

***Largus giganteus* sp. nov. from Brazil
and notes on hybridization within *Largus*
(Hemiptera: Heteroptera: Largidae)**

Jaroslav L. STEHLÍK¹⁾ & Petr KMENT²⁾

¹⁾Department of Entomology, Moravian Museum, Hviezdoslavova 29a,
CZ-627 00 Brno – Slatina, Czech Republic

²⁾Department of Entomology, National Museum, Kunratic 1, CZ-148 00 Praha 4, Czech Republic;
e-mail: sigara@post.cz

Abstract. A new species of the family Largidae, *Largus giganteus* sp. nov., is described from Brazil. The possible hybridization among several Central American species of *Largus* Hahn, 1831 is noted.

Keywords. Heteroptera, Largidae, hybridization, taxonomy, new species, Brazil, Neotropical Region

Introduction

The genus *Largus* Hahn, 1831 includes 56 valid species (HUSSEY 1929; SCHMIDT 1931; BLÖTE 1933; BLIVEN 1956, 1959, 1973; VAN DOESBURG 1966; HALSTEAD 1970, 1972a,b; DELLAPÉ et al. 2010); however, the status of several species is controversial and needs revision (cf. HALSTEAD (1972) versus BLIVEN (1973); see also HENRY (1988)). All *Largus* species are distributed in America from the north of the United States (Minnesota, New Jersey, New York) to Argentina in the south, as well as in the West Indies (HUSSEY 1929, SCHMIDT 1931, HENRY 1988, COSCARÓN et al. 2004, DELLAPÉ et al. 2010). SCHMIDT (1931) divided *Largus* into two main groups: ‘Gruppe I’ including species with metafemora without spines and ‘Gruppe II’ including those with metafemora spinose. He further divided the first group according to the coloration of the metathorax into ‘Gruppe I. A’ (posterior pleural flange III whitish, not concolorous with the rest of thorax; including the type species *Largus humilis* Drury, 1782); and ‘Gruppe I. B’ (posterior pleural flange III concolorous with the remaining thorax). The ‘Gruppe I. A’ is distributed only in South America (SCHMIDT 1931) and all the included species and their subspecies are morphologically distinct without any intermediates. The ‘Gruppe I. B’ is more widely distributed, occupying the entire distribution area of the genus (SCHMIDT 1931). Some North and Central American species of the ‘Gruppe I. B’ often produce morphologically intermediate specimens which might suggest a collapse of the reproduction barrier among the species and common hybridization, as well as back-crosses between hyb-

rids and parental species (at least *Largus cinctus* Herrich-Schaeffer, 1842 \times *L. californicus* Van Duzee, 1923, and *L. cinctus* \times *L. maculatus* Schmidt, 1931). Such a situation is rarely seen but possibly widespread in Heteroptera, e.g., in Corixidae (JANSSON 1979a,b; ANGUS 2006), Gerridae (CALABRESE 1982, SPENCE 1990, ZIMMERMANN & SCHOLL 1993, KLINGENBERG et al. 2000), Miridae (GRAHAM 1982), Reduviidae (USINGER et al. 1966, MARTÍNEZ-IBARRA et al. 2008, COSTA et al. 2009), Nabidae (RIEGER 1990), Cimicidae (NEWBERRY 1989, 1990; WALPOLE 1988; WALPOLE & NEWBERRY 1988; FERGUSON 1990), Lygaeidae (LESLIE & DINGLE 1983, O'ROURKE 1980), Rhyparochromidae (EYLES & BLACKITH 1965), Coreidae (ITO 1984), and Pentatomidae (SAILER 1954).

In some *Largus* species we can observe a clinal variation of the 'hybrids' from northwest to southeast of Central America, possibly caused by introgression in the hybrid zone. Some of the 'hybrid' populations show remarkable morphological variability (including some characters of colouration), suggesting rather recent hybridization events, while other 'hybrid' populations (i.e., with intermediate morphological characters), probably older, are morphologically quite homogenous. Such populations, when isolated, may speciate into distinct species. Unfortunately, the genetics of *Largus* is completely unknown, so all these hypotheses must wait for their testing in the future. This remarkable variability is responsible for the very confused taxonomic situation in this group.

The new species described herein belongs to the 'Gruppe I. A'. It is very remarkable for its considerable size and the peculiar black punctuation of the corium, which is not uniform but forms distinct patterns.

Taxonomy

Largus giganteus sp. nov.

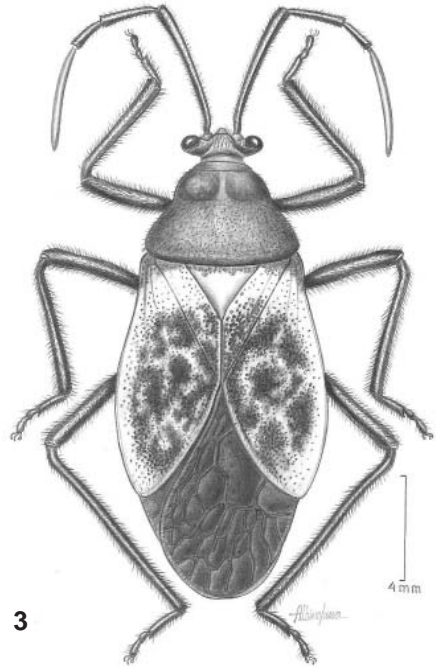
(Figs. 1–4)

Type material. HOLOTYPE: ♀, BRAZIL: AMAZONAS: 'Lower Amazonas, Rio Madeira, Manicore' [no additional data available] (deposited in the Moravian Museum, Brno, Czech Republic). PARATYPE: ♂, BRAZIL: PARÁ: 'BRAZIL, Para: / Jacareacanga / Aug. 1969 / F. R. Barbosa' (AMNH).

Description. Coloration. Body black. Scutellum, clavus and corium (except base), hypocostal lamina from level of posterior pleural flange III, ventral and dorsal laterotergites red. Posterior pleural flange III and proximal part of ventrite II proximally whitish yellow.

Structure. Body large, abdomen high in lateral view. Antennomeres 1 and 4 very long, each longer than antennomeres 2 and 3 combined (see Measurements below). Pronotum anteriorly narrow, strongly widening towards base; lateral pronotal margins nearly straight, not gibbose. Callar lobe slightly gibbose, shining. pronotal lobe regularly convex towards base. Lateral margins of corium arcuately widened, medially much wider than pronotal base.

Pygophore (Fig. 4). Ventral rim in lateral view strongly gibbose, elevated above ventral wall; slightly concave medially in caudal view. Ventral rim infolding falling upright into genital chambre. Lateral rim obtuse, only intimated; lateral rim infolding nearly horizontal, merged with dorsal rim infolding without apparent border. Lateral rim infolding behind paramere somewhat depressed and pointed.



Figs. 1–4. *Largus giganteus* sp. nov. 1 – habitus of holotype, ♀; 2–4 – paratype, ♂ (2–3 – habitus; 4 – pygophore in dorsal view). 1–2, 4 – Photo: L. Dembický; 3 – Orig. A. Luna.

Paramere. Apex of paramere projected into sharp point reaching anal tube, positioned nearly square to paramere's axis.

Pilosity. Almost entire body, including legs and antennae, covered by black, medially long hairs, except for silver toment on proximal part of epicoxal lobes I and II. Posterior margin of posterior pleural flange III (especially at base) with pale pilosity.

Punctuation. Pronotal collar and pronotal lobe with distinct, uniformly distributed punctures. Prominent black punctures on corium concentrated in several patches forming a distinct but individually variable pattern (Figs. 1–3). Punctuation less distinct at bases of clavus and corium towards scutellar apex, from there very prominent, with two distinct patches of black punctures medially on corium at level of claval apices (on inner side of median vein), punctures missing only in several patches: on the costal and partly posterior margins of corium, except its (in varying degree) black apex.

Measurements (in mm). ♀ (holotype) / ♂ (paratype). Body length 19.06 / 16.85; head: width (including eyes) 3.02 / 2.86, interocular width 1.78 / 1.78; lengths of antennomeres: 1 – 5.13 / 4.86, 2 – 2.21 / 2.16, 3 – 1.35 / 1.40, 4 – 4.18 / 4.05; pronotum: total length 4.32 / 4.21, width 6.16 / 6.26; scutellum: length 2.27 / 1.94, width 2.81 / 3.51; corium: length 10.80 / 9.61, width 4.32 / 3.94.

Variability. There is variability in the pattern of the black punctuation on the corium (see Figs. 1–3).

Differential diagnosis. *Largus giganteus* sp. nov. differs remarkably from all remaining species of 'Gruppe I. A' by its large size, strongly pubescent antennae and tibiae, and unique pattern of black punctuation on its pale red corium.

Etymology. The species epithet is the Latin adjective *giganteus*, *-a*, *-um*, meaning giant.

Distribution. Brazil (Amazonas and Pará).

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