patches, a relatively short, broad crown rounded to the face, unmodified wing venation, and relatively simple male genitalia (pygofer and subgenital plates with reduced setation, segment 10th without processes and usually unsclerotized, aedeagus U-shaped and usually without large processes, style without or with week preapical lobe and apex digitiform).

In the present work, study of samples from the Amazon Basin, collected either at lights or by fogging rainforest canopies, revealed the presence of several species belonging to three new genera from Ecuador, Peru, Brazil, and Bolivia. The new taxa are notable in showing affinities to previously described Neotropical genera, particularly in overall structure and dorsal color pattern. They are described and illustrated below and a table comparing the morphology of the new genera to that of some similar Neotropical genera is provided.

Materials and methods

General descriptive morphological terminology herein follows Dietrich (2005). Wing venation follows Anufriev & Emeljanov (1988) and leg chaetotaxy follows Rakitov (1998). Abdomens of males and females studied were cleared in hot 10% KOH solution, rinsed in distilled water and stored in glycerin. Holotypes and paratypes on loan were relaxed in a humid chamber then dissected and remounted. Images were taken using a Big Kahuna camera coupled to stereo microscope (http://www.duninc.com/bk-lab-system.html). Zerene Stacker software was used to combine images captured at different focal planes and Adobe Illustrator and Photoshop were used to process final images. Body length was measured using an electronic vernier. In quoted label text, different labels are separated by a reversed virgule (\) starting with the top label; bracket ([ ]) for additional information that is not written on the labels. Body color is described based on pinned dry specimens.

The material studied here is deposited at the following institutions:

INHS	Illinois Natural History Survey, Champaign, Illinois, USA.
OSUC	C. A. Triplehorn Insect Collection, Columbus, Ohio, USA.
MZSP	Museu de Zoologia, Universidade de São Paulo, Brazil.
USML	Universidad de San Marcos, Lima, Peru.
MEPN	Museo de la Escuela Politécnica Nacional, Quito, Pichincha, Ecuador.
CAJAPE	Colección de Auchenorrhyncha de J. Adilson Pinedo Escatel, Mexico.
SEMC	Snow Entomological Museum, University of Kansas, Lawrence, USA.
USNM	United States National Museum of Natural History, Washington, DC, USA.

Taxonomy

Order Hemiptera

Suborder Auchenorrhyncha

Infraorder Cicadomorpha

Superfamily Membracoidea

Family Cicadellidae

Subfamily Deltocephalinae

Tribe Athysanini

***Brazosa* Oman**
(Figs. 1, 2 A–I, 3–10, 31 A)

Brazosa Oman, 1938: 386
Type species. *Thamnotettix picturella* Baker, 1923

Redescription. Diagnosis. Overall dorsal coloration grey with orange bands. Crown produced, arched above eyes. Pronotum convex with weak lateral carina. Forewings without extra crossveins; anal veins free basally and confluent distally; Cs-Pcu with 1 crossvein; Pcu-A1 crossvein present. Front tibia formula 1+4; AM1 position at middle. Pygofer without processes; valve free; aedeagus without or with one pair of mesad processes; first valvula dorsal sculpturing imbricate with overlapping scales (Table 1).

External morphology. Robust small to medium-sized leafhoppers (3.9–5.2 mm), overall dorsal coloration grey, venter variously marked with black. Crown with transverse orange submarginal band between eyes and median apical black spot; pronotum with four oblong orange spots; mesonotum, scutellum and claval veins also variably marked with orange, basolateral triangles of mesonotum black; forewing veins and cells without distinct pigmentation except in clavus. Face with midline of frontoclypeus yellowish with various amounts of dark pigmentation laterally, ocellocular region and area bordering ventrolateral part of frontoclypeus black. Head subequal to or wider than pronotum. Crown short, arched above eyes, anterior margin bluntly angulate in dorsal view, transition to face forming blunt obtuse angle in lateral view, crown width between eyes approximately twice eye width. Face mostly yellowish with darkish marks (except in *appendiculata*, mostly dark with a central orange line). Ocellocular area parallel sided; lateral frontal sutures complete, extended to ocelli. Ocelli on anterior margin of head, near eyes. Frontoclypeus longer than wide, slightly convex; erect fine seta present laterad of frontal suture. Antennal ledge represented by indistinct carina, antennal base situated slightly below midheight of eye, antenna length 1.2x width of head. Anteclypeus widened apically. Lorum narrowly separated from lower margin of face, wider than or subequal to anteclypeus in width near base. Gena slightly incised below eye. Rostrum short, tapered, slightly surpassing front trochanters.

Pronotum strongly convex, anterior margin parabolic, lateral margin carinate, shorter than eye width. Scutellum protuberant in lateral view. Forewing macropterous, translucent, apex rounded, appendix restricted to anal margin, without extra crossveins, with three anteapical cells, outer apical cell large with apex delimited by crossvein, inner anteapical cell open (without m-cu2 crossvein), apical cells subequal in width, Pcu connected to claval suture by crossvein; Pcu and A1 free basally but usually confluent through most of length distally, rarely separate with crossvein present. Hind wing venation fully developed, without pigmentation, RP-MA and MP-CuA separated by crossvein. Front femur with long AM1 at mid-height, IC setae long and thin (10–25), row AV with short stout setae (8–25), AV1 poorly differentiated from IC setae. Front tibia dorsal macrosetal formula 1+4 (AD+PD), PV without or with macrosetae. Mesotrochanter with one stout setae. Mesofemur row AV with short stout setae. Hind femur macrosetal formula 2+2+1, without extra setae basad of usual set. Metatarsomere I as long as II and III combined, not expanded apically, plantar setae simple, pecten with 4 platellae and inner apical seta platelliform.

Male genitalia. Apodemes of sternite II inconspicuous. Basolaterad pygofer apodemes absent. Pygofer in dorsal view with moderately long dorsal sclerotized section, lobes in lateral view more or less triangular, longest along dorsal margin, well-sclerotized, without processes, short ventral process sometimes present, macrosetae sparse, present near posterior margin, basolateral cleft present. Anal tube membranous. Valve and subgenital plates free from each other, articulated with pygofer. Valve relatively short, posterior margin weakly produced medially. Subgenital plate triangular, apex narrowly rounded, macrosetae uniseriate sublaterally or somewhat irregularly arranged

near margin. Connective somewhat H-shaped, with arms subparallel and stem emarginate. Style broadly bilobed basally; median lobe short, not extended dorsad, preapical lobe short and rounded; apophysis somewhat elongated, extended posteromesad then strongly curved laterad with apex pointed or rounded, with few fine lateral setae, without obvious microsclupture or teeth. Aedeagus with atrium slightly broader than shaft; preatrium absent or very short; shaft curved dorsad, usually with pair of lateral flanges with or without teeth, rarely with distal processes, apex of aedeagus blunt, bifid or pointed; gonoduct not sclerotized, narrower than base of shaft width; gonopore subapical on dorsal surface; phragma weakly sclerotized or membranous, with or without conspicuous setae.

Female genitalia. Pygofer conical with numerous macrosetae concentrated on posterior portion. Ovipositor not protruding far beyond pygofer apex. First valvula, ramus convex, dorsal sculpturing imbricate with overlapping scales, reaching dorsal margin, more elongated medially than apically, ventral sculpturing restricted to apical portion. Second valvula abruptly broadened medially with medial dorsal tooth, distal teeth small restricted to apical portion and serrated. Third valvula with one row of distinct setae. Sternite VII truncate. Eighth sternite membranous.

Distribution. Brazil, Bolivia and Peru

Species of the genus *Brazosa*

Brazosa appendiculata Linnavouri & DeLong, 1976 (Bolivia and Peru **nov. rec.**)
Brazosa beni Pinedo-Escatel & Dietrich, **sp. nov.** (Bolivia)
Brazosa campinacu Pinedo-Escatel & Dietrich, **sp. nov.** (Brazil)
Brazosa distincta Zanol, 1989 (Brazil)
Brazosa espatula Pinedo-Escatel & Dietrich, **sp. nov.** (Brazil)
Brazosa encrustada Pinedo-Escatel & Dietrich, **sp. nov.** (Brazil)
Brazosa larocai Zanol, 1989 (Brazil)
Brazosa mildredireanae Pinedo-Escatel, **sp. nov.** (Peru)
Brazosa negra Pinedo-Escatel & Dietrich, **sp. nov.** (Peru and Bolivia)
Brazosa picturella (Baker, 1923) (Brazil, Bolivia, and Peru)

Key to species of *Brazosa*

Note. *B. distincta* Zanol, 1987 and *B. larocai* Zanol, 1987 excluded

1	Forewing with veins of clavus separate throughout length (Fig. 1 A and I); aedeagus with long dorsal processes beyond midlength (Fig. 3 E) . . . . . ***appendiculata*** Linnavouri & DeLong
-	Forewing with veins of clavus confluent through most of length; aedeagus without dorsal processes 2
2	Face almost entirely white without black submedial lines on frontoclypeus (Fig. 2 G); aedeagus strongly recurved with dorsal margin forming distinctly more than half circle, apex with dentate lateral flanges (Fig. 8 F); body reddish (Fig. 1 F and N) . . . . . ***mildredireanae*** Pinedo-Escatel, **sp. nov.**
-	Face with area laterad of midline of frontoclypeus weakly to strongly marked with black; aedeagus with dorsal margin forming less than half circle, apex with or without dentate lateral flanges; body blackish or greenish 3
3	Aedeagus with base of shaft in lateral view broad to midlength, then tapered, apical flange without teeth (Fig. 5 F) . . . . . ***espatula*** Pinedo-Escatel & Dietrich, **sp. nov.**
-	Aedeagus with base of shaft narrow and evenly tapered distad, apical flange with or without teeth 4
4	Apex of aedeagus in posterior view bilobed, poorly sclerotized posteriorly (Fig. 9 E and F) . . . . . ***campinacu*** Pinedo-Escatel & Dietrich, **sp. nov.**
-	Apex of aedeagus in posterior view tribilobed or shallowly emarginate, well-sclerotized 5
5	Aedeagal flanges projected anterad in lateral view 6
-	Aedeagal flanges projected caudad in lateral view (Fig. 10 D) . . . . . ***beni*** Pinedo-Escatel & Dietrich, **sp. nov.**
6	Apex of aedeagal flanges in posterior view rounded 7
-	Apex of aedeagal flanges in posterior view sharply pointed dorsolaterally (Fig. 6 E) . . . . . ***negra*** Pinedo-Escatel & Dietrich, **sp. nov.**
7	Aedeagal flanges in posterior view extended to apex, without teeth (Fig. 4 E) . . . . . ***picturella*** (Baker)
-	Aedeagal flanges in posterior view not extended to apex, with minute teeth apically (Fig. 7 E) . . . . . ***encrustada*** Pinedo-Escatel & Dietrich, **sp. nov.**

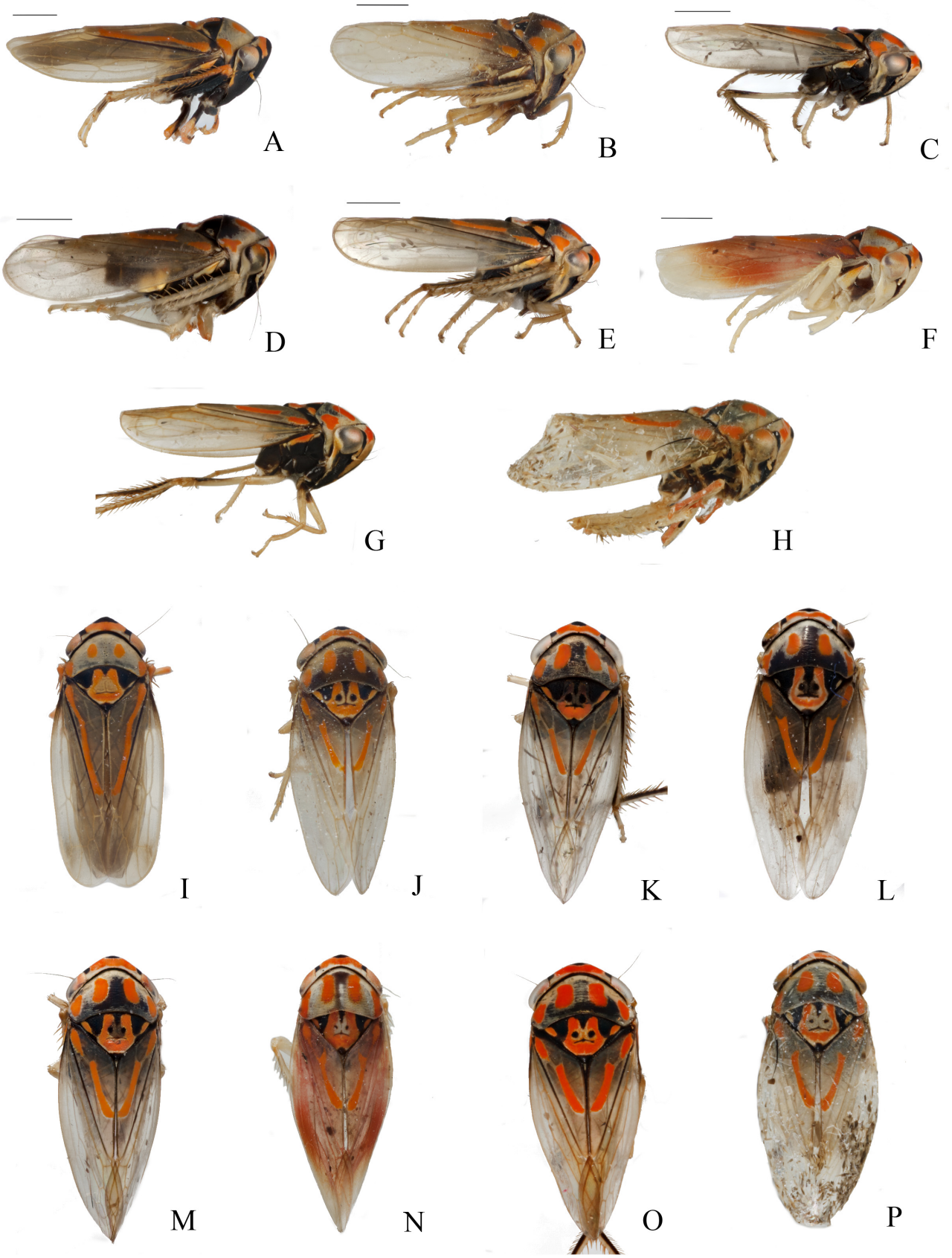

FIGURE 1. Lateral and dorsal habitus of *Brazosa* spp. (**A** and **I**) *B. appendiculata*; (**B** and **J**) *B. picturella*; (**C** and **K**) *B. espatula* **sp. nov.**; (**D** and **L**) *B. negra* **sp. nov.**; (**E** and **M**) *B. encrustada* **sp. nov.**; (**F** and **N**) *B. mildredireanae* **sp. nov.**; (**G** and **O**) *B. campinacu* **sp. nov.**; (**H** and **P**) *B. beni* **sp. nov.**

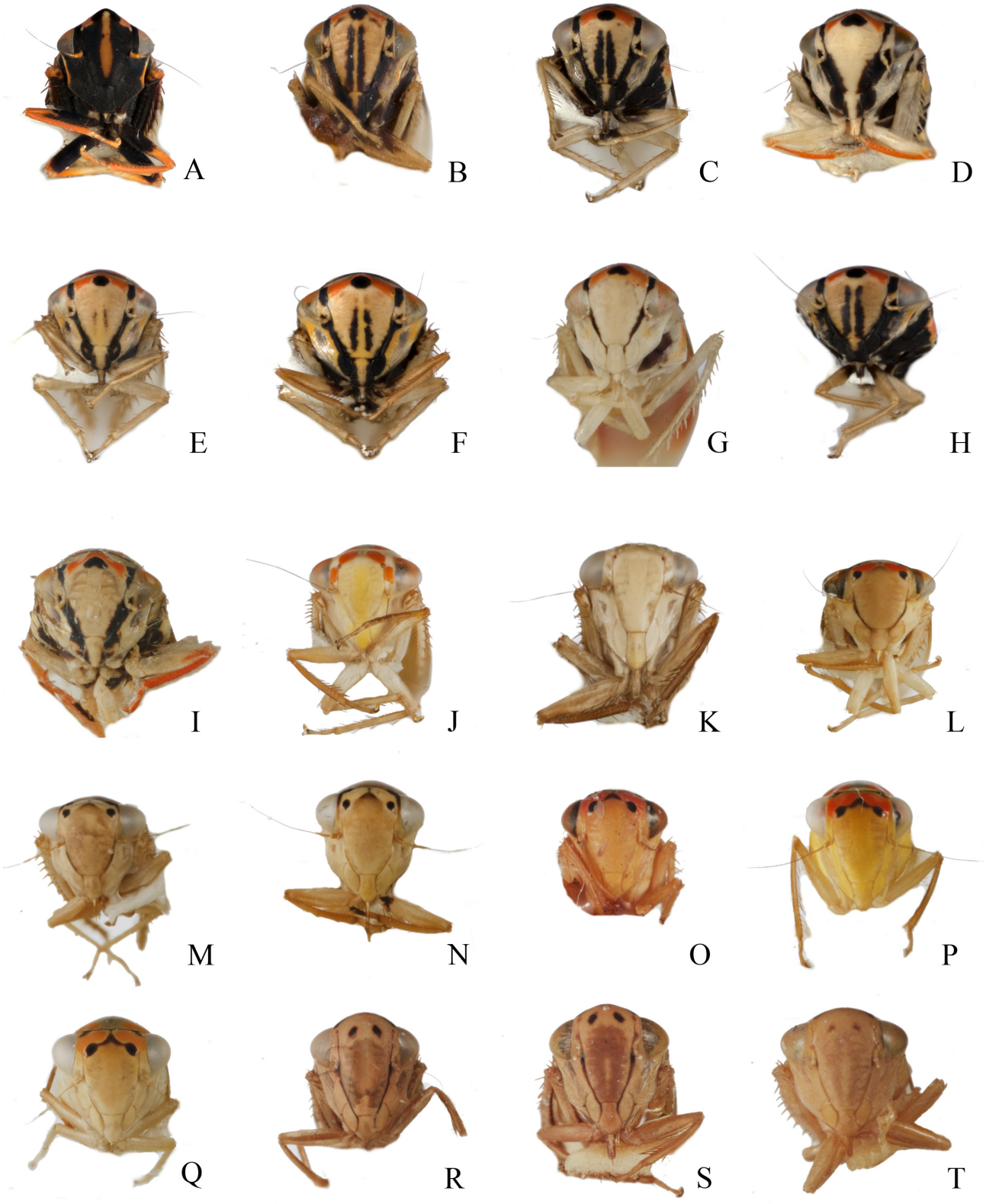

FIGURE 2. Face anterior view. (**A**) *Brazosa appendiculata*, male; (**B**) *B. picturella*, male; (**C**) *B. espatula* **sp. nov.**, male; (**D**) *B. negra* **sp. nov.**, male; (**E** and **F**) *B. encrustada* **sp. nov.**, male; (**G**) *B. mildredireanae* **sp. nov.**, male; (**H**) *B. campinacu* **sp. nov.**, male; (**I**) *B. beni* **sp. nov.**, male; (**J**) *Spaltumtettix coloradus* **gen.** et **sp. nov.**, male; (**K**) *S. caesareus* **gen.** et **comb. nov.**, female; (**L**) *Pseudonapo huanucensis* **sp. nov.**, male; (**M**) *P. waorani* **gen.** et **sp. nov.**, male; (**N**) *P. waorani* **gen.** et **sp. nov.**, female; (**O–Q**) *Napo brazosellus*; (**O**) holotype; (**P**) male; (**Q**) female; (**R**) *Zabrosa amazonensis*, male; (**S–T**) *Z. sexpunctata*; (**S**) male; (**T**) female.

***Brazosa appendiculata* Linnavouri & DeLong**
(Figs. 1 A and I, 2 A, 3, 31 A)

Brazosa appendiculata Linnavouri & DeLong, 1976: 36

Redescription. External morphology. Frontoclypeus black with one longitudinal orange midline. Anteclypeus entire black. Gena black with one orange mark laterally. Pronotum greenish with four semicircle orange spots. Forewing dark brownish. Ventral sclerites black. Front coxa and trochanter black, femur orange apically, tibia and tarsus marked with orange.

Male genitalia. Pygofer shorter than tall, macrosetae near posterior margin, ventrolateral cleft reach midlength of pygofer. Anal tube longer than wide, apex uniform. Valve short, flat, weakly produced posteromesad and slightly notched anteromesad. Subgenital plate as long a pygofer with a row of 5–7 somewhat stout macroseatae in distal half. Connective, stem slightly longer than arms. Style, preapical lobe produced and rounded, apophysis relatively long and curved, forming less than 90º angle laterally. Aedeagus curved dorsad, shaft narrow and uniform in lateral view; long dorsal processes beyond midlength; apex rounded in posterior view.

Female genitalia. Unknown

Type material examined. Holotype ♂ (OSUC)—Bolivia: San Esteban 49 km. N. Sta. Cruz 7-XII-59 El. 120 ft. \ D. M. DeLong Collection;

Other material. 1♂ (INHS)—PERU: Huánuco, 5km W Tingo María, Pte. Monzón, 600m, 9°19´32" S 76°1´47" W, 26 Oct 2002, C.H. Dietrich Coll., merc. vapor light, 02-42-1; 1♂ (INHS)—PERU: Huánuco, 5km S Tingo María, Pte. Monzón, 600m, 9°20´51" S 75°58´51" W, 25 Oct 2002, R.A. Rakitov Coll., mercury vapor light, 02-41-2; 1♂ (USML)—PERU: Junin, Alto Yurinaqui, 850m, 10°46´17"S 75°9´3"W, 20 Oct 2002, C.H. Dietrich, 02-24-1.

Distribution. Bolivia and Peru **nov. rec.**

***Brazosa picturella* (Baker)**
(Figs. 1 B and J, 2 B, 4)

Thamnotettix picturellus Baker, 1923: 532
Thamnotettix pictus Osborn, 1923: 68
Brazosa picturella Oman, 1938: 386

Redescription. External morphology. Frontoclypeus gold-yellowish with two longitudinal narrow black lines on midline. Anteclypeus yellow medially and black laterally. Gena dark-yellowish. Pronotum dark-greenish with submedial orange spots with inner par larger than lateral. Forewing light-brownish. Ventral sclerites yellow and black. Front coxa, trochanter and femur marked yellowish.

Male genitalia. Pygofer as longer as tall, macrosetae reduced, posterior margin tapering to pygofer apex, ventrolateral cleft short. Anal tube as long as wide, very short, beyond as pygofer apex. Valve flat, produced posteromesad. Subgenital plate relatively long as pygofer length, with fine macrosetae in distal half slightly distant from lateral margin. Connective, stem shorter than arms. Style, preapical lobe short, apophysis relatively short and strongly curved, forming a 90º angle. Aedeagus curved dorsocaudad; distal flange without teeth, projected anterad and in posterior view rounded laterally; apex projected dorsad beyond lateral flanges.

Female genitalia. Unknown

Material examined. 1♂, 1♀ (USNM)—[Brazil] May \ Corumbá \ Collection CF Baker; 1♂ (INHS)—Rio Caraguata, Matto Grosso, Brazil \ 1953, F. Plaumann Coll.

Distribution. Bolivia, Brazil and Peru

***Brazosa espatula* Pinedo-Escatel & Dietrich, sp. nov.**
(Figs. 1 C and K, 2 C, 5)
urn:lsid:zoobank.org:act:A5DB6B17-50A0-4796-A8F2-6EC1E5747B1C

Description. **External morphology.** Frontoclypeus yellowish with two longitudinal black lines flanking midline

connected to broader black markings on lorum and anteclypeus. Anteclypeus yellow medially. Gena pale-yellowish laterally. Pronotum dark-greenish with submedial pair of orange spots much larger than lateral pair. Forewing brownish. Ventral sclerites black. Front coxa, trochanter and femur marked with black.

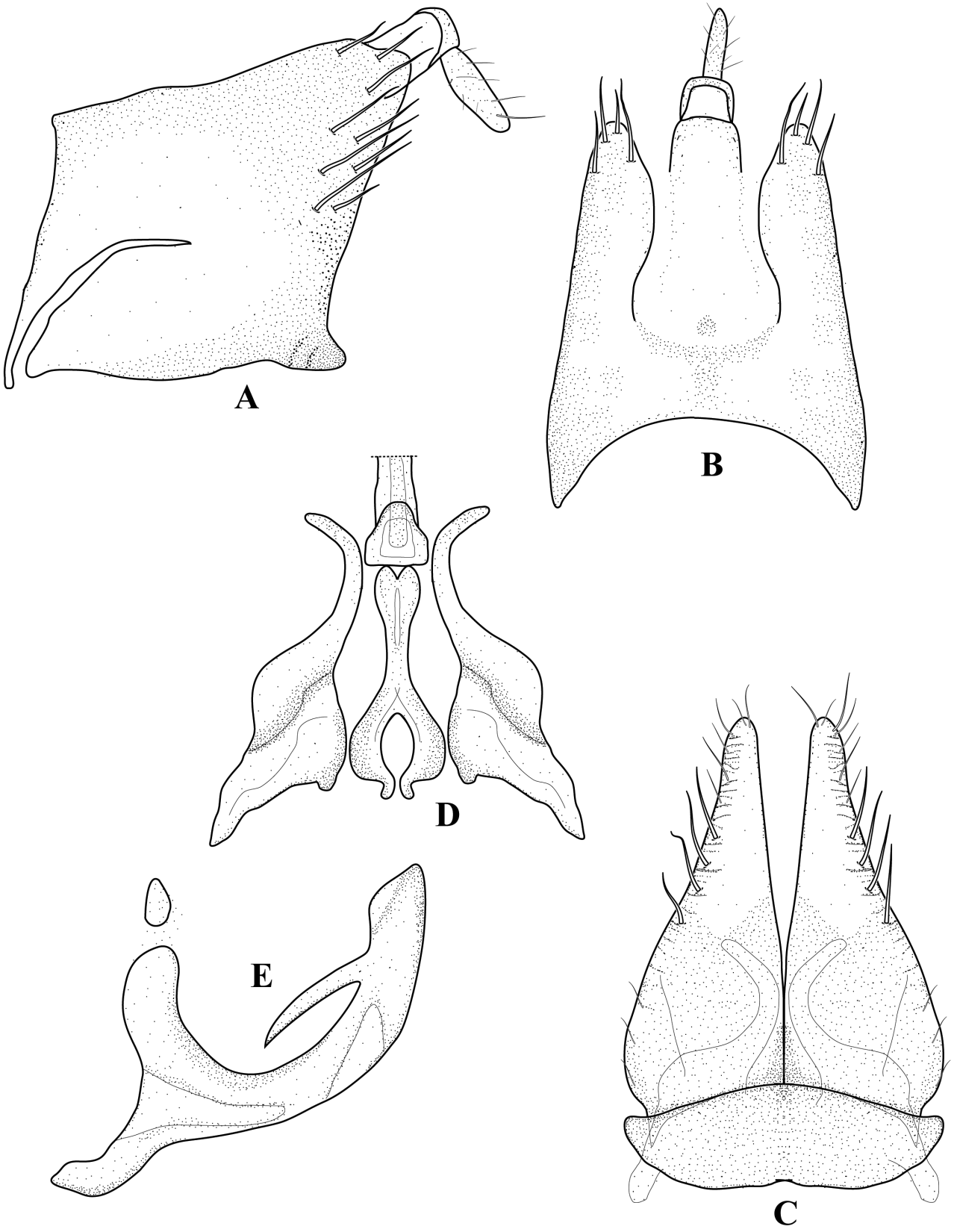

FIGURE 3. Male genitalia of *Brazosa appendiculata*. (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect.

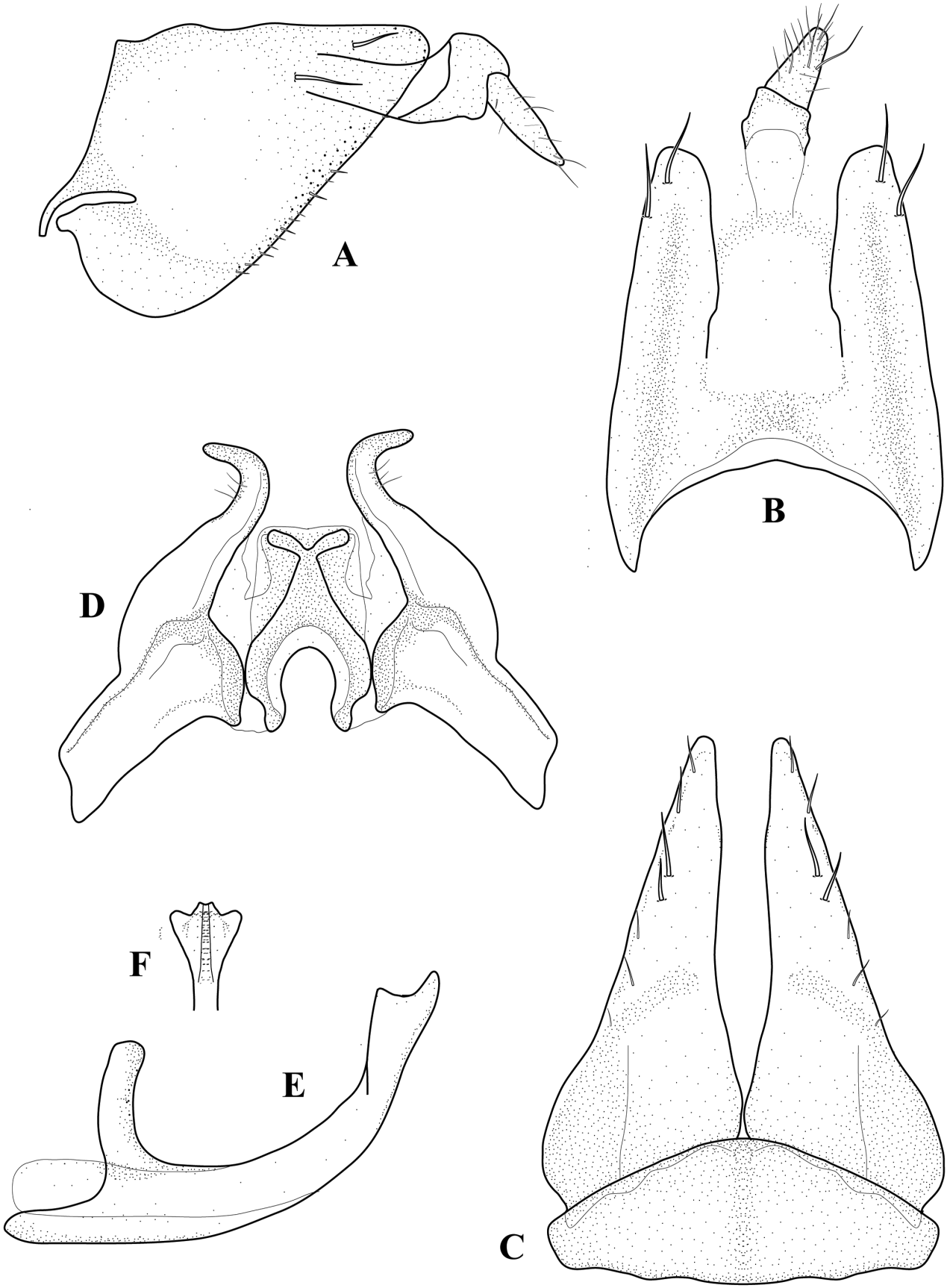

FIGURE 4. Male genitalia of *Brazosa picturella*. (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Apex aedeagus, caudal view.

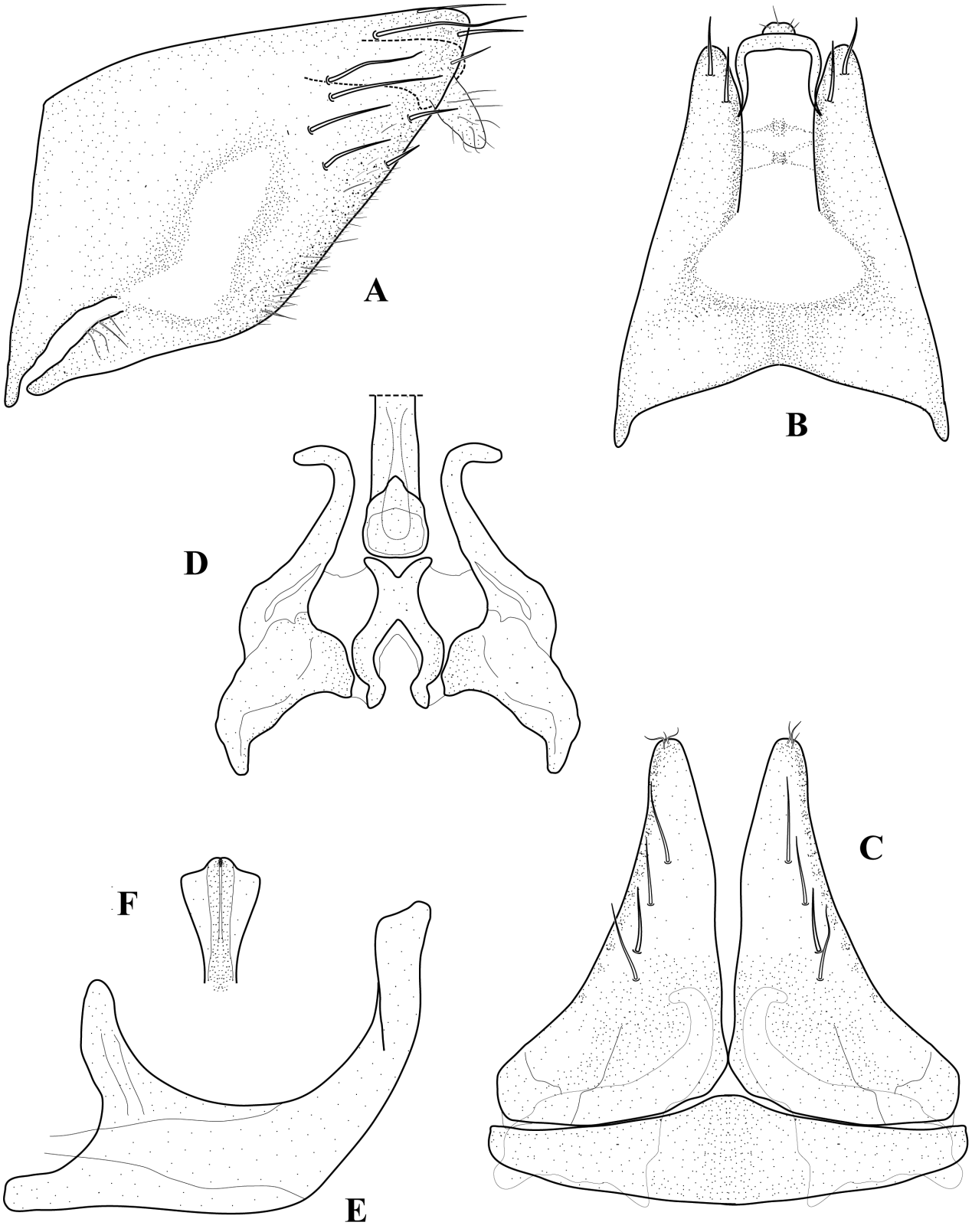

FIGURE 5. Male genitalia of *Brazosa espatula* **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Apex aedeagus, caudal view.

Male genitalia. Pygofer much longer than tall, macrosetae mixed with microsetae near posterior margin, ventrolateral cleft bordered with fine setae. Anal tube as long as wide, broad apically, same length as pygofer. Valve short, flat, weakly produced posteromesad. Subgenital plate relatively short, with submarginal row of 4 somewhat fine macrosetae in distal half. Connective, stem shorter and narrower than arms. Style, preapical lobe very short and broad, apophysis relatively long and strongly curved, forming less than 90º angle laterally. Aedeagus curved dorsocaudad forming less than half circle, shaft robust basally in lateral view; distal flange without teeth, projected anterad, in posterior view rounded laterally and not extended to apex.

Female genitalia. Unknown.

Type material. Holotype ♂ (MZSP)—BRASIL, Goiás: Campinaçu, Serra da Mesa Survey, 13°52.1´S 48°23.2´W, 19–23.ii. 1996, Malaise trap. A. Sharkov and F. Ejchel Colls.

Distribution. Brazil

Measurements. Body length, ♂ 4.6 mm, ♀ unknown.

Etymology. The species name, a feminine noun, refers to the apical-shape of the aedeagus, using a Spanish prefix "espatula" meaning "spatula".

Brazosa negra Pinedo-Escatel & Dietrich, sp. nov.

(Figs. 1 D and L, 2 D, 6)
urn:lsid:zoobank.org:act:A3C6D75C-770E-46C0-9708-6DE092A17A43

Description. External morphology. Frontoclypeus with center yellowish and lateral suture with a broad black band. Anteclypeus yellowish. Lorum black. Gena black next to frontoclypeal suture emerging below antennal pit running to lorum, yellowish distally. Anterior margin of pronotum ivory and posterior half dark-greenish. Forewings light brownish. Ventral sclerites yellowish and black. Front tibia and tarsomeres orange.

Male genitalia. Pygofer as long as tall, posterior margin rounded, macrosetae restricted to apical portion, fine setae scattered along posterior margin, broadly rounded ventrocaudally, teeth on inner margin. Anal tube more than 2x longer than wide, parallel, longer than pygofer. Valve broader than long, projected posteromesad. Subgenital plate longer than width, with uniseriate row of 9–10 somewhat stout macrosetae. Connective, stem shorter and wider than arms. Style, preapical lobe short and rounded, apophysis short and slightly curved, less than a 90º angle laterally. Aedeagus curved dorsad, shaft slender in lateral view; apex emarginate; apical flanges with teeth, projected anterad.

Female genitalia. Unknown.

Type material. Holotype ♂ (USML)—PERU: Junin, Alto Yurinaqui, 850m, 10°46´17"S 75°9´8"W, 20 Oct 2002, C.H. Dietrich Coll., 02-24-1; Paratypes, 1♂ (INHS)—PERU: Junin, Alto Yurinaqui, 850m, 10°46´17"S 75°9´8"W, 20 Oct 2002, C.H. Dietrich Coll., 02-24-1; 1♂ (INHS)—PERU: Huánuco, 5km W Tingo María, Pte. Monzón, 600m, 9°19´32"S 76°1´47"W, 26 Oct 2002, R.A. Rakitov Coll., merc. vapor light, 02-42-2; 1♂ (SEMC)—BOLIVIA: El Beni, Beni Stn., Palm Camp, NE. of San Borja, 26 July 1988 \ BIOLAT-SI/MAB, ex., malaise trap, Robert W. Brooks Coll. \ Snow Museum

Distribution. Peru and Bolivia

Measurements. Body length, ♂ 4.9 mm, ♀ unknown

Etymology. The species name, a feminine noun, refers to color of the lorum and gena, using the Spanish "negra" meaning black.

Remarks. This is species is similar to *B. beni* in coloration, but the different aedeagal apex separates these species.

Brazosa encrustada Pinedo-Escatel & Dietrich, sp. nov.

(Figs. 1 E and M, 2 E–F, 7)
urn:lsid:zoobank.org:act:BDCBB0B7-98DC-4099-B63C-BC5A072C0EC3

Description. External morphology. Frontoclypeus yellowish with or without two median longitudinal lines on midline. Ocellocular area with upper half black and lower yellowish. Anteclypeus with a center yellowish line bordered with black. Lorum black with a broad black band reaching ocelli. Gena yellowish with a gold line surround-

ing inner surface. Pronotum, anterior half white and posterior dark-greenish. Forewings brownish. Ventral sclerites black. Front coxa, trochanter and femur yellowish unmarked or marked with black.

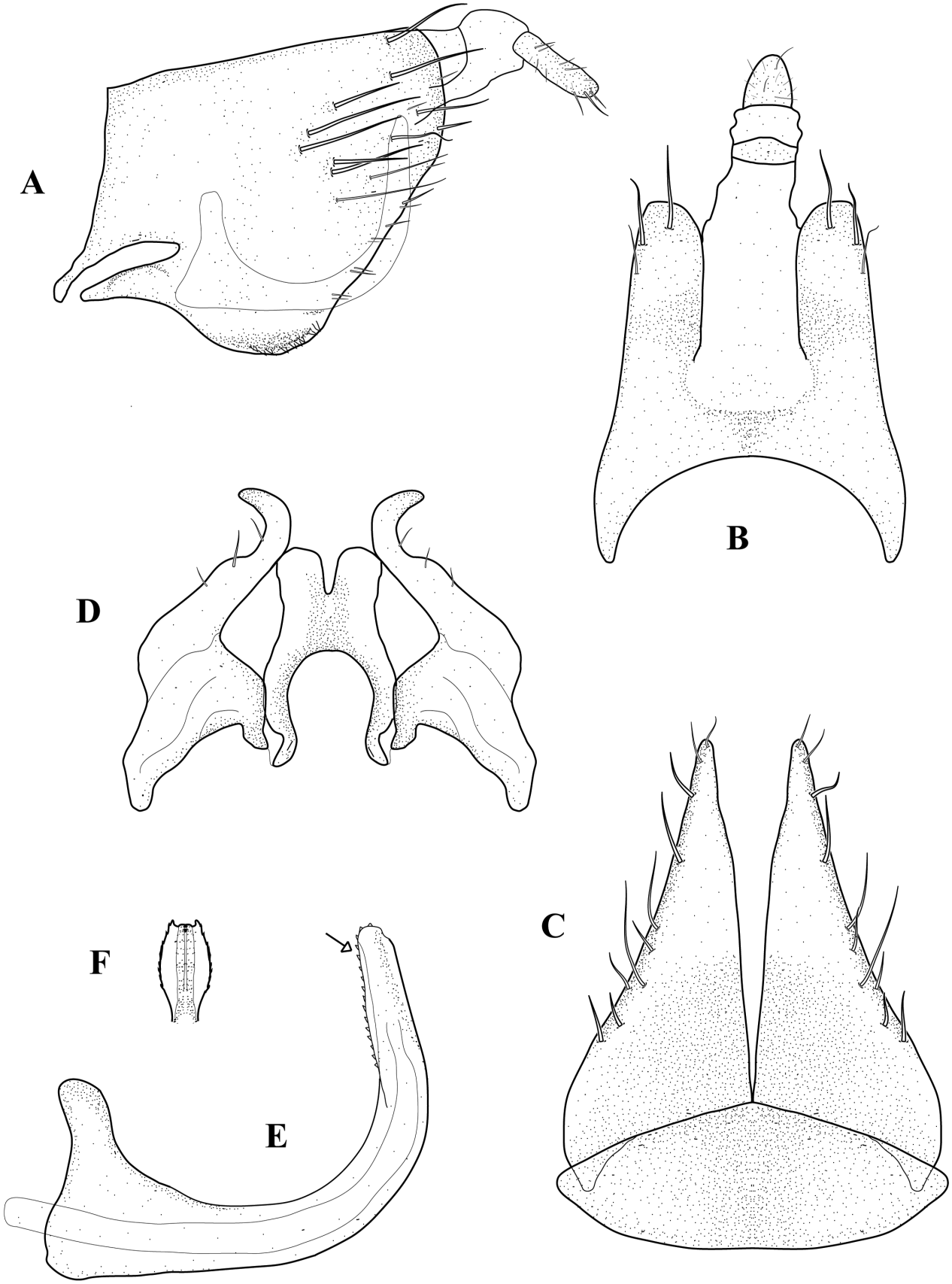

FIGURE 6. Male genitalia of *Brazosa negra* **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Apex aedeagus, caudal view.

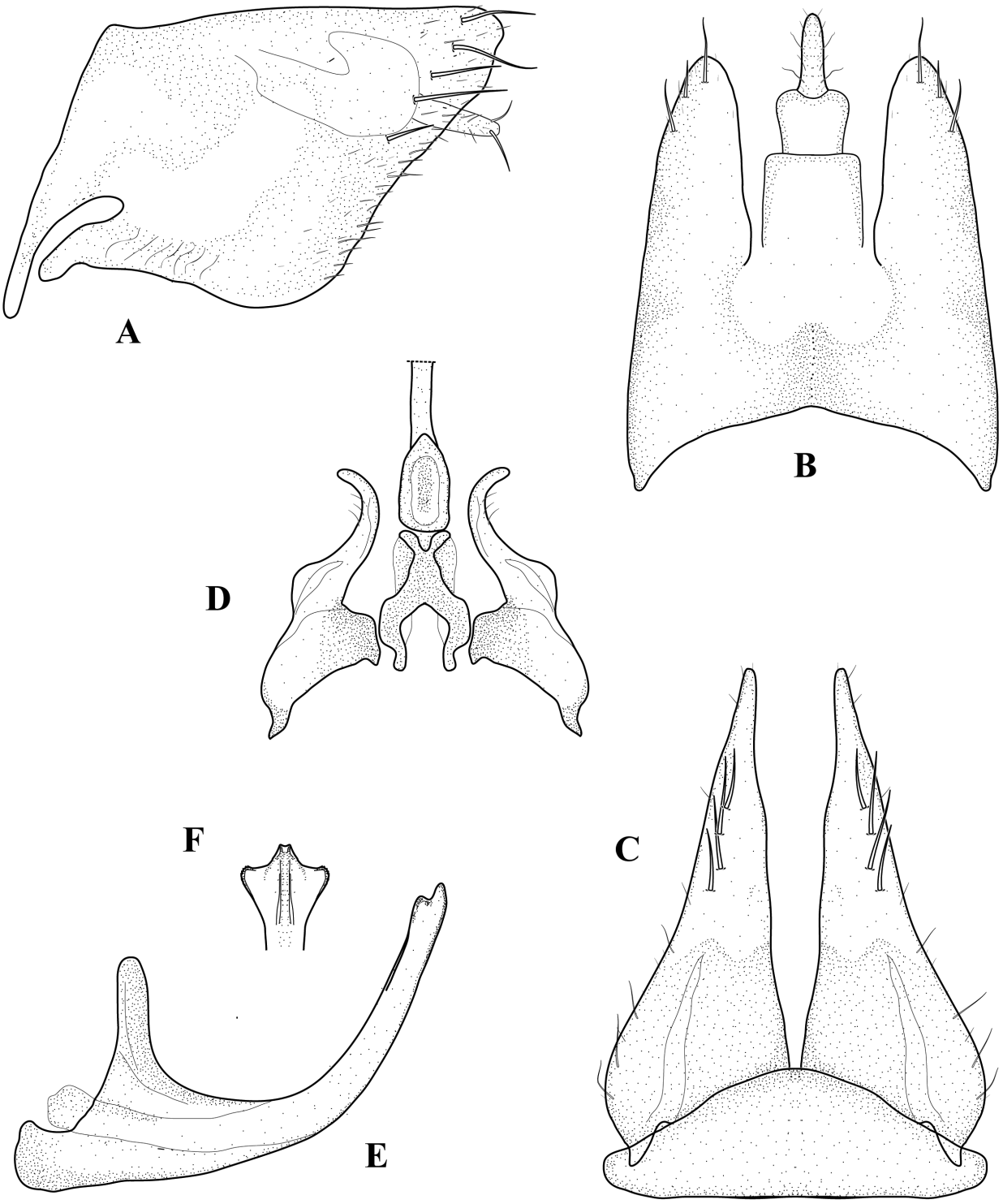

FIGURE 7. Male genitalia of *Brazosa encrustada* **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Apex aedeagus, caudal view.

Male genitalia. Pygofer as long as tall, slightly pointed, macrosetae near posterior margin with fine setae intercalated, rounded caudoventrally. Anal tube as long as wide, parallel, shorter than pygofer. Valve, short, weakly produced posteromesad. Subgenital plate long as pygofer, strongly tapered to apex, with subapical row of macrosetae slightly submarginal. Connective short, stem shorter than arms, apex truncate. Style, preapical lobe distinct and rounded, apophysis relatively long and curved. Aedeagus curved dorsocaudad, shaft slender in lateral view; apex produced, distal flange in posterior view rounded laterally with small teeth.

Female genitalia. Unknown.

Type material. Holotype ♂ (MZSP)—BRASIL, Goiás: Campinaçu, Serra da Mesa Survey, 13°52.1′S 48°23.2′W, 19–23.ii. 1996, Malaise trap. A. Sharkov and F. Ejchel Colls.; Paratypes, 1♂ (MZSP)—BRASIL, Goiás: Campinaçu, Serra da Mesa Survey, 13°52.1′S 48°23.2′W, 19–23.ii. 1996, Malaise trap. A. Sharkov and F. Ejchel Colls; 1♂ (MZSP)—BRASIL, Goiás: Campinaçu, Serra da Mesa Survey, 13°52.1′S 48°23.2′W, 19–23.ii. 1996, Malaise trap. A. Sharkov and F. Ejchel Colls.

Distribution. Brazil

Measurements. Body length, ♂ 5.1 mm, ♀ unknown

Etymology. The species name, a feminine noun, refers to the variable color of the face, using a Spanish word "*encrustada*" meaning "imbedded".

Remarks. This species is similar externally to *B. campinacu*, but it differs in the coloration of the face and the structure of the male genitalia.

Brazosa mildredireanae Pinedo-Escatel, sp. nov.

(Figs. 1 F and N, 2 G, 8)
urn:lsid:zoobank.org:act:3AC21553-2F38-4180-A002-8FC27CDB141C

Description. External morphology. Frontoclypeus whitish flanked by a dark band on basolateral suture. Anteclypeus and lorum whitish. Gena whitish with center yellowish. Pronotum greenish with two paired long broad bands, inner pair shorter than lateral. Forewings reddish. Prothorax blackish and abdomen white. Legs white.

Male genitalia. Pygofer longer than tall in lateral view, long and stout macrosetae in more or less a row subapically, fine setae through of posterior margin, strongly rounded ventrally. Anal tube 1.5x longer than wide, broader basally, slightly beyond pygofer. Valve flat, short, weakly produced posteromesad. Subgenital plate as long as pygofer, gradually tapering to apex, macrosetae uniseriate subapically. Connective, stem broader and longer than arms. Style, preapical lobe strongly rounded, apophysis long and curved, forming a 90º angle laterally. Aedeagus strongly curved dorsad, dorsal margin forming a distinct half circle, shaft slender in lateral view; apex emarginate medially; lateral flanges with teeth, projected anterad.

Female genitalia. Unknown

Type material. Holotype ♂ (SEMC)—PERU: Jauja Prov. Junin Dept., Sani Beni (80km. E. Satipo), 16–21 September 1935, Felix Woytkowski Coll. \ Snow Museum

Distribution. Peru

Measurements. Body length, ♂ 5.2 mm, ♀ unknown

Etymology. This species is named in honor of the first author's adventure partner, Mildred Ireana Torres Ramirez.

Brazosa campinacu Pinedo-Escatel & Dietrich, sp. nov.

(Figs. 1 G and O, 2 H, 9)
urn:lsid:zoobank.org:act:9A079306-92E3-4D74-B363-416B2CEB2905

Description. External morphology. Frontoclypeus yellowish with two broad median longitudinal lines on midline connected to lorum and anteclypeus. Anteclypeus yellowish basally then black. Lorum black. Gena black, yellowish distally. Pronotum dark-greenish. Forewings smoky. Ventral sclerites black. Front coxa, trochanter and femur marked with black.

Male genitalia. Pygofer as long as tall, posterior margin pointed, scattered macrosetae and several fine setae on posterior margin, weakly rounded ventrally, ventrolateral cleft bordered with long and fine setae. Anal tube 1.2x longer than wide, tapered apically, shorter than pygofer. Valve short, produced posteromesad, weakly inflated in lateral view. Subgenital plate long as pygofer, gradually tapering to apex, macrosetae uniseriate subapically. Connective, stem shorter than arms, apex slightly emarginate. Style, preapical lobe distinct and rounded, apophysis long and strongly curved. Aedeagus curved dorsad, shaft slender in lateral view; apex flange-like, emarginate medially, membranous subapically in posterior view.

Female genitalia. Unknown

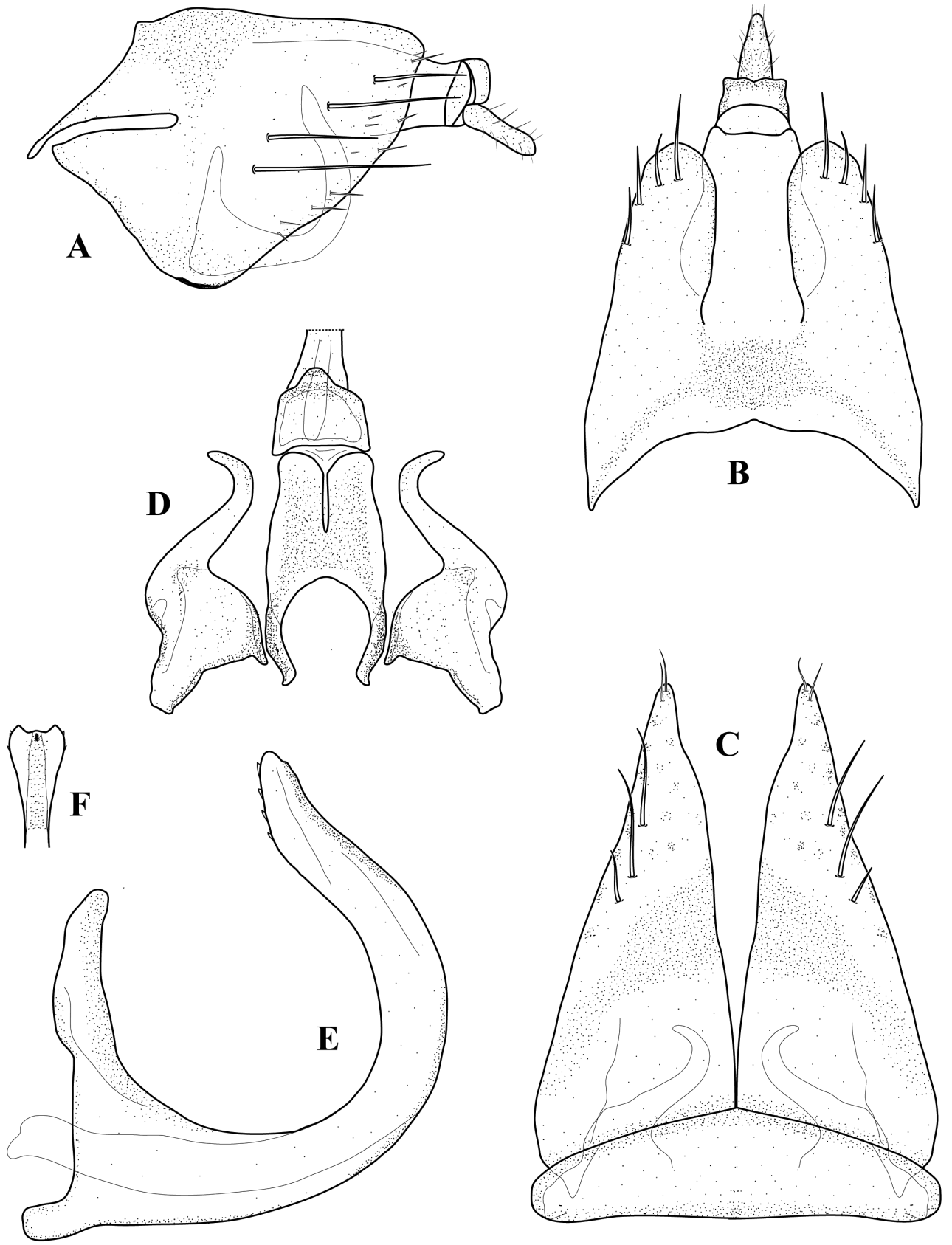

FIGURE 8. Male genitalia of *Brazosa mildredireanae* **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Apex aedeagus, caudal view.

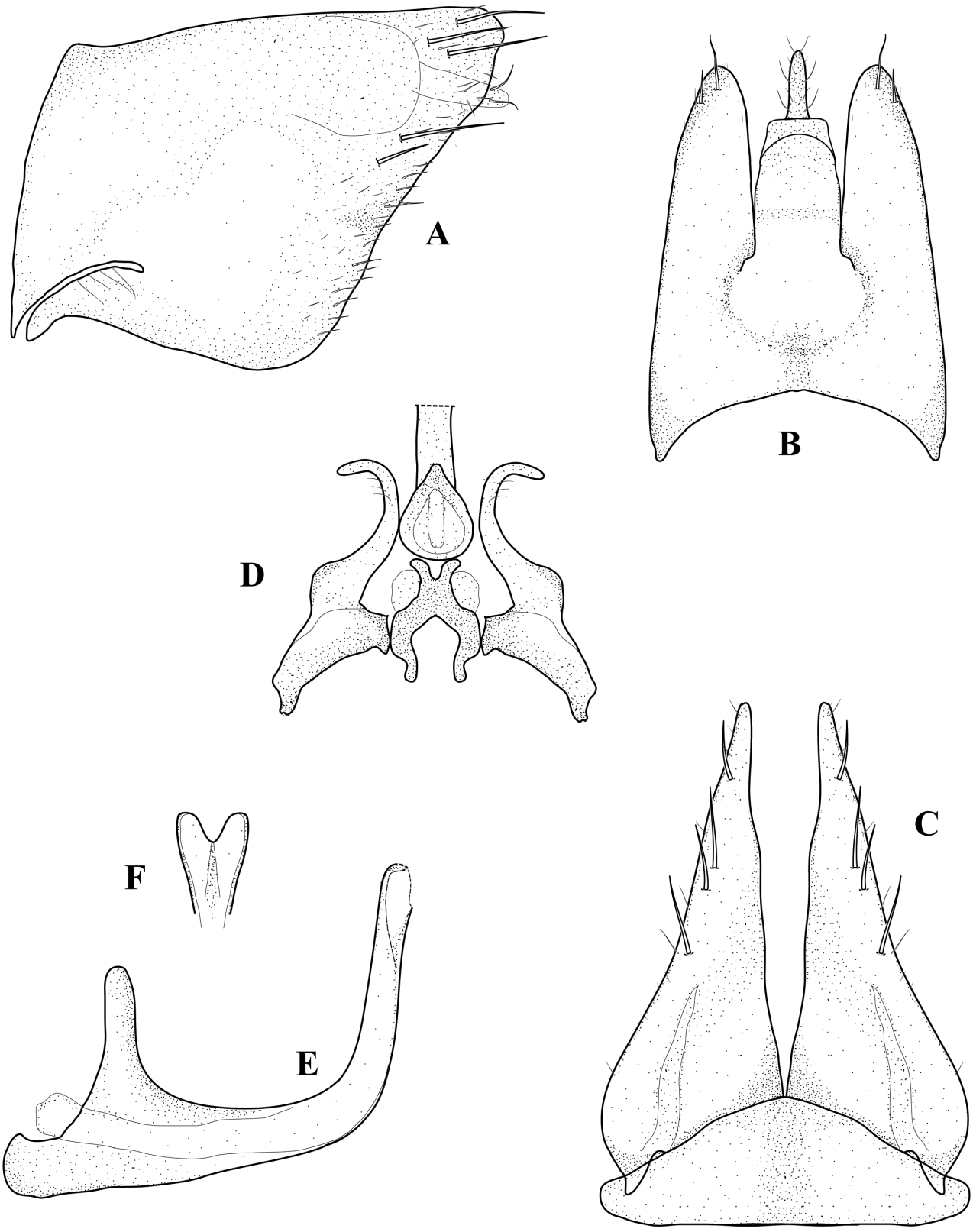

FIGURE 9. Male genitalia of *Brazosa campinacu* **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Apex aedeagus, caudal view.

Type material. Holotype ♂ (MZSP)—BRASIL, Goiás: Campinaçu, Serra da Mesa Survey, 13°52.1′S 48°23.2′W, 19–23.ii. 1996, Malaise trap. A. Sharkov and F. Ejchel Colls.

Distribution. Brazil

Measurements. Body length, ♂ 5.1 mm, ♀ unknown

Etymology. The species name refers to the type locality, Campinaçu in Serra da Mesa, Brazil. The species name is a noun in apposition.

Remarks. This species is similar in coloration to *B. encrustada*, but differs in the apex of aedeagus.

Brazosa beni Pinedo-Escatel & Dietrich, sp. nov.

(Figs. 1 H and P, 2 I, 10)
urn:lsid:zoobank.org:act:8409EDEE-EABF-4969-B4DE-BB868F6421AD

Description. External morphology. Frontoclypeus brown-yellowish. Anteclypeus yellowish centrally with two triangle spots lateroapically. Lorum yellowish laterally marked with black spots on tip and basally. Gena yellowish laterally, a broad black band next to frontoclypeal suture arising below antennal pit reaching lorum. Pronotum greenish. Ventral sclerites black. Front tarsomeres, tibia and apex of femur orange.

Male genitalia. Pygofer as long as tall, posterior margin rounded, macrosetae restricted to apical portion, fine setae scattered along posterior margin, slightly rounded ventrocaudally, some inconspicuous teeth on inner margin. Anal tube 2x longer than wide, parallel, slightly longer than pygofer. Valve broader than long, angulately projected posteromesad. Subgenital plate slightly shorter than pygofer, row of 4–5 somewhat fine macrosetae subapically. Connective, stem broad, shorter than arms. Style, preapical lobe very short and somewhat rounded, apophysis short and curved, apex wide. Aedeagus curved dorsad, shaft slender in lateral view; apex weakly pointed; apical flanges with teeth, projected posterad.

Female genitalia. Unknown

Type material. Holotype ♂ (SEMC)—BOLIVIA: El Beni, El Porvenir Stn. NE. of San Borja, 5 August 1988 \ ex., malaise trap, Robert W. Brooks, BIOLAT-SI/MAB \ Snow Museum

Distribution. Bolivia

Measurements. Body length, ♂ 4.9 mm, ♀ unknown

Etymology. The epithet name is Latinized based on the region of the type locality, El Beni, Bolivia. The species name is a noun in apposition.

Remarks. This species is superficially similar to *B. negra*, but it can be easily distinguished by the apex of the aedeagus.

Spaltumtettix Pinedo-Escatel & Dietrich, gen. nov.

(Figs. 2 J–K, 11 A–B, 12 A and C, 14–18, 31 B)
urn:lsid:zoobank.org:act:6AC34C29-B662-4FDD-AEBC-36FC8C826B64

Type species. *Brazosa caesarea* Linnavouri & Heller, 1961

Description. Diagnosis. Dorsal coloration yellowish-ochraceous and forewings with orange bands. Crown short, arched above eyes. Pronotum convex with strong lateral carina. Forewings without extra crossveins; anal veins fused; Cs-Pcu with 1 crossvein; Pcu-A1 crossveins absent. Front tibia formula 1+5; AM1 position at middle. Pygofer without or posterad processes; valve fused with subgenital plate: aedeagus without or with apical processes; first valvula dorsal sculpturing strigate (Table 1).

External morphology. Moderately robust and large leafhoppers (8.8–10.2 mm), general coloration yellowish-ochraceous in female to greenish in male; live specimens green with orange markings. Male crown, pronotum, mesaepisternum, and scutellum with orange markings (faded in some specimens); crown with pair of submedial orange spots, pronotum with two pairs of orange spots, forewing translucent with indistinct pigmentation except vein CuA and fused claval veins bright orange; venter stramineous. Head wider than pronotum. Crown short, relatively flat, anterior and posterior margins parallel, interocular width less than twice eye width, transition of crown to face bluntly angled, texture shagreen. Ocellocular area parallel; lateral frontal sutures subparallel, extended to ocelli.

Ocelli on anterior margin of head, separated from eyes by one ocellar diameter. Antennal ledge obsolete, antennal base close to lower corner of eye, antenna length 1.1x width of head. Frontoclypeus moderately narrow, not tumid

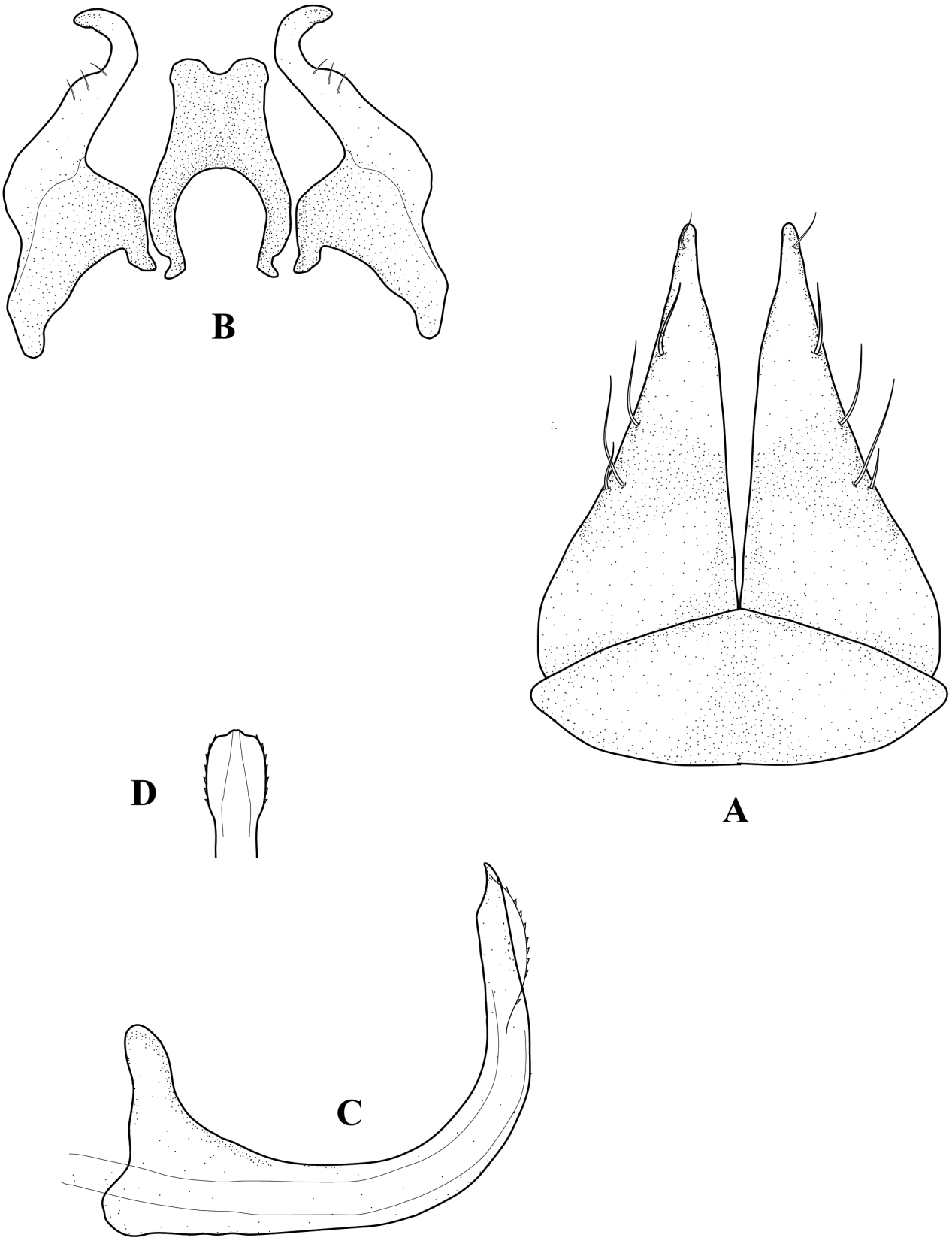

FIGURE 10. Male genitalia of *Brazosa beni* **sp. nov.** (**A**) Valve and subgenital plates, ventral aspect; (**B**) Style and connective, dorsal aspect; (**C**) Aedeagus, lateral aspect; (**D**) Apex aedeagus, caudal view.

in lateral view, parallel sided, fine erect seta present next to frontoclypeal suture. Anteclypeus widened apically with fine microsetae, apex slightly surpassing natural curve of gena. Lorum wider than anteclypeus near base, extended to lower margin of face. Gena slightly incised laterad, with fine microsetae basad of lorum and anteclypeus. Rostrum short, tapered, not extended beyond front trochanters.

Pronotum convex, anterior margin evenly rounded, posterior margin only slightly concave, lateral margin carinate, shorter than half eye width. Scutellum not protuberant. Forewing macropterous, translucent, appendix restricted to anal margin, apex rounded, without extra crossveins, three anteapical cells present, outer apical cell moderately large with apex delimited by crossvein, apical cells subequal in width, inner anteapical cell open (without m-cu2 crossvein), vein CuA very close to claval suture (brachial cell unusually narrow); clavus with crossvein connecting Pcu to claval suture, Pcu and A1 completely confluent throughout length, combined vein distinctly sinuate. Hind wing venation fully developed, without pigmentation, RP-MA and MP-CuA each separated by crossvein. Front femur with long AM1 at mid-height, IC setae long and thin (15–21), row AV with short stout setae (18–26), AV1 poorly differentiated from IC row. Front tibia dorsal macrosetal formula 1+5 (AD+PD), PV with multiple macrosetae. Mesotrochanter with more than one stout seta apically. Mesofemur row AV with short stout setae. Hind femur macrosetal formula 2+2+1, without extra setae basad of usual set. Metatarsomere I longer than metatarsomeres II and III combined, not expanded apically, plantar setae simple, pecten with 3 platellae and inner apical setae tapered.

Male genitalia. Apodemes of sternite II inconspicuous. Basolateral pygofer apodemes absent. Pygofer moderately long, triangular, longest along dorsal margin with short, well-sclerotized band dorsally at base, broadly incised below apex or not, without macrosetae, only fine setae concentrated on incised posterior margin, basolateral cleft present, with well sclerotized process or thickened area on lobe posterodorsally. Anal tube very long and narrow, fully sclerotized dorsally. Valve fused to subgenital plates, articulated with pygofer, with strong basolateral constriction delimiting point of fusion with plates. Subgenital plates very long, slender, fused to each other basally, free distally, extended beyond pygofer, slightly compressed, rounded apically, with several stout setae in single sublateral row preapically. Connective Y-shaped, anterior arms only slightly separated anteriorly, stem long, extended dorsad. Style broadly bilobed basally, median basal lobe strongly sinuate and elongated dorsad, preapical lobe reduced, apophysis elongate, curved mesad then hooked laterad at apex, apex pointed or rounded. Aedeagus long, atrium well developed but not substantially wider than shaft, preatrium poorly developed; shaft tubular, curved dorsad, with or without distal processes, gonoduct not sclerotized, gonophore apical.

Female genitalia. Pygofer conical, posterior margin rounded, long macrosetae distributed near posterior margin, stout setae concentrated near midlength. Ovipositor slightly protruding beyond pygofer apex. First valvula, ramus convex, dorsal sculpturing pattern strigate, reaching dorsal margin, ventroapical sculpturing restricted to apical portion. Second valvula, slender and evenly curved throughout length, with numerous subquadrate dorsal teeth along distal third, teeth serrated. Third valvula, with basal half narrow and apical half abruptly expanded, apex broad with few small setae on apical portion. Sternite VII greatly enlarged, longer than wide, compressed and directed downwards, tip with very prominent ventral projection preapically in lateral view, apex slightly notched. Eighth sternite well-sclerotized, attached at midlength of sternite VII.

Distribution. Ecuador and Peru

Habitat. Amazonian rainforest

Etymology. The genus name refers to its extravagant genitalia, using the combination of Latin words “spatha” (spatula) and “multum” (long), ending with “tettix”, a common suffix of leafhopper names. Gender: masculine.

Remarks. This genus is similar to *Brazosa*, which it resembles externally in having a very short crown and prominent orange dorsal markings but is larger and more elongate and differs in the male genitalia including the large and partly exposed aedeagus.

Species of the genus *Spaltumtettix*

Spaltumtettix caesareus (Linnavouri & Heller, 1961) (Peru and Ecuador **nov. rec.**), **comb. nov.**
Spaltumtettix coloradus Pinedo-Escatel & Dietrich, **sp. nov.** (Peru)

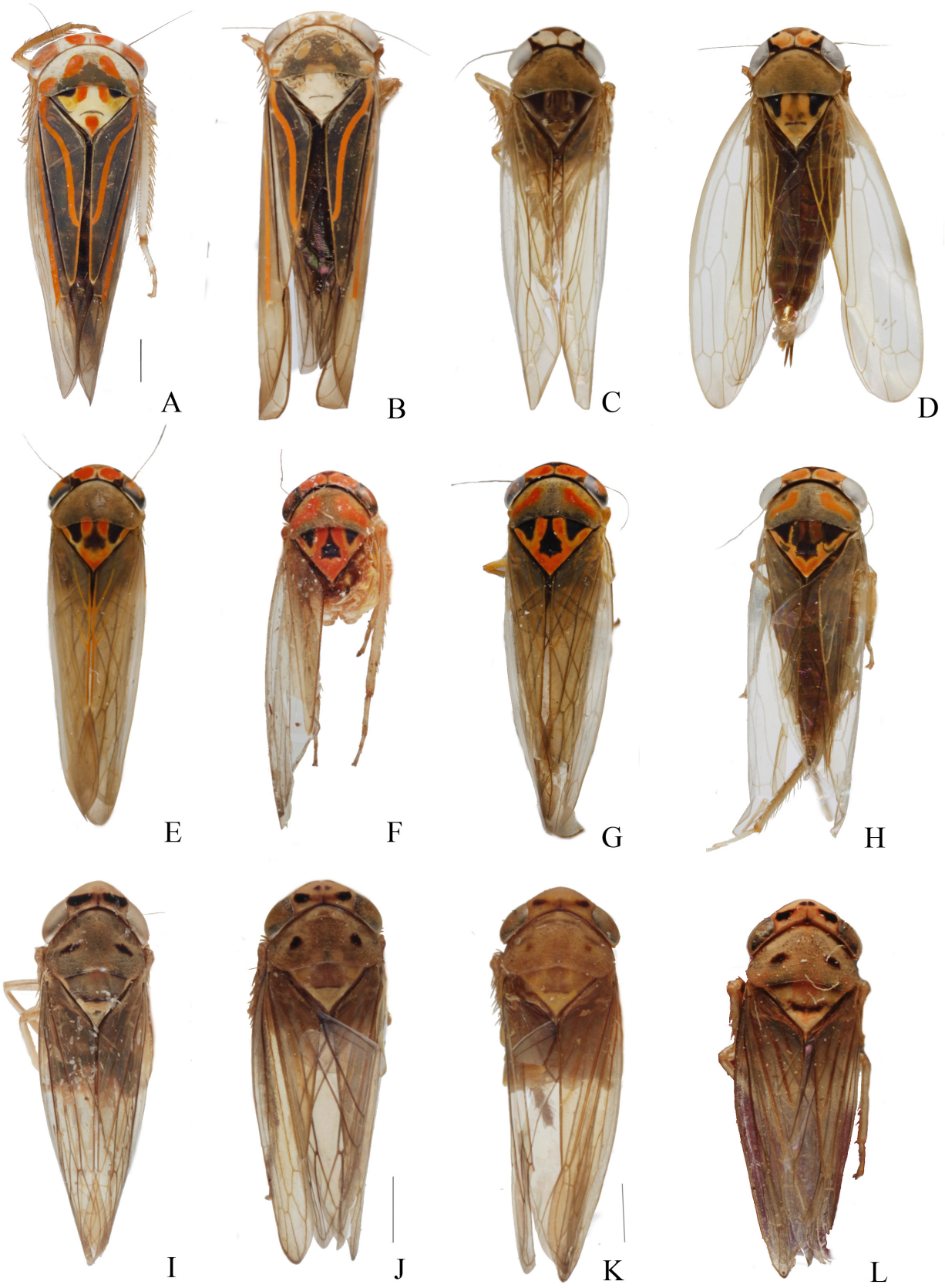

FIGURE 11. Dorsal habitus. (**A**) *Spaltumtettix coloradus* **gen.** et **sp. nov.**, male. (**B**) *S. caesareus* **gen.** et **comb. nov.**, female; (**C**) *Pseudonapo waorani* **gen.** et **sp. nov.**, male; (**D**) *P. waorani* **gen.** et **sp. nov.**, female; (**E**) *P. huanucensis* **gen.** et **sp. nov.**, male; (**F–H**) *Napo brazosellus*; (**F**) holotype; (**G**) male; (**H**) female; (**I**) *Zabrosa amazonensis*, male; (**J–K**) *Z. sexpunctata*; (**J**) male; (**K**) female; (**L**) *Z. unicampi*, male (designated paratype of *Z. aquareza*).

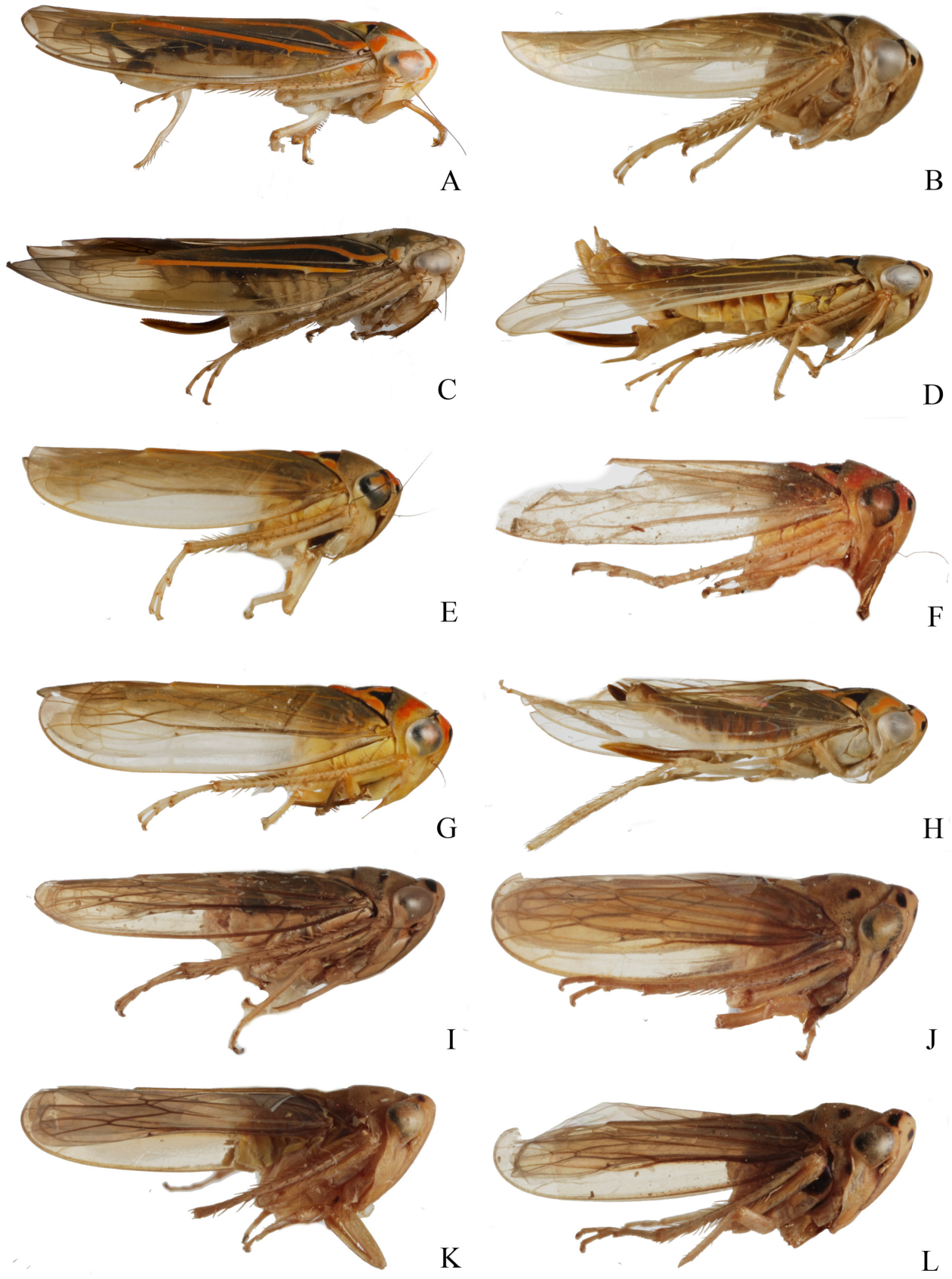

FIGURE 12. Lateral habitus. (**A**) *Spaltumtettix coloradus* **gen.** et **sp. nov.**, male; (**B**) *Pseudonapo waorani* **gen.** et **sp. nov.**, male; (**C**) *S. caesareus* **gen.** et **comb. nov.**, female; (**D**) *P. waorani* **gen.** et **sp. nov.**, female; (**E**) *P. huanucensis* **gen.** et **sp. nov.**, male; (**F**–**H**) *Napo brazosellus*; (**F**) holotype; (**G**) male; (**H**), female; (**I**) *Zabrosa amazonensis*, male; (**J**–**K**) *Z. sexpunctata*; (**J**) male; (**K**) female; (**L**) *Z. unicampi*, male (designated paratype of *Z. aquareza*).

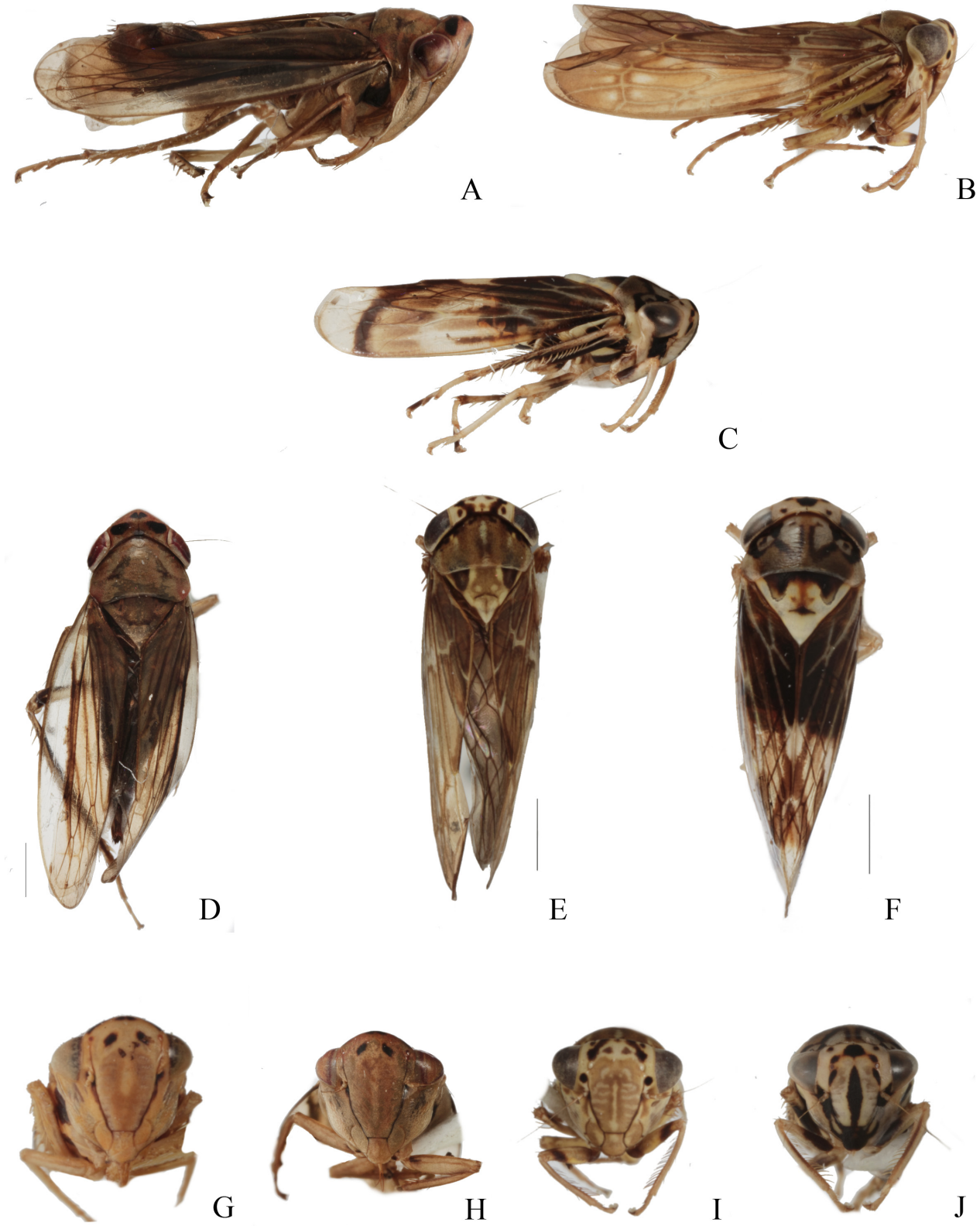

FIGURE 13. Lateral, dorsal, and anterior habitus. (**A**) *Zabrosa unicampi*, female, lateral aspect; (**B**) *Pseudalaca multipunctata*, male, lateral aspect; (**C**) *Goiattus reyesi* **gen.** et **sp. nov.**, male, lateral aspect; (**D**) *Z. unicampi*, female, dorsal aspect; (**E**) *P. multipunctata*, male, dorsal aspect; (**F**) *G. reyesi* **gen.** et **sp. nov.**, male, dorsal aspect; (**G**) *Z. unicampi*, male (designated paratype of *Z. aquareza* **syn. nov.**), anterior view; (**H**) *Z. unicampi*, female, anterior view; (**I**) *P. multipunctata*, male, anterior view; (**J**) *G. reyesi* **gen.** et **sp. nov.**, male, anterior view.

Key to species of *Spaltumtettix*

1 Aedeagus with medial processes, apex bifid (Fig. 14 F and G) . . . . . ***coloradus*** Pinedo-Escatel & Dietrich, **sp. nov.**

- Aedeagus with minute apical processes, apex blunt (Fig. 17 B and C) . . . . . ***caesareus*** Linnavuori & Heller, **comb. nov.**

***Spaltumtettix coloradus* Pinedo-Escatel & Dietrich, sp. nov.**
(Figs. 2 J, 11 A, 12 A, 14–16, 31 B)
urn:lsid:zoobank.org:act:1CDC51C3-E4BC-4B34-B04B-4BED637D02D3

Description. External morphology. Male face with pair of large orange submedial spots extended onto crown. Ocellocular area orange. Pronotum, anterior half ivory and posterior half greenish, medial orange spots much larger and more oblong than lateral spots. Mesonotum and scutellum with three orange markings, two on anterior margin and one at rear.

Male genitalia. Pygofer with slight posterodorsal protrusion less well sclerotized than rest of lobe, apex sclerotized with large, tapered, posteroventrally directed spine on posterior margin near dorsum. Subgenital plates as long as pygofer. Style, apophysis very long with fine setae laterodorsad near apex. Aedeagus with pair of slender prepical spines arising dorsally and extended posterodistally relative to shaft but not reaching shaft apex; shaft abruptly narrowed and arched beyond base of processes in lateral view, apex bifid in posterior view, slightly expanded and rounded in lateral view.

Female genitalia. Unknown.

Type material. Holotype ♂ (USML)—PERU: Huánuco, 5km W Tingo María, Pte. Monzón, 600m, 9°19′32”S 76°1′47”W, 26 Oct 2002, R.A. Rakitov, merc. vapor light, 02-42-2; Paratypes, 4 ♂ (INHS)—PERU: Huánuco, 5km S Tingo María, Pte. Monzón, 600m, 9°20′51”S 75°58′51”W, 25 Oct 2002, C.H. Dietrich Col., mercury vapor light, 02-41-2; 1♂ (INHS)—PERU: Junin, Alto Yurinaqui, 850m, 10°46′17”S 75°9′3”W, 20 Oct 2002, C.H. Dietrich Col., 02-24-1.

Other material. Fig. 16 from iNaturalist, live specimen photographed by Prakrit Jain: PERU, Tambopata National Reserve, Tambopata Research Center, 13°05’50.8”S 69°35’50.3”W, 30-Dec-2015, Amazonian rainforest well preserved in protected area (https://www.inaturalist.org/observations/2632163).

Distribution. Peru

Measurements. Body length ♂ 8.8 mm, ♀ unknown

Habitat. Amazonian rainforest.

Etymology. The specific epithet refers to the external color pattern, is a Latinization of the Spanish adjective “coloreada”, meaning “colored”.

***Spaltumtettix caesareus* (Linnavouri & Heller), comb. nov.**
(Figs. 2 K, 11 B, 12 C, 17-18)

Brazosa caesarea Linnavouri & Heller, 1961: 11

Redescription. External morphology. Male external morphology as in *coloradus*. Pronotum greenish marked with four large orange spots. Ocellocular area only in male orange. Female, crown and scutellum ochraceous, pronotum almost fully ochraceous with minute pair of orange stripes on each laterobasal margin (rudimentary coloration matching that of male present but faded). Thorax and abdomen yellowish ventrad.

Male genitalia. Pygofer well sclerotized, without weakly sclerotized dorsoapical lobe, posterior margin with more strongly sclerotized area posteroventrally near apex, process absent. Subgenital plates more than twice pygofer length. Style apophysis greatly elongate and broadly curved following curve of subgenital plate. Aedeagus strongly and evenly curved dorsad, with pair of short lateral spines flanking gonopore apically.

Female genitalia. Pygofer conical with long setae posterad. First valvula dorsal sculpturing pattern strigate. Second valvula serrate with numerous tooth, ducts connected between each other and directed to apical portion. Third valvula punctate. Sternite VII long, broad, posterior margin slightly notched.

Distribution. Peru and Ecuador **nov. rec.**

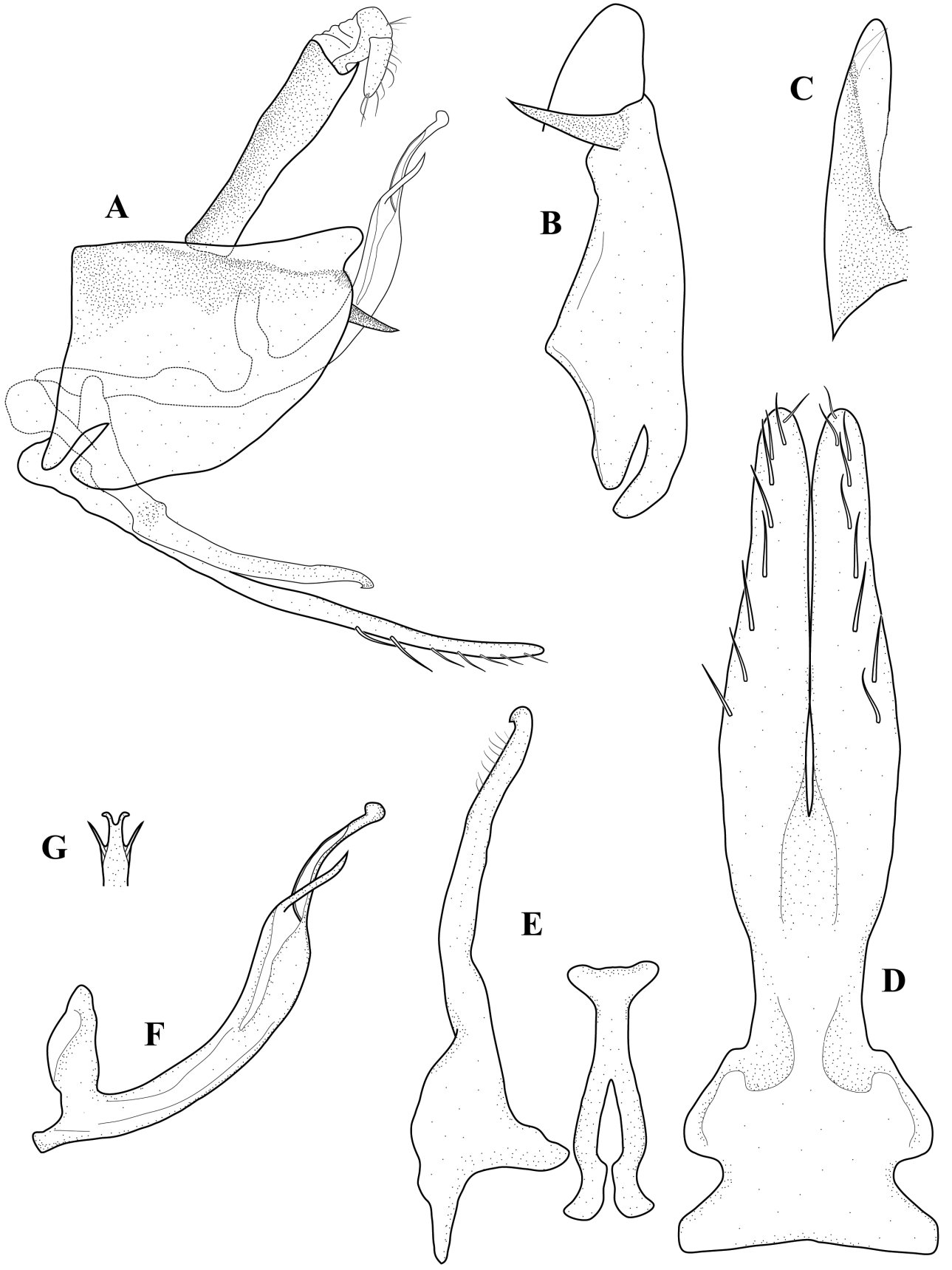

FIGURE 14. Male genitalia of *Spaltumtettix coloradus* **gen.** et **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Pygofer, ventral aspect; (**C**) Pygofer, dorsal aspect; (**D**) Valve and subgenital plates, ventral aspect; (**E**) Style and connective, dorsal aspect; (**F**) Aedeagus, lateral aspect; (**G**) Apex aedeagus, anterior view.

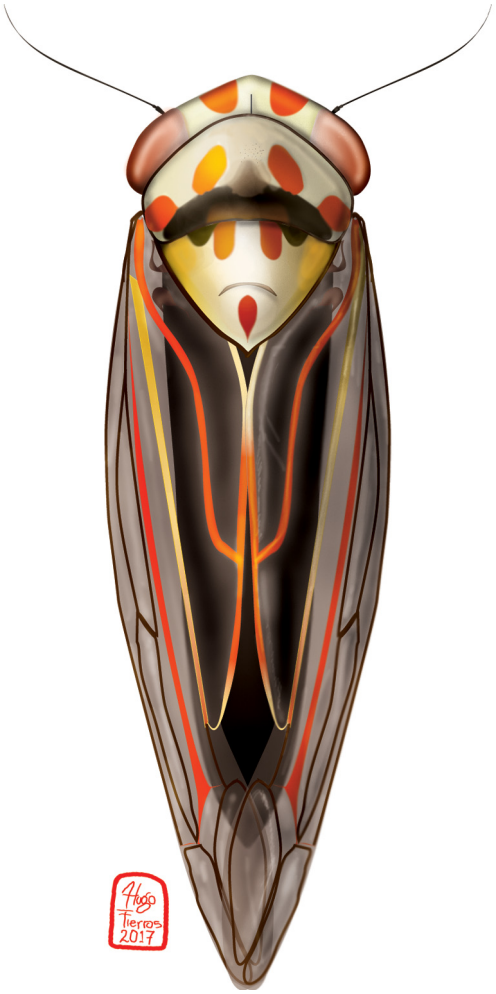

FIGURE 15. Illustration of dorsal habitus of *Spaltumtettix coloradus* **gen.** et **sp. nov.**

FIGURE 16. Photo *in situ* of live specimen, *Spaltumtettix coloradus* **gen.** et **sp. nov.**; Taken by Prakrit Jain, from iNaturalist.

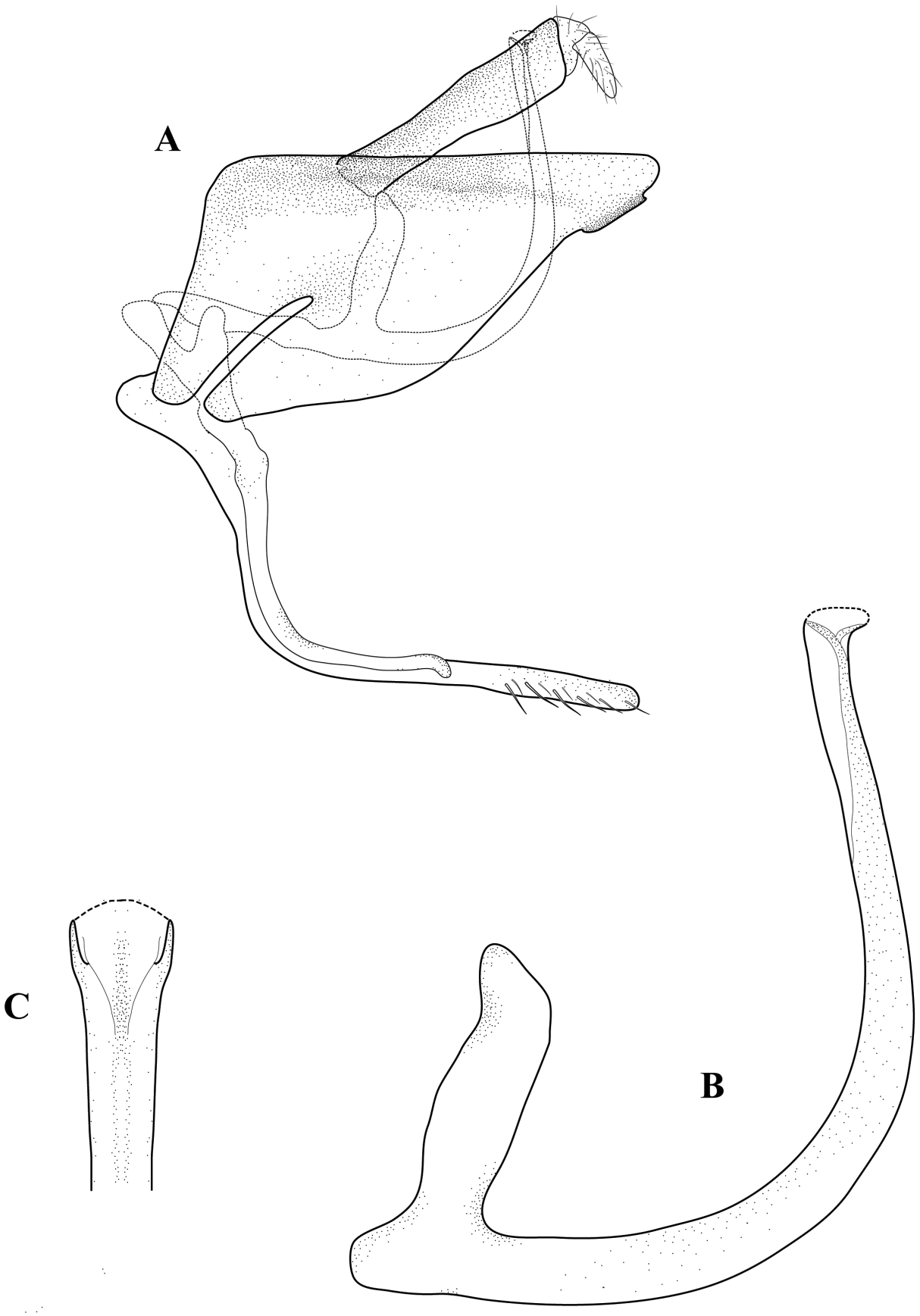

FIGURE 17. Male genitalia of *Spaltumtettix caesareus* **gen.** et **comb. nov.** (**A**) Pygofer, lateral aspect; (**B**) Aedeagus, lateral aspect; (**C**) Apex aedeagus, caudal view.

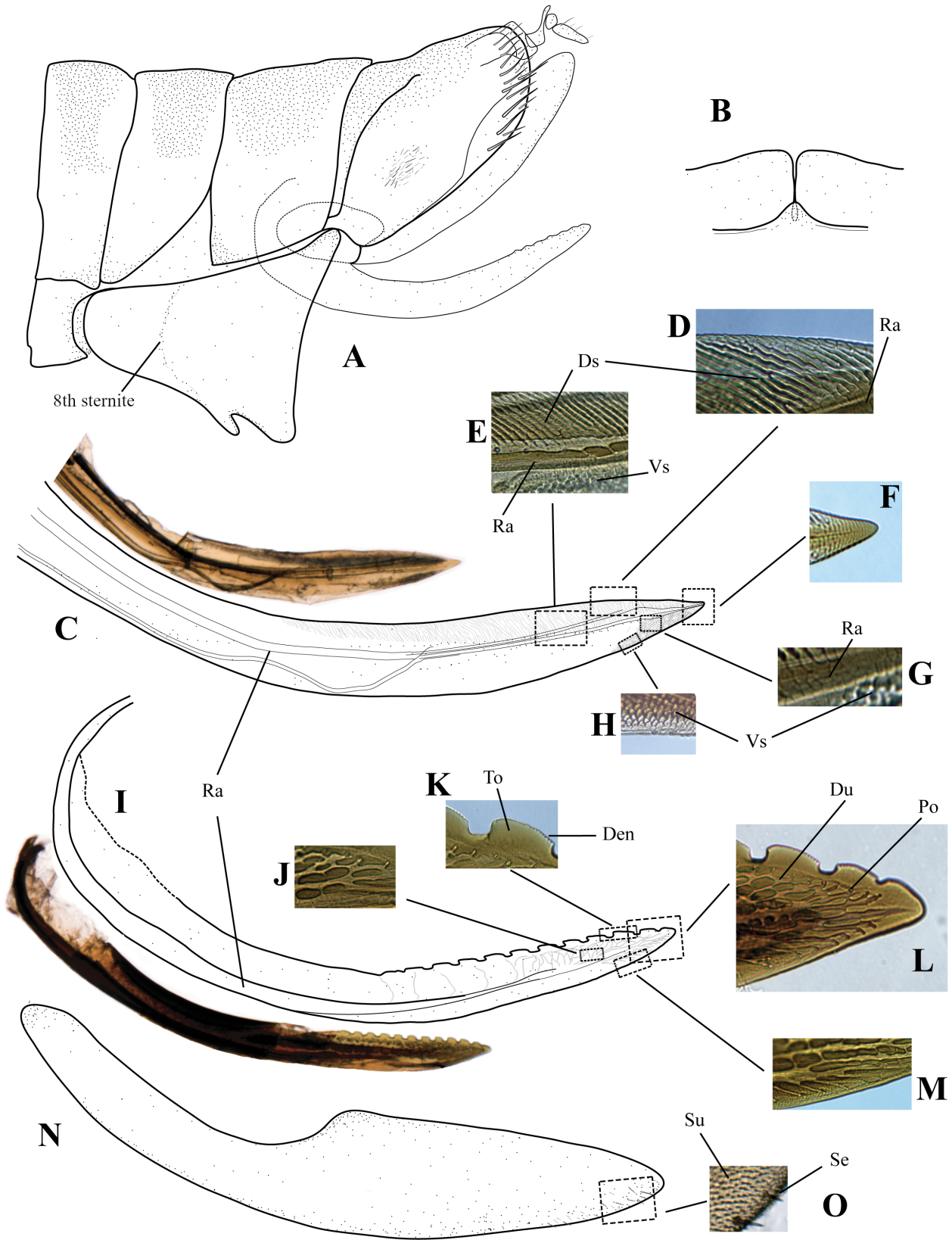

FIGURE 18. Female genitalia of *Spaltumtettix caesareus* **gen.** et **comb. nov.** (**A**) Pygofer, lateral aspect; (**B**) Sternite VII, ventral aspect; (**C**) First valvula, lateral aspect; (**D**–**H**) Details of first valvula, lateral aspect; (**I**) Second valvula, lateral aspect; (**J**–**M**) Details of second valvula, lateral aspect; (**N**) Gonoplac, lateral aspect; (**O**) Detail of gonoplac, lateral aspect. Den = denticle; Ds = dorsal sculptured area; Du = duct; Po = pore; Ra = ramus; Se = micro-setae; Su = surface of gonoplac; To = tooth; Vs = ventral sculptured area.

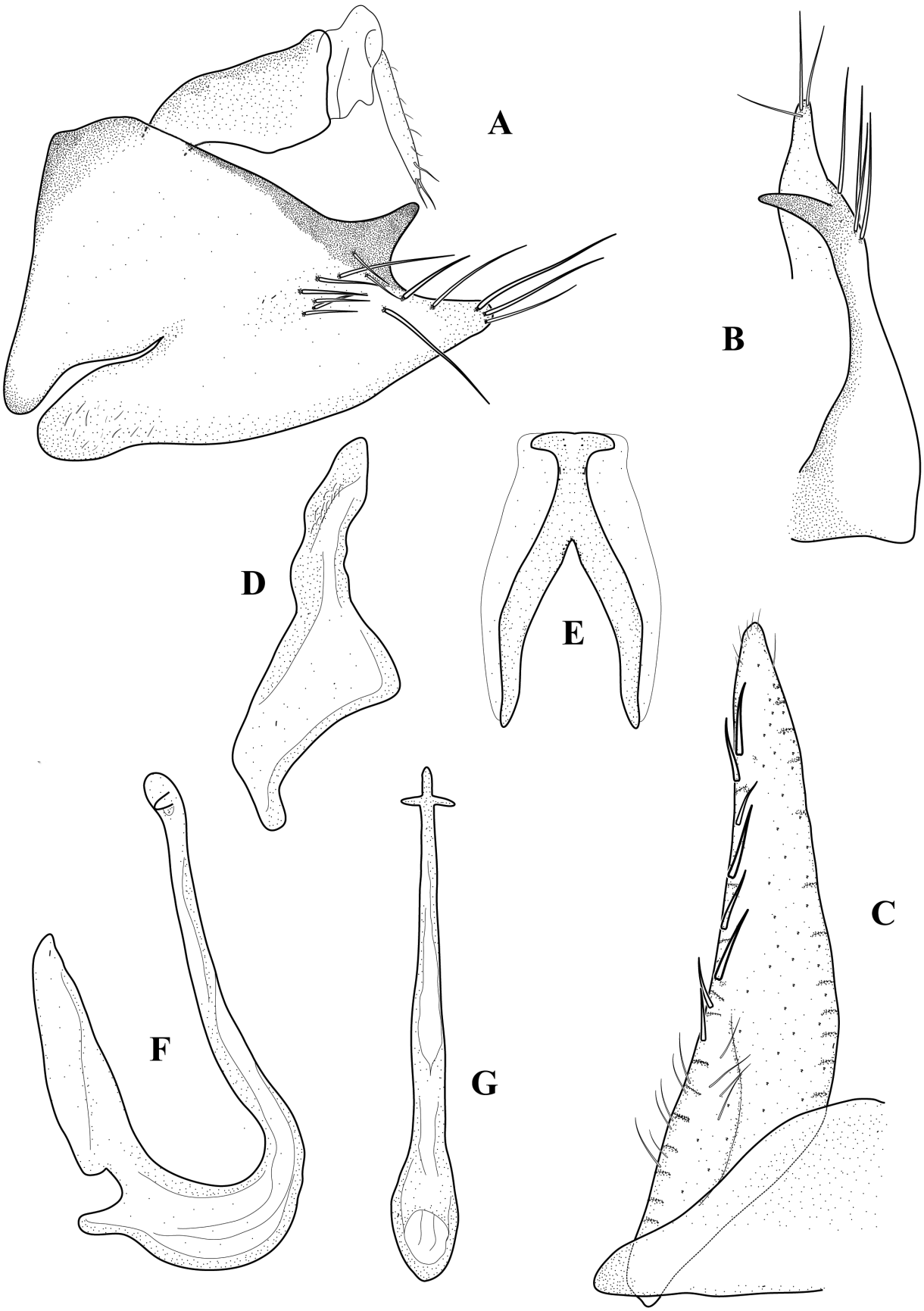

FIGURE 19. Male genitalia of *Pseudonapo huanucensis* **gen.** et **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style, left dorsal aspect; (**E**) Connective, dorsal aspect; (**F**) Aedeagus, lateral aspect; (**G**) Aedeagus, caudal view.

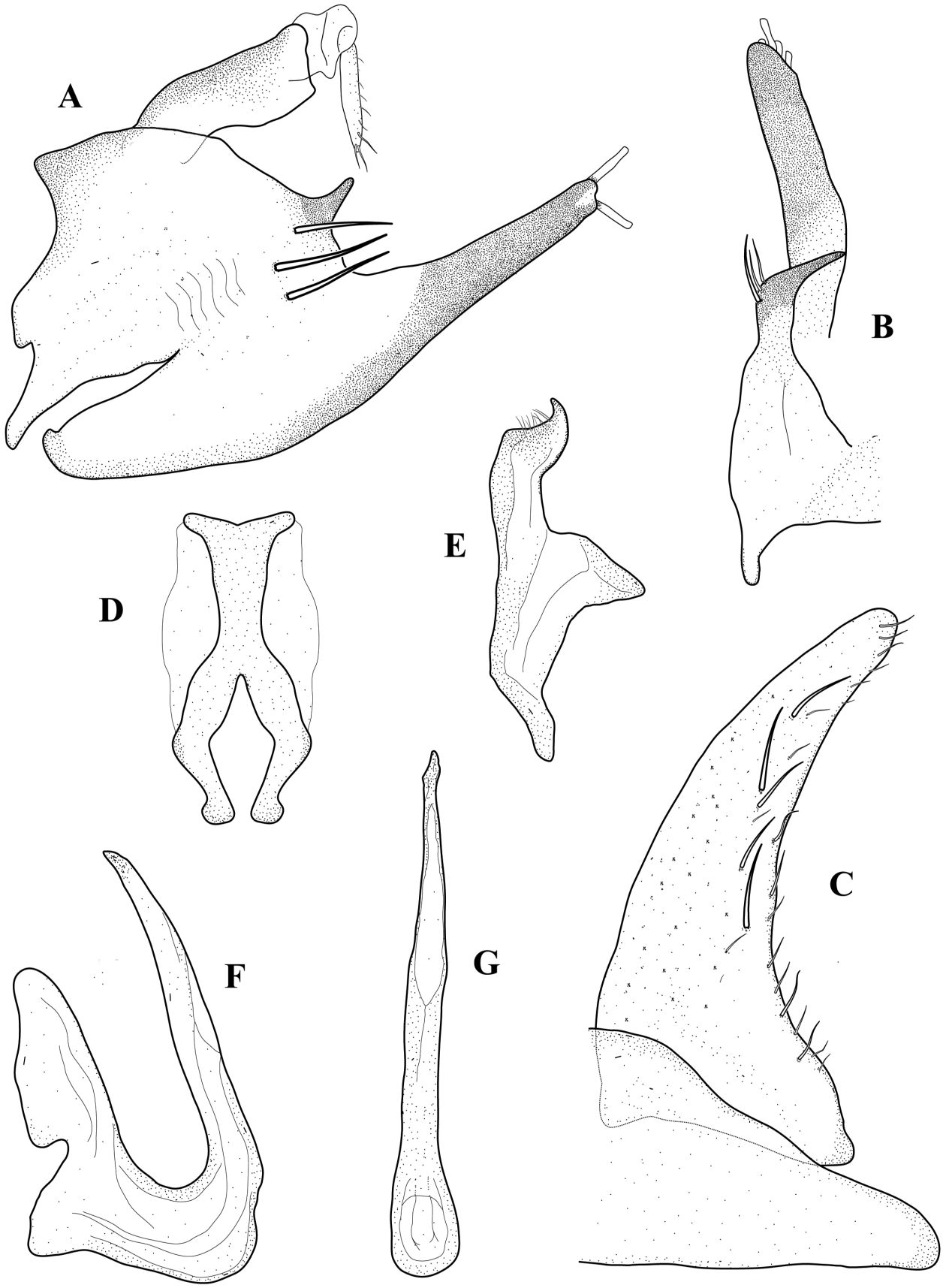

FIGURE 20. Male genitalia of *Pseudonapo waorani* **gen.** et **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Pygofer, dorsal aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style, left dorsal aspect; (**E**) Connective, dorsal aspect; (**F**) Aedeagus, lateral aspect; (**G**) Aedeagus, caudal view.

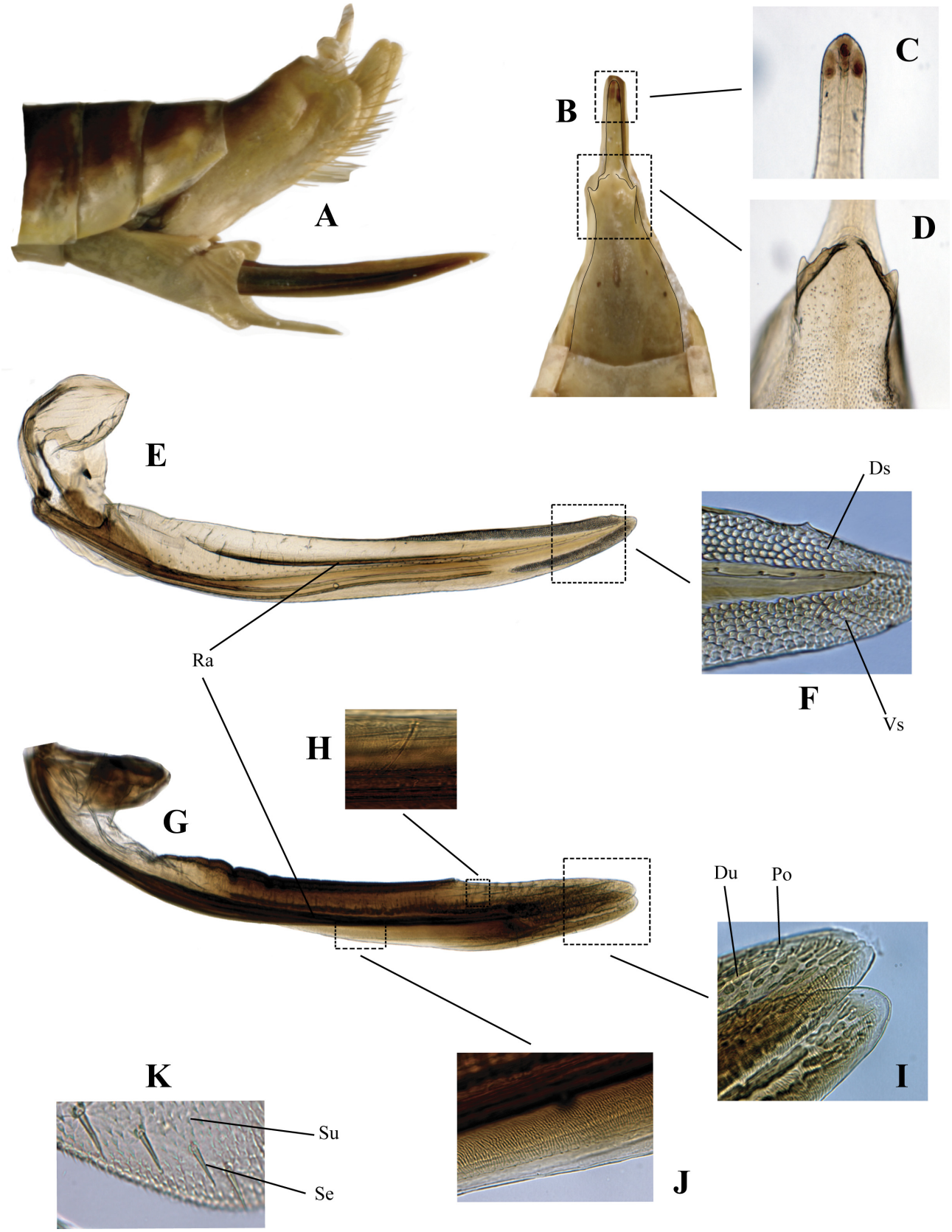

FIGURE 21. Female genitalia of *Pseudonapo waorani* **gen.** et **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Sternite VII, ventral aspect; (**C**) Apex of sternite VII, ventral aspect; (**D**) Mid-length, sternite VII, ventral aspect; (**E**) First valvula, lateral aspect; (**F**) Detail of first valvula, lateral aspect; (**G**) Second valvula, lateral aspect; (**H–J**) Details of second valvula, lateral aspect; (**K**) Detail of gonoplac, lateral aspect. Ds = dorsal sculptured area; Du = duct; Po = pore; Ra = ramus; Se = micro-setae; Su = surface of gonoplac; Vs = ventral sculptured area.

Material examined. 1♂ (MEPN)—ECUADOR: Orellana, Tiputini Biodiversity Station nr Yasuni National Park Erwin, Transect—T/8, 220–250m, 06-Feb-99, 00 37' 55"S 076 08' 39"W. T.L. Erwin et al Colls. / Lot#2070; 1♀ (MEPN)—ECUADOR: Orellana, Northem Production Facility, Reserva Etnica Waorani 220m, 00 40´00"S 076 26´00"W \ Lot#1058, 232-Feb-95, T.L.Erwin et al. Colls., Fogging terra firme forest

Measurements. Body length, ♂ 9.0 mm, ♀ 10.2 mm

Remarks. This species closely resembles *S. coloradus* externally, but it can be distinguished by the absence of a process on the male pygofer, the longer subgenital plate and style, and the aedeagal morphology.

Napo Linnavuori & DeLong

(Figs. 2 O–Q, 11 F–H, 12 F–H, 22–24, 31 E)

Napo Linnavuori & DeLong, 1976: 34
Type species. *Napo brazosellus* Linnavuori & DeLong, 1976

Redescription. Diagnosis. Overall coloration yellowish-orange. Crown short, flat between eyes. Pronotum declivous with weak lateral carina. For Forewings without extra crossveins; anal veins free; Cs-Pcu with 1 crossvein; Pcu-A1 without crossvein. Front tibia formula 1+4; AM1 position ventrally. Pygofer without processes; valve free; aedeagus without or with basal processes; first valvula dorsal sculpturing strigate-granulose (Table 1).

External morphology. Medium-sized (5.7–7.0 mm) moderately robust leafhoppers. Overall coloration yellowish-orange with bright orange markings; crown mostly bright orange, face with pair of black spots mesad of ocelli connected by more or less distinct arcuate black line that extends slightly onto crown; pronotum with pair of oblique lateral orange bands; mesonotum and scutellum mostly orange with basolateral triangles and median triangular marking black. Head wider than pronotum. Crown convex, declivous, relatively short, anterior margin broadly rounded, more or less parallel to posterior margin, width between eyes more than twice eye width, transition of crown to face bluntly angulate, shagreen. Ocellocular area parallel-sided and short, lateral frontal sutures extended to ocelli. Ocelli on anterior margin of head, separated from eyes by one ocellar diameter. Frontoclypeus, narrow, not tumid, parallel-sided through most of length, erect fine seta present laterad of frontal suture. Antennal ledges weakly developed, without carina. Anteclypeus constricted medially, widening apically, not tumid, apex slightly surpassing natural curve of gena. Lorum subequal to anteclypeus in width near base, extended nearly to lower margin of face. Gena slightly incised below eye. Rostrum short, narrow, extended slightly beyond front trochanters.

Pronotum with anterior margin parabolic; strongly convex and declivous anteriorly in lateral view; lateral margin carinate, shorter than half eye width; posterior margin slightly concave. Scutellum not protuberant. Forewing macropterous, transparent, appendix restricted to anal margin, apex rounded, without extra crossveins, with three anteapical cells, outer apical cell large with apex delimited by crossvein, apical cells subequal in width, inner anteapical cell open (without m-cu2 crossvein). Clavus without crossvein connecting Pcu to claval suture, Pcu and A1 free throughout length, crossvein absent. Hindwing venation complete, RP-MA and MP-CuA separated by crossvein. Front femur with short AM1 on ventral margin, IC setae long and thin (12–20), row AV without setae, AV1 poorly differentiated from IC row. Front tibia with dorsal macrosetal formula 1+4 (AD+PD), PV without setae. Mesotrochanter without setae. Mesofemur row AV with short, stout setae. Hind femur macrosetal formula 2+2+1, without extra setae basad of usual set. Metatarsomere I as long as II and III combined, not expanded apically, plantar setae simple, pecten with 3 platellae and inner apical setae tapered.

Male genitalia. Apodemes of sternite II inconspicuous. Basolateral pygofer apodemes absent. Pygofer elongate, incised nearly to base dorsally, posterior margin of lobe rounded, macrosetae concentrated near posterior margin, basolateral cleft longer than half of pygofer length, basolateral section ventrad of cleft extended anteroventrad into digitiform process. Anal tube short, narrow, sclerotized dorsally. Valve and subgenital plates free, articulated to pygofer. Valve with posterior margin rounded. Subgenital plate strongly constricted at basal third and gradually tapered distally, depressed, apex rounded, macrosetae in distal two thirds, uniseriate and well separated from margin; fine setae sparsely distributed laterally and dorsally. Connective elongate, Y-shaped, 3x style length; stem much longer than arms, emarginate apically. Style broadly bilobed basally, median lobe short and broad, preapical lobe absent, apophysis relatively short and strongly curved mesad, with group of fine setae dorsally near apex; apex abruptly narrowed and hooked laterad to sharply pointed tip. Aedeagus with atrium moderately enlarged relative to shaft, dorsum of atrium poorly developed, preatrium absent; shaft slender, tapered, curved dorsad, with or with-

out pair of weakly sclerotized basal processes arising dorsally at base of shaft and extended distad, apex of shaft pointed, gonoduct not sclerotized, gonopore short, preapical on ventral surface.

Female genitalia. Pygofer long, produced posterad, posterior margin rounded, with macrosetae grouped near middle of posteroventral margin. Ovipositor extended far beyond pygofer apex. First valvula ramus not strongly convex, dorsal sculpturing granulose, narrowly separated from dorsal margin through most of length, ventroapical sculpturing restricted to apical portion. Second valvula gradually broadened distad, without dorsal medial tooth, distal teeth absent. Third valvula with basal half narrow and apical half abruptly expanded, apex with setae on apical portion. Sternite VII much longer than wide, narrowing towards posterior margin, apex pointed. Eighth sternite long, well-sclerotized.

Distribution. Peru, Ecuador, and Brazil.

Species of the genus *Napo*

Napo bellus Zanol, 2006 (Brazil)
Napo brazosellus Linnavuori & DeLong, 1976 (Peru and Ecuador **nov. rec.**)

Key to species of *Napo*

1 Aedeagus with balsal processes (Fig. 22 H and I. . . . . ***brazosellus*** Linnavuori & DeLong
- Aedeagus without processes. . . . . ***bellus*** Zanol

Napo brazosellus Linnavuori & DeLong

(Figs. 2 O–Q, 11 F–H, 12 F–H, 22–24, 31 E)

Napo brazosellus Linnavuori & DeLong, 1976: 34

Redescription. External morphology. Male crown orange with a black line on anterior margin. Face with pair of black spots apically. Face entirely yellowish. Pronotum with a pair of orange arcuate stripe arising from lateral margin. Forewing translucent.

Male genitalia. Pygofer very long and rounded posteriorly with anteroventrad digitiform process, macrosetae on 1/4 of pygofer length near posterior margin. Connective stem very longer than arms. Style apophysis strongly curved mesad. Aedeagus curved dorsad with basal process, shaft tapering to apex.

Female genitalia. Pygofer subquadrate. First valvula dorsal sculpturing pattern granulose. Second valvula not serrate. Sternite VII very long and pointed.

Distribution. Peru and Ecuador **nov. rec.**

Type material examined. Holotype ♂ (OSUC)—Napo R., VI-20 Peru; Paratype 1♂ (OSUC)—same data as holotype; Paratypes 3 ♂ (OSUC)—Napo R., VII-1919 Peru [2 males without abdomen]

Other material. 1♂ (INHS)—PERU: Huánuco, 5km W Tingo María, Pte. Monzón, 600m, 9°19´32" S 76°1´47"W, 26 Oct 2002, R.A. Rakitov Col., merc. vapor light, 02-42-2 \ Specimen Imaged, JN Zahniser (habitus) genitalia; 1♂ (INHS)—PERU: Madre de Dios, Tambopata Research Center on Rio Tambopata, 622 ft. S 13°08.305 W 69°36.502, CR Bartlett Col.; 1♂, 1♀ (MEPN)—Lot #1453 ECUADOR: Orellana Transect Ent, 1km S. Onkone Gare Camp. Reserva Etnica Waorani 220m \ 7-Feb-96 00, 39´10" S 076 26´00" W, T.L. Erwin et al. Colls., t-6, Fogging, terre firme forest

Measurements. Body length, ♂ 6.5 mm, ♀ 6.9 mm

Remarks. Male specimens examined from MEPN, INHS and OSUC vary in the length and orientation of the aedeagal processes (Fig. 24 A–D), also the style and apex of the apophysis differ notably in size (Fig. 24 E–G).

Napo bellus Zanol

Napo bellus Zanol, 2006: 65

Remarks. Zanol (2006) noted that *N. bellus* is easily separated from *N. brazosellus* due to the absence of processes on the aedeagus. Aside from this reported difference in the male genitalia, this taxon appears to be identical to the type species of the genus. Zanol's specimens were not available for study but need to be re-examined because the basal aedeagal processes of *N. brazosellus* are weakly sclerotized and often not easily visible in the specimens examined. Thus, it is possible that the Brazilian specimens of *N. bellus* examined by Zanol are conspecific with the type species of *Napo*.

Distribution. Brazil

Pseudonapo Pinedo-Escatel & Dietrich, gen. nov.

(Figs. 2 L–N, 11 C–E, 12 B and D–E, 19–21, 31 C–D)
urn:lsid:zoobank.org:act:A53C95E1-F55F-45D3-89BF-26C2E479FE59

Type species. *Pseudonapo waorani* Pinedo-Escatel & Dietrich, **sp. nov.**

Description. Diagnosis. Overall coloration yellowish-ochraceous with orange marks. Crown short, flat between eyes. Pronotum declivous with weak lateral carina. Forewings without extra crossveins; anal veins free; Cs-Pcu with 1 crossvein; Pcu-A1 without crossvein. Front tibia formula 1+4; AM1 position ventrally. Pygofer with dorsal processes; valve free; aedeagus without or with apical processes; first valvula dorsal sculpturing granulose (Table 1).

External morphology. Medium-sized (5.9–7.1 mm) moderately robust leafhoppers. Overall coloration yellowish-ochraceous with bright orange dorsal markings; crown mostly orange (faded in some individuals); face with pair of black spots ventromesad of ocelli, with or without dark marking between spots; pronotum uniformly greenish brown; mesonotum and scutellum orange with basolateral triangles and median triangular area black. Head wider than pronotum. Crown convex, declivous, relatively short, anterior margin broadly rounded, more or less parallel to posterior margin, width between eyes more 1.7 times eye width, transition of crown to face bluntly angulate, shagreen. Ocellocular area parallel-sided, short, lateral frontal reaching ocelli. Ocelli on anterior margin of head, separated from eyes by 1.2 times ocellar diameter. Frontoclypeus, narrow and not tumid, parallel-sided through most of length, erect fine seta present laterad of frontal suture. Antennal ledges weakly developed, without carina. Anteclypeus narrowed medially, widening apically, not tumid, apex slightly surpassing natural curve of gena. Lorum subequal to anteclypeus in width near base, extended nearly to lower margin of face. Gena weakly incised below eye.

Pronotum with anterior margin parabolic; convex and declivous anteriorly in lateral view; lateral margin carinate, shorter than half eye width; posterior margin slightly concave. Scutellum not protuberant. Forewing macropterous, transparent, appendix restricted to anal margin, apex rounded, without extra crossveins, with three anteapical cells, outer apical cell large with apex delimited by crossvein, apical cells subequal in width, inner anteapical cell open (without m-cu2 crossvein). Clavus without crossvein between Pcu and claval suture, Pcu and A1 free throughout length, crossvein absent. Hindwing venation complete, RP-MA and MP-CuA separated by crossvein. Front femur with short AM1 on ventral margin, IC setae long and thin (14–17), row AV without stout setae, AV1 poorly differentiated from IC row. Front tibia with dorsal macrosetal formula 1+4 (AD+PD), PV without setae. Mesotrochanter with more than one stout setae. Mesofemur row AV with short and stout setae. Hind femur macrosetal formula 2+2+1, without extra setae basad of usual set. Metatarsomere I as long as II and III combined, not expanded apically, plantar setae simple, pecten with 3 platellae and inner apical setae tapered.

Male genitalia. Apodemes of sternite II inconspicuous. Basolateral pygofer apodemes absent. Pygofer moderately longer than tall, incised to near base dorsally, with processes well-sclerotized dorsally, posterior margin projected, lobe with dorsal preapical process extended posterodorsad, macrosetae reduced and concentrated nearly to processes and posterior margin, basolateral cleft shorter than half of pygofer length. Anal tube long as half-length of pygofer, broad, fully sclerotized dorsally. Valve and subgenital plates free, articulated to pygofer. Valve wider than long, posterior margin strongly rounded, articulated to pygofer. Subgenital plate flat, slender throughout its length, macrosetae uniseriate and well or not separated from margin; fine setae distributed basally. Connective short,

Y-shaped, shorter than style, arms well separated from each other, stem short and truncate. Style bilobed basally, median lobe inconspicuous or short; apophysis short, straight or strongly curved mesad and hooked with or without setae, apex blunt or pointed. Aedeagus with atrium not enlarged, atrium dorsally longer than half length of shaft, preatrium absent; shaft broad at base then slender, tapering to apex, strongly curved dorsad, without basal processes; apex of shaft pointed with or without processes, gonoduct not sclerotized, gonopore broad as shaft width subapically on ventral surface.

Female genitalia. Pygofer long, posterior margin squarish, macrosetae distributed near posteroventral margin. Ovipositor extended far beyond pygofer apex. First valvula, ramus slightly curved, dorsal and ventroapical sculpturing granulose, reaching dorsal margin, restricted to apical portion. Second valvula gradually broadened toward apex, without dorsal medial tooth, inconspicuous teeth near apex and distant teeth absent. Third valvula, basal half narrow and apical half abruptly expanded, apex with several setae on apical portion. Sternite VII much longer than wide, apex produced and rounded, medially ornate and carinate. Eighth sternite weakly sclerotized.

Distribution. Ecuador and Peru.

Etymology. The genus name is a feminine noun, a combination of prefix "pseudo" meaning "false" with "Napo", due to the morphological similarity to the latter genus.

Remarks. *Pseudonapo* is very similar to *Napo* Linnavuori & DeLong externally based on color pattern and overall structure. The male genital capsule is distinctly different from that of *Napo* in having the pygofer incised near base dorsally with dorsal processes and the aedeagus strongly curved dorsad with or witout apical processes.

Species of the genus *Pseudonapo*

Pseudonapo huanucensis Pinedo-Escatel & Dietrich, **sp. nov.** (Peru)
Pseudonapo waorani Pinedo-Escatel & Dietrich, **sp. nov.** (Ecuador)

Key to species of *Pseudonapo*

1 Section of pygofer lobe beyond dorsal process subequal to process in length (Fig. 19 A); aedeagus with small apical processes (Fig. 19 F and G) . . . . . ***huanucensis*** Pinedo-Escatel & Dietrich, **sp. nov.**

- Section of pygofer lobe beyond dorsal process much longer than process (Fig. 20 A); aedeagus without processes (Fig. 20 E and F). . . . . ***waorani*** Pinedo-Escatel & Dietrich, **sp. nov.**

Pseudonapo huanucensis Pinedo-Escatel & Dietrich, sp. nov.

(Figs. 2L, 11E, 12E, 19, 31C)
urn:lsid:zoobank.org:act:8A194372-4177-4012-80C2-B68BE2CD1B59

Description. **External morphology.** Male crown ivory-yellowish with orange spot next to each side of midline, two pair black spots near antennal margin, first touching eyes, second above ocelli. Face entirely yellowish-ochraceous except sides of frontoclypeus marked with black. Claval veins slightly infused with orange.

Male genitalia. Pygofer with dorsal process black, as long as section of pygofer lobe beyond process, macrosetae on apex. Connective arms distinctly longer than stem. Style apophysis gradually curved mesad, apex blunt. Aedeagus with pair of short preapical processes projected laterad.

Female genitalia. Unknown

Type material. Holotype ♂ (USML)—PERU: Huánuco, 5km W Tingo María, Pte. Monzón, 600m, 9°19′32"S 76°1′47"W, 26 Oct 2002, C.H. Dietrich, merc. vapor light, 02-42-1

Distribution. Peru

Measurements. Body length, ♂ 5.9 mm, ♀ unknown

Etymology. The species epithet refers to the type locality in Huánuco, Peru.

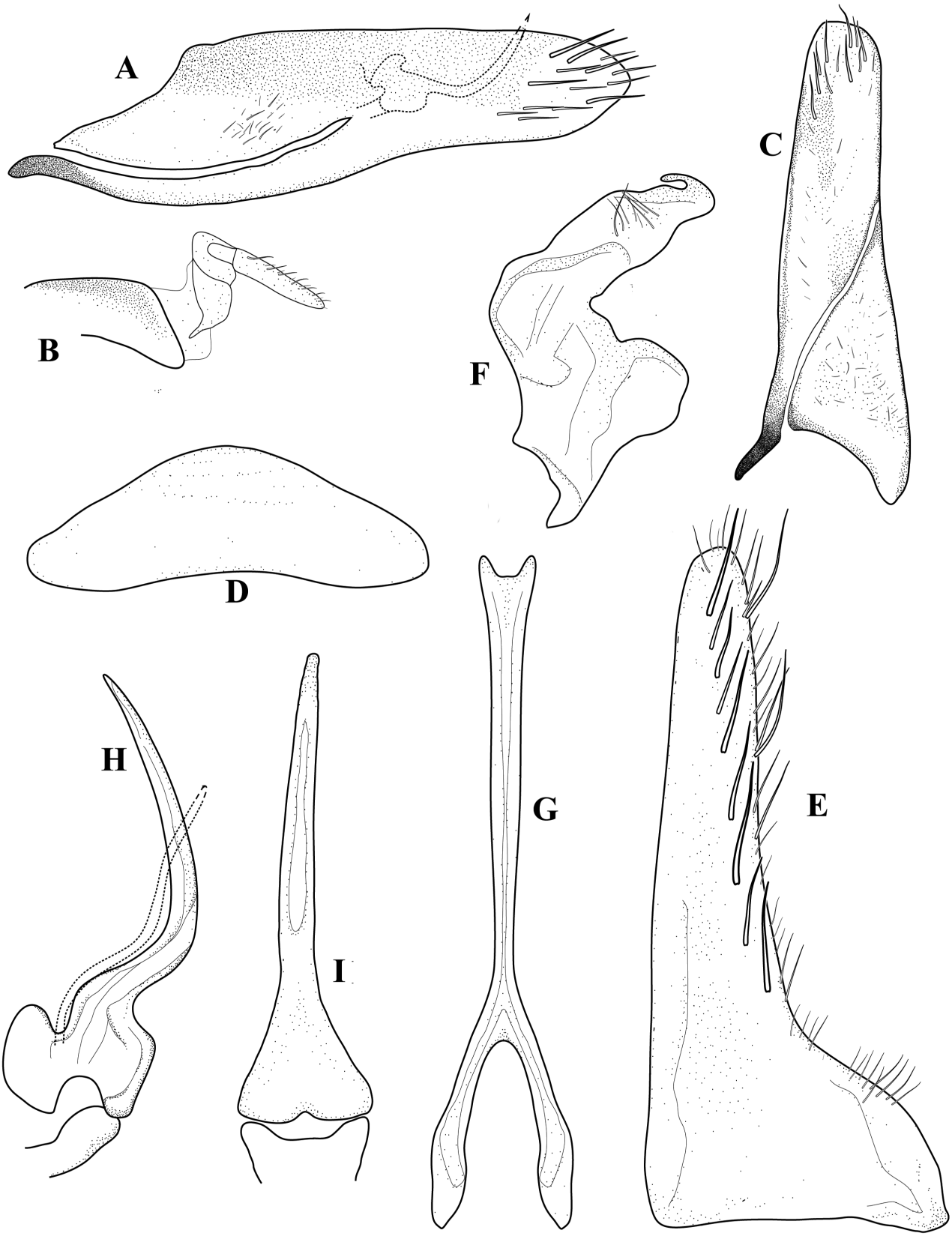

FIGURE 22. Male genitalia of *Napo brazosellus*. (**A**) Pygofer, lateral aspect; (**B**) Anal tube, lateral aspect; (**C**) Pygofer, ventral aspect; (**D**) Valve, ventral aspect; (**E**) Subgenital plates, ventral aspect; (**F**) Style, left dorsal aspect; (**G**) Connective, dorsal aspect; (**H**) Aedeagus, lateral aspect; (**I**) Aedeagus, caudal view.

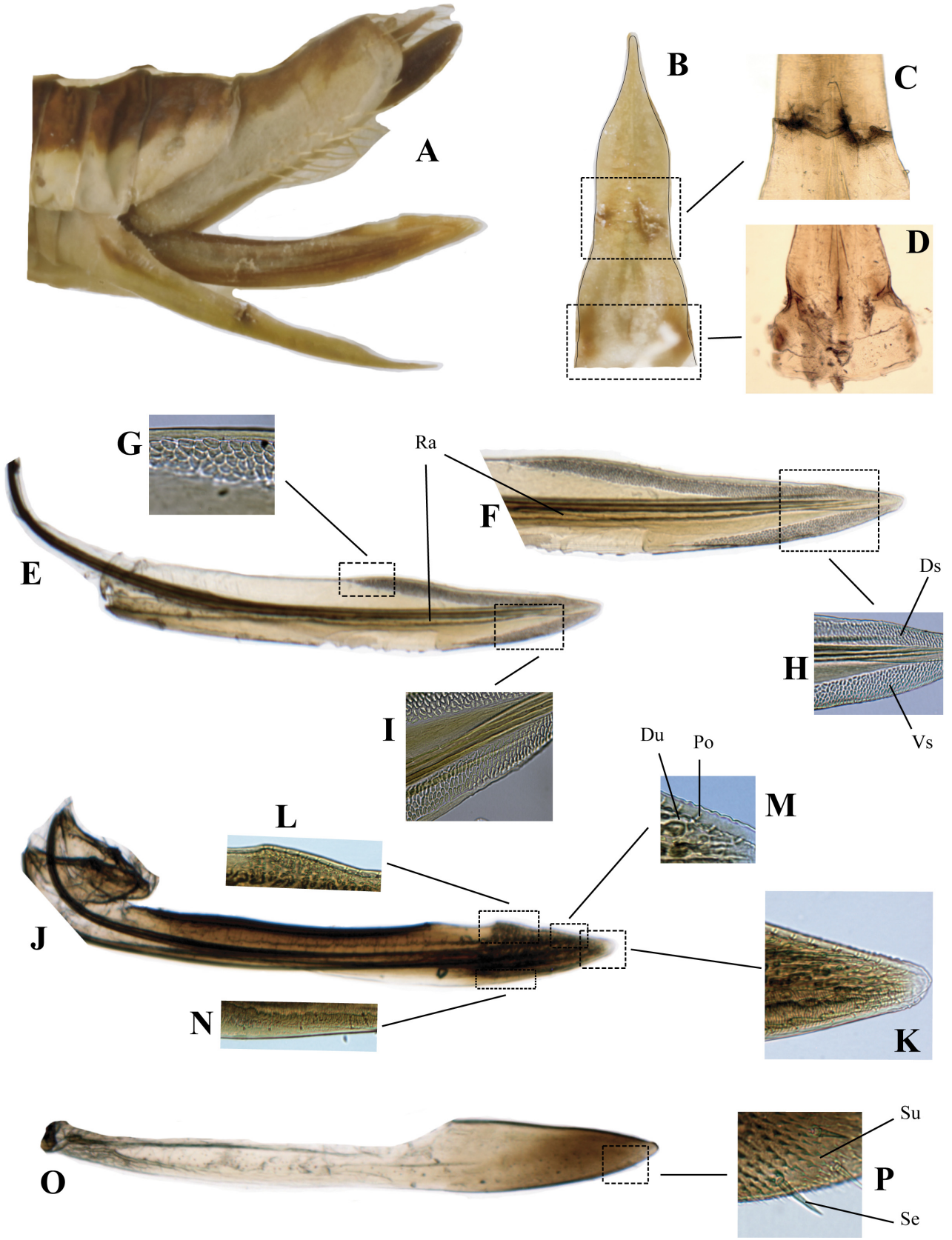

FIGURE 23. Female genitalia of *Napo brazosellus*. (**A**) Pygofer, lateral aspect; (**B**) Sternite VII, ventral aspect; (**C**) Mid-length of sternite VII, ventral aspect; (**D**) Base of sternite VII, ventral aspect; (**E**) First valvula, lateral aspect; (**F**–**I**) Details of first valvula, lateral aspect; (**J**) Second valvula, lateral aspect; (**K**–**N**) Details of second valvula, lateral aspect; (**O**) Gonoplac, lateral aspect; (**P**) Detail of gonoplac, lateral aspect. Ds = dorsal sculptured area; Du = duct; Po = pore; Ra = ramus; Se = micro-setae; Su = surface of gonoplac; Vs = ventral sculptured area.

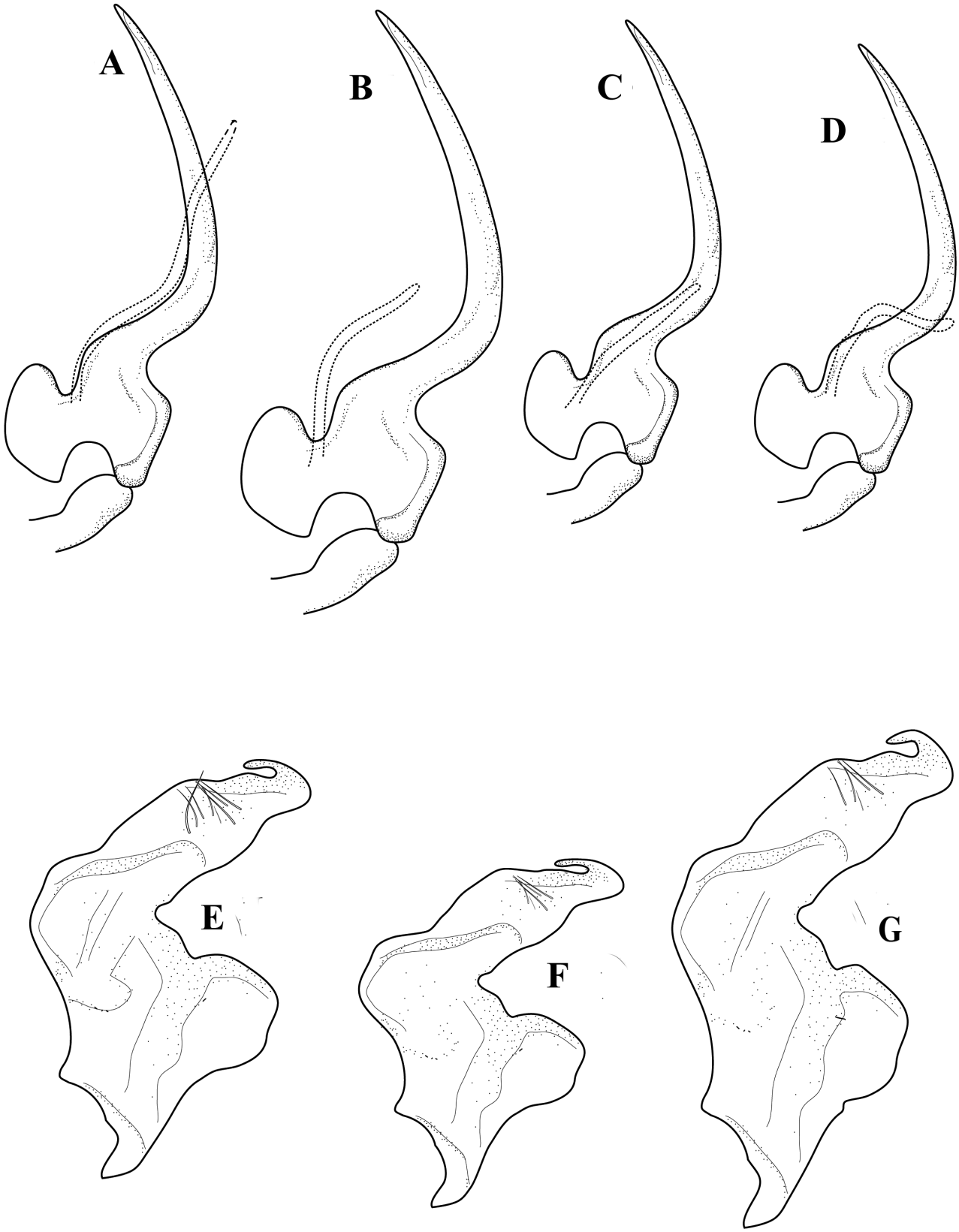

FIGURE 24. Male genitalia of *Napo brazosellus*. (**A**) Aedeagus, lateral aspect, holotype. (**B**) Aedeagus, lateral aspect, paratype; (**C**) Aedeagus, lateral aspect, from Huánuco; (**D**) Aedeagus, lateral aspect, from Orellana; (**E**) Style, left dorsal aspect, holotype; (**F**) Style, left dorsal aspect, holotype, paratype; (**G**) Style, left dorsal aspect, from Huánuco.

Pseudonapo waorani **Pinedo-Escatel & Dietrich, sp. nov.**
(Figs. 2 M–N, 11 C–D, 12 B and D, 20–21, 31 D)
urn:lsid:zoobank.org:act:653831FA-5694-4A0C-A048-0E50D0680071

Description. External morphology. General color of male same as *P. huanucensis* but lighter, with or without orange spots next to middle line. Female as in male but without orange spots. Face entirely yellowish-ochraceous except sides of frontoclypeus marked with black. Forewing veins unpigmented.

Male genitalia. Pygofer with dorsal process much shorter than section of lobe beyond process, with blunt, peglike setae at apex. Style apophysis abruptly bent mesad with posterior preapical angle and sharply pointed tip. Aedeagus without processes.

Female genitalia. Pygofer subquadrate. First valvula dorsal sculpturing pattern granulose. Second valvula not serrate. Sternite VII long, ornamented in mid-length.

Type material. Holotype ♂ (MEPN)—Lot #1455 ECUADOR: Orellana Transect Ent, 1km S. Onkone Gare Camp. Reserva Etnica Waorani 220m \ 7-Feb-96 00 39´10" S 076 26´00" W, T.L. Erwin et al. t-6, Fogging, terre firme forest; Paratypes, 1♂, 4♀ (INHS)—Lot #1455 ECUADOR: Orellana Transect Ent, 1km S. Onkone Gare Camp. Reserva Etnica Waorani 220m \ 7-Feb-96 00 39´10" S 076 26´00" W, T.L. Erwin et al. t-6, Fogging, terre firme forest; 3♀ (MEPN)—Lot #1455 ECUADOR: Orellana Transect Ent, 1km S. Onkone Gare Camp. Reserva Etnica Waorani 220m \ 7-Feb-96 00 39´10" S 076 26´00" W, T.L. Erwin et al. t-6, Fogging, terre firme forest 2♂, 4♀ (MEPN)—Lot #1575 ECUADOR: Orellana Transect Ent, 1km S. Onkone Gare Camp. Reserva Etnica Waorani 220m \ 22-Jun-96 00 39´10" S 076 26´00" W, T.L. Erwin et al. t-6, Fogging, terre firme forest; 2♂, 1♀ (INHS)—ECUADOR: Orellana Transect Ent, 1km S. Onkonegare Camp Reserva Etnica Waorani, 96 00 39´10" S 076 26´00" W \ 22-Jun-, T.L. Erwin et al. t-6, Fogging, terre firme forest, Lot #1575; 1♂ (MEPN)—ECUADOR: Orellana Transect Ent, 1km S. Onkonegare Camp Reserva Etnica Waorani, 96 00 39´10" S 076 26´00" W \ 22-Jun-, T.L. Erwin et al. t-6, Fogging, terre firme forest, Lot #1575 1♀ (MEPN)—ECUADOR: Orellana Transect Ent, 1km S. Onkonegare Camp Reserva Etnica Waorani, 96 00 39´10" S 076 26´00" W

Distribution. Ecuador

Measurements. Body length, ♂ 6.0 mm, ♀ 7.1 mm

Etymology. The species epithet refers to the Reserva Etnica Waorani, Ecuador, where the holotype was collected. The species name is a noun in apposition.

Zabrosa **Oman**
(Figs. 2 R–T, 11 I–L, 12 I–L, 13 A, D and G–H, G 25–28, 31 F)

Zabrosa Oman, 1949: 128
Type species. *Thamnotettix amazonensis* Osborn, 1923

Redescription. Diagnosis. Overall coloration yellowish. Crown produced, arched above eyes. Pronotum convex with strong lateral carina. Forewings without extra crossveins; anal veins free; Cs-Pcu without or with 1 crossvein; Pcu-A1 without crossvein. Front tibia formula 3+4; AM1 position at middle. Pygofer with ventral processes; valve free; aedeagus without processes; first valvula dorsal sculpturing granulose or strigate (Table 1).

External morphology. Robust, medium-sized (5.9–7.4 mm) leafhoppers, overall coloration yellowish with symmetrical black marks on crown, face and pronotum; face with pair of oblong black spots mesad of ocelli; crown with one or two pairs of spots; pronotum with pair of sublateral spots; forewing smoky hyaline without distinct markings. Head wider than pronotum. Crown short, strongly arched above eyes and anterior margin of pronotum, slightly produced medially, posterior and anterior margins subparallel, transition to face bluntly angled, width between eyes than twice eye width. Face with ocellocular area parallel sided. Ocelli on anterior margin of head, separated from eyes by one ocellar diameter. Frontoclypeus more or less evenly tapered from base to apex, not tumid, fine seta present just laterad of frontal suture. Antennal ledges indistinct, without carina; antennal base close to lower corner of eye, antenna length 1.1x width of head. Anteclypeus strongly widened apically, extended slightly beyond normal curve of gena. Lorum wider than anteclypeus near base, extended to ventral margin of face. Gena slightly incised below eye, rostrum short, tapered, extended slightly beyond front trochanters.

Pronotum moderately convex, anterior margin parabolic, posterior margin slightly concave, lateral margin shorter than half width of eye, carinate. Scutellum not protuberant. Forewing macropterous, translucent, appendix

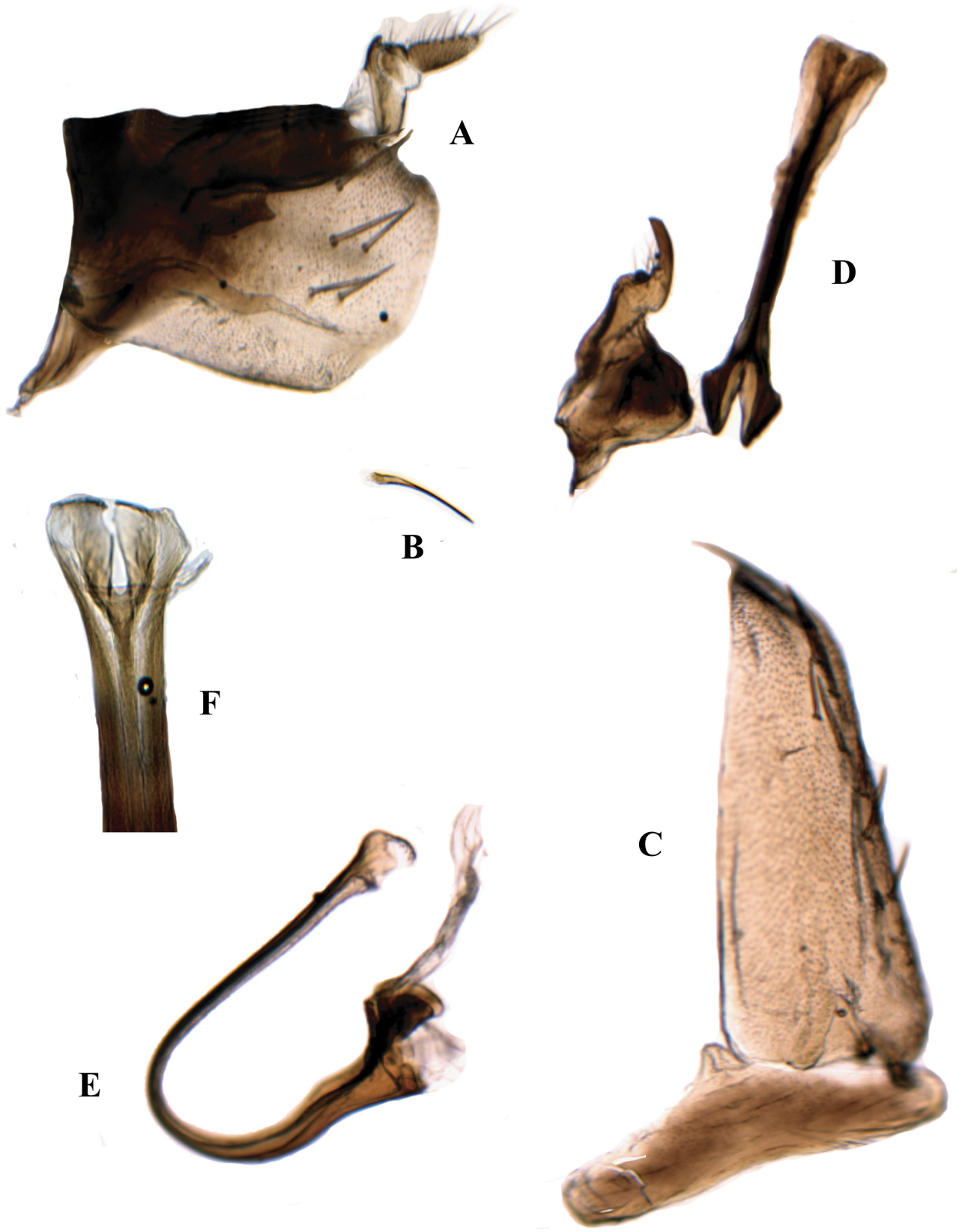

FIGURE 25. Male genitalia of *Zabrosa unicampi*. (**A**) Pygofer, lateral aspect; (**B**) Lobe process, lateral aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Aedeagus, anterior view.

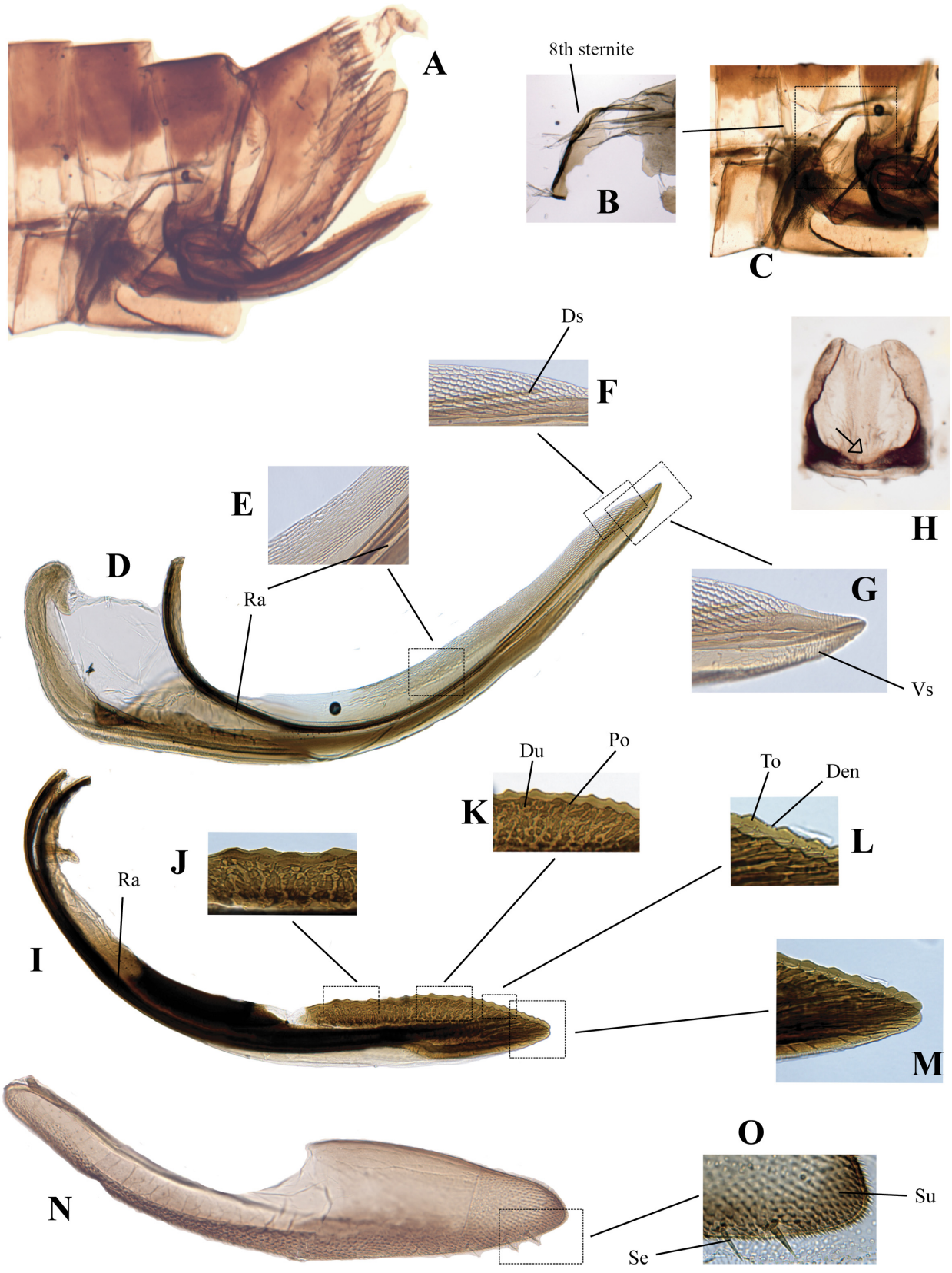

FIGURE 26. Female genitalia of *Zabrosa unicampi*. (**A**) Pygofer, lateral aspect; (**B**–**C**) Approximation of pygofer, lateral aspect; (**D**) First valvula, lateral aspect; (**E**–**G**) Details of first valvula, lateral aspect; (**H**) Sternite VII, ventral aspect; (**I**) Second valvula, lateral aspect; (**J**–**M**) Details of second valvula, lateral aspect; (**N**) Gonoplac, lateral aspect; (**O**) Detail of gonoplac, lateral aspect. Den = denticle; Ds = dorsal sculptured area; Du = duct; Po = pore; Ra = ramus; Se = micro-setae; Su = surface of gonoplac; To = tooth; Vs = ventral sculptured area.

restricted to anal margin, apex rounded, without extra crossveins, with three anteapical cells, outer apical cell large with apex delimited by crossvein, apical cells subequal in width, inner anteapical cell open (without m-cu2 crossvein), Claval veins separate throughout length, with or without crossvein connecting Pcu to claval suture, Pcu-A1 crossvein absent. Hindwing venation fully developed, RP-MA and MP-CuA separated by crossvein. Front femur with short AM1 at mid-height, IC setae long and thin (7–9), row AV with short stout setae (17–20), AV1 large and distinct from IC row. Front tibia dorsal macrosetal formula 3+4 (AD+PD), PV with multiple macrosetae. Mesotrochanter with one stout seta. Mesofemur row AV with numerous stout setae and 1 longer apical seta. Hind femur macrosetal formula 2+2+1, without extra setae basad of usual set. Metatarsomere I longer than metatarsomeres II and III combined, not expanded apically, plantar setae simple, pecten with 4 platellae and inner apical seta platelliform.

Male genitalia. Apodemes of sternite I inconspicuous, apodemes of sternite II present but not particularly large. Basolateral pygofer apodemes absent. Pygofer relatively short and broad, squarish in lateral view, with ventral process, with few scattered macrosetae preapically, basolaterad cleft present. Anal tube membranous or with thin dorsal sclerotized band distally. Valve and subgenital plates free from each other, articulated with pygofer. Valve very short with only slight median posterior extension. Subgenital plate large, triangluar, lateral margin slightly convex, apex rounded, macroseate irregularly arranged near lateral margin. Conective Y-shaped, arms short, stem very long. Style broadly bilobed basally, median lobe not extended dorsad, preapical lobe short and rounded, apophysis short and smoothly curved with apex pointed or rounded. Aedeagus with atrium only slightly wider than shaft base, shaft curved dorsad, without processes, without processes, symmetrical, apex in posterior view with distinct medial notch, gonoduct not sclerotized, gonopore on dorsal surface near midlength of shaft, phragma membranous, with or without conspicuous setae.

Female genitalia. Pygofer short, conical with numerous macrosetae concentrated on posterior portion. Ovipositor not protruding far beyond pygofer apex. First valvula, ramus convex or straight, dorsal sculpturing pattern imbricate, reaching dorsal margin, dorsal sculpturing more elongated near middle than near apex, ventroapical sculpturing restricted to apical portion. Second valvula broadened medially without medial dorsal tooth, teeth small and serrated with inconspicuous tooth, ducts globose. Third valvula, wide, stout setae restricted to apex or a row of stout setae along length. Sternite VII or emarginate medially and carinate ventrad. Eighth sternite fully or weakly sclerotized.

Distribution. Bolivia, Ecuador, Brazil, Paraguay, Argentina, Mexico and USA

Species of the genus *Zabrosa*

Zabrosa amazonensis (Osborn, 1923) (Brazil, Ecuador, Bolivia, Paraguay and Mexico **nov. rec.**)
Zabrosa unicampi Menezes, 1973 (Argentina and Brazil)
Zabrosa sexpunctata (Beamer, 1939) (USA)

Key to species of *Zabrosa*

1	Aedeagus shaft thin and long with apex expanded in lateral view (Fig. 25 E and E	***unicampi*** Menezes
-	Aedeagus shaft relatively short with apex tapered in lateral view	2
2	Pronotum with minute punctations; crown and pronotum with black lines; style apophysis with narrow apical section much longer than twice length of apical foot (Fig. 27 H)	***amazonensis*** (Osborn)
-	Pronotum not punctate; crown and pronotum with black spots; style apophysis with narrow apical section no more than twice length of apical foot (Fig. 27 G)	***sexpunctata*** (Beamer)

Zabrosa amazonensis (Osborn)

(Figs. 2 R, 27 A–C, H, and J)

Thamnotettix amazonensis Osborn, 1923: 65
Brazosa amazonensis Oman, 1938: 386

Redescription. **External morphology.** Crown surface yellowish with a large broad black line between eyes. Face

with large black spots mesad of ocelli. Frontoclypeus slightly nigrescence with minute black marks. Anteclypeus yellowish. Gena dark-yellowish laterally. Pronotum dark-yellowish with medial pair of black narrow lines.

Male genitalia. Pygofer rounded on posterior margin, 3 rows of macrosetae near posterior margin; ventral process narrow, longer than half pygofer tall, apex slightly twisted. Anal tube longer than wide, beyond pygofer apex. Style, preapical lobe short, produced and rounded, apophysis long. Aedeagus curved dorsad; shaft in posterior view laterally tapearing to apex, apex truncate and emarginate mesad.

Female genitalia. Unknown.

Material examined. 1♂, 2♀ (MEPN)—ECUADOR: Orellana, Tiputini Biodoverity Sta. nr Yasuni Nat. Pk. 220–250m, 00°37′55” S, 076°08′39” W \ 8-Feb-99, T.L. Erwin et al. Lot#2027 Transect-T/3, Fogging terra firme forest; 1♂, 2♀ (MEPN)—ECUADOR: Orellana, Tiputini Biodoverity Sta. nr Yasuni Nat. Pk. 220–250m, 00°37′55” S, 076°08′39” W \ 8-Feb-99, T.L. Erwin et al. Lot#2027 Transect-T/3, Fogging terra firme forest; 1♂ (OSUC)—BOLIVIA: San Esteban 49 km. N. Sta. Cruz, 26-X-59 El. 1120 ft. \ D. M. DeLong Collection; 1♂ (CAJAPE)—MEXICO: Chiapas, Palenque, Profesor Roberto Barrios, 17°19’45.6”N 91°55’36.3”W, 157m, 12 Abril 2019, Pinedo-Escatel Col., Trampa de Luz—MEXCPS170; 1♂ (CAJAPE)—MEXICO: San Luis Potosi, Tamasopo, Cabañas Macondo, 21°55’47.5”N 099°23’54.0”W, 265m, 15 Agosto 2018, Pinedo-Escatel Col., Trampa de Luz—MEXSLP69.

Distribution. Brazil, Ecuador, Paraguay, Bolivia and Mexico **nov. rec.**

Measurements. Body length, ♂ 6.0 mm, ♀ 6.5 mm

Zabrosa unicampi Menezes

(Figs. 12 L, 13 A, D and G–H, 25, 26)

Zabrosa unicampi Menezes, 1973: 134
Zabrosa aquareza Linnavuori & DeLong, 1978: 206, **syn. nov.**

Redescription. **External morphology.** Crown surface dark yellowish with two black spots, first large pair next to eyes and 2nd small spots flanking midline. Face with difusse brown spots mesad of ocelli. Frontoclypeus, anteclypeus and gena yellowish. Pronotum gray-yellowish with a medial pair of black marks.

Male genitalia. Pygofer much longer than tall, two rows of 3 macrosetae near posterior margin; ventral process small and shorter than half pygofer tall, apex straight. Anal tube as long as wide, not projected beyond pygofer. Style, preapical lobe short, angulate, apophysis short and slightly curved. Aedeagus strongly curved anterad, U-shaped, shaft thin in lateral view; apex expanded.

Female genitalia. Pygofer conical. First valvula dorsal sculpturing pattern imbricate. Second valvula serrate. Sternite VII emarginate medially.

Type material examined. Holotype [“*Z. aquareza*”] ♂ (OSUC)—Aquarez, Salta Argentina -II-14-1950 Golbach \ Collection Inst. Miguel Lillo Tucuman; Paratype ♂ (INHS)—ARGENTINA: Salta, Embarcación, 3.II.1950, R. Golbach. [labeled as *Z. aquareza*]; Paratype 1♂ (OSUC)—Embarcacion Salta. Arg. -II 2-1950 R. Gelbach \ Collection Inst. Miguel Lillo Tucuman

Other material. 2 ♂ (INHS)—ARGENTINA: Jujuy, P. N. Calilegua ca. campgd., 600m 23°45′40” S 64°51′10” W, 15 Jan 2008, C.H. Dietrich, hand collected AR12-12; 1♂ [misidentified, labeled as *Z. amazonensis*] (INHS)—ARGENTINA: Salta, rt 68 km 1643 21km N El Caldera 1250m, 24°30′10¨S 65° 19′44” W, 18 Jan 2008, C.H. Dietrich, Hg vapor light, AR24-2.

Distribution. Argentina and Brazil

Measurements. Body length, ♂ 6.3 mm, ♀ 7.4 mm

Zabrosa sexpunctata (Beamer)

(Figs. 2 S–T, 11 J–K, 12 J–K, 27 E–I, 28, 31 F)

Brazosa sexpunctata Beamer, 1939: 27

Redescription. **External morphology.** Crown surface yellowish with one black line running between eyes with an apical pair of minute black spots. Face with large black spots mesad of ocelli. Frontoclypeus dark-yellowish.

Anteclypeus yellowish. Gena yellowish with black marks below eyes. Pronotum yellowish with or without a medial pair of black circles.

Male genitalia. Pygofer subcuadrate, macrosetae grouped near posterior margin; ventral process broad basally, longer than half pygofer tall, apex twisted. Anal tube as long as wide, not surpassing pygofer. Style, preapical lobe short and angulate, apophysis short. Aedeagus curved dorsad; shaft in posterior view laterally uniform, apex truncate and emarginate mesad.

Female genitalia. Pygofer pointed. First valvula dorsal sculpturing pattern imbricate. Second valvula serrate. Sternite VII emarginate medially and carinate ventrad.

Type material examined. Holotype ♂ (OSUC)—[USA] Brownsville, VIII-8-37. Tex. \ D. J. and J. N. Knull Collrs. [no specimen and genitalia attached to pin]. Paratypes 3♀ (OSUC). [USA] Brownsville, VIII-8-37. Tex. \ D. J. and J. N. Knull Collrs

Other material. 1♀ (OSUC)—[USA] Brownsville, VIII-8-37. Tex. \ D. J. and J. N. Knull Collrs; 1♂, 1♀ (OSUC)—[USA] Brownsville, V-25-39, Tex. \ D.J. and J. N. Knull Collrs [labeled as "*B. sexpunctata*"].

Distribution. USA

Measurements. Body length, ♂ 5.9 mm, ♀ 6.7 mm

Pseudalaca Linnavuori
(Figs. 13 B, E and I, 29, 31 H)

Pseudalaca Linnavuori, 1959: 236
Type species. *Agallia multipunctata* Osborn, 1923

Redescription. Diagnosis. Dorsal coloration stramineous to brownish. Crown very short, arched above eyes. Pronotum declivous with weak lateral carina. Forewings with 1 extra crossvein; anal veins free; Cs-Pcu with 1 crossvein; Pcu-A1 with crossvein. Front tibia formula 1+4; AM1 position ventrally. Pygofer without processes; valve partially fused with subgenital plates; aedeagus without or with apical processes (Table 1).

External morphology. Robust, medium-sized (5.0–5.7 mm) leafhoppers, overall coloration stramineous to brownish with symmetrical black spots and lines and diffuse brown markings; face with pair of round black spots above antennal pits, crown with paired black maculae, mesonotum with basolateral triangles black; forewing translucent brown with unpigmented areas in some cells, veins pale bordered with brown. Head wider than pronotum. Crown very short, arched above eyes and anterior part of pronotum, anterior margin rounded and subparallel to posterior margin, transition to face rounded, width between eyes less than twice eye width. Ocellocular area at tip narrower than base. Ocelli slightly below anterior margin of head and not visible in dorsal view, separated from eyes by twice ocellar diameter. Frontoclypeus with lateral margins weakly convex, surface not tumid, erect fine seta close to lateral margin. Antennal ledges not carinate, antennal base close to lower corner of eye, antenna length 1.0x width of head. Anteclypeus strongly widening apically and extended slightly beyond normal curve of face margin. Lorum subequal to anteclypeus in width near base, extended to ventral margin of face. Gena slightly incised below eye. Rostrum short, tapered, extended slightly beyond front trochanters.

Pronotum strongly convex, punctate, anterior margin parabolic, posterior margin slightly concave; lateral margin carinate, shorter than half eye width. Scutellum not protuberant. Forewing macropterous, appendix restricted to anal margin, apex rounded, with one extra costal crossvein, with three anteapical cells, outer anteapical cell short with apex delimited by crossvein, apical cells subequal in width, inner anteapical cell open (without m-cu2 crossvein), Claval veins separate throughout length, Pcu connected to claval suture by crossvein, Pcu-A1 crossvein present. Hindwing scheme fully developed, with smoky pigmentation, RP-MA and MP-CuA separated by crossvein. Front femur with long AM1 on ventral margin, IC setae very long and thin (10–14), row AV with short stout setae (8–15), AV1 poorly differentiated from IC row. Front tibia dorsal macrosetal formula 1+4 (AD+PD), PV without macrosetae. Mesotrochanter with one stout setae. Mesofemur row AV without short setae. Hind femur macrosetal formula 2+2+1, without extra setae basad of usual set. Metatarsomere I longer than metatarsomeres II and III combined, not expanded apically, plantar setae simple, pecten with 3 platellae and inner apical seta tapered.

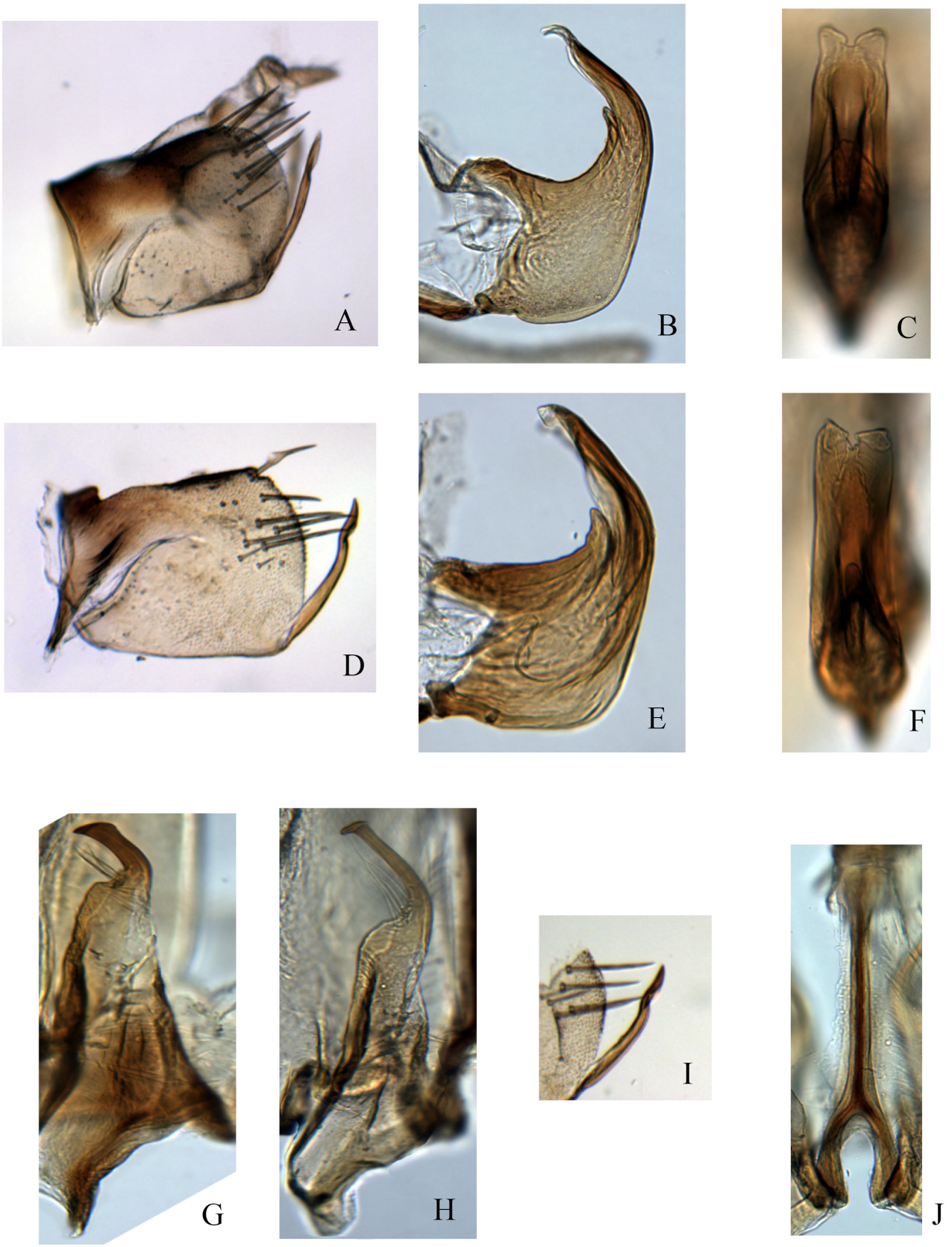

FIGURE 27. Male genitals. *Zabrosa amazonensis*: (**A**) Pygofer, lateral aspect; (**B**) Aedeagus, lateral aspect; (**C**) Aedeagus, anterior view; (**H**) Left style, dorsal aspect; (**J**) Connective, dorsal aspect. *Zabrosa sexpunctata*: (**D**) Pygofer, lateral aspect; (**E**) Aedeagus, lateral aspect; (**F**) Aedeagus, anterior view; (**G**) Left style, dorsal aspect; (**I**) Lobe processes, dorsolateral aspect.

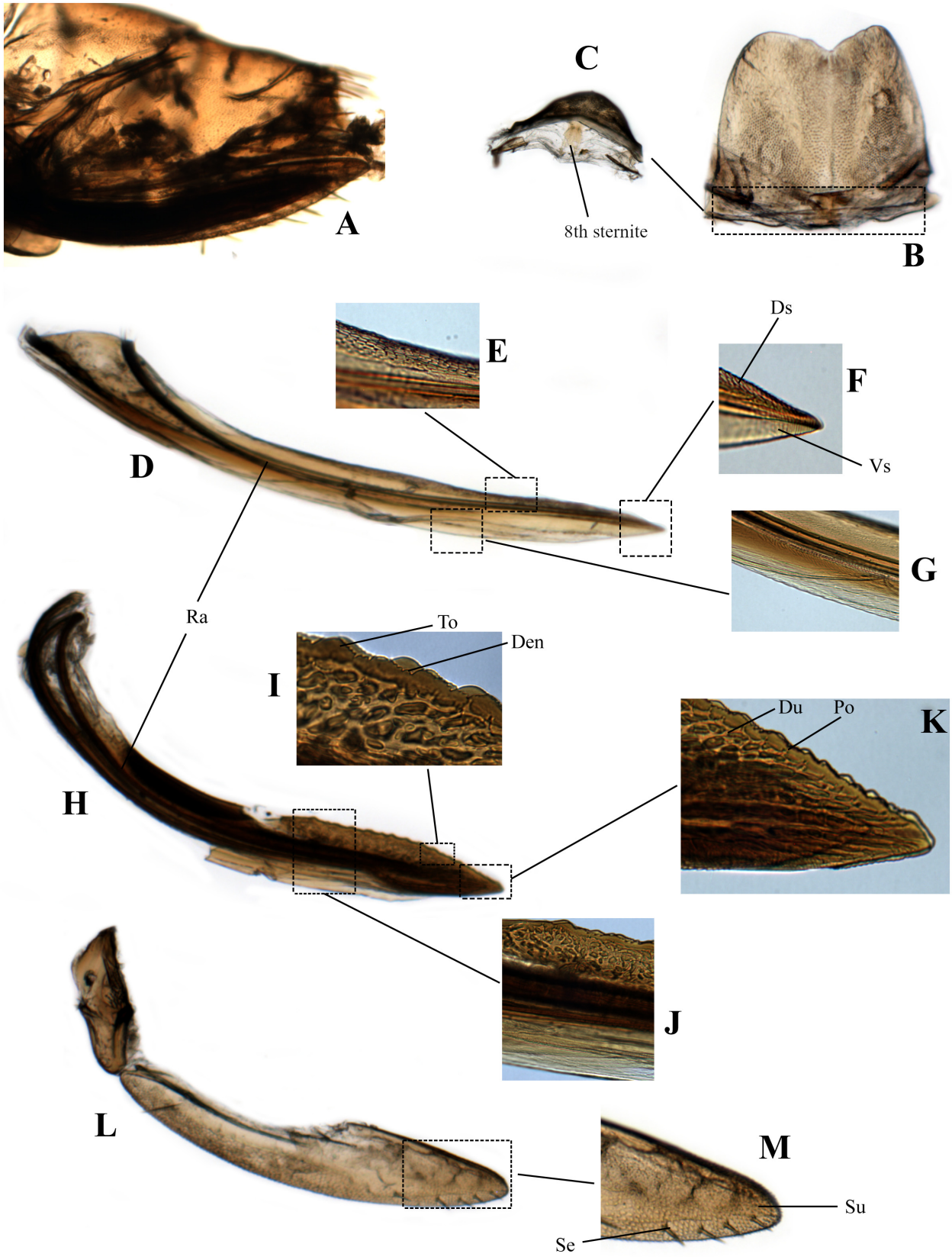

FIGURE 28. Female genitalia of *Zabrosa sexpunctata*. (**A**) Pygofer, lateral aspect; (**B**) Sternite VII, ventral aspect; (**C**) Sternite VII, anterior view; (**D**) First valvula, lateral aspect; (**E–G**) Details of first valvula, lateral aspect. (**H**) Second valvula, lateral aspect; (**I–K**) Details of second valvula, lateral aspect; (**L**) Gonoplac, lateral aspect; (**M**) Detail of gonoplac, lateral aspect. Den = denticle; Ds = dorsal sculptured area; Du = duct; Po = pore; Ra = ramus; Se = micro-setae; Su = surface of gonoplac; To = tooth; Vs = ventral sculptured area.

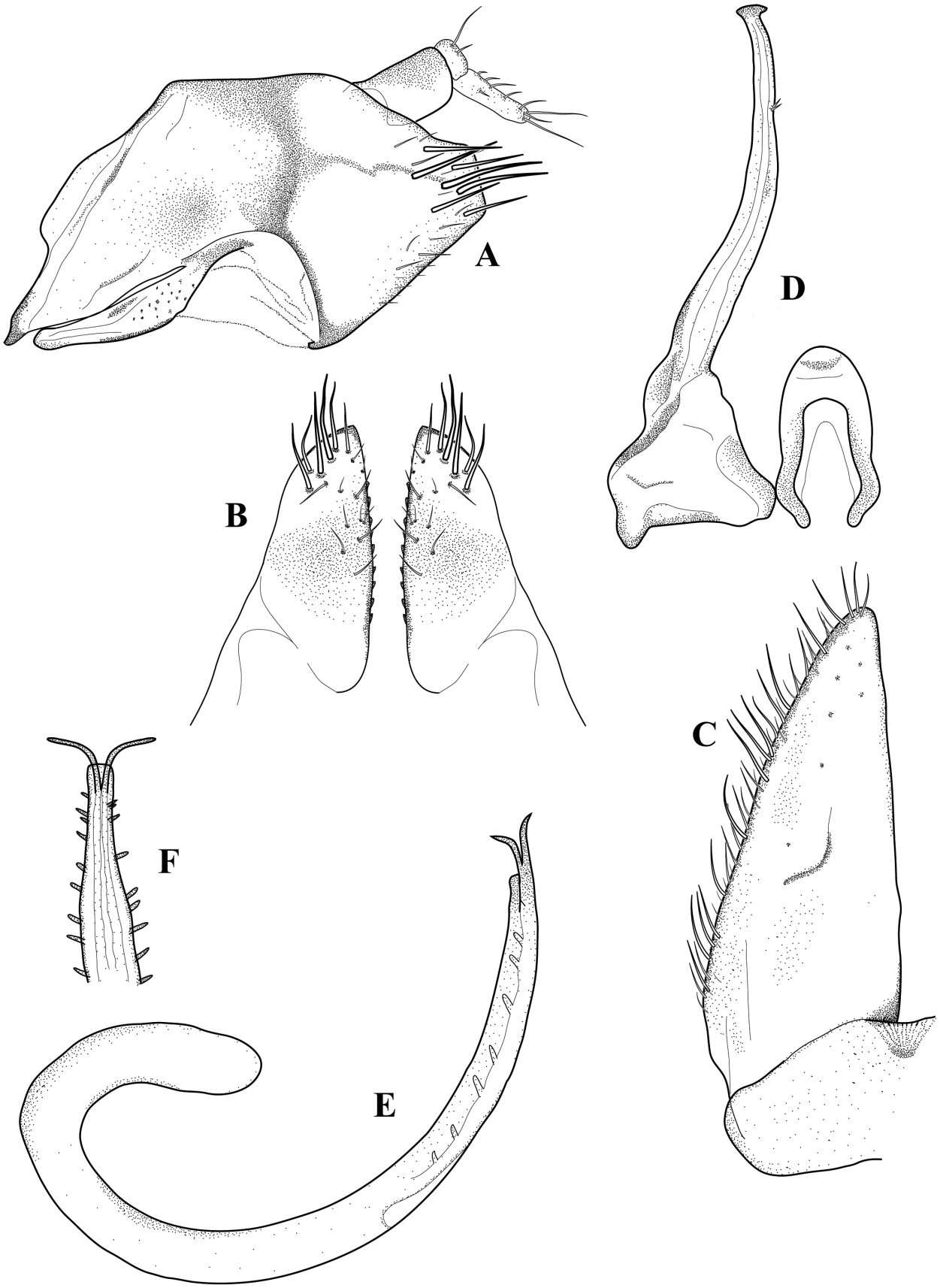

FIGURE 29. Male genitalia of *Pseudalaca multipunctata*. (**A**) Pygofer, lateral aspect; (**B**) Pygofer, ventral aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Apex of aedeagus, caudal view.

Male genitalia. Apodemes of sternite II inconspicuous. Basolateral pygofer apodemes weakly developed. Pygofer moderately long, well-sclerotized dorsally, without processes, macrosetae grouped near posterior margin, basolateral cleft present, with large membranous area ventrally near base, posteroventral margin serrate with several evenly spaced teeth. Anal tube short and weakly sclerotized dorsally. Valve partially fused to subgenital plates medially, articulated with pygofer. Subgenital plate large, triangular, lateral margin convex, apex rounded, macrosetae uniseriate laterad with some additional irregular setae near margin. Connective U-shaped, stem poorly developed. Style broadly bilobed basally, medial lobe not extended dorsad, preapical lobe obsolete, apophysis elongated and smoothly curved mesad then laterad with apex slightly expanded and blunt. Aedeagus with atrium poorly developed, shaft strongly recurved, with many lateral denticles arranged somewhat irregularly, with small apical flange and pair of slender apical processes, gonoduct not sclerotized, gonopore medial on ventral surface, phragma with conspicuous setae.

Female genitalia. Unknown

Distribution. Brazil, Bolivia, Paraguay and Argentina

Remarks. The genus is closely similar to *Goiattus*, which it resembles in the shape of the head and pronotum but with major differences in the male genitalia such as pygofer with large membranous area with posteroventral margin serrate and the aedeagus slender with lateral denticles.

Pseudalaca multipunctata (Osborn)

(Figs. 13 B, E and I, 29, 31 H)

Agallia multipunctata Osborn, 1923: 10
Alaca multipunctata Oman, 1938: 386
Pseudalaca multipunctata Linnavuori, 1959: 236

Redescription. External morphology. Crown yellowish with stripes and minute black spots centrally. Frontoclypeus with transversal brownish stripes plus a longitudinal yellowish midline. A pair of circle black spots in ocelluclar area. Anteclypeus and lorum brownish. Gena yellowish marked with brownish marks. Pronotum brownish with longitudinal black, brown and yellowish stripes. Forewing brownish. Venter yellowish. Front trochanter and femur marked with black.

Male genitalia. Pygofer 2x longer than tall, macrosetae grouped at caudal apex. Anal tube wide apically. Connective stem reduced. Style, apophysis very long and slightly decurved. Aedeagus strongly recurved, shaft uniform with lateral denticles; apex bifid.

Material examined. 7♂ (INHS)—ARGENTINA: Misiones, Pto. Iguazú Viejo Amer. Campdg., 200m, 25°37´19" S 54°32´52" W, 7 Jan 2008, C.H. Dietrich, hand collected at night, AR7-1

Distribution. Brazil, Bolivia, Paraguay and Argentina **nov. rec.**

Measurements. ♂ 5.5 mm, ♀ unknown

Goiattus Pinedo-Escatel, gen. nov.

(Figs. 13 C, F and J, 30, 31 G)
urn:lsid:zoobank.org:act:14642C51-A541-4D67-8BC6-57B45F103266

Type species. *Goiattus reyesi* Pinedo-Escatel, **sp. nov.**

Description. Diagnosis. Overall coloration brownish. Crown very short, arched above eyes. Pronotum declivous with weak lateral carina. Forewings, Cs-Pcu, and Pcu-A1 without crossvein; anal veins free. Front tibia formula 1+4; AM1 position at middle. Pygofer without processes; valve free; aedeagus with apical processes (Table 1).

External morphology. Robust medium-sized (5.3 mm) leafhopper, overall coloration brownish with stramineous regions; with symmetrical and asymmetrical black spots. Head wide as pronotum. Crown very short, arched above eyes and anterior part of pronotum, anterior margin rounded, transition to face rounded, width between eyes less than twice eye width, texture shagreen. Ocellocular area parallel sided. Ocelli slightly below anterior margin of head, not visible in dorsal view, distance to adjacent eye approximately 3x ocellar diameter. Frontoclypeus with

lateral margins somewhat parallel and reaching ocelli, weakly tumid medially, erect fine seta close to lateral margin. Antennal ledge absent, antennal base close to lower corner of eye, antenna length 1.0x width of head. Anteclypeus paralleled, weakly tumid in lateral view, extended slightly more than normal curve of face margin. Lorum shorter than anteclypeus in width near base. Gena slightly incised below eye.

Pronotum strongly convex, anterior margin parabolic, posterior margin concave; lateral margin weakly carinate, shorter than half eye width. Scutellum slightly protuberant, broad. Forewing macropterous, appendix reduced, apex rounded, without extra crossveins, with three anteapical cells, outer apical cell shorter than adjacent cell with apex delimited by crossvein, apical cells subequal in width, inner anteapical cell open (without m-cu2 crossvein), Claval veins separate throughout length, Pcu unconnected to claval suture, Pcu-A1 crossvein present. Hindwing scheme fully developed, without pigmentation, RP-MA and MP-CuA separated by crossvein. Front femur with long AM1 at mid-height, IC setae very long and thin (12–19), row AV with hair-like setae (8-15), AV1 poorly differentiated from IC row. Front tibia dorsal macrosetal formula 1+4 (AD+PD), PV without macrosetae. Mesotrochanter with one stout setae apically. Mesofemur row AV without setae. Hind femur macrosetal formula 2+2+1, without extra setae basad of usual set. Metatarsomere I twice as long as II and III combined, not expanded apically, plantar setae simple, pecten with 5 platellae and inner apical setae tapered.

Male genitalia. Apodemes of sternite II inconspicuous. Basolateral pygofer apodemes absent. Pygofer moderately broad, strongly pointed, macrosetae grouped posterad, well-sclerotized dorsally, caudolateral margin striate, without processes, basolateral cleft present. Anal tube short and broad, sclerotized dorsally. Valve free and articulated with subgenital plates and pygofer. Subgenital plate triangular, slightly shorter than pygofer length, free from each other, apex rounded, macrosetae uniseriate distant from lateral margin. Connective Y—shaped, stem longer than arms. Style bilobed basad, medial lobe not extended dorsad, preapical lobe absent, apophysis short and straight, apex blunt. Aedeagus with atrium weakly developed, curved dorsad; shaft in lateral view broad at base then slender in distal portion, without basal process, without denticles, lateral flanges developed; apex with pair of retrorse processes, curved basad. Gonoduct not sclerotized, gonopore subapical on dorsal surface, phragma membranous.

Female genitalia. Unknown.

Distribution. Brazil

Etymology. The genus name is masculine and refers to the type locality of the type species, Goiás state, Brazil.

Remarks. This genus is similar to *Brazosa*, *Zabroza* and *Pseudalaca* in external and internal features. The latter genus, *Pseudalaca*, appears closely related, but *Goiattus* differs from it in having the pygofer striated and corrugated, and the aedeagus not dentate but robust with retrorse distal processes (see also Table 1).

Goiattus reyesi Pinedo-Escatel, sp. nov.

(Figs. 13 C, F and J, 30, 31 G)

urn:lsid:zoobank.org:act:9C100174-1431-4A38-900A-68344D22904B

Description. External morphology. Crown stramineous with minute pair of black spots on posterior margin next to midline, big black circular spot on anterior margin. Face with black spot above and below ocelli. Frontoclypeus with a broad black median longitudinal line. Anteclypeus black. Lorum stramineous with lateral suture black. Gena stramineous marked below antennal pit with black. Pronotum brownish with irregular black band on anterior margin behind eyes. Scutellum posterior margin stramineous and anterior brownish. Forewing brownish. Venter stramineous with black. Front femur black basally. Metafemur black.

Male genitalia. Pygofer pointed and striate anteroventrally, macrosetae concentrated at apex. Anal tube black. Connective, stem longer than arms. Style, apophysis straight with blunt apex. Aedeagus curved dorsad, shaft inflated basally and slender apically with lateral flanges and apical processes.

Female genitalia. Unknown.

Type material. Holotype ♂ (MZSP)—BRASIL: Goiás, Campinacu, Serra da Mesa Survey, 13°52.1´S 48°23.2´, 19-ii-1996, Malaise trap. A. Sharkov and F. Ejchel Colls.

Distribution. Brazil

Measurements. Body length, ♂ 5.3 mm, ♀ unknown

Etymology. This species is named in honor of the first author's grandfather, Reyes Escatel.

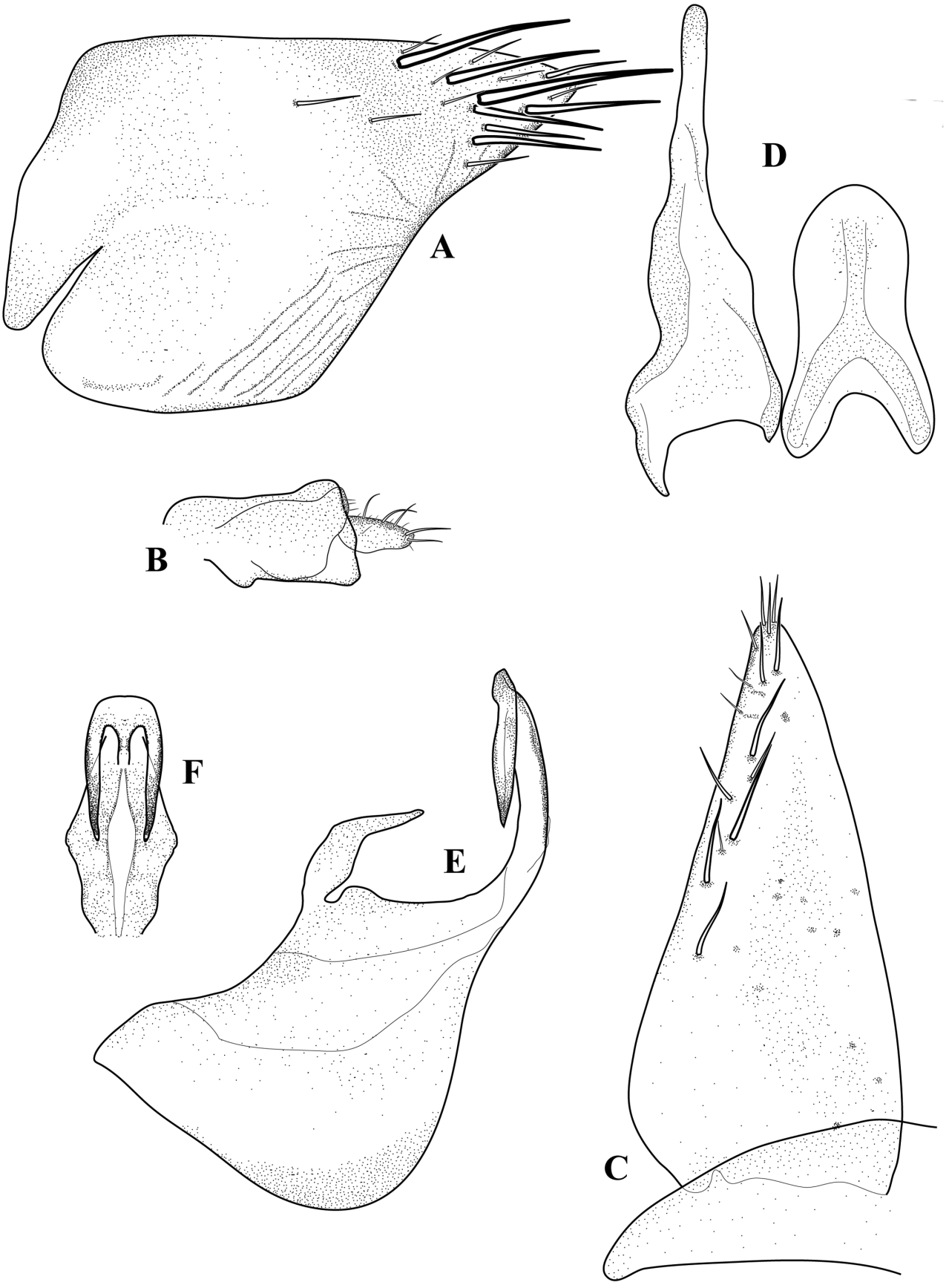

FIGURE 30. Male genitalia of *Goiattus reyesi* **gen.** et **sp. nov.** (**A**) Pygofer, lateral aspect; (**B**) Anal tube, lateral aspect; (**C**) Valve and subgenital plates, ventral aspect; (**D**) Style and connective, dorsal aspect; (**E**) Aedeagus, lateral aspect; (**F**) Apex of aedeagus, dorsal view.

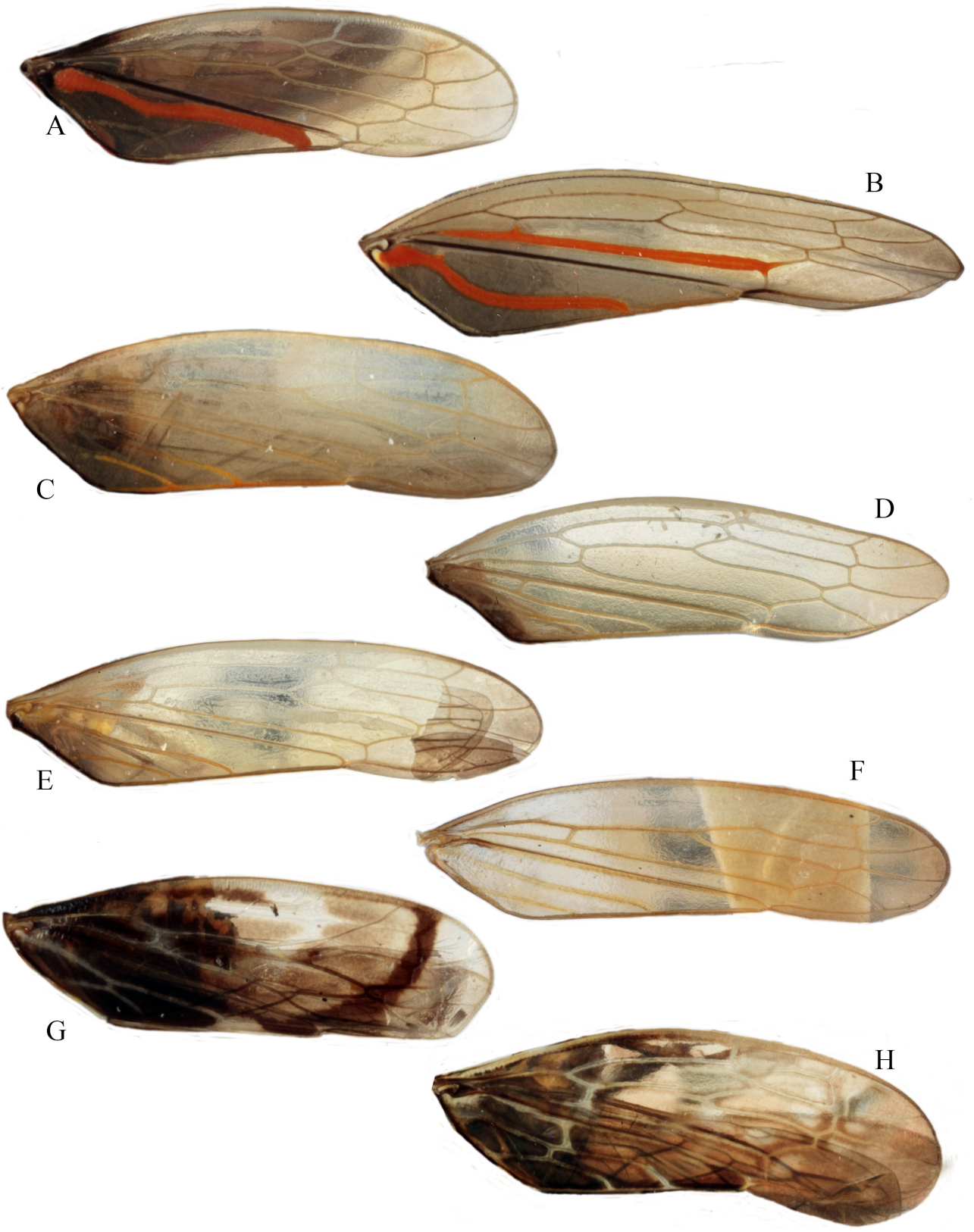

FIGURE 31. Forewings, laterodorsal view. (**A**) *Brazosa appendiculata*, male; (**B**) *Spaltumtettix coloradus* **gen.** et **sp. nov.**, male; (**C**) *Pseudonapo huanucensis* **gen.** et **sp. nov.**, male; (**D**) *P. waorani* **gen.** et **sp. nov.**, female; (**E**) *Napo brazosellus*, male; (**F**) *Zabrosa sexpunctata*, female; (**G**) *Goiattus reyesi* **gen.** et **sp. nov.**, male; (**H**) *Pseudalaca multipunctata*, male.

TABLE 1. Compassion among major morphological features of Athysanini genera studied.

Character		*Napo*	*Pseudonapo*	*Spaltumtettix*	*Zabrosa*	*Brazosa*	*Pseudalaca*	*Goiattus*
Crown	length	short	short	short	produced	produced	very short	very short
	lateral view	flat	flat	arched	arched	arched	arched	arched
Pronotum	lateral view	declivous	declivous	convex	convex	convex	convex	convex
	lateral carina	weak	weak	weak	strong	weak	weak	weak
Forewing	extra crossvein	absent	absent	absent	absent	absent	1 extra costal vein	absent
	anal veins	free	free	fused	free	free basally and confluent distally	free	free
	Cs-Pcu crossvein	1	1	1	1 or not	1	1	absent
	Pcu-A1 crossvein	absent	absent	absent	absent	present	present	present
	appendix	anal margin	anal margin	anal margin	anal margin	anal margin	anal margin	reduced
Hindwing	uncolored	uncolored	uncolored	uncolored	uncolored	uncolored	pigmented	uncolored
Front tibia	AD+PD formula	1+4	1+4	1+5	3+4	1+4	1+4	1+4
	AM1 position	ventral	ventral	middle	middle	middle	ventral	middle
	number IC	12 to 20	14 to 17	15 to 21	7 to 9	10 to 25	10 to 14	12 to 19
	number AC	not observed	not observed	18 to 26	7 to 20	8 to 25	not observed	not observed
	setae length	long	short	long	long	long	long	short
Hind tibia	pecten	3 platellae	3 platellae	3 platellae	4 platellae	4 platellae	3 platellae	5 platellae
	platellae, inner apical setae	tapered	tapered	tapered	platelliform	platelliform	tapered	tapered
Male capsule	pyogofer process	absent	dorsally	without or posterad	ventrally	absent	absent	absent
	aedeagus process	basally or without	apically or without	apically or without	absent	mesad or without	apically	apically
	aedeagal shaft, denticles	absent	absent	absent	absent	absent	laterally	absent
	Valve	free	free	fused with subgenital plate	free	free	partially fused with subgenital plates	free
Female capsule	First valvula, ramus	more less straight	more less straight	convex	convex or straight	convex	unknown	unknown
	First valvula, dorsal sculpturing	strigate-granulose	granulose	strigate	granulose or strigate	imbricate with overlapping scales	unknown	unknown
	Second valvula, shape	gradually broadened	gradually broadened	slender	broadened medially	abruptly broadened medially	unknown	unknown
	Second valvula, teeth	absent	inconspicuous teeth apically	large	small	small	unknown	unknown

Discussion

The Neotropical taxa described above appear to form a morphologically distinct group within the poorly defined and polyphyletic tribe Athysanini. Most have the crown of the head relatively short and broad in dorsal view, rounded to the face, and often more or less arched, and the pronotum in some cases is declivous anteriorly and more convex than usual. All except *Spaltumtettix* also have paired black spots or lines on the head and most also have bright orange dorsal markings. In the most recent key to Neotropical genera of this tribe (Linnavuori 1959, as "Euscelini") some of the included genera will run to *Brazosa* or *Zabrosa*. *Goiattus* and *Spaltumtettix* are similar to *Brazosa* in having a short and rounded head and are also similar in body size and the male genital capsule and genitalia also have numerous features in common (Table 1).

Dietrich & Rakitov (2002) noted that Neotropical athysanine leafhoppers are important because several exhibit morphological affinities to different deltocephaline tribes and may represent intermediate stages in the evolutionary diversification of cicadellids. Several genera of Athysanini from South America seems to lack affinities to North American groups and, therefore, presumably represent deltocephaline lineages that originated in South America (Dietrich & Rakitov 2002). Other New World genera of this tribe present in subtropical regions (e.g., in southern Mexico) show similarities to both Nearctic and Neotropical genera (Pinedo-Escatel et al. 2016).

The new genera described above appear to be endemic to South America. The morphological limits of some of these genera are not clear and more detailed taxonomic study and further phylogenetic research are needed to clarify their status and relationships to other genera in the tribe. More detailed studies including phylogenetic analyses are needed to better understand hotspots in diversification and evolution of Neotropical athysanine lineages. The comprehensive phylogeny of Zahniser & Dietrich (2013) included only two of the genera treated here (*Brazosa* and *Napo*) and they were part of a large and almost exclusively New World clade including Athysanini (in part), Pendarini, Bahitini and Scaphytopiini. This previous analysis indicates that many of the deltocephaline genera endemic to the Neotropical region, including those treated here, are related to each other and diversified in isolation from the deltocephaline faunas of other parts of the world.

Acknowledgements

We would like express our sincere thanks to Luciana Musetti (OSUC) for loans of material studied. The senior author also thanks Mildred Torres, Kevin Missael, Diego Yassir, Axel Cristóbal, Jorge Mario, Josefina Escatel, Carlos Mancillas, Bruno Rodríguez ("pato"), Mirlo Jiménez ("mirlo"), Rosaura Torres Moreno, Iskra M. Becerra Chiron, Laura P. Valencia, Gustavo Moya Raygoza, Edith Blanco, Dmitry Dmitriev, Daniela Takiya, Stu McKamey, Brendan Morris and James Zahniser for helpful comments on the manuscript. Hugo Fierros-López kindly provided Figure 15. The first author is grateful to CONACyT for his Ph.D. scholarship (CVU: 705854). Fieldwork in Sierra de Madre del Sur, Mexico was supported by Rufford Foundation grant RSG 25290-1. This work was also supported in part by US NSF grant DEB 1639601.

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