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Largulini – a new tribe of Larginae from Jamaica (Heteroptera, Largidae)

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Abstract. Largulini, a new tribe of Larginae, is established for the genera *Largulus* Hussey, 1927 and *Armilargulus* gen.nov. (type species: *Armilargulus elongatus* sp.nov.), both from Jamaica. Parandria of pygophore in *A. elongatus* sp.nov. are discovered for the first time in the family Pyrrhocoroidea. The male genitalia of *Largulus parallelus* Hussey, 1927 are described for the first time and additional records of this species are listed. The colour polymorphism of both genera is given in brief.

Keywords. Heteroptera – Largidae – taxonomy – new tribe – new genus – new species – morphology – pygophore – parandria – Jamaica

Introduction

The study of two species of Larginae from the island of Jamaica has led to a surprising result, in particular with regard to the morphology of their pygophores. HUSSEY (1927) described the monotypic genus *Largulus* with the species *L. parallelus* Hussey, 1927 without a description of the pygophore, which is given here. The second pygophore described in the current paper is that of a new, apparently monotypic genus *Armilargulus* gen.nov. with the single species *A. elongatus* sp.nov., which has a pygophore that is very different from that of *Largulus* and bears parandria. Both taxa are very different from all largid genera described to date but have some common characters indicating their phylogenetic relatedness. Parandria (falsi styli, hypopygeal appendages, pygophoral appendages) have been found to date in the superfamilies Pentatomoidea and Aradoidea that are, within Pentatomomorpha, phylogenetically rather remote from the superfamily Pyrrhocoroidea. The current finding is therefore highly interesting. In Pentatomoidea, parandria are common in the subfamily Podopinae and in all species of the genus *Eurydema* Laporte, 1833 (Pentatomidae: Pentatominae), but occur only sporadically in other members of this family, as well as in the family Scutelleridae.

Methods

The terminology for body parts to a large extent follows that given by VAN DOESBURG (1968), but the more specific terms proposed by SCHAEFER (1977) are employed for the pygophore.

Taxonomy

Largulini trib.nov.

Type genus: *Largulus* Hussey, 1927

Diagnosis. Body slender, parallel, with conspicuously slender antennae, callar and pronotal lobes almost unseparated. Occurrence in two colour types – yellowish and red. Pygophore with massive parandria or with a high lamellar, broken ventral rim.

Differential diagnosis. The genera of this tribus differ in the morphology of their pygophore from the other genera of the subfamily Larginae. In Larginae in general, the ventral rim of the pygophore protrudes somewhat to the rear in lateral view and is usually thinner medially, elsewhere thick, without protuberances and rather uniform (Fig. 5) compared to the ventral rim in Pyrrhocoridae, which is very variable and can serve in most cases for identification to species.

Armilargulus gen.nov.

Type species. *Armilargulus elongatus* sp.nov.

Description. Body long, narrow, parallel. Eye almost without eye socket, in lateral view on same level as frons, large, its ventral margin exceeding level of ventral margin of antennifer. In dorsal view the head protrudes slightly forward of the eyes, antennifer close to eye, its outer side not elevated. Frons slightly elevated. Antennae conspicuously slender, long, first antennomere only slightly thicker towards apex. Bucculae distally rounded, rather small, less wide and not exceeding first labial segment. First labial segment reaches base of head in males, a little shorter in females. Labium feebly exceeding mesocoxae, exceptionally reaching middle of sternum III. Legs slender, fore-femora only slightly thicker, in apical third with 2–3 denticles. Proximal margins of ventrites V and VI laterally, in area of trichobothria, slightly sigmoid. In males ventrites progressively increasing in size in lateral view, ventrite VII largest (due to large pygophore). Callar lobe little elevated and hardly separated from pronotal lobe, the latter being evenly elevated. Lateral margin of pronotum only slightly sinuate at centre.

Pygophore. Ventral wall dorsally elevated, ventral rim with triangle-shaped indentation medially. Massive parandria protruding from lateral rim. Lateral wall separated from parandria by rounded depression. Parandria erect at an angle. Base of parandrium flat, wide and prolonged towards distal rim. Parandrium markedly narrower at centre, distal part again substantially wider and from the outer side with bowl-like depression. Inner margins of both parandria rounded and coming close to each other. Opposite end of this upper part bent sideways. The above-mentioned opposite side is not rounded but somewhat elongate. In distal part of pygophore the lateral and distal walls merge with lateral and distal rim and with lateral and distal infolding, thus forming a continuous area covering almost half of genital chamber; only medially with large, oval indentation and submedially with shallow, large and rounded depressions.

Paramere. Base narrow, towards genital chamber abrupt transition to flat and wide middle part (thicker only on its outer margin), ventrally protruding into point and dorsally protruding into narrower and bent processus hamatus (approximately as long as middle part and pointing above middle part into genital chamber. On side closer to dorsal rim, steady transition of bases of parameres into rounded, club-shaped structure, which is divided along its full length by a conspicuous furrow. This structure not apparent from opposite side of paramere. Sensory hairs on its apex.

Female genitalia. Ovipositor consists of two longish paired gonapophyses as in other Largidae.

Derivatio nominis. Gender is masculine.

Differential diagnosis. The genus *Armilargulus* differs from the genus *Largulus* in possessing massive parandria protruding from lateral rim and dorsal part of pygophore forming a continuous area covering almost half of the genital chamber.

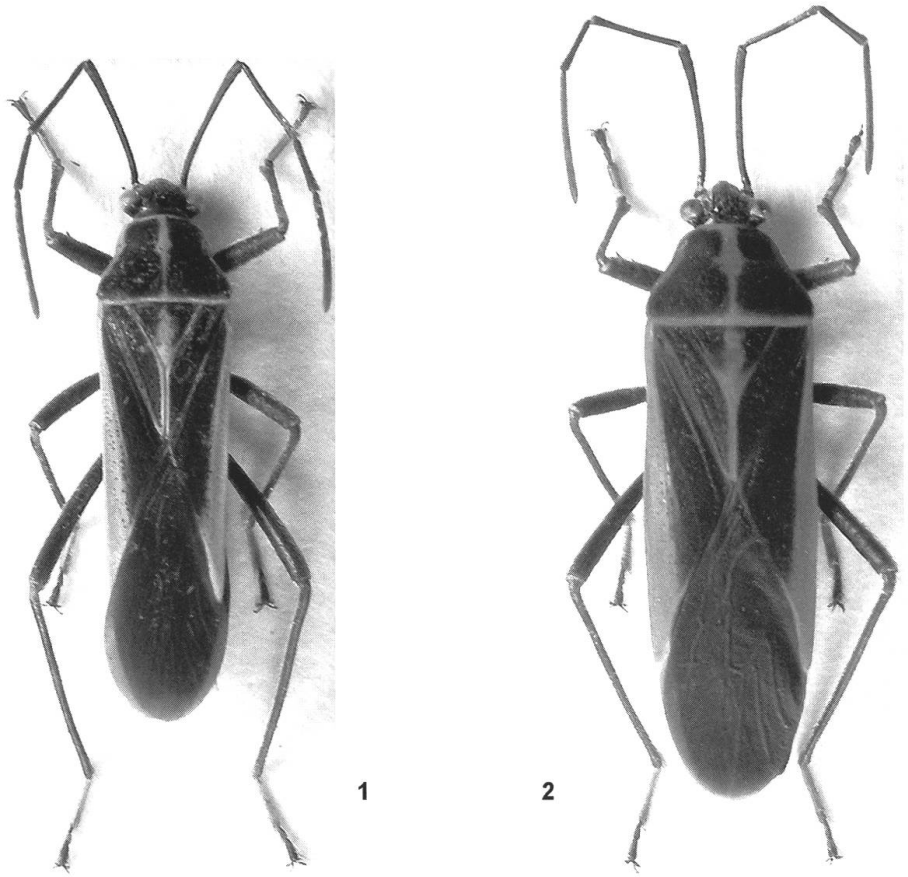
Armilargulus elongatus sp.nov. (Figs 1, 2, 6–9)

Type material. Holotype ♂: Jamaica, W. I. [= West Indies], Hardwar Gap, 16.viii.1964, T. H. Farr coll.; deposited in the Institute of Jamaica, Kingston.
Paratypes: 2 ♂♂, 5 ♀♀: the same data; 1 ♀: the same data, 8.vii.1961, T.H. Farr; 1 ♂: the same data, 17.vii.1963, T.H. Farr; 1 ♀: Jamaica, W.I., St. Andrew, Gwallow Field, 13.vii.1953, C.B. Lewis. All deposited in the Institute of Jamaica, Kingston, except 1 ♂ and 1 ♀ in the collection of the Moravian Museum, Brno, Czech Republic.

Description. Body mainly black. Orange or less frequently dark red parts: anterior, lateral (band getting narrower towards pronotal base) and distal (thin) margins of pronotum; rather broad medial band reaching across callar lobe, widening even more in proximal part of pronotal lobe but becoming much narrower towards distal margin; broad band with fuzzy borders on scutellum, originating close to base; inner margin and commisure on clavus; on corium hypocostal lamina and costal margin from which this coloration spreads evenly up to radius; minute stripe of this coloration stretches along distal margin. Ventrally, same coloration on anterior margin of prosternal collar, on pronotal epipleuron (here this coloration stretches somewhat to dorsal part of posterior pleural flange I, including thin edge on its distal margin), on trochanters and narrowly on bases of femora (coxae of only slightly lighter colour). First two segments of labium black, segments III and IV whitish, also first tarsal segments of all pairs of legs whitish.

Puncturation. Pronotal collar with black punctures on base. Pronotal lobe with rather distinct and somewhat dense puncturation, on light lateral margin with irregular black punctures. Black punctures also on clavus and corium, but only clearly visible in places of light coloration. Costal margin and corial apex without punctures. Light centre of scutellum with colourless punctures.

Measurements (in mm). Males (n = 5). Body length: 8.96 (8.75–9.13); head: width (including eyes) 1.41 (1.35–1.46), interocular width 0.732 (0.73–0.81); antenna: antennomere I length 2.24 (2.16–2.27), antennomere II 1.49 (1.43–1.57), antennomere III 0.97 (0.92–1.00), antennomere IV 2.07 (1.97–2.21); pronotum: length 1.60



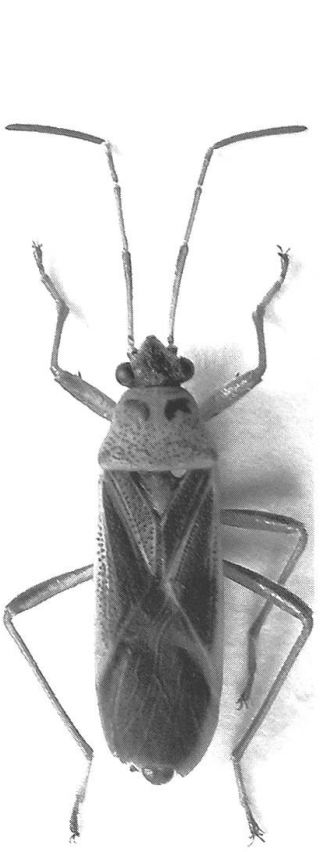
Figs 1–2. *Armilargulus elongatus* sp.nov.: 1 – male, 2 – female.

(1.51–1.67), width 2.19 (2.16–2.21); scutellum: length 1.00 (0.94–1.05), width 1.13 (1.11–1.13); corium: length 4.86 (4.81–4.97), width 1.03 (0.97–1.08).

Females (n = 5). Body length 10.36 (10.15–10.58); head: width 1.49 (1.46–1.54), interocular width 0.83 (0.81–0.86); antenna: antennomere I length 2.38 (2.32–2.43), antennomere II 1.57 (1.51–1.62), antennomere III 1.01 (0.92–1.03), antennomere IV 2.01 (1.84–2.16); pronotum: length 1.85 (1.81–1.92), width 2.67 (2.59–2.81); scutellum: length 1.20 (1.19– 1.24), width 1.38 (1.30–1.57); corium: length 5.70 (5.51–5.89), width 1.32 (1.24–1.40).

Derivatio nominis. The species epithet is the Latin adjective *elongatus*, *-a*, *-um*, elongate.

Differential diagnosis. *A. elongatus* sp. nov. differs from *L. parallelus* in its black colouration with light bands and more elongate body (male 8.75–9.13 mm, female 10.15–10.58). Differences in body between sexes minimal.



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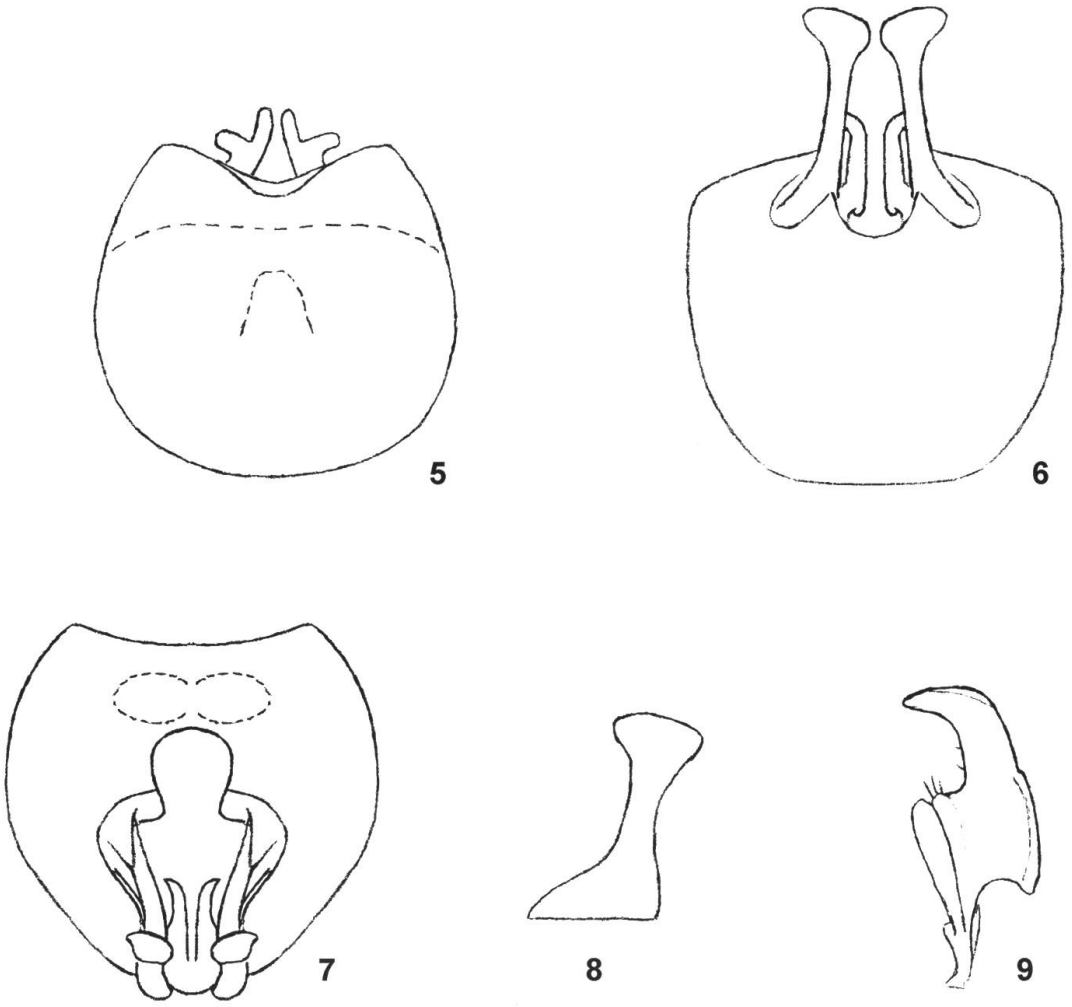
Figs 3–4. *Largulus parallelus* Hussey: 4 – male, 5 – female.

Largulus parallelus Hussey, 1927 (Figs 3, 4, 10–12)

Material examined. 1 ♀: Jamaica, W.I. [= West Indies], St. Andrew, Newhaven Gap, 23.x.1954, T.H. Farr; 1 ♂: the same data, 23.ix.1954, T.H. Farr; 1 ♀: St. Andrew, Morcel Gap, T.H. Farr; 1 ♀: St. Andrew Golly below, Morcel Gap, 4300, 23.viii.1949, Robert Hort; 1 ♂: Portland, Mt. Horeb, NE slope, 21.xi.1954, T.H. Farr. All deposited in the Institute of Jamaica, Kingston, except 1 ♀ in the collection of the Moravian Museum, Brno, Czech Republic.

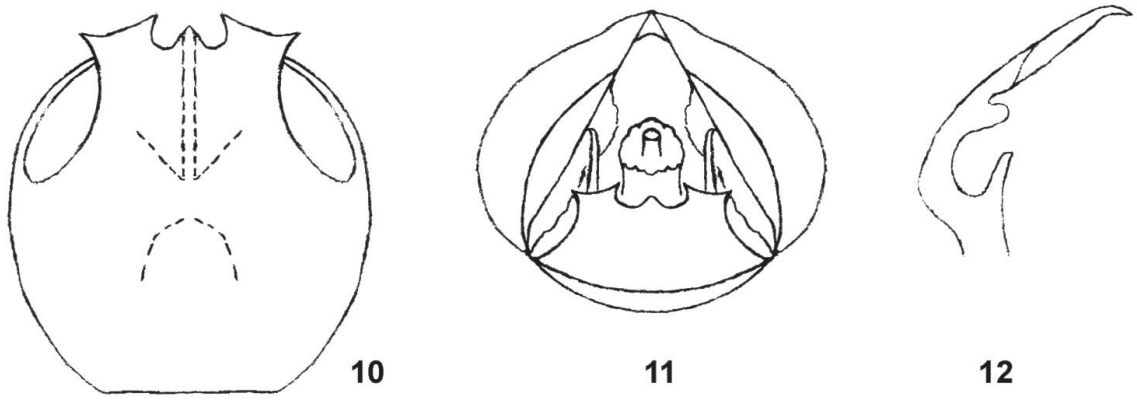
Remarks. HUSSEY (1927) described this genus and species based on material from a single locality, Cinchona, in Jamaica. The exact number of paratypes was not given; it was only stated that three paratypes were present in the collection of the American Museum of Natural History in New York. Since the species description was published no other locality has been reported in the literature. We therefore list several other localities in Jamaica. The description by the above-given author is thorough, but it lacks a description of the pygophore, which is of interesting morphology. Hence we give



Figs 5–9. *Stenomacra marginella* (Herrich-Schaeffer, 1850): 5 – pygophore (common type of Larginae with smaller modifications). *Armilargulus elongatus* sp.nov.: 6 – pygophore, posterior view; 7 – pygophore, dorsal view; 8 – parandrium, lateral view; 9 – paramere.

a description of this structure. It also seems worth mentioning that the females within this genus are substantially wider than the males, whereas in the preceding genus differences in body width are not conspicuous.

Pygophore. The high ventral wall changes evenly into a very high ventral rim that bends slightly into the genital chamber. Ventral wall and ventral rim medially keel-like. This medial part ends in a triangle-shaped, flat protrusion. Laterally, this lamella-like ventral rim recedes; on both sides a flat protrusion spreads out from it, with a rounded



Figs 10–12. *Largulus parallelus* Hussey, 1927: 10 – pygophore, posterior view; 11 – pygophore, dorsal view; 12 – paramere.

indentation at the apex and a point at each end. Lateral rim in caudal view (posteriorly) sharp, in dorsal view somewhat rounded, straight and running at an angle towards the middle of dorsal rim (which is, therefore, almost absent), where both sides come together. Infolding of lateral rim falls abruptly into genital chamber and ends at some distance from the concurrence of both parts of lateral rim.

Paramere. Base rather strong but short, spreading out quickly and separating into a rather long protrusion, slightly bent dorsally and straying somewhat out into genital chamber and elongate, rather narrow body of paramere, on the outer side with a rounded bend, from the inner side concave and apically spread into semicircular lamella. Processus hamatus very long, slender, from base to approximately first third of rounded lamella of central part wider, than becoming abruptly narrower. Apex sharp, slightly bent.

Differential diagnosis. *L. parallelus* Hussey differs from *L. elongatus* sp. nov. in its light pronotum with only two smaller irregular black spots on callar lobe, much shorter body (male 7.13–7.45 mm, female 8.21–8.96 mm) and sexual differences between male (slender) and female (broader).

Changes of colour in the tribus Largulini

According to HUSSEY (1927), the light coloration of several specimens on which the description of *Largulus parallelus* was based is yellowish. These specimens were collected in January. Only one specimen, which he obtained from Mr. Barber from the same locality, had been collected in July and differed in being red on the parts with light coloration. Hussey assumed that this could be due to seasonal changes. The material

studied enables us to provide more information with respect to this matter. Two males with yellowish coloration were collected in the final third of November. Of three females with red coloration, two were collected in August (8th and 23rd) and the third one in the last third of October. From this we can deduce that specimens with light coloration may occur from the end of November until January (approximately) and those with red coloration from July until October. It seems obvious that this is a case of seasonal coloration. In *Armilargulus elongatus* sp.nov., the time periods are different. Eight specimens with light coloration were collected in the second third of August and three with red coloration in July (a shift to an earlier date by one month compared with the preceding species, in specimens with yellowish colouration even of three months). To make more exact statements on this issue for the latter species we would need more material collected at different dates.

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