



New Combination in the Genus *Parvacinocoris* (Heteroptera: Largidae), with Description of the Male of *P. podalicus* (Brailovsky)

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Abstract

The species *Acinocoris podalicus* Brailovsky is transferred to the genus *Parvacinocoris* Melo and Dellapé, *P. podalicus*, new combination. Illustrations of the general morphology and male genitalia, a description of the male, and a key to the species of *Parvacinocoris* are given as well.

Key words: Pyrrhocoroidea, *Acinocoris*, Argentina, male genitalia

Introduction

The New World subfamily Larginae includes 16 genera (Melo and Dellapé 2019), with the most recently described genus *Parvacinocoris* Melo and Dellapé, 2019 containing two species: *P. khuru* Melo and Dellapé, 2019 and *P. stehliki* (Doesburg, 1966). This last species was described in the genus *Acinocoris* Hahn, but a more thorough examination of characters from external morphology and the male genitalia strongly support its close relationship with *P. khuru*. The genus is widely distributed in the Neotropics, with *P. khuru* known from southern South America in Argentina and Paraguay and *P. stehliki* showing a more northerly distribution in Guatemala, Colombia, Venezuela, Surinam, and northern Brazil.

The genus *Acinocoris* includes 12 Neotropical species that have been described based mostly on differences in the color pattern of pronotum, hemelytra and abdomen, but the intraspecific variability of the color pattern suggests that some names would become synonyms. We recently collected specimens of both sexes of *Acinocoris podalicus* Brailovsky, 1989 in Formosa Province, Argentina, a species described from a single female collected near Formosa city. In this contribution we described the male, including dorsal and lateral habitus photographs and the male genitalia. This species has several external characters as well as the morphology of the parameres and aedeagus that compare well with species of *Parvacinocoris*. Following this evidence, we transfer this species to *Parvacinocoris*.

Materials and Methods

Specimens were collected using shallow insect nets to beat shrubs and low vegetation and were preserved in the field in plastic tubes with tissue paper soaked in ethyl acetate. In the lab, the specimens were pinned and labeled for study and further storage in the collection. The specimens studied are deposited in the entomological collection of the Museo de La Plata, Buenos Aires, Argentina (MLP).

Color images were captured using a Canon EOS Rebel T7i with a Professional Grade Raynox DCR 150 DSLR Objective Tube Lens and an Objective PLAN Achromatic LWD infinity 10X (male genitalia) and 5X (dorsal and lateral habitus), mounted on a WeMacro's automatic focus stacking rail. Multiple focal planes were taken with HELICON REMOTE software and merged using HELICON FOCUS software.

Scanning electron microscopy (SEM) images were made with a Zeiss Gemini SEM 360 at the Laboratorio de Microscopia Electrónica de Barrido of the Museo Argentino de Ciencias Naturales “Bernardino Rivadavia” (MACN, Buenos Aires, Argentina). Plates were created and numbered in COREL DRAW 2018.

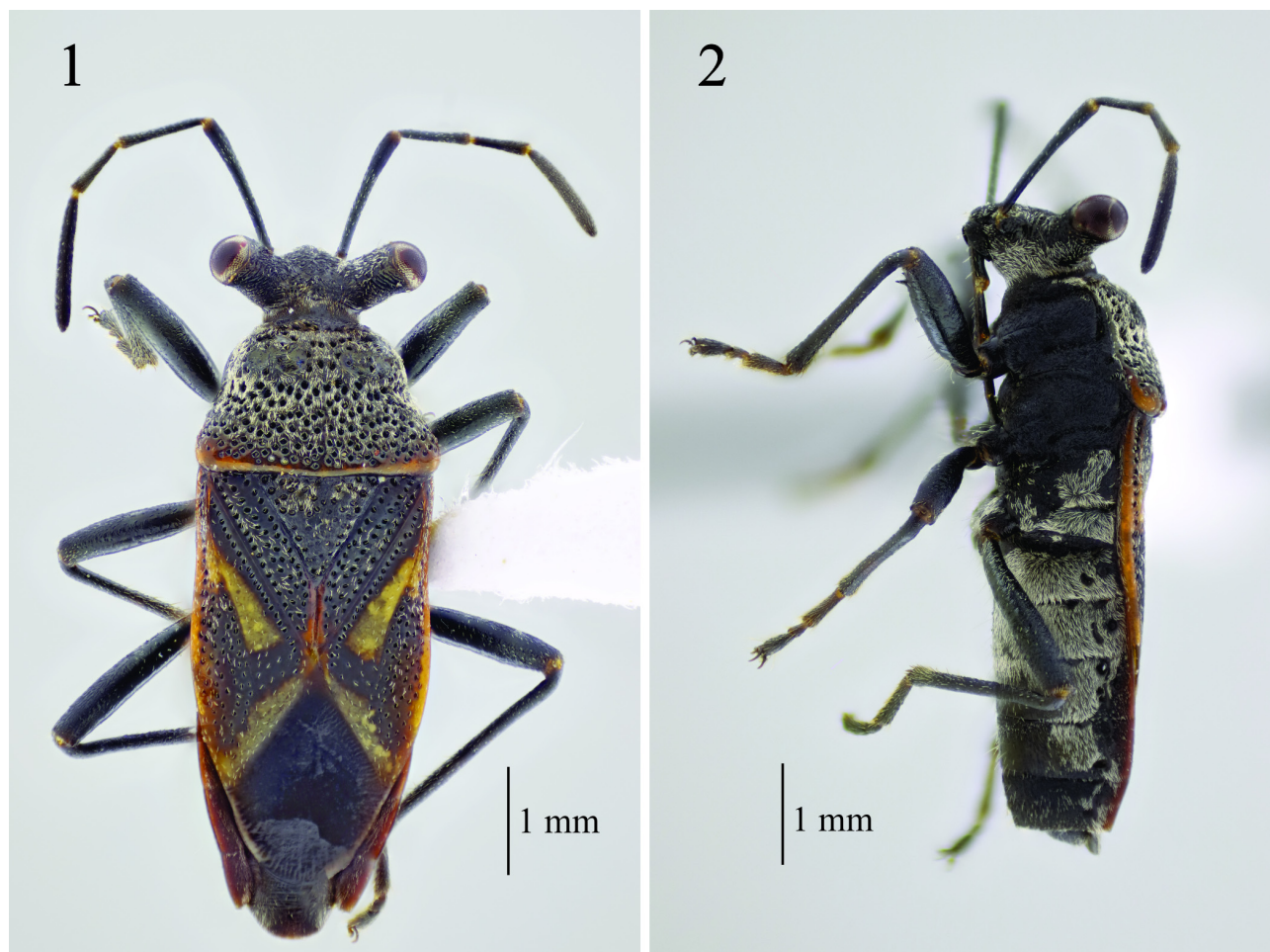
The genital structures were dissected under a stereomicroscope, cleared in KOH, washed in distilled water and preserved in vials with glycerol. Measurements were taken under a stereomicroscope and are given in millimeters, in the following format min- max, mean.

Results

Parvacinocoris podalicus (Brailovsky, 1989), new combination

(Figs. 1–11)

Description of the male. (Figs. 1–2) Total length 6.06–6.72, 6.31. Head length 0.64–0.80, 0.73, head width 1.92–2.00, 1.95, interocular space 1.16–1.32, 1.23. *Head* black, covered with abundant, short, decumbent, silvery setae. Eyes peduncles about two times longer than eyes width finely striated posteriorly, ridges continued into gena (Figs. 3–4). Antenna black. Scape widening towards apex. Length of antenna: scape 1.32–1.36, 1.33; pedicel 0.72–0.80, 0.75; basiflagellomere 0.48–0.56, 0.51; distiflagellomere 0.80–1.32, 1.16. Labium black, with segmental joints paler; extending to anterior margin of metasternum. Labial segments length: I 0.44–0.52, 1.49; II 0.44–0.57, 0.51; III 0.49–0.55, 0.52; IV 0.34–0.42, 0.38. *Pronotum* black, excepting posterior margins orange; with abundant short decumbent silvery setae. Punctures on posterior lobe larger than those on anterior lobe. Pronotal length 1.44–1.52, 1.48; width 2.08–2.28, 2.18. *Scutellum* black, slightly raised at middle, with the same setae as on pronotum. *Hemelytra* covered with short decumbent silvery setae, strongly punctate, excepting endocorial area. *Clavus* black, claval commissure paler. *Corium* black, except lateral corial margins pale orange, and a long macula on median



FIGURES 1–2. *Parvacinocoris podalicus* (Brailovsky, 1989), n. comb. Male. 1, Dorsal view. 2. Lateral view.

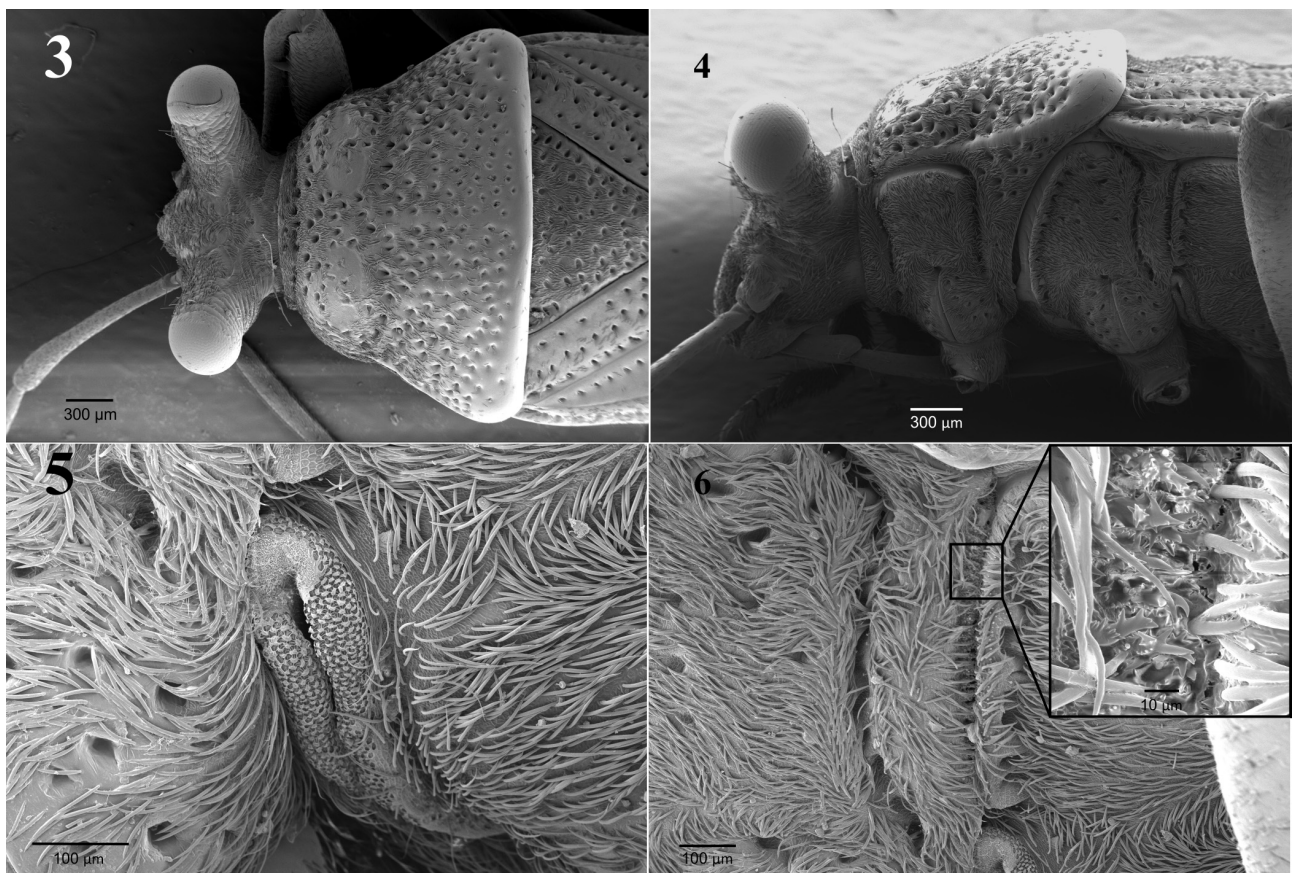
fracture and a wide fringe adjacent to membrane yellowish. Membrane black, with whitish margins (Fig. 1). Legs black, (Figs. 1–2), with short decumbent setae and longer erect setae, tarsi with abundant long decumbent setae, particularly on ventral region. Pleurae black, metathoracic scent gland auricle (Fig. 5) concolorous, densely covered with decumbent silvery setae (Figs. 5–6). Metathoracic spiracle with cactus-like mycoid filter processes on anterior margin (Fig. 6). Abdomen black (Fig. 2), dorsolateral edge narrowly paler on anterior segments, with abundant, short, adpressed, silvery setae mixed with long erect setae. *Male genitalia*: Pygophore as Figs. 7–8; paramere (Figs. 9–10) short with a wide shank and a large and acute blade; aedeagus (Figs. 11): conjunctiva with a spinose posterior process with straight spines, vesica partially sclerotized on basal half, ductus seminis abruptly widened on distal region, tapering until end.

Distribution. Described from Formosa city, Formosa Province, Argentina. The specimens studied were collected near Colonia Sarmiento, 202 km NE from the type locality in an uncultivated field next to a country road.

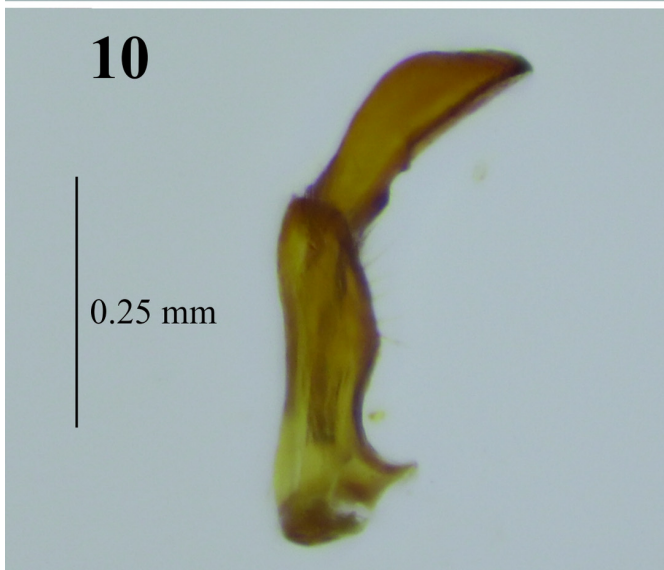
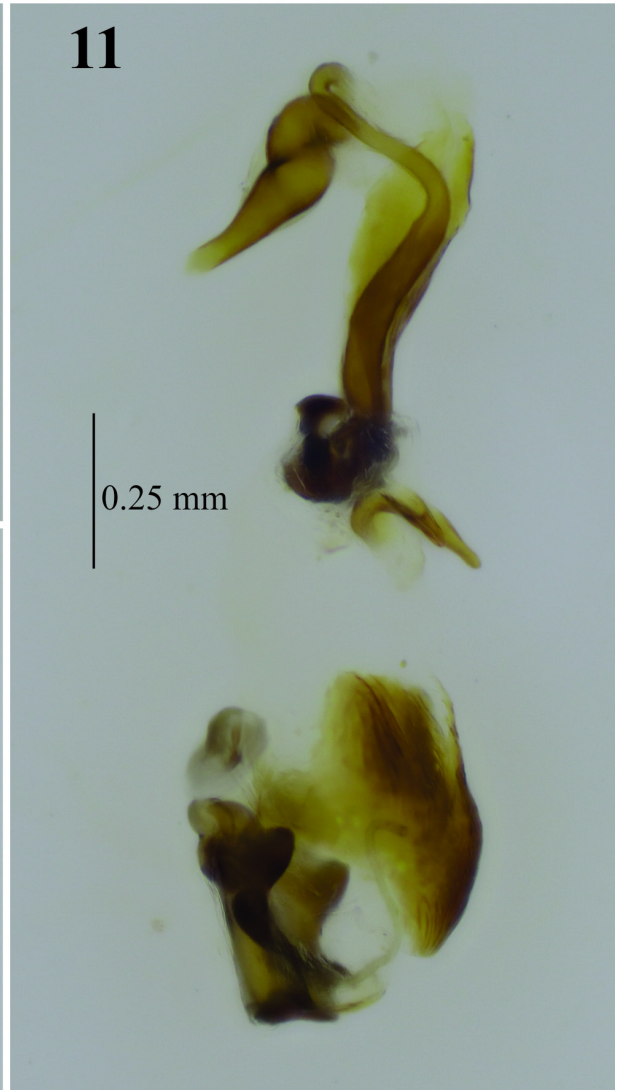
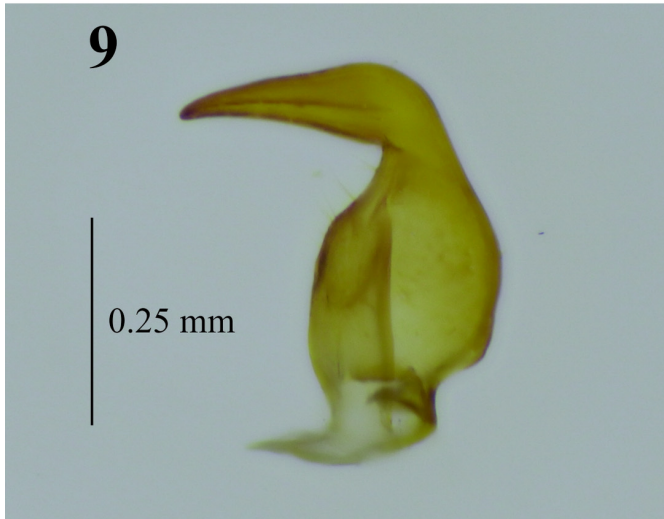
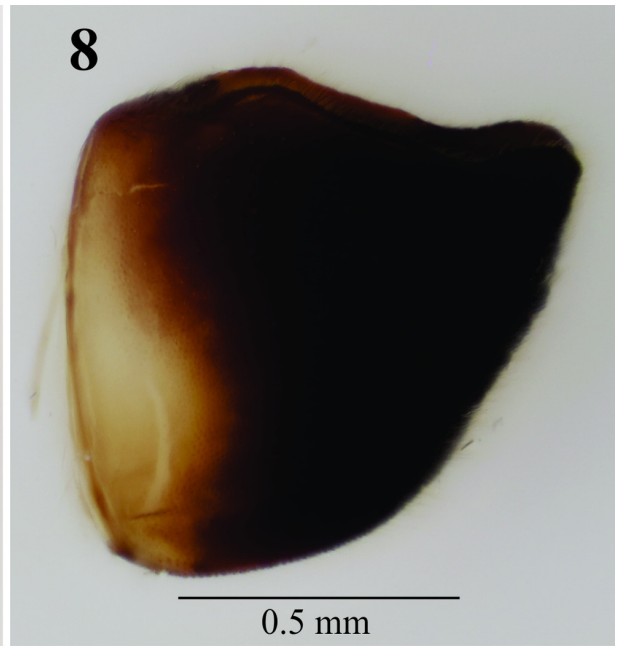
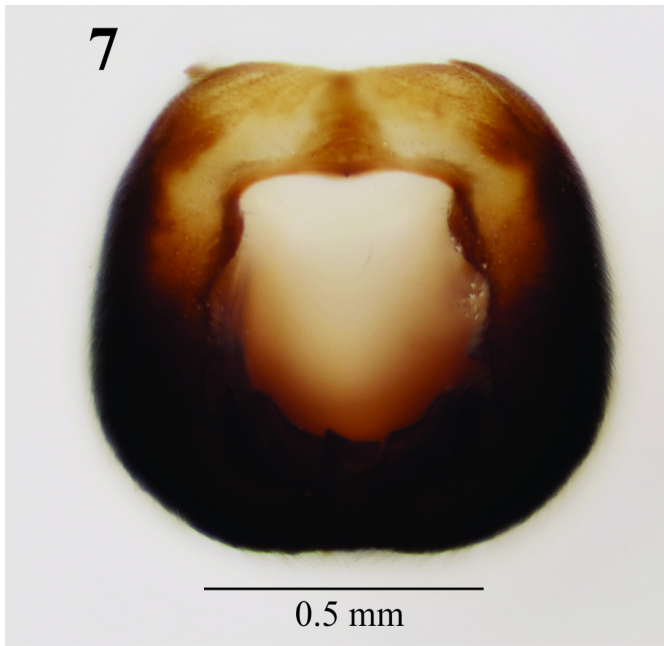
Material examined. 4 males, 3 females, 2 nymphs, Argentina, Formosa Province, RN 86, NW of Col. Sarmiento, -24.6275580 -59.447917, 10/X/2023, Dellapé, P.M. col., MLP he-9714/9721.

Key to *Parvacinocoris* species

1. Brownish species; antenna black, with underside of scape and middle parts of pedicel and basiflagellomere dark brown; corium without contrasting yellowish maculae *P. stehliki* (Doesburg)
- Black species; antenna completely black; corium with a macula on median fracture and a wide yellowish fringe adjacent to membrane 2.
2. Metathoracic scent gland auricle contrastingly orange; femora black, with meso- and metafemora paler basally. Scape longer than pedicel + basiflagellomere. Punctures on posterior lobe of pronotum similar than those on anterior lobe *P. khuru* Melo and Dellapé
- Metathoracic scent gland auricle concolorous with rest of pleura; femora completely black. Scape shorter than pedicel + basiflagellomere. Punctures on posterior lobe of pronotum larger than those on anterior lobe. *P. podalicus* (Brailovsky), n. comb.



FIGURES 3–6. *Parvacinocoris podalicus* (Brailovsky, 1989), n. comb. 3, Head and pronotum, dorsal view. 4, Head and pleura, lateral view. 5, Auricle of metathoracic scent gland. 6, Metathoracic spiracle, with detail of the filter processes.



FIGURES 7–11. *Parvacinocoris podalicus* (Brailovsky, 1989), **n. comb.** Male genitalia. 7–8, Pygophore: 7, Dorsal view. 8, Lateral View. 9–10. Right paramere: 9, Inner view. 10, Outer view. 11, Aedeagus.

Discussion

Larginae have been characterized by having a long and narrow metathoracic spiracle, with the anterior margin protected by robust cactus-like mycoid filter processes densely and irregularly covered with spines, and the posterior margin bearing short denticles (Hemala *et al.* 2021). *Parvacinocoris podalicus* **n. comb.** shows the typical cactus-like mycoid filter processes (Fig. 6) on the anterior margin of the metathoracic spiracle, but with scarce conical processes on the posterior margin.

The inclusion of *A. podalicus* in the genus *Parvacinocoris* obligates us to re-evaluate the generic diagnosis. *Parvacinocoris* species are small and with abundant short silvery setae; the eyes are pedunculate; the profemur bears 1 or 2 short spines distally, and the rest of the legs are unarmed; the male abdomen is dark and without large pale macula, although females may include some diffuse paler areas on sternites IV and V; the parameres are short, with a wide shank and a large and acute blade; and the aedeagus bears a posterior hook-like process and the *ductus seminis* is abruptly widened on distal region tapering to the apex. One character we excluded from the generic diagnosis is the relative length of the antennal segments, as we observed in *A. podalicus*, the scape is not shorter than the combined pedicel and basiflagellomere lengths.

Acknowledgments

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Literature Cited

- Brailovsky, H. 1989. Cuatro especies nuevas sudamericanas de la familia Largidae (Hemiptera: Heteroptera). *Anales del Instituto de Biología de la Universidad Nacional Autónoma de México* 60: 77–90.
- Doesburg Jr., P. H. van. 1966. Heteroptera of Suriname. I. Largidae and Pyrrhocoridae. *Studies on the fauna of Suriname and other Guyanas* 9: 1–60.
- Hemala, V., P. Kment, E. Tihlaříková, V. Neděla, and I. Malenovský. 2021. External structures of the metathoracic scent gland efferent system in the true bugs superfamily Pyrrhocoroidea (Hemiptera: Heteroptera: Pentatomomorpha). *Arthropod Structure & Development* 63: 101058. <https://doi.org/10.1016/j.asd.2021.101058>
- Melo, M. C. and P. M. Dellapé. 2019. Biodiversity of the Neotropical Larginae (Hemiptera: Pyrrhocoroidea: Largidae): Description of a new genus and new species. *Anais da Academia Brasileira de Ciências* 91: e20181237. <https://doi.org/10.1590/0001-3765201920181237>