



## Neotropical genera of Naucoridae (Hemiptera: Heteroptera: Nepomorpha): New species of *Placomerus* and *Procryphocricos* from Guyana and Venezuela

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### Abstract

The Neotropical fauna of saucer bugs (Naucoridae) currently includes four monotypic genera. Recent extensive collecting in Venezuela has produced three new species in two of these genera. In addition, undetermined Guyanan specimens of one of the new species were found in the United States National Museum of Natural History. Thus, described here are *Placomerus obscuratus* n. sp. from Guyana and Venezuela with brachypterous and macropterous hindwing forms, and two species of *Procryphocricos* from Venezuela. *Procryphocricos quiu* n. sp. is described from the brachypterous forewing form and *Procryphocricos macoita* n. sp. from both brachypterous and macropterous forms. Previously described species also are discussed.

**Key words:** Nepomorpha, Naucoridae, *Procryphocricos*, *Placomerus*, Venezuela, Guyana, aquatic Heteroptera, new species

### Introduction

The family of saucer bugs (Naucoridae) in the Neotropics is represented by 12 genera, two of which, *Ambrysus* and *Limnocoris*, are hyperdiverse with more than 70 described species in each. In sharp contrast, four of the other Neotropical genera have been monotypic and include *Decarloa* known only from Hispaniola, *Interocoris* known only from Mexico, and *Placomerus* and *Procryphocricos* from South America.

*Placomerus* (Naucorinae) was described from several countries in southern South America (Bolivia, Brazil, and Paraguay) and was distinguished from the superficially similar *Pelocoris* using 14 attributes (La Rivers 1956). Additional records from Argentina (Lopez Ruf & Bachmann 1991) and other localities in Brazil have been presented more recently (e.g., Moreira *et al.* 2011). *Procryphocricos* (Cryphocricinae) was described by Polhemus (1991) based on two male specimens collected in Colombia. Since then, additional specimens have been collected from the type locality and the female was described by Sites & Álvarez Arango (2010).

Presented here are the descriptions of one new species of *Placomerus* from Guyana and Venezuela, and two new species of *Procryphocricos* from Venezuela.

### Material and methods

Recent extensive sampling throughout much of Venezuela has provided many fresh specimens of six genera of saucer bugs for examination. Habitats sampled include streams, rivers, waterfalls, ponds, lakes, reservoirs, swamps, and springs.

Photographs of 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. Length and width are given as a mean and range for paratypes and all measurements are in mm. Length of the body is measured from the anterior

**Etymology.** The specific epithet is a noun in apposition and is the name of the river from which the type series was collected.

**Repositories.** The holotype is deposited in Museo del Instituto de Zoología Agrícola, Maracay, Venezuela. Paratypes are deposited in Universidad del Zulia, Maracaibo, Venezuela; Enns Entomology Museum, University of Missouri; and the United States National Museum of Natural History, Washington D.C.

**Type material examined.** HOLOTYPE ♂: **VENEZUELA: Barinas:** Río Quiu nr Quiri, 8° 03.341'N, 70° 56.597'W, 203 m, 15 July 2009, L-1083, river margins / Colls Sites, Shepard, Short, Camacho, García, Gustafson, VZ0907 1503S. PARATYPES: same data as holotype (2 brachypterous ♂, 4 brachypterous ♀).

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## References cited

- Hamilton, M.A. (1931) The morphology of the water-scorpion, *Nepa cinerea* Linn. *Proceedings of the Zoological Society of London*, 1931 (Part III), 1067–1136.  
<http://dx.doi.org/10.1111/j.1096-3642.1931.tb01054.x>
- La Rivers, I. (1956) A new genus and species of naucorid from South America (Hemiptera). *Entomological News*, 67, 237–245.
- Lopez Ruf, M.L. (1996) Descripción de las ninfas 3, 4 y 5 de *Placomereus micans* (Heteroptera: Naucoridae). *Revista de la Sociedad Entomológica Argentina*, 55, 73–77.
- Lopez Ruf, M.L. & Bachmann, A.O. (1991) Nota científica: Sobre *Placomereus micans* La Rivers (Heteroptera, Naucoridae) y su presencia en la Argentina. *Iheringia Série Zoologia*, 71, 175–176.
- Mazzucconi, S.A., Lopez Ruf, M. & Bachmann, A.O. (2008) Gerromorpha y Nepomorpha (Insecta: Heteroptera) del Parque Provincial Salto encantado del Valle del Cuna Piru, Provincia de Misiones, Argentina. *Lundiana*, 9 (1), 57–66.
- Moreira, F.F.F., Barbosa, J.F., Ribeiro, J.R.I. & Alecrim, V.P. (2011) Checklist and distribution of semiaquatic and aquatic Heteroptera (Gerromorpha and Nepomorpha) occurring in Brazil. *Zootaxa*, 2958, 1–74.
- Parsons, M.C. & Hewson, R.J. (1974) Plastral respiratory devices in adult *Cryphocricos* (Naucoridae: Heteroptera). *Psyche*, 81, 510–527.  
<http://dx.doi.org/10.1155/1974/30691>
- Polhemus, J.T. (1991) A new and primitive genus of Cryphocricinae (Heteroptera: Naucoridae). *Pan-Pacific Entomologist*, 67, 119–123.
- Sites, R.W. (1990) Morphological variations in the hemelytra of *Cryphocricos hungerfordi* Usinger (Heteroptera:Naucoridae). *Proceedings of the Entomological Society of Washington*, 92, 111–114.
- Sites, R.W. & Álvarez Arango, L.F. (2010) Description of the female of *Procryphocricos perplexus* Polhemus (Heteroptera: Naucoridae). *Zootaxa*, 2562, 66–68.
- Sites, R.W. & Nichols, B.J. (1993) Voltinism, egg structure, and descriptions of immature stages of *Cryphocricos hungerfordi* (Hemiptera: Naucoridae). *Annals of the Entomological Society of America*, 86, 80–90.  
[http://dx.doi.org/10.1603/0013-8746\(2001\)094\[0026:vesado\]2.0.co;2](http://dx.doi.org/10.1603/0013-8746(2001)094[0026:vesado]2.0.co;2)
- Souza, M.A.A. de, Melo, A.L. de & Vianna, G.J.C. (2006) Heterópteros aquáticos oriundos do Município de Mariana, MG. *Neotropical Entomology*, 35 (6), 803–810.  
<http://dx.doi.org/10.1590/s1519-566x2006000600013>