



The Saucer Bugs (Hemiptera: Heteroptera: Naucoridae) of French Guiana

SITES, ROBERT W.¹, CLAVIER, SIMON², AND SHEPARD, WILLIAM D.³

¹Enns Entomology Museum, University of Missouri, Columbia, Missouri 65211, USA.

[✉ sitesr@missouri.edu](mailto:sitesr@missouri.edu), <https://orcid.org/0000-0002-3895-813X>

²Onikha, PK9 route du Degrad Saramaca, 97310 Kourou, Guyane Française.

[✉ contact.onikha@gmail.com](mailto:contact.onikha@gmail.com), <https://orcid.org/0000-0001-7964-1131>

³Essig Museum of Entomology, 1101 Valley Life Sciences Bldg., #4780, University of California, Berkeley, California 94720, USA.

[✉ william.shepard@csus.edu](mailto:william.shepard@csus.edu), <https://orcid.org/0000-0003-4664-2597>

Abstract

Northeastern South America has been historically undersampled across most biota. Surveys conducted for aquatic insects in French Guiana during the past 14 years have resulted in the collection of 16 species of Naucoridae, of which 10 are new country records. Of these 16 species, 10 are in the subfamily Ambryinae, one in Ilyocorinae, and five in Limnecorinae. At least six of these species are considered rare, as very few specimens are known. A checklist, annotated list, distribution maps, and an illustrated key to identify adults of these species are presented.

Key words: Nepomorpha, Guiana Shield, South America, Neotropical, aquatic insect

Introduction

The family Naucoridae includes generalist aquatic predators commonly known as saucer bugs or creeping water bugs. They are most common in tropical lotic systems, although some taxa have been successful in temperate regions and some in lentic habitats. The family is organized into eight subfamilies and 47 genera (Sites 2022, 2023a), and is represented by 438 described species, with additional undescribed species in museum collections. The fauna of the New World includes the endemic subfamilies Ambryinae and Limnecorinae, which each contain one of the two most diverse genera: *Ambrysus* Stål, 1862 and *Limnecoris* Stål, 1860 (Sites 2022). In a recent study, the genus *Ambrysus* was shown to be polyphyletic and was revised as four genera: *Ambrysus*, *Australambrysus*, Reynoso and Sites, 2021, *Maculambrysus*, Reynoso and Sites, 2021, and *Melloiella* De Carlo, 1935 (Reynoso-Velasco and Sites 2021). The genus *Limnecoris* occurs in both North and South America and has been revised regionally for North America (Rodrigues and Sites 2019), the tropical Andes (Rodrigues and Sites 2021), the Guyana Shield and Amazon region (Rodrigues and Sites 2023), and another paper treats southern South America east of the Andes (Nieser and Lopez Ruf 2001).

The saucer bug fauna of French Guiana is poorly known because of the lack of collecting and poor understanding of the taxonomy of the Neotropical fauna. The water bugs, including Naucoridae, were the subject of an important treatment of the Guyana Region by Nieser (1975). Since then, little has been published on the saucer bugs that includes French Guiana, except records of *Hygropetrocoris guyana* Sites, 2015 (Sites and Clavier 2019) and a new species of *Australambrysus* (Sites 2023b). Previously, six species were known from the country. Presented here is a treatment of 16 species of Naucoridae now known from French Guiana following 14 years of projects to study the aquatic insect fauna. Specifically, a checklist, annotated list, distribution maps, and illustrated key to identify adults of the Naucoridae of French Guiana are presented.

Materials and Methods

Sampling was conducted for various hydrological and biological projects from 2009 to 2023. Most of these projects were quantitative and sampling was conducted using Surber samplers. Additional qualitative sampling was conducted using custom aquatic insect nets. Accessing bodies of water in French Guiana is challenging because the road network is minimal and mostly restricted to the northern coastline; thus, our samples are biased to these regions. However, some remote localities in the interior were accessed by aircraft and boat. French Guiana is not subdivided into smaller political divisions. Habitats sampled included streams, rivers, waterfalls, ponds, lakes, reservoirs, and swamps. In lentic habitats, aquatic nets were swept vigorously through submergent vegetation. Lotic habitats were collected in two ways: the substrate was kick sampled while holding the net downstream, thereby allowing the current to carry organic material, including insects, into the net; and marginal submergent vegetation was swept vigorously, including beneath undercut banks and overhanging vegetation. In addition, submerged marginal leaf packs were inspected by hand for insects. All specimens were placed into 95% ethanol and brought to the laboratory for identification. Photographs of the collection sites identified as L-numbers are available in a Locality Image Database via a link from the internet site of the Enns Entomology Museum, University of Missouri.

Images were obtained by use of a Leica M205C stereomicroscope coupled with the Leica Application Suite V4.10 Extended Depth of Focus module, followed by image preparation using Adobe Photoshop V23.5.4. In the Material examined sections, information given in square brackets [] did not appear on the specimen labels or was not provided in publications, but was inferred from available data. Chresonomies include only original descriptions and other taxonomic actions. Maps were prepared using SimpleMappr (Shorthouse 2010). Specimens from the following collections are referenced in the 'Material examined' and 'Extralimital material examined' sections in the annotated list of species:

Collection Acronyms

EMEC—University of California, Berkeley
HRC—Hydreco Reference Collection, Kourou
ORC—Onikha Research Collection, Kourou
UMC—University of Missouri, Columbia
ZSMC—Zoologische Staatssammlung München, Germany

Checklist of the Naucoridae of French Guiana

(asterisks indicate new country records)

Ambrysinae

Australambryus clavieri Sites, 2023b
Australambryus partridgei (De Carlo, 1968) *
Hygropetrocoris guyana Sites, 2015
Maculambryus scolius (La Rivers, 1970) *
Maculambryus stali (La Rivers, 1962)
Maculambryus tricuspis (La Rivers, 1974) *
Pelocoris bipunctulus (Herrich-Schäffer, 1853)
Pelocoris poeyi (Guérin-Méneville, 1835) *
Picrops tuberculatus Sites, Rodrigues and Reynoso, 2017
Picrops usingeri La Rivers, 1952

Ilyocorinae

Placomerus obscuratus Sites and Camacho, 2013 *

Limnocorinae

Limnocoris burmeisteri De Carlo, 1967 *
Limnocoris illiesi De Carlo, 1967 *
Limnocoris menkei La Rivers, 1962 *
Limnocoris pusillus Montandon, 1897 *
Limnocoris surinamensis Nieser, 1975 *

Species of possible occurrence in French Guiana

The following species were given by Nieser (1975) and Rodrigues and Sites (2021, 2023) as occurring in the Guyana Shield region; thus, they potentially could occur in French Guiana.

Ambrysininae

- Australambrysus siolii* (De Carlo, 1966)—Brazil (Pará)
- Australambrysus obscuratus* (Montandon, 1898)—Brazil (Pernambuco)
- Maculambrysus bifidus* (La Rivers and Nieser, 1972)—Suriname, Brazil (Pará)
- Pelocoris* cf. *magister* Montandon, 1898—Guyana
- Pelocoris politus* Montandon, 1895—Brazil (Pará)
- Pelocoris procurrens* White, 1879—Brazil (Pará)

Limnocorinae

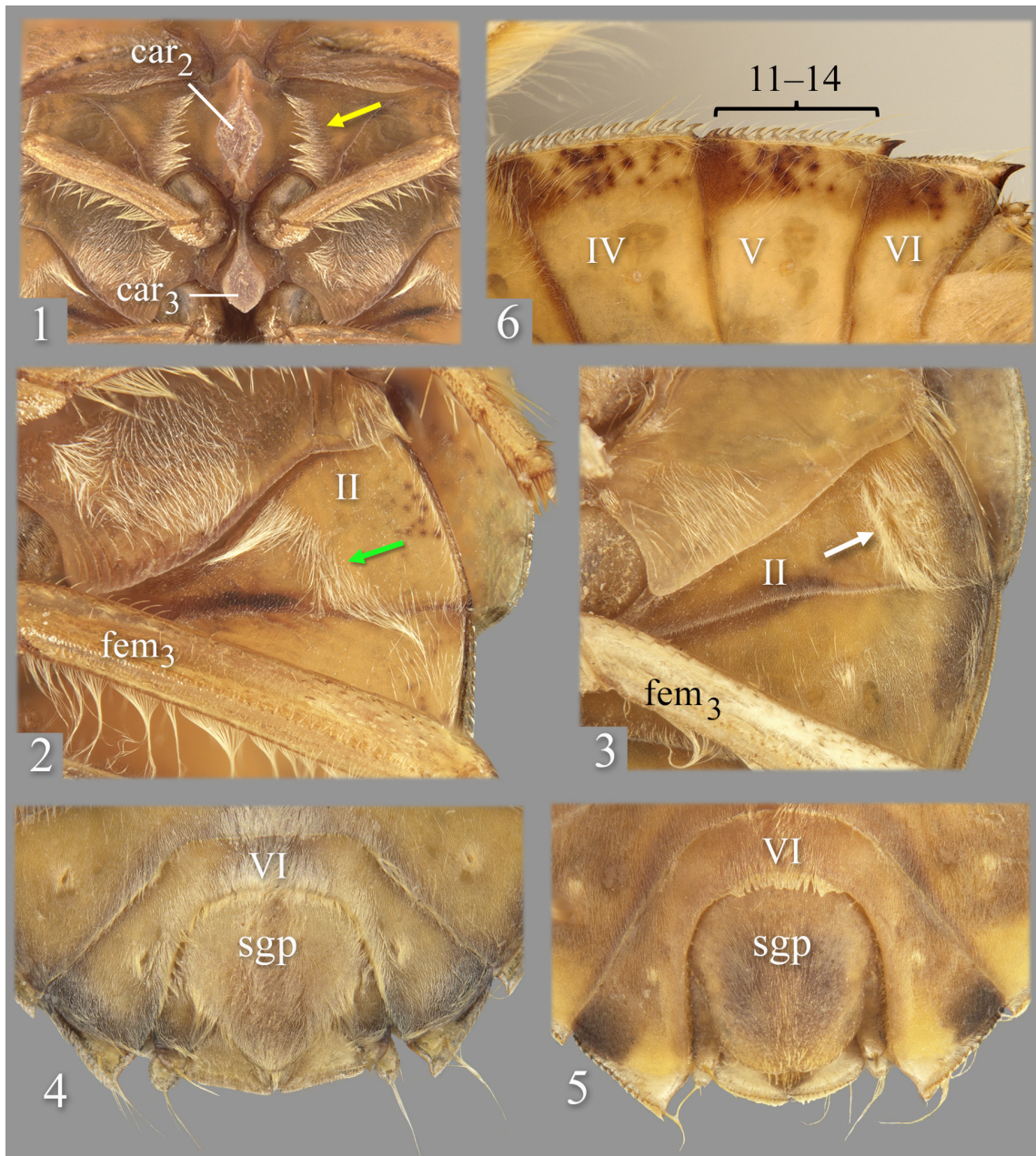
- Limnocoris fittkaui* De Carlo, 1967—Brazil (Amazonas)
- Limnocoris inflatus* Rodrigues and Sites, 2023—Suriname
- Limnocoris reynosoi* Rodrigues and Sites, 2021—Brazil (Roraima)

Key to the Naucoridae of French Guiana

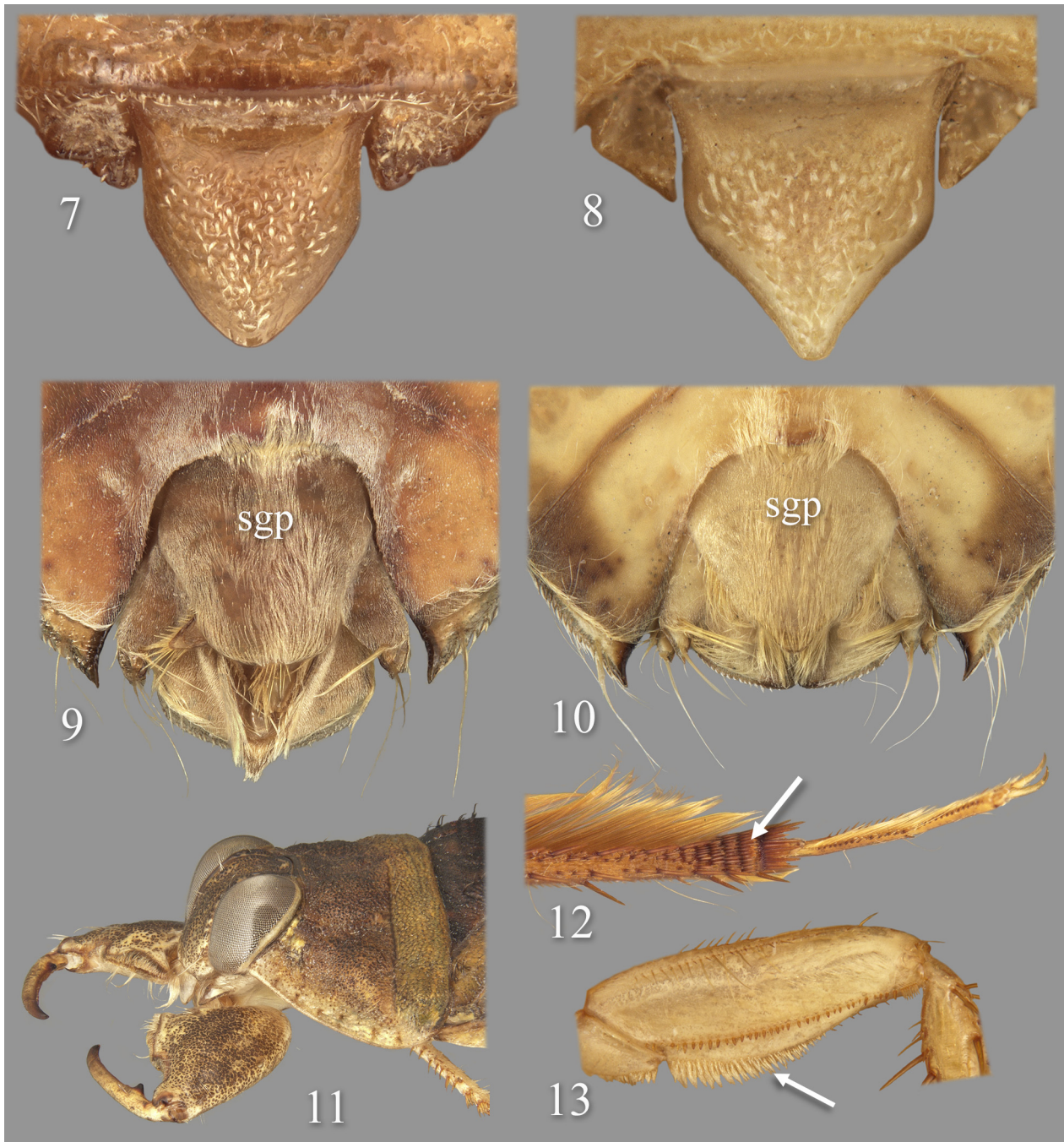
This key treats adults of both sexes with the exception of *Picrops*. Males of the two species of *Picrops* are indistinguishable from each other and must be matched with identifiable females from the same sample. The distinction between *Maculambrysus scoli* and *M. tricuspis* unavoidably relies on relative characters.

1. Meso- and metasterna each with a distinct median carina (Fig. 1) 2
- 1'. Meso- and metasterna without a distinct median carina 6
2. Mesosternum without longitudinal row of elongate golden setae; sternum II with patch of elongate golden setae in lateral third (Fig. 3) or without elongate golden setae 3
- 2'. Mesosternum with longitudinal row of elongate golden setae (Fig. 1); abdominal sternum II with sinuous or oblique row of elongate golden setae (Fig. 2). 4
3. Abdominal sternum II with patch of elongate golden setae in lateral third (Fig. 3); female subgenital plate narrowly rounded posteriorly (Fig. 4); body length 5.70–7.00 mm *Limnocoris pusillus*
- 3'. Abdominal sternum II without elongate golden setae; female subgenital plate with posterior margin broadly rounded to almost straight (Fig. 5); body length 4.40–5.44 mm *Limnocoris illiesi*
4. Abdominal sternum III–VI with rounded dark-brown spots near lateral margins (Fig. 6); lateral serration of abdominal segment V with 11–14 dentations (Figs. 6) 5
- 4'. Abdominal sternum III–VI without rounded dark-brown spots near lateral margins; lateral serration of abdominal segment V with 19–23 dentations. *Limnocoris burmeisteri*
5. Labrum with lateral margins straight or nearly so, converging to a rounded apex (Fig. 7); female subgenital plate with lateral margin straight or shallowly concave in anterior half, posterior margin rounded or almost straight (Fig. 9). *Limnocoris menkei*
- 5'. Labrum with lateral margins shallowly concave, converging to a narrowly rounded apex (Fig. 8); female subgenital plate lateral margin slightly convex in anterior 2/3, posterior margin narrowly rounded at apex (Fig. 10) *Limnocoris surinamensis*
6. Head declivent ca. 70° with respect to long axis of body (Fig. 11); fore tibia with distinct tooth in proximal 1/3 (Figs. 11, 28). *Hygropetrocoris guyana*
- 6'. Head oriented more or less horizontally, in same plane with body; fore tibia without tooth 7
7. Hind tibia with ≥4 distal comb rows of spines (Fig. 12); lateral margin of eye pointed; pronotum and fore femur with well-defined large patches of dark-brown on light-brown or yellow ground color (Fig. 35) 8
- 7'. Hind tibia usually with ≤3 distal comb rows of spines, but if 4–5, lateral margin of eye rounded; pronotum and fore femur with color pattern variable, but never with well-defined large patches of dark-brown as above (Figs. 26–27, 29–34) 9
8. Female subgenital plate with median tubercle near posterior margin, lateral margins sinuate (Fig. 14) *Picrops tuberculatus*
- 8'. Female subgenital plate without median tubercle, lateral margins straight and convergent (Fig. 15) *Picrops usingeri*
9. Anterior margin of pronotum straight or shallowly concave between eyes; propleura not meeting at ventral midline 10
- 9'. Anterior margin of pronotum distinctly concave between eyes; propleura meeting at ventral midline (Figs. 16, 17) 12
10. Length of tarsus plus claws of middle and hind legs longer than corresponding tibiae; mesofemur flattened dorsoventrally, with posterodorsal margin elongated posteriorly and fringed with a dense brush-line of hairs (Fig. 13) *Placomerus obscuratus*
- 10'. Length of tarsus plus claws of middle and hind legs shorter than corresponding tibiae; mesofemur not flattened dorsoventrally, posterodorsal margin not modified as above 11
11. Posterolateral corner of abdominal segment III produced into a spine; scutellum with convoluted maze-like pattern (Fig. 33) *Pelocoris bipunctulus*

- 11'. Posterolateral corner of abdominal segment III right-angled; scutellum usually mostly dark-brown to black, but if patterned, dark- and light-brown mottling but never with convolutions as above (Fig. 34) *Pelocoris poeyi*
12. Propleura appressed and fused to sternum at midline (Fig. 16) *Australambrysus clavieri*
- 12'. Propleura separated from sternum at midline (Fig. 17) 13
13. Dorsum glossy; pronotum concolorous orange-brown; long and slender, length ≥ 10.5 mm, length $\geq 2 \times$ width (Fig. 27) *Australambrysus partridgei*
- 13'. Dorsum matte; pronotum yellowish and patterned with brown; length < 9.6 mm, length $< 2 \times$ width (Figs. 29–31) 14
14. Fore femur with distal 1/4 yellow, although point of articulation with tibia can appear darkened (Fig. 18); corium and clavus concolorous dark-brown (Fig. 31) *Maculambrysus stali*
- 14'. Fore femur with distal 1/4 entirely brown or dark-brown (Fig. 19); corium and clavus with dark-brown markings on lighter-brown ground color (Figs. 29–30) 15
15. Length 7.36–7.76 mm; less contrasting and lighter overall coloration ventrally (Fig. 20); female subgenital plate with central lobe obtuse and posterolateral corners only slightly produced posteriorly (Fig. 22) *Maculambrysus scolius*
- 15'. Length 8.00–8.08 mm; more boldly contrasting and darker overall coloration ventrally (Fig. 21); female subgenital plate with central lobe acute and posterolateral corners dramatically produced posteriorly (Fig. 23) *Maculambrysus tricuspis*



FIGURES 1–6. Ventral features. 1 and 2, *Limnocoris menkei*, yellow arrow indicates mesosternal setae and green arrow indicates sinuous row of setae. 3, *Limnocoris pusillus*, white arrow indicates lateral patch of setae. 4 and 5, Posterior abdominal sterna of females showing subgenital plates. 4, *Limnocoris pusillus*. 5, *Limnocoris illiesi*. 6, right side of abdominal sterna of *Limnocoris surinamensis*. **car₂**—mesosternal carina, **car₃**—metasternal carina, **fem₃**—metafemur, **sgp**—subgenital plate.



FIGURES 7–13. Labrum of 7, *Limnocoris menkei* and 8, *Limnocoris surinamensis*. Posterior abdominal sterna of 9, *Limnocoris menkei* and 10, *Limnocoris surinamensis*. 11, Head and prothorax of *Hygropetrocoris guyana*. 12, Distal end of metatibia, tarsus, and pretarsus of *Picrops tuberculatus*, arrow indicates comb rows of spines. 13, Mesofemur of *Placomerus obscuratus*, arrow indicates posterodorsal brush-line of hairs. **sgp**—subgenital plate.

Systematics

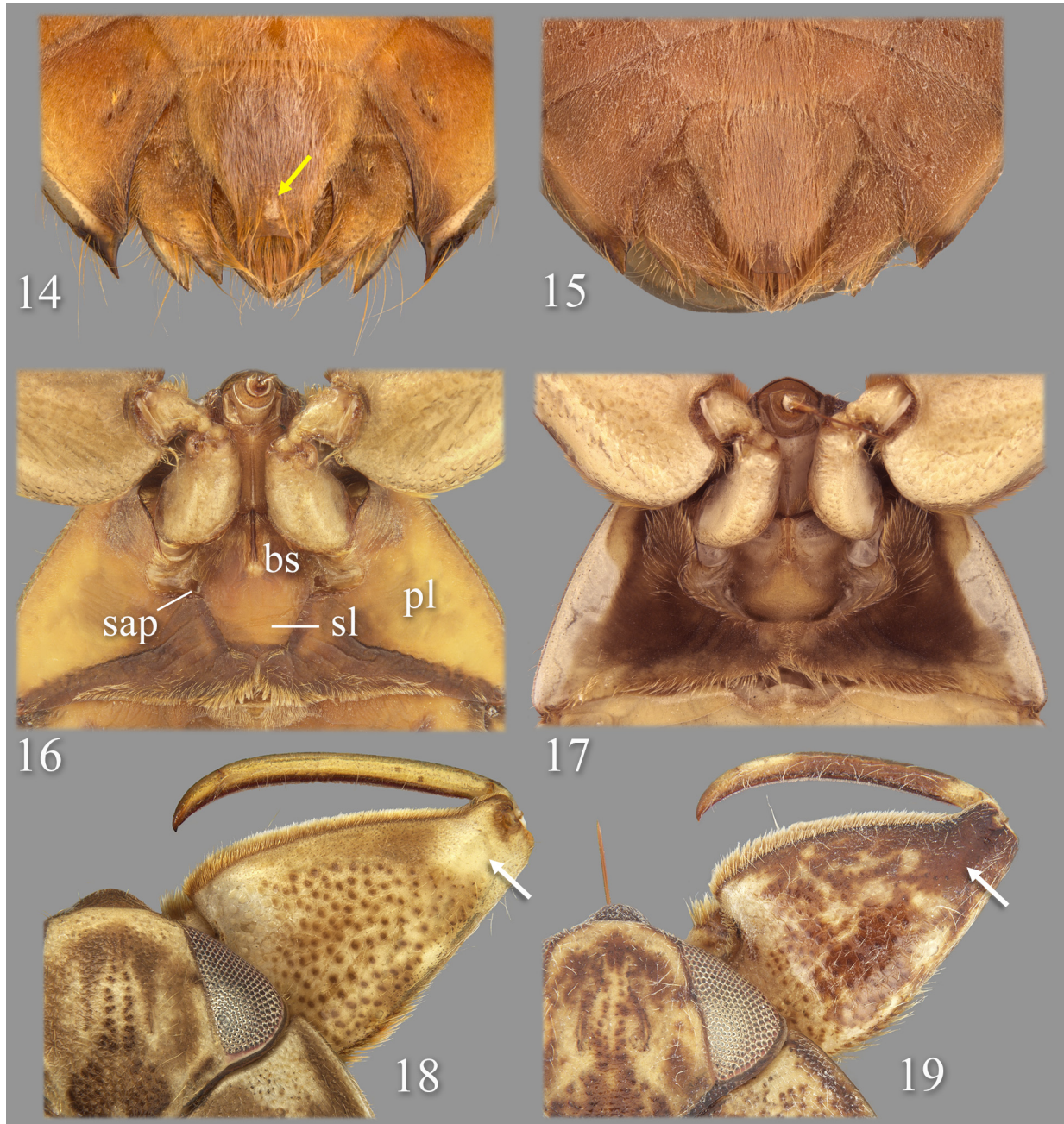
Subfamily Ambryinae Usinger, 1941

Genus *Australambryus* Reynoso and Sites, 2021

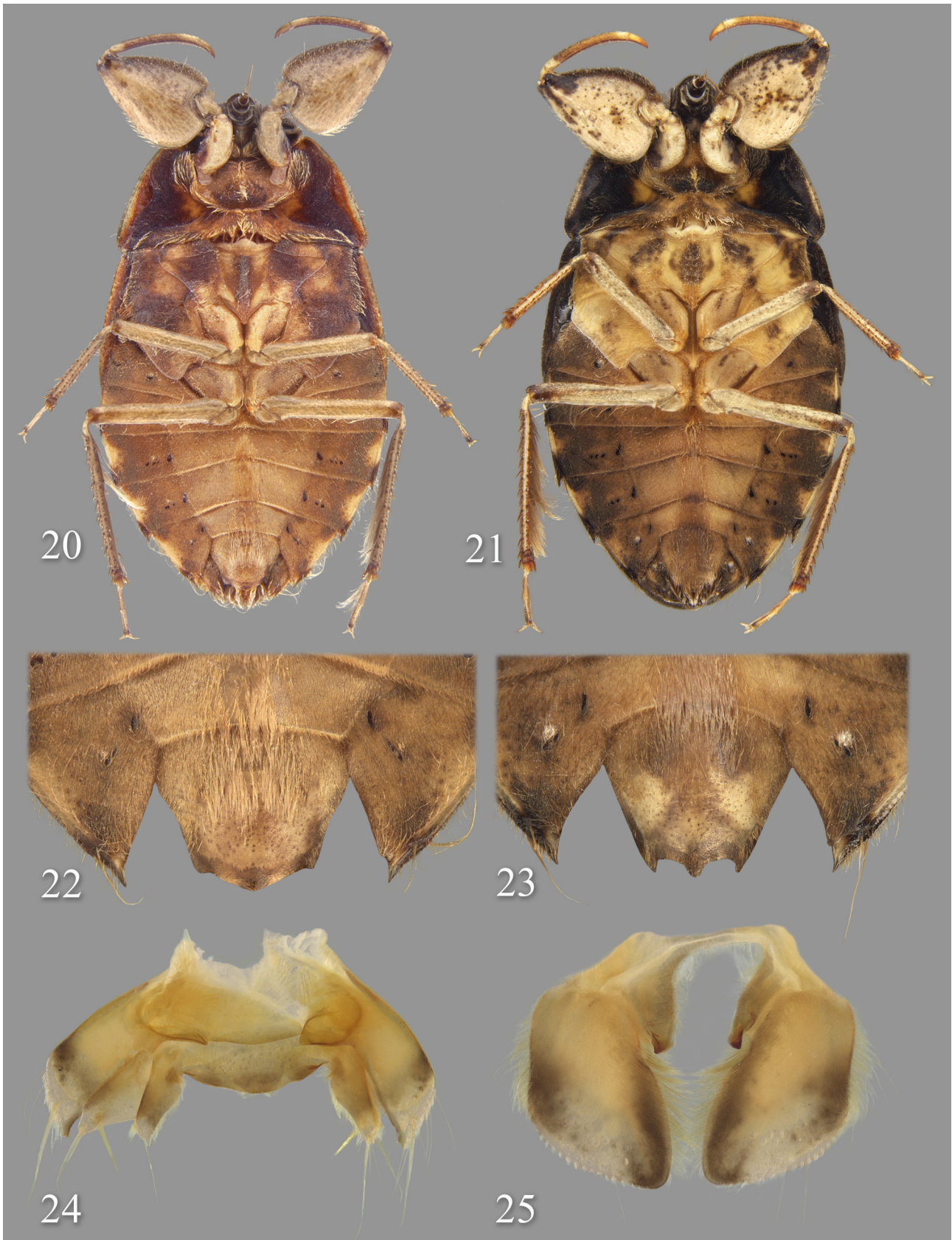
The species-rich New World genus *Ambryus* was recently reorganized into three genera (*Ambryus*, *Australambryus*, and *Maculambryus*) in a molecular phylogenetic revision of the subfamilies Ambryinae and

Cryphocricinae (Reynoso-Velasco and Sites 2021). The clade with species of *Ambrysus* is restricted to North America, whereas clades containing species of *Australambrysus* and *Maculambrysus* are Neotropical. All three of these genera have the anterior margin of the pronotum deeply concave to receive the posterior margin of the head and the propleura meet at the ventral midline. The hemelytra are generally concolorous brown. The males have oval or subrectangular pseudoparameres (median lobes of tergum VIII) and females have a digitate process on the posterior margin, or near the posteromesal corner, of laterosternite VI. Twenty-eight species of *Australambrysus* are known.

This genus can be distinguished from *Pelocoris* and the subfamilies Ilyocorinae and Limnocorinae by the anterior margin of the pronotum deeply concave to receive the posterior margin of the head.



FIGURES 14–19. Terminal abdominal sterna of female paratypes of 14, *Picrops tuberculatus* (yellow arrow indicates tubercle on subgenital plate) and 15, *Picrops usingeri*. Ventral surface of prothorax of 16, *Australambrysus clavieri* and 17, *Maculambrysus stali*. Right forelegs of 18, *Maculambrysus stali* and 19, *Maculambrysus scolius*. Arrows indicate color difference in distal ¼ of fore femora. **bs**—basisternum, **pl**—pleuron, **sap**—sternal apophyseal pit, **sl**—sternellum. Figures 14 and 15 reproduced with permission of Magnolia Press.



FIGURES 20–25. Ventral habitus of females of 20, *Maculambrysus scolius* and 21, *Maculambrysus tricuspis*. Subgenital plates of females of 22, *Maculambrysus scolius* and 23, *Maculambrysus tricuspis*; terminal segments were digitally removed. Terminal abdominal terga of male *Limnocoris surinamensis*: 24, terga VI and VII; 25, tergum VIII.

Australambryus clavieri Sites

(Figs. 16, 26, 41)

Australambryus clavieri Sites 2023b: 329–331 (original description).

Diagnosis. *Australambryus clavieri* can be distinguished from species of *Picrops* by the front femur length $<2\times$ its greatest width and lacking brown patterning. The propleura are appressed to the probasisternum and prosternellum (Fig. 16), whereas other species of *Australambryus* and *Maculambryus* in French Guiana have the propleura separated from the sternum (Fig. 17). This species is known by only five specimens, all from French Guiana.

Distribution. Known from only French Guiana.

Published records. French Guiana (Sites 2023b).

Type material examined. Holotype ♂. **FRENCH GUIANA:** Saut Dalles, Sinnamary, 4°33'21.3"N, 52°54'3.4"W, 13 July 2015, roots, S. Clavier (UMC). Paratype: Crique Bagot, 4.53633, -52.53428, 13 November 2016, A. Cerdan, sandy stream (1♂ UMC; 1-5th instar DNA-extraction #H20 UMC).

Other material examined. **FRENCH GUIANA:** Saut Dalles, Sinnamary, 4°33'21.3"N, 52°54'3.4"W, 13 July 2015, roots, S. Clavier (1♂ ORC); Crique Biche, 4.78654, -52.42851, 10 February 2012, Mathieu Rhone (1 nymph UMC); Takari Tanté, Sinnamary, 4.62168, -52.92728, 7 December 2015, D. Bouvier, roots (1 nymph UMC).

Discussion. This is one in a complex of Neotropical species in which the propleura are appressed to the probasisternum and prosternellum, similar to the North American subgenus *Ambryus* (*Syncollus*) (Sites 2023b). Other species in this complex have been recorded from Costa Rica south to Peru and east to Venezuela and Guyana (Sites 2023b). Habitats characteristic of *A. clavieri* and the other species in the complex include fine marginal rootmats of riparian vegetation that extend into streams.

Australambryus partridgei (De Carlo)

(Figs. 27, 41)

Ambryus partridgei De Carlo 1968: 99–100 (original description).

Australambryus partridgei: Reynoso-Velasco and Sites 2021: 911 (new combination).

Diagnosis. The elongate body shape, large size, and glossy dorsal surface of *A. partridgei* are unique among the French Guiana naucorid fauna. More specifically, this species is at least twice as long as wide and the dorsal surface is glossy, concolorous-brown, and without patterning. Our specimens measure 10.56 to 11.52 mm in length. This species can be further distinguished from those of Ilyocorinae, Limnecorinae, and *Pelocoris* by the anterior margin of the pronotum deeply concave to receive the posterior margin of the head (Fig. 27).

Distribution. This species was known from only the state of Amazonas in Brazil. Here we present the first records of this species from French Guiana, Suriname, and Pará state in Brazil.

Published records. Brazil (La Rivers 1971, Nieser 1975, Pereira and Melo 2007).

Material examined. **FRENCH GUIANA:** unnamed trib. to Crique Nouvelle France, N03.59627, W53.17637, elev. 166 m, 9 November 2016, D. Post (1♂ UMC); National Reserve La Trinité, Source Roche Bénitier, N4°36'59.1", W53°24'38.1", 369 m, 7 Nov. 2018, S. Clavier, TRI18-01-06 (1♀ UMC); Source Roche Bénitier—National Reserve La Trinité, 4.61641, -53.41059, 13 November 2016, S. Clavier, TRI18-03-25 (1♂ UMC); unnamed trib. to Crique Nouvelle France, N03.59627, W53.17637, elev. 166, 9 November 2016, D. Post (1♂ UMC); La Trinity Réserve, Spring Creek, Inselberg, Trail, 7 November 2022, D. Post (5♂♂, 1♀ UMC).

Extralimital material examined. **BRAZIL: Pará State,** Tailândia municipality, 02°36'49"S, 48°46'13"W, 30 November 2012, E. Cunha, leg. (1♂, 1♀ UMC). **SURINAME:** Central Suriname Nature Reserve, Tafelberg Summit, near Augustus Creek Camp, 3.926667, -56.188332, 600 m, 17 August 2013, Short and Bloom, forested detrital pools and creeks on trail into Arrowhead Basin, SR13-0817-01A, DNA-extraction #H3 (1♀ UMC).

Discussion. This species was collected with *A. stali* in Suriname. Prior to the revision of the subfamily (Reynoso-Velasco and Sites 2021), this species was erroneously assigned to the *Ambryus* subgenus *Syncollus* in the La Rivers (1971) catalog; however, the propleura are not appressed to the prosternum, which is the defining attribute of the subgenus. Nieser (1975) repeated this misrepresentation of the propleura, although he did not see any specimens. A specimen in the ZSMC labeled with the manuscript name *Ambryus galladoi* De Carlo appears to be conspecific with *Australambryus partridgei*, although this requires closer examination. Very few specimens of *A. partridgei* are known.

Genus *Hygropetrocoris* Sites, 2015

This genus is monotypic.

Hygropetrocoris guyana Sites

(Figs. 11, 28, 41)

Hygropetrocoris guyana Sites 2015: 431–433 (original description).

Hygropetrocoris guyana: Sites and Clavier 2019: 438–441 (descriptions of female and nymphs).

Diagnosis. This saucer bug does not have the hydrodynamic body shape typical of other genera, but is more reminiscent of Gelastocoridae. The most striking features are the nearly vertical head, bulging compound eyes, a prominent tooth on the protibia, stout tufts of setae laterally on the pronotum, embolium and abdomen, tumescent scutellum and pronotum (Fig. 11), and small patches or lines of black setae on the scutellum, embolium, and corium.

Distribution. This species has been collected only in Guyana and French Guiana.

Published records. Guyana (Sites 2015), French Guiana (Sites and Clavier 2019)

Material examined. FRENCH GUIANA: Inselberg Roche Bénitier in La Trinité National Reserve, 4°37.163'N, 53°24.457'W, 394 m, 7 November 2018, S. Clavier (1♀ MNHN); Chutes de Cascades Voltaire, 5.03222°N, 54.08685°W, 32 m, 9 March 2019, coll: D. Post (1♂ UMC; 1-5th instar MNHN). National Reserve La Trinité, Inselberg Roche Bénitier, N4°37'09.8", W53°24'27.4", 11 November 2021, S. Clavier (1♂ UMC); National Reserve La Trinité, Inselberg Roche Bénitier, 4.61939, -53.40761, 8 April 2022, S. Clavier (1♀ UMC).

Discussion. Because of the body shape of this insect and the habitats in which it has been collected, there continues to be uncertainty about its preferred habitat. Its non-hydrodynamic body shape and lack of natatorial setae suggests that it might be peri-aquatic, as was the case in two of the collections; however, one collection was among dead leaves underwater in a waterfall crevice and the specimens had *Peritrichia* growing on them, suggesting a sub-surface aquatic habitat. Very few specimens of this species are known.

Genus *Maculambrysus* Reynoso and Sites, 2021

This genus was formerly within the genus *Ambrysus* and was recognized as the *A. stali* La Rivers species complex (Sites and Reynoso-Velasco 2015) before being moved to the genus *Maculambrysus* by Reynoso-Velasco and Sites (2021). It can most readily be distinguished from *Australambrysus* in French Guiana by the patterned pronotum and dark-brown maculation and/or punctuation on the fore femur. The propleura are free from the probasisternum and prosternellum, and the anterior margin of the pronotum is deeply concave. Male parameres are oval and females have the posterior margin of laterosternite VI unmodified. Six species are known (Sites 2023c).

Maculambrysus scoli (La Rivers)

(Figs. 19–20, 22, 29, 42)

Ambrysus scoli La Rivers 1970: 1–4 (original description).

Maculambrysus scoli: Reynoso-Velasco and Sites 2021: 911 (new combination).

Diagnosis. This small species has a patterned head, pronotum, and corium (Fig. 29). The distinction of this species from *M. tricuspis* (La Rivers) is subtle and based partially on smaller size and lighter overall coloration, especially ventrally (Fig. 20). Females can be distinguished from those of *M. tricuspis* by the subgenital plate with the central lobe obtuse and posterolateral corners only slightly produced posteriorly. Both sexes can be distinguished from *M. stali* (La Rivers) by their smaller size, patterned corium and clavus, and darkly colored fore femoral apex (Fig. 19).

Distribution. This species is known from Venezuela, Guyana, and Trinidad. The records reported here are the first for French Guiana. This species was not included in the Nepomorpha of the Guyana Region by Nieser (1975), although it clearly occurs in this region.

Published records. Venezuela, Guyana, Trinidad (La Rivers 1970).

Material examined. FRENCH GUIANA: Saut Alexis, Camopi, 3.20689, -52.44905, 20 October 2015, D. Bouvier (1♂ UMC); Saut Leodate, Kourou, 4.83310, -52.79191, 3 November 2015, D. Bouvier (1♀, 1 nymph UMC); Saut Dalles, Sinnamary, N4°33'21.0", W52°54'0.9", 9 December 2017, S. Clavier (1♀ UMC).

Extralimital material examined. BRITISH GUIANA [=Guyana]: Honey Camp Cr., Oct. 24 1937, S. Harris / *A. scoli* ♀ Paratype / Ira La Rivers Collection Bequeathed to the California Academy of Sciences (1♀ CAS). **TRINIDAD:** B.W.I., Port of Spain, Nov. 5 1931, W. E. Broadway / *A. scoli* ♀ Paratype / Ira La Rivers Collection Bequeathed to the California Academy of Sciences (1♀ CAS). **BRAZIL: Pará state,** 378, Rio Mapuera, Igarapé do Aracu, 19 June 1986, Py-Daniel and Barbosa (2♂, 2♀ INPA; 2♂, 2♀ UMC).

Discussion. *Maculambrysus scoli* remains enigmatic and its distinction from *M. bifidus* (La Rivers and Nieser 1972) is uncertain (Sites and Reynoso-Velasco 2015); thus, this determination is provisional. Our French Guianan specimens of *M. scoli* measure 7.36–7.76 mm in length; the original descriptions gave the lengths of *M. scoli* as 8–9 and *M. bifidus* as 7.5–9.0 mm. *Maculambrysus bifidus* was reported to differ from *M. scoli* by a slight bifurcation in the female subgenital plate (La Rivers and Nieser 1972), which would seem to fall within the realm of intraspecific variation; it has not been recorded from French Guiana, although it is known from Guyana (Sites and Reynoso-Velasco 2015), Suriname, and Brazil (La Rivers 1974, Nieser 1975, Sites and Reynoso-Velasco 2015). This species is represented by very few specimens in museum collections.

Maculambrysus stali (La Rivers)

(Figs. 18, 31, 42)

Ambrysus stali La Rivers 1962a: 185–187 (original description).

Ambrysus bourquini De Carlo 1968: 100 (synonymized by La Rivers 1974).

Ambrysus stali: La Rivers 1974: 2 (subgenus transfer).

Maculambrysus stali: Reynoso-Velasco and Sites 2021: 911–912 (new combination).

Diagnosis. This species tends to be slightly larger than congeners; our specimens from French Guiana range from 7.84 to 9.60. The longitudinal dark stripes on the pronotum are less linear and more coalescent than in congeners and the hemelytra are concolorous dark-brown (Fig. 31).

Distribution. *Maculambrysus stali* is distributed across the Guiana Shield countries from Brazil and French Guiana west to Venezuela.

Published records. Brazil, Dutch Guiana [=Suriname], French Guiana, Trinidad (La Rivers 1962a); Brazil, Suriname (La Rivers and Nieser 1972, Nieser 1975); Venezuela (Araujo and Beserra 2007); Guyana (Sites and Reynoso-Velasco 2015). Records from Argentina (Lopez Ruf 1987, 2007; Mazzucconi *et al.* 2009) are almost certainly erroneous (Sites and Reynoso-Velasco 2015).

Type material examined. FRENCH GUIANA: St. Laurent [du Maroni], October 1937, H. E. Hinton, Cal. Acad. Sci. Coll. / Ira La Rivers Collection, Bequeathed to the California Academy of Sciences—1978 / California Academy of Sciences Type No. 13412 / *Ambrysus stali* La Rivers HOLOTYPE (♂, CAS).

Other material examined. FRENCH GUIANA: Crique à l'Est above Crique Eau Claire, N03.66383°, W53.22193°, elev. 156 m, 10 November 2016, D. Post (14 nymphs UMC); Crique à l'Est, N03.66383°, W53.22193°, elev. 156 m, 8 November 2016, W.D. Shepard leg., WDS-A-2051 (6 nymphs UMC); Crique à l'Est, 3.66337, -53.22191, 28 October 2015, S. Clavier leaf pack (1♀ UMC); Crique Nouvelle France, 6.5 km ESE Saül, 221 m, 9 November 2016, W.D. Shepard leg., WDS-A-2050 (19 nymphs UMC); crique at Carbet IRD, N5.33800°, W53.06766°, 3 March 2019, W.D. Shepard leg., WDS-A-2035 (1♀ UMC); ca. 6.5 km ESE of Saül, Crique Nouvelle France, N03°36'22.7", W53°10'34.2", 221 m, 8 November 2016, R.W. Sites, leaf packs, L-1953 (2♂♂, 1♀, 1 nymph UMC); ca. 6.5 km ESE of Saül, Crique Nouvelle France, N03°35'49.8", W53°10'40.4", 200 m, 9 November 2016, R.W. Sites, leaf packs, L-1955 (3♂♂, 3♀♀, 1 nymph UMC); Crique Nouvelle France @ Courant Double, 9 November 2016, D. Post (1♂ UMC); unnamed trib. to Crique Nouvelle France, N03.59627°, W53.17637°, elev. 166, 9 November 2016, D. Post (1♂, 2 nymphs UMC); Crique Nouvelle France, confl. with Crique Popate, 8 November 2016, D. Post (2 nymphs UMC); unnamed trib. to Sinnamary River, just above Takari-Tante, N4.62175°, W52.92645°, 8 November 2016, D. Post (2♂♂ UMC); Crique 3 Rois, 4.97853, -52.53786, 20 March 2018, S. Clavier (1♀ UMC); Affluent Crique Balaté, 5.45807, -54.02586, 21 February 2011, S. Clavier, leaf pack (1♂ ORC); 1 nymph UMC);

Crique Morpio, Hwy N1, N05°29.41', W53°18.24', elev. 11 m, above swimming area, 4 March 2019, D. Post (1♂ UMC); trib. to Crique Macouria SW off N2, Rte de Saut Léodate, N04°59.28', W52°35.70', elev. 25 m, 14 March 2019, D. Post (1♂, 1♀, 5 nymph UMC); trib. to Crique Toussaint, at Carbet Communal, Rt de St Elie, 5.29649°N, 53.05218°W, 45 m, 2 March 2019, D. Post (1♂ UMC); Montagne de Singes, 5.07233°N, 52.69491°W, 45 m, 1 March 2019, D. Post (1♂, 2 nymphs UMC); unnamed stream, Carbet Communal, 5.2965°N, 53.0522°W, 2 March 2019, W.D. Shepard leg., WDS-A-2132 (1♂ UMC); tributary to Crique des Cascadas, N05°20.79', W54°06.33', elev. 54 m, 7 March 2019, W.D. Shepard leg., WDS-A-2143 (1♂ UMC); Route to Bélizon, Bois Bonde, N4°15.20', W52°31.69', elev. 87 m, 13 March 2019, W.D. Shepard leg., WDS-A-2150 (1♂, 1 nymph UMC); Crique Morpio, Hwy N1 W of Iracoubo, N5°29.41', W53°18.24', elev. 11 m, 4 March 2019, W.D. Shepard leg., WDS-A-2136 (1♂ UMC); Montagne de Fer, trib. to Crique Laussat, N5°24'49", W53°34'89", 43 m, 6 March 2019, D. Post (2♂♂ UMC); Crique Petit Laussat at Carbet Montagne de Fer, N05.40765°, W53.55487°, elev. 41 m, 5 March 2019, D. Post (1♀, 1 nymph UMC); Montagne de Fer, trib. to Crique Laussat, N5°24.49', W53°34.89', elev. 43 m, 6 March 2019, W.D. Shepard leg., WDS-A-2142 (1♀ UMC); unnamed trib. to Crique Petit Laussat, 30 October 2022, D. Post (1♀ UMC); Montagne de Fer, tributary to Crique Florian, N5°17.85', W53°31.47', elev. 86 m, 6 March 2019, W.D. Shepard leg., WDS-A-2140 (1♂, 1 nymph UMC); Crique Gregoire, 5 km N Petit Saut, N5°5'51", W53°3'4", 27 October 2016, W.D. Shepard leg., WDS-A-2041 (1♂, 1♀, 1 nymph UMC); Crique Gregoire, 7.4 km NW Petit Saut, N5°5'31", W53°4'19", 28 October 2016, W.D. Shepard leg., WDS-A-2042 (1♂, 1♀, 1 nymph UMC); Crique Salle de Bains, Sinnamary River, N4.64840°, W52.940823°, 3 November 2016, W.D. Shepard leg., WDS-A-2047 (1♀, 2 nymphs UMC); ca. 8 km NNW of Saül, Crique a l'Est, N03°39'46.04", W53°13'24.78", 156 m, 10 November 2016, R.W. Sites, gravel riffles and veg margins, L-1956 (1♀, 11 nymphs UMC); Reserve La Trinité, Crique Baboune, N4.59043°, W53.41396°, 92 m, 5 November 2022, W.D. Shepard leg., WDS-A-2192A (1♂ UMC); Carbet IRD, trib. Cr. Toussaint, N5.29309°, W53.05094°, 26 m, 1 November 2022, W.D. Shepard leg., WDS-A-2190 (7♂♂, 5♀♀, 1 nymph UMC); Cacao, N4.56215°, W52.46278°, 65 m, 28 October 2022, W.D. Shepard leg., WDS-A-2187 (3♂♂, 3♀♀, 1 nymph UMC); Crique Aya, 122 m, N4.60297°, W53.41490°, 4 November 2022, W.D. Shepard leg., WDS-A-2191A (2♂♂, 1 nymph UMC); Reserve La Trinité Crique Aya, 122 m, N4.60297°, W53.41490°, 8 November 2022, W.D. Shepard leg., WDS-A-2195A (1♂ UMC); Camp Patawa, Crique Diamante, N4.54159°, W52.15173°, 26 October 2022, W.D. Shepard leg., WDS-A-2185A (1♀ UMC); Camp Patawa, trib. Cr. Diamante, N4.54300°, W52.15231°, 26 October 2022, W.D. Shepard leg., WDS-A-2185B (4♂♂, 1♀ UMC); Res NN La Trinité, Crique Aya, 121 m, N4.60279°, W53.41600°, 6 November 2022, W.D. Shepard leg., WDS-A-2193 (1♂ UMC); Reserve La Trinité, Crique Aya, 121 m, N4.60279°, W53.41600°, 6 November 2022, W.D. Shepard leg., WDS-A-2193 (2♀♀ UMC); Roura, Fourgassir wffl, N4.62816°, W52.30718°, 37 m, 24 October 2022, W.D. Shepard leg., WDS-A-2182 (3♀♀, 1 nymph UMC); La Trinity Réserve, Crique Aya below camp Aya, 6 Nov. 2022, D. Post (2♂♂, 1 nymph UMC); La Trinity Réserve, Crique Baboune, 5 November 2022, D. Post (2♂♂ UMC); La Trinity Réserve, Crique Aya, Inselberg Trail, 1.3 km from camp, 9 November 2022, D. Post (3♂♂, 3♀♀ UMC); La Trinity Réserve, unnamed trib. to Crique Baboune, 5 November 2022, D. Post (3♂♂ UMC); unnamed trib. to Crique Diamant, Camp Patawa, 26 October 2022, D. Post (1♂, 2♀♀ UMC); unnamed trib. to Crique Macouria at Ave de Wayabo, 24 October 2022, D. Post (1♂ UMC); National Reserve Les Nouragues, Crique Sassa, 3.98607, -52.58582, 21 April 2022, S. Clavier (1♀ UMC).

Discussion. This is one of the most commonly collected species of Naucoridae in French Guiana. It is restricted to lotic systems and occurs among branches, rootmats, and leafpacks at the margins of streams. We have collected it together with *Limnocoris burmeisteri* at multiple localities, including Saül, reserves La Trinité and des Nouragues, Crique des Cascades, and Montagne de Fer. Prior to the revision of the subfamily and its transfer to the genus *Maculambrysus* (Reynoso-Velasco and Sites 2021), this species was incorrectly transferred to the *Ambrysus* subgenus *Syncollus* in the first catalog amendment by La Rivers (1974); the propleura are not appressed to the prosternum, which is the defining attribute of the subgenus *Syncollus*.

Maculambrysus tricuspis (La Rivers)

(Figs. 21, 23, 30, 42)

Ambrysus tricuspis La Rivers 1974: 2–3 (original description).

Maculambrysus tricuspis: Reynoso-Velasco and Sites 2021: 912 (new combination).

Diagnosis. This species has a patterned head, pronotum, corium and clavus similar to those of *M. scolius* (Fig. 30). The distinction of *M. tricuspis* from *M. scolius* is subtle and based partially on larger size and more boldly contrasting and darker overall coloration, especially ventrally (Fig. 21). In addition, *M. tricuspis* females have a more acuminate central lobe of the subgenital plate (Fig. 23), although there is substantial variation in this character. It can be distinguished from *M. stali* by its patterned clavus and corium, and the less-coalescent stripes on the pronotum (Fig. 30).

Distribution. Other than this disjunct record in French Guiana, the known distribution of *M. tricuspis* is north-central Colombia. Because specimens of *Maculambrysus*, other than *M. stali*, are seldomly collected, the probability exists that the distribution of *M. tricuspis* is more or less continuous throughout the Guiana Shield where appropriate habitat exists.

Published records. Colombia (La Rivers 1974).

Type material examined. COLOMBIA: Bolivar, San Marcos/ (reverse side of locality label) 1964 Aug 8, O. Pinada/ *Ambrysus tricuspis* Holotype/ California Academy of Sciences Type No. 13406/ Ira La Rivers Collection Bequeathed to the California Academy of Sciences (♀, CAS); same data, Allotype (♂, CAS).

Material examined. FRENCH GUIANA: Reserve La Trinité, Crique Baboune, N4.59043°, W53.41396°, 92 m, 5 November 2022, W.D. Shepard leg., WDS-A-2192A (1♀ UMC); La Trinity Réserve, Crique Aya, Inselberg Trail, 1.3 km from camp, 9 November 2022, D. Post (1♂ UMC).

Extralimital material examined. COLOMBIA: Dpto. Antioquia, Mpio. San Luis, La Mulata, N05°53.681', W74°51.509', 340 m, 16 March 2016, R.W. Sites, small gravel trib to Río Claro, L-1917 (1♀ UMC); Mpio. Puerto Triunfo, Las Mercedes at Las Mercedes, N05°54.899', W74°46.467', 342 m, 16 March 2016, R.W. Sites, leafpacks, L-1919 (1♂, 4♀♀, 1♀ DNA-extraction #H4 UMC).

Discussion. Further study is needed to determine species limits among members of the *M. stali* complex, in particular *M. bifidus*, *M. scolius*, and *M. tricuspis*. The specimen reported here from Crique Baboune in French Guiana was collected with *M. stali*. Very few specimens of this species are known.

Genus *Pelocoris* Stål, 1876

This genus was transferred from Naucorinae to Ambrysinae in the revision of Reynoso-Velasco and Sites (2021). Currently, 14 species are known, of which most are Neotropical. Species of *Pelocoris* are generally lentic in habitat association, although some species may be found among marginal vegetation in quiet waters of streams.

Pelocoris bipunctulus (Herrich-Schäffer)

(Figs. 33, 43)

Naucoris bipunctulus Herrich-Schäffer 1853: 39–40 (original description).

Pelocoris impicticollis Stål 1876: 144 (new combination); (synonymized by López Ruf and Nieser 1999).

Pelocoris lautus Berg 1879: 188–189 (synonymized by Lopez Ruf and Nieser 1999).

Pelocoris horvathi Montandon 1905: 405–406 (synonymized by La Rivers 1976).

Diagnosis. This species can be distinguished from *P. poeyi* (Guérin-Méneville) most readily by the presence of well-developed posterolateral spines on at least abdominal segments III and IV (note that the first visible abdominal segment ventrally is sternum II). The posterolateral spines of *P. poeyi* on these segments are negligible. The scutellum and hemelytra are patterned with meandering, maze-like convolutions, reminiscent of brain coral (Fig. 33). The pronotum is generally unpatterned orange-yellow in the anterior 3/4.

Distribution. This species is distributed throughout most of South America from Argentina north to Colombia and east to French Guiana and Brazil.

Published records. Brazil (Stål 1876); French Guiana, Suriname (Nieser 1975); Argentina, Bolivia, Colombia, (Lopez-Ruf and Nieser 1999); Paraguay (Moreira *et al.* 2011).

Material examined. FRENCH GUIANA: St. Laurent du Maroni, Sentier des Malgaches, 5.48627, -54.00238, 14 m, 4 March 2020, leg. Short and Neff, pond w/ veg. margins, FG20-0304-01A (1♀ UMC); Petit Saut Lake, 5.30861, -52.95361, 28 Nov. 2017, S. Clavier (1♀ UMC); Pripri Karouabo, Spatial Center swamp, 5.21263, -52.78609, 22 December 2016, S. Clavier (1♀ ORC; 1♂, 2♀♀ UMC).

Discussion. *Pelocoris bipunctulus* has been recorded from ponds, small lakes, marshes, lagoons, and ditches in association with vegetation (e.g., Melo and Nieser 2004). Although typically considered a lentic insect, this species also has been recorded from lotic situations (Roback and Nieser 1974, Souza *et al.* 2006), presumably in marginal vegetation with minimal current.

***Pelocoris poeyi* (Guérin-Méneville)**

(Figs. 34, 43)

Naucoris poeyi Guérin-Méneville 1835–1844: 352, pl. 57, fig. 5. (original description)

Pelocoris poeyi: Stål 1876: 144 (new combination).

Pelocoris convexus Nieser 1969: 63–66 (synonymized by Nieser 1975).

Pelocoris poeyi: Sites 1991: 623–629 (descriptions of immatures)

Diagnosis. This species can be distinguished from *P. bipunctulus* by the absence of posterolateral spines on abdominal segments III and IV, whereas those of *P. bipunctulus* are well-developed. The scutellum and hemelytra of *P. poeyi* are usually concolorous dark-brown to black, although sometimes with light- and dark-brown mottling (Fig. 34), but never patterned with convolutions as in *P. bipunctulus*. The extent of pronotum patterning is variable.

Distribution. This species is known throughout much of the Caribbean Islands and tropical South America, including neighboring Suriname and Brazil.

Published records. This species is known from Aruba, Barbuda, Curacao, Guadeloupe, Iles-des-Saintes, Marie Galante, Puerto Rico, St. Croix, Trinidad (Nieser 1969), Brazil, Guyana, Suriname (Nieser 1975), Cuba (Guérin-Méneville 1835, Nieser 1975), Ecuador (Sites 1990), Dominican Republic, and St. Kitts and Nevis (Moreira *et al.* 2011). The original description also included New Orleans (United States) and Mexico (Guérin-Méneville 1835); however, *P. poeyi* is not currently known from the United States, and its presence in Mexico has not been corroborated despite extensive recent collecting throughout the country by Daniel Reynoso-Velasco, nor was it found in Belize in a survey for Naucoridae (Sites *et al.* 2018).

Material examined. FRENCH GUIANA: Petit Laussat 5.40804, -53.58139, 28 September 2015, D. Bouvier (1♂ UMC).

Discussion. This is the first record of *Pelocoris poeyi* from French Guiana. The species also has been reported from saline water (Nieser 1975), although it is most often associated with vegetation in standing freshwater, including springs and swamps (Sites 1990).

Genus *Picrops* La Rivers, 1952

This genus was recently elevated from subgeneric recognition within the genus *Ambrysus* (Sites *et al.* 2017). The morphology of *Picrops* is substantially different from that of *Ambrysus*, *Australambrysus*, and *Maculambrysus* because of the extreme dorsoventral flattening, slender legs, dorsal color pattern, and modifications of male abdominal tergum VI (Sites *et al.* 2017). Two species are known.

***Picrops tuberculatus* Sites, Rodrigues and Reynoso**

(Figs. 12, 14, 43)

Picrops tuberculatus Sites, Rodrigues and Reynoso 2017: 512–516 (original description).

Diagnosis. Only females of *P. tuberculatus* can be distinguished from those of *P. usingeri* La Rivers. More specifically, the subgenital plate has a pronounced, sometimes lightly pigmented, median tubercle near the posterior margin (Fig. 14). In addition, the lateral margins of the subgenital plate are sinuate. *Picrops usingeri* lacks the tubercle and the subgenital plate lateral margins are straight and convergent.

Distribution. This species is known from southern Venezuela through northern Brazil, Guyana, Suriname, and French Guiana.

Published records. Brazil, French Guiana, Guyana, Suriname, Venezuela (Sites *et al.* 2017).

Type material examined. FRENCH GUIANA: ca. 6.5 km ESE of Saul, Crique Nouvelle France, N03°36'22.7", W53°10'34.2", 221 m, 8 November 2016, R.W. Sites, leaf packs, L-1953. Paratypes: same data as holotype (1♂, 1♀ SEMC; 2♂♂, 3♀♀ UMC); ca. 6.5 km ESE of Saul, Crique Nouvelle France, N03°35'49.8", W53°10'40.4", 200 m, 9 November 2016, R.W. Sites, leaf packs, L-1955 (3♀♀, 1-3rd instar, 2-4th instars UMC); ca. 8 km NNW of Saul, Crique a l'Est, N03°39'46.04", W53°13'24.78", 156 m, 10 November 2016, R.W. Sites, gravel riffles and veg margins, L-1956 (2♂♂, 1♀ UMC); Crique Nouvelle France @ confl. with Crique Popote / 8 November 2016, D. Post (1♀ UMC); Crique Gregoire, below upper waterfall / N5.09192, W53.07203, elev 27 m, 27 October 2016, D. Post (1♀ UMC); unnamed trib to Sinnamary R., below Takari-Tanté, carbet Takari / N4.62085, W52.92808, elev 39 m, 4 November 2016, D. Post (1♂, 1♀ USNM; 1♂, 1♀ EMEC; 4♂♂, 3♀♀, 1-4th instar UMC); Carbet ONF Manaré, Piste Mataroni, Crique Manaré, 4.07411, -52.16026, 35 m, 9 March 2020, Short and Neff, isolated pools by river, FG20-0304-01A (1♀, 1 nymph UMC); Crique Couleuvre, N4°56'18.6", W52°32'41.3", 21 March 2018, S. Clavier (2♀♀ UMC).

Other material examined. FRENCH GUIANA: unnamed trib. to Crique Petit Laussat, 30 October 2022, D. Post (1♀ UMC); La Trinity Réserve, Crique Aya, Inselberg Trail, 1.3 km from camp, 9 November 2022, D. Post (1♀ UMC); unnamed strm Piste Saut Maripa, N3°49'14.4", W51°52'28.1", 23 Sept. 2020, S. Clavier (1♀ UMC); Crique Couleuvre, N4°56'18.6", W52°32'41.3", 19 December 2017, S. Clavier (1♀ UMC).

Discussion. This species typically occurs as adults and nymphs together among dead leaves at the still margins of small, shallow, sandy-bottomed, forest streams.

Picrops usingeri La Rivers

(Figs. 15, 35, 43)

Ambrysus (Picrops) usingeri La Rivers 1952: 34–39 (original description).

Ambrysus fittkaui De Carlo 1966: 116–117 (synonymized by La Rivers 1974).

Picrops usingeri: Sites, Rodrigues and Reynoso 2017: 510–512 (status change).

Diagnosis. Females of *P. usingeri* can be distinguished from those of *P. tuberculatus* by the subgenital plate with straight and convergent lateral margins and the lack of a median tubercle (Fig. 15).

Distribution. The distribution of *P. usingeri* includes the same range as that of *P. tuberculatus* and extends further south to the Brazilian states of Rondônia and Mato Grosso (Sites *et al.* 2017).

Published records. Brazil, British Guiana [=Guyana], French Guiana (La Rivers 1952, 1965; Nieser 1975; Pereira and Melo 2007), Suriname, Venezuela (Sites *et al.* 2017).

Type material examined. (Holotype ♂, SEMC): **BRAZIL**, S. A., Sept. 1935, A. M. Olalla/ Rio Purus, Lago Berury Region/ *Ambrysus usingeri* La Rivers Holotype/ *Ambrysus usingeri* La Rivers, determined by Ira La Rivers 1948. Paratypes: same data as holotype/ *Ambrysus usingeri* La Rivers Paratype (1♂ SEMC, 1♀ EMEC); Cayenne/ Museum Paris, coll. Noualhier 1898/ *Tapinocoris* Nhl. / *planisternis* Nlh. / *Ambrysus usingeri* La Rivers Paratype (1♂ EMEC).

Material examined. FRENCH GUIANA: drying pools of unnamed tributary to Crique Gregoire, ca. 0.3 km above first falls / N5.09902, W53.05318, 29 October 2016, D. Post (1♀ UMC); drying pools of unnamed tributary to Crique Gregoire, 1.4 km above first falls / N5.09794, W53.06402, 29 October 2016, D. Post (2♀♀ UMC); Crique Maman Lizard @ Route de Petit-Saut, N5.06356°, W52.99813°, 34 m, 30 October 2016, D. Post (1♀ UMC); unnamed trib. to Crique Diamant, Camp Patawa, 26 October 2022, D. Post (1♀ UMC); La Trinity Réserve unnamed trib. to Crique Baboune, 5 Nov. 2022, D. Post (1♂, 1♀ UMC); La Trinity Réserve Crique Aya, Inselberg Trail, 1.3 km from camp, 9 November 2022, D. Post (1♀ UMC); Affluent Crique Baboune, N4°35'26.2", W53°24'19.6", elev. 109 m, 8 November 2018, S. Clavier (1♂, 1♀, 1 nymph UMC).

Discussion. In French Guiana, the habitat of this species is the same as that of *P. tuberculatus*. In extralimital sampling, we have collected this species among dead leaves at the margins of a dark-water palm swamp.

Picrops sp. (males and nymphs)

Material examined. FRENCH GUIANA: trib. R. de Kounana, near Camp Caïman, Route de Kaw (D6), SE of Roura, 04.5637, -52.2175, 25-XI-2022, C.B. Barr (2♂♂ EMEC); trib. Crique Diamant, near Camp Patawa, Route de Kaw (D6), SE of Roura, 4.5430, -52.1523, 26-X-2022, C.B. Barr (2♂♂ EMEC); Carbet IRD, trib. Cr. Tousannt, 26 m, N5.29309° W53.05094°, 1 November 2022, W.D. Shepard leg., WDS-A-2190 (2♂♂, 1 nymph UMC); unnamed trib. to Crique Nouvelle France, N03.59627, W53.17637, elev. 166 m, 9 November 2016, D. Post (1♂, 1 nymph UMC); La Trinity Réserve, Crique Aya, Inselberg Trail, 1.3 km from camp, 9 November 2022, D. Post (1♂ UMC); La Trinity Réserve, Crique Aya backwater, Inselberg Trail, 8 November 2022, D. Post (1♂ UMC); unnamed trib. II to Crique Petit Laussat, 30 October 2022, D. Post (2♂♂ UMC); Crique Grillon at Carbet Grillon, Rt. de Bélizon, 4°16.80'N, 52°27.08'W, 82 m, 12 March 2019, coll: D. Post (1♂ UMC); unnamed trib. to Sinnamary River, just above Takari-Tante, N4.62175°, W52.92645°, 8 November 2016, D. Post (3♂♂ UMC); Crique Gregoire, ~300 m above Sinnamary River above first falls, N5.09747, W53.05105, elev. 4 m, 27 October 2016, D. Post (1♂, 2 nymphs UMC); Crique Nouvelle France @ Courant Double, 9 November 2016, D. Post (1-5th instar UMC); ca. 6.5 km ESE of Saül, Crique Nouvelle France, N03°36'22.7", W53°10'34.2, 221 m, 8 November 2016, R.W. Sites, leaf packs, L-1953 (10 nymphs UMC); WSW Macouria, Crique Matiti, 25 m, N4.98797°, W52.59492°, 24 October 2022, W.D. Shepard leg., WDS-A-2181 (1 fifth instar UMC).

Discussion. Because males cannot be identified without association with identifiable females (Sites *et al.* 2017), and nymphs have not developed the characteristics of the identifiable females, they are presented here for documentation of generic level distribution records.

Ilyocorinae Sites, 2023

Genus *Placomerus* La Rivers, 1956

This genus was recently transferred from Naucorinae to the newly erected subfamily, Ilyocorinae (Sites 2023a). The subfamily includes only two genera: the Neotropical *Placomerus* and Palearctic *Ilyocoris*. Only two species of *Placomerus* are known.

Placomerus obscuratus Sites and Camacho

(Figs. 32, 43)

Placomerus obscuratus Sites and Camacho 2014: 471–474 (original description)

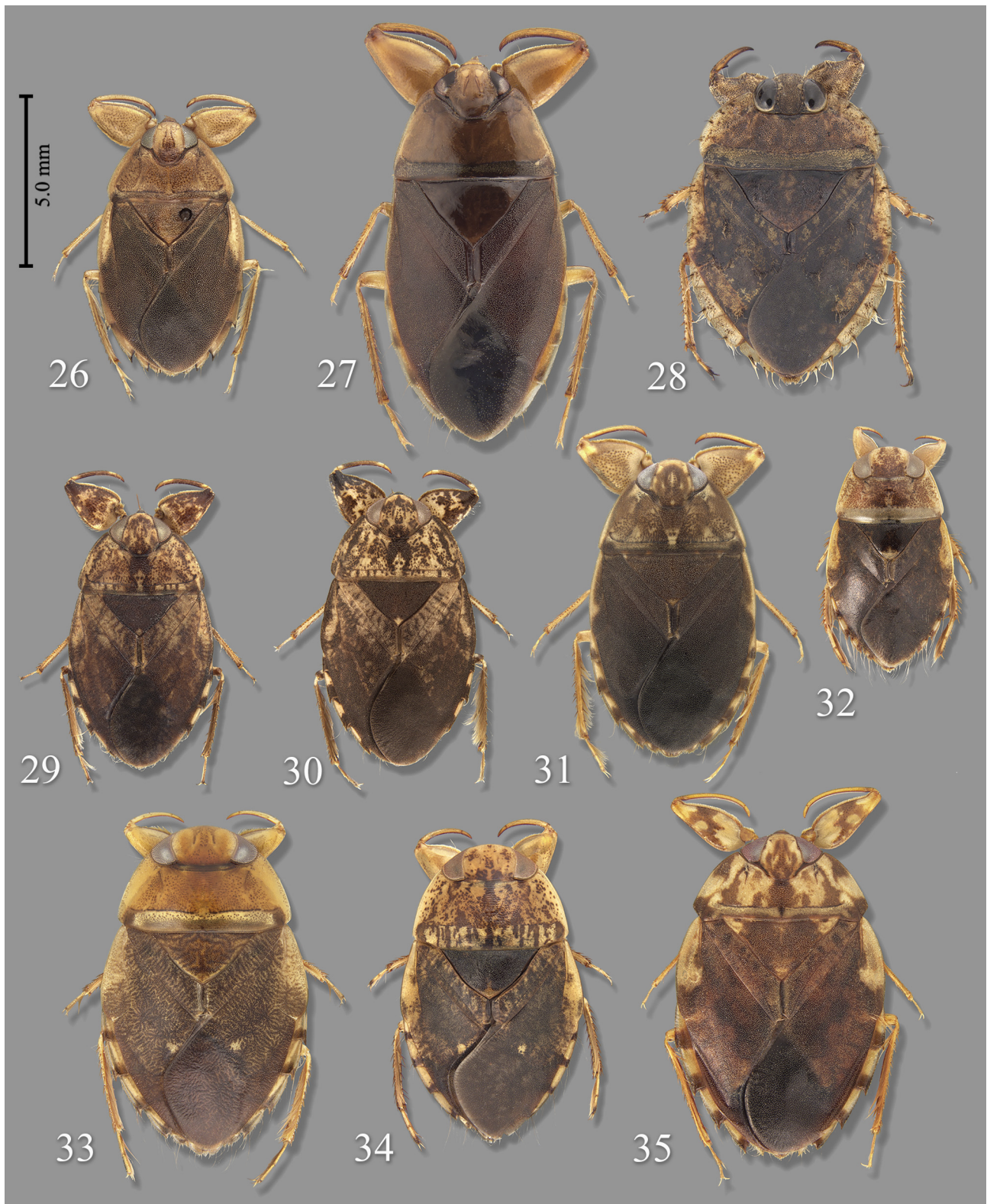
Diagnosis. This species has a highly polished dorsal appearance. The hemelytra are dark-brown to black (Fig. 32) and the mesofemur posterodorsal margin is flattened and fringed with a dense brush-line of hairs.

Distribution. This species is known from only the Guiana Shield from Venezuela east to French Guiana. It has not been collected in Suriname. This is the first record of this species from French Guiana.

Published records. Guyana, Venezuela (Sites and Camacho 2014).

Material examined. FRENCH GUIANA: Pripri Karouabo, Spatial Center swamp, 5.21263, -52.78609, 22 December 2016, S. Clavier (1, HRC); hwy 1, ~2.3 km SE Cayenne River, N04.89170, W52.34.563, elev. 12 m, D. Post (1, UMC).

Discussion. The genus *Placomerus* was recently transferred from the subfamily Naucorinae to Ilyocorinae (Sites 2022, 2023a). This genus contains only two species: *P. obscuratus* and *P. micans* La Rivers, 1956; the latter is known from southern South America with the type locality in Paraguay. Both species are known to be lentic, with a typical habitat as a vegetated pond, but it has also been recorded from seepage pools, grassy flooded areas, isolated forest pool, rock pool, a pool in a culvert, and shallow backwaters (Sites and Camacho 2014). This species is represented in museum collections by very few specimens.



FIGURES 26–35. Dorsal habitus. 26, *Australambryus clavieri*. 27, *Australambryus partridgei*. 28, *Hygropetrocoris guyana*. 29, *Maculambryus scolius*. 30, *Maculambryus tricuspis*. 31, *Maculambryus stali*. 32, *Placomerus obscuratus*. 33, *Pelocoris bipunctulus*. 34, *Pelocoris poeyi*. 35, *Picrops usingeri*. Scale bar pertains to all figures.

Limnocoerinae Stål, 1876

Genus *Limnocoeris* Stål, 1860

This is the most speciose of the subfamilies and most deserving of the common name ‘saucer bugs’ because these are among the most rounded insects in the family. Other than body shape, the most distinctive attribute of members of this subfamily is the presence of a median carina on both the mesosternum and metasternum. This subfamily is represented by only a single genus, *Limnocoeris*. The *Limnocoeris* fauna has been the subject of a multi-part, geographically organized revision, including for North America (Rodrigues and Sites 2019) the tropical Andes (Rodrigues and Sites 2021), the Guyana Shield and Amazon region (Rodrigues and Sites 2023), with a southern South America final treatment in preparation. Currently, 75 species are known.

Limnocoeris burmeisteri De Carlo

(Figs. 36, 44)

Limnocoeris burmeisteri De Carlo, 1967: 197–198 (original description).

Limnocoeris bachmanni De Carlo, 1967: 198–199 (synonymized by Nieser and López-Ruf 2001).

Limnocoeris lautereri Nieser, Chen and Melo, 2013: 336–341 (synonymized by Rodrigues and Sites 2023).

Diagnosis. *Limnocoeris burmeisteri* is 5.65–7.40 mm in length. This species of *Limnocoeris* can be distinguished from *L. pusillus* and *L. illiesi* by the mesosternum with a row of elongate, golden setae flanking the mid-ventral carina (as in Fig. 1). It can be distinguished from *L. menkei* and *L. surinamensis* by the higher number of lateral serrations (19–23) of abdominal tergum V and the absence of dark-brown spots laterally on the abdominal venter. The contrast and profusion of the dark mottling of the dorsal color pattern (Fig. 36) is variable.

Distribution. *Limnocoeris burmeisteri* occurs across the Guiana Shield from Venezuela to French Guiana and south to the Brazilian states of Mato Grosso and Tocantins (Rodrigues and Sites 2023). This is the first record of *L. burmeisteri* from French Guiana.

Published records. Brazil (De Carlo 1967, Pereira and Melo 2007, Nieser *et al.* 2013; Cunha *et al.* 2015), Suriname (Nieser 1975), Venezuela (Moreira *et al.* 2016).

Type material examined. HOLOTYPE, ♂: BRAZIL, Amazonas, Amazonasgebiet, Ob. Rio Negro, Jandia-Ig., 19.9.52, leg. H. Sioli, S266-b, Holotypus, *Limnocoeris burmeisteri* De Carlo (ZSMC). PARATYPES: same data as holotype (2♂♂, 1♀ ZSMC).

Other material examined. FRENCH GUIANA: Crique Petit, N5°24'51.9" W53°6'12.9", 14 Dec. 2010, S. Le Reun (1♂ UMC); Crique Toussaint, 5.31073, -53.04845, 9 November 2015, D. Bouvier (1♂, 2♀♀ UMC); Carbet IRD, trib. Cr. Tousaint, 26 m, N5.29309°, W53.05094°, 1 November 2022, W.D. Shepard leg., WDS-A-2190 (1♂, 1♀ UMC); trib. Crique Toussaint at Carbet Communal, Rt de St. Elie, 5.29649°N, 53.05218°W, 45 m, 2 March 2019, coll: D. Post (2♂♂, 1♀ UMC); unnamed stream, Carbet Communal, 5.2965°N, 53.0522°W, 2 March 2019, W.D. Shepard WDS-A-2132 (11♂♂, 2♀♀ UMC); National Reserve Les Nouragues, Crique Sassa, 3.98205, -52.58526, 22 April 2022, S. Clavier (2♀♀ UMC); Forêt des Sables Blancs Park, 5.53636, -53.56092, 24 m, 3 March 2020, A. Short, sandy blackwater strm margin, FG20-0303-03B (2♂♂ UMC); unnamed strm Sentier Sable Blanc, N5°32'11.1", W53°33'40.6", 54 m, 18 March 2020, S. Clavier (2♂♂ UMC); Crique Anguille, Bagne des Annamites Park, 4.83287, -52.5145, 17 m, 7 March 2020, Short and Neff, FG20-0307-01B, sandy stream w/ detritus (1♂ UMC); Savane Roche Virginie, 4.1883, -52.13982, 64 m, 10 March 2020, Short and Neff, margins in trib of Cr. Chauvre-souris, FG20-0310-01A (1♀ UMC); same data, FG20-0310-01B (1♀ UMC); Sinnamary, near Petit Saut, trib to Sinnamary River, Crique Mamon Léopard, N05°04.072' W52°59.878', 50 m, 30 October 2016, W.D. Shepard WDS-A-2044 (1♂ UMC); trib to Crique Macouria, SW off N2, 25 m, Rte. de Saut Léodate, 4°59.28'N, 52°35.70'W, 14 March 2019, W.D. Shepard WDS-A-2152 (16♂♂, 13♀♀, 22 nymphs UMC); same data, coll: D. Post (4♂♂, 1♀, 1 nymph UMC); unnamed trib. to Crique Macouria at Ave de Wayabo, 24 Oct. 2022, D. Post (1♀ UMC); WSW Macouria, Crique Matiti, 25 m, N4.98797°, W52.59492°, 24 October 2022, W.D. Shepard leg., WDS-A-2181 (2♀♀, 1 nymph UMC); trib. to Crique Matiti, 3 m, N4°59'16.8", W52°35'42.3", 14 March 2019, S. Clavier (1♀ UMC); Reserve La Trinité, Crique Aya, 123 m, N4.60297°, W53.41490°, 10 November 2022, W.D. Shepard leg., WDS-A-2197 (2♂♂, 1 nymph UMC); La Trinité Réserve, Crique Aya, Inselberg Trail, 1.3 km from camp, 9 November

2022, D. Post (2♀♀ UMC); Crique Baboune, RNN La Trinité, 4.584157, -53.40563, 8 November 2018, S. Clavier (1♂ UMC); ca. 8 km NNW of Saül, Crique a l'Est, N03° 39'46.04", W53° 13'24.78", 156 m, 10 November 2016, R.W. Sites, gravel riffles and veg margins, L-1956 (16♂♂, 12♀♀, 21 nymphs UMC); Crique à l'Est, 3.66337, -53.22191, 28 October 2015, S. Clavier (2♂♂ UMC, 1♂ ORC); Crique á l'Est, N03.66383°, W53.22193°, elev. 156 m, 8 November 2016, W.D. Shepard leg., WDS-A-2051 (1♂, 1♀, 7 nymphs UMC); same locality, 28 October 2009, S. Clavier (1♂ UMC); Eau Claire trib. to Petit Leblond, N4°41'06.8", W53°23'52.6", 130 m, 7 November 2020, S. Clavier (2♀♀ UMC); Malmanoury, 15 m, N5°09'35.9", W52°53'35.5", 11 March 2019, S. Clavier (1♀ UMC); Hwy N1, Crique Malmanoury, 5°09.60'N, 52°53.59'W, elev 36 m, 11 March 2019, W.D. Shepard WDS-A-2147 (2♂♂, 2♀♀, 1 nymph UMC); crique at Carbet IRD, 5.33800°N, 53.06766°W, 24 m, 3 March 2019, W.D. Shepard WDS-A-2135 (2♂♂, 1♀, 2 nymphs UMC); same data, coll: D. Post (1♂, 1♀ UMC); nr. Montagne de Fer, Crique Mammon Valentin, 5°20.33'N, 53°39.36'W, 21 m, 5 March 2019, W.D. Shepard WDS-A-2139 (2♂♂, 2♀♀, 1 nymph UMC); Crique Morpio, Hwy N1 W of Iracoubo, N5°29.41', W53°18.24', elev. 11 m, 4 March 2019, W.D. Shepard leg., WDS-A-2136 (22♂♂, 12♀♀, 45 nymphs UMC); same data, above swimming area, coll: D. Post (17♂♂, 2♀♀, 1 nymph UMC); Crique Cariacou, 5°17.88'N, 53°57.68'W, 44 m, 8 March 2019, W.D. Shepard WDS-A-2144 (2♂♂ UMC); trib. to Crique des Cascades, N5°20'47.0", W54°06'19.3", 15 m, 7 March 2019, S. Clavier (2♀♀ UMC); trib. to Crique des Cascades, N5°20'79", W54°06'33", 54 m, 7 March 2019, W.D. Shepard WDS-A-2143 (2♂♂, 4♀♀, 2 nymphs UMC); Montagne de Fer, tributary to Crique Florian, N5°17.85', W53°31.47', elev. 86 m, 6 March 2019, W.D. Shepard leg., WDS-A-2140 (2♂♂ UMC); same data, coll: D. Post (1♀ UMC); Montagne de Fer, trib. to Crique Laussat, N5°24.49', W53°34.89', elev. 43 m, 6 March 2019, W.D. Shepard leg., WDS-A-2142 (2♀♀ UMC); same data, coll: D. Post (1♂ UMC); L'Organabo, 16 m, Crique l'Organabo, 16 m, 5°32.93'N, 53°28.165'W, 4 March 2019, W.D. Shepard, WDS-A-2137 (1♀ UMC); St. Laurent du Maroni, Sentier des Malgaches (c. 15 km SW), Crique de Cascades, 5.34552, -54.10539, 17 m, 4 March 2020, leg. Short and Neff, stream margin, FG20-0304-02A (17♂♂, 8♀♀ UMC).

Discussion. This is the most common species of *Limnocois* in French Guiana. Its typical habitat is among gravel in streams with moderate current. We have collected it together with *Maculambrysus stali* at multiple localities, including Saül, national reserve La Trinité, Crique des Cascades, and Montagne de Fer.

Limnocois illiesi De Carlo

(Figs. 5, 37, 44)

Limnocois illiesi De Carlo, 1967: 192–193 (original description).

Diagnosis. This is the smallest species of *Limnocois* in French Guiana with a body length of 4.40–5.44 mm. It may be further distinguished from *L. burmeisteri*, *L. menkei*, and *L. surinamensis* by the mesosternal carina not flanked by a line of elongate golden setae. It can be distinguished from *L. pusillus* by abdominal sternum II without a patch of golden setae, smaller body size, female subgenital plate broadly rounded to almost straight (Fig. 5), and the median ridge of the mesosternal carina is without a tuft of hairs (see Rodrigues and Sites 2021). Further, the dorsum is patterned with boldly contrasting dark-brown on yellow ground color (Fig. 37).

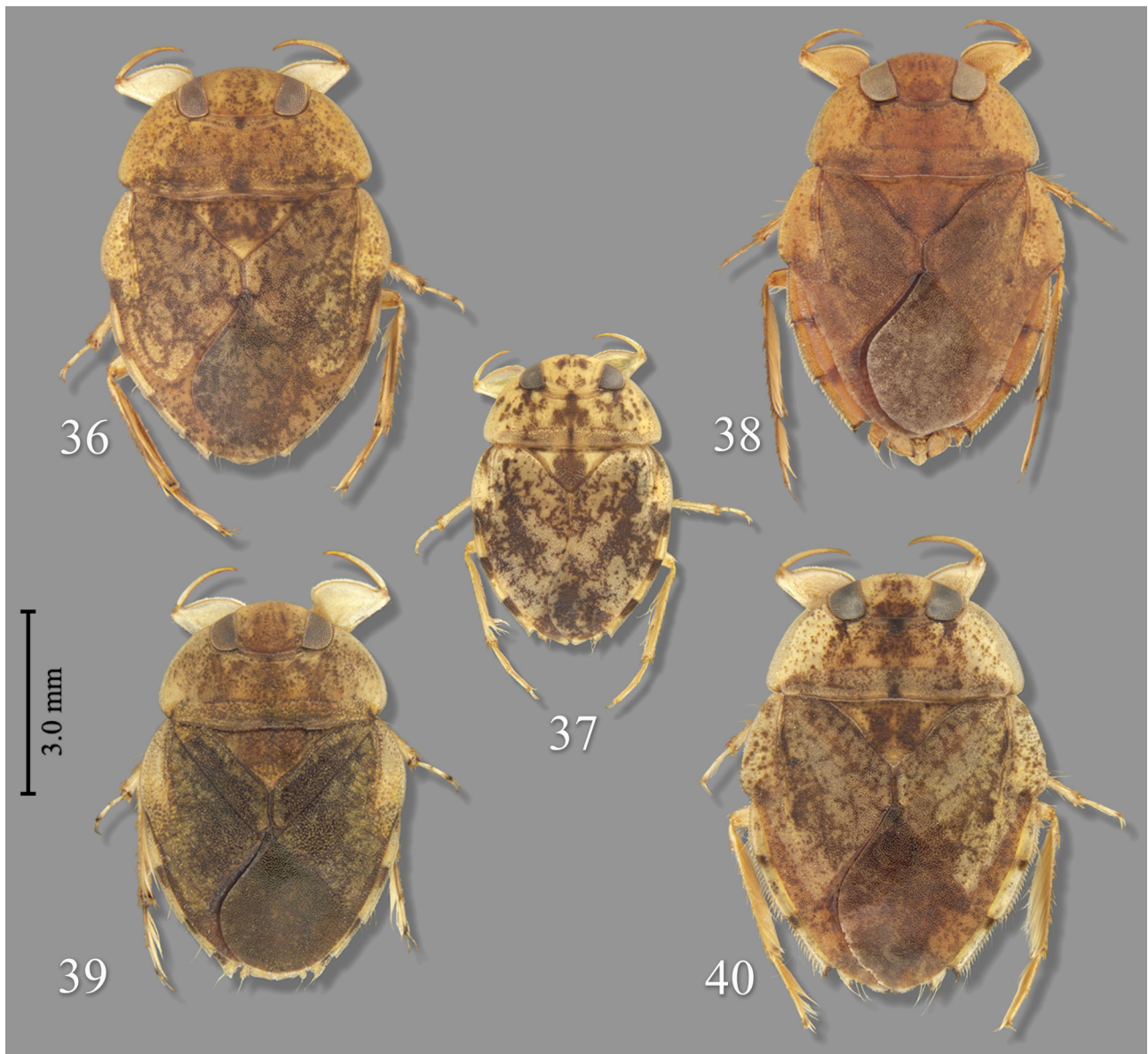
Distribution. This species is known from below the eastern flanks of the Andes in the llanos of Colombia east in Brazil to Amazonas, Mato Grosso, and Minas Gerais. Nieser (1975) correctly predicted that this species might occur in the Guyana region. This is the first record of *L. illiesi* from French Guiana.

Published records. Brazil (De Carlo 1967, Nieser and Melo 1997, Nieser and Lopez-Ruf 2001, Pereira and Melo 2007, Rodrigues and Sites 2021), Colombia (Rodrigues and Sites 2021).

Type material examined. HOLOTYPE ♂: [BRAZIL], Amazonasgebiet, Rio Marauia, 3.2.63, leg. E.J. Fittkau, coll. Amazonas, 1960/3, A508 (ZSMC). PARATYPE: Amazonasgebiet, Rio Marauia, 28 1 63, leg. E.J. Fittkau, coll. Amazonas 1960/3, A501 (1♀ allotype, ZSMC).

Other material examined. FRENCH GUIANA: Sinnamary, Saut Dalles, 4.55591, -52.90093, 13 July 2015, roots, D. Bouvier (1♀ UMC).

Discussion. In Colombia, this tiny species was reported to occur in fine rootmats extending into the current from riparian vegetation (Rodrigues and Sites 2021). The French Guiana specimen reported here was also collected from roots.



FIGURES 36–40. Dorsal habitus. 36, *Limnocoris burmeisteri*. 37, *Limnocoris illiesi*. 38, *Limnocoris menkei*. 39, *Limnocoris pusillus*. 40, *Limnocoris surinamensis*. Scale bar pertains to all figures.

***Limnocoris menkei* La Rivers**

(Figs. 1–2, 7, 9, 38, 44)

Limnocoris menkei La Rivers, 1962b: 195–196 (original description).

Limnocoris birabeni De Carlo, 1967: 193–194 (synonymized by Rodrigues and Sites 2023).

Limnocoris bruchi De Carlo, 1967: 194–195 (synonymized by Rodrigues and Sites 2023).

Diagnosis. This species was reported as 6.88–7.44 mm in length (Rodrigues and Sites 2023); our specimens measure 6.64–7.04 mm. It may be distinguished from *L. pusillus* and *L. illiesi* by the mesosternal carina flanked by a line of elongate golden setae (Fig. 1), and from *L. burmeisteri* by the presence of dark-brown spots near the lateral margins of the abdominal sterna (as in Figs. 2, 6) and the smaller number of lateral serrations (11–14) of abdominal tergum V (as in Fig. 6). It is most similar to *L. surinamensis* and can be distinguished from it by the mostly straight, convergent lateral margins of the labrum (Fig. 7) and the female subgenital plate, which has straight or shallowly convex lateral margins and a broadly rounded posterior margin (Fig. 9). The posteriormost lateral serrations of sterna III and IV are pale-brown to dark-brown.

Distribution. This species has a broad and scattered distribution across the northern half of South America. It is known in the east from the Brazilian state of Rio Grande do Norte, west across Brazil to southern Peru, and across the Guiana Shield in French Guiana and Venezuela. This is the first record of *L. menkei* from French Guiana; it was collected on the border with Suriname (Fig. 44).

Published records. Brazil (De Carlo 1967; Rodrigues and Sites 2021, 2023), Peru (Rodrigues and Sites 2021, 2023), Venezuela (La Rivers 1962; Rodrigues and Sites 2021, 2023).

Type material examined. VENEZUELA, Monagas, July 3, 1958, 42 kms SE Maturin, Arnold Menke, *Limnocoris menkei* n. sp., *Limnocoris menkei* Paratype, Ira La Rivers Collection, Bequeathed to the California Academy of Sciences, 1978 (2♂ CAS).

Other material examined. FRENCH GUIANA: Twenké, Lawa, 3.35942, -54.05468, 29 September 2011, M. Rhone, roots (4♂♂, 1♀ UMC); same data, 28 May 2017 (1♂ UMC); Pikin Tabiki, Marouini, N3°17'46.1", W54°4'6.6", 3 October 2015, coll. S. Clavier (1♂, 1♀ UMC).

Discussion. No information exists in the literature concerning the habitat of this species. The collection from Twenké in French Guiana is labeled as having been collected from roots; thus, possibly this species occurs among marginal debris rather than in the gravel streambed.

***Limnocoris pusillus* Montandon**

(Figs. 3–4, 39, 44)

Limnocoris pusillus Montandon, 1897: 7–8 (original description).

Limnocoris mansosotoi De Carlo, 1951: 45–46 (synonymized by Nieser and López-Ruf 2001).

Limnocoris vianai De Carlo, 1967: 186–187 (synonymized by Nieser and López-Ruf 2001).

Diagnosis. This species is 5.70–7.00 mm in length. It may be further distinguished from *L. burmeisteri*, *L. menkei*, and *L. surinamensis* by the mesosternal carina not flanked by a line of elongate golden setae. It can be distinguished from *L. illiesi* by abdominal sternum II with a patch of golden setae (Fig. 3), larger body size, and the median ridge of the mesosternal carina has a tuft of hairs directed toward the fossa (see Fig. 1D in Rodrigues and Sites 2023). Further, the dorsum is patterned with moderately well-defined, mottled dark-brown on yellow ground color (Fig. 39), although the color and extent of the pattern is variable.

Distribution. This species occurs throughout much of South America from southern Brazil and Argentina north to French Guiana and Venezuela.

Published records. Argentina (Nieser and Lopez Ruf 2001); Bolivia (De Carlo 1951), Brazil (Montandon 1897, De Carlo 1967, Nieser and Melo 1997, Nieser and Lopez Ruf 2001, Melo and Nieser 2004, Souza *et al.* 2006, Rodrigues and Sites 2021); Colombia (Roback and Nieser 1974, Rodrigues and Sites 2021); Paraguay, Peru (Rodrigues and Sites 2021); Venezuela (Rodrigues and Sites 2021).

Material examined. FRENCH GUIANA: Saut Sonnelle, Petit Inini, N3°39'36.4", W53°57'44.7", 20 Sept. 2011, S. Clavier (1♂ UMC; 1♀ ORC).

Discussion. This species occurs among gravel and rocks in the streambed in slow to moderate current. This is the first record of *L. pusillus* from French Guiana; it was collected on the border with Suriname (Fig. 44).

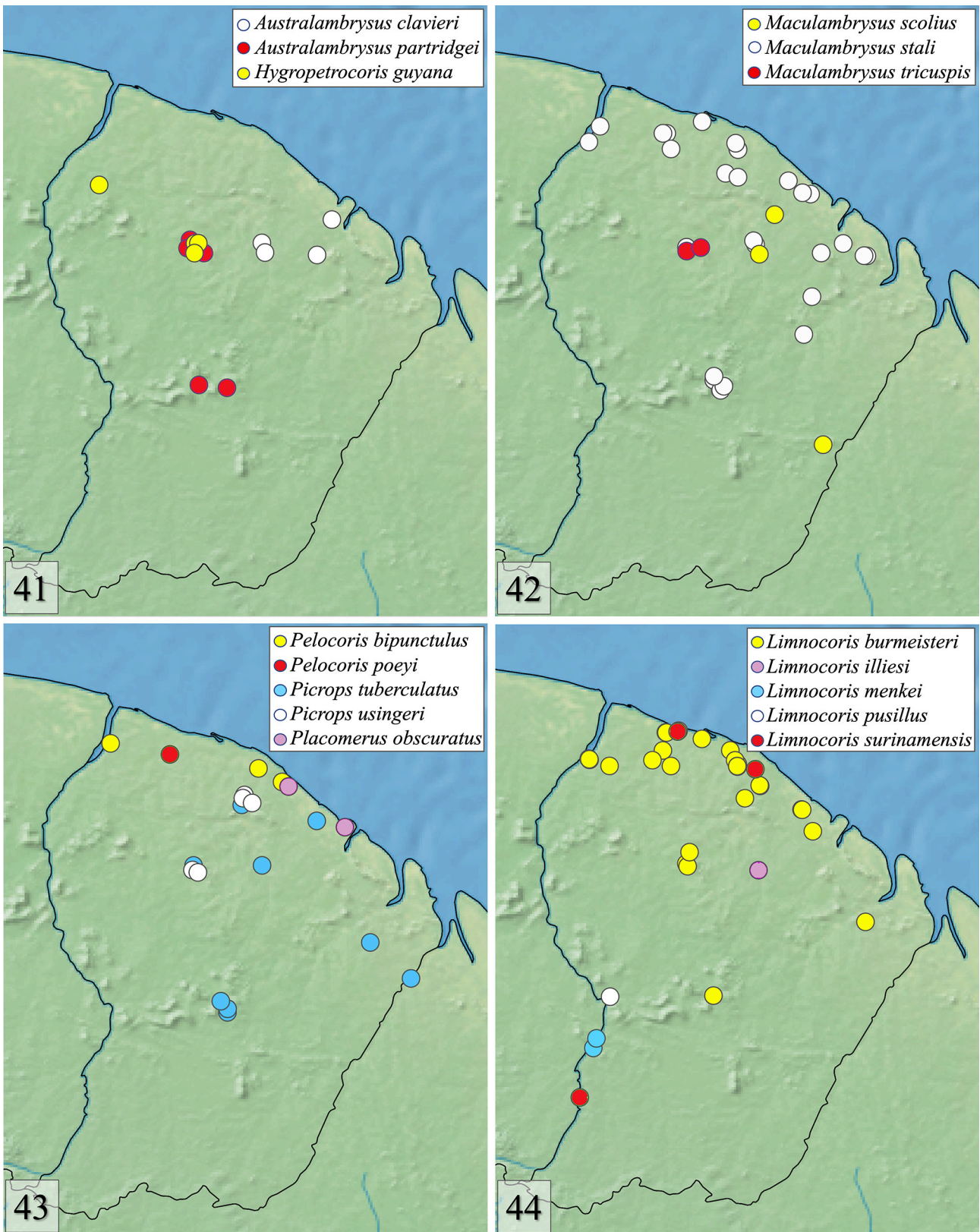
***Limnocoris surinamensis* Nieser**

(Figs. 6, 8, 10, 24–25, 40, 44)

Limnocoris fittkaui surinamensis Nieser, 1975: 70–72 (original description).

Limnocoris surinamensis: Rodrigues and Sites 2023: 68–70 (status change).

Description. *Male—hindwing brachypterous*: Abdominal tergum VI asymmetrical. Mediotergite VI with accessory genitalic process narrowly rounded and with arcuate anterior margin (Fig. 24). Mediotergite VII with posterior margin slightly asymmetrical, distinctly convex (Fig. 24). Lateral lobe of tergum VII with mesal margin shallowly concave (Fig. 24). Lateral lobe of tergum VIII broad with lateral margin nearly straight in anterior half, broadly rounded to nearly straight distal half, with profuse brushes of hairs laterally and medially; left medial lobe angled laterally at apex, with apex heavily sclerotized and angulate; right medial lobe with slight twist in distal half, heavily sclerotized apex directed posterolaterad (Fig. 25).



FIGURES 41–44. Distribution records of species of Naucoridae in French Guiana.

Diagnosis. This species has been reported to be 7.35–8.10 mm in length (Rodrigues and Sites 2023); however, our specimens are slightly smaller, measuring 6.88–7.28 mm. It may be distinguished from *L. pusillus* and *L. illiesi* by the mesosternal carina flanked by a line of elongate golden setae (as in Fig. 1), and from *L. burmeisteri* by the

presence of dark-brown spots near the lateral margins of the abdominal sterna and the smaller number of lateral serrations (11–14) of abdominal tergum V (Fig. 6). It is most similar to *L. menkei* and can be distinguished from it by the shallowly concave, convergent lateral margins leading to a narrowly rounded apex of the labrum (Fig. 8) and the female subgenital plate, which has shallowly concave lateral margins in the anterior 2/3 and a narrowly rounded apex (Fig. 10). The posteriormost lateral serrations of sterna III and IV are never brown.

Distribution. This species is distributed in the northeastern corner of South America from Amapá state in Brazil across French Guiana to Suriname.

Published records. Brazil (Rodrigues and Sites 2023), Suriname (Nieser 1975).

Material examined. FRENCH GUIANA: Crique Organabo, 12 m, N5°32'56.0", W53°28'6.6", 15 Oct. 2019, S. Clavier (2♀ UMC); Paracou, N5°16'47.0", W52°55'41.7", elev. 5 m, 6 March 2020, S. Clavier (1♂ UMC); Apsik Icholi, Alitani, 2.93910, -54.17311, 20 October 2017, S. Clavier (1♀ UMC).

Discussion. This is the first record of *L. surinamensis* from French Guiana.

Acknowledgments

We thank Doug Post (California Department of Fish and Wildlife, Sacramento), Axel Cerdan (Hydreco Guyane), Andrew Short (University of Kansas, Lawrence), and Erlane Cunha (Universidade Federal do Pará, Belém) for graciously sharing specimens. We are also grateful to Cheryl Barr (University of California—Berkeley) for sharing data. We thank Laboratoire Environnement Hydreco, Kourou, French Guiana, for providing access to facilities, specimens, and protected areas under their control, especially Régis Vigouroux. Park Amazonien de Guyane and national reserves La Trinité, des Nouragues, are thanked, especially Luc Ackermann, from the Office National des Forêts, manager of the national reserve La Trinité. Numerous new records occurred during surveys conducted under the Water Framework Directive and the Petit-Saut dam monitoring. Office de l'Eau de Guyane, and EDF Guyane also are thanked. Higor D.D. Rodrigues (Instituto Oswaldo Cruz, Rio de Janeiro) kindly provided a critical review of this paper.

Literature Cited

- Araujo, Y. and P. Beserra. 2007. Biodiversidad de invertebrados consumidos por las etnias Yanomani y Yekuana del Alto Orinoco, Venezuela. *Interciencia* 32(5): 318–323.
- Berg, C. 1879. Hemiptera Argentina. *Enumeravit speciesque novas. Bonariae, Coni and Hamburg, Frederking et Graf.* 316 pp. <http://doi.org/10.5962/bhl.title.36493>.
- Cunha, E. J., L. F. A. Montag, and L. Juen. 2015. Oil palm crops effects on environmental integrity of Amazonian streams and Heteropteran (Hemiptera). species diversity. *Ecological Indicators* 52: 422–429. <http://doi.org/10.1016/j.ecolind.2014.12.024>
- De Carlo, J. A. 1951. Género *Limnocris* Stal (Hem. Naucor.). *Misión de Estudios de Patología Regional Argentina* 22: 41–51.
- De Carlo, J. A. 1966. Un nuevo género y nuevas especies de las subfamilias Limnocrinae y Ambrysiniae (Hemiptera, Naucoridae). *Revista de la Sociedad Entomológica Argentina* 28: 111–117.
- De Carlo, J. A. 1967. Una nueva especie del género *Ranatra* y nuevas especies de Naucoridae. *Amazoniana* 1: 189–200.
- De Carlo, J. A. 1968 (1967). Descripción de especies nuevas de los generos *Ambrysus*, *Cryphocricos* y *Heleocoris*. Allotypus de *Cryphocricos daguerrei* (Hemiptera - Naucoridae). *Revista de la Sociedad Entomológica Argentina* 30: 99–104.
- Guérin-Méneville, F. E. 1829–1844. *Iconographie du règne animal de G. Cuvier, ou représentation d'après nature de l'une des espèces les plus remarquables, et souvent non encore figurées, de chaque genre d'animaux. Avec un text descriptif mis au courant de la science. Ouvrage pouvant servir d'atlas a tous les traites de zoologie.* Baillièrre, Paris. 576 pp. + 104 Insectes plates. <https://doi.org/10.5962/bhl.title.6255>
- Herrich-Schäffer, G. A. W. 1849–1853. *Die Wanzenartigen Insecten. Getreu nach der Natur abgebildet und beschrieben.* Vol. 9: 1–44 (1849); 45–256 (1850); 257–358 (1851); ["historischer übersicht" und "index"] 1–210 (1853). J. L. Lotzebeck, Nürnberg.
- La Rivers, I. 1952. A new subgenus of *Ambrysus* from South America (Hemiptera: Naucoridae). *Entomological News* 63: 33–39.
- La Rivers, I. 1956. A new genus and species of naucorid from South America (Hemiptera). *Entomological News* 67: 237–245.
- La Rivers, I. 1962a. A new *Ambrysus* from South America (Hemiptera, Naucoridae). *Bulletin of the Southern California Academy of Sciences* 61(3): 185–187.

- La Rivers, I. 1962b. A new *Limnocoris* from Venezuela (Hemiptera: Naucoridae). *Proceedings of the Entomological Society of Washington* 64(3): 195–196.
- La Rivers, I. 1970. A new *Ambrysus* from Venezuela (Hemiptera, Naucoridae). *The Great Basin Naturalist* 30(1): 1–4. <https://doi.org/10.5962/bhl.part.5887>
- La Rivers, I. 1971. Studies of Naucoridae (Hemiptera). *Biological Society of Nevada Memoirs*. 2. iii + 120 pp.
- La Rivers, I. 1974. Catalogue of taxa described in the family Naucoridae (Hemiptera) supplement no. 1: Corrections, emendations and additions, with descriptions of new species. *Biological Society of Nevada Occasional Papers* 38: 1–17.
- La Rivers, I. 1976. Catalogue of taxa described in the family Naucoridae (Hemiptera) Supplement 2. *Biological Society of Nevada Occasional Papers* 41: 1–17.
- La Rivers, I. and Nieser, N. 1972. The *Ambrysus* of Surinam, with the description of a new species, *A. bifidus* (Hemiptera, Naucoridae). *Biological Society of Nevada Occasional Papers* 29: 1–8.
- Lopez Ruf, M. L. 1987. Nuevas citas para la Argentina de especies de Limnecoridae y Naucoridae (Heteroptera). *Physis* 45(109): 76.
- López Ruf, M. L. 2007. Notas sobre Naucoroidea (Hemiptera: Naucoridae). 3ra. Serie. Estudios con microscopio electrónico de barrido: Corion de los huevos de *Ambrysus* (*Ambrysus*) *attenuatus* Montandon, *Ambrysus* (*Ambrysus*) *acutangulus* Montandon y *Ambrysus* (*Ambrysus*) *stali* La Rivers. *Lundiana* 8(1): 9–12. <https://doi.org/10.35699/2675-5327.2007.23168>.
- López Ruf, M. L. and N. Nieser. 1999. Synonymical note on *Pelocoris bipunctulus* Herrich-Schäffer (Heteroptera: Naucoridae). *Neotrópica* 113–114: 44.
- Mazzucconi, S. A., M. López Ruf, and A. O. Bachmann. 2009. Gerromorpha y Nepomorpha (Insecta: Heteroptera) del Parque Provincial Salto Encantado del Valle del Cuña Pirú, Provincia de Misiones, Argentina. *Lundiana* 9(1): 57–66 (2008). <https://doi.org/10.35699/2675-5327.2008.23215>.
- Melo, A. L. de and N. Nieser. 2004. Faunistical notes on aquatic Heteroptera of Minas Gerais (Brazil): an annotated list of Gerromorpha and Nepomorpha collected near Januária, MG. *Lundiana* 5(1): 43–49. <https://doi.org/10.35699/2675-5327.2004.21901>.
- Montandon, A. L. 1895. Viaggio del Dott. A. Borelli nella Republica Argentina e nel Paraguay. XVIII. Hémiptères Hétero-ptères. Première liste et descriptions d'espèces nouvelles. *Bolletino dei Musei di Zoologia ed Anatomia Comparata della Reale Università di Torino* 10: 1–10. <https://www.biodiversitylibrary.org/page/43066319#page/223/mode/1up>.
- Montandon, A. L. 1897. Hemiptera Cryptocerata. Révision de le s. fam. 'Limnecorinae'. *Bollettino dei Musei di Zoologia ed Anatomia Comparata della Reale Università di Torino* 12: 1–8.
- Montandon, A. L. 1898. Hemiptera Cryptocerata. Notes et descriptions d'espèces nouvelles. *Bulletin de la Société des Sciences de Bucarest – Roumanie* 7: 282–290. <https://www.jstor.org/stable/43770319>.
- Montandon, A. L. 1905. Trois nouvelles espèces d'Hémiptères Cryptocérates des collections du Musée National Hongrois. *Annales Musei Nationalis Hungarici* 3: 403–406. <http://publication.nhmu.hu/annales/cikkreszletes.php?idhoz=76>.
- Moreira, F. F. F., J. F. Barbosa, J. R. I. Ribeiro, and V. P. Alecrim. 2011. Checklist and distribution of semiaquatic and aquatic Heteroptera (Gerromorpha and Nepomorpha) occurring in Brazil. *Zootaxa* 2958: 1–74. <https://doi.org/10.11646/zootaxa.2958.1.1>
- Moreira, F. F. F., H. D. D. Rodrigues, J. F. Barbosa, B.R. Klementova, and M. Svitok. 2016. New records of Gerromorpha and Nepomorpha (Insecta: Hemiptera: Heteroptera) from South America. *Biodiversity Data Journal* 4: e7975. <https://doi.org/10.3897/BDJ.4.e7975>
- Nieser, N. 1969. The Heteroptera of the Netherlands Antilles – VIII Pleidae, Naucoridae, Ranatridae. *Studies on the Fauna of Curaçao and other Caribbean Islands* 30: 58–71. <https://repository.naturalis.nl/pub/506122>
- Nieser, N. 1975. The water bugs of the Guyana region. *Studies on the fauna of Suriname and Other Guyanas* 59: 1–310. https://doi.org/10.1007/978-94-017-7118-4_1
- Nieser, N. and A. L. Melo. 1997. Os Heterópteros Aquáticos de Minas Gerais – Guia Introdutório com Chave de Identificação para as Espécies de Nepomorpha e Gerromorpha. Ed. UFMG, Belo Horizonte. 180 pp.
- Nieser, N. and M. Lopez Ruf. 2001. A review of *Limnocoris* Stål (Heteroptera: Naucoridae) in southern South America east of the Andes. *Tijdschrift voor Entomologie* 144: 261–328. <https://doi.org/10.1163/22119434-900000091>.
- Nieser, N., P.-p. Chen, and A. L. de Melo. 2013. A new species and new synonymy in *Limnocoris* (Hemiptera: Heteroptera: Naucoridae) from Brazil. *Acta Musei Moraviae, Scientiae Biologicae* (Brno) 98(2): 335–346. http://www.ambiol.com/fileadmin/user_upload/20Nieser_et_al.pdf.
- Pereira, D. V. and A. L. de Melo. 2007. Heterópteros (Insecta) aquáticos e semi-aquáticos de Pitinga, Amazonas, Brasil. *Acta Amazonica* 37(4): 643–648. <https://doi.org/10.1590/S0044-59672007000400021>.
- Reynoso-Velasco, D. and R. W. Sites. 2021. Molecular phylogeny and revised classification of the New World subfamily Cryphocricinae, including the reinstatement of Ambryinae (Insecta: Hemiptera: Heteroptera: Nepomorpha: Naucoridae). *Systematic Entomology* 46: 900–914. <https://doi.org/10.1111/syen.12501>.
- Roback, S.S. and N. Nieser. 1974. Aquatic Hemiptera (Heteroptera) from the llanos of Colombia. *Proceedings of the Academy of Natural Sciences of Philadelphia* 126: 29–49. <https://www.jstor.org/stable/4064729>.
- Rodrigues, H. D. D. and R. W. Sites. 2019. Revision of *Limnocoris* (Heteroptera: Nepomorpha: Naucoridae) of North America. *Zootaxa* 4629(4): 451–497. <https://doi.org/10.11646/zootaxa.4629.4.1>
- Rodrigues, H. D. D. and R. W. Sites. 2021. Revision of *Limnocoris* Stal (Heteroptera: Nepomorpha: Naucoridae) of the tropical Andes. *Zootaxa* 4986(1): 1–93. <https://doi.org/10.11646/zootaxa.4986.1.1>

- Rodrigues, H. D. D. and R. W. Sites. 2023. Revision of *Limnocoris* Stål (Hemiptera: Nepomorpha: Naucoridae) of the Guiana Shield and Amazon regions. *Zootaxa* 5284(1): 44–76. <https://doi.org/10.11646/zootaxa.5284.1.2>.
- Shorthouse, D. P. 2010. SimpleMapppr, an online tool to produce publication-quality point maps. (<http://www.simplemapppr.net>) [Last accessed 4 November 2022].
- Sites, R. W. 1990. Naucorid records from Amazonian Ecuador. *Florida Entomologist* 73(2): 334–335. <https://doi.org/10.2307/3494819>
- Sites, R. W. 1991. Egg ultrastructure and descriptions of nymphs of *Pelocoris poeyi* (Guérin-Méneville) (Hemiptera: Naucoridae). *Journal of the New York Entomological Society* 99(4): 622–629. <https://www.jstor.org/stable/25009927>.
- Sites R. W. 2015. New taxa of Cryphocricinae (Hemiptera: Naucoridae) from the Guiana Shield: *Hygropetrocoris* Sites, n. gen. and two new species of *Ambrysus* Stål. *Zootaxa* 4033(3): 427–438. <https://doi.org/10.11646/zootaxa.4033.3.7>.
- Sites, R. W. 2022. Phylogeny and revised classification of the saucer bugs (Hemiptera: Nepomorpha: Naucoridae). *Zoological Journal of the Linnean Society* 195: 1245–1286. <https://doi.org/10.1093/zoolinnean/zlab105>.
- Sites, R. W. 2023a. Nomenclatural updates to the taxonomy of Naucoridae (Hemiptera: Heteroptera). *Zootaxa* 5244(4): 399–400. <https://doi.org/10.11646/zootaxa.5244.4.7>.
- Sites, R. W. 2023b. The *Australambrysus plax* (La Rivers) species complex (Hemiptera: Naucoridae), with descriptions of three new species. *Zootaxa* 5278(2): 318–332. <https://doi.org/10.11646/zootaxa.5278.2.5>.
- Sites, R. W. 2023c. A new species of *Maculambrysus* Reynoso & Sites, 2021 (Hemiptera: Heteroptera: Naucoridae) from an aguaje palm swamp in southeastern Peru. *Zootaxa* 5389(2): 288–294. <https://doi.org/10.11646/zootaxa.5389.2.10>
- Sites, R. W. and J. Camacho. 2014. Neotropical genera of Naucoridae (Hemiptera: Heteroptera: Nepomorpha): new species of *Placomerus* and *Procryphocricos* from Guyana and Venezuela. *Zootaxa* 3753(5): 469–482. <https://doi.org/10.11646/zootaxa.3753.5.5>.
- Sites, R. W. and S. Clavier. 2019. *Hygropetrocoris guyana* Sites, 2015, in French Guiana: descriptions of the female and nymphal instars (Hemiptera, Heteroptera, Naucoridae). *Bulletin de la Société Entomologique de France* 124(4): 437–443. https://doi.org/10.32475/bsef_2103.
- Sites, R. W. and Reynoso-Velasco, D. 2015. Review of the *Ambrysus stali* La Rivers species complex (Hemiptera: Nepomorpha: Naucoridae) with the description of a new species from Mesoamerica. *Zootaxa* 4018(2): 279–291. <https://doi.org/10.11646/zootaxa.4018.2.7>.
- Sites R.W., Carrie, R. and Shepard, W.D. 2018. The Naucoridae (Hemiptera: Nepomorpha) of Belize. *Aquatic Insects*, 39 (2-3): 243–273. <https://doi.org/10.1080/01650424.2018.1450988>.
- Sites R. W., H. D. D. Rodrigues, and D. Reynoso-Velasco. 2017. New combinations, status, and species of Neotropical Ambryisini (Hemiptera: Naucoridae: Cryphocricinae). *Zootaxa* 4323(4): 503–518. <https://doi.org/10.11646/zootaxa.4323.4.4>.
- Souza, M. A. A. , A. L. de Melo, and G. J. C. Vianna. 2006. Heterópteros aquáticos oriundos do município de Mariana, MG. *Neotropical Entomology* 35(6): 803–810. <https://doi.org/10.1590/S1519-566X2006000600013>.
- Stål, C. 1860 (1858). Bidrag till Rio Janeiro-traktens Hemipter-fauna. *Kongliga Svenska Vetenskaps-Akademiens Handlingar* 2: 1–84.
- Stål, C. 1876. Enumeratio Hemipterorum. Bidrag till en forteckning ofver alla hittills kända. Hemiptera, jemte systematiska meddelanden. *Kongliga Svenska Vetenskaps-Akademiens Handlingar* 14: 1–167. <https://doi.org/10.5962/bhl.title.12549>.
- Usinger, R. L. 1941. Key to the subfamilies of Naucoridae with a generic synopsis of the new subfamily Ambrysiinae (Hemiptera). *Annals of the Entomological Society of America* 34: 5–16. <https://doi.org/10.1093/aesa/34.1.5>.
- White, F. B. 1879. Descriptions of new Hemiptera. (I). *Journal of the Linnean Society of London, Zoology* 14: 482–489. <https://doi.org/10.1111/j.1096-3642.1879.tb02444.x>.