

## Taxonomy

# Revision of the New World Scentless Plant Bug Genus *Niesthrea* (Hemiptera: Heteroptera: Rhopalidae), with Descriptions of Six New Species and a Key to the Species

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## Abstract

The scentless plant bug genus *Niesthrea* Spinola, 1837 (Rhopalinae, Niesthreini) is revised. Fourteen previously described species are diagnosed; *Niesthrea ashlocki* Froeschner, 1989 and *Niesthrea remediana* Grillo and Alayo, 1978 (revised synonymy) are synonymized under *Niesthrea flava* Grillo and Alayo, 1978; *Niesthrea parasidae* Grillo and Alayo, 1978 is synonymized under *Niesthrea sidiae* (Fabricius, 1794); *Niesthrea pictipes casinii* Göllner-Scheiding, 1984 is elevated to species status; a neotype is designated for *Corizus campoi* Porter; and the six new species *Niesthrea choprai* sp. nov. from Argentina and Peru, *Niesthrea conicoloba* sp. nov. from Argentina, *Niesthrea lateroloba* sp. nov. from Peru, *Niesthrea parvaloba* sp. nov. from Bolivia, *Niesthrea rostrata* sp. nov. from Colombia and Ecuador, and *Niesthrea truncata* sp. nov. from Brazil and Colombia are described. A color habitus illustration of *N. flava*, color digital images of all adults and male genitalia, and an identification key to the 20 currently known species, based primarily on male genitalia, are provided to help distinguish species. Host plants and biogeography are documented.

**Key words:** Insecta, true bug, Niesthreini, distribution, host

The New World genus *Niesthrea* Spinola is a relatively small group of bugs belonging to the family Rhopalidae (Heteroptera: Pentatomomorpha: Coreoidea), often called scentless plant bugs because of the greatly reduced ostiolar scent-gland opening (Henry 2017). Chopra (1967) studied the higher classification of the family and established the tribe Niesthreini to accommodate the New World genera *Arbyscus* Stål, 1870, *Niesthrea* Spinola, and the Old World genus *Peliochrous* Stål, 1873, based on several internal synapomorphies. Henry (1997) hypothesized the Rhopalidae as the sister group to the Coreidae + Alydidae and the Hyocephalidae + the Stenocephalidae in the pentatomomorphan superfamily Coreoidea.

Prior to this study, 14 species of *Niesthrea* were recognized (Chopra 1973, Grillo and Alayo 1978, Froeschner 1989, Göllner-Scheiding 1989). The type species of the genus, *Lygaeus sidiae* Fabricius, 1794, was first placed in the preoccupied genus *Coryna* Wolff (1811). Spinola (1837) described the subgenus *Niesthrea* (in the genus *Corizus* Fallén) for *L. sidiae*, which was elevated to genus by Baker (1908). Chopra (1973) later revised *Niesthrea* and recognized ten species, including five previously described species (*Niesthrea louisianica* Sailer, *Niesthrea pictipes* (Stål), *Niesthrea sidiae*, *Niesthrea*

*ventralis* (Signoret), *Niesthrea vincentii* (Westwood)) and five new species (*Niesthrea agnes*, *Niesthrea brevicauda*, *Niesthrea digna*, *Niesthrea dentata*, and *Niesthrea similis*). Subsequently, Grillo and Alayo (1978) added *Niesthrea flava*, *Niesthrea parasidae*, and *Niesthrea remediana* from Cuba; Göllner-Scheiding (1989) described *Niesthrea josei* from Argentina and synonymized *N. remediana* under *N. louisianica*; and Froeschner (1989) added *N. ashlocki* from the Galápagos Islands. *Corizus campoi* Porter (1921), described from Chile and considered a *nomen dubium* by Göllner-Scheiding (1989), was synonymized under *Niesthrea fenestrata* (Signoret 1859) by Prado (2008).

In this paper, we revise and redescribe the genus, diagnose previously described species, synonymize *N. ashlocki* and *N. remediana* (revised synonymy) under *N. flava*, synonymize *N. parasidae* under *N. sidiae*, elevate *Niesthrea pictipes casinii* Göllner-Scheiding to species status, designate a neotype for *C. campoi* Porter, and describe six new species. A color habitus illustration of *N. flava*, color digital images of all adults and male genitalia, and an identification key to 20 species, based primarily on males, are provided to help facilitate identification.

## Methods

Adult habitus images were taken using an EntoVision Imaging Suite that included a JAI Technologies (AT-200GE) digital camera mounted to a Leica Z16 zoom lens via a Leica z-step microscope, and multiple focal planes were merged using Cartograph 8.0.6 (Microvision Instruments, France) software. Male genitalia were imaged using a Leica DMRB compound microscope with Nomarski differential contrast optics, coupled with an EntoVision Imaging Suite, which includes a JVC KY-75 3CCD digital camera. Individual planes of focus were captured using ARCHIMED 5.6.0 and merged into a single composite image using Zerenstacker v. 1.04. Color photos and illustrations were edited using Adobe Photoshop CS4 and numbered in Adobe Illustrator CS4. Micrographs were taken using a Zeiss EVO/MA15 scanning electron microscope. Specimens were glued to standard SEM stubs, sputter coated with a gold-palladium alloy, and examined at 6–10 KV. SEM plates were created in Photoshop CS4 and numbered in Adobe Illustrator CS4.

Lending institution and their curators include the following:

AMNH (American Museum of Natural History, New York, New York; R.T. Schuh and R. Salas);  
 BMNH (The Natural History Museum, London, England; M.D. Webb);  
 MACN (División Entomología, Museo Argentino de Ciencias Naturales 'B. Rivadavia', Buenos Aires, Argentina; A. Roig);  
 MLP (Museo de La Plata, Buenos Aires, Argentina; P.M. Dellapé);  
 MNHN (Muséum National d'Histoire Naturelle, Paris, France; E. Guillet)  
 MPUJ (Museo Pontificia Universidad Javeriana, Bogotá, Colombia; D. Forero);  
 USNM ([U.S.] National Museum of Natural History, Washington, DC; T.J. Henry).

This article was registered in the Official Register of Zoological Nomenclature (ZooBank) as urn:lsid:zoobank.org:pub:39CF169F-E230-4584-A0C7-42CA2E833188. For previously describe taxa, we give lsid numbers registered in the CoreoideaSpecies File ([CoreoideaSF Team 2018](#))

## Results

### *Niesthrea Spinola, 1837*

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452477)

*Coryna Wolff, 1811*: iv (original description). Type species: *Lygaeus sidae* Fabricius, 1794. Preoccupied by *Coryna Bosc, 1802* (Coelenterata).

*Corizus* (*Niesthrea*) *Spinola, 1837*: 245 (original description); Stål, 1870: 223 (diagnosis); *Berg, 1878*: 186 (list of species); *Van Duzee, 1916*: 15 (checklist), 1917: 123 (catalog); *Torre-Bueno, 1941a*: 286 (keys), 1941b: 95 (keys). Type species: *Lygaeus sidae* Fabricius, 1794. Monotypic.

*Niesthrea*: *Baker, 1908*: 243 (revised status); *Harris, 1943*: 201 (generic status); *Chopra, 1967*: 370 (description, key), 1973: 443 (description); *Göllner-Scheiding, 1983*: 52 (catalog); *Henry, 1988*: 659 (catalog); *Froeschner, 1989*: 611 (list); [CoreoideaSF Team, 2018](#) (online catalog).

Type species. *Lygaeus sidae* Fabricius, 1794.

### Diagnosis

*Niesthrea* (Fig. 1) is best distinguished from all other New World genera by a combination of the lateral margin of the pronotum

lacking a notch behind the collar; the slender, mutic, hind femora that are subequal to the diameter of the front and middle femora; the pronotum without a delimited collar; the surface between the anterior pronotal margin and calli distinctly punctate; the labium extending beyond the hind coxae to the posterior margin of abdominal segment II or beyond; and the structure of the male genitalia. The male genital capsule (Fig. 2) has an elevated, variably shaped, median lobe; a lateral lobe ranging from slender and apically acute to wide at the base and broadly rounded apically; and the parameres varying in shape from vertical and slender to rounded, triangular, or broadly transverse. In addition, species of *Niesthrea* have a uniquely shaped head that is only slightly broader than long, with a median groove on the frons; the ocelli are closer to the compound eyes than to each other; and the femora and tibiae usually have large, dark, coalescing spots and bands.

*Niesthrea* forms a monophyletic group with the genera *Arhyssus* and *Peliochrous* based on the phragma at the junction of the first and second abdominal terga moderately developed; the well-developed apodeme of the seventh sternum in males; and the two dorsolateral lobes on the theca *Chopra (1967)*. *Niesthrea* seems closely related to *Arhyssus* in sharing straight lateral pronotal margins, slender mutic hind femora, a distinct metathoracic scent gland, a relatively long labium, a grooved frons, and the lack of a distinct collar. *Niesthrea* is distinguished from *Arhyssus* by the proportionately narrower head width to length ratio (vs much wider than long), the longer labium that extends from the posterior margin of the hind coxae to abdominal segment IV (vs not extending beyond the hind coxae), and the large conspicuous median lobe of the male genital capsule (vs median lobe absent or greatly reduced). *Peliochrous* is distinguished from *Arhyssus* and *Niesthrea* in lacking a distinct groove on the frons and having the ocelli nearly touching the compound eyes (*Chopra 1967*).

### Redescription

**Body:** Oblong to elongate oval. **Head:** Length about 0.90 the width across eyes; eyes prominent, ocelli closer to compound eyes than to each other; clypeus raised above mandibular plate; frons punctate through middle with a distinct median groove; antenniferous tubercles small, numerous, uniformly distributed setae long, some becoming bristlelike. **Labium:** Length of segments I and II subequal, III shortest, IV longest, extending from the base of grooved abdominal segment II to the middle of segment IV. **Antenna:** Segment I shortest, stoutest, often with a single dark line ventrally and a V- or U-shaped mark dorsally; segments II and III slender, segment II longer than III, often with long, erect setae two times or more the diameter of segment; segment IV, longest, fusiform, densely set with short, semierect setae. **Pronotum:** Trapeziform, lateral and basal margins straight, evenly and deeply punctate, posterior angles rounded, lateral margins and median line weakly carinate, calli weakly raised, delimited collar absent, distinctly punctate between anterior margin and calli, cicatrices (shiny grooved lines) behind calli distinct; with numerous, evenly scattered, long, erect setae. **Scutellum:** Longer than wide at base; basal two-thirds punctate on either side of median carina, apical third impunctate, depressed through middle. **Hemelytron:** Claval and corial cells clear to fumate; veins and apex of corium opaque, usually pale, with scattered erect setae shorter than those on head or pronotum; membrane clear to translucent brown. **Ventral surface:** Shiny, pro-, meso-, and metapleura distinctly punctate, abdomen impunctate; pro-, meso-, and metasternum, and abdominal segment III grooved to receive labium; evenly set with relatively short, semierect setae. **Metathoracic scent gland and evaporative area (Fig. 5D):** Reduced but distinct, auricle small, deeply set ventrally between meso- and metapleura, margin narrowly bordered with



**Fig. 1.** *Niesthrea flava* Grillo and Alayo, 1978: dorsal habitus.

evaporative mushroom bodies. *Legs*: Femora weakly swollen, all subequal in diameter, with long setae sometimes subequal to diameter of segment; tibiae slender, with long, erect setae two to three times diameter of segment. *Male genitalia*: Parameres symmetrical, ranging from vertical and slender, often with one or two denticles, to broadly rounded, triangular, or transversely broad; median lobe prominent, broad, often with flared dorsolateral processes; and lateral lobe slender to greatly broadened at base, lower, even with, or higher than parameres and median lobe.

#### Discussion

Identification of the species included in *Niesthrea* is extremely difficult and nearly impossible based on external characters only. The most reliable and consistent specific characters for the taxonomy of the genus are the shape of the median and lateral lobes of the genital capsule and the structure of the parameres in males. External morphology and relative lengths of various parts are not or are minimally useful in identifying females. Although we use the length of the labium to help distinguish species, this character may vary and can be distorted, depending on how the

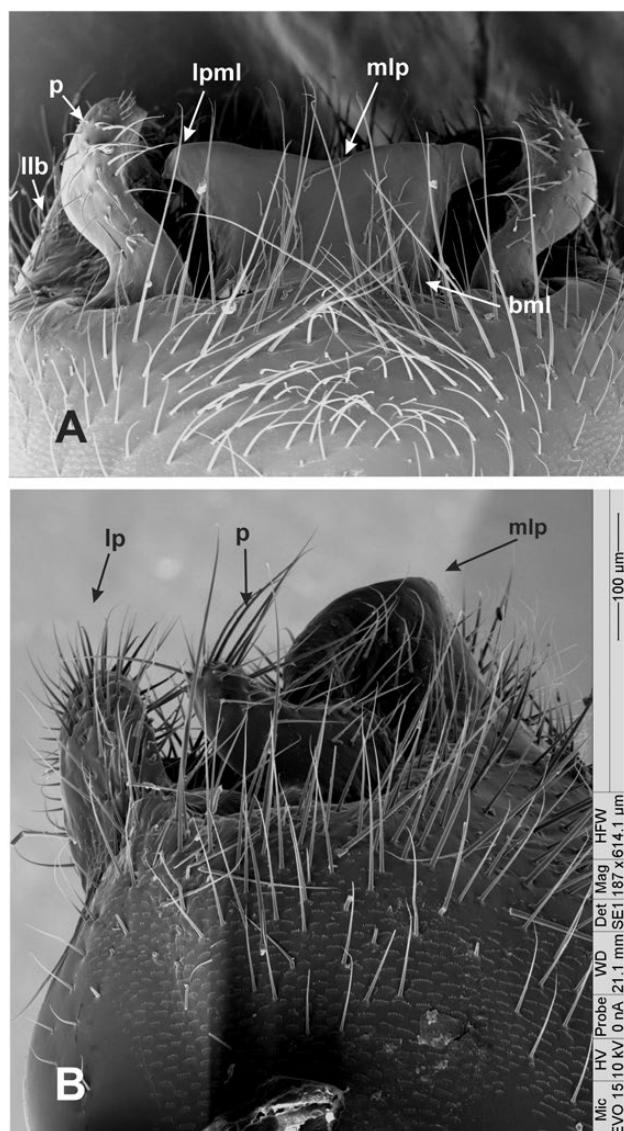
specimen is mounted, for example, point-mounted versus pinned through the body [Note that abdominal segment II is the first visible segment.]. Therefore, females, except for the most distinctive species (e.g., *N. fenestrata* and *N. ventralis*) or because of unique distributions (e.g., *N. louisianica* and *N. sidae* in the United States), cannot be accurately identified, except by their association with males.

As Chopra (1967) noted, the major tribal characters defining Niesthreini are internal. He also illustrated the male endosoma for *N. sidae*, which is generalized for the genus, as it is for most Coreoidea and do not have any obvious characters to distinguish species. Consequently, we do not illustrate this structure.

#### Key to the Males of *Niesthrea*

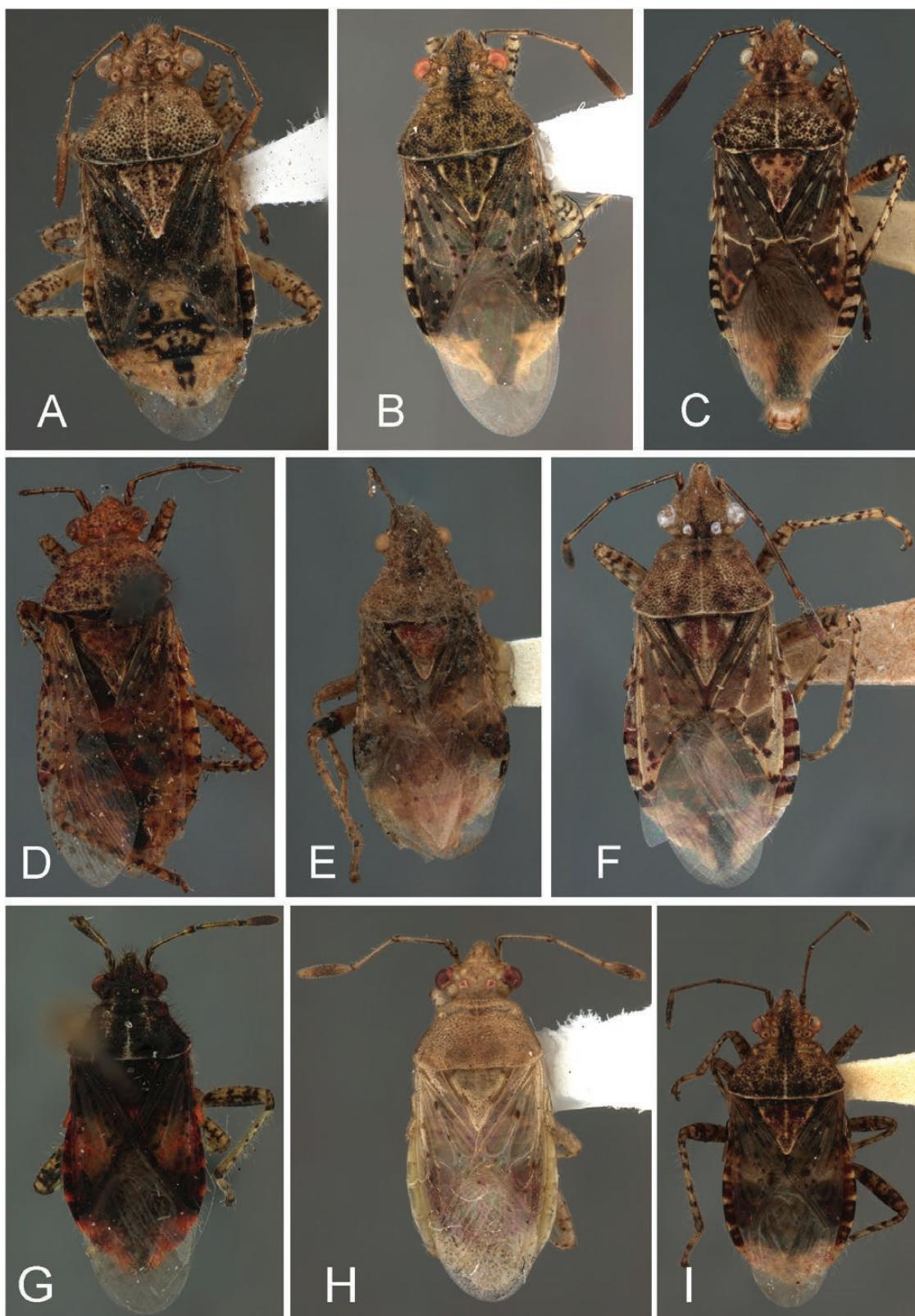
1. Paramere transversely broad (Figs. 6G, 9A, 10E, and 11E), quadrate, or broadly rounded (Figs. 6A, 9C, 10A, and 11A) ....
- .....
- Paramere vertical and relatively slender (Figs. 6A,E, 8A,C,E,G, 9E,G, 10C,G, and 11C) ..... 10
2. Paramere transversely broad (Figs. 6G, 9A, 10E, and 11E) .... 3

- Paramere quadrate or broadly rounded (Figs. 6C, 9C, 10A, and 11A) ..... 6
- 3. Median lobe broadly expanded apically, with broadly round lateral processes, often somewhat heart-shaped (Figs. 10E and 11E) ..... 4
- Median lobe conical, quadrate, or weakly expanded apically ..... 5
- 4. Paramere (Fig. 10E) curved at apex, with a small denticle at base and apex; USA to Panama, and northern areas of the West Indies ..... *sidae* (Fabricius) (Fig. 4F)
- Paramere (Fig. 11E) pointed at apex, with a darkly pigmented protuberance basally; Argentina to Venezuela, and the southern West Indies ..... *vincentii* (Westwood) (Fig. 5A)
- 5. Lateral lobe slender (Fig. 9A and B), extending above median lobe and parameres; median lobe weakly flared distally; paramere (Fig. 9A) with an elongate tubercle toward median lobe; Argentina and Bolivia .... *josei* Göllner-Scheiding (Fig. 3I)
- Lateral lobe (Fig. 6H) broad in lateral aspect, not extending above parameres; median lobe rounded distally; paramere (Fig. 6G) bluntly rounded toward median lobe; Argentina ..... *conicoloba* sp. nov. (Fig. 3D)
- 6. Median lobe (Figs. 6C and 9C) reduced; paramere broadly rounded (Fig. 9C), much larger than median lobe; lateral lobes much shorter than parameres ..... 7
- Median lobe (Fig. 10A) large; paramere more quadrate (Fig. 10A); lateral lobe shorter or higher than paramere ..... 8
- 7. Median lobe (Fig. 6C) distinctly heart-shaped; paramere round, without denticles; lateral lobe (Fig. 6C and D) relatively slender and moderately pubescent; labium extending to base of abdominal segment III; Ecuador and Peru ..... *brevicauda* Chopra (Fig. 3B)
- Median lobe (Fig. 9C) angulate; paramere round, with two distinct denticles; lateral lobe (Fig. 9D) stout and thickly pubescent; labium extending to base of abdominal segment II; Peru ..... *lateralaloba* sp. nov. (Fig. 4A)
- 8. Paramere (Fig. 10A) quadrate with a basal denticle; Argentina Belize, Bolivia, Brazil, Ecuador, Paraguay, and Peru ..... *pictipes* (Stål) (Fig. 4D)
- Paramere semicircular on outer side (Fig. 11A) without a basal denticle ..... 9
- 9. Median lobe quadrate (Fig. 11A); labium extending to abdominal segment III; Brazil and Colombia ..... *truncata* sp. nov. (Fig. 4H)
- Median lobe (Fig. 7A) narrow basally and distinctly conical apically; labium extending to apices of hind coxae; Argentina and Uruguay ..... *casinii* Göllner-Scheiding
- 10. Paramere without denticles ..... 11
- Paramere with denticles ..... 12
- 11. Median lobe rounded (Fig. 6A), with apex weakly indented; paramere (Fig. 6A) relatively slender, subequal to height of median lobe; lateral lobe (Fig. 6B) wide and rounded apically in lateral aspect; Argentina, Paraguay, and Uruguay ..... *agnes* Chopra (Fig. 3A)
- Median lobe (Fig. 8E) more quadrate, apex not indented; paramere (Fig. 8E) broader, extending above median process; lateral lobe (Fig. 8F) slender and narrower apically in lateral aspect; Chile ..... *fenestrata* (Signoret) (Fig. 3G)
- 12. Paramere (Figs. 10G and 11C) usually with two denticles on distal half ..... 13
- Paramere (Figs. 10C and 11A) with a denticle at base and, sometimes, at apex ..... 15
- 13. Lateral processes (Fig. 10G) of median lobe strongly rounded; Argentina, Brazil Colombia, Dominican Republic, Haiti, Panama, Paraguay, Peru, Puerto Rico, and Venezuela ..... *similis* Chopra (Fig. 4G)
- Lateral processes (Fig. 11C) of median lobe slender, expanded outward ..... 14
- 14. Lateral projections (Fig. 11C) of median lobe narrow, projecting upward; lateral lobes wide apically in caudal aspect; abdominal sterna with black spots on segments (Fig. 5C); labium extending to the middle of abdominal segment III or slightly beyond; Belize, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, and Panama .... *ventralis* (Signoret) (Fig. 4I)
- Lateral projections (Fig. 6E) of median lobe thicker, projecting laterally; lateral lobes narrow apically in caudal aspect; abdomen without black spots; labium extending to posterior margin of abdominal segment II or to base of segment III; Argentina and Peru ..... *choprai* sp. nov. (Fig. 3C)
- 15. Paramere (Figs. 6C and 9G) with a large, stout, denticle basally ..... 16



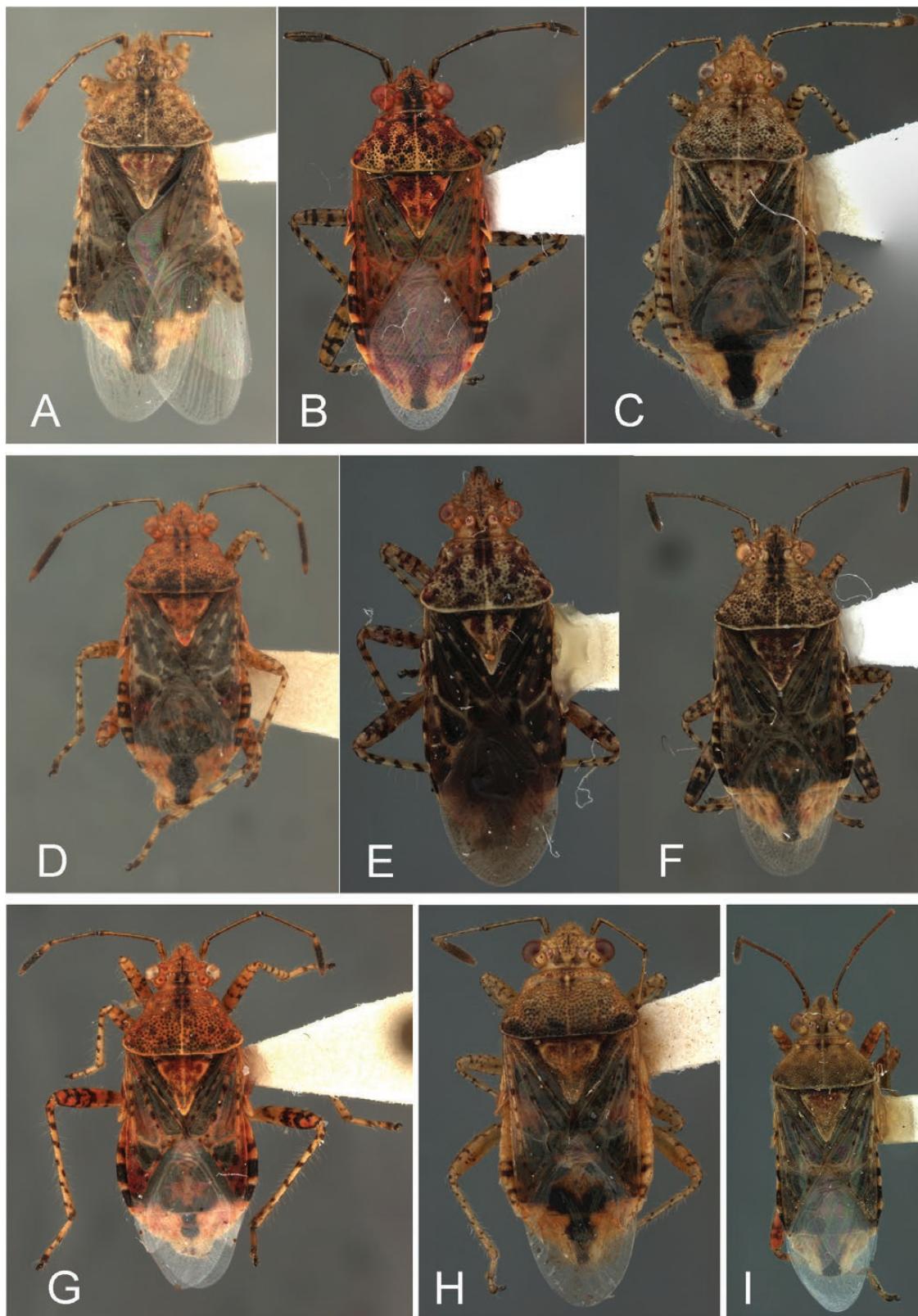
**Fig. 2.** *Niesthrea* male genitalia: (A) Ventral view. (B) Lateral view. Abbreviations: p, paramere; llb, lateral lobe; lpm, lateral projections of median lobe; mlp, median lobe of pygophore; bml, base of median lobe of pygophore.

- Panama, Paraguay, Peru, Puerto Rico, and Venezuela..... *similis* Chopra (Fig. 4G)
- Lateral processes (Fig. 11C) of median lobe slender, expanded outward ..... 14
- 14. Lateral projections (Fig. 11C) of median lobe narrow, projecting upward; lateral lobes wide apically in caudal aspect; abdominal sterna with black spots on segments (Fig. 5C); labium extending to the middle of abdominal segment III or slightly beyond; Belize, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, and Panama .... *ventralis* (Signoret) (Fig. 4I)
- Lateral projections (Fig. 6E) of median lobe thicker, projecting laterally; lateral lobes narrow apically in caudal aspect; abdomen without black spots; labium extending to posterior margin of abdominal segment II or to base of segment III; Argentina and Peru ..... *choprai* sp. nov. (Fig. 3C)
- 15. Paramere (Figs. 6C and 9G) with a large, stout, denticle basally ..... 16



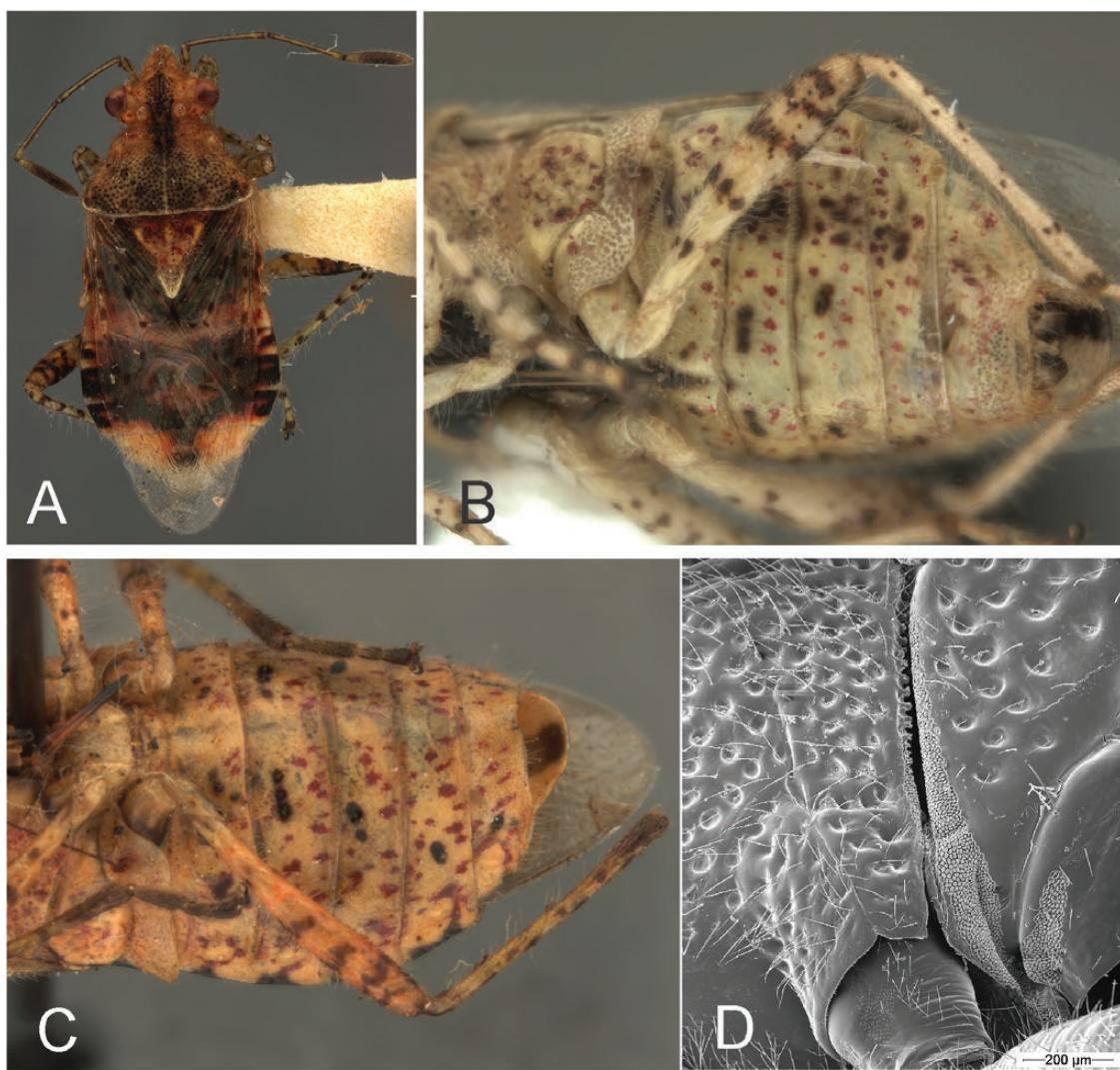
**Fig. 3.** Adult male habitus images of *Niesthrea* spp. (A) *N. agnes* Chopra. (B) *N. brevicauda* Chopra. (C) *N. choprai*, sp. nov. (D) *N. conicoloba*, sp. nov. (E) *N. dentata* Chopra. (F) *N. digna* Chopra. (G) *N. fenestrata* (Signoret). (H) *N. flava* Grillo and Alayo. (I) *N. josei* Göllner-Scheiding.

- Paramere (Figs. 8G, 9E, and 10C) without a large, stout, denticle basally, at most, with a small denticle.....18
- 16. Median lobe (Fig. 9G) narrow, with reduced lobes, narrower or subequal to width of paramere; Bolivia.....  
.....*parvaloba* sp. nov. (Fig. 4C)
- Median lobe (Fig. 8A and C) broad, with large lobes, wider than paramere.....17
- 17. Paramere (Fig. 8C) smooth between apex and large basal denticle; lateral lobe (Fig. 8D) wide and broadly rounded distally in lateral aspect; Brazil and Colombia .....*digna* Chopra (Fig. 3F)



**Fig. 4.** Adult male habitus images of *Niesthrea* spp. (A) *N. lateroloba*, sp. nov. (B) *N. louisianica* Sailer. (C) *N. parvaloba*, sp. nov. (D) *N. pictipes* (Stål). (E) *N. rostrata*, sp. nov. (F) *N. sidae* (Fabricius). (G) *N. similis* Chopra. (H) *N. truncata*, sp. nov. (I) *N. ventralis* (Signoret).

- Paramere (Fig. 8A) roughened with short denticles between apex and large basal denticle; lateral lobe narrower and more slender distally in lateral aspect; Bolivia and Brazil.....  
.....*dentata* Chopra (Fig. 3E)
- 18. Paramere (Fig. 10C) subtriangular, apically rounded, with a small basal denticle; lateral margins of median lobe sometimes weakly crenulate; lateral lobes much shorter than parameres or median lobe in caudal aspect; labium extending to middle of



**Fig. 5.** (A) Adult male habitus image of *Niesthrea vincentii* (Westwood). (B) *N. brevicauda* Chopra, lateroventral view of male abdomen. (C) *N. ventralis* (Signoret), lateroventral view of male abdomen. (D) *N. sidae* (Fabricius), metathoracic scent gland.

- abdominal segment IV or beyond; Colombia and Ecuador.....  
.....*rostrata* sp. nov. (Fig. 4E)
- Paramere elongate and vertical; lateral margins of median lobe smooth, never crenulate; lateral lobes shorter or higher than median lobe; labium shorter.....19
- 19. Lateral lobes (Fig. 9E) much higher than parameres in caudal aspect; larger, often colorful species (length 7.55–8.16 mm); labium extending to the base of segment of IV; Costa Rica, Jamaica, Mexico, and Nicaragua, and the southern United States (including Hawaii) .....*louisianica* Sailer (Fig. 4B)
- Lateral lobes (Fig. 8G) not higher than parameres in caudal aspect; smaller, usually pale species (length 5.15–6.34 mm); labium extending to base of abdominal segment III; Bahamas, Brazil, British Virgin Islands, Cuba, Dominican Republic, and Ecuador (Galápagos Islands)....*flava* Grillo and Alayo (Fig. 3H)

#### *Niesthrea agnes* Chopra, 1973

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452503)  
(Figs. 3A and 6A–B)

*Niesthrea agnes* Chopra, 1973: 455 (original description); Göllner-Scheiding, 1983: 53 (catalog); Froeschner, 1989: 611 (list,

distribution); Pall and Coscarón, 2012: 1458 (catalog); Melo and Montemayor, 2014: 454; Melo and Montemayor, 2015: 5–6 (distribution); Fowles et al., 2015: 620 (list, distribution); CoreoideaSF Team, 2018 (online catalog).

#### Diagnosis

*Niesthrea agnes* is distinguished by the relatively slender, vertical parameres (Fig. 6A) that lack distinct inner denticles, the broadly rounded median lobe with the apex weakly concave or indented and only the base constricted, the subequal height of the parameres and the median lobe, and the broad, apically rounded lateral lobe (Fig. 6A and B). The labium extends to the base of abdominal segment III.

The male genitalia of this species are most similar to those of *N. fenestrata*, known only from Chile. The parameres (Fig. 8E) of *N. fenestrata* are similar but slightly broader, the median lobe is broader and more quadrate with the apex straight and without any indentation, and the lateral lobe (Fig. 8F) is distinctly more slender and more tapered apically. In addition, *N. agnes* is smaller (5.23–5.70 mm), pale brown to brown with distinct small red spots dorsally, and the labium extends only to the apices of the hind coxae, whereas *N. fenestrata* is considerably larger (6.98–8.16 mm), usually strongly dark red with dark red dorsal spots showing through on

palest specimens, and the labium extends well beyond the hind coxae to the base of abdominal segment III.

#### Measurements

**Males** ( $n = 5$ ; holotype measurements in parentheses): Length 5.23–5.70 mm, mean 5.43 mm (5.57 mm), width across abdomen 2.09–2.30 mm, mean 2.21 mm (2.46 mm). **Head**: Length 1.03–1.13 mm, mean 1.10 mm (1.09 mm), width across eyes 1.32–1.34 mm, mean 1.33 mm (1.38 mm), interocular width 0.79–0.84 mm, mean 0.82 mm (0.86 mm). **Labium**: Length 1.85–2.16 mm, mean 2.03 mm (2.80 mm). **Antenna**: Segment I length 0.34–0.48 mm, mean 0.39 mm (0.38 mm), II 0.77–0.96 mm, mean 0.86 mm (0.93 mm), III 0.65–0.67 mm, mean 0.66 mm (0.86 mm), IV 0.84–0.86 mm, mean 0.85 mm (0.96 mm). **Pronotum**: Length 1.01–1.08 mm, mean 1.04 mm (1.15 mm), basal width 0.98–1.08 mm, mean 1.03 mm (2.05 mm).

**Females** ( $n = 4$ ): Length 4.47–5.70 mm, mean 5.15 mm, width across abdomen 1.80–2.42 mm, mean 2.11 mm. **Head**: Length 1.03–1.20 mm, mean 1.09 mm, width across eyes 1.13–1.42 mm, mean 1.28 mm, interocular width 0.70–0.86 mm, mean 0.80 mm. **Labium**: Length 2.21–2.47 mm, mean 2.32 mm. **Antenna**: Segment I length 0.34–0.36 mm, mean 0.34 mm, II 0.70–0.84 mm, mean 0.76 mm, III 0.67–0.77 mm, mean 0.71 mm, IV 0.82–1.01, mean 0.89 mm. **Pronotum**: Length 0.86–1.15 mm, mean 1.01 mm, basal width 0.91–1.10 mm, mean 0.99 mm.

#### Hosts

Two males were taken on *Pseudabutilon virgatum* (Cav.) [Malvaceae] in Córdoba, Argentina, and one female on *Sphaeralcea* sp. [Malvaceae] in Catamarca, Argentina.

#### Distribution

Described from Argentina (Chopra 1973). Paraguay and Uruguay are new country records.

#### Type material

**HOLOTYPE**: Male, Argent.[ina], Potrerillos, Mend.[oza], alt. 4000 ft, 16/20–III-[19]'20, Harris collector (BMNH).

#### Other material examined

**ARGENTINA**: *Buenos Aires*: 6 males 5 females, B. Aires, 9–IV-[19]40, J.B. (MACN); 3 males, Tigre, Delta, 7–IV–1927, swept in orchard, M. Kisliuk (USNM). *Catamarca*: 1 female, Aldagalá, 29–XI–1989, on *Sphaeralcea*, J.G. Rozen and A. Roig (AMNH); 1 male, 1 female, 5 km N Los Altos, 498 m, 28.01° S 65.57° W, 27–II–2006, sweeping, T.J. Henry and D. Forero (AMNH). *Córdoba*: 1 male, 4 females, 30 km S Mina Clavero, 900 m, 31°53.017' S 65°1.277' W, 25–II–2006, D.A. Rider (USNM); 2 males, 30 km S Mina Clavero, 900 m, 31.88° S 65.02° W, 25–II–2006, on Malvaceae: *Pseudabutilon virgatum* (Cav.), T.J. Henry and D. Forero (AMNH); 1 male, 15 km NW Alta Gracia, 835 m, 31.59° S 64.50° W, 24–II–2006, sweeping, T.J. Henry and D. Forero (AMNH). *La Rioja*: 1 female, Trapiche Durazno, 1,600–1,800 m, 1/3–I–1931, Hayward, H.M. Harris colln. (USNM); 3 females, Nido de Famatina, Trapiche Durazno, 1600–1800 m, 1/3–I–1931, H.M. Harris colln. (USNM); 2 males, Guandacol, 42 km SW Villa Union, 28–XI–1993, J.G. Rozen (AMNH). *Mendoza*: 1 male, 15 km W Mendoza, 1,000 m, 7/8–XII–1979, C. and M. Vardy, B.M. 1980–67 (BMNH); 2 males, Cacheuta, H.M. Harris colln. (USNM); 3 males 5 females, Ñacuñán, I–[19]76, A. Roig. (MACN). *Misiones*: 1 male, Iguazú Nat. Park, hostería Hoppe, c. 140 m, Malaise trap, 10/11–IV–1974, C.R. Vardy, B. M.

1974–204 (BMNH). *Salta*: 1 male, 1 female, 6 km SW Pichanal, 9–XI–1993, J.G. and B.L. Rozen (AMNH); 1 male, Rio Bermejo, V–1814, J. Steinbach, Carnegie Mus., H.M. Harris colln. (USNM). *Santiago del Estero*: 14 males, 13 females, Frías, swept from decaying citrus plant, 25–V–1927, M. Kisliuk (USNM). *Tucumán*: 1 male, Tucumán, swept in citrus grove, 2–V–1927, M. Kisliuk (USNM); 2 males, 26 km SE Amaicha del Valle, 2,800 m, 2–I–1982, R.T. Schuh and B.M. Massie (AMNH); 1 male, between Taruca Pampa and Rio del Nio, 29–X–1989, J.G. Rozen and A. Roig (AMNH); 1 male, Tafí del Valle, Amaicha d.[el] V.[alle] road, c. 2780 m, 18–III–1974, C.R. Vardy, B.M. 1974–204 (BMNH); 1 male, Tucumán, II–[19]03 (MLP); 1 male, Tafí del Valle, Amaicha d.[el] V.[alle] road, c. 2,780 m, 18–III–1974, C. R. Vardy, B.M. 1974–204 (BMNH). **PARAGUAY**: 1 male, Asunción, verano, B. Podtiaguín, Slater colln. (AMNH). **URUGUAY**: 2 males, sweeping from Montevideo to Salto, 6/14–III–1940, H.J. Parker (USNM); 2 males, 5 females, S. Luzia, 4–I–1952, C.M. Biezanko, B.M. 1953–477 (BMNH).

#### *Niesthrea brevicauda* Chopra, 1973

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452501) (Figs. 3B, 5B, and 6C–D)

***Niesthrea brevicauda* Chopra, 1973**: 455 (original description); Göllner-Scheiding, 1983: 53 (catalog); Froeschner, 1989: 611 (list, distribution); Fowles et al., 2015: 621 (list, distribution); CoreoideaSF Team, 2018 (online catalog).

#### Diagnosis

This species is distinguished by large, broadly rounded parameres (Fig. 6C), without stout denticles; the small, heart-shaped median lobe, and the relatively small and moderately pubescent lateral lobes (Fig. 6C and D). Externally, this species is drab pale brown, with small, brown dorsal spots, the abdominal sterna have dark spots (Fig. 5B), and the labium extends to the base of abdominal segment III.

The male genitalia of *N. brevicauda* are most similar to those of *N. lateroloba* sp. nov. based on the large round parameres (Fig. 9C), reduced median lobe, and short, rounded lateral lobes. However, *N. brevicauda* lacks two distinct denticles on the parameres, the median lobe is distinctly heart-shaped, and the lateral lobes are narrowly rounded apically, with shorter, more sparsely pubescent, whereas *N. lateroloba* sp. nov. has two stout denticles on the inner margin of the parameres, the median lobe is more quadrate or angular, and the lateral lobes are broadly rounded apically and densely pubescent.

#### Measurements

**Male**: ( $n = 5$ ; holotype measurement in parentheses): Length 5.44–6.27 mm, mean 5.73 mm (5.89 mm), width across abdomen 2.18–2.43 mm, mean 2.27 mm (2.30 mm). **Head**: Length 1.12–1.20 mm, mean 1.17 mm (1.18 mm), width across eyes 1.13–1.38 mm, mean 1.29 mm (1.34 mm), interocular width 0.78–0.82 mm, mean 0.81 mm (0.82 mm). **Labium**: Length 2.44–3.32 mm, mean 2.66 mm (2.62 mm). **Antenna**: Segment I length 0.35–0.40 mm, mean 0.37 mm (0.38), II 0.72–0.80 mm, mean 0.74 mm (0.74 mm), III 0.48–0.72 mm, mean 0.66 mm (missing, length given by Chopra 0.75 mm), IV 0.88–0.92 mm, mean 0.91 mm (missing). **Pronotum**: Length 1.00–1.15 mm, mean 1.06 mm (1.00 mm), basal width 1.55–2.05 mm, mean 1.88 mm (1.95 mm).

**Females** ( $n = 4$ ): Length 4.91–6.27 mm, mean 5.92 mm, width across abdomen 2.24–2.56 mm, mean 2.53 mm. **Head**: Length 1.06–1.25 mm, mean 1.15 mm, width across eyes 1.28–1.42 mm, mean

1.36 mm, interocular width 0.80–0.88 mm, mean 0.85 mm. *Labium*: Length 2.92–3.12 mm, mean 3.01 mm. *Antenna*: Segment I length 0.32–0.35 mm, mean 0.34 mm, II 0.72–0.88 mm, mean 0.82 mm, III 0.72–0.80 mm, mean 0.77 mm, IV 0.92–1.04 mm, mean 0.98 mm. *Pronotum*: Length 1.05–1.25 mm, mean 1.18 mm, basal width 1.95–2.25 mm, mean 2.09 mm.

#### Hosts

Specimens have been taken on *Helianthus* sp. [Asteraceae], *Moluccella* sp. [Lamiaceae], *Origanum majorana* L. [Lamiaceae], and *Thymus vulgaris* L. [Lamiaceae], all of which may be incidental records.

#### Distribution

This species was described from Peru (Chopra 1973). Ecuador is a new country record.

#### Type material

HOLOTYPE: Male, PERU, Chosica, 16–VI-[19]1? [year illegible, pierced by insect pin; date 1911 given by Chopra 1973], H.S. Parish (BMNH).

#### Other material examined

ECUADOR: 1 male, intercepted at Miami, Florida, from Ecuador, 23–X–2006, on *Moluccella* sp., APHIS Port #305788 (USNM); 1 male, Puerto Viejo (Manabi prov.) to Quevedo (Los Ríos prov.), 400 m, 13–IV–1965, L.E. Peña (AMNH); 1 male, 4 females, Celica, 2,200 m, 16/18–VIII–1977, L.E. Peña G., Drake colln. (USNM); 1 male, 1 female, Macara-Catacocha, 400–650 m, 14/15–VIII–1977, L.E. Peña G., Drake colln. (USNM). PERU: 1 male, Piura, 4–V–1941, on cotton, E.J. Hambleton (USNM); 1 male, intercepted at Miami, Florida from Peru, 20–VII–2011, on *Helianthus* sp., APHIS Port #478999 (USNM); 1 male, intercepted at Miami, Florida from Peru, 31–X–2011, with *Origanum majorana*, APHIS Port #492872 (USNM); 1 male, intercepted at Miami, Florida from Peru, 5–VII–2017, with *Thymus vulgaris*, 596895206–1717312–DR01 (USNM); 1 male, 3 females, Peru, Jequetepeque, 4–IV–1935, Llamar (USNM); 14 males, 5 females, Cajamarca, Jaén, 550 m, 5–VII–1972, R.T. and J.C. Schuh (AMNH).

#### *Niesthrea casinii* Göllner-Scheiding, 1984, status nov.

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452489) (Fig. 7A and B)

*Niesthrea pictipes casinii* Göllner-Scheiding, 1984: 116 (original description); Froeschner, 1989: 611 (list); CoreoideaSF Team, 2018 (online catalog).

#### Diagnosis

*Niesthrea casinii* is recognized by the vertical, rounded parameres (Fig. 7A), the conical or helmet-shaped median lobe, and the short lateral lobes (Fig. 7B), based on the figures provided by Göllner-Scheiding (1984).

This species is most similar to *N. pictipes* and *N. truncata* sp. nov. based on the general shape of the parameres. *Niesthrea casinii* (Fig. 7A) can be distinguished from *N. pictipes* (Fig. 10A) by the broadly rounded parameres (vs quadrate) and the conical median lobe (vs broadly rounded and indented apically), and from *N. truncata* sp. nov. (Fig. 11A), by conical median lobe (vs quadrate and apically truncate) and the lateral lobes shorter than the parameres (vs lobes distinctly higher than parameres).

**Description** (modified from Göllner-Scheiding 1984). Head relatively pointed, yellow brown, with long setae; pronotum yellowish, mottled with dark spots posteriorly; scutellum yellowish, with red spots at the base; hemelytral veins pale yellow, with distinct brown spots; membrane extending beyond abdomen; abdominal dorsum predominantly black, tergites 5 and 6 light brown centrally, tergite 7 yellowish, with a dark center line; connexivum dark brown, each with a bright central spot; labium reaching the posterior region of the hind coxae; underside yellowish, with reddish spots.

#### Measurements (after Göllner-Scheiding, 1984)

Males: Length 5.4–6.2 mm, width 1.8–2.1 mm. Females: Length 5.7–5.9 mm, width 2.2–2.3 mm.

#### Host

Unknown.

#### Distribution

Known from Argentina and Uruguay (Göllner-Scheiding 1984).

#### Discussion

Although we have not seen specimens of *N. casinii*, Göllner-Scheiding's (1984) figures of male genitalia, especially the conical median lobe, clearly show that it is distinct from *N. pictipes* and other members of the genus.

#### Material examined

None.

#### *Niesthrea choprai* Melo and Henry sp. nov.

(urn:lsid:zoobank.org:act:C01601C9-1EBC-43F0-BB75-3B3DF9570892) (Figs. 3C and 6E–F)

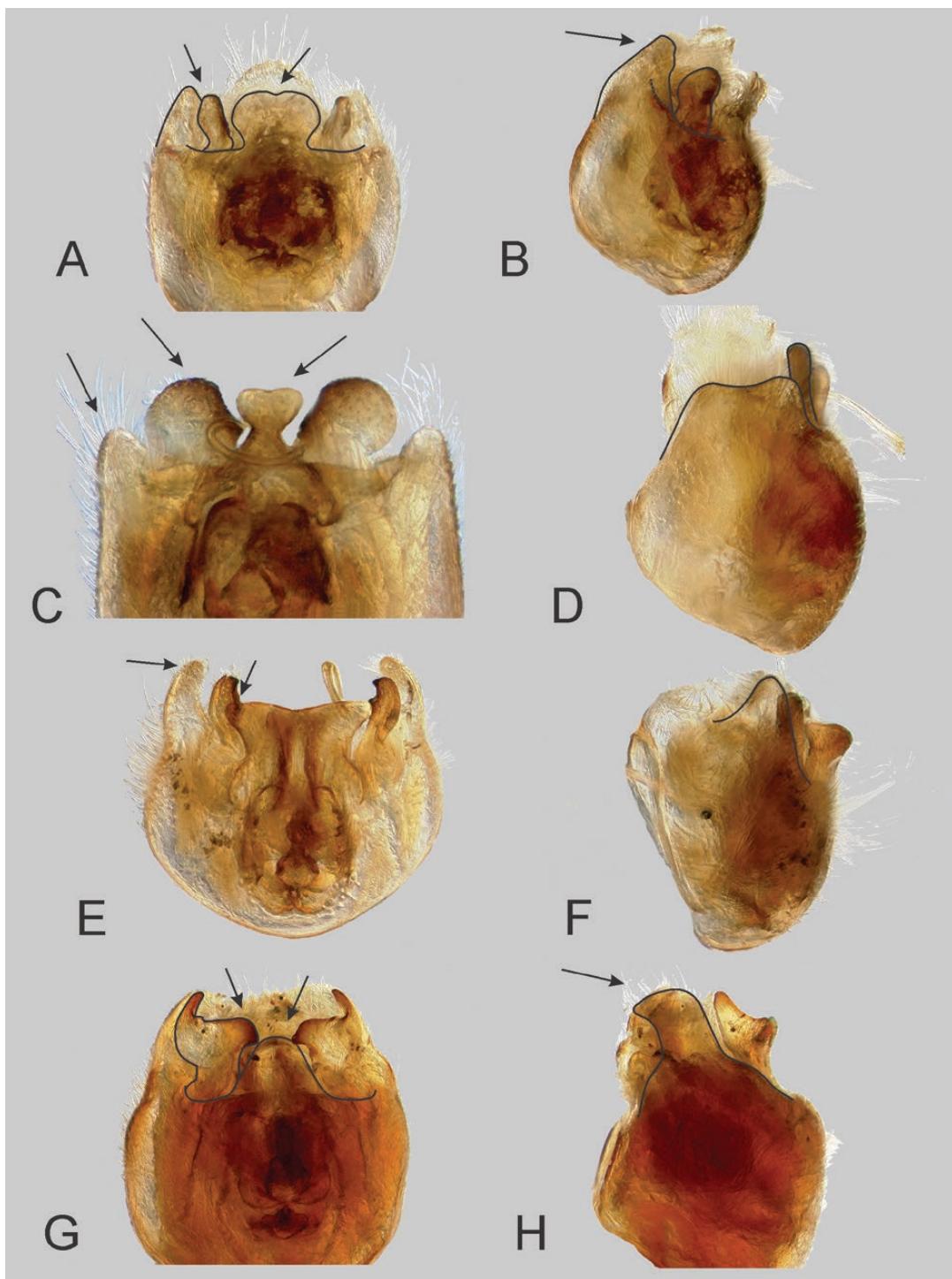
#### Diagnosis

This species is distinguished by the vertical, relatively slender parameres (Fig. 6E) with two distinct denticles on the distal half, the lateral processes on the median lobe straight, expanding horizontally, and the slender lateral lobes extending only slightly above the parameres. The labium extends to the posterior margin of abdominal segment II or base of segment III.

*Niesthrea choprai* is most similar to *N. ventralis* (Fig. 11C), but differs by the horizontally directed lateral processes on the median lobe (versus distinctly V-shaped in *N. ventralis*), the more slender lateral lobes (vs thickened and apically rounded in *N. ventralis*), and the lack of a lateral black spot on each of the abdominal segments (vs with spots in *N. ventralis*).

#### Description

**Head:** Yellowish brown, with dark brown markings on vertex between and around ocelli; with numerous semierect pale setae, intermixed with longer dark brown, bristlelike setae. **Labium:** Extending to posterior margin of abdominal segment II or base of segment III. **Antenna:** Segment I yellowish brown, with a red streak on ventral side; segments II and III yellowish brown, mottled with reddish brown spots, with long, scattered setae, some two times diameter of segment; segment IV reddish brown, with dense, short, semierect setae. **Pronotum:** Yellow to yellowish brown, densely spotted with red to dark reddish brown spots, median line yellow, with numerous erect pale brown setae, intermixed with



**Fig. 6.** *Niesthrea* male genitalia. (A–B) *Niesthrea agnes* Chopra: (A) Ventral view. (B) Lateral view. (C–D) *N. brevicauda* Chopra: (C) Ventral view. (D) Lateral view. (E–F) *N. choprai*, sp. nov.: (E) Ventral view. (F) lateral view. (G–H) *N. conicoloba*, sp. nov.: (G) Ventral view. (H) Lateral view.

longer, dark brown, bristlelike setae. *Scutellum*: Yellowish brown, with 10–12 red spots sometimes coalescing to form red patches. *Hemelytron*: Translucent claval and corial cells smoky brown to fumate, apex of corium often tinged with red; veins yellow to yellowish brown, with numerous dark brown spots; membrane translucent smoky brown. *Ventral surface*: Uniformly yellow to pale yellowish brown, with numerous, small, evenly spaced red spots, spots on some specimens coalescing to form red blotches, especially laterally. *Legs*: Yellowish brown, with femora and tibiae

spotted with numerous, relatively small brown to reddish brown spots, with numerous long setae, length of some on tibiae two to almost three times the diameter of the segment. *Male genitalia*: *Paramere* (Fig. 6E): Vertical, relatively slender, with two distinct denticles on distal half. *Median lobe* (Fig. 6E): Broad, constricted at middle, with lateral processes narrowed and rounded at the apex. *Lateral lobe* (Fig. 6E and F): Relatively slender, extending above parameres and median lobe in caudal aspect; much broader at base in lateral aspect.

### Measurements

**Males** ( $n = 2$ ; holotype measurements in parentheses): Length 6.66–7.17 mm, mean 6.91 mm (7.17 mm), width across abdomen 2.30–2.69 mm, mean 2.49 mm (2.69 mm). **Head**: Length 1.34–1.42 mm, mean 1.38 mm (1.44 mm), width across eyes 1.34–1.42 mm, mean 1.38 mm (1.44 mm), interocular width 0.80–0.88 mm, mean 0.84 mm (0.88 mm). **Labium**: Length 3.36 mm (3.46 mm). **Antenna**: Segment I length 0.38–0.45 mm, mean 0.42 mm (0.42 mm), II 0.90–1.02 mm, mean 0.96 mm (1.02 mm), III 0.77–0.83 mm, mean 0.80 mm (0.83 mm), IV 1.09–1.25 mm, mean 1.17 mm (1.25 mm). **Pronotum**: Length 1.25–1.40 mm, mean 1.33 mm (1.30 mm), basal width 2.20–2.30 mm, mean 2.25 mm (2.40 mm).

**Females** ( $n = 3$ ): Length 6.66–7.92 mm, mean 7.10 mm, width across abdomen 2.94–3.36 mm, mean 3.17 mm. **Head**: Length 1.28–1.50 mm, mean 1.35 mm, width across eyes 1.46–1.52 mm, mean 1.48 mm, interocular width 0.92–0.94 mm, mean 0.93 mm. **Labium**: Length 3.07–3.62 mm, mean 3.25 mm. **Antenna**: Segment I length 0.38–0.45 mm, mean 0.41 mm, II 1.06–1.09 mm, mean 1.07 mm, III 0.90–1.02 mm, mean 0.96 mm, IV 1.09–1.25 mm, mean 1.17 mm. **Pronotum**: Length 1.40–1.50 mm, mean 1.43 mm, basal width 2.45–2.75 mm, mean 2.58 mm.

### Etymology

This species is named in honor of the late Dr. Narinder Prakash Chopra (Khokar and Ramamurthy 2003), who provided the first comprehensive revision of this interesting but difficult genus.

### Host

Unknown.

### Distribution

Argentina and Peru.

### Type material

**HOLOTYPE**: Male, PERU, Cusco, Machu Pichu, 2400 m, 14/15-VII-1951, sweeping, D.H. Dieke (USNM). **PARATYPES**: 1 female, same data as for holotype; separately pointed on same pin (USNM); 1 male, Torontoy, 7000 ft, 3-IX-1911, Yale Peruv. Exped. (USNM); 2 males, same locality as for holotype, 2000 m, 13-VIII-1971, C. and M. Vardy, B.M. 1971-533 (BMNH); 1 male, 1 female, same locality as for holotype, ruins, 2000 m, 13-VIII-1971, in cop, C. and M. Vardy, B.M. 1971-533 (BMNH); 1 male, 2 females, ARGENTINA, Tucumán, 25-IV-1951, J.C. Lutz colln. (USNM).

### *Niesthrea conicoloba* Melo and Henry sp. nov.

(urn:lsid:zoobank.org:act:3DCD983A-9901-459E-88A7-41A937A92B58)

(Figs. 3D and 6G–H)

### Diagnosis

*Niesthrea conicoloba* sp. nov. is distinguished by the transversely broad parameres (Fig. 6G) with a slender, erect outer process and a large, decurved, basal denticle; the distinctly rounded or conical median lobe; and relatively short, laterally broad lateral process subequal to height of parameres. The labium extends to the base of abdominal segment III.

The parameres of *N. conicoloba* are most similar to those of *N. josei*. This new species differs in having the basal denticle of the paramere curving downward (vs more elongate and horizontal in *N. josei*), the median lobe distinctly conical (vs relatively narrow and weakly flared apically in *N. josei*); and the height of the lateral lobes and parameres subequal (vs much lateral lobe much higher in *N. josei*).

### Description

**Head**: Yellowish brown, with numerous, evenly spaced, small red spots, with scattered, long, erect, pale, bristlelike setae. **Labium**: Extending to base of abdominal segment III. **Antenna**: Segment I yellowish brown, with reddish-brown, inverted, V-shaped mark along entire length in dorsal aspect and a single reddish-brown line along inside ventral margin; segments II and III yellowish brown, each with a narrow, dark brown line along entire length, with long, scattered setae, some two or more times diameter of segment; segment IV uniformly brown. **Pronotum**: Yellowish brown, with evenly spaced, small, red spots, with scattered, erect, pale setae, some bristlelike. **Scutellum**: Yellowish brown, with evenly scattered, small, red spots. **Hemelytron**: Claval and corium cells clear, veins and apex of corium yellowish brown, with red spots; membrane clear. **Ventral surface**: Yellowish brown, with mostly evenly scattered, red spots; dorsal half of mesopleura with a large red blotch; spots laterally on abdomen sometimes coalescing to form slightly larger blotches. **Legs**: Yellowish brown, femora with large, dark brown spots, some forming larger blotches and bands, tibiae with large dark brown spots. **Male genitalia**: **Paramere** (Fig. 6G): Transversely broad, deeply excavated dorsally, outer margin with a long, erect outer process and a broad decurved inner process. **Median lobe** (Fig. 6G): Broadly conical, without dorsal lateral processes. **Lateral lobe** (Fig. 6H): Broad and hook dorsally at apex.

### Measurements

**Males** ( $n = 1$ ; holotype measurements in parentheses): Length 7.55 mm (7.68 mm), width across abdomen 2.56 mm (3.01 mm). **Head**: Length 1.38 mm (1.38 mm), width across eyes 1.58 mm (1.64 mm), interocular width 0.98 mm (1.00 mm). **Labium**: Length 3.30 mm (3.81 mm). **Antenna**: Segment I length 0.54 mm (0.51 mm), II 1.02 mm (1.02 mm), III 0.93 mm (0.96 mm), IV 1.44 mm (missing). **Pronotum**: Length 1.30 mm (1.50 mm), basal width 2.30 mm (2.50 mm).

**Female**: Unknown.

### Etymology

The specific epithet ‘*conicoloba*’ is given to denote the distinct conical median lobe that is characteristic for this species.

### Host

Unknown.

### Distribution

Argentina (Córdoba and Tucumán).

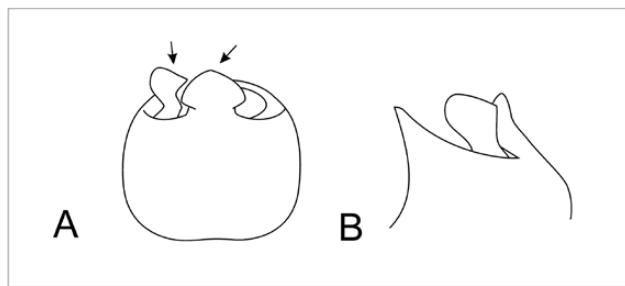
### Type material

**HOLOTYPE**: Male, ARGENTINA, Córdoba: 1 male, Córdoba, H.M. Harris colln. (USNM). **PARATYPE**: Male, ARGENTINA, Tucumán, H.M. Harris colln. (USNM).

### *Niesthrea dentata* Chopra, 1973

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452500) (Figs. 3E and 8A–B)

*Niesthrea dentatus* [sic] Chopra, 1973: 454 (original description); Göllner-Scheiding, 1983: 53 (catalog); Froeschner, 1989: 611 (list, distribution); Fowles et al., 2015: 621 (list, distribution); CoreoideaSF Team, 2018 (online catalog).



**Fig. 7.** *Niesthrea cassini* Göllner-Scheiding male genitalia, redrawn from Göllner-Scheiding (1984): (A) ventral view. (B) lateral view.

#### Diagnosis

*Niesthrea dentata* is distinguished by the slender vertical parameres (Fig. 8A) with a large stout, denticle at the base of each, the large, apically broad median lobe, and the apically slender lateral lobe when viewed laterally. The labium extends to abdominal segment II (on Bolivian specimen; holotype imbedded in glue).

This species is most similar to *Niesthrea digna* (Fig. 8A) in the general shape of the male genitalia. *Niesthrea dentata* differs in the smooth apically rounded parameres with a roughed area through the middle before the basal spine (versus smooth and concave in *N. digna*) and the apically more slender lateral lobe in the lateral aspect (versus broadly round laterally).

#### Measurements

**Male** ( $n = 1$ ; holotype measurements in parentheses): Length 6.27 mm (6.08 mm), width across abdomen 2.69 mm (2.56 mm). **Head**: Length 1.28 mm (1.12 mm), width across eyes 1.34 mm (1.28 mm), interocular width 0.78 mm (0.76 mm). **Labium**: Length 2.84 mm (glued to card; length based on Chopra 1973, 2.68 mm). **Antenna**: Segment I length 0.42 mm (0.38 mm), II 1.00 mm (0.99 mm), III 0.88 mm (0.93 mm), IV absent (1.12 mm). **Pronotum**: Length 1.20 mm (1.15 mm), basal width 2.10 mm (2.00 mm).

**Female**: Unknown.

#### Host

Unknown.

#### Distribution

Described from Brazil (Chapada) (Chopra 1973). Bolivia is a new country record.

#### Type material

HOLOTYPE: Male, BRAZIL, Chapada, highland, April (BMNH).

#### Other material examined

BOLIVIA: 1 male, Trinidad, X-1917 (USNM).

#### *Niesthrea digna* Chopra, 1973

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452499) (Figs. 3F and 8C-D)

*Niesthrea dignus* [sic] Chopra, 1973: 453 (original description); Göllner-Scheiding, 1983: 53 (catalog); Froeschner, 1989: 611 (list, distribution); Fowles et al., 2015: 621 (list, distribution); CoreoideaSF Team, 2018 (online catalog).

#### Diagnosis

*Niesthrea digna* is recognized by the slender, vertical, almost C-shaped parameres (Fig. 8C) with a large denticle at the base of each; the large, apically widened median lobe; and the broad, apically rounded lateral lobe that is subequal to the height of the parameres in lateral aspect. The labium extends to base of abdominal segment IV.

This species is most similar to *N. dentata* (Fig. 8A) in the shape of the parameres and median lobe. *Niesthrea digna* differs in having parameres more C-shaped, smooth through the middle, and with a small denticle apically (vs more triangular, roughened through the middle, and apically rounded in *N. dentata*) and the lateral lobe widened and broadly rounded apically in lateral view (vs more slender and narrowly rounded apically in *N. dentata*).

#### Measurements

**Male** ( $n = 2$ ; holotype measurement in parentheses): Length 6.08–7.49 mm, mean 6.78 mm (7.49 mm), width across abdomen 2.69–2.82 mm, mean 2.75 mm (2.50 mm). **Head**: Length 1.28–1.34 mm, mean 1.31 mm (1.41 mm), width across eyes 1.42–1.48 mm, mean 1.45 mm (1.48 mm), interocular width 0.80–0.90 mm, mean 0.85 mm (0.88 mm). **Labium**: Length 3.52–3.56 mm, mean 3.54 mm (4.16 mm). **Antenna**: Segment I length 0.42–0.45 mm, mean 0.43 mm (missing, length given by Chopra 0.50 mm), II 1.08–1.16 mm, mean 1.20 mm (missing, length given by Chopra 1.27 mm), III 1.00–1.04 mm, mean 1.02 mm (missing, length given by Chopra 1.13 mm), IV 1.32–1.55 mm, mean 1.44 mm (missing, 1.37 mm). **Pronotum**: Length 1.25–1.30 mm, mean 1.28 mm (1.45 mm), basal width 2.25–2.25 mm (3.01 mm).

**Females** ( $n = 1$ ): Length 7.55 mm, width across abdomen 3.14 mm. **Head**: Length 1.54 mm, width across eyes 1.56 mm, interocular width 0.90 mm. **Labium**: Length 4.60 mm. **Antenna**: Segment I length 0.35 mm, II 1.20 mm, III 1.08 mm, IV 1.36 mm. **Pronotum**: Length 1.40 mm, basal width 2.60 mm.

#### Host

Specimens have been taken on cotton [Malvaceae] and Melastomataceae.

#### Distribution

Described from Brazil (Chapada) (Chopra 1973). Colombia and Venezuela are new country records.

#### Type material

HOLOTYPE: Male, BRAZIL, Chapada, Oct.[ober] (BMNH).

#### Other material examined

BRAZIL: Bahia: 1 male, Chapada, H.M. Harris colln. (USNM); Distrito Federal: 2 males 1 female, 32 km N Brasilia, nr. Planaltina, 15°35'S–47°42'W, 1,000 m, 21-XI-1997, T.J. Henry, Drake colln. (USNM); Mato Grosso: 1 female, Mato Grosso, Spencer Moore, 96–204 (BMNH); Minas Gerais: 1 male, Belo Horizonte, on cotton, Parker (USNM). COLOMBIA: Boyacá: 1 male, Santa Maria, sendero Hyca Quye, 5.5 km NW Santa Maria, 4.89611 N 73.29344 W, 900 m, 7/11-III-2016, N. Sarmiento col., borde de bosque a la margen del río, ex Melastomataceae, MPUJ\_ENT0045383 (MPUJ); Valle del Cauca: 1 female, Cauca Valley, Hormiguero, 3260 ft, 25-I-1935, H.F. Schwartz (AMNH); 1 male, Cali, 96–68 (BMNH). VENEZUELA: Aragua: 1 male, 1 female, 2 km N Ocumare de la Costa, 21/22-VI-1976, A.S. Menke and D. Vincent (USNM). Bolívar: 1 male, 19 km SE Upata, 20-III-1982, G.F. and J.F. Hevel (USNM); 1 male,

40 km N Guasipatil, at marsh lake area, 22–III–1982, G.F. and J.F. Hevel (USNM). *Guarico*: 2 males, 5 females, 57 km E Santa María de Ipíre, 19–III–1982, G.F. and J.F. Hevel (USNM). *Miranda*: 3 males, 4 females, 2.5 km E Carenero, 26–III–1982, G.F. and J.F. Hevel (USNM). *Zulia*: 1 female, Carrasquero, 29/30–V–1976, A.S. Menke and D. Vincent (USNM).

### *Niesthrea fenestrata* (Signoret, 1859)

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452497)  
(Figs. 3G and 8E–F)

*Corizus fenestratus* Signoret, 1859: 93 (original description); Signoret, 1863: 561 (checklist); Stål, 1870: 225 (list, distribution); Lethierry and Severin, 1894: 117 (catalog); Reed, 1899: 47 (description).

*Rhopalus fenestratus*: Walker, 1872: 22 (catalog).

*Corizus campoi* Porter, 1921: 158 (original description). Synonymized by Prado, 2008: 50 (checklist).

*Niesthrea fenestrata*: Harris, 1942: 362 (combination, note); Froeschner, 1989: 611 (list); CoreoideaSF Team, 2018 (online catalog).

*Niesthrea fenestratus* [sic]: Chopra, 1977: 60 (description; lectotype designation); Göllner-Scheiding, 1983: 53 (catalog); Fowles et al., 2015: 621 (list, distribution).

#### Diagnosis

This species is distinguished by the thick but vertical parameres that lack denticles, the broad, apically flat and somewhat quadrate median lobe, and the slender, apically pointed lateral lobe when viewed laterally. This species also has a distinct dark reddish-brown tinge, often with darker reddish-brown spots on the pronotum and hemelytral veins, and a long labium extending to the base of abdominal segment III.

In our key, *N. fenestrata* runs to couplet 11 with *N. agnes*, based on the vertical parameres that lack denticles, but *N. agnes* can be separated by the more slender parameres, the more broadly round median lobe, and the distinctly broader, apically rounded lateral lobe in lateral aspect. In addition, *N. fenestrata* is much larger (6.98–7.30 mm in males, 7.44–8.16 mm in females) than *N. agnes* (5.23–5.70 mm in males, 4.47–5.70 in females) and it has a strong reddish-brown tinge, whereas *N. agnes* lacks the strong reddish-brown tinge.

#### Measurements

**Male** (*n* = 5): Length 6.98–7.30 mm, mean 7.21 mm, width across abdomen 2.28–2.56 mm, mean 2.50 mm. **Head**: Length 1.28–1.44 mm, mean 1.38 mm, width across eyes 1.44–1.56 mm, mean 1.50 mm, interocular width 0.90–0.96 mm, mean 0.92 mm. **Labium**: Length 3.48–3.72 mm, mean 3.59 mm. **Antenna**: Segment I length 0.42–0.45 mm, mean 0.44 mm, II 0.88–1.00 mm, mean 0.94 mm, III 0.76–0.88 mm, mean 0.80 mm, IV 0.96–1.00 mm, mean 0.99 mm. **Pronotum**: Length 1.15–1.25 mm, mean 1.20 mm, basal width 2.20–2.40 mm, mean 2.33 mm.

**Females** (*n* = 5): Length 7.44–8.16 mm, mean 7.86 mm, width across abdomen 2.80–3.04 mm, mean 2.98 mm. **Head**: Length 1.41–1.47 mm, mean 1.44 mm, width across eyes 1.56–1.62 mm, mean 1.60 mm, interocular width 0.96–1.02 mm, mean 0.99 mm. **Labium**: Length 3.40–3.84 mm, mean 3.72 mm. **Antenna**: Segment I length 0.45–0.48 mm, mean 0.47 mm, II 0.96–1.00 mm, mean 0.98 mm, III 0.80–0.92 mm, mean 0.86 mm, IV 1.04–1.20 mm, mean 1.09 mm. **Pronotum**: Length 1.25–1.40 mm, mean 1.34 mm, basal width 2.50–2.75 mm, mean 2.66 mm.

#### Host

Unknown.

#### Distribution

Described and known only from Chile (Signoret 1859, Porter 1921, Prado 2008).

#### Discussion

*Corizus campoi* Porter was described from a single female from Victoria, Chile. Göllner-Scheiding (1983), who indicated she had not seen the type, considered this species a *nomen dubium*. More recently, Prado (2008) listed *C. campoi* as a synonym of *N. fenestrata* in his list the Heteroptera of Chile, based on the premise that only one species occurs in Chile (Prado, pers. comm.). We agree with Prado (2008) that *C. campoi* must be a junior synonym of *N. fenestrata*, the only species we have seen from Chile.

We also contacted the curators at the Museo de Historia Natural de Valparaíso (Valparaíso, Chile) and the Museo Nacional de Historia Natural (Santiago, Chile), both of whom informed us that Porter's type specimens were destroyed during a fire at the museum in Valparaíso.

To ensure nomenclatural stability, we designate the following male as a neotype to establish the concept of *Corizus campoi* Porter: Label 1, 'Valdivia (S), 23/26–II–1979, L.E. Peña'; 2, 'Drake colln.'; 3 (red label, here added), 'Neotype: ♂ *Corizus campoi* Porter, desig. by M.C. Melo & T.J. Henry' (USNM).

#### Type material examined

Lecotype male (photograph) of *Corizus fenestratus* Signoret: Label 1, 'MUSEUM PARIS, CHILI Gay 15–43'; 2, *Corizus fenestratus* Sign. 1859 Type; 3 (red label), 'LECTOTYPE *C. fenestratus* Signoret 1858. Dsg. N. P. Chopra' (MNHN).

#### Other material examined

CHILE: *Región de Los Ríos*: 25 males, 29 females, Valdivia (S), 23/26–II–1979, L.E. Peña, Drake colln. (USNM); 15 males, 21 females, Valdivia, S of Valdivia, II–1979, L.E. Peña (AMNH); 31 males, 18 females, Valdivia, Valdivia, III–1079, L.E. Peña (AMNH); *Región de Los Lagos*: 1 female, Osorno, Puyehue, 12/20–II–1979, L.E. Peña, Drake colln. (USNM).

### *Niesthrea flava* Grillo and Alayo, 1978

(Figs. 3H and 8G–H)

*Niesthrea flava* Grillo and Alayo, 1978: 43 (original description); Froeschner, 1989: 611 (list, distribution); Hidalgo-Gato González et al. 2002: 22 (type specimen data).

*Niesthrea remediana* Grillo and Alayo, 1978: 46 (original description); Froeschner, 1989: 611 (list, distribution); Hidalgo-Gato González et al. 2002: 22 (type specimen data). Previously synonymized with *N. louisianica* by Göllner-Scheiding, 1989: 298. **Revised synonymy**.

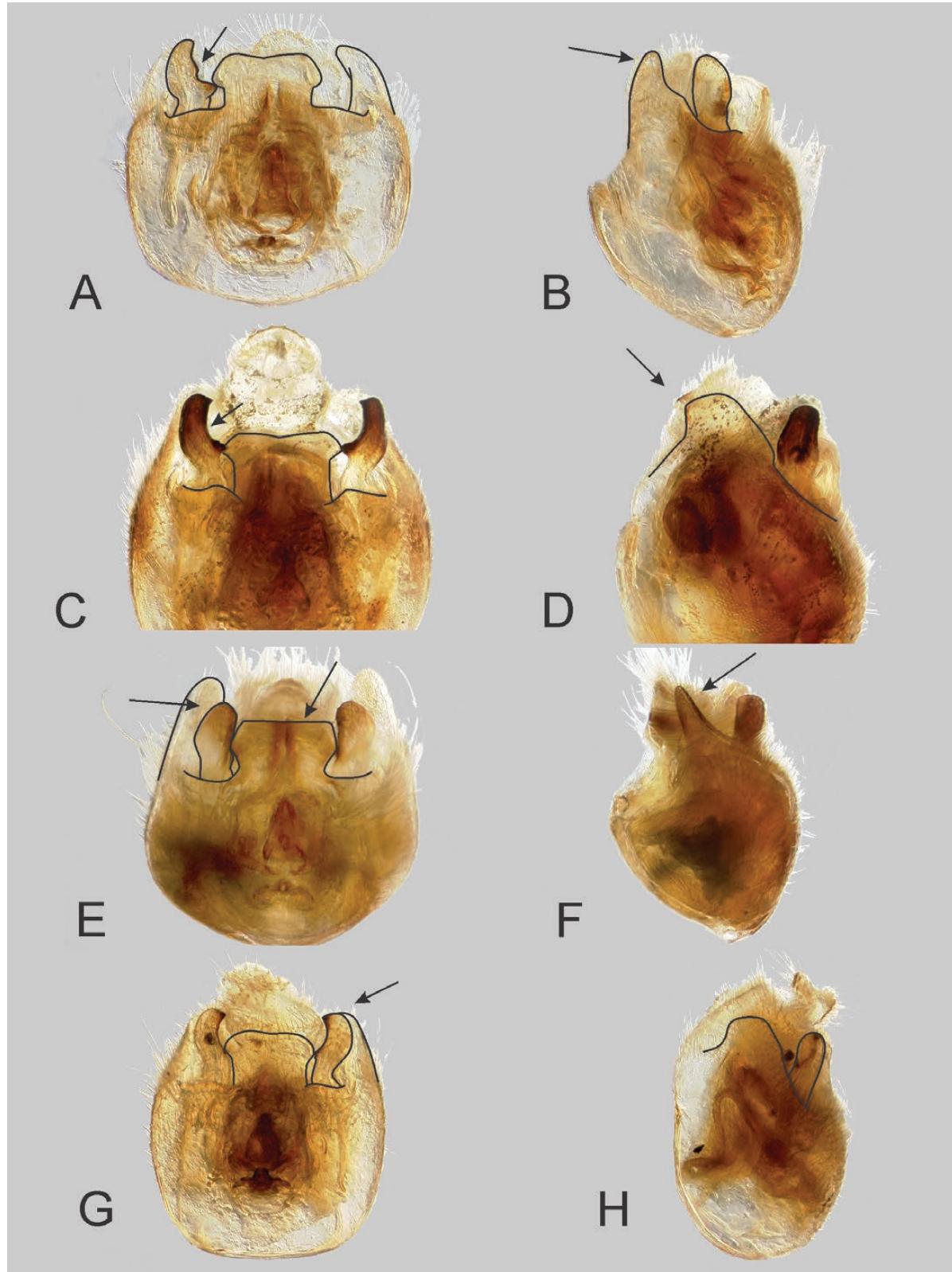
*Niesthrea ashlocki* Froeschner, 1989: 609 (original description); Henry and Wilson, 2004: 81 (diagnosis, distribution); Fowles et al., 2015: 621 (list, distribution); CoreoideaSF Team, 2018 (online catalog). **New synonymy**.

#### Diagnosis

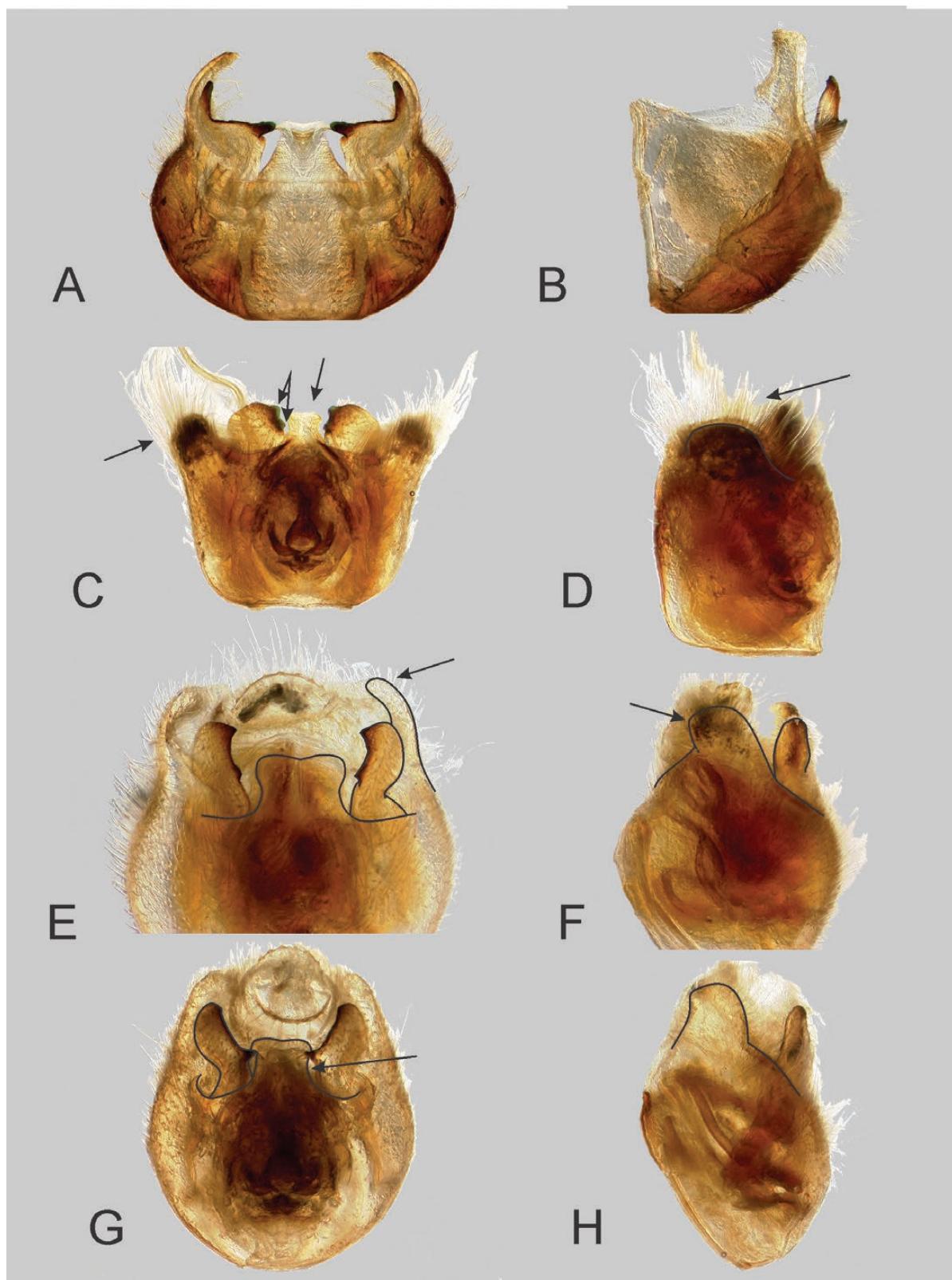
*Niesthrea flava* is distinguished by the vertical, relatively slender parameres (Fig. 8G) with only a small denticle at the base and

apex, the broadly rounded median lobe with weakly constricted smooth lateral margins, and the subequal height of the parameres and lateral lobes. The labium extending to base of abdominal segment III.

The male genitalia of this species are most similar to those of *N. louisianica*, especially the parameres. However, in *N. flava*, the height of the parameres (Fig. 8G) and lateral lobes is subequal, whereas in *N. louisianica* the lateral lobes (Fig. 9E) are much



**Fig. 8.** *Niesthrea* male genitalia. (A–B) *N. dentata* Chopra: (A) Ventral view. (B) Lateral view. (C–D) *Niesthrea digna* Chopra: (C) Ventral view. (D) Lateral view. (E–F) *N. fenestrata* (Signoret): (E) Ventral view. (F) Lateral view. (G–H) *N. flava* Grillo and Alayo: (G) Ventral view. (H) Lateral view.



**Fig. 9.** *Niesthrea* male genitalia. (A–B) *N. josei* Göllner-Scheiding: (A) Ventral view. (B) Lateral view. (C–D) *N. lateroloba*, sp. nov.: (C) Ventral view. (D) Lateral view. (E–F) *N. louisianica* Sailer: (E) Ventral view. (F) Lateral view. (G–H) *N. parvaloba*, sp. nov.: (G) Ventral view. (H) Lateral view.

higher than the parameres. *Niesthrea flava* can be further separated by the usually pale body color (Figs. 1 and 3H) with or without small red dorsal spots, the greatly reduced dark bands on the femora and tibiae, and the smaller size (4.86–6.30 mm),

whereas *N. louisianica* is distinguished by the generally much darker, often strongly tinged with red color and with red spots the more heavily banded femora and tibiae, and the larger size (6.72–8.16 mm).

### Measurements

**Males** ( $n = 5$ ; holotype measurements in parentheses): Length 4.86–5.76 mm, mean 5.34 mm (5.38 mm), width across abdomen 1.76–2.11 mm, mean 1.97 mm (2.11 mm). **Head**: Length 1.00–1.16 mm, mean 1.08 mm (1.06 mm), width across eyes 1.08–1.18 mm, mean 1.14 mm (1.18 mm), interocular width 0.64–0.68 mm, mean 0.67 mm (0.68 mm). **Labium**: Length 2.40–2.80 mm, mean 2.61 mm (2.56 mm). **Antenna**: Segment I length 0.35 mm, mean 0.35 mm (0.38 mm), II 0.80–0.92 mm, mean 0.86 mm (0.86 mm), III 0.72–0.84 mm, mean 0.78 mm (0.83 mm), IV 0.84–1.00 mm, mean 0.91 mm (0.96 mm). **Pronotum**: Length 0.90–1.00 mm, mean 0.94 mm (1.00 mm), basal width 1.60–1.75 mm, mean 1.69 mm (1.75 mm).

**Females** ( $n = 5$ ) Length 5.15–6.34 mm, mean 5.52 mm, width across abdomen 1.86–2.56 mm, mean 2.16 mm. **Head**: Length 1.00–1.20 mm, mean 1.12 mm, width across eyes 1.18–1.30 mm, mean 1.22 mm, interocular width 0.70–0.78 mm, mean 0.73 mm. **Labium**: Length 2.68–3.04 mm, mean 2.84 mm. **Antenna**: Segment I length 0.35–0.45 mm, mean 0.38 mm, II 0.84–1.20 mm, mean 0.96 mm, III 0.76–1.00 mm, mean 0.82 mm, IV 0.84–0.92 mm, mean 0.88 mm. **Pronotum**: Length 0.90–1.25 mm, mean 1.03 mm, basal width 1.65–2.10 mm, mean 1.85 mm.

### Hosts

Grillo and Alayo (1978) recorded *N. flava* (as *N. remediana*) from *Wissadula amplissima* (L.) R.E. Fries [Malvaceae] in Cuba, and Froeschner (1989) reported it (as *N. ashlocki*) from *Sida acuta* Burm. [Malvaceae] in the Galápagos Islands. Specimens also have been taken on *Pseudabutilon umbellatum* (L.) Fryxell [Malvaceae] in the British Virgin Islands.

### Distribution

Described from Cuba (Grillo and Alayo 1978) and, subsequently, reported from the Galápagos Islands (as *N. ashlocki*) by Froeschner (1989). The Bahamas, Brazil, the British Virgin Islands (Guana Island., Tortola), Cuba, Dominican Republic, Puerto Rico, and Venezuela are new country records. The currently known distribution of this species indicates that *N. flava* undoubtedly was introduced into the Galápagos Islands, probably from the Caribbean Region.

### Discussion

We note that the lateral lobes illustrated in the original description of *N. ashlocki* (Froeschner, 1989) are shown to be higher than the parameres and the median lobe is extremely short, indicating that the genital capsule was rotated forward when illustrated. Study of the holotype shows that it agrees with our Fig. 8G and H in shape and proportions, with the paramere and lateral lobe height subequal and the medium lobe proportionately higher.

Also, after restudying Grillo and Alayo's (1978) original description and illustration of *N. remediana*, a species previously synonymized under *N. louisianica* by Göllner-Scheiding (1989), and two males from Cuba in the USNM collection, we have determined that it is conspecific with *N. ashlocki* Froeschner (1989) and *N. flava* Grillo and Alayo (1978). We therefore recognize *N. flava* as the senior synonym and place *N. ashlocki* and *N. remediana* as junior synonyms under it.

### Type material

**HOLOTYPE**: Male, Galapagos, Santa Cruz Is., 4 mi N of Academy Bay, 21-II-1964, P.D. Ashlock (USNM). **PARATYPE**: Female,

Galapagos Arch., Santa Cruz Is., 2.4 km N Academy Bay, 25-II-1964, P.D. Ashlock, Bishop Mus. (USNM).

### Other material examined

**BAHAMAS**: 2 males, Eleuthera Is., New Portsmouth (Rock Sound), 28-III-1953, Van Voast AMNH Bahamas Isls., Exped., E.B. Hayden (AMNH); 1 female, Long Is., Deadman's Cay, 11-III-1953, Van Voast AMNH Bahamas Isls., Exped., E.B. Hayden (AMNH). **BRAZIL**: *Alagoas*: 1 male, Coruripé, II-1979, F.M. Oliveira (AMNH). *Minas Gerais*: 2 males, 11 females, Pedra Azul, XI-1970, F.M. Oliveira (AMNH). **BRITISH VIRGIN ISLANDS**: *Guana Isl.*: 15 males, 10 females, Lower main trail at Ridgewell rd., 8/10-X-2007, 4 ft. elev., 18°28.218'N 64°34.603'W, T.J. Henry and A.G. Wheeler, Jr., ex *Pseudabutilon umbellatum* (USNM); 1 male, 2 females, near pump area/ water treatment facility, 18°28.463'N 64°34.406'W, 12-X-2009, ex *Pseudabutilon umbellatum* (Malvaceae), T.J. Henry (USNM); 1 male, main and Bigelow rd., 20-X-2008, ex *Pseudabutilon umbellatum*, A.G. Wheeler Jr. (USNM); *Tortola Isl.*: 10 males, 17 females, Sage Mountain, 18°28.815'N, 64°34.521'W, 15 October 2009, ex *Pseudabutilon umbellatum*, T. J. Henry (USNM). **CUBA**: 1 male, "Cuba P.," P.R. Uhler colln. (USNM); 1 male, near Santiago, 31 Aug. 1917 (447), Harold Morrison (USNM). **GALÁPAGOS ARCH.**: *Floreana Is.*: 4 males, 1 female, Fiuci Cruz, 130 m, aridzone forest FIT, 27-III/16-IV-[19]96, S. Peck (USNM); 1 male, same data, 16/22-IV-[19]96 (USNM); 1 female, 22-IV-[19]96, 320 m, agric. zone sweeps, S. Peck (USNM). *Pinzon Is.*: 1 male, 5 km W Pl. Escondida central crater, 280 m, 19-VI-[19]91, arid zone, J. Heraty (USNM); 2 males, 3 km W Pl. Escondida, 250 m, 19-VI-[19]91, arid zone, J. Heraty (USNM). *San Cristobal Is.*: 4 females, Pto. Bacuerizo, Moreno, Playa Man, 20 m, 1-IV-2003, M.R. Wilson (USNM). *Santa Cruz Is.*: 2 males, 1 female, 1 km N Puerto Ayora, 50 m, 13-VI-1991, arid zone, J. Heraty (USNM); 1 female, CDRS, above barranca, 1/30-VI-[19]91, 40 m, arid zone, FIT, S. Peck (USNM); 1 male, 7.2 km N Santa Rosa, 1/30-VI-[19]91, 600 m, up trans. for FIT, S. Peck (USNM); 1 male, 1 female, 13 km N Sta. Rosa, 1/30-V-[19]92, 300 m, arid zone, *Bursera* for., FIT, S. Peck (USNM). **PUERTO RICO**: 1 male, Sabana Grande Rd #121, nr. Byers Crop Science, 24 Sept. 2017, Perez, Felicianao, and Pu (USNM). **VENEZUELA**: 1 male, Aragua, 2 km N Ocumare De La Costa, 21–22 June 1976, A.S. Menke and D. Vincent (USNM).

### *Niesthrea josei* Göllner-Scheiding, 1989

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452496)  
(Figs. 3I and 9A–B)

***Niesthrea josei* Göllner-Scheiding, 1989**: 297 (original description); Pall and Coscarón, 2012: 1458 (catalog); Melo and Montemayor, 2014: 454 (checklist); Melo and Montemayor, 2015: 7 (distribution); Fowles et al., 2015: 621 (list, distribution); CoreoideaSF Team, 2018 (online catalog).

### Diagnosis

*Niesthrea josei* is readily distinguished by the broadly transverse parameres with a slender erect outer process and large darkly pigmented basal denticle facing inward toward the median lobe; the relatively narrow, weakly flared median lobe (Fig. 9A) gradually widening to the base; the elongate, apically rounded lateral lobes extending well above median lobe and parameres; and the labium extending to the base of abdominal segment III.

The male genitalia of this species (Fig. 9A) are most similar to those of *N. conicoloba* sp. nov. (Fig. 6G). It can be separated by the more elongate lateral lobes that extend well above the parameres (versus height subequal to parameres in *N. conicoloba* sp. nov.), the weakly flared median lobe (versus conical in *N. conicoloba* sp. nov.), and the much more broadly transverse paramere with a higher outer process and a more tuberculate basal denticle.

#### Measurements

*Male* ( $n = 1$ ): Length 6.72 mm, width across abdomen 2.57 mm. *Head*: Length 1.28 mm, width across eyes 1.48 mm, interocular width 0.94 mm. *Labium*: Length 3.20 mm. *Antenna*: Segment I length 0.45 mm, II 1.00 mm, III 0.92 mm, IV 1.24 mm. *Pronotum*: Length 1.25 mm, basal width 2.40 mm.

#### Host

Unknown.

#### Distribution

Previously known only from Salta, Argentina (Göllner-Scheiding 1989). Bolivia is a new country record.

#### Material examined

BOLIVIA: Santa Cruz: 1 male, Florida Prov., Vicoquin area, above Achira, rd. to Amboró, 18°2'S 63°47'W, 1730–2000 m, 16–XII–2008, T.J. Henry, S. Lingafelter and D. Windsor (USNM).

#### *Niesthrea lateroloba* Melo and Henry sp. nov.

(urn:lsid:zoobank.org:act:0A1A4EFA-AE12-4FF5-BF9D-5B4D9A6D4CDE)

(Figs. 4A and 9C–D)

#### Diagnosis

This species is recognized by the large, broadly rounded parameres (Fig. 9C), with two large, stout denticles on the inner margin, the greatly reduced quadrate median lobe, and the thick, apically broad lateral lobe covered in long, dense setae (Fig. 9C). Externally, it is pale brown with brown spots dorsally and red spots ventrally, the ventral areas of the pro- and mesosternum are black; and the labium extends to the apices of the hind coxae or base of abdominal segment II.

It is most similar to *N. brevicauda* in having large, round parameres, a reduced median lobe, and a short stout lateral lobe, but can be distinguished by the two stout denticles on the parameres (Fig. 9C), the much more quadrate median lobe, and the greatly thickened lateral lobe with long, dense setae, whereas *N. brevicauda* lacks the denticles, the median lobe is distinctly heart-shaped, and the lateral lobes are much more slender and less pubescent.

#### Description

*Head*: Yellowish brown, with a few scattered, small, red spots; a streak on inner margin of ocelli, median groove, and a cluster of punctures on the middle of the frons and vertex dark brown; thickly set with long pale setae. *Labium*: Extending to the base of abdominal segment II. *Antenna*: Segment I yellowish brown, with an indistinct, inverted, V-shaped mark dorsally and a single dark brown streak ventrally; segment II and III yellowish brown, with a narrow, dark brown line extending the entire length of each posteroventrally, with scattered, long, erect, setae about two times diameter of the

respective segments; segment IV uniformly yellowish brown, densely covered with short, semirect setae. *Pronotum*: Yellowish brown, with a few scattered brown spots, median line yellow, bordered by dark brown anteriorly; densely set with long, erect, pale setae. *Scutellum*: Yellowish brown, with red spots. *Hemelytron*: Claval and corial cells clear; veins and apex of corium yellowish brown, with brown spots; membrane clear. *Ventral surface*: Yellowish brown, with numerous, small, scattered red spots; pro- and mesosternum, and metasternal labial groove dark brown. *Legs*: Yellowish brown; front and middle femora with scattered brown spots, hind femura brown spotted, with some spots coalescing to form incomplete bands, with long pale setae subequal to diameter of segments; tibiae brown spotted, with numerous long setae nearly three times diameter of segments. *Male genitalia*: *Paramere* (Fig. 9C): Broadly rounded with two distinct denticles on inner surface. *Median lobe* (Fig. 9C): greatly reduced, narrow, quadrate apically, without lateral processes. *Lateral lobe* (Fig. 9C and D): Remarkably thickened and apically rounded in caudal aspect, and densely covered with long, erect setae.

#### Measurements

*Male*: holotype: Length 5.76 mm, width across abdomen 2.30 mm. *Head*: Length 1.15 mm, width across eyes 1.28 mm, interocular width 0.82 mm. *Labium*: Length 2.72 mm. *Antenna*: Segment I length 0.38 mm, II 0.77 mm, III 0.64 mm, IV 0.96 mm. *Pronotum*: Length 1.10 mm, basal width 2.05 mm.

*Female*: Unknown.

#### Etymology

The specific epithet ‘*lateroloba*’ is given to denote the stout lateral lobe, densely covered with long, erect setae.

#### Host

Unknown.

#### Distribution

Known only from Peru.

#### Discussion

Although we have only a single male of this species, the male genitalia are so distinct that we do not hesitate to describe it as a new species.

#### Type material

HOLOTYPE: Male, Cajamarca, PERU, 2700 m, III-1950, Weyrauch (USNM).

#### *Niesthrea louisianica* Sailer, 1961

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452495)

(Figs. 4B and 9E–F)

*Corizus sidae*: Uhler, 1876: 301 (in part); Readio, 1928: 189 (biology).

*Corizus pictipes*: Uhler, 1893: 369 (checklist).

*Corizus zidae* [sic] var. *C. pictipes*: Uhler, 1893: 705 (checklist).

*Corizus* (*Niesthrea*) *sidae*: var. *pictipes*: Van Duzee, 1916: 15 (checklist, in part), 1917: 123 (catalog, in part).

*Niesthrea louisianica* Sailer, 1961: 297 (original description); Chopra, 1973: 450 (redescription, distribution); Wheeler, 1977: 631 (life history, host); Jones et al., 1985: 326 (biology, biocontrol); Spencer, 1988: 421 (biocontrol); Henry, 1988: 659 (catalog);

Froeschner, 1989: 611 (list, distribution); Göllner-Scheiding, 1989: 298; Nishida, 2002:128 (list); Fowles et al., 2015: 621 (list, distribution); Henry, 2017: 302 (biocontrol); CoreoideaSF Team, 2018 (online catalog). *Niesthrea sidae*: Harris, 1944: 106 (figure male genitalia, misidentification).

### Diagnosis

*Niesthrea louisianica* is distinguished by the vertical, relatively slender parameres (Fig. 9E) with only a small denticle at the base and apex, the relatively broadly rounded median lobe (constricted through the middle and weakly indented apically), and the long, slender, inward-curving lateral lobes that extend well above the parameres.

The male genitalia are most similar to those of *N. flava* (Fig. 8G), especially the parameres and median lobe. In *N. flava*, however, the height of the parameres and lateral lobes are subequal, whereas in *N. louisianica*, the lateral lobes (Fig. 9E) are much longer and rise well above the parameres. *Niesthrea louisianica* also can be separated by the larger size (6.72–8.16 mm), the general dark color within the palest specimens pale brown with distinct red spots to the darkest strongly red to orange tinged, with strong dark brown bands on the femora and tibiae, and the longer labium that usually extends to the base of segment IV.

### Measurements

**Males** ( $n = 5$ ; holotype measurements in parentheses): Length 6.72–7.17 mm, mean 7.05 mm (6.59 mm), width across abdomen 2.69–2.88 mm, mean 2.79 mm (2.37 mm). **Head**: Length 1.34–1.44 mm, mean 1.40 mm (1.31 mm), width across eyes 1.48–1.56 mm, mean 1.51 mm (1.45 mm), interocular width 0.90–0.92 mm, mean 0.91 mm (0.85 mm). **Labium**: Length 3.40–3.68 mm, mean 3.53 mm (3.84 mm). **Antenna**: Segment I length 0.42–0.48 mm, mean 0.44 mm (0.45 mm), II 1.12–1.20 mm, mean 1.18 mm (1.12 mm), III 0.92–1.08 mm, mean 1.02 mm (1.06 mm), IV 1.28–1.44 mm, mean 1.34 mm (1.18 mm). **Pronotum**: Length 1.30–1.50 mm, mean 1.38 mm (1.25 mm), basal width 2.30–2.80 mm, mean 2.47 mm (2.15 mm).

**Females** ( $n = 5$ ): Length 7.55–8.16 mm, mean 7.88 mm, width across abdomen 3.07–3.46 mm, mean 3.26 mm. **Head**: Length 1.38–1.47 mm, mean 1.44 mm, width across eyes 1.58–1.64 mm, mean 1.62 mm, interocular width 0.98–1.04 mm, mean 1.00 mm. **Labium**: Length 3.64–4.08 mm, mean 3.85 mm. **Antenna**: Segment I length 0.42–0.52 mm, mean 0.48 mm, II 1.16–1.28 mm, mean 1.21 mm, III 1.04–1.20 mm, mean 1.10 mm, IV 1.24–1.44 mm, mean 1.34 mm. **Pronotum**: Length 1.50–1.65 mm, mean 1.56 mm, basal width 2.65–2.85 mm, mean 2.73 mm.

### Hosts

*Abelmoschus esculentus* (L.) Moench (okra) [Malvaceae]; *Abutilon hypoleucum* A. Gray, *A. pedunculare* Kunth, *A. abutiloides* (Jacq.) Garcke ex Hochr., *A. grandifolium* (Willd.) Sweet, *A. hirtum* Sweet, *A. indicum* L., and *A. theophrasti* Medik [Malvaceae]; *Apoda pentachista*, L. Gray [Malvaceae]; *Hibiscus lasiocarpus* S. Watson, and *H. syriacus* L. (Rose of Sharon) [Malvaceae]; *Callirhoe involucrata* (Torr. and A. Gray) A. Gray [Malvaceae]; *Gossypium* sp. (cotton) [Malvaceae]; *Kosteletzky* sp. [Malvaceae]; *Sphaeralcea angustifolia* G. Don [Malvaceae]; and *Wissadula amplissima* (L.) [Malvaceae].

All nonmalvaceous hosts from specimen data likely represent incidental non-host records: *Amorpha fruticosa* L. [Fabaceae]; *Buddleja wrightii* B.L. Rob. [Buddlejaceae]; *Ceanothus buxifolius* Willd. [Rhamnaceae]; *Eupatorium adenophorum* Spreng. [Asteraceae]; *Hyptis pectinata* (L.) Poit. [Lamiaceae]; *Quercus* sp. [Fagaceae];

*Ratibida columnaris* Raf.; *Senna uniflora* (Mill.) H.S. Irwin and Barneby [Caesalpiniaceae]; and *Solanum tuberosum* L., Solanaceae].

Wheeler (1977) studied the life history of *N. louisianica* on rose of sharon in North Carolina (USA). Jones et al. (1985) and Spencer (1988) investigated its biocontrol potential for control of velvetleaf, *Abutilon theophrasti*, in Mississippi.

### Distribution

United States of America (Alabama, Arizona, Arkansas, California, Florida, Georgia, Iowa, Kansas, Louisiana, Maryland, Mississippi, Missouri, North Carolina, New Jersey, New Mexico, New York, Oklahoma, South Carolina, Tennessee, Texas, Utah, Virginia) (Chopra 1973, Henry 1988), Hawaii (Nishida 2002), and Mexico (Baja California) (Chopra 1973). Nicaragua is a new country record. Illinois is a new U. S. state record.

### Discussion

Based on the figures of male genitalia provided by Grillo and Alayo (1978), we find that *N. remediana* Grillo and Alayo is conspecific with *N. flava* Grillo and Alayo, not *N. louisianica* as interpreted by Göllner-Scheiding (1989). In addition, comparison of specimens from Cuba and other Caribbean islands with Galápagos material makes it clear that *N. ashlocki* Froeschner is conspecific with *N. flava* as well. Therefore, we treat *N. ashlocki* (new synonymy) and *N. remediana* (revised synonymy) as junior synonyms of *N. flava*.

### Type material

**HOLOTYPE:** Male, USA, La. [Louisiana], Baton Rouge, 17-IX-[19]19, collected on okra pods, T.H. Jones, Chittenden #4292-2 (USNM). **PARATYPES:** 1 male, Wilmington, L., X-1919, M.R. Smith (USNM). **Alabama:** 1 male, Alab., 1937, P.R. Uhler (USNM). **Arizona:** 1 female, Ari.[zona], P.R. Uhler colln. (USNM); 3 males, 4 females, Huachuca Mts., 10-VII-[19]05, H.G. Barber colln. (USNM); 2 males, 6 females, same data, 8-VIII-[19]05 (USNM); 2 males, 7 females, same data, 12-VII (USNM); 3 males, 4 females, same data, 29-VII-[19]05 (USNM); 2 males, 1 female, same data, 28-VII (USNM); 1 male, 4 females, same data, 15-VII-[19]05 (USNM); 2 females, same data, 14-VII-[19]05 (USNM); 2 males, 2 females, same data, 29-VII-[19]05 (USNM); 1 male, same data, 31-VII-[19]05 (USNM); 2 females, same data, 26-VII-[19]05 (USNM). **Arkansas:** 1 male, 2 females, Little Rock, 12-IX-[19]38, on *Hibiscus syriacus*, W.F. Turner col. (USNM); 1 male, Ashdown, 21-IX-[19]04, W.D. Pierce (USNM). **Georgia:** 1 female, Atlanta, 4-X-[19]34, P.W. Fattig (USNM); 1 male, 2 females, Sapelo Is., 8-IX-[19]44, S.S., on okra (USNM); 7 males, 6 females, Savannah, 8-XII-[19]44, S.S., on *Hibiscus* (USNM); 1 female, same data, 28-IX-[19]44, on rose of sharon (USNM); 1 male, 2 females, 2 nymphs, same data, 22-IX-[19]44, on white *Hibiscus* (USNM). **Iowa:** 1 female, Iowa City, 30-X-[19]15, Stoner (USNM). **Kansas:** 1 male, Riley Co., 18-X, F. Marlatt, H.G. Barber colln. (USNM); 1 female, same locality, 25-VIII, Popeno, Barber colln. (USNM); 1 female, same data, 7-IX (USNM). **Louisiana:** 1 female (allotype), Baton Rouge, 17-IX-[19]19, collected on okra pods, T.H. Jones (USNM); 1 male, same data (USNM); 3 males, 4 females, same data, 3-IX-[19]19, on *Hibiscus lasiocarpus* (USNM); 1 male, 1 female, same data, 22-IX-[19]24, feeding on okra, C.E. Smith (USNM); 9 males, 6 females, 1 nymph, New Orleans, 10-V-1922 (USNM); 20 males, 22 females, Opelousas, Pilate coll. (USNM); 4 males, 7 females, Loui[siana], 2264, C.F. Baker (USNM); 1 male, same data, 2265 (USNM); 1 male, same data, 2266 (USNM); 1 female, same data, 2267 (USNM); 1 female, same data, 2248 (USNM); 1 female, Crowley, 14-X-[19]11,

E.S. Tucker (USNM). *Maryland*: 1 w/o abdomen, Md, P.R. Uhler colln. (USNM). *Mississippi*: 1 female, Miss.[issippi], P.R. Uhler colln. (USNM); 1 female, Natchez, 16-V-[19]09, E.S. Tucker (USNM); 1 female, same data, 18-V-[19]09 (USNM); 1 female, same data, 19-V-[19]09 (USNM); 1 female, 22-VI-[19]09 (USNM). *North Carolina*: 2 males, 2 females, New Bern, 3-XI-[19]44, on *Hibiscus* sp. (USNM); 1 female, Wilmington, 15-IV-[19]16, H.G. Barber colln. (USNM); 2 males, 4 females, Salem College, Winston-Salem, 20-X-1933, on *Althea*, R.J. Campbell (USNM). *New Mexico*: 2 females, Anthony, 18-VIII-[19]44, S.S., on blackeyed pea (USNM); 1 female, Tularosa (USNM); 1 male, Dona Ana Co., 27-VII-1954, swept from cotton, R.E. Fye (USNM). *New York*: L.[ong] I.[sland], Riverhead, 17-V-1954, R. Latham (USNM). *Oklahoma*: 1 female, Ponca City, 4-XI-1907 (USNM). *South Carolina*: 6 males, 4 females, York, 21-XI-1927, Mrs. J. Barron (USNM); 2 females, Charleston, 26-IX-[19]44, on okra (USNM); 2 females, Pritchardville, 12-X-[19]44, on okra pads (USNM); 1 female, Ridgeland, 4-XI-[19]44, on okra (USNM); 1 male, same locality, 27-X-[19]44, S.S., on okra (USNM). *Texas*: 1 male, Brownsville, 7-X-[19]39, on *Anoda pentachista*, L.C. Fite (USNM); 1 male, same locality, 11-V-[19]38, Deputy, on weeds (USNM); 1 female, same locality, 9-IV-1910, R.A. Vickery (USNM); 1 female, same locality, J.C. Bridwell (USNM); 1 male, 1 female, same locality, XI-[19]20, McMillan, eating okra (USNM); 1 female, same locality, 16-I-[19]23, T.C. Barber (USNM); 2 females, same locality, VI-[19]03, Brooklyn Mus. Colln. (USNM); 1 female, same data, H.G. Barber colln. (USNM); 5 females, same locality, VI-[19]04, H.S. Barber (USNM); 1 female, same locality, 22-I-[19]36, on cotton, P.A. Glick (USNM); 1 female, same data, 20-III-[19]36 (USNM); 2 females, same locality, 20-III-[19]08, W.D. Pierce (USNM); 1 male, 2 females, Brownsville, Esper Ranch (USNM); 1 male, Columbus, 4-6 (USNM); 1 female, San Antonio, 1-VI-[19]10, on *Abutilon* sp., W. D. Pierce (USNM); 1 female, same locality, 14-V-[19]06, F. C. Pratt (USNM); 1 male, San Benito, 26-II-[19]44, S S, on Irish potato (USNM); 1 female, Corpus Chr., 19-IV-[19]07, C.S. Spooner (USNM); 1 male, 1 female, Victoria, 15-VII-[19]01, J.D. Mitchell (USNM); 1 female, same data, 23-IV-[19]07 (USNM); 1 male, same data, 8-IV-[19]07 (USNM); 1 male, same data, 28-VI-[19]07 (USNM); 1 female, same data, 23-IV-[19]07 (USNM); 1 male, same data, pods of *Hibiscus* (USNM); 1 female, Dallas, 26-V-[19]06, W.W. Yothers (USNM); 1 female, same locality, 9-V-[19]06, on *Amorpha fruticosa*, F.C. Bishop (USNM); 1 male, 1 female, same locality, 11-V-[19]06, on *Callirhoe involucrata*, W.D. Pierce (USNM); 1 male, same locality, 27-VIII-[19]05, on *Abutilon*, E.S. Tucker (USNM); 1 male, Sabinal, 3-VI-[19]10, Pierce and Pratt (USNM); 1 female, Paris, 20-XI-1905, F.C. Bishop (USNM); 1 female, S. Diego, 26-5, E.A. Schwarz (USNM); 1 male, Devils Riv., 7-V-[19]01, on *Sphaeralcea angustifolia*, F.C. Bishop (USNM); 1 male, Kirbyville, 21-III-[19]08, E.S. Tucker (USNM); 1 male, Corsicana, 24-VII-[19]06, in cotton fld., F.C. Bishop (USNM); 1 male, 2 females, Boerne, 6-X-[19]05, F.C. Pratt col. (USNM); 1 female, Concan, 4-VI-1933, P.W. Oman (USNM); 1 male, 1 female, Smith Point, 29-VII-[19]18, on *Hibiscus*, E.L. Diven (USNM); 1 male, Terrel, 12-IX-1904 (USNM); 1 female, Kerrville, 30-V-[19]06, F.C. Pratt (USNM); 1 male, Brewster Co., Rio Grande, 13/17-VI-[19]08, on *Sphaeralcea angustifolia*, Mitchell and Cushman (USNM); 1 female, Del Rio, 1-V-[19]07, on *Ratibida columnaris*, F. C. Bishop (USNM); 1 female, San Angelo, 27-IX, on cotton, J. C. Crawford (USNM); 4 males, 7 females, Plano, 5-VIII-[19]08, on *Abutilon*, E.S. Tucker col. (USNM); 1 female, Anahuac, VIII-1918, H.C. Hanson (USNM); 1 male, same locality, 24-VII-[19]18, E.L. Diven (USNM); 1 female, same data, 31-VII-[19]18, breeding on okra (USNM); 1 female, same locality, 28-X-1918,

H.G. Barber colln. (USNM); 1 male, same locality, 31-X-1918, on okra, Barber (USNM). *Virginia*: 2 males, 2 female, Norfolk, 10-X-[19]32, on rose of sharon, L.D. Anderson (USNM); 1 male, 1 female, same data, 27-IX-[19]33 (USNM); 4 females, same data, 28-X-[19]37, Barber colln. (USNM); 1 female, same locality, 20-III-[19]08, on *Sphaeralcea angustifolia*, W.D. Pierce (USNM); 2 males, 4 females, same locality, 2-X-[19]39, on *Wissadula amplissima*, L.C. Fife (USNM); 2 males, 2 females, same locality, 26-III-[19]42, on *Abutilon hypoleucum* (USNM); 1 male, same data, 25-II-[19]42 (USNM); 1 male, same locality, 16-I-[19]42, on *Abutilon* (USNM); 1 female, same locality, 27-III-[19]42, hollyhock (USNM); 4 males, 7 females, same locality, C.H.T. Townsend (USNM); 1 female, same locality, VI-1901, H.G. Barber colln. (USNM); 3 males, same locality, 6-VI-[19]41, on *Abutilon pedunculare* (USNM).

#### Other material examined

**MEXICO:** *Chihuahua*: 1 female, 9 km SE of Bavicora on Hiway 180, 2213 m, 29°24'N 107°88'W, 28-IV-2005, Schwartz, Weirauch and Cervantes [PBI Mex05 L15] (AMNH); 1 male, 22 km W of Basaseachic on Hiway 16, 2008 m, 28°33'N 108°26'W, 1-V-2005, Schwartz, Weirauch and Cervantes [PBI Mex05 L24] on *Buddlejaceae*, *Buddleja wrightii*, det. Ramos Marchena (AMNH); 2 males, 1 female, 6 km N of Madera on Rd to Las Varas, 2153 m, 29°25'N 108°13'W, 29-IV-2005, Schwartz, Weirauch and Cervantes [PBI Mex05 L17] on *Rhamnaceae*, *Ceanothus buxifolius* Willd., det. Ramos Marchena (AMNH). *Colima*: 1 female, 4 mi SW Colima, 24-XI-1950, R.F. Smith (AMNH). *Durango*: 1 male, 1 female, Tlahualilo, VII-1905, on cotton, A.W. Morril (USNM). *Hidalgo*: 1 male, 1 female, Tasquillo, 29-VII-1966, J. and W. Ivie (AMNH); 2 females, Tzindejeh, Taxquillo, 29-VII-1966, J. and W. Ivie (AMNH). *Michoacan*: 2 males, 3 mi SE Apatzingan, 30-XI-[19]50, R. Smith (AMNH). *Morelos*: 1 male, Xoxocotla, 18°41'N 99°15'W, 24-IX-1991, on *Senna uniflora*, K.R. Pullen (USNM); 1 female, Cuernavaca, 10-XII-1963, N.L.H. Krauss (USNM); 1 male, same locality, II-1945, on foliage *Eupatorium adenophorum*, N.L.H. Krauss (USNM). *Nuevo Leon*: 1 male, Montemorelos, 23-V-1952, M. Cazier, W. Gertsch and R. Schramme (AMNH). *Oaxaca*: 1 male, Oaxaca, 30-IV, L.O. Howard (USNM); *Puebla*: 1 male, 1,5 mi N Cholula, 27-XII-1950 (AMNH); 1 male, 5 mi N Tehuacán, 3-VIII-1966, J. and W. Ivie (AMNH); 2 males, 3 km NW Tecalzino, 18°43.915'N 97°41.021'W, 1980 m, 30-VII-1995, T.J. Henry (USNM); 13 males, 4 females, 5 km E Tehuacán, 18°25'N 97°21.1'W, 15-XI-2003, ex *Abutilon abutiloides* (Malvaceae), T.J. Henry and E. Barrera (USNM). *Sinaloa*: 1 female, 14 mi N Rosario, 1-X-1950, R.F. Smith (AMNH). *Sonora*: 1 female, 22 km W of Yecora on Hi[gh]way 16, 1511 m, 28°38'N 109°9'W, 4-V-2005, Schwartz, Weirauch and Cervantes, on *Fagaceae*: *Quercus* sp. (AMNH); 1 male, 1 female, Altar, 4-V-[19]32, E.D. Ball, Ball colln. (USNM). *Veracruz*: 1 male, 2 females, Tamos, 7-XII-[19]09, F.C. Bishop (USNM); *Yucatán*: 1 male, Acanceh, 31-VII-1952, J. and D. Pallister, C. R. Vose Fund Explorers Club, AMNH Exped. (AMNH); 1 female, Tixkokob, 5-VII-1952, J. and D. Pallister (AMNH). **NICARAGUA**: 1 male, San Marcos, Baker (USNM). **UNITED STATES**: *Arkansas*: 2 males, 4 females, Clark Co., Arkadelphia Quachita Baptist University, 7-VI-2004, ex malvaceous plant, T.J. Henry and A.G. Wheeler Jr. (USNM). *Arizona*: S.W.R.S. 5 mi W Portal, Cochise Co., 5400 ft, 7-X-1962, V. Roth (AMNH); 1 male, same locality, 11-VII-1966, E. Ordway (AMNH). *Hawaii*: 4 males, 7 females, Oahu Is., Dillingham Airfield, along Kealea trail, 21°34.704'N, 158°12.465'W, 16-I-2017, T.J. Henry, ex *Hyptis pectinata* (USNM); 3 males, 3 females, Oahu Is., Alea Bay St. Recreation Area, at Pearl Harbor, 21°22.647'N, 157°56.152'W,

16–I–2017, T.J. Henry, ex *Abutilon grandifolium* (USNM). *Illinois*: 1 male, 1 female, Springfield, 10–IX–[19]06 (AMNH); 1 male, Sabino Canyon, Santa Catalina Mts., 3,000 ft, 12–IV–1932, D.K. Duncan, J.C. Lutz colln. (USNM); 1 female, same data 13–IV–1932 (USNM). *Kansas*: 2 females, Wamegu, Pott Co., 22–X–[19]83, on velvetleaf, T.J. Gibb (USNM). *Louisiana*: 1 male, Baton Rouge, VIII–[19]36, H.M. Harris, H.M. Harris colln. (USNM); 1 male, Opelousas, Pilate colln. (USNM); 1 male, Loui[siana], 2264, C.F. Baker (USNM); 1 female, New Orleans, 10–V–1922 (USNM); 3 males, 2 females, Tallulah, 26–X–1930, J.W. Folsom, H.M. Harris colln. (USNM); 6 males, 12 females, 6 nymphs, same locality, 5–X–1950, J.W. Folsom (USNM). *Maryland*: 1 male, 1 female, Talbot Co., McDaniel (Wades Point), 19/21–IX–1986 (USNM). *Mississippi*: 2 females, Laurel, 6–IX–[19]24, H.M. Harris, Harris colln. (USNM); 2 males, 1 female, Washington Co., Stoneville, 30–X–1979, on velvetleaf, W.A. Jones (USNM). *North Carolina*: 2 males, 3 females, Dare Co., Frisco, 12–IX–1980, on flowers of *Kosteletzkyia*, W.E. Steiner (USNM); 1 female, Tryon, 3–XI–[19]28, H.M. Harris colln. (USNM); 5 males, 3 females, same locality, 3–XI–[19]28 (USNM). *Oklahoma*: 2 males, Millerton, 10–IX–1934, C.A. Sooter, H.M. Harris colln. (USNM). *South Carolina*: 1 male, McClellanville, 6–VIII–1945, P. Vaurie (AMNH); 1 female, Barnwell Co., Blackville, 14–X–1975, on okra, W.A. Jones (USNM); 1 female, same data, 14–III–1975, on dogfennel (USNM); 1 female, Clemson College, 8–IX–1938, J.N. Todd, H.M. Harris colln. (USNM). *Texas*: 1 female, Brownsville, 4–III–[19]36, on cotton, P.A. Glick (USNM); 1 male, Brownsville, 31–V–1933, P.W. Oman (USNM); 2 males, 3 females, E. Cameron Co., 24–III–[19]46, on *Abutilon indicum* L., G.B. Vogt (USNM); 2 males, 1 female, same data, 16–III–[19]46 (USNM); 1 females, same data, sweeping succulent under grove, Palm grove (USNM); 2 males, Jeff Davis Co., 12–VII–[19]50, D.J. and J.N. Knull, J.C. Lutz colln. (USNM); 4 males, 2 females, Davis Mts., 14–VII–[19]57, D.J. and J.N. Knull, J.C. Lutz colln. (USNM); 3 males, same data, 4–VII–[19]57 (USNM); 1 male, Uvalde Co., 26–VI–[19]40, D.J. and J.N. Knull, J.C. Luz colln. (USNM); 2 males, 1 female, Hidalgo Co., 7–IV–[19]50, D.J. and J.N. Knull, J.C. Luz colln. (USNM); 1 male, Presidio, VIII–1928, H.E. Parish, H.M. Harris colln. (USNM); 1 male, College Sta., 30–IX–1927, H.G. Johnston, H.M. Harris colln. (USNM). *Virginia*: 1 male, 1 female, Norfolk, 27–IX–[19]33, on rose of sharon, L.D. Anderson (USNM).

***Niesthrea parvaloba* Melo and Henry sp. nov.**  
 (urn:lsid:zoobank.org:act:1E0CD276-2D7A-4A6B-A77E-C8C47545545F)  
**(Figs. 4C and 9G–H)**

**Diagnosis**

This species is distinguished by the vertical, somewhat thickened paramere (Fig. 9G) with a large denticle at the base, the reduced median process with reduced lobes that are narrower or subequal to the width of a paramere, and the long lateral lobe that is higher than a paramere. The labium extends to the base or middle of abdominal segment III.

The parameres of *N. parvaloba* sp. nov. (Fig. 9G) are similar to those of *N. dentata* (Fig. 8A) and *N. digna* (Fig. 8C) in having a strong basal denticle or tooth. It is easily recognized by the narrow median lobe that is narrower or subequal to the lateral width of a paramere, whereas in the latter two species, the median lobe has widely flared lateral processes making it much broader than the lateral width of a paramere.

**Description**

**Head:** Pale yellowish brown, with a few small red spots, with numerous, long, erect, pale setae. **Labium:** Extending to base or middle of abdominal segment III. **Antenna:** Segment I yellowish brown, with a dark brown dorsal and ventral streak on apical half; segments II and III yellowish brown, slightly dark brown at apex of each, and with an indistinct, dorsal and ventral, narrow, dark brown line on each, with scattered, relatively short, erect setae subequal to the diameter of the respective segments; segment IV brown, paler yellowish brown on base one fourth and vaguely so at apex, with short, dense, pale to darker brown setae. **Pronotum:** Yellowish brown, with scattered, small, red spots, median line narrowly yellow; densely set with relatively short, erect setae. **Scutellum:** Pale yellowish brown, with a few scattered, red spots. **Hemelytron:** Claval and corial cells clear, veins and apex of corium yellowish brown, with only a few brown spots on holotype male, more heavily spotted on females; membrane clear. **Ventral surface:** Uniformly pale yellowish brown, including sternal areas, with scattered, small, red spots. **Legs:** Pale yellowish brown; femora and tibiae with numerous scattered dark brown spots; setae on femora shorter than diameter of segment, setae on tibiae short to subequal to diameter of segment. **Male genitalia:** *Paramere* (Fig. 9G): Vertical, somewhat thickened, with a stout basal denticle. *Median lobe* (Fig. 9G): Small, narrower and shorter than a paramere, weakly constricted basally, lateral processes small, weakly flared. *Lateral lobe* (Fig. 9G and H): Extending above parameres, extremely broad at base and apically rounded in lateral aspect.

**Measurements**

**Male holotype:** Length 6.34 mm, width across abdomen 2.69 mm. **Head:** Length 1.28 mm, width across eyes 1.40 mm, interocular width 0.88 mm. **Labium:** Length 3.52 mm. **Antenna:** Segment I length 0.45 mm, II 1.06 mm, III 0.96 mm, IV 1.02 mm. **Pronotum:** Length 1.20 mm, basal width 2.20 mm.

**Females** (*n* = 2): Length 5.38–6.46 mm, mean 5.92 mm, width across abdomen 2.75–2.82 mm, mean 2.78 mm. **Head:** Length 1.25 mm, mean 1.25 mm, width across eyes 1.40–1.44 mm, mean 1.42 mm, interocular width 0.84–0.88 mm, mean 0.86 mm. **Labium:** Length 2.94–3.01 mm, mean 2.98 mm. **Antenna:** Segment I length 0.38–0.42 mm, mean 0.40 mm, II 0.96–1.06 mm, mean 1.01 mm, III 0.90–1.02 mm, mean 0.96 mm, IV 1.18–1.22 mm, mean 1.20 mm. **Pronotum:** Length 1.20 mm, mean 1.20 mm, basal width 2.15–2.25 mm, mean 2.20 mm.

**Etymology**

The specific epithet ‘*parvaloba*’ is taken from the Latin ‘*parva*’, meaning little or small and the word lobe, to denote the unusually reduced median lobe of the genital capsule.

**Host**

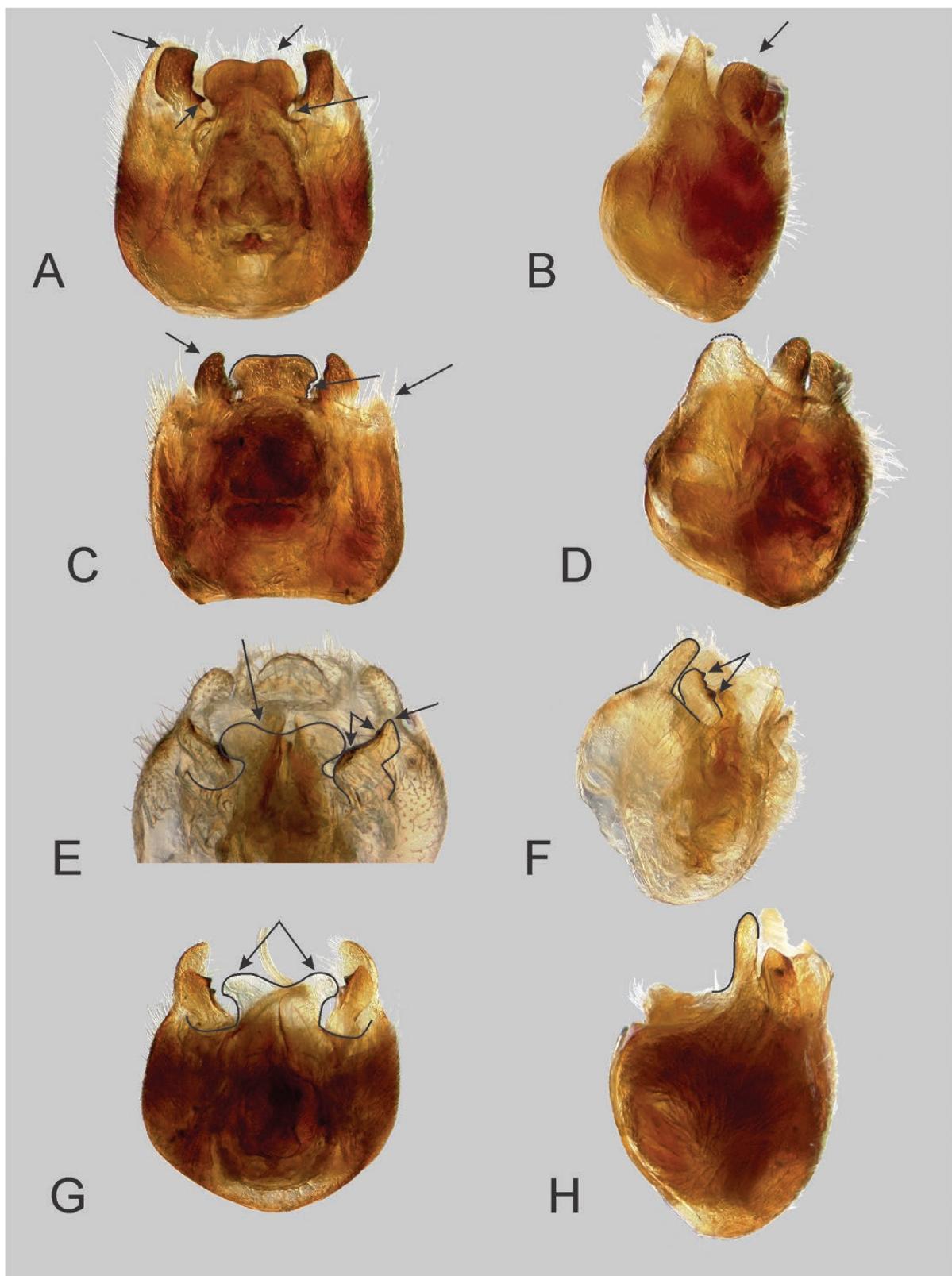
Unknown.

**Distribution**

Bolivia.

**Type material**

**HOLOTYPE:** Male, BOLIVIA, Santa Cruz, 21 km W La Negra on old Cochabamba Rd., 73 km W Samaipata, 15 December 2008, 18°8.31'S– 64°15.12'W, 1487 m, T. Henry, S. Lingafelter and D. Windsor (USNM). **PARATYPES:** 2 females, same data as for holotype (USNM).



**Fig. 10.** *Niesthrea* male genitalia. (A–B) *Niesthrea pictipes* (Stål): (A) Ventral view. (B) Lateral view. (C–D) *N. rostrata*, sp. nov.: (C) Ventral view. (D) Lateral view. (E–F) *N. sidae* (Fabricius): (E) Ventral view. (F) Lateral view. (G–H) *N. similis* Chopra: (G) Ventral view. (H) Lateral view.

***Niesthrea pictipes* (Stål, 1859)**

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452487)  
(Figs. 4D and 10A–B)

*Rhopalus pictipes* Stål, 1859: 239 (original description); Walker, 1872: 23 (catalog).

*Corizus proximus* Signoret, 1859: 96 (original description from Bahia, Brazil). Synonymized by Stål, 1870: 223.

*Corizus nebulosus* Signoret, 1859: 98 (original description from Rio de Janeiro, Brazil). Synonymized by Stål, 1870: 223.

*Corizus anticus* Signoret, 1859: 99 (original description from Buenos Aires, Argentina). Synonymized by Distant, 1882: 171.

*Corizus pictipes*: Stål, 1862: 307 (distribution); Mayr, 1866: 122 (catalog); Stål, 1870: 223 (synonymy, distribution); Distant, 1882: 171, 378 (distribution); Lethierry and Severin, 1894: 119 (catalog); Montandon, 1895: 7 (distribution); Torre-Bueno and Thomas, 1915: 160 (distribution); Rufinelli and Pirán, 1959: 21 (catalog); Quintanilla et al. 1967/1968: 31 (distribution); Quintanilla et al., 1975/1976: 119 (distribution); Rizzo, 1976: 42 (list of species with agricultural importance); Quintanilla et al., 1981: 149 (distribution); Di Iorio, 2004: 245 (host plants).

*Corizus (Niesthrea) pictipes*: Stål, 1870: 223 (synonymy, distribution); Berg, 1878: 186 (distribution, note); Berg, 1879: 284 (distribution); Pennington, 1920: 16 (distribution); Pennington, 1922: 168 (distribution); Bosq, 1937: 114 (checklist, distribution); Bosq, 1940: 402 (checklist); Dellapé and Carpintero, 2012: 133 (checklist).

*Corizus (Niesthrea) anticus*: Stål, 1870: 223 (list, distribution); Lethierry and Severin, 1894: 115 (catalog).

*Niesthrea pictipes*: Baker, 1908: 244 (in part, distribution); Harris, 1944: 106 (note); Sailer, 1961: 297 (note); Chopra, 1973: 449–450 (revision, lectotype designation); Froeschner, 1981: 91 (catalog); Göllner-Scheiding, 1983: 54 (catalog); Froeschner, 1989: 611 (list); Carpintero and De Biase, 2011: 42 (list, hosts); Pall and Coscarón, 2012: 1458 (catalog); Melo and Montemayor, 2014: 454 (checklist); Dellapé et al., 2015: 8 (list); Melo and Montemayor, 2015: 7–8 (distribution); Fowles et al., 2015: 621 (list, distribution); Melo et al., 2017: 495 (list); CoreoideaSF Team, 2018 (online catalog).

**Diagnosis**

This species is distinguished by the vertically quadrate paramere (Fig. 10A) with a large denticle at the base, the large broad, bilobed median lobe constricted at the base, and the relatively slender, pointed lateral lobes in lateral aspect. The labium extends to the base of abdominal segment III or slightly beyond.

*Niesthrea pictipes* is most similar to *N. casinii* and *N. truncata* sp. nov. in the general shape of the parameres. It can be separated from *N. casinii* (Fig. 7A) by the more quadrate parameres with a large projection at the base of each (vs broader and more rounded on outer margin) and the broadly rounded, bilobed median lobe (vs distinctly conical); and from *N. truncata* sp. nov. (Fig. 11A), by the quadrate parameres (vs more broadly rounded) and the high, broad median lobe with large rounded lateral processes (vs short, narrow, and quadrate).

**Measurements**

**Males** ( $n = 5$ ): Length 4.37–4.94 mm, mean 4.66 mm, width across abdomen 1.99–2.28 mm, mean 2.05 mm. **Head**: Length 0.98–1.10 mm, mean 1.07 mm, width across eyes 1.20–1.32 mm, mean 1.26 mm, interocular width 0.74–0.84 mm, mean 0.77 mm. **Labium**: Length 2.18–2.40, mean 2.28 mm. **Antenna**: Segment I length

0.31–0.34 mm, mean 0.3 mm, II 0.74–0.86 mm, mean 0.79 mm, III 0.70–0.79 mm, mean 0.73 mm, IV 0.89–1.03 mm, mean 0.95 mm. **Pronotum**: Length 1.01–1.08 mm, mean 1.04 mm, basal width 0.84–0.89 mm, mean 0.87 mm.

**Females** ( $n = 5$ ) Length 4.28–5.89 mm, mean 4.90 mm, width across abdomen 1.99–2.71 mm, mean 2.42 mm. **Head**: Length 1.13–1.27 mm, mean 1.16 mm, width across eyes 1.25–1.39 mm, mean 1.32 mm, interocular width 0.77–0.89 mm, mean 0.83 mm. **Labium**: Length 2.35–2.88 mm, mean 2.52 mm. **Antenna**: Segment I length 0.29–0.46 mm, mean 0.35 mm, II 0.82–1.06 mm, mean 0.94 mm, III 0.71–1.03 mm, mean 0.88 mm, IV 0.91–1.20 mm, mean 1.08 mm. **Pronotum**: Length 1.10–1.25 mm, mean 1.19 mm, basal width 0.91–1.08 mm, mean 0.99 mm.

**Hosts**

Carpintero and De Biase (2011) listed the following malvaceous hosts from Argentina: *Gossypium hirsutum* L., *Malvastrum coromandelianum* (L.) Garcke, and *Sphaeralcea bonariensis* (Cav.) Griseb. A record for aromilla [*Acacia aroma* Gillies, Fabaceae] from specimen data undoubtedly is incidental.

**Distribution**

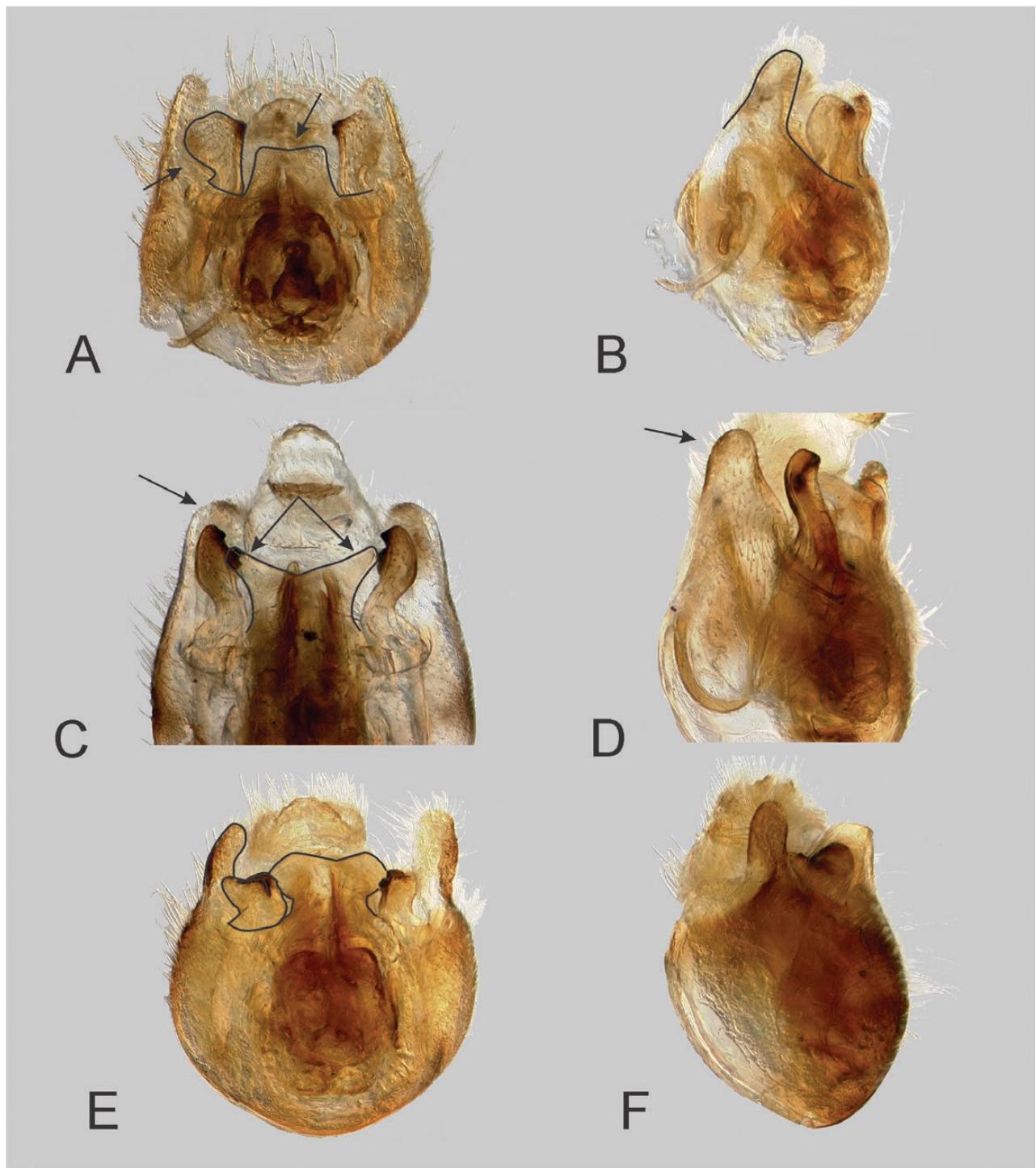
Previously known from Argentina (Chaco, Isla Los Cisnes), Brazil (Nova Teutonia, Santa Catarina), and Paraguay (Paso Yobri, Cagliazy, Sapugzy) (Chopra 1973). New country records are Belize, Bolivia, Ecuador, Peru, and Uruguay.

**Discussion**

Based on distribution, we consider *Corizus luteolus* Distant (1882) and *Corizus mexicanus* Signoret (1859) junior synonyms of *N. sidae*, not *N. pictipes* (see *N. sidae*). Baker's (1908) record for *N. pictipes* from the United States probably refers to *N. sidae* as well.

**Material examined**

**ARGENTINA:** *Buenos Aires*: 1 male, Denier (MLP); 1 male 1 female, Pereyra Iraola, 31–VIII–[1]958, E.B. Arana (MLP); 2 males, La Plata, H.M. Harris colln. (USNM); 1 male, same locality, 26–VIII–1915 (USNM); 1 male, San Pedro, 11–IV–1927, swept in grove, M. Kisliuk (USNM); 1 male, San Fernando, H.M. Harris colln. (USNM). *Catamarca*: 2 males, 2 females, 10 km NE of La Merced, 775 m, 28.07° S 65.61° W, 5–III–2006, sweeping, T.J. Henry and D. Forero (AMNH). *Chaco*: 1 male, Laguna Blanca, 7–XII–1939, Birabén-Bezzi (MLP); 2 males, 2 females, Resistencia to Santiago del Estero, 8/12–IV–[19]40, H.L. Parker (USNM). *Córdoba*: 3 males, Alta Gracia, La Granja, I–[1]938, C. Bruch (MLP); 1 male, 1 female, Villa Gen. Belgrano, 695 m, 32°0.306'S 64°33.601'W, 23–II–2006, D.A. Rider (USNM). *Corrientes*: 1 male 2 females, Reserva Provincial Iberá, Col. C. Pellegrini, 5–XII–2001, Coscarón (MLP); 3 males, same locality, 5–XII–2001, P.M. Dellapé (MLP). *Formosa*: 1 male, Gran Guardia, 17–XI–[19]50, J. Foerster, J.C. Lutz colln. (USNM); 8♂ 6♀, Arroyo Guaycolec, 25–IV–1989, A.M. Gomez, Drake colln. (USNM). *Jujuy*: 1 male, Dique La Ciénaga, 30–I–[1]958, Torres-Ferreyyra (MLP); *La Rioja*: 1 male, 2 females, La Rioja, 1424, Pennington, Drake colln. (USNM). *Misiones*: 1 male, Pto. Bemberg, I–[19]45, Bosq colln. (MLP); 2 males, 3 females, R.P. 2, 20 km NE El Soberbio, 27°12.220 S, 54°1.375 W, 326 m, 5–II–2010, G. Del Rio (MLP); 1 male, 1 female, close to R.P. Moconá, camino a Gendarmería, 27°7'37.4'' S, 53°56'55.5'' W, 342 m, 2–IV–2012, S. Montemayor (MLP); 1 male, Mesa Redonda, 27°9'18.5'' S, 57°58'54.5'' W, 2–IV–2012, M.C. Melo (MLP); 11 males, 16 females, Iguazú Nat. Park, hostería Hoppe, c. 140 m, Malaise trap, 10/11–IV–1974, C.R. Vardy, BM 1974–204



**Fig. 11.** *Niesthrea* male genitalia. (A–B) *N. truncata*, sp. nov.: (A) Ventral view. (B) Lateral view. (C–D) *N. ventralis* (Signoret): (C) Ventral view. (D) Lateral view. (E–F) *N. vincentii* (Westwood): (E) Ventral view. (F) Lateral view.

(BMNH); 1 female, Bompland, 13/14–I–1927, F. and M. Edwards, B.M. 1927–63 (BMNH); 2 females, Puerto Aguirre, Alto Parana, 3/11–I–1934, K.J. Hayward, B.M. 1934–337 (BMNH); 7 males, 7 females, Eldorado, 10–IX–1064, A. Kovacs (AMNH); 2 males, 10–II–1964, same data, (AMNH); 9 males, 7 females, same data, 10–IV–1964 (AMNH); 3 males, 4 females, same data, 8–IX–1964 (AMNH); 2 males, 4 females, same data, 14–IX–1964 (AMNH); 2 male, 3 females, same data, 15–IX–1964 (AMNH); 4 males, 2 females, same data, 16–IX–1964 (AMNH); 1 male, same data,

17–IX–1964 (AMNH); 1 male, same data, 21–IX–1964 (AMNH); 1 male, same data, 24–IX–1964 (AMNH); 2 females, same data, 28–IX–1964 (AMNH); 2 females, same data, 30–IX–1964 (AMNH); 23 males, 19 females, same data, 1–X–1964 (AMNH); 8 males, 11 females, same data, 2–X–1964 (AMNH); 4 males, 5 females, same data, 3–X–1964 (AMNH); 9 males, 7 females, same data, 4–X–1964 (AMNH); 7 males, 10 females, same data, 5–X–1964 (AMNH); 1 male, 2 females, same data, 6–X–1964 (AMNH); 8 males, 6 females, same data, 12–X–1964 (AMNH); 2 males, 1 female, same data,

13–X–1964 (AMNH); 2 males, 2 females, same data, 14–X–1964 (AMNH); 6 males, 3 females, same data, 15–X–1964 (AMNH); 3 males, same data, 16–X–1964 (AMNH); 2 males, 4 females, same data, 21–X–1964 (AMNH); 11 males, 16 females, same data, 2–XI–1964 (AMNH); 1 male, same data, 3–XI–1964 (AMNH); 2 males, 3 females, same data, 4–XI–1964 (AMNH); 1 female, same data, 12–XI–1964 (AMNH); 3 males, same data, 30–XI–1965 (AMNH); 1 male, 1 female, same data, IX/XI–1864 (AMNH); 1 female, Mado, Puerto Magdalena, 23–I–1964, A. Kovacs (AMNH). *Salta*: 2 males, 1 female, Güemes, II–[19]45, Martinez–Bezzi (MLP); 2 males, Coronel Moldes, 9–III–1939, Birabén–Scott leg. (MLP); 1 male 1 female, J.V. González, 28–VII–[19]92, s/ algodón, INTA (MLP); 1 male, 2 females, Salta, Daguerre, H.M. Harris colln. (USNM). *Tucumán*: 1 male, 2 females, La Cocha, 20–III–1939, Birabén–Scott (MLP); 5 males, 4 females, Tucumán, 25–IV–1951, H. M. Harris colln. (USNM); 2 males, same locality, H.M. Harris colln. (USNM); 2 males, same locality, 15–XI–1928, on corn, H.A. Jaynes (USNM); 1 male, Cacheuta, X–1906, H.M. Harris colln. (USNM). *BELIZE*: 1 male, San Antonio, IV–1931, J.J. White, J.C. Lutz colln. (USNM); *BOLIVIA*: *Santa Cruz*: 1 male, 1 female, 21 km W La Negra on old Cochabamba Rd., 73 km W Samaipata, 15–XII–2008, 18°8.31'S 64°15.12'W, 1487 m, T. Henry, S. Lingafelter and D. Windsor (USNM). *BRAZIL*: *Bahia*: 2 males, 1 female, Ilhéus, CEPEC, III–1973, D. Leston (AMNH); 1 female, Bahia, I–1908, J.D. Hasemann, H.M. Harris colln. (USNM). *Esíritu Santo*: 1 male, Linhares, IX–1972, M. Alvarenga (AMNH); 1 male, Conceição da Barra, X–1972, M. Alvarenga (AMNH). *Goiás*: 1 female, Campinas, Borgmeier and Lopez (AMNH); 2 males, 10 females, Jataí, XI–1972, F.H. Oliveira (AMNH). *Mato Grosso do Sul*: 1 female, Corumba, H.M. Harris colln. (USNM). *Minas Gerais*: 3 males, Pasa Quatro, XII–1972 (AMNH); 1 male, Varginha, II–1972, M. Alvarenga (AMNH); 2 males, Pedra Azul, XI–1970, F.M. Oliveira (AMNH); 3 females, M. Gerais, C.R. Claro, [1]947, Carvalho (USNM); 1 male, Lagoa Santa, [19]48, Carvalho (USNM); 1 male, Minas Gerais, T.A. Snipes, H.M. Harris colln. (USNM). *Paraná*: 1 female, Londrina, III–1975, M. Alvarenga (AMNH); 7 males, 2 females, Foz do Iguaçu, 19–VII–1961, Krauss (USNM). *Rio de Janeiro*: 3 males, Rio de Janeiro, H.M. Harris colln. (USNM); 2 females, Rio de Janeiro DF, 28–III–[19]43, Wygodzinsky (AMNH); 4 females, Nova Friburgo, I–1946, Wygodzinsky, H.M. Harris colln. (USNM); 1 female, same data, 11–IX–[19]46 (USNM); 3 males, 1 female, same data, 3–IX–1947, (USNM); 1 male, 1 female, Mangaratiba, VII–1968, M. Alvarenga (AMNH); 4 males, 7 females, same locality, I–1976, M. Alvarenga (AMNH); 1 male, Muriqui, Mangaratiba, VII–1969, M. Alvarenga (AMNH); 1 male, Silva Jardim, III–1974, F.M. Oliveira (AMNH); 1 male, 2 females, Rio DF, 10–IV–[1]944, Wygodzinsky (AMNH); 1 female, Rio de Janeiro, Corcovado, 26–VIII–[1]948, Wygodzinsky (AMNH); 1 male, 2 females, Angra dos Reis, Japuhyba, II–1944, Wygodzinsky (AMNH); 4 males, 5 females, Itatiaia, Faz. Penedo, XI–1943, Wygodzinsky (AMNH); 1 male, same data, II–1943 (AMNH); 2 females, Parque Nacional Serra dos Orgaos, Teresópolis, 1500–1700 m, 18/22–IV–1947, Wygodzinsky (AMNH); 1 female, same data, 14/22–IV–1947 (AMNH); 1 male, 1 female, same data, 23/27–IV–1947 (AMNH); 2 males, 4 females, Murundu, Campos, VIII–1978, M. Alvarenga col. (AMNH); 5 males, Guanabara, Repressa Rio Grande, VII–VIII–1972, M. Alvarenga col. (AMNH); 15 males, 8 females, same data, II–1976 (AMNH); 1 female, Itatiaia, Faz. Penedo, 3–44 44, (AMNH). *Santa Catarina*: 1 male, Nova Teutonia, 19–IX–[19]50, F. Plaumann (AMNH); 1 male, same data, 12–X–1948, J.C. Lutz colln. (USNM); 1 female, same data, 4–VI–1948 (USNM); 2 males, 3 females, same locality, 27°11'N 52°23'W, 5–II–1937, F. Plaumann (AMNH); 1 female, same data, XI–1936 (AMNH); 1 male, same data, 6–X–[19]43, J.C. Lutz colln. (USNM). *Rio Grande do Sul*: 1 male, Pelotas, X–1955, Biezanko (USNM); 1 male, 1 female, Chapada, January (AMNH); 1 female, same locality, March (AMNH); 2 males, 2 females, same locality, April (AMNH); 2 males, same locality, April, H.M. Harris colln. (USNM); 2 males, 1 female, S. Augusto, XII–1975, O. Roppa (AMNH); *São Paulo*: 1 female, Catreira, III–[1]936, H.S. Lopes (AMNH); 1 male, São Jose dos Campos, VI–1932, H.S. Lopes (AMNH); 2 males, 1 female, São Paulo, 27–X–[19]63, V.N. Alin (AMNH); 2 males, 1 female, same data, 3–III–1963 (AMNH); 1 male, Serra Bocaina, São Jose do Barreiro, 1680 m, III–1973, F.M. Oliveira (AMNH); 2 females, same locality, 1650 m, X/XI–1969, Alvarenga and Seabra (AMNH); 4 males, 1 female, Pindorama, IV–[19]38, L.O.T.M. (USNM); 1 male, same data, 26–IV–[19]38, (USNM); 1 male, same data, 27–IV–[19]38, (USNM); 1 male, 2 females, same data, 21–IV–[19]38 (USNM); 1 male, 1 female, same data, 11–VI–[19]38 (USNM); 1 male, 2 females, Rib. Preto, XI–[19]36, L.O.T.M. (USNM); 1 male, 1 female, same locality, IV–[19]38, L.O.T.M. (USNM); 1 male, Campinas, 15–I–1936, E.J. Hambleton, H.M. Harris colln. (USNM); 1 male, same data, 10–XII–1935 (USNM); 1 male, same data, 10–II–1936 (USNM); 1 female, same data (AMNH). *ECUADOR*: *Los Ríos*: 2 females, Los Ríos, Babahoyo, 10 km N, 22–VI–1975, A. Langley, J. Cohen and P. Monning, Ecuador Peace Corps, Smithsonian Institution Aquatic Insect Survey (USNM); *Manabí*: 1 female, Santo Domingo de los Colorados, 59 km W, 8–V–1975, A.B. Gurney (USNM); *Tungurahua*: 1 male, Banos, 29 km E, 25–I–1976, 5130', Spangler et al., Smithsonian Institution Aquatic Insect Survey (USNM). *PARAGUAY*: *Itapúa*: 15 males, 11 females, Trinidad, verano, B. Podtiaguín (AMNH); 1 female, 17 km W Encarnación, 1–II–[19]83, E.G. Riley (AMNH); 2 females, 10 km N Hohenau, 2–II–1983, E.G. Riley (AMNH); *Caaguazú*: 1 male, 3 females, 17 km E Juan E. O'Leary, 24–I–[19]83, E.G. Riley (AMNH); 1 female, 16 km E Cnel. Oviedo, 29–I–[19]83, E. G. Riley (AMNH); 3 females, 15 km W Campo 9, 29–I–1983, E.G. Riley (AMNH); *Central*: 3 males, 1 female, Asunción, 15–I–1983, E.G. Riley (AMNH); 3 males, 3 females, near Ñemby, 11–I–1983, E.G. Riley (AMNH); 1 male, 2 females, Univ. Nac. Agric., San Lorenzo, 16–I–[19]83, E.G. Riley (AMNH); 2 females, same data, 20–I–[19]83 (AMNH); *Concepción*: 8 males, 11 females, Horqueta, 45 mi E, Paraguay Riv., 27–I–1934, A. Schulze, H.M. Harris colln. (USNM); *Cordillera*: 1 male, 1 female, Inst. Agro. Nac., Caacupé, 17–I–[19]83, E.G. Riley (AMNH); *Paraguarí*: 3 males, 5 females, 5 km SE Yaguarón, 19–I–[19]83, E.G. Riley (AMNH); 1 male, 1 female, Parque Nac., 9 km SE Ybicuí, 12–I–[19]83, E.G. Riley (AMNH); 1 male, 2 females, 12 km SE Ybicuí, 12–I–1983, E.G. Riley (AMNH); 4 males, 7 females, 14 km SE Ybicuí, 13–I–1983, E.G. Riley (AMNH). *PERU*: 5 males, 11 females, Tingo Maria, 1 km E of town, at edge of woodland, 5–VIII–1971, forested eastern foothills of the Andes, 2000 ft, P.S. and H.L. Broomfield, BM 1971–486 (BMNH). *URUGUAY*: 1 male, Montevideo, Peñarol, 12–VI–[19]30, ex Aromilla, H.M. Harris colln. (USNM).

#### *Niesthrea rostrata* Melo and Henry sp. nov.

(urn:lsid:zoobank.org:act:318AA1C9-7E2E-4A81-8F04-05DB0EBC5FEC)

(Figs. 4E and 10C–D)

#### Diagnosis

*Niesthrea rostrata* sp. nov. is one of the most distinct species of the genus in having the translucent cells on the hemelytra and the

basal third of the membrane fumate, the dorsum with large dark brown to reddish-brown blotches contrasting with a yellowish-brown to orange-tinged head (Fig. 4E), the fuscous pro-, meso-, and metasternum, and large red blotches on the abdomen; the long labium that extends well onto abdominal segment IV; and the male genitalia. The parameres (Fig. 10C) are distinctly triangular with only a small basal denticle, the median lobe is broadly flared apically and has the constricted middle margins crenulate or roughened on some specimens, and the height of the broad-based lateral lobes and parameres is subequal, the lateral lobes, sometimes appearing shorter, depending on the angle viewed.

This species keys to couplet 18 based on the shape of the triangular parameres with only small denticle at the base of each and the extremely long labium extending to abdominal segment IV. The parameres are somewhat similar to those of *N. fenestrata* (Fig. 8E); however, in *N. fenestrata*, they are broader apically (less triangular) and smooth on the inner surface, lacking any indication of denticles. In addition, in *N. fenestrata*, the lateral lobes are higher than the parameres (and lower than in *N. rostrata* sp. nov.), the labium extends to only the base of abdominal segment III, and it lacks the fumate translucent areas on the hemelytra.

### Description

**Head:** Yellowish brown to brown, often with an orange tinge, with dark brown between ocelli and median line of frons, vertex and frons with numerous dark-stained punctures and large pit-like depressions; with numerous, long, erect, brown setae. **Labium:** Extending well onto middle of abdominal segment IV. **Antenna:** Segment I yellowish brown, with a dark reddish-brown V- or U-shaped dorsal mark and a line on inner ventral surface; segments II and III dark brown to dark reddish brown, with ventral surface of segment III more narrowly pale, each segment with long erect setae, about two times diameter of segment; segment IV, uniformly dark brown, with numerous, short, semierect setae. **Pronotum:** Dirty yellowish brown, with large, irregular blotches and spots of fuscous and dark reddish brown, especially along the pale median line, with numerous, erect setae. **Scutellum:** Yellowish brown, basal half with two large, dark, reddish-brown blotches on either side of median line. **Hemelytron:** Claval and corial cells fumate, veins pale yellowish brown, with numerous elongate spots, apex of corium dark reddish brown to fuscous; membrane translucent smoky brown, appearing dark on basal third against dark dorsum of abdomen. **Ventral surface:** Thorax pale yellowish brown, pro-, meso-, and metapleural areas red, sternal areas along labial groove black; abdomen largely red, with posterior margin of sternite III, and posterior and anterior margins of sternite V, and lateral margins bordering connexivum pale yellow. **Legs:** Yellowish brown; femora with four or more dark brown bands; front tibiae with dark brown spots, middle and hind tibiae with incomplete bands and spots on basal three fourths, fuscous on distal one-fourth; claws and distal halves of tarsomeres fuscous, bases of tarsomeres yellowish brown. **Male genitalia:** **Paramere** (Fig. 10C): Distinctly triangular, with a distinct denticle at base. **Median lobe** (Fig. 10C): Broad, constricted basally, with broadly flared apical processes. **Lateral lobe** (Fig. 10D): Relatively short, stout, extremely broad at base in lateral aspect.

### Measurements

**Males** ( $n = 5$ ; holotype measurements in parentheses): Length 6.01–6.21 mm, mean 6.12 mm (5.65 mm), width across abdomen 2.05–2.18 mm, mean 2.11 mm (1.92 mm). **Head:** Length 0.99–1.25 mm, mean 1.13 mm (1.02 mm), width across eyes

1.20–1.26 mm, mean 1.23 mm (1.18 mm), interocular width 0.72–0.80 mm, mean 0.76 mm (0.75 mm). **Labium:** Length 3.46–3.62 mm, mean 3.53 mm (3.52). **Antenna:** Segment I length 0.38–0.42 mm, mean 0.39 mm (0.035 mm), II 0.77–0.93 mm, mean 0.87 mm (0.90 mm), III 0.70–0.77 mm, mean 0.74 mm (0.82 mm), IV 1.02 mm (1.02 mm). **Pronotum:** Length 1.10–1.20 mm, mean 1.14 mm (1.01 mm), basal width 1.85–1.95 mm, mean 1.89 mm (1.84 mm).

**Females** ( $n = 5$ ): Length 6.59–7.04 mm, mean 6.76 mm, width across abdomen 2.18–2.56 mm, mean 2.41 mm. **Head:** Length 1.15–1.28 mm, mean 1.23 mm, width across eyes 1.28–1.32 mm, mean 1.30 mm, interocular width 0.78–0.84 mm, mean 0.82 mm. **Labium:** Length 3.81–4.00 mm, mean 3.92 mm. **Antenna:** Segment I length 0.38–0.42 mm, mean 0.39 mm, II 0.86–0.96 mm, mean 0.91 mm, III 0.77–0.80 mm, mean 0.78 mm, IV 0.99–1.02 mm, mean 1.01 mm. **Pronotum:** Length 1.15–1.30 mm, mean 1.22 mm, basal width 2.05–2.30 mm, mean 2.15 mm.

### Etymology

The specific epithet ‘*rostrata*’ is given to denote the long labium that extends onto abdominal segment IV.

### Host

Unknown.

### Distribution

Colombia and Ecuador.

### Type material

**HOLOTYPE:** Male, [ECUADOR] Zam.[ora] Chin.[chipe] Prov., Yanzaza, 15–VI–1976, A. Langley, Ecuador Peace Corps, Smithsonian Institution Aquatic Insect Survey (USNM). **PARATYPES:** ECUADOR: 4 males, 3 females, Zam.[ora] Chin. [chipe] Prov., Zumbi, 15–VI–1976, A. Langley, Ecuador Peace Corps, Smithsonian Institution Aquatic Insect Survey (USNM); 1 male, 1 female, Zam.[ora] Chin.[chipe] Prov., Cumbaratza, 12–VI–1976, A. Langley, Ecuador Peace Corps, Smithsonian Institution Aquatic Insect Survey (USNM); 1 male, 3 females, same data as for holotype (USNM); 40 males, 27 females, Mendez (S), 800 m, X–1977, L.E. Peña G., Drake colln. (USNM); 2 males, 1 female, Cachabe, low c., XII–[18]96, Rosenberg, 99–104 (BMNH). Colombia: 7 males, 10 females, Chocó, Quebrada Docordo, between Cucurrupí and Noanama, Rios San Juan, 4–I–1969, B. Malkin (AMNH).

### *Niesthrea sidae* (Fabricius, 1794)

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452485)  
(Figs. 4F, 5D, and 10E–F)

*Lygaeus sidae* Fabricius, 1794: 169 (original description). Lectotype designated by Sailer, 1961: 296.

*Coryna sidae*: Wolff, 1811: iv (description)

*Coreus sidae*: Wolff, 1811: 193, figure 187 in plate 19 (description, illustration).

*Corizus mexicanus* Signoret, 1859: 95 (original description). Synonymized with *Corizus pictipes* by Chopra, 1973: 450. Revised synonymy.

*Niesthrea sidae*: Spinola, 1837: 245; Blöte, 1934: 265 (distribution); Baker, 1908: 243 (note); Torre-Bueno, 1941b: 95 (key); Harris, 1943: 201 (as type species), 1944: 106 (note); Sailer, 1961: 293 (synonymy, redescription); Chopra, 1973: 444 (description,

distribution); *Froeschner, 1981*: 91 (catalog); *Göllner-Scheiding, 1983*: 55 (catalog); *Froeschner, 1989*: 66 (list); *Maes and Göllner-Scheiding, 1993*, 20 [list]; *Fowles et al., 2015*: 621 (list, distribution); *CoreoideaSF Team, 2018* (online catalog).

*Corizus sidae*: *Signoret, 1859*: 95 (description); *Uhler, 1876*: 301 (distribution); *Bergroth, 1913*: 163 (catalog); *Barber, 1923*: 12 (checklist); *Barber, 1939*: 327 (distribution).

*Rhopalus sidae*: *Dallas, 1852*: 527 (in part, distribution); *Walker, 1872*: 22 (catalog); *Bergroth, 1913*: 163 (in part).

*Corizus luteolus* Distant, 1882: figure 25 (original description). Synonymized by Distant, 1882: 171 (as variety of *N. mexicanus*). Revised synonymy.

*Corizus pictipes*: *Uhler, 1886*: 13 (checklist); *Barber, 1906*: 271 (distribution); *Van Duzee, 1907*: 13 (distribution).

*Corizus (Niesthrea) sidae*: *Stål, 1870*: 223 (synonymy, distribution); *Van Duzee, 1916*: 15 (checklist), 1917: 123 (catalog); *Lethierry and Severin, 1894*: 120 (catalog); *Torre-Bueno, 1941a*: 286 (key).

*Niesthrea pictipes*: *Baker, 1908*: 244 (in part, distribution).

*Niesthrea parasitae* *Grillo and Alayo, 1978*: 50 (original description); *Froeschner, 1989*: 611 (list, distribution); *Hidalgo-Gato González et al. 2002*: 23 (type specimen data); *Rivero Aragón, 2006*: 55 (distribution). New synonymy.

### Diagnosis

This species is distinguished by the transversely broad parameres (**Fig. 10E**), the broadly expanded median lobe with large flaring lateral processes, and the long, relatively slender lateral lobe that is much higher than the parameres. The labium extends to base of abdominal segment III or slightly beyond.

The parameres are most similar to those of *N. vincentii* (**Fig. 11E**). In *N. sidae* the parameres are much broader, with two small teeth on the inner surface, and the lateral lobe is long and slender, whereas in *N. vincentii*, the paramere is far less broad and the lateral lobe is considerably stouter.

### Measurements

**Males (n = 5)**: Length 5.76–6.14 mm, mean 5.93 mm, width across abdomen 2.30–2.56 mm, mean 2.41 mm. **Head**: Length 1.12–1.25 mm, mean 1.17 mm, width across eyes 1.30–1.42 mm, mean 1.36 mm, interocular width 0.78–0.84 mm, mean 0.82 mm. **Labium**: Length 2.88–3.20 mm, mean 2.97 mm. **Antenna**: Segment I length 0.32–0.38 mm, mean 0.36 mm, II 0.92–1.12 mm, mean 1.01 mm, III 0.80–1.00 mm, mean 0.90 mm, IV 1.08–1.20 mm, mean 1.14 mm. **Pronotum**: Length 1.10–1.30 mm, mean 1.21 mm, basal width 2.00–2.25 mm, mean 2.11 mm.

**Females (n = 5)**: Length 5.70–6.14 mm, mean 5.95 mm, width across abdomen 2.18–2.69 mm, mean 2.48 mm. **Head**: Length 1.12–1.25 mm, mean 1.17 mm, width across eyes 1.30–1.40 mm, mean 1.35 mm, interocular width 0.78–0.84 mm, mean 0.82 mm. **Labium**: Length 2.78–3.00 mm, mean 2.88 mm. **Antenna**: Segment I length 0.35–0.35 mm, mean 0.35 mm, II 0.82–0.96 mm, mean 0.91 mm, III 0.76–0.88 mm, mean 0.83 mm, IV 0.96–1.16 mm, mean 1.08 mm. **Pronotum**: Length 1.15–1.20 mm, mean 1.19 mm, basal width 2.00–2.15 mm, mean 2.09 mm.

### Hosts

Taken on *Abelmoschus esculentus* (L.) Moench (okra) [Malvaceae], *Malac[h]ra radiata* L., *Pseudabutilon umbellatum* (L.) Fryxell [Malvaceae], *Sida rhombifolia* L. and *Sida* sp. [Malvaceae]. Nonmalvaceous plants, such as *Panicum barbinode* Trin. [Poaceae], *Saccharum officinarum* L. (sugarcane) [Poaceae], *Chamaesyce* sp.

[Euphorbiaceae], *Stizolobium deerlingianum* Bort [Fabaceae], *Lactuca* [Asteraceae], *Persea* [Lauraceae], and Cyperaceae, undoubtedly are incidental.

### Distribution

Previously recorded from Brazil, Colombia, Mexico, Paraguay, Venezuela, Central America, the United States (Florida, Georgia and Texas), and the West Indies (Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico, and Virgin Islands: St. Croix, St. John, and St. Thomas). Based on our observations, however, previous records from south of Panama, including the Argentina, Brazil, Colombia, Paraguay, and Venezuela are misidentifications of other species, probably mostly the similar-appearing *N. vincentii*.

As a result of this study, we can confirm that *Niesthrea sidae* occurs from the southern United States to Panama, and throughout much of the West Indies. We have studied specimens from Belize, Costa Rica, Ecuador (adventive in the Galápagos Islands), El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, the United States (Arizona, Georgia, Florida, North Carolina, and Texas), and the West Indies, including Antigua, British Virgin Islands, Cuba, Dominican Republic, Grand Caymans, Guadalupe, Haiti, Jamaica, Martinique, Puerto Rico, St. Kitts, and the Virgin Islands. Any of these localities not mentioned in the previous paragraph are considered new country records.

### Discussion

A photo of the 'type' in Copenhagen is provided in the Coreoidea SpeciesFile (*CoreoideaSF Team, 2018*).

Based on distribution, we consider *Corizus mexicanus* Signoret and *Corizus luteolus* Distant synonyms of *N. sidae* rather than *N. pictipes*. We also refer *Baker's (1908)* record of *N. pictipes* from the southern United States to either *N. louisianica* or *N. sidae*.

### Material examined

ANTIGUA: 1 male, Antigua (AMNH); 1 male, 5–VII-[19]18, Stoner col., H.M. Harris colln. (USNM); 2 females, VII–1918, D. Stoner, H.M. Harris colln. (USNM); 1 male, 4 females, same data, Drake colln. (USNM); 1 male, 3 females, St. Johns, 0–100 m, VIII–1979, N.L.H. Krauss (AMNH); 1 male, same data, VII–1979 (AMNH); 8 males, 3 females, N. Sound Bridge, 15–VIII-[19]87, R.M. Baranowski (USNM). BELIZE: 1 male, Roatan Island, French Harbor, 0–50 m, 31–VII–1975, N.L.H. Krauss (AMNH); 1 male, San Pedro Sula, VIII–1975, N.L.H. Krauss (AMNH); 2 females, Roaring Creek, VIII–1953, N.L.H. Krauss (AMNH); 2 males, 1 female, Middlesex, VIII–1963, N.L.H. Krauss (AMNH); 1 male, Punta Gorda, IV–1981, J.J. White (AMNH); 3 males, 1 female, same data, J.C. Lutz colln. (USNM); 2 males, 3 females, same data, II–1931 (USNM); 2 males, 6 females, San Antonio, IV–1931, J.J. White, J.C. Lutz colln. (USNM); 4 males, 1 female, British Honduras, XI–1928 (AMNH); 1 male, 1 female, El Cayo, 1959, N.L.H. Krauss (USNM). BRITISH VIRGIN ISLANDS: *Guana Is.*: 1 male, 3 females, 1 nymph, White Bay Flat, 20–X–2008, on *Sida* sp., A.G. Wheeler Jr. (USNM); 1 female, same locality, 18°28.453'N 64°34.464'W, 10–X–2007, ex *Sida* sp., T.J. Henry and A.G. Wheeler Jr. (USNM); 5 females, Desalination Plant, 18°28.565'N 64°34.601'W, 20–X–2008, *Sida* sp., T.J. Henry (USNM); 1 female, open hillside below club, 18°28.656'N 64°34.601'W, 21–X–2008, *Pseudabutilon umbellatum*, A. G. Wheeler Jr. (USNM); 3 females, Orchard, 18°28.463'N 64°34.406'W, 8–X–2007, ex *Sida* sp., T.J. Henry and A.G. Wheeler Jr. (USNM). COSTA RICA: 1 male, 1 female, Rincón Nat. Park, I/III–1983, J.H. Martin, B.M. 1983– 478 (BMNH); 3 males, Piedra Blanca Bay,

6-II-[19]38, Zaca Exped. (AMNH); 10 males, 9 females, Turrialba, 27-I-1965, J.A. Slater and N.T. Davis, J.A. Slater colln. (AMNH); 1 female, same data, 29-I-1965 (AMNH); 2 females, same data, 28-I-1965 (AMNH); 1 female, same data, 31-I-1965 (AMNH); 2 females, same data, 5-II-1965 (AMNH); 1 female, Turrialba, 8-VI-1962, P. Ruckes (AMNH); 1 female, same data, 9-VI-1962 (AMNH); 1 female, same data, 31-V-1962 (AMNH); 2 males, 2 females, Guanacaste prov., 6 mi S, 6 mi W Cañas, Taboga, 10°19'N-85°9'W, 13/17-II-1967, H.A. Hespenheide, Slater colln. (AMNH); 1 male, Guanacaste, Canas, 80-100 m, VII-1981, N.L.H. Krauss (AMNH); 2 females, Puntarenas prov., Puntarenas, 0-30 m, VIII-1980, N.L.H. Krauss (AMNH); 1 male, same locality, X-1953, N.L.H. Krauss (AMNH); 1 female, San Ramon, Alajuela, VII-1981, N.L.H. Krauss (AMNH); 2 males, San Isidro de General, 700-800 m, VIII-1980, N.L.H. Krauss (AMNH); 1 male, Puntarenas prov., Rincón de Osa, Osa Península, 14/26-VII-1969, T. Schuh and J. Crane (AMNH); 1 female, San Jose, E. Schmidt (AMNH); 2 males, same locality, V-1928, J.F. Tristan col. (USNM); 2 males, Higuito, San Mateo, P. Schild (USNM); 1 male, Buenos Aires, 23-XII-[19]88, light trap, Delmonte-APHIS Insect Survey (USNM); 1 female, same data (USNM); 1 male, San Isidro, El General, 28-II-[19]36, on tobacco, C.H. Ballou (USNM); 1 male, Waldeck, 28-VII-[19]35, on cacao, C.H. Ballou (USNM); 1 female, same data, 22-VII-[19]36, on *Panicum barbinode* T. (USNM); 8 males, 7 females, San Pedro de Montes de Oca, 7-VII-[19]36, *Malacra radiata*, C.H. Ballou (USNM). CUBA: 2 males, 4 females, Pinar del Rio, P. de R., 9/24-IX-[19]13 (AMNH); 7 males, 2 females, San Carlos Est., Guantanamo, 4/8-X-[19]13 (AMNH); 1 male, Soledad, 6-III-1925, J.G. Myers (AMNH); 1 male, Soledad, 6-I-[19]27, gift C.T. Brues (AMNH); 1 male, Soledad, 20-VII-1925, Geo. Salt 282 (AMNH); 1 female, Cienfuegos, Soledad, I/II-1927, C.T. and B.B. Brues (AMNH); 1 male, Soledad nr Cienfuegos, 6/20-VIII, N. Banks (AMNH); 2 males, 7 K[m] N from Vinales, 16/22-IX-[19]13 (AMNH); 1 male, 14 k[m] N from Vinales, 16/22-IX-[19]13 (AMNH); 1 male, 2 females, same locality, 20-IX-[19]13 (AMNH); 5 males, 4 females, Cristo, Ornte, 3-X-[19]13 (AMNH); 4 male, 4 females, Guane, 24/26-IX-[19]13 (AMNH); 1 male, Trinidad Mts., Mina Carlota, 23-III-1925 (AMNH); 2 females, Baraguá, 13-X-[19]28, L.C. Scaramuzza (AMNH); 1 male, same locality, 27-IX-[19]28, taken on sweeping grasses, L.C. Scaramuzza (AMNH); 1 female, same locality, 190X-[19]27, taken on weeds, L.C. Scaramuzza (AMNH); 1 male, Siboney, XII (AMNH); 1 female, Cuba, Ch. Wright (AMNH); 1 female, Upper Yara Valley, 18-X-[19]28 (AMNH); 4 males, 2 females, Vic. of Havana, T. Barnour (AMNH); 1 male, 1 female, Cuba, P.R. Uhler colln. (USNM); 1 male, 1 female, near Santiago, 31-VIII-1917, H. Morrison (USNM); 1 male, 1 female, Jobabo, 7-I-[19]25, taken on sugar cane, C.F. Stahl (USNM); 1 male, Santiago de las Vegas, 2-VI-[19]22, S.C. Bruner (USNM); 1 female, same locality, 24-III-1905, Geo. Dimmock (USNM); 2 males, 3 females, Baracoa, VIII-1901, A. Busck (USNM); 1 male, 1 female, same data, IX-1901 (USNM). DOMINICA: 1 male, 3 females, Roseau, 0-100 m, VIII-1979, N.L.H. Krauss (AMNH); 1 female, same data, VII-1979 (AMNH); 2 males, 2 females, 1 nymph, same data, VII-1976, (USNM); 7 males, 6 females, 1.5 mi W Rasade, 22-VI-[19]71, Slater, Baranowski and Harrington, Slater colln. (AMNH); 2 males, 1 female, Layou River, Clarkehall Estate, 24-VI-[19]71, Slater, Baranowski and Harrington, Slater colln. (AMNH); 1 male, 1.5 mi W Rasade, 22-VI-[19]71, Slater, Baranowski and Harrington, Slater colln. (AMNH); 3 males, Springfield Plantation, 23/29-VII-1978, G.C. Steyskal col., Bredin-Archbold Smithsonian Bio. Surv. Dominica (USNM); 3 males, 5 females, St. Paul Parish, Springfield Plantation, NE of Canefield, 3

October 2005, 15°20.73'N, 61°22.14'W, T.J. Henry and A.G. Wheeler, on *Sida rhombifolia* (Malvaceae) (USNM); 7 males, 2 females, St. Mark Parish, West Coast Hwy, 1.8 km N of Soufriere, 744 ft, 4 October 2005, 15°14.35 N, 61°21.94'W, T.J. Henry and A.G. Wheeler, on *Chamaesyce* sp. (Euphorbiaceae) (USNM); 14 males, 12 females, St. Paul Parish, Springfield Plantation, NE of Canefield, 13 February 2005, 15°20.73'N, 61°22.14'W, T.J. Henry and A.G. Wheeler, on *Sida rhombifolia* (Malvaceae) (USNM). DOMINICAN REPUBLIC: 4 males, San Lorenzo, 24/26-VI-[19]15 (AMNH); 1 male, 2 females, same locality, 27/29-VI-[19]15 (AMNH); 1 male, 1 female, Sanchez, 3/6-VI-[19]15 (AMNH); 1 male, 1 female, Sto. Domingo, 17-VIII, A. Busck (USNM); 2 males, 2 females, same data, 7-VIII-[19]05 (USNM); 7 males, 3 females, Duarte, Santo Domingo city, 21-VII-1917, H. Morrison (USNM); 1 male, La Romana Entr., 15-VII-1917, H. Morrison (USNM); 3 males, 1 female, San Cristobal, 23-VII-1917, H. Morrison (USNM); 3 males, 2 females, 8 mi up of Macoris river, San Domingo, 16-VII-1917, H. Morrison (USNM); 2 males, 4 females, San Pedro de Macoris, 15-VII-1917, H. Morrison (USNM); 1 male, Trujillo prov. Bajos de Haina, 29-XII-1955, J. Maldonado C. (USNM); 1 male, Hato Mayor, 4-VI-1971, J. Maldonado C. (USNM); 1 male, Pedernales, 60 km NW Cabo Rojo, 1200 m, Las Abejas, cloud forest, 30-XI-[19]91, sweeping, Masner and Peck (AMNH); 6 males, 2 females, Barahona, 7 km NW Paraíso, 200 m, rainforest remnant, sweeping, 27-XI-[19]91, Masner and Peck (AMNH). GALAPAGOS ARCH.: *Sta. Cruz Is.*: 1 male, 4 km NE Sta. Rosa, 350 m, roadside agric. pit traps., 10-IV/4-V-[19]96, sta. 12, S. Peck (USNM). EL SALVADOR: 3 males, 2 females, Meanguera Is., Gulf of Fonseca, 21-XII-[19]37, Zaca Exp. (AMNH); 1 male, 2 females, San Salvador, 4-V-1958, O.L. Cartwright (USNM); 1 male, La Ceiba, 8-I-1925, K.A. Salman (USNM). GRAND CAYMAN IS.: 1 male, Breakers, 10-XII-[19]88, R.M. Baranowski (USNM); 1 male, West Bay, Willis Farrington Drive, 16-X-[19]87, F.D. Bennet (USNM); 8 males, 7 females, Breakers, 10-XII-[19]88, R.M. Baranowski (USNM); 3 males, 3 females, West Bay, 15-X-[19]87, F.D. Bennet (USNM). GUADALOUPE: 1 male, 2 females, Sofaia, 27-VI-1971, Slater, Baranowski and Harrington, Slater colln. (AMNH); 6 males, 3 females, Rougeole, 25-VI-1971, Slater, Baranowski and Harrington, Slater colln. (AMNH); 2 females, BasseTerre, 21-X-[19]35, Chapin and Blackwelder (USNM). GUATEMALA: 9 males, 14 females, Los Amates, Kellerman (AMNH); 1 male, same locality, 18/28-II-[19]05, O. Heidemann (USNM); 1 male, B.V.P., San Jeronimo, 3000 ft, 26-VII-1947, C. and P. Vaurie, F. Johnson colln. (AMNH); 2 males, 1 female, Guatemala City, 5000 ft., III-1932, C.N. Ainslie (USNM); 1 male, Alta Vera Paz, Cacao, Trece Aguas, 1.4, Schwarz and Barber (USNM); 1 male, same data, 24.4 (USNM); 1 male, Sololá, Panajachel, 1560 m, 28-IV-1956, T.H. Hubbell, J.C. Lutz colln. (USNM); 5 males, 7 females, 3 nymphs, Chimaltenango, Yepocapa, 13/20-II-1948, H.T. Dalmat (USNM); 1 male, Chimalt'go, 2-XII-1948, H.T. Dalmat (USNM); 1 male, Huehuet'go, 3-III-1949, H.T. Dalmat (USNM); 2 males, 4 females, Yepocapa, IV-1948, H.T. Dalmat (USNM); 23 males, 15 females, same data, V-1948 (USNM); 10 males, 7 females, same data, VI-1948 (USNM); 4 males, same data, XII-1948 (USNM); 1 male, 1 female, same data, I-1949 (USNM); 1 male, same data, 1948-1948 (USNM). HAITI: 1 male, 3 females, Hayti Island, II-1890, E.D. Ball, H.M. Harris colln. (USNM); 1 male, Bizenton, 9-I-1922, F. 4613 (AMNH); 2 males, Fond Parisien, 11/28-II-[19]22, about 60 ft alt. (AMNH); 1 male, Port au Prince, 8/11-IV-1922, about 300 ft alt. (AMNH); 1 male, same locality, 6-X-1934, Darlington (AMNH); 2 males, 1 female, Haiti, P.R. Uhler (AMNH); 1 male, 4 females, Diquini, W.M. Mann (AMNH). HONDURAS: 3 males, 5 females, La Ceiba, 0-100 m,

VI-1981, N.L.H. Krauss (AMNH); 1 female, same locality, 25-XII-[19]15, F.J. Dyer (AMNH); 1 male, same data, swept weed (USNM); 1 male, same locality, 21-X-1948, E.C. Becker, J.A. Slater colln. (AMNH); 9 males, 13 females, same locality, 30-I-[19]16, F.J. Dyer (USNM); 2 males, same data, 14-VIII-[19]16 (USNM); 9 males, 8 females, same data, 6-VIII-[19]16 (USNM); 1 female, 1 nymph, same data, 7-IX-[19]16 (USNM); 1 male, 1 female, same data, 17-IX-[19]16 (USNM); 3 females, Tegucigalpa, 16-II-[19]18, F.J. Dyer (AMNH); 3 females, same data (USNM); 1 female, same data, 3-II-[19]17 (USNM); 1 female, same data, 4-II-[19]18 (USNM); 1 male, same data, 19-VII-1917 (USNM). JAMAICA: 1 male, 2 females, Sav. la Mar, 23-V-1941, Chapin (USNM); 1 male, 1 female, Ferry R., 13-V-[19]41, Chapin (USNM); 1 female, Kensworth, 18-II-1937, Chapin and Blackwelder (USNM); 1 female, Jamaica, P.R. Uhler colln. (USNM); 4 males, 2 females, Kingston, 9-IX-1917, Morrison (USNM); 1 male, 1 female, Banana farm, near Spanishtown, 11-IX-1917, H. Morrison (USNM); 1 female, 1 w/abdomen, Rose Hall, Linstead, swept, 15-IX-1917, H. Morrison (USNM); 1 male, Bath. St. Thomas, 30/31-I-[19]20, about 250 ft. (AMNH); 1 male, 3 females, Palm Beach, Montego Bay, 3-III-1911 (AMNH); 1 male, 2 females, Montego Bay, 2-III-1911 (AMNH); 1 male, same locality, 15-III-1911 (AMNH); 1 female, Yallahs Valley, Blue Mts., 27-II-1911 (AMNH); 2 males, Liguanea Plains, XI-XII-1911, C. T. Brues, Parshley colln., Slater colln. (AMNH); 4 males, 1 female, Parish of Clarendon, Hayes, 9-XII-[19]70, J.A. Slater and R.M. Baranowski, Slater colln. (AMNH); 1 male, 2 females, Parish of Clarendon, Cockpit, 9-XII-[19]70, Slater and Baranowski, Slater colln. (AMNH); 2 females, Parish of St. Ann, 1 mi S Moneaque, 4-VII-1971, Slater, Baranowski and Harrington, Slater colln. (AMNH); 1 male, Parish of St. Ann, 1.1 mi S Faith's Pen, 3-VII-1971, Slater, Baranowski and Harrington, Slater colln. (AMNH); 1 male, 1 female, Parish of St. Catherine, Linstead, 8-XII-[19]70, J.A. Slater and R.M. Baranowski cols., Slater coll. (AMNH); 1 male, same data, 2-VII-[19]71, blacklight trap, Slater, Baranowski and Harrington (AMNH); 2 males, 1 female, 1 nymph, Parish of St. Catherine, Worthy Pk., 4.4 mi ENE, 8-XII-[19]70, J.A. Slater and R.M. Baranowski, Slater colln. (AMNH); 1 male, 2 females, Parish of St. Elizabeth, near Cheapside, 30-VI-1971, Slater, Baranowski and Harrington, Slater colln. (AMNH); 1 male, 1 female, Parish of St. Andrew, Irishtown, 6-VII-1971, Slater, Baranowski and Harrington (AMNH); 1 female, Ocho Rios 4 mi E, 10-XII-[19]70, Slater and Baranowski, Slater colln. (AMNH); 2 males, 1 female, Old Harbour, 9-XII-1970, Slater and Baranowski, Slater colln. (AMNH); 1 male, Windsor Estate, 12 mi So. Falmouth, 20-VII-1960, P. and C. Vaurie (AMNH); 1 female, Bot. Garden Castleton, Petrunkevitch (AMNH); 1 male, Moneague, I-[19]19, W. S. Brooks (AMNH); 1 female, Kingston, gift of C.T. Brues (AMNH); 1 male, Whitfield Hall, Blue Mts., nr 4500 ft, 13-VIII-[19]20, Darlington (AMNH); 1 female, Pto. Antonio, A.E. Wright (AMNH); 1 male, Mandeville, A.E. Wright (AMNH). MARTINIQUE: 1 male, Sainte Anne, 20-VI-1971, Slater, Baranowski and Harrington, Slater colln. (AMNH); 1 male, 4 females, Verrier, 10 km NE Bellfontaine, 18-VI-1971, 674 m, Slater, Baranowski and Harrington, Slater colln. (AMNH). MEXICO: 1 female, Port Guatulea, 3-XII-[19]37, Zaca Exped. (AMNH); 6 males, 2 females, Mex. 2154, C.F. Baker (USNM); 6 males, 2 females, Mex. 1785, C. F. Baker colln. (USNM). Colima: 1 male, 27-III-1954, S.E. Jones, J.A. Slater colln. (AMNH). Cuernavaca: 1 male, 22-III-1934, S.E. Jones, J.A. Slater colln. (AMNH). Morelos: 1 female, Matamoros, 10-VIII-[19]03, W.L. Tower (AMNH). Nayarit: 1 male, 4 females, 15 km W San Blas, 21/23-X-1973, native weeds, T. Halstead, BM. 1973- 607 (BMNH); 2 males, San Blas Spring, 100' 19-XII-1963, C.W. and L.B. O'Brien, J.A. Slater colln. (AMNH); 1 male, Tepic,

2/7-VIII-1947, B. Malkin (AMNH). Oaxaca: 7 males, 9 females, Almoloya, 1923, H.G. Barber colln. (USNM). Puebla: 1 male, 5 mi NE Xicotepet de Juarez, ca. 4000', 28-XII-1963, C.W. and L.B. O'Brien, J.A. Slater colln. (AMNH). San Luis Potosí: 1 male, 1 mi SE Tamazunchale, 25-VII-1966, J. and W. Ivie (AMNH); 1 female, Huichihuyan, 20 mi N Tamazunchale, 19-V-1952, Cazier, Gertsch and Schramme (AMNH); 1 male, Matlapa, 14-I-1941, C. Wingo, J.A. Slater colln. (AMNH); 1 female, Xilitla, 8 mi W, 3500', 22-VII-1974, J.G. Chillcott, J.A. Slater colln. (AMNH). Tamaulipas: 2 males, 22 mi SSW Mante, 22-VII-1966, J. and W. Ivie (AMNH); 1 female, C. Victoria, 15-I-1941, C. Wingo (AMNH); 1 male, Victoria, VI-[19]53, J.C. Elkins (AMNH). Vera Cruz: 1 male, 1 female, Veracruz, VII-1959, N.L.H. Krauss (USNM); 2 males, Pueblo Viejo, 8-XII-[19]09, F.C. Bishop (USNM); 1 male, 1 female, El Palmar, 10 mi W Tezonapa, 31-XII-1950, R.F. Smith (AMNH); 1 male, Istmo de Tehuantepec, 15-VIII-1966, J. and W. Ivie (AMNH); 1 male, Vera Cruz, H.H.S., I-1888, ex Godman and Salvini colln. (AMNH); 1 male, 1 females, Cordoba, Mann (AMNH); 1 male, Tamos, 7-XII-[19]09, F.C. Bishop (USNM). Yucatán: 1 male, Chichen Itza, 14-IX-1952, J. and D. Pallister, C.R. Vose Fund Explorers Club, AMNH Exped. (AMNH); 1 female, Cordeleria Mayapan, 3-VIII-1952, J. and D. Pallister (AMNH); 1 male, 2 km S of Cancun City on Hwy 307, 6-VIII-[19]90, R.M. Baranowski (USNM). NICARAGUA: 1 male, 1 female, Chinandega, Baker (AMNH); 3 males, 2 females, same data (USNM); 1 male, Base Alpha, Gulf of Fonseca, 18-I-[19]42, W.H.W. Komp (USNM). PANAMA: 2 males, 1 female, V. de Chiriquí, 2-3000 ft, Champion col. (BMNH); 2 females, Chiriquí, David, X-1953, N.L.H. Krauss (AMNH); 6 males, 1 female, same data, XII-1946 (USNM); 1 female, same locality, 5-V-1962, H. Ruckes (AMNH); 1 male, 1 female, same data, 23-V-1962 (AMNH); 1 male, 1 female, same locality, VII-1981, N.L.H. Krauss (AMNH); 5 males, 1 female, Boquete, X-1953, N.L.H. Krauss (AMNH); 1 male, 3 females, same locality, 19-V-1962, H. Ruckes (AMNH); 2 males, same data, 16-V-1962 (AMNH); 2 males, Chir., 6 mi W El Volcán, 5200', 8-VII-1974, C. W. and L. O'Brien and Marshall, J.A. Slater colln. (AMNH); 1 female, Cerro Campana, 2100', 12-I-[19]74, Slater and Harrington, Slater colln. (AMNH); 1 female, 2 mi S Chepo, 8-I-1974, Slater and Harrington, Slater colln. (AMNH); 2 females, Canal Zone, Gatun Spillway, 16-I-[19]74, Slater and Harrington, Slater colln. (AMNH); 2 females, Herrera, Chitre, VII-1981, N.L.H. Krauss (AMNH); 1 male, Darien, along road in vicinity of El Real de Santa Maria, 26-V-1977, J. Bird (AMNH); 4 males, 2 females, Potrerillos, V-1935, H.M. Harris colln. (USNM); 1 male, Madden Reservoir, Canal Zone, 9°12'N 79°35'W, 16-IX-[19]72, Engleman (USNM); 1 male, 1 female, Prov. Chiriquí, Volcan Area, 5000', Pando, 22-V-[19]73, D. Engleman (USNM); 1 male, 1 female, same locality, 4500', 11-IV-[19]73, D. Engleman (USNM). PUERTO RICO: 3 males, 1 female, Parkhurst Grove, Bayamon, 26-VI-1917, H. Morrison (USNM); 3 males, 1 female, Mitchell Grove, Bayamon, 26-VI-1917, H. Morrison (USNM); 1 male, 2 females, Anasco dist., 3-VII-1917, H. Morrison (USNM); 1 male, same locality, 7-VI-1912 (USNM); 1 male, Bayamon, 2-VI-[19]34, S. Juan, 5537, Milkweed (USNM); 1 female, same locality, 25-X-1926, G. Gay (USNM); 1 male, Ponce, 29-IX-[19]33, wild morning glory leaves, R.G. Oakley (USNM); 1 female, same data, El Vigia (USNM); 7 males, 1 female, Vieques Is., II-1899, A. Busck (USNM); 1 female, Caja de Muertos, 13-III-1935, P. Bonilla, gift of J.A. Ramos (AMNH); 1 female, Adjuntas, 8/13-VI-1915 (AMNH); 1 male, 3 females, San Juan, 2/3-VIII-[19]14 (AMNH); 2 males, same locality, 9/12-VIII-[19]14 (AMNH); 1 male, 2 females, Coamo Springs, 17/19-VII-[19]14 (AMNH); 2 females, same locality, 10-I-[19]15 (AMNH); 1 male, Arecibo,

24/26–VI–[9]15 (AMNH); 2 males, same locality, 30–VII/ 1–VIII–[19]14 (AMNH); 1 female, Aibonito, 14/17–VII–[19]14 (AMNH); 2 females, Manati, 27/19–VI–[19]15 (AMNH); 1 female, Mayaguez, 15/16–II–[19]14 (AMNH); 1 male, same locality, 18–VII–1932, J.B. Diaz, gift of J. A. Ramos (AMNH); 1 male, Ponce, 29–VI–1932, J.B. Diaz, gift of J.A. Ramos (AMNH); 1 female, Guayanilla, 22–VII–1914 (AMNH); 1 female, Corozal, 18–I–1915 (AMNH); 3 males, 2 females, Mona Is., 21/26–II–[19]14 (AMNH). ST. KITTS IS.: 1 male, 1 female, Baseterre, 0–200 m, VI–1979, N.L.H. Krauss (AMNH). UNITED STATES: Arizona: 1 male, Patagonia, 16–VIII–1937, H.M. Harris (USNM); 1 female, Nogales, 14–V–1919, F.J. Dyer (USNM). Georgia: 1 male, Meridian, 2–IX–[19]44, on sugar cane, S.S. (USNM); 1 female, Rome, 7–V–1918, J.C. Lutz colln. (USNM); 1 female, Burroughs, 11–X–[19]44, on okra, S.S. (USNM); 1 male, Sapelo Is., 8–IX–[19]44, on okra, S.S. (USNM); 1 female, Buena Vista, 22–V–1947, J.C. Lutz, J.C. Lutz colln. (USNM). Florida: 2 males, Gainesville, II–1930, W. S. Blatchley col., Brit. Mus. 1935–45 (BMNH); 1 male, 2 females, Dunedin, XII–1929/ IV–1930, W. S. Blatchley, B.M. 1935–45 (BMNH); 1 male, St. Augustine, 8–XI–[19]11, ex coll. Geo. Engelhardt (USNM); 1 male, Highland Co., Lake Placid, 8–VI–[19]69, J.A. Slater, T. Schuh and J. Harrington, Slater colln. (AMNH); 3 males, 2 females, Dade Co., Cape Florida State Park, on Trl., 20–II–[19]80, M.D. Schwartz (AMNH); 2 males, 2 females, Dade Co., Key Biscayne, Cape Florida State Park, trails in and W of dunes, 25–XII–1972/ 3–I–[19]73, M.D. Schwartz (AMNH); 2 males, 1 female, Broward Co., 1.3 mi N of Lake Worth Rd. on Rte. 441, 20–II–1980, Ex. Swp. Brush, M.D. Schwartz (AMNH); 1 male, Venice, 8–X–1938, Oman (USNM); 1 male, 1 female, Sanford, IX–1925, E.D. Ball (USNM); 2 females, same locality, E.D. Ball, H.G. Barber colln. (USNM); 1 male, Bradenton, 23–III–[19]51, Townsend (USNM); 1 male, 1 female, Dunedin, 27–III–[19]27, W.S.B., J.C. Lutz colln. (USNM); 1 female, Montiello, 8–XII–[19]12, H.B. Scammell (USNM); 1 male, Paynes Prairie, Gainesville, 9–VII–[19]27, M. D. Leonard, H.G. Barber colln. (USNM); 1 female, Coral Gables, 15–V–[19]44, on *Stizolobium deerigianum*, S.S. (USNM); 1 male, Lake Co., 18–I–[19]30, J.E. Sadler col., Florida Fruit Fly Trap Survey (USNM); 1 male, St. John Co., 19–II–[19]30, L.L. Knight col., Florida Fruit Fly Trap Survey (USNM); 1 female, Lakeland, 12–II–[19]18, G.C. Ainslie (USNM); 1 female, Seminole Co., 23–II–[19]29, B.D. Hiers Jr., Florida Fruit Fly Trap Survey (USNM); 1 female, Orlando, 10–VIII–[19]07, sweeping, Russell (USNM); 1 male, 1 female, same data, 12–VIII–[19]07, on Okra (USNM); 1 female, Pablo Beach, 27–IX–1913, Wm. T. Davis col., H.G. Barber colln. (USNM); 2 males, 1 female, LaBelle, 16–VII–1939, Oman (USNM); 1 female, Palm Beach Co., roadside weeds US1, 3 mi S Titusville, 28°33.7'N 80°47.9'W, 14–IX–2006, T. Dobbs (USNM); 1 female, Palm Beach Co., 5 mi S Pahokee, 26°43.5'N 80°47.9'W, on Cyperaceae, 25–IX–2006, T. Dobbs (USNM). North Carolina: 1 male, Hyde Co., 3 mi E Swan Quarter, 19–IV–1981, G.F. and J.F. Hevel (USNM). Texas: 1 male, Brownsville, 2/13–I–[19]28 (AMNH); 1 male, same locality, 31–V–1933, P.W. Oman (USNM); 1 male, same locality, 18–III–[19]08, McMillan (USNM); 1 male, 2 females, Cameron Co., 3 mi E of Brownsville, 14–VII–1947 (AMNH); 1 male, same locality, VI–1901, H.G. Barber colln., *N. louisianica* paratype (USNM); 4 females, Orange, 4–IX–1914, E.G. Holt (USNM); 1 male, 1 female, Palm Grove, 22–II–[19]46, J. Caldwell (USNM). VIRGIN ISLANDS: St. John Is.: 4 males, 1 female, 5–III–1925 (AMNH); 4 males, 3 females, 9–III–1925 (AMNH). St. Thomas Is.: 1 female, 22–II–1925 (AMNH); 2 males, 3 females, 22–II–1925 (AMNH); 1 female, 26–II–1925 (AMNH). St. Croix Is.: 1 female, 27–II–1925 (AMNH); 1 male,

I–1940, H. Beatty (AMNH); 1 male, Exp. Sta. Grounds, 13–VI–1917, H. Morrison (USNM); 1 male, same data, 11–VI–1917 (USNM).

### *Niesthrea similis* Chopra, 1973

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452484)  
(Figs. 4G and 10G–H)

*Niesthrea similis* Chopra, 1973: 452 (original description); Göllner-Scheiding, 1983: 56 (catalog); Froeschner, 1989: 611 (list); Melo et al., 2011: 16 (checklist); Pall and Coscarón, 2012: 1459 (catalog); Melo and Montemayor, 2014: 454 (checklist); Dellapé et al., 2015: 8 (list); Melo and Montemayor, 2015: 8–9 (distribution); Fowles et al., 2015: 621 (list, distribution); Melo et al., 2017: 495 (list); CoreoideaSF Team, 2018 (online catalog).

#### Diagnosis

This species is distinguished by the slender, vertical parameres (Fig. 10G) with two distal denticles on the distal half, the flared median lobe with rounded lateral processes, the long slender lateral lobes that rise well above the level of the parameres, and the labium that extends to the base of abdominal segment III.

The parameres are most similar to those of *N. choprai* sp. nov. (Fig. 6E) and *N. ventralis* (Fig. 11C) in having two distinct denticles or teeth on the inner side. *Niesthrea similis* differs in having a broadly flared median lobe with rounded lateral processes, and long, slender lateral lobes, whereas *N. choprai* sp. nov. and *N. ventralis* have the lateral processes of the median lobe distinctly pointed rather than rounded and the lateral lobes are strongly broadened at their base.

#### Measurements

**Male** ( $n = 5$ ; holotype measurements in parentheses): Length 4.56–6.27 mm, mean 5.66 mm (5.89 mm), width across abdomen 1.92–2.64 mm, mean 2.36 mm (2.56 mm). **Head:** Length 1.13–1.39 mm, mean 1.30 mm (1.28 mm), width across eyes 1.27–1.49 mm, mean 1.40 mm (1.36 mm), interocular width 0.84–0.94 mm, mean 0.86 mm (0.84 mm). **Labium:** Length 2.40–3.48 mm, mean 3.09 mm (obscured under body by glue). **Antenna:** Segment I length 0.34–0.43 mm, mean 0.40 mm (0.35 mm), II 0.84–1.06 mm, mean 0.96 mm (0.86 mm), III 0.74–0.89 mm, mean 0.84 mm (0.80 mm), IV 0.96–1.22 mm, mean 1.11 mm (1.15 mm). **Pronotum:** Length 1.13–1.37 mm, mean 1.27 mm (1.25 mm), basal width 0.91–1.08 mm, mean 1.01 mm (2.15 mm).

**Females** ( $n = 5$ ): Length 4.94–6.08 mm, mean 5.38 mm, width across abdomen 2.28–2.71 mm, mean 2.55 mm. **Head:** Length 1.08–1.44 mm, mean 1.27 mm, width across eyes 1.22–1.51 mm, mean 1.36 mm, interocular width 0.82–0.96 mm, mean 0.86 mm. **Labium:** Length 2.61–3.71 mm, mean 3.11 mm. **Antenna:** Segment I length 0.34–0.46 mm, mean 0.38 mm, II 0.86–1.01 mm, mean 0.98 mm, III 0.84–0.94 mm, mean 0.88 mm, IV 1.01–1.20 mm, mean 1.14 mm. **Pronotum:** Length 1.15–1.49 mm, mean 1.29 mm, basal width 0.94–1.15 mm, mean 0.99 mm.

#### Host

Unknown.

#### Distribution

Previously known from Argentina and Brazil (Chopra, 1973). New country records are Colombia, Dominican Republic, Haiti, Panama, Paraguay, Peru, Puerto Rico, and Venezuela.

### Type material

**HOLOTYPE:** Male, Argentine [sic] [Misiones], Bemberg, Alto Parana, 1–9 December 1933, K.J. Hayward, BM 1934–519 (BMNH).

### Other material examined

**ARGENTINA:** 1 male, 2 females, H.M. Harris colln. (USNM). *Chaco*: 1 male, P.N. Chaco, Laguna Panza de Cabra, 26°52'3,4" S, 59°37'38" W, 25–IX–2009, P.M. Dellapé (MLP); 1 male, Resistencia, X/XII–[1]935, J.B. Daguerre (USNM). *Córdoba*: 1 female, 15 km NW Alta Gracia, 835 m, 31.59°S–64.50°W, 24–II–2006, sweeping, T. Henry and D. Forero (AMNH). *Corrientes*: 1 male, Corrientes (MLP). *Misiones*: 4 males, 4 females, close to R.P. Moconá, camino a Gendarmería, 27°7'37.4" S, 53°56'55.5" W, 342 m, 2–IV–2012, S. Montemayor (MLP); 1 male, H.M. Harris colln. (USNM); 1 male, Eldorado, 21–X–1964, A. Kovacs (AMNH); 1 male, same data, 4–XI–1964 (AMNH); 1 male, same data, 2–XI–1964 (AMNH); 1 male, same data, 26–X–1964 (AMNH); 1 female, same data, 10–IV–1964 (AMNH). **BRAZIL**: *Minas Gerais*: 2 males, 2 females, Govern. Valladares, X–1943, S.J. de Oliveira (AMNH); 13 males, 7 females, Santa Vitoria, II–1970, F.H. Oliveira (AMNH); 16 males, 17 females, Varginha, II–1972, M. Alvarenga (AMNH); 1 male, Pasa Quatro, XII–1972 (AMNH); 1 male, 1 female, Santa Barbara, Serra do Caraca, 1450 m, III–1971, F.M. Oliveira (AMNH). *Pará*: 1 male, 1 female, Jacareacanga, XII–1968, M. Alvarenga (AMNH). *Rio de Janeiro*: 3 males, Guanabara, Jacarepagua, III–1969, M. Alvarenga (AMNH); 1 female, same data, XII–1968 (AMNH); 1 male, 2 females, same locality, VII/VIII–1972, M. Alvarenga (AMNH); 1 male, same data, II–1976 (AMNH); 2 males, Itatiaia, Faz. Penedo, XI–1943, Wygodzinsky (AMNH); 1 female, Itacurussa, 1–I–1935, W. Zikan (AMNH); 2 males, Nova Friburgo, I–1946, Wygodzinsky, H.M. Harris colln. (USNM). *Rio Grande do Sul*: 2 males, Chapada, May, H.M. Harris colln. (USNM); 4 males, same data, April (USNM); *Santa Catarina*: 1 male, Nova Teutonia, 19–IX–[19]50, F. Plaumann (AMNH); 1 male, same data, 19–VIII–[19]52 (USNM); 1 female, same data, 9–IX–1952 (USNM); 1 female, same data, 6–X–[19]43 (USNM); 1 male, Nova Teutonia, 9–XI–1949, F. Plaumann (USNM); 2 females, same data, 4–V–1951 (USNM); 1 female, same data, 11–V–1951 (USNM); 1 female, same data, 1–VI–1951 (USNM); 1 female, same data, 11–IX–1944 (USNM); 1 female, same data, 4–XI–1949 (USNM); 1 female, Rio Vermelho, XII–1945, A. Maller, F. Johnson donor (AMNH). *São Paulo*: 1 male, 1 female, Serra Bocaina, S.J. Barrientos, 1600 m, XI–1967, M. Alvarenga col. (AMNH); 1 male, 1 female, Teodoro Sampaio, XI–1977, M. Alvarenga (AMNH); 2 males, Piracicaba, 11–XI–1965, black light, C.A. Triplehorn, Slater colln. (AMNH); 1 male, São Paulo, 27–X–1963, V.N. Alin (AMNH); 1 male, Campinas, II–[19]37, L.O.T.M. (USNM); 1 male, same data, VI–[19]37 (USNM); 1 female, same locality, I–[19]37, O.D. (USNM). **COLOMBIA**: *Huila*: 1 male, San Agostín, 26/28–II–1970, 1600 m, B. Malkin (AMNH); *Cundinamarca*: 1 male, Villeta, 28–VIII–1965, J.A. Ramos (USNM); 1 female, Quetamo, 12–X–1965, J.A. Ramos (USNM). **DOMINICAN REPUBLIC**: 1 male, La Romana Entr., 15–VII–1917, H. Morrison (USNM). **HAITI**: 1 male, Fond des Negres, 14–II–1939, H.L. Dozler (USNM). **PANAMA**: 1 male, C.Z., Madden Lake, 9°15'N 79°35'W, 3–II–[19]72, D. Engleman (USNM); 1 male, C.Z., Madden Reservoir, 9°12'N 79°35'W, 16–IX–[19]72, D. Engleman (USNM). **PARAGUAY**: *Caazapá*: 9 males, 9 females, Buena Vista, 5–II, D. Wess (AMNH); *Central*: 5 males, 8 females, Asunción, verano, B. Podtiaguín (AMNH); 5 females, Asunción, 15–I–1983, E.G. Riley (AMNH); *Guairá*: 1 female, Villarica, May, F. Schade (AMNH); 1 female, same data, Oct. (AMNH). **PERU**: 1 male, San Miguel, 6000 ft, 14–VII–1911, Yale Peruv. Exped. (USNM); 2 females, same data, 24–VII–1911 (USNM). **PUERTO**

RICO: 1 male, Mayaguez, 2–II–[1]930, E. Ross, H.G. Barber colln. (USNM). **VENEZUELA**: *Bolívar*: 1 male, 19 km SE Upata, 20–III–1982, G.F. and J.F. Hevel (USNM); *Araguá*: 3 males, 2 females, NW Maracay, at km 16, 14–III–1982, G.F. and J.F. Hevel (USNM); 1 male, 1 female, Rancho Grande nr. Maracay, 7–V–1946 (AMNH); 1 male, 1 female, Rancho Grande, 3–V–1945 (AMNH).

### *Niesthrea truncata* Melo and Henry sp. nov.

([urn:lsid:zoobank.org:act:22742155-BCA7-4B5F-9072-FB64BDB1ECED](https://doi.org/10.1111/zoobank.org/act:22742155-BCA7-4B5F-9072-FB64BDB1ECED))

([Figs. 4H](#), and [11A–B](#))

### Diagnosis

This species is distinguished by the large rounded (flat on inside) parameres ([Fig. 11A](#)) with a blunt process on the inner side of the apex, the short quadrate median lobe, and the relatively long, slender, apically rounded lateral lobe in lateral aspect. The labium extends to the base of abdominal segment III.

The strongly rounded parameres ([Fig. 11A](#)) of *N. truncata* are most similar to those of *N. casinii* ([Fig. 7A](#)), but can be recognized by the short, quadrate median lobe and longer, stouter, and apically rounded lateral lobe, whereas *N. casinii* has a distinctly conical median lobe and the lateral lobe is shorter, more slender, and apically pointed.

### Description

**Head:** Yellowish brown, mark on inner margin of ocelli, median line, and cluster of punctures on frons and vertex dark brown; with dense, erect, pale setae. **Labium:** Extending to base of grooved abdominal segment III. **Antenna:** Segment I pale yellowish brown, with narrow, dark brown, inverted, V-shape mark dorsally and a single, narrow, dark brown line ventrally; segments II and III pale yellowish brown, with a narrow indistinct brown line dorsally and ventrally on each segment, with numerous long, erect, pale setae up to two times diameter of respective segments. **Pronotum:** Pale yellowish brown, holotype without small red spots, most paratypes with four small red spots across calli, with numerous short, pale setae. **Scutellum:** Pale yellow with a few small red spots. **Hemelytron:** Claval and corial cells clear, veins and apex of corium yellowish brown, with vague brown spots; membrane clear. **Ventral surface:** Pale yellowish brown, with or without a few scattered, tiny red spots, less so on thorax. **Legs:** Pale yellowish brown; femora with numerous, small, pale brown spots, some coalescing into larger spots; tibiae with small, pale brown spots. **Male genitalia:** **Paramere** ([Fig. 11A](#)): Broadly rounded on outer side, more flattened on inner surface, with a blunt denticle apically. **Median lobe** ([Fig. 11A](#)): Shorter than parameres, quadrate distally, flat dorsally, without lateral processes. **Lateral lobe** ([Fig. 11B](#)): Extending higher than parameres; relatively slender and apically rounded in lateral aspect.

### Measurements

**Males** (n = 4; holotype measurements in parentheses): Length 5.12–5.89 mm, mean 5.52 mm (4.99 mm), width across abdomen 1.98–2.37 mm, mean 2.13 mm (1.86 mm). **Head:** Length 1.02–1.09 mm, mean 1.06 mm (1.02 mm), width across eyes 1.14–1.36 mm, mean 1.28 mm (1.22 mm), interocular width 0.78–0.84 mm, mean 0.82 mm (0.76 mm). **Labium:** Length 2.43–2.62 mm, mean 2.51 mm (2.50 mm). **Antenna:** Segment I length 0.32–0.38 mm, mean 0.34 mm (0.42 mm), II 0.67–0.93 mm, mean 0.79 mm (0.77 mm), III 0.64–0.83 mm, mean 0.78 mm (0.74 mm), IV 0.80–0.93 mm,

mean 0.87 mm (0.77 mm). *Pronotum*: Length 0.95–1.15 mm, mean 1.08 mm (1.00 mm), basal width 1.75–2.00 mm, mean 1.93 mm (1.75 mm).

*Females* ( $n = 5$ ): Length 5.38–6.91 mm, mean 5.95 mm, width across abdomen 2.24–2.94 mm, mean 2.52 mm. *Head*: Length 1.06–1.25 mm, mean 1.15 mm, width across eyes 1.30–1.44 mm, mean 1.37 mm, interocular width 0.80–0.88 mm, mean 0.84 mm. *Labium*: Length 2.56–3.10 mm, mean 2.88 mm. *Antenna*: Segment I length 0.29–0.38 mm, mean 0.34 mm, II 0.70–0.99 mm, mean 0.85 mm, III 0.64–0.96 mm, mean 0.83 mm, IV 0.80–1.25 mm, mean 0.99 mm. *Pronotum*: Length 1.05–1.40 mm, mean 1.18 mm, basal width 1.90–2.40 mm, mean 2.10 mm.

#### Etymology

The specific epithet ‘*truncata*’ is given to denote the truncate median lobe of the genital capsule of this distinctive species.

#### Host

Unknown.

#### Distribution

Brazil and Colombia.

#### Type material

HOLOTYPE: Male, COLOMBIA, Guajira, Nazaret, 1976, Junius Bird (AMNH). PARATYPES: BRAZIL: Bahia: 2 males, 5 females, Encruzilhada, 960 m, XI-1972, M. Alvarenga (AMNH); 9 males, 12 females, same data, XI-1974 (AMNH). Ceará: 7 males, 7 females, Barbalha, V-1969, M. Alvarenga (4 males, 4 females AMNH; 3 males, 3 females USNM); 2 males, Crato, Serra do Arapipe, 850 m, V-1969, M. Alvarenga (AMNH). Pernambuco: 7 males, 11 females, Petrolina, V-1969, M. Alvarenga (6 males, 10 females AMNH; 1 male, 1 female USNM). COLOMBIA: 1 male, same data as for holotype (USNM).

#### *Niesthrea ventralis* (Signoret, 1859)

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452482) (Figs. 5C, and 11C–D)

*Corizus ventralis* Signoret, 1859: 92 (original description); Stål, 1862: 307 (list), 1870: 223 (list, distribution); Walker, 1872: 23 (catalog); Distant, 1882: 171 (note, distribution), 1893: 378 (distribution); Uhler, 1886: 13 (checklist); Lethierry and Severin, 1894: 120 (catalog); Baker, 1908: 243 (note on synonymy and morphology).

*Niesthrea ventralis*: Chopra, 1973: 451 (description, distribution, lectotype designation); Göllner-Scheiding, 1983: 56 (catalog); Froeschner, 1989: 611 (list); Maes and Göllner-Scheiding, 1993, 20 [list]; Fowles et al., 2015: 621 (list, distribution); CoreoideaSF Team, 2018 (online catalog).

#### Diagnosis

This species is distinguished by the slender vertical parameres (Fig. 11C) with two distinct distal denticles, the broad median process with flared lateral processes narrowing distally, and the basally stout lateral processes. In addition, *N. ventralis* is usually marked with red spots and lines on the dorsum, there always is a small black lateral spot on abdominal segments 5–6, and often on segments 3 and 4 (Fig. 5C), and the labium extends beyond the base of abdominal segment III.

The parameres of *N. ventralis* are similar to those of *N. choprai* sp. nov. (Fig. 6E) and *N. similis* (Fig. 10G). The

median lobe of this species, however, is deeply concave dorsally and the lateral processes are slender and more sharply acute apically, and the lateral lobe is broad basally in lateral view, whereas in *N. choprai* sp. nov. the median lobe is much less concave dorsally and the lateral processes are less slender and more blunt apically and the lateral lobe is much broader at the base, and in *N. similis*, the lateral processes of the median lobe are broadly rounded and the lateral lobe is much more slender. Also, *N. choprai* sp. nov. and *N. similis* lack the characteristic lateral black spots on the abdominal segments.

#### Measurements

*Males* ( $n = 5$ ): Length 6.53–7.84 mm, mean 7.21 mm, width across abdomen 2.37–2.96 mm, mean 2.50 mm. *Head*: Length 1.34–1.41 mm, mean 1.37 mm, width across eyes 1.44–1.58 mm, mean 1.48 mm, interocular width 0.84–0.90 mm, mean 0.87 mm. *Labium*: Length 3.60–4.50 mm, mean 3.90 mm. *Antenna*: Segment I length 0.45–0.51 mm, mean 0.47 mm, II 1.12–1.36 mm, mean 1.21 mm, III 0.92–1.24 mm, mean 1.09 mm, IV 1.16–1.40 mm, mean 1.32 mm. *Pronotum*: Length 1.25–1.55 mm, mean 1.35 mm, basal width 2.20–2.65 mm, mean 2.37 mm.

*Females* ( $n = 5$ ): Length 7.04–9.20 mm, mean 8.34 mm, width across abdomen 2.80–3.20 mm, mean 3.04 mm. *Head*: Length 1.34–1.63 mm, mean 1.49 mm, width across eyes 1.48–1.70 mm, mean 1.60 mm, interocular width 0.90–1.04 mm, mean 0.97 mm. *Labium*: Length 3.56–4.00 mm, mean 3.78 mm. *Antenna*: Segment I length 0.45–0.51 mm, mean 0.49 mm, II 1.08–1.44 mm, mean 1.30 mm, III 1.00–1.32 mm, mean 1.21 mm, IV 1.32–1.68 mm, mean 1.50 mm. *Pronotum*: Length 1.30–1.80 mm, mean 1.54 mm, basal width 2.35–3.00 mm, mean 2.72 mm.

#### Hosts

Taken on *Hibiscus rosasinensis* L., *Malacothra radiata* L., and *Malva* sp. [Malvaceae]. The collection from *Molluccella* sp. [Lamiaceae] is probably incidental.

#### Distribution

Previously known from Guatemala, Mexico, and the United States (Texas). New records are Belize, Costa Rica, Ecuador, El Salvador, Honduras, and Panama.

#### Discussion

Baker (1908) incorrectly claimed that ‘*ventralis*’ is but *sidae* with lateral rows of black dots on each ventral segment’.

#### Material examined

BELIZE: 1 male, British Honduras, Rio Grande, 12–VIII–1931, J. J. White col., J.C. Lutz coll. (USNM); 1 male, Punta Gorda, III–1931, J.J. White coll., J.C. Lutz colln. (USNM). COSTA RICA: 2 males, 3 females, San Pedro de Montes de Oca, 8–V–[19]37, on *Malva*, C.H. Ballou (USNM); 2 females, same locality, #542, on *Malacra radiata*, 7–VII–[19]36, C.H. Ballou (USNM); 1 female, same locality, 31–I–[19]34, on *Hibiscus rosasinensis*, C.H. Ballou (USNM); 1 male, same data, 10–VII–[19]36 (USNM); 1 male, 2 females, San Jose, IV–1928, J.F. Tristan (USNM). ECUADOR: 1 male, intercepted at Miami, Florida from Ecuador, 13–IX–2006, on *Molluccella* sp., APHIS Port # 304697 (USNM). EL SALVADOR: 1 female, Rosario Cuzcatlan, 15–VI–[19]53, Salazar (USNM). GUATEMALA: 1 male, Coban, 14–V–[19]26, J.M. Aldrich (USNM); 1 male, Alta Vera Paz, Secanquin, 4–I–[19]05, cotton fields, A. MacLachlan (USNM); 1 male, Such., Moca, 3000 ft, 18–VI–[19]47, C. and P. Vaurie, F. Johnson donor

(AMNH); 1 female, Yepocapa, VI–1948, H.T. Dalmat (USNM); 1 female, Chimaltenango, Yepocapa, 2–X–1947, H.T. Dalmat (USNM). HONDURAS: 1 male, Zamorano, 20–XI–[19]19, Pelin (USNM); 1 male, Tegucigalpa, 19–VII–[19]17, F.J. Dyer (USNM); 1 female, same data, 26–VII–[19]17 (USNM). MEXICO: 1 female, Mexico, P.R. Uhler (USNM); 1 female, Mexico, Distant colln., B.M. 1911–383 (BMNH); Mexico City: 1 female, [Mexico DF], Guadalupe, 4–IX–[19]03, W.L. Tower colln. (AMNH); Hidalgo: 1 male, Taxquillo, 20°23'N 99°19'W, 29–VII–1966, J. and W. Ivie (AMNH); Morelos: 1 female, Cuautla, 13–VII–1946, J. and D. Pallister (AMNH); Oaxaca: 1 male, Monte Alban, 14–IX–1947, B. Malkin (AMNH); 1 male, 1 female, Huajapan de Leon, 5085 ft, 18–VII–1955, P. and C. Vaurie (AMNH); 1 female, Huajapan, 1–X–1946, H. Wagner (AMNH); 1 female, Almoloya, H.G. Barber colln. (USNM); 1 female, same data, 1923 (USNM); Veracruz: 1 male, V. C., Fortin, 1–I–1951, R.F. Smith (AMNH); 1 male, V.C., Jesus Carranza, 29–IV–1944 (AMNH); 1 male, Vera Cruz, Koebele, Brit. Mus. 1942–95 (BMNH). PANAMA: 1 male, 1 female, Potrerillos, I–1935, H.M. Harris (USNM); 1 female, same locality, I–1935 (AMNH); 1 female, Canal Zone, Boquete, XII–1946, N.L.H. Krauss (USNM); 1 female, Chiriquí, Boquete, R. de Panama, 5000', 14–IV–[19]73, D. Engleman (USNM).

#### *Niesthrea vincentii* (Westwood, 1842)

(urn:lsid:Coreoidea.speciesfile.org:TaxonName:452478)

(Figs. 5A and 11E–F)

*Corizus vincentii* Westwood, 1842: 26 (original description); Stål, 1870: 224 (list, distribution); Lethierry and Severin, 1894: 120 (catalog); Distant, 1901: 332 (list, figure); Blôte, 1934: 265 (distribution); Alayo, 1967: 34 (diagnosis, distribution).

*Corizus aurantiacus* Signoret, 1859: 96 (original description); Stål, 1870: 225 (list, distribution); Lethierry and Severin, 1894: 115 (catalog). Synonymized by Chopra, 1973: 447.

*Corizus robustus* Westwood, 1842: 26 (original description); Signoret, 1859: 103 (description, distribution); Stål, 1870: 224 (list, distribution); Lethierry and Severin, 1894: 119 (catalog); Distant, 1901: 332 (list). Synonymized by Chopra, 1973: 447.

*Rhopalus robustus*: Bergroth, 1913: 163 (catalog).

*Rhopalus Vincentii* [sic]: Bergroth, 1913: 163 (catalog).

*Rhopalus sidae*: Torre-Bueno, 1915: 219 (distribution; misidentification)

*Niesthrea vincentii*: Chopra, 1973: 447 (description, distribution); Göllner-Scheiding, 1983: 56 (catalog); Froeschner, 1989: 611 (list); Pall and Coscarón, 2012: 1459 (catalog); Melo and Montemayor, 2014: 454 (list); Dellapé et al., 2015: 8 (list); Melo and Montemayor, 2015: 9 (distribution); Fowles et al., 2015: 621 (list, distribution); Melo et al., 2017: 495 (list); CoreoideaSF Team, 2018 (online catalog).

#### Diagnosis

This species can be distinguished by the transversely broad parameres, the median lobe with broadly flared and rounded lateral processes, and the long, slender lateral lobes that extend above the level of the parameres and median lobe (Fig. 11E and F). The labium extends to the base of abdominal segment III.

The male genitalia of *N. vincentii* are extremely similar to those of *N. sidae*. In *N. vincentii*, the parameres (Fig. 11E) are less broad laterally and lack small denticles or teeth and the median lobe is shallowly concave dorsally, whereas in *N. sidae*, the parameres (Fig. 10E) are distinctly broader and have two small denticles on the

dorsal surface and the median lobe is distinctly more concave. The lateral lobes are similar in both species.

#### Measurements

*Male* (n = 5): Length 4.66–5.23 mm, mean 4.96 mm, width across abdomen 2.06–2.54 mm, mean 2.29 mm. *Head*: Length 1.10–1.25 mm, mean 1.17 mm, width across eyes 1.25–1.44 mm, mean 1.34 mm, interocular width 0.74–0.84 mm, mean 0.79 mm. *Labium*: Length 2.42–2.54 mm, mean 2.48 mm. *Antenna*: Segment I length 0.34–0.36 mm, mean 0.36 mm, II 0.96–1.03 mm, mean 1.00 mm, III 0.96–1.03 mm, mean 0.99 mm, IV 1.13–1.25 mm, mean 1.20 mm. *Pronotum*: Length 1.01–1.25 mm, mean 1.15 mm, basal width 0.84–1.06 mm, mean 0.94 mm.

*Females* (n = 5): Length 5.32–5.89 mm, mean 5.47 mm, width across abdomen 2.66–3.12 mm, mean 2.78 mm. *Head*: Length 1.20–1.32 mm, mean 1.26 mm, width across eyes 1.39–1.46 mm, mean 1.44 mm, interocular width 0.84–0.89 mm, mean 0.85 mm. *Labium*: Length 2.64–2.76 mm, mean 2.73 mm. *Antenna*: Segment I length 0.36–0.41 mm, mean 0.38 mm, II 1.03–1.10 mm, mean 1.05 mm, III 1.01–1.13 mm, mean 1.05 mm, IV 1.20–1.22 mm, mean 1.21 mm. *Pronotum*: Length 1.27–1.39 mm, mean 1.31 mm, basal width 0.89–1.08 mm, mean 1.02 mm.

#### Host

Unknown.

#### Distribution

This species has been recorded from Argentina, Brazil, Cuba, Ecuador, Panama, Paraguay, Venezuela, and the West Indies (Leeward, Union, and Beequia Islands, Grenada, Simla, Port of Spain, Trinidad) (Chopra 1973). New country records are Bolivia, British Guiana, Colombia, Galápagos Archipelago, Grenadines, Panama, Peru, St. Vincent Island, Suriname, Tobago, and Trinidad.

#### Material examined

ANTIGUA: 1 male, 1 female, 1932, A.D. Torlesse, B. M. 1932–148 (BMNH). ARGENTINA: Catamarca: 1 male, 1 female, 10 km E La Merced, 775 m, 28.07° S 65.61° W, 5–III–2006, sweeping, T. Henry and D. Forero (AMNH). Chaco: 1 male, Parque Nacional Chaco, Lag. Panza de Cabra, 26°52'3.4'' S, 59°37'38'' W, 25–IX–2009, P.M. Dellapé (MLP). Córdoba: nr. El Condor on provincial route 34 about 60 km NE of Mina Clavero, 1294 m, 31.59° S 64.67° W, 24–II–2006, T. Henry and D. Forero (AMNH); 1 male, 1 female, 0.5 km W of bridge over Rio Los Espinillos, nr Embalse Los Molinos, 825 m, 31.82 S 64.67 W, 23–II–2006, T. Henry and D. Forero (AMNH). Corrientes: 1 male, 2 females, Monte Caseros, 4–XI–1944, M. Birabén (MLP); 1 male, Reserva Provincial Iberá, Col. C. Pellegrini, 6–XII–2001, M.C. Melo (MLP); 2 males, same locality, 5–XII–2001, M.C. Melo (MLP); 1 male, 3 females, same locality, 5–XII–2001, M. Chayle (MLP). Formosa: 13♂ 10♀, Arroyo Guaycolec, 25–IV–1989, A.M. Gomez, Drake colln. (USNM). Misiones: 1 male, close to P.P. Moconá, Mesa Redonda, 27°9'18.5'' S, 57°58'54.5'' W, 2–IV–2012, M. C. Melo (MLP); 2 males, 1 female, P.P. Moconá, 27°9'18.5'' S, 57°9'18.5'' W, 31–III–2012, S. Montemayor (MLP); 1 male, [San] Ignacio, V–1961, Krauss (USNM); 1 male, Eldorado, 6–IX–1964, A. Kovacs (AMNH); 1 male, same data, 2–X–1964 (AMNH). Santa Fe: 1 male, Vera, 24–XI–1939, Birabén–Bezzi (MLP); 1 male, Reconquista, 26–XI–1939, Birabén–Bezzi col. (MLP). Tucumán: 1 male, H.M. Harris coll. (USNM). BOLIVIA: 2 males, 2 females, Bolivia, H.M. Harris coll. (USNM). BRAZIL: Alagoas: 1 male, 1 female, Coruripé, II–1979,

F.M. Oliveira col. (AMNH); *Bahia*: 3 males, Encruzilhada, 960 m, XI-1974, M. Alvarenga (AMNH); *Ceará*: 2 males, 1 female, Barbalha, V-1969, M. Alvarenga (AMNH); 3 males, 2 females, Crato, 850 m, Serra do Arapipé, V-1969, M. Alvarenga (AMNH); *Distrito Federal*: 2 males, 1 female, 2 km W Brasilia, 18-XI-1997, T.J. Henry, Drake colln. (USNM); 3 males, 32 km N Brasilia, at EMBRAPA, 15°35'S-47°42'W, 1000 m, 18-XI-1997, T.J. Henry, Drake colln. (USNM); 1 male, 1 w/adbomen, Manaus, H.B. Merrill (USNM); *Goiás*: 1 male, L. de Pedra, W. R. Cana Brava, 160 km NE Brasilia, 23/30-X-1974, L. Knutson (USNM); *Maranhão*: 1 male, 20 km W of Sao Domingo, 29-VIII-1963, Westminster School Exped. to Brazil, B.M. 1963-620 (BMNH); *Mato Grosso*: 2 males, 1 female, Itaum, Dourados, III-1974, M. Alvarenga (AMNH); *Minas Gerais*: 3 males, 6 females, Santa Vitoria, II-1970, F.H. Oliveira (AMNH); 1 male, Varginha, II-1972, M. Alvarenga (AMNH); 2 males, 3 females, Pasa Quatro, XII-1972 (AMNH); 1 male, Viçosa, T.A. Snipes (AMNH); 3 males, Pedra Azul, XI-1970, F.M. Oliveira (AMNH); 2 males, 14 km NE Diamantina, BR Rd. 367, 18°11'S-43°34'W, 8-XI-1997, T.J. Henry and A. Paula, Drake colln. (USNM); *Pará*: 5 males, 6 females, 10 km W Altamira, 75 m, 13-VII-1973, sweeping roadside vegetation, R.T. and J.C. Schuh (AMNH); *Pernambuco*: 2 males, 4 females, Bonito prov., 2-II-93 (USNM); 1 male, 3 females, same locality, II-83 (USNM); 1 male, 1 female, same locality, 18-I-83 (USNM); *Rio de Janeiro*: 1 male, Guanabara, Repressa Rio Grande, VII/VIII-1972, M. Alvarenga col. (AMNH); 1 male, same data, III/IV-1972 (AMNH); 1 male, 4 females, same data, VIII-1972 (AMNH); 1 female, same data, VI-1972 (AMNH); 2 males, Mangaratiba, I-1976, M. Alvarenga (AMNH); 2 males, Murundu, Campos, VIII-1978, M. Alvarenga (AMNH); 8 males, 12 females, Conceicao de Macabu, VIII-1977, M. Alvarenga (AMNH). *Rio Grande do Sul*: 2 males, Chapada, March, H.M. Harris colln. (USNM); 2 males, same data, May (USNM). *Roraima*: 1 female, 22 km NNW Boa Vista, 140 m, 1-IV-1973, R.T. Schuh (AMNH); *São Paulo*: 8 males, 5 females, Teodoro Sampalo, VIII-1973, F.H. Oliveira (AMNH). BRITISH GUIANA: 1 male, 3 females, Atkinson F., VI-1965, Martorell and Medina (USNM); 3 females, Wales, Vreed, VI-1965, Medina and Martorell (USNM). COLOMBIA: *Cesar*: 5 males, 1 female, El Roncon, 10-12 km E Becerril, Rio San Juan, 260 m, 19-XI-1969, B. Malkin (AMNH); 12 males, 21 females, same data, 19-IX-1969 (AMNH); *Cundinamarca*: 2 males, Girardot, Rio Magdalena, 360 m, 8-I-1957, J. Foerster, Brit. Mus. 1966-601 (BMNH); 2 males, 2 females, Villeta, III-[19]65, J. Ramos (USNM); 2 males, Melgar, 8-VIII-1965, J.A. Ramos (USNM); 6 males, same data, 12-VII-1965 (USNM); 1 male, La Mesa, 12-VIII-1965, J.A. Ramos (USNM); 4 males, 3 females, Anapaima, 9-X-1965, J.A. Ramos (USNM); 1 male, Rio Negro below Pacho, 26-II-[19]42, Chapin (USNM); 1 male, 1 female, Tol., Armero, Malaise trap, 26/30-I-1977, Peyton and Suarez (USNM); 1 male, Minca, VI-[19]19, H.H. Smith, H.M. Harris colln. (USNM); 5 males, Girardot, 11-XII-1965, J.A. Ramos (USNM); 1 male, same locality, 6-VI-1965, J.A. Ramos (USNM); 2 males, San Antonio de Tena, 9-X-1965, J.A. Ramos (USNM); 3 males, Fusagasuga, 11-IX-1965, J.A. Ramos (USNM); 5 males, 9 km S Fusagasuga, 11-XI-1965, J.A. Ramos (USNM); 3 males, Villeta, 28-VIII-1965, J.A. Ramos (USNM); 1 male, Viota, 11-XII-1965, J.A. Ramos (USNM); 2 males, Sasaima, 28-VIII-1965, J.A. Ramos (USNM); 2 males, Guaduas, 13-VI-1965, J.A. Ramos (USNM); 2 males, Manizales, 24/25-VI-1965, J.A. Ramos (USNM); 1 male, La Mesa, 14-VIII-1965, J.A. Ramos (USNM); 3 males, El Triunfo, 11-XII-1965, J.A. Ramos (USNM); 3 males, Tocaima, 11-XII-1965, J.A. Ramos (USNM); 1 male, Guayahtetal, 29-VI-1965, J.A. Ramos (USNM); *Distrito Capital*: 1 male, Bogotá, 1-VII-1925,

M.H. Nicefero, J.C. Lutz colln. (USNM); *Magdalena*: 3 males, 5 females, Valledupar, 21/24-V-1968, B. Malkin (AMNH); 1 male, 3 females, same data, 4/9-VI-1968 (AMNH); 4 males, 3 females, same data, 4/7-VI-1968 (AMNH); 2 females, same data, 11/12-VII-1968 (AMNH); 3 males, 3 females, Curumaní, 60 km S Becerril, 22-VII-1968, B. Malkin (AMNH); 5 males, 3 females, Socorro Mission, Sierra de Perija, 5/25-VIII-1968, B. Malkin (AMNH); 1 male, 1 female, Pueblo Bello, 45 km W Valledupar, Sierra Nevada de Santa Marta, 1100 m, 15-VII-1968, B. Malkin (AMNH); 13 males, 7 females, La Jagua, about 80 km S Valledupar, 20-VII-1968, B. Malkin (AMNH); 5 males, 7 females, 30 km W Valledupar, Sierra Nevada de Santa Marta, 500 m, 13-VI-1968, B. Malkin (AMNH). *Meta*: 2 males, Restrepo, 2-X-1965, J.A. Ramos (USNM); 2 males, Cumral, 4-XII-1965, J.A. Ramos (USNM); 2 males, Peralonso, Caño Pachiaquiari, 4-IX-1965, J.A. Ramos (USNM). *Tolima*: 1 male, Ibague, Ver., El. Totumo, 4°23.701'N-75°11.95'W, 110 m, 6/9-VII-2013, fish carrion baited butterfly trap, J.E. Eger and A.A. Calixo. (USNM). *Valle del Cauca*: 2 males, Cali, W.F.H. Rosenberg (USNM). ECUADOR: *Manabí*: 1 male, Bahía de Caraquez, 35 km E, 9-V-1975, A.B. Gurney (USNM); *Pichincha*: 1 male, Quito/Sto. Domingo, 1200 m, 25-II-[19]65, T.F. Halstead, B.M. 1973-205 (BMNH); *Zamora Chinchipe*: 1 female, Zumbi, 10-VI-1976, A. Langley et al., Ecuador Peace Corps, Smithsonian Institution Aquatic Insect Survey (USNM); 2 males, Zamora, 1/5-VI-1976, A. Langley et al., Ecuador Peace Corps, Smithsonian Institution Aquatic Insect Survey (USNM). *Pichincha*: 1 male, road from Nanegalito to Nanegal, km 70-74, 15-IV-1977, sweeping, E.R. Hodges (USNM); 1 male, Porto Viejo in Manabi prov. to Quevedo in Los Rios prov., 400 m, 13-IV-1965, L.E. Peña (USNM). GALÁPAGOS ARCH.: *Floreana Is.*: 1 male, 1 female, Highlands W of Pto. Velasco Ibarra, *Scalesia* zone, 5-IV-2003, M.R. Wilson (USNM); 3 males, 3 females, 22-IV-[19]96, 320 m, agric. zone sweeps, S. Peck (USNM); 1 female, Fuica Cruz, 130 m, aridzone forest FIT, 27-III/16-IV-[19]96, S. Peck (USNM). *Isabella Is.*: 3 males, 4 females, W base Sierra Negra Níspero Camp, Alemania, 350 m, 28-IV-[19]96, grass sweeping, S. Peck (USNM); 3 males, 4 females, 13 km NW Villamil, trans. forest, 125 m, 24/30-IV-[19]96, FIT, S. Peck (USNM); 1 female, 4 km SE Sto. Tomas, trans. z, sweeping, 30-IV-[19]96, 120 m, S. Peck (USNM); 7 males, 5 females, Cerro Azul, 300 m, 18/26-V-1991, C. Vogel (USNM); 1 female, same locality, 350 m, 22/25-V-1991, C. Vogel (USNM); 2 females, same locality, 2 km NE Caleta Iguana, FIT, 19/25-[19]91, 155 m, S. Peck (USNM); 1 female, Cerro Azul, 4 km W Cal. Iguana, 300 m, 25-V-[19]91, pampa/transit., J. Heraty (USNM); Cerro Azul, 1 km W Cal. Iguana, 155 m, 19-V-[19]91, dry decid. for., J. Heraty (USNM). *San Cristobal Is.*: 2 females, 5 km E Wreck Bay, 18-III-[19]96, aridzone, UV light and beating, S. Peck (USNM). *Santa Cruz Is.*: 1 female, CDRS, 1/30-V-[19]91, aridzone, mal. FIT, 40 m, S. and J. Peck (USNM); 2 males, 6 km N Puerto Ayora, 125 m, 30-IV-1991, J. Heraty (USNM); 2 males, 3 females, 5 km N Pto. Ayora, 110 m, low trans. z. mal. FIT, 1/30-V-[19]91, S. and J. Peck (USNM); 1 male, 7.2 km N Sta. Rosa, 1/30-VI-[19]91, 600 m, up trans. for. FIT, S. Peck (USNM); 2 males, same locality, up trans. z. mal. FIT, 1/30-V-[19]91, S. and J. Peck (USNM); 1 male, 4 km E Sta. Rosa, 350 m, roadside agricr. pit traps, 10-IV/4-V-[19]96, sta. 12, S. Peck (USNM); 1 male, 10 km N Sta. Rosa, 1/30-IV-[19]92, 500 m, trans. z. forest, *Pisonia*, FIT, S. Peck (USNM); 1 male, 13 km N Sta. Rosa, 1/30-IV-[19]92, 300 m, arid zone *Bursera* for FIT, S. Peck (USNM). GRENADA: 2 males, 1 female, Grenada, W.I., H.H. Smith (USNM); 7 males, 2 females, same data (BMNH); 6 males, 1 female, British West Indies, H.E. Summers, H.M. Harris colln. (USNM); 1 male, 2 females, same locality, H.E. Summers

(USNM); 2 females, British West Indies, H.E. Summers (AMNH); 4 males, 2 females, Pt. Saline, XI-1950, N.L.H. Krauss (USNM); 1 male, Grand Etang, IX-1910, Allen and Brues (AMNH); 5 males, 3 females, Mount Gay Est. (Leeward side), H.H. Smith (USNM); 6 males, 4 females, same data (BMNH); 1 male, 1 female, Granville, (windward side), H.H. Smith (USNM); 1 female, Balthazar (windward side), H.H. Smith (USNM); 4 males, same data (BMNH); Lake Antoine Est. (Windward side), H.H. Smith (BMNH). GRENADINES: 2 males, Mayreau, IV-1937, S.T. Danforth, gift of J.A. Ramos (AMNH); 1 female, Union Island, 26-IV-1937, S.T. Danforth, gift of J.A. Ramos (AMNH); 3 males, Canouan, IV-1937, S. T. Danforth, gift of J.A. Ramos (AMNH). PANAMA: 1 male, 1 female, Pena Blanca, 3000-4000 ft, Champion (BMNH); 2 males, 2 females, La Chorrera, 98-146 (BMNH); 3 males 1 female, CZ, Juan Mina Plantation, 13-VII-[19]18, swept on grass and cowpeas, H.F. Dietz and J. Zetek (USNM); 1 male, Trinidad Riv., 7-V-[19]11, A. Busck (USNM); 1 male, CZ, 10-II-1939, C.H. Richardson, H.M. Harris colln. (USNM); 2 male, 9 females, 1 nymph, CZ, Barro Colo[rado] Is., I/III-[19]44, Zetek (USNM); 4 males, 5 females, Punta Vacamonte, 8°52'N 79°40'W, 21-X-[19]72, D. Engleman (USNM); 1 male, 3 females, same data, 9-IX-[19]72 (USNM); 1 female, same data, 12-V-[19]73 (USNM); 1 male, C.Z., Fort Sherman, 9°20'N 79°58'W, 6-V-[19]73, D. Engleman (USNM); 1 female, Chiriquí prov., Volcan area, 4500', 11-IV-[19]73, D. Engleman (USNM); 2 males, 1 female, C/Z. Madden Lake, 9°15'N- 79°35'W, 3-II-[19]72, D. Engleman (USNM); 1 male, R. de Pan, Cerro Campana, 800 m, 8°40'N- 79°56'S, 12-I-[19]74, D. Engleman (USNM); 1 male, Santa Fe, Verguas, 1100', 7-X-[19]73, D. Engleman (USNM). PARAGUAY: *Caaguazú*: 1 male, Paso Yobai, I/III-1951, J. Foerster, B.M. 1966-601 (BMNH); 2 males, 4 females, Grand Chaco, 22°23'N 59°40'W, 250 km W Paraguay Riv., 10-VI-1936, A. Schulze, J.C. Lutz colln. (USNM); *Central*: 1 male, 1 female, near Ñemby, 11-I-1983, E.G. Riley (AMNH); 12 males, Asunción, verano, B. Podtiaguin col. (AMNH); *Concepción*: 3 males, 2 females, Horqueta, Paraguay Riv., 14-V-1933, A. Schulze, J.C. Lutz colln. (USNM); 1 male, 1 female, same data, 20-V-1938 (USNM); 1 male, same data, 27-I-1934 (USNM); *Guairá*: 1 male, Villarica, April, F. Shade (USNM); 1 male, same data, May (USNM); *Itapúa*: 1 male, 10 km W Encarnación, 3-II-[19]83, E.G. Riley (AMNH); *Paraguarí*: 1 male, 4 females, 5 km SE Yaguarón, 19-I-[19]83, E.G. Riley (AMNH); 1 male, Parque Nac., 9 km SE Ybicú, 12-I-[19]83, E.G. Riley (AMNH); 1 female, 8 km N Villa Florida, 1-II-[19]83, E. . Riley (AMNH). PERU: 1 male, 1 female, Paijan, la Libertad, V-[19]96, A. Ugarte P., Drake colln. (USNM); 6 males, 13 females, Cajamarca, Jaén, 550 m, 5-VII-1972, R.T. and J.C. Schuh (AMNH); 1 male, 1 female, Loreto, Pucallpa, 180 m, 25-VIII-1971, C. and M. Vardy B.M. 1971-533 (BMNH); 1 male, nr. Puquio, 13.000 ft, 5-V-1975, F. O'Rourke (USNM). SAINT VINCENT IS.: 1 male, 1 female, III-1937, S.T. Danforth, gift of J.A. Ramos (AMNH); 1 male, 1 female, Windward side, 500 ft, 190, H.H. Smith (BMNH); 2 males, W.I., St. Vincent, H.H. Smith, 8 (BMNH); 2 males, 2 females, same data, 18 (BMNH); 2 males, 1 female, same data, 114 (BMNH). SURINAME: 1 male, Lelydorp, Bergershooping, 17-I-1941, Gerskes (AMNH); 1 female, same data, on *Paspalum virgatum* L., Gerskes (AMNH); 1 male, Moengo, 10-IV-1939, Gerskes (AMNH). TOBAGO: 20 males, 8 females, Crown Point airport area, 25-III-1985, G.F. and J.F. Hevel (USNM); 1 male, 21/22-IX-1918, H.F. Dietz (USNM). TRINIDAD: 1 male, San Fernando, 2-II-[19]12, G.A.K. Marshall col. 1912- 158 (BMNH); 22 male, 18 females, Caroni River, 12-X-1918, H. Morrison (USNM); 7 males, 2 female, Rover Estate, 16-X-1918, H. Morrison (USNM); 2 males, 1 female, Palo Seco, 20-X-1918,

H. Morrison (USNM); 3 males, Aripo savana, 26-X-1918, H. Morrison (USNM); 1 male, Cocoa estate about 6 mi from La Brea, 18-X-1918, H. Morrison (USNM); 1 male, San Fernando Hill, 18-X-1918, H. Morrison (USNM); 1 male, 1 female, Savana, St. Clair Port of Spain, 24-X-1918, H. Morrison (USNM); 2 males, Caranege, 14-X-1918, H. Morrison (USNM); 3 males, 1 female, Montserrat, 29-VI-[19]05, A. Busck (USNM); 4 males, 1 female, same data, 29-VI (USNM); 1 male, same data, 30-VI-[19]05 (USNM); 1 male, Curepé, 29-XII-1952, F.J. Simmonds (USNM); 3 males, D'Abadie, 15-X-1918, H. Morrison (USNM); 7 males, 5 females, Port of Spain, R.J. Crew, C.E. Olsen colln. (AMNH); 1 male, Arima Valley, 800- 1200 ft, 10/22-II-1964, Rozen and Wygodzinsky (AMNH); 2 males, Maracas Valley, 23/24-II-1966, J.G. Rozen (AMNH); 2 males, 3 females, 5 mi E Piarco, 16-II-1964 J.G. Rozen (AMNH); 2 females, Comuto, 14-II-1965, J.G. Rozen (AMNH). VENEZUELA: 25 males, 13 females, 1940, P.J. Anduze (USNM); *Anzoategui*: 2 males, 10 km W of Barcelona, 25-III-1982, G.F. and J.F. Hevel (USNM); *Aragua*: 1 male, 3 km S of El Limon, 780 m, 8-I-1982, R.T. Schuh and B.M. Massie (AMNH); 1 female, Ocumare de la Costa, 8-VII-1968, J. Maldonado C. (USNM); 1 male, 24 km N Maracay, 5000 ft, 23-I-1978, cloud forest, J.B. Heppner (USNM); *Bolívar*: 7 males, 4 females, 7.6 km SE Guasipatil, 22-III-1982, G.F. and J.F. Hevel (USNM); *Carabobo*: 2 females, Pataremo beach, 12-VII-1968, J. Maldonado C. (USNM); 2 males, same data, 2-VII-1968 (USNM). *Sucre*: 3 males, 1 female, El Pilar, H.E.S., H.E. Summers colln., H.M. Harris colln. (USNM); 1 female, same data (AMNH); 1 male, 2 females, 10 km SE El Miami, 20-III-1982, G.F. and J.F. Hevel (USNM); *Zulia*: 1 male, Paraguaicoa, 11-XI-1971, J. Maldonado C. (USNM); 2 females, 31 km SW Machiques, 14-IV-1981, A.S. Menke and L. Hollenberg (USNM); 1 male, 1 female, Los Angeles del Tucuco, 15/16-IV-1981, A.S. Menke and L. Hollenberg (USNM); 1 male, 2 females, Merida, 16/19-IV-1965, A. Paramonov, B.M. 1965-198 (BMNH).

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## References Cited

- Alayo, P. D. 1967. Los Hemipteros de Cuba. Parte VIII. Familia Coreidae. Museo "Felipe Poey" de la Academia de Ciencias de Cuba, Chile.
- Baker, C. E. 1908. Preliminary remarks on American Corizini (Hemiptera). Can. Entomol. 40: 241-244.
- Barber, H. G. 1906. Hemiptera from southwestern Texas. Mus. Brooklyn Inst. Arts Sciences, Sci. Bull. 1: 255-289.

- Barber, H. G. 1923. A preliminary report on the Hemiptera-Heteroptera of Porto Rico collected by the American Museum of Natural History. Am. Mus. Novit. 75: 1–13.
- Barber, H. G. 1939. Insects of Porto Rico and the Virgin Islands—Hemiptera Heteroptera (excepting the Miridae and Corixidae), pp. 263–441. In Scientific survey of Porto Rico and the Virgin Islands, vol. XIV, part 3. New York Academy of Sciences, New York.
- Berg, C. 1878. Hemiptera Argentina (cont.). Anales Soc. Ci. Argent. 6(4): 179–192.
- Berg, C. 1879. Hemiptera Argentina enumeravit speciesque novas (addenda). Pauli E Coni, Buenos Aires.
- Bergroth, E. 1913. Supplementum Catalogi Heteropterorum Bruxellensis. II. Coreidae, Pyrrhocoridae, Colobathristidae, Neididae. Ann. Soc. Ent. Belg. 22: 125–183.
- Blöte, H. C. 1934. Catalogue of the Coreidae in the Rijksmuseum Van Natuurlijke Historie. Part I, Corizinae, Alydinae. Zool. Meded. 17: 253–285.
- Bosc, L. A. G. 1802. Histoire naturelle des vers, contenant leur description et leurs moeurs; avec figures dessinées d'après nature. Tome 3. Guilleminet, Paris.
- Bosq, J. M. 1937. Lista preliminar de los hemípteros (heterópteros), especialmente relacionados con la agricultura nacional (continuación). Rev. Soc. Ent. Arg. 10: 399–417.
- Bosq, J. M. 1940. Lista preliminar de los hemípteros (heterópteros), especialmente relacionados con la agricultura nacional. Rev. Soc. Ent. Arg. 9: 111–134.
- Carpintero, D. L., and S. De Biase. 2011. Los Hemiptera Heteropera de la Isla Martín (Buenos Aires, Argentina). Hist. Nat. 1(2): 27–47.
- Chopra, N. P. 1967. The higher classification of the family Rhopalidae (Hemiptera). Trans. R. Ent. Soc. Lond. 119(12): 363–399.
- Chopra, N. P. 1973. A revision of the genus *Niesthrea* Spinola (Rhopalidae; Hemiptera). J. Nat. Hist. 7: 441–459.
- Chopra, N. P. 1977. The identity of *Niesthrea fenestratus* (Signoret) Rhopalidae: Hemiptera. Haryana Agr. Univ. J. Res. 7(1–2): 60–61.
- CoreoideaSF Team. 2018. Coreoidea Species File Online. Version 5.0/5.0. <http://Coreoidea.SpeciesFile.org>. [last accessed 2 July 2018]
- Dallas, W. S. 1852. List of specimens of Hemipterous Insects the Collection of the British Museum. Part II. Taylor and Francis Inc., London, UK.
- Dellapé, P. M., and D. L. Carpintero. 2012. Relevamiento de los Heteróptera (Insecta: Hemiptera) de las sierras de Tandil, provincia de Buenos Aires, Argentina. Rev. Mus. Argent. Cienc. Nat. (n.s.) 14: 125–134.
- Dellapé, P. M., M. C. Melo, S. I. Montemayor, G. Dellapé, and H. Brailovsky. 2015. Terrestrial Heteroptera (Hemiptera) from Moconá Provincial Park (Argentina). CheckList 11: 1662, 1–18. doi:10.15560/11.3.1662
- Di Iorio, O. R. 2004. Heteroptera: Corizidae, pp. 245–246. In H. A. Cordo, G. Logarzo, K. Braun, and O. Di Iorio (dirs.). Catalogo de los Insectos Fitofagos de la Argentina y sus plantas asociadas. Sociedad Entomológica Argentina, Buenos Aires.
- Distant, W. L. 1880–1893. Insecta. Rynchota. Hemiptera-Heteroptera. Volume I. In F. D. Godman, and O. Salvin Biología Centrali-Americana, London. x + 462 pp. [1880, 1–88; 1881, 89–168; 1882, 169–224; 1883, 225–264; 1884, 265–304; 1889, 305–328; 1890, 329–352; 1892, 353–368; 1893, 369–462].
- Distant, W. L. 1901. Revision of the Rhynchota belonging to the family Coreidae in the Hope Collection at Oxford. Proc. Zool. Soc. Lond. 1: 325–335.
- Fabricius, J. C. 1794. Entomologia systematica emendata et aucta, secundum classes, ordines, genera, species, adjectis synonymis, locis, observationibus. 4: i–iv, 1–472 [Classis X Rhyngota 4, 1–229]. C. G. Proft, Hafniae.
- Fowles, T. M., M. C. Coscarón, A. R. Panizzi, and S. P. Carroll. 2015. Scentless Plant Bugs (Rhopalidae), pp. 607–637. In A. R. Panizzi and J. Grazia True Bugs (Heteroptera) of the Neotropics. Springer, Entomology in Focus 2, Dordrecht, Heidelberg, New York, London. doi:10.1007/978-94-017-9861-7\_20
- Froeschner, R. C. 1981. Heteroptera or true bugs of Ecuador: A partial catalog. Smithsonian Contributions to Zoology 322: 1–147.
- Froeschner, R. C. 1989. A small collection of Heteroptera from the Galapagos Islands, with the description of the new species *Niesthrea ashlocki* and a list of *Niesthrea* species (Rhopalidae). Proc. Biol. Soc. Wash. 102: 609–612.
- Göllner-Scheiding, U. 1983. General-katalog der familie Rhopalidae (Heteroptera). Mitt. Zool. Mus. Naturkunde Berl. 59: 37–189.
- Göllner-Scheiding, U. 1984. Ergänzungen zu den Gattungen *Liorhyssus* Stål, 1870, *Niesthrea* Spinola, 1837, und *Rhopalus* Schilling, 1827 (Heteroptera, Rhopalidae). Mitt. Zool. Mus. Naturkunde Berl. 60: 115–121.
- Göllner-Scheiding, U. 1989. Ergänzungen zu der Gattung *Niesthrea* Spinola, 1837 (Heteroptera: Rhopalidae). Mitt. Zool. Mus. Naturkunde Berl. 65: 297–298.
- Grillo, H., and P. D. Alayo. 1978. La familia Rhopalidae (Heteroptera: Coreidae) en Cuba. Centro Agricola Sept.–Dec.: 41–64.
- Harris, H. M. 1942. The Chilean Rhopalidae in the Edwyn C. Reed collection (Heteroptera). Iowa State Coll. J. Sci. 16: 357–362.
- Harris, H. M. 1943. Concerning the Rhopalidae (Hemiptera). Iowa State Coll. J. Sci. 17: 197–204.
- Harris, H. M. 1944. Concerning American Rhopalini (Hemiptera, Rhopalidae). Iowa State Coll. J. Sci. 19: 99–109.
- Henry, T. J. 1997. Phylogenetic analysis of family groups within the Infraorder Pentatomomorpha (Hemiptera: Heteroptera), with emphasis on the Lygaeoidea. Ann. Entomol. Soc. Am. 90: 275–301.
- Henry, T. J. 1988. Family Rhopalidae Amyot and Serville, 1843 (= Corizidae Douglas and Scott, 1865). The scentless plant bugs, pp. 652–664. In T. J. Henry and R. C. Froeschner Catalog of the Heteroptera, or True Bugs, of Canada and the Continental United States. E. J. Brill, Leiden, New York, NY.
- Henry, T. J. 2017. Biodiversity of Heteroptera, pp. 279–335. In R. G. Foottit and P. H. Adler Insect Biodiversity: Science and Society. Volume 1, Second edition. John Wiley and Sons Ltd.: Hoboken, New Jersey.
- Henry, T. J., and M. R. Wilson. 2004. First records of eleven true bugs (Hemiptera: Heteroptera) from the Galápagos Islands, with miscellaneous notes and corrections to published reports. J. New York Entomol. Soc. 112: 75–86.
- Hidalgo-Gato González, M. M., E. Reyes Sánchez, N. Mestre Novoa, I. Fernández García, R. Rodríguez-León Merino, D. Rodríguez Velázquez, J. A. Genaro Artola, and J. L. Fontenla Rizo. 2002. Tipos de Insecta depositados en el Instituto de Ecología y Sistemática, Cuba. Poeyana 488: 15–32.
- Jones Jr, W. A., H. E. Walker, P. C. Quimby, and J. D. Ouzts. 1985. Biology of *Niesthrea louisianica* (Hemiptera: Rhopalidae) on selected plants, and its potential for biocontrol of velvetleaf, *Abutilon theophrasti* (Malvaceae). Ann. Entomol. Soc. Am. 78: 326–330.
- Khokar, S., and V. V. Ramamurthy. 2003. Professor Narinder Prakash Chopra: January 2, 1935–January 16, 2003. Orient. Insects 37: 276.
- Letheiry, L., and G. Severin. 1894. Catalogue General des Hemipteres. Tome II, Heteropteres: Coreidae, Berytidae, Lygaeidae, Pyrrhocoridae. F. Hayez, Bruxelles.
- Maes, P. J., and U. Göllner-Scheiding. 1993. Catálogo de los Coreoidea (Heteroptera). Rev. Nic. Ent. 25: 1–19.
- Mayr, G. L. 1866. Hemiptera. In: Reise der Österreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859 unter den Befehlen des Commodore B. von Wullerstorff-Urbair. Zool. Teil 2: 1–204.
- Melo, M. C., and S. I. Montemayor. 2014. Rhopalidae, pp. 451–456. In S. Roig-Juñent, L. E. Claps and J. J. Morrone (dirs.), Biodiversidad de Artrópodos Argentinos vol. III. Editorial INSUE – Universidad Nacional de Tucumán, San Miguel de Tucumán.
- Melo, M. C., and S. I. Montemayor. 2015. Biodiversity of the scentless plant bugs (Hemiptera: Rhopalidae) in southern South America. J. Nat. Hist. doi:10.1080/00222933.2015.1073810
- Melo, M. C., P. M. Dellapé, D. L. Carpintero, and S. I. Montemayor. 2011. Heteroptera (Hemiptera) from the Chaco National Park (Argentina). Zootaxa 2999: 1–19.
- Melo, M. C., G. Dellapé, L. Olivera, P. S. Varela, S. I. Montemayor, and P. M. Dellapé. 2017. Biodiversity of true bugs from Iguazú National Park, Argentina. CheckList 13(5): 479–511. doi:10.15560/13.5.479
- Montandon, A. L. 1895. Viaggio del Dott. A. Borelli nella Repubblica Argentina e nel Paraguay. XVIII. Hémiptères Hétéroptères. Première liste et descriptions d'espèces nouvelles. Boll. Musei Zool. Anat. Comp. 10(219): 1–10.
- Nishida, G. M. 2002. Hawaiian Terrestrial Arthropods Checklist. Fourth Ed. Hawaii Biological Survey, Bishop Museum, Honolulu.

- Pall, J. L., and M. C. Coscarón. 2012. The Rhopalidae of Argentina. *J. Nat. Hist.* 46: 1441–1465.
- Pennington, M. L. 1920. Lista de los Hemipteros Heteropteros de la República Argentina. Printed by the autor, Buenos Aires.
- Pennington, M. L. 1922. Notas sobre Coreidos argentinos. *Physis* 5: 125–70.
- Porter, C. 1921. Sobre algunos artrópodos colectados en diversas localidades del país por los señores J. N. Thomas, José A. Campo, J. A. Wolffsohn, R. Barros, etc. *Rev. Chil. Hist. Nat.* 1921: 153–160.
- Prado, E. 2008. Conocimiento actual de Hemiptera – Heteroptera de Chile con lista de especies. *Bol. Mus. Nac. Hist. Nat. Santiago de Chile* 57: 31–75.
- Quintanilla, R. H., A. E. Margheritis, and H. F. Rizzo. 1967/1968. Catálogo de hemípteros hallados en la provincia de Entre Ríos. *Rev. Fac. Agr. Vet. Buenos Aires* 17: 29–38.
- Quintanilla, R. H., A. E. Margheritis, and H. F. Rizzo. 1975/1976. Catálogo de hemípteros hallados en la provincia de Corrientes (Argentina). *Rev. Soc. Ent. Arg.* 35: 115–133.
- Quintanilla, R. H., H. F. Rizzo, and A. S. de Nuñez. 1981. Catálogo preliminar de hemípteros hallados en la provincia de Misiones (Argentina). *Rev. Fac. Agr. (Buenos Aires)* 2: 145–161.
- Readio, P. A. 1928. Studies on the biology of the genus *Corizus* (Coreidae, Hemiptera). *Ann. Entomol. Soc. Am.* 21: 189–201.
- Reed, E. C. 1899. Sinopsis de los Hemipteros de Chile. Primera parte: Heteropteros. *Rev. Chil. Hist. Nat.* 3: 37–49.
- Rivero Aragón, A. 2006. Estudios de diversidad de insectos en la región Jibacoa–Hanabanilla. *Macizo Guamuhyaya. Centro Agrícola* 33: 49–56.
- Rizzo, H. F. 1976. Hemípteros de interés agrícola. Chinches perjudiciales y chinches benéficas para los cultivos. Editorial Hemisferio Sur, Buenos Aires.
- Rufinelli, A., and A. A. Pirán. 1959. Hemipteros Heteropteros del Uruguay. *Bol. Fac. Agr. Montevideo (Uruguay)* 51: 1–60.
- Sailer, R. I. 1961. The identity of *Lygaeus sidae* Fabricius, type species of the genus *Niesthrea* (Hemiptera: Coreidae). *Proc. Entomol. Soc. Wash.* 63: 293–299.
- Signoret, V. A. 1859. Monographie du genre *Corizus*. *Ann. Soc. Entomol. Fr. Series 3* 6: 251–253, plate 6.
- Signoret, V. A. 1863. Revision des Hémiptères du Chili. *Ann. Soc. Entomol. Fr.* 3: 541–588 + 3 pls.
- Spencer, N. R. 1988. Inundative biological control of velvetleaf, *Abutilon theophrasti* (Malvaceae) with *Niesthrea louisianica* (Hem.: Rhopalidae). *Entomophaga* 33: 421–429.
- Spinola, M. M. 1837. Essai sur les genres d'Insects appartenants à l'ordre des Hémiptères Lin. ou Rhyngotes, Fab. et à la section Hétéroptères, Dufour. Chez Yves Gravier, Gênes.
- Stål, C. 1859. Hemiptera. Species novas descripsit. *Kongl. Svens. Freg. Eug. Resa Omk. Jorden. III. (Zool., Insek.)*, 219–298, pls. 3–4.
- Stål, C. 1862. Hemiptera mexicana enumeravit speciesque novas descripsit. *Entomol. Z.* 23: 289–325.
- Stål, C. 1870–1876. *Enumeratio Hemipterorum: Bidrag till en företeckning öfver alla hittills kända Hemiptera, jemte systematiska meddelanden. Parts 1–5.* K. Sven. Vetensk. Akad. Handl. 1870, part 1, 9(1), 1–232; 1872, part 2, 10(4), 1–159; 1873, part 3, 11(2), 1–163; 1974, part 4, 12(1), 1–186; 1876, part 5, 14: 1–162.
- Torre-Bueno, J.R. de la. 1915. Appendix. IV. Heteroptera from the west coast of South America. In R. P. Strong, C. T. Brues, A. W. Sellards, and J. C. Gastiaburu (eds.), *Report of First Expedition to South America 1913*, Harvard School of Tropical Medicine. Harvard University Press, Cambridge.
- Torre-Bueno, J.R. de la. 1941a. Remarks on the genus *Corizus* of authors, not of Fallen. *Ann. Entomol. Soc. Am.* 34: 284–288.
- Torre-Bueno, J.R. de la. 1941b. A synopsis of the Hemiptera–Heteroptera of America north of Mexico. Part II. Families Coreidae, Alydidae, Corizidae, Neididae, Pyrrhocoridae and Thaumastocoridae. *Entomol. Am. (New Series)* 21: 41–122.
- Torre-Bueno, J.R. de la, Thomas [sic]. 1915. Nota sobre Hemipteros del Chaco de Santiago del Estero (R. A.). *An. Mus. Nac. Hist. Nat. Buenos Aires* 25: 157–162.
- Uhler, P. R. 1876. List of the Hemiptera of the region west of the Mississippi River, including those collected during the Hayden explorations of 1873. *Bull. US. Geol. Geo. Survey Terr.* 2: 269–361 + 3 plates.
- Uhler, P. R. 1886. Check-list of the Hemiptera Heteroptera of North America. Brooklyn, Brooklyn Entomological Society, New York.
- Uhler, P. R. 1893. Summary of the collection of Hemiptera secured by Mr. E. A. Schwarz in Utah. *Proc. Entomol. Soc. Wash.* 2: 366–385.
- Van Duzee, E. P. 1907. Notes on Jamaican Hemiptera: A report on a collection of Hemiptera made on the island of Jamaica in the spring of 1906. *Bull. Buffalo Soc. Nat. Sci.* 8: 3–79.
- Van Duzee, E. P. 1916. Check List of the Hemiptera (Excepting the Aphididae, Aleurodidae and Coccidae) of America, North of Mexico. New York Entomological Society, New York, NY.
- Van Duzee, E. P. 1917. Catalogue of the Hemiptera of American North of Mexico Excepting the Aphididae, Coccidae and Aleyrodidae. University of California Publications, Technical Bulletins, Entomology 2: i–xvi + 1–902.
- Walker, F. 1872. Catalogue of the specimens of Hemiptera Heteroptera in the collection of the British Museum, part 5. Printed for the Trustees of the British Museum, London, UK.
- Westwood, J. O. 1842. A Catalogue of Hemiptera in the Collection of the Rev. F. W. Hope, with Short Latin Descriptions of New Species, vol. 2. J. Bridgewater, London, UK.
- Wheeler, A. G. Jr. 1977. Life history of *Niesthrea louisianica* (Hemiptera: Rhopalidae) on rose of sharon in North Carolina. *Ann. Entomol. Soc. Am.* 70: 631–634.
- Wolff, J. E. 1811. *Icones cimicum descriptionibus illustratae*, 5: 167–208. J. Palm, Erlangen.