

**Two new genera of the tribe Largulini
(Hemiptera: Heteroptera: Largidae)
from Greater Antilles**

Jaroslav L. STEHLÍK¹⁾ & Harry BRAILOVSKY²⁾

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

²⁾ Departamento de Zoología, Instituto de Biología, Universidad Nacional Autónoma de México, Apdo Postal No. 70153, México 04510 D. F., México; e-mail: coreidae@ibiologia.unam.mx

Abstract. A new genus and species, *Neolargulus excavatus* gen. nov. & sp. nov. from the Dominican Republic, is described. Another new genus, *Paralargulus* gen. nov., is erected for *Paralargulus refulgens* (Brailovsky & Barrera, 2008) comb. nov. (originally *Largulus refulgens*) from Jamaica. A key to the genera of the tribe Largulini is provided.

Key words. Heteroptera, Largidae, Larginae, Largulini, taxonomy, new genus, new species, Greater Antilles

Introduction

HUSSEY (1927) described a new genus and species *Largulus parallelus* Hussey, 1927 from Jamaica; however, he did not examine the male genitalia and pygophore, which has remained unknown until recently. STEHLÍK & JINDRA (2007) described another new genus and species related to *Largulus* Hussey 1927, *Armillargulus elongatus* Stehlík & Jindra, 2007, which is interesting because of the presence of large, unique parandria on the pygophore not known in any other Pyrrhocoroidea. To compare the genitalia of *A. elongatus* with *L. parallelus*, STEHLÍK & JINDRA (2007) also examined and described the paramere and pygophore of the latter species, which is remarkable for its strongly projected ventral rim (STEHLÍK & JINDRA 2007: 18, Fig. 10 – pygophore in posterior view, Fig. 11 – pygophore in dorsal view, Fig. 12 – paramere). Simultaneously with and independent of STEHLÍK & JINDRA (2007), BRAILOVSKY & BARRERA (2008) described another new species of *Largulus*, *L. refulgens* Brailovsky & Barrera, 2008, from Jamaica. BRAILOVSKY & BARRERA (2008: 257, Fig. 3) also provided a posterior-view drawing of the pygophore of *L. parallelus*. *Largulus refulgens* is distinguished by

the deep, semicircular incision of ventral wall of the pygophore, which is unique in Largidae and requires its transfer to a new genus.

STEHLÍK & JINDRA (2007) erected the tribe Largulini to accommodate these two genera with aberrant and highly unique pygophores, geographically restricted to Greater Antilles. All the remaining genera of Old World Physopeltinae and New World Larginae and Arhaphinae have rather simple and uniform pygophores. In Physopeltinae, the parameres point obliquely to the centre of the pygophore, whereas in Larginae and Arhaphinae they are parallel and apically ogival (mostly hook-shaped). The relative uniformity of largine pygophores is documented, e.g., by VAN DOESBURG (1966), who illustrated pygophores and parameres of several genera.

In this paper, we describe two additional new genera of Largulini, characterised by their unique, aberrant structure of the pygophore, *Paralargulus* gen. nov., to include *Paralargulus refulgens* (Brailovsky & Barrera, 2008) comb. nov., and *Neolargulus* gen. nov., represented by a single new species from the Dominican Republic.

Material and methods

To a large extent, we follow the terminology of body parts by VAN DOESBURG (1968), but for the pygophore, we use the more specific terms proposed by SCHAEFER (1977).

The following codens of the collections are used:

MMBC Moravian Museum, Brno, Czech Republic;

UNAM Colección Entomológica, Instituto de Biología, Universidad Nacional Autónoma de México, Mexico;

USNM National Museum of Natural History, Washington, D.C., USA.

Taxonomy

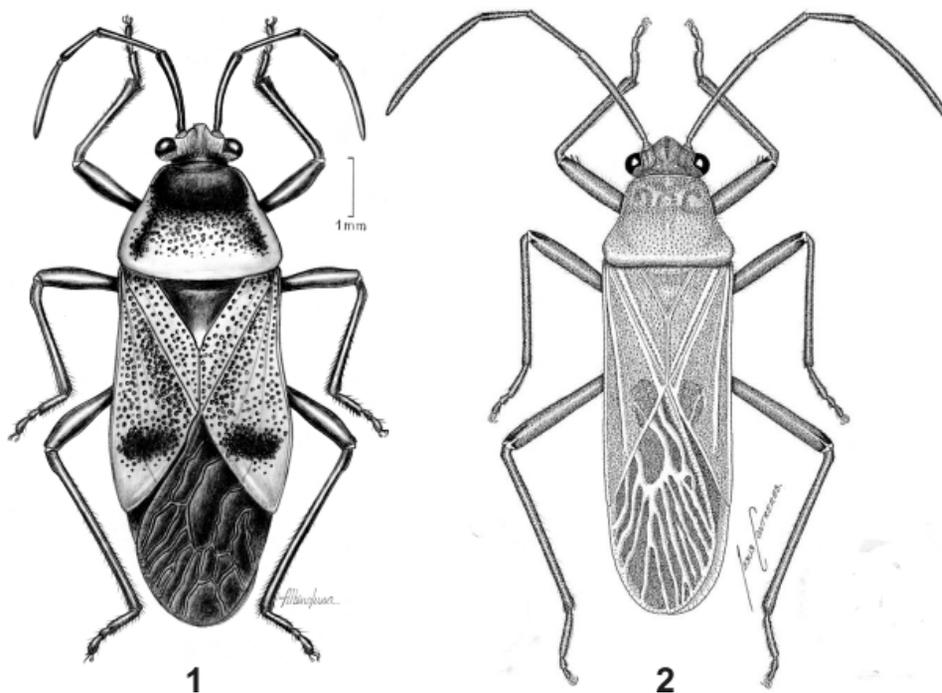
Neolargulus gen. nov.

Type species. *Neolargulus excavatus* sp. nov., here designated.

Description. Body oblong, relatively small, wide, parallel-sided.

Head rather short but wide, somewhat inclined; frons and vertex slightly raised; eyes simple, barely pedunculate, pointing more anteriorly than laterally; temple prominent, strongly rounded laterally. Bucculae low, short, scarcely extended backwards as far as the antenniferous tubercles, and apically rounded. Rostrum reaching anterior border of metasternum. Antennomere 4 longest and stoutest, slightly deflected.

Thorax. *Pronotum.* Pronotal collar wide; anterior angles obtuse, rounded; callar (= anterior pronotal) lobe slightly shorter and weakly raised above posterior pronotal lobe and distinctly detached from the latter; lateral margins of pronotum carinate, narrowing anteriorly, rather wide at dividing line of callar and pronotal lobe, well developed nearly up to the posterior pronotal margin; humeral angles rounded, not exposed. *Legs.* Fore femur thickened, with one or two spines apically; middle and hind femora unarmed. *Hemelytra.* Macropterous; costal margin of corium sinuate, apical margin straight, apical angle subacute; hemelytral membrane nearly reaching (♂) to slightly extending (♀) beyond the apex of last abdominal segment.



Figs. 1–2. 1 – *Neolargulus excavatus* gen. & sp. nov., holotype, male (Orig. A. Luna); 2 – *Paralargulus refulgens* (Brailovsky & Barrera, 2008), male, holotype (Orig. J. Contreras; from BRAILOVSKY & BARRERA 2008).

Abdomen. Parallel, not dilated. *Pygophore* (Figs. 7–8, 16). Ventral rim roundly concave, narrow; lateral rim in the portion connected to ventral rim strongly widened, rounded, declining and distally nearly fading towards the dorsal rim, so the lateral wall in dorsal third continually verges into simple round dorsal margin (Fig. 7). Lateral rim infolding visible anteriorly to the thickened portion of lateral rim, horizontal, dish-shaped. Paramere bending anteriorly in the level of thickened portion of lateral rim, its apical part very long, slender, and pointed (Figs. 7–8).

Differential diagnosis. *Neolargulus* gen. nov. differs from all other genera of Largulini by its gibbose callar lobe that is distinctly detached from the posterior pronotal lobe, the carinate lateral margins of the pronotum, and the different structure of the pygophore. See also the key below.

Etymology. Composed from the Greek adjective *neos* (= new) and the generic name *Largulus*; gender masculine.

Neolargulus excavatus sp. nov.

(Figs. 2–4, 7–8, 16)

Type material. HOLOTYPE: ♂, 'DOMINICAN REPUBLIC': / La Vega Prov.: 4 km E. of La / Cienaga, Manabao, 3050 ft., / Papagayo, elev. 150 ft, 19° / 04'47"N 70°49'29"W, 4–8 / April 2000, T.J. Henry & R. E. / Woodruff" [printed, white label] // 'USNM DRAKE / COLLECTION / June 2000' [printed, white label] // 'HOLOTIPO' [printed, red label with black rectangle] // 'Neolargulus / excavatus / gen. et sp. nov. / STEHLÍK & BRAILOVSKY det.' [red label] (USNM). PARATYPES: 2 ♂♂ 1 ♀, same data as holotype (USNM, UNAM, MMBC). **Note.** The dates on the locality label are incorrect. They should be 19–22 April 2000 not 4–8 April 2000 (T. J. Henry, pers. comm.).

Description. Colouration. Head, antennomeres 1–3, labium, pronotal collar, callar lobe, scutellum (except its apex), median spot and apex of corium, membrane, body venter, metathoracic scent gland peritreme, and legs black. Antennomere 4 dark brown. Lateral margin of pronotum, pronotal lobe, pronotal epipleuron, dorsal part of pleural flange I, apex of scutellum, and posterior margins of ventral laterotergites red. Clavus and corium orange, corium with creamy yellow marks. Abdominal dorsum in male with mediotergites III–IV shiny, mediotergites V–VI black with lateral and posterior margins shiny orange, mediotergite VII in anterior half black, in posterior half orange; in female mediotergites III–VI orange, mediotergites VIII and IX black with dorsal margin dark orange; paratergite VIII and IX dark orange with inner margin black.

Structure. See generic description.

Punctuation. Head shiny, impunctate. Pronotal collar, pronotal lobe (except its posterior margin), scutellum (except its apex), clavus and corium towards the posterior margin of the median spot with coarse, distinct black punctures. Callar lobe, anterolateral and posterior margins of pronotum, hypocostal lamina, corium between the posterior margin of the median spot and apex and also narrowly along the costal margin, thorax, and abdomen impunctate.

Pubescence. Head, pronotal collar, callar lobe, and scutellum (except its apex) with distinct silvery pubescence; pubescence on pronotal lobe, clavus, and corium (up to posterior margin of median spot), and femora less prominent and sparser. In addition to short silvery pubescence, head dorsally and pronotum covered with erect, black setae (most easily visible in lateral view – Fig. 4). Body venter with distinct, short, silvery pubescence, particularly prominent along intersegmental sulci between ventrites.

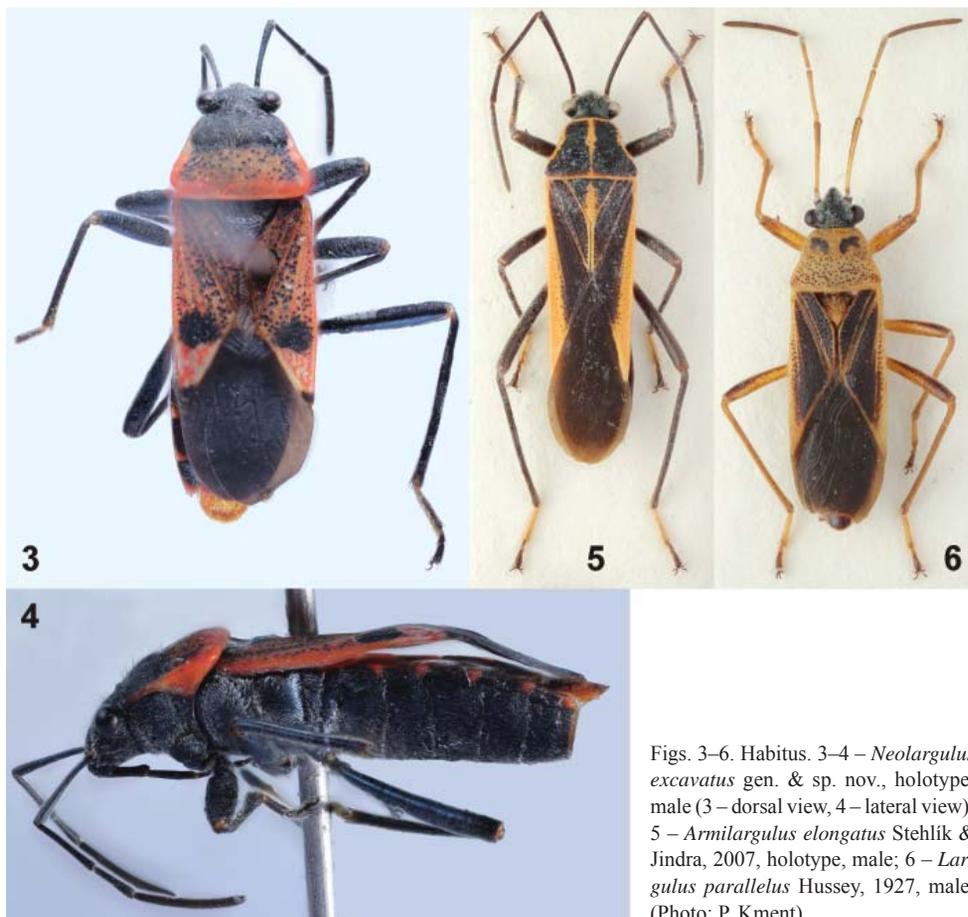
Measurements (♂ holotype / ♀; in mm). Body length: 7.40 / 10.11; head: width (including eyes) 1.43 / 1.54, interocular width 0.92 / 0.97; lengths of antennomeres: 1 – 1.24 / 1.51, 2 – 1.03 / 0.97, 3 – 0.65 / 0.65, 4 – 1.46 / 1.54; pronotum: length 1.70 / 2.05, width – 2.23 / 2.92; scutellum: length 1.03 / 1.40, width 1.24 / 1.67; corium: length 3.67 / 4.32, width 1.08 / 1.35.

Variation. Fore femur with one large acute subapical spine (holotype) or with two subapical spines, one elongate and acute, the other one short and robust.

Etymology. The species epithet is the Latin adjective *excavatus*, -a, -um, meaning excavated, deepened, referring to the U-shaped incised ventral wall of the pygophore.

Collection circumstances. Black lighted near river, pine mountain/hillside across stream, miscellaneous cultivated crops (including coffee) and natural vegetation along river and around cabin (T. J. Henry, pers. comm.).

Distribution. Known only from the Dominican Republic (Greater Antilles).



Figs. 3–6. Habitus. 3–4 – *Neolargulus excavatus* gen. & sp. nov., holotype, male (3 – dorsal view, 4 – lateral view); 5 – *Armilargulus elongatus* Stehlik & Jindra, 2007, holotype, male; 6 – *Largulus parallelus* Hussey, 1927, male. (Photo: P. Kment).

Paralargulus gen. nov.

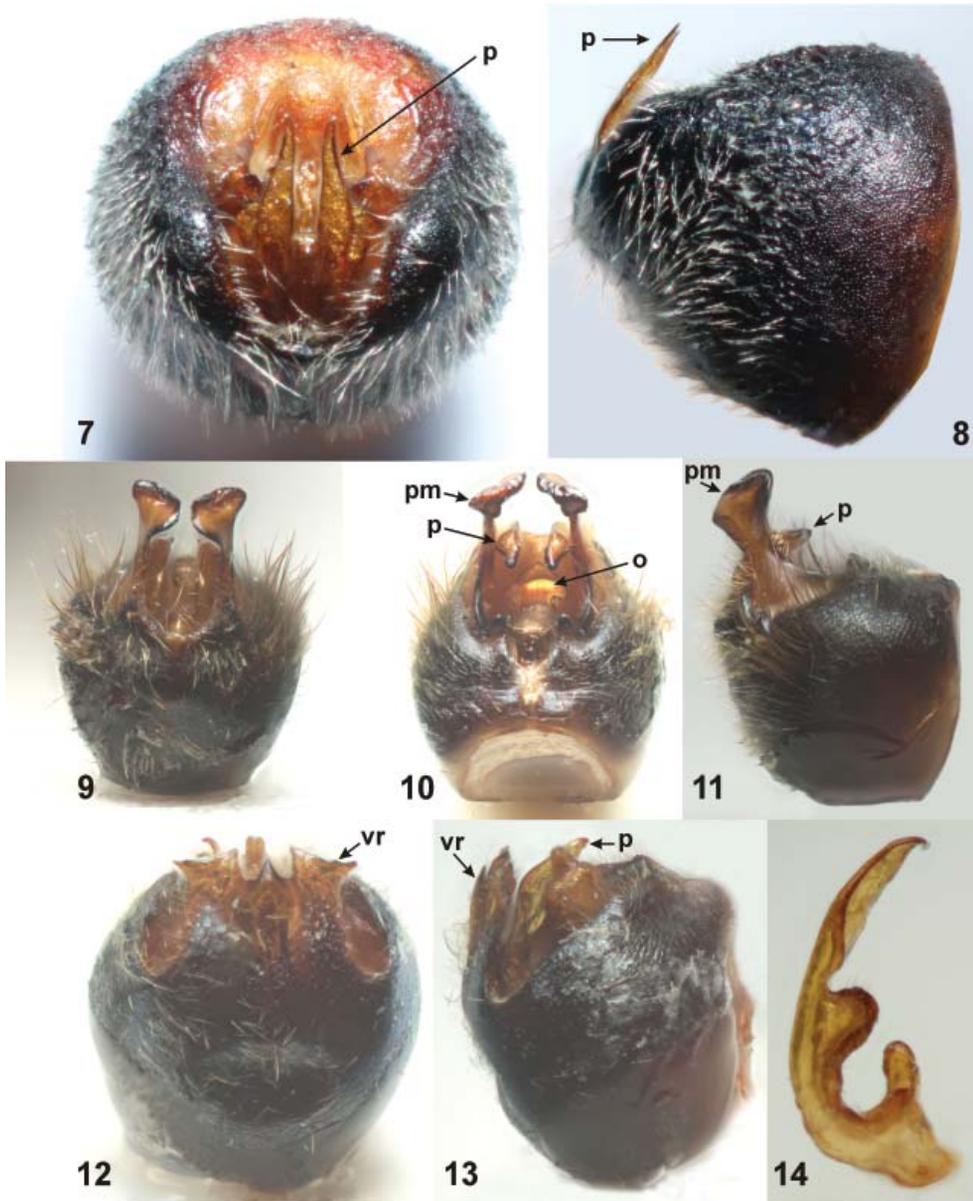
(Figs. 2, 15)

Type species. *Largulus refulgens* Brailovsky & Barrera, 2008 (here designated) = *Paralargulus refulgens* (Brailovsky & Barrera, 2008) comb. nov.

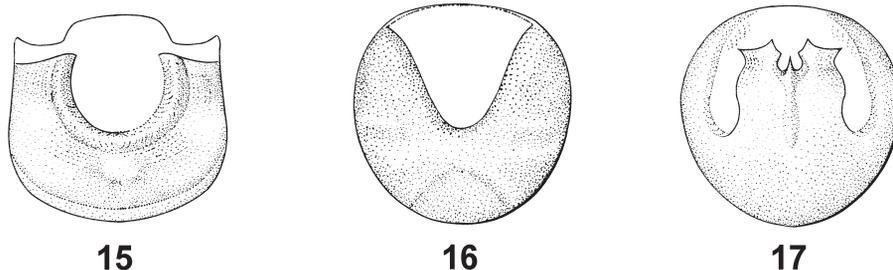
Diagnosis. This genus differs remarkably from any other member of the tribe Largulini by strongly concave ventral rim of pygophore, that reaches deeper than half the height of ventral wall, and has the margins of the concavity strongly thickened, ridge-shaped, and apically subacute (Fig. 14).

For a detailed description see BRAILOVSKY & BARRERA (2008: 256–258).

Etymology. The name is composed from the Greek prefix *para* (= close to) and the generic name *Largulus*; gender masculine.



Figs. 7–14. 7–8 – *Neolargulus excavatus* gen. & sp. nov., holotype, pygophore (7 – caudal view, 8 – lateral view); 9–11 – *Armilargulus elongatus* Stehlík & Jindra, 2007, holotype, pygophore (9 – caudal view, 10 – anterodorsal view, 11 – lateral view); 12–14 – *Largulus parallelus* Hussey, 1927: 12–13 – pygophore (12 – caudal view, 13 – lateral view); 14 – paramere. (Photo: P. Kment). Abbreviations: o – opening in the ventral wall; p – paramere; pm – parandrium; vr – ventral rim of the pygophore.



Figs. 15–17. Pygophore in caudal view. 15 – *Paralargulus refulgens* (Brailovsky & Barrera, 2008); 16 – *Neolargulus excavatus* gen. & sp. nov.; 17 – *Largulus parallelus* Hussey, 1927. (Figs. 15, 17 from BRAILOVSKY & BARRERA 2008).

Key to the genera and species of Largulini

- 1 (2) Callar lobe black, gibbose, distinctly detached from the pronotal lobe. Lateral margin of pronotum well developed, carinate. Ventral rim of pygophore concave, narrow, lateral rim in the portion connected to ventral rim strongly widened and rounded, but decreasing to nearly fading towards the dorsal rim, so the lateral wall in dorsal third continually verges into simple round dorsal margin (Figs. 7, 16). Lateral rim infolding apparent only anteriorly to the thickened portion of lateral rim, horizontal, dish-shaped. Paramere long, slender, apex pointed (Figs. 7–8). Body length: 7.4 (♂)–10.1 (♀) mm. Dominican Republic. *Neolargulus excavatus* gen. & sp. nov. (Figs. 1, 3–4).
- 2 (1) Callar lobe not gibbose, not distinctly detached from pronotal lobe. Lateral margin of pronotum rounded, not carinate. Pygophore of different structure. Jamaica. 3
- 3 (4) Body larger (♂♂ 8.75–9.13 mm, ♀♀ 10.15–10.58 mm), black, only lateral pronotal margins, median stripe on pronotum and scutellum, claval commissure, and lateral margins of corium orange or dark red (Fig. 5). Ventral rim of pygophore medially roundly concave (Fig. 9), submedially with large parandria; parandria wide at base, their median portion attenuate, apically strongly widened, with rounded tip (Figs. 9–11). Ventral wall of pygophore with opening into the genital chamber¹ (Fig. 10). Paramere short, erect (Figs. 10–11). Jamaica.
 *Armilargulus elongatus* Stehlik & Jindra, 2007 (Fig. 5).
- 4 (3) Body smaller (♂♂ 7.13–8.18 mm, ♀♀ 8.21–10.11 mm). Pygophore of different structure, without parandria. 5
- 5 (6) Pronotum pale, with only two black spots anteriorly (Fig. 6). Ventral rim of pygophore strongly produced into a plate with lateral margins concave, apical margin laterally pointed and medially with a W-shaped incision divided by a sharp triangular tooth (Figs. 12, 17). Lateral rim of pygophore in caudal view sharp; in dorsal view somewhat rounded, straight, and running at an angle towards the middle of dorsal rim (which is, therefore, almost absent) (Fig. 13), where both sides come together. Lateral rim infolding

¹ STEHLÍK & JINDRA (2007) overlooked the opening in the ventral wall of pygophore of *Armilargulus elongatus* (see Fig. 9: o), which is a unique character of this genus, and should be added to its generic diagnosis.

- falling abruptly into genital chamber and ending some distance from concurrence of both parts of lateral rim. Paramere (see Fig. 14). Body length: 7.13–7.45 mm (♂♂), 8.21–8.96 mm (♀♀). Jamaica. *Largulus parallelus* Hussey, 1927 (Fig. 6).
- 6 (5) Pronotum pale without dark spots; corium with black median spot near inner margin of corium. Ventral rim of pygophore strongly concave, U-shaped incision reaching deeper than a half the height of ventral wall, margins of concavity strongly thickened, ridge-shaped, apically subacute (Fig. 14). Body length: 8.18 mm (♂). Jamaica. *Paralargulus refulgens* (Brailovsky & Barrera, 2008) **comb. nov.** (Fig. 2).

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