

Description of *Physopelta finisterrae* sp. nov.
from Papua New Guinea
(Hemiptera: Heteroptera: Largidae)

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Abstract. A new species, *Physopelta finisterrae* sp. nov. (Hemiptera: Heteroptera: Largidae: Physopeltinae: Physopeltini) from Papua New Guinea, is described, illustrated, and compared with similar species.

Key words. Hemiptera, Heteroptera, Largidae, new species, taxonomy, Papua New Guinea

Introduction

The circumtropical pyrrhocoroid family Largidae is subdivided into two subfamilies and five tribes – the New World Larginae Amyot & Serville, 1843, including Largini, Araphini Bliven, 1973, and Largulini Stehlík & Jindra, 2007 (HUSSEY 1929, SCHAEFER 2000, STEHLÍK & JINDRA 2007, HENRY 2009, STEHLÍK & BRAILOVSKY 2011, STEHLÍK & KMENT 2011), and the Old World Physopeltinae Hussey, 1929, including Physopeltini and Lohitini Ahmad & Abbas, 1987 (HUSSEY 1929, AHMAD & ABBAS 1987, SCHAEFER 2000). The tribe Physopeltini currently includes six genera distributed in the Afrotropical, eastern Palaearctic, Oriental, and Australian Regions: *Physopelta* Amyot & Serville, 1843 (22 described species and 2 subspecies; distributed from Afghanistan and Japan to Australia and Solomon Islands), *Iphita* Stål, 1870 (14 species and 2 subspecies; from India and southern China to New Guinea), *Delacampius* Distant, 1903 (13 species; from southern China and Laos to northern Australia, New Guinea and Solomon Islands), *Wachsiella* Schmidt, 1931 (1 species, Indonesia: Sulawesi), *Taeubarella* Schmidt, 1932 (2 species; New Guinea, North Australia), and *Jindraia* Stehlík, 2006 (1 species; India: Meghalaya and Sikkim) (e.g., HUSSEY 1929; SCHMIDT 1931, 1932; STEHLÍK 1965, 2005a,b, 2006; AHMAD & ZAIDI 1987; ZAMAL & CHOPRA 1990; PERVEEN & AHMAD 1991;

AHMAD & ABBAS 1992; STEHLÍK & KERZHNER 1999; CASSIS & GROSS 2002; STEHLÍK & JINDRA 2006, 2008; RÉDEI et al. 2012). In this paper, we describe a new species of *Physopelta* from Papua New Guinea.

Material and methods

The morphological terminology largely follows VAN DOESBURG (1968) except for the pygophore for which more specific terms proposed by SCHAEFER (1977) are employed. For citation of the label data of the type specimen, a double slash (//) is used to separate data on different labels, the abbreviation 'hw' stands for handwritten and 'p' for printed, and the authors' comments are given in square brackets [].

Taxonomy

Physopelta finisterrae sp. nov.

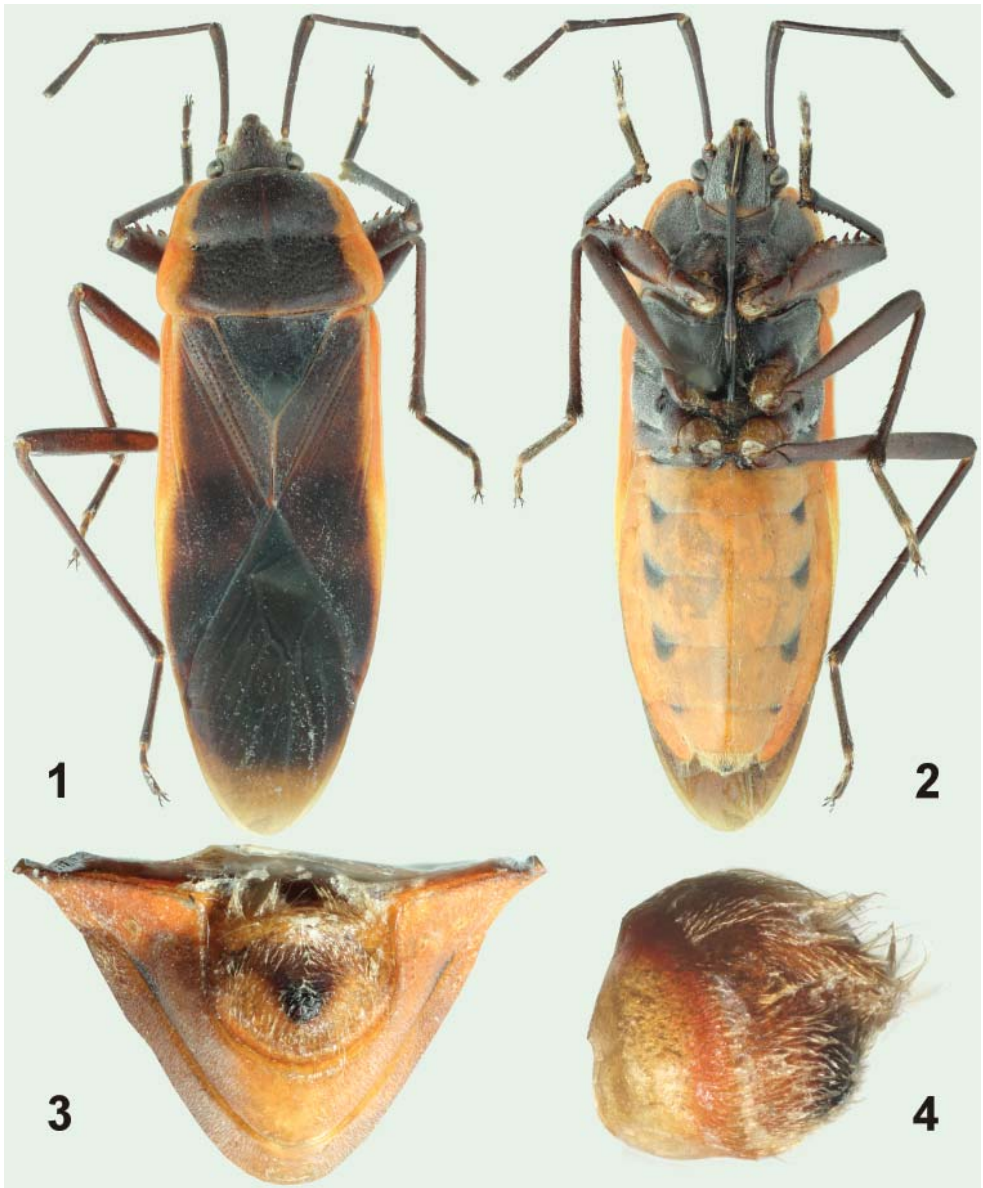
(Figs. 1–13)

Type material. HOLOTYPE: ♂, PAPUA NEW GUINEA: MADANG PROVINCE: 'NEW GUINEA: NE / Finisterre Range / Sidor: Matoko / Vill. IX-6-24-58' [p, white label] // 'W. W. Brandt / Collector / BISHOP' [p, white label] // '♂' [p, white label] // 'HOLOTYPUS [p] / *Physopelta finisterrae* [hw] / det. STEHLÍK & KMENT 201[p]2[hw]' [red label] (coll. Bernice P. Bishop Museum, Honolulu, Hawaii, USA). The specimen and its dissected pygophore and paramere are glued on one piece of card, both antennomeres 4 and right hind leg are missing, and the dissected phallus is placed in a small plastic vial placed on the same pin. PARATYPE: ♂, same data as holotype, except for 'PARATYPUS' instead of 'HOLOTYPUS' (coll. Moravian Museum, Brno, Czech Republic).

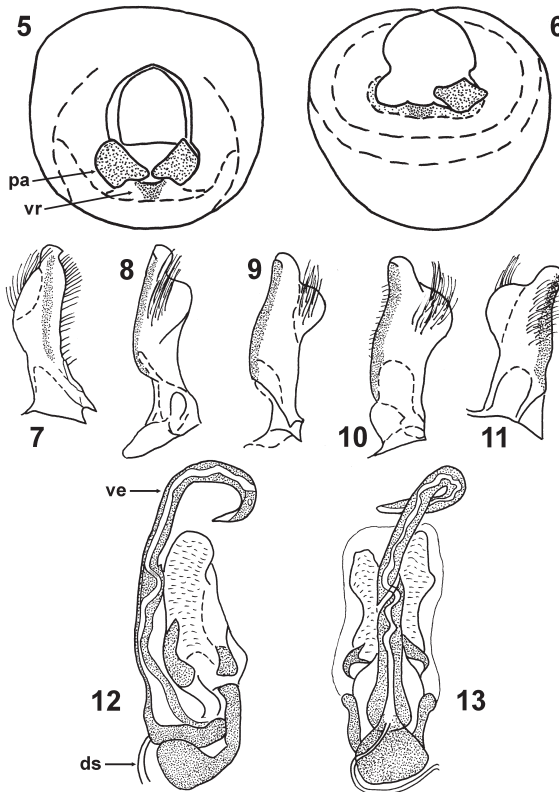
Description. Male. Colouration (Figs. 1–2). Dorsum black, only anterior and lateral margins of pronotum reddish. Corium mostly dark with traces of two large black spots (round median and triangular apical), costal margin of corium reddish; membrane smoky. Legs and antennae black, only basal third of antennomere 4 whitish. Thoracic sterna and pleura, pair of crescent spots on anterior margin of each of abdominal sternites IV–VII (only small on sternite VII), and circular spot on ventral wall of pygophore all black; lateral pronotal margins, prosternal collar, pronotal epipleuron, posterior portion of posterior pleural flange I, dorsal margin of pleuron I narrowly, hypocostal lamina, and remaining parts of abdominal sternites (including dorsal and ventral laterotergites) and pygophore all reddish.

Structure. Body large, parallel-sided (Figs. 1–2), dorsally flat, ventrally strongly convex (Fig. 3). Head prognathous, eyes approaching anterior margin of pronotum. Antennomere 1 longer than antennomere 2 (Figs. 1–2). Labium reaching meso- or metacoxae (Fig. 2); first labial segment adjoining ventral surface of head.

Callar lobe of pronotum strongly gibbose; pronotum with transverse depression between callar and pronotal lobe. Lateral margin of pronotum wide, distinctly raised dorsally, slightly concave medially. Pronotal lobe rather flat, medially with a weak longitudinal keel along its entire length (Fig. 1). Profemur strongly incrassate, apically attenuated, medially strongly swollen, ventrally with median longitudinal furrow; anterior side of the median longitudinal furrow apically with two large teeth remote from each other and one smaller tooth (in paratype with only one large tooth), basally with three somewhat larger teeth, and row of small denticles



Figs. 1–4. *Physopelta finisterrae* sp. nov., male (holotype, body length 18.4 mm). 1–2 – habitus (1 – dorsal view, 2 – ventral view); 3 – apex of abdomen and pygophore, posterior view; 4 – pygophore, lateral view. Not to scale.



Figs. 5–13. *Physopelta finisterrae* sp. nov. 5–6 – pygophore (5 – dorsal view, 6 – dorso-posterior view); 7–11 – paramere (five different positions); 12–13 – phallus (not inflated, basal portion omitted) (12 – lateral view, 13 – ventral view). Lettering: ds – ductus seminalis, pa – paramere, ve – vesica, vr – ventral rim. Not to scale.

along its entire length. Meso- and metafemora with longitudinal row of small denticles, without median furrow. Protibia on ventral side with longitudinal row of small denticles. Stridulatory organs with strigil in form of a tooth laterally on procoxa, plectrum in form of two wrinkled spots on trochanter.

Pygophore (Figs. 3–6). Ventral wall of pygophore gibbose, ventral rim situated low, deeply concave. Lateral rim strongly raised towards dorsal rim in its lateral third, on inner side strongly insinuated to form paramere sockets. Lateral rim infolding steeply sloping into genital chamber. Anal tube positioned horizontally, large, occupying more than half of the posterior opening. Paramere as illustrated in Figs. 7–11. Phallus (Figs. 12–13) with vesica twisted medially along its longitudinal axis and a single coil apically.

Punctuation. Pronotal lobe except for lateral margins, scutellum, clavus, and corium except for costal margins distinctly regularly punctured.

Pilosity. Scutellum densely covered with short, semierect black hairs; head dorsally with sparse short, semierect black hairs. Clavus and corium covered with very short black setae.

Body ventrally with short silver pubescence. Posterior margin of sternite VII and pygophore covered with pale setae.

Measurements (holotype / paratype; in mm). Body length: 18.36 / 17.17; head: length 1.84 / 1.89, width (including eyes) 2.43 / 2.38, interocular width 1.51 / 1.40; lengths of antennomeres: 1 – 3.13 / 2.97, 2 – 2.97 / 2.81, 3 – 1.94 / 1.86, 4 – missing / 3.46; pronotum: length 3.83 / 3.56, width 5.45 / 4.81; scutellum: length 2.70 / 2.05, width 2.97 / 2.88; corium: length 9.34 / 8.48, width 2.75 / 2.48.

Female. Unknown.

Variation. Profemur on ventral side apically with two large teeth and one smaller tooth (holotype) or only one large tooth on dorsal side of the median longitudinal furrow (paratype). Labium reaching mesocoxae (holotype) or metacoxae (paratype).

Differential diagnosis. Antennomere 1 of the new species is longer than antennomere 2. This character is shared with three Oriental species of *Physopelta*: *P. albofasciata* (DeGeer, 1773), *P. biguttata* Stål, 1870, and *P. robusta* Stål, 1863; however, the new species differs from all of them in having a longitudinal row of small denticles on meso- and metatibiae, and a different type of stridulatory organs (J. L. Stehlík, unpubl.). The structure of the stridulatory organs (strigil in form of tooth on coxa, plectrum in form of flat, wrinkled area on trochanter) of *P. finisterrae* sp. nov. is shared with another species group of *Physopelta* comprising 13 species in the Australian and Oriental Regions (*P. australis* Blöte, 1933, *P. cincitollis* Stål, 1863, *P. confusa* Zamal & Chopra, 1990, *P. gutta gutta* (Burmeister, 1834), *P. gutta famelica* Stål, 1863, *P. indra* Kirkaldy & Edwards, 1902, *P. kotheae* Stehlík & Jindra, 2008, *P. lisae* Taeuber, 1927, *P. melanopyga melanopyga* Blöte, 1938, *P. melanopyga rufifemur* Stehlík & Jindra, 2008, *P. parviceps* Blöte, 1931, *P. quadriguttata* Bergroth, 1894, *P. sita* (Kirby, 1891), *P. slanbuschii* (Fabricius, 1787), and *P. trimaculata* Stehlík & Jindra, 2008); but these species differ in having the antennomere 1 shorter than the antennomere 2 and vary in the presence / absence of the median longitudinal furrow and small denticles on the meso- and metafemora. Furthermore, *P. finisterrae* sp. nov. can be easily distinguished from all species of *Physopelta* by its largely blackish dorsal coloration (except for the reddish lateral margins of the pronotum and corium). The coloration of *P. finisterrae* sp. nov. resembles superficially some species of the genus *Iphita*, which, however, differs markedly in body structure (in *Iphita*, the callar lobe is only slightly gibbose, the wide lateral pronotal margins are strongly elevated above the surface of the callar lobe, and stridulatory organs are lacking).

Etymology. The species epithet, referring to the distribution of the species in the Finisterre Range, is composed of two Latin nouns, *finis* (= end; nominative) and *terra* (= land; genitive *terrae*), standing here for 'from the end of the land'.

Biology. Unknown.

Distribution. Northern areas of Papua New Guinea (Madang province).

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