

A NEW SPECIES OF *PLOIARIA* (HETEROPTERA: REDUVIIDAE: EMESINAE) FROM PENINSULAR MALAYSIA

Dávid Rédei

Department of Zoology, Hungarian Natural History Museum,
H-1088 Budapest, Baross u. 13., Hungary
Email: redei@zoo.zoo.nhmus.hu

ABSTRACT. – *Ploiaria vandoesburgi*, new species, (Heteroptera: Reduviidae: Emesinae: Leistarchini) is described based on a macropterous male from Pahang, Peninsular Malaysia. The new species has a long spiniferous process on the fore trochanter and differs from all other Oriental species by its fore femur having several small, rounded dark spots on its posterior surface. A key to the Oriental species of *Ploiaria* Scopoli, 1786, that have a spiniferous process on the fore trochanter is presented.

KEY WORDS. – Heteroptera, Reduviidae, Emesinae, *Ploiaria*, new species, Malaysia.

INTRODUCTION

With about 130 described species, *Ploiaria* Scopoli, 1786, is the most species-rich genus within thread-legged assassin bugs or Emesinae, having native species in all zoogeographical regions (Maldonado Capriles, 1990). Eighteen species of this genus have been recorded from the Oriental Region so far. Among unidentified material deposited in the Nationaal Natuurhistorisch Museum (Naturalis), Leiden, a male specimen of *Ploiaria* from Pahang, Peninsular Malaysia, has been concluded to represent an undescribed species of this genus, and it is described as new in the present paper. A new generic synonymy of *Ploiaria* as well as notes on described species are also presented.

MATERIALS AND METHODS

External structures were examined using a stereoscopic microscope (Opton 47 50 52 – 9901). Drawings were made using a camera lucida. Measurements were taken using a micrometer eyepiece. Male genitalia were examined after short boiling in 10% KOH solution. Interpretation of fore wing venation follows Wygodzinsky (1966).

TAXONOMY

Genus *Ploiaria* Scopoli, 1786

Ploiaria Scopoli, 1786: 60. Type species by monotypy: *Ploiaria domestica* Scopoli, 1786.

For the numerous synonyms of the genus see Wygodzinsky (1966: 158), Maldonado Capriles (1990: 108), Putshkov & Putshkov (1996: 158) and Cassis & Gross (1995: 292).

Ploiaria vandoesburgi, new species (Figs. 1–17)

Type material examined. – Holotype male: “MALAYA \ (Pahang) \ Genling-0002. \ 16. IV[?]. 74 \ P. Roche” [handwritten]; “7569.” [handwritten]; “Ex-coll. \ P.J.L. Roche” [printed] (Nationaal Natuurhistorische Museum, Leiden, the Netherlands). The specimen is micropinned and in good condition, apart from segment I of the left antenna being glued to a triangular card and pinned under the specimen, the apex of the femur and tibia and tarsus of the right mid leg and both hind legs are missing. The pygophore is removed from the body and glued on a card separately, the phallus is preserved in glycerol in a plastic microvial, pinned with the specimen.

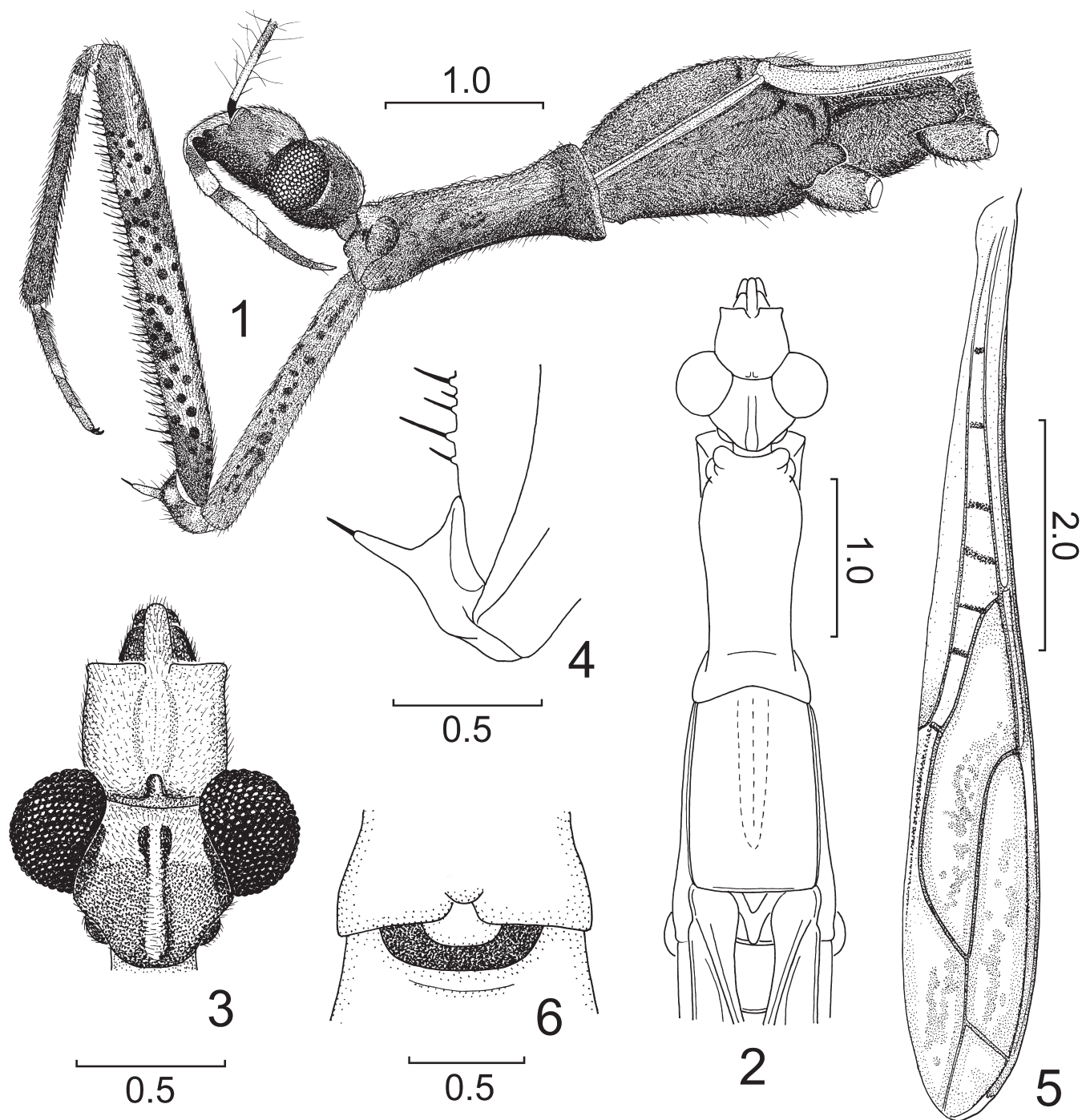
Diagnosis. – Readily recognized among other Oriental species of *Ploiaria* by the combination of the following characters: fore trochanter with a strong spine set on a conspicuous projection which is longer than the width of the trochanter; fore femur with several small, circular brown spots; pygophore with a single spine-like apical process.

Description. – Macropterous male.

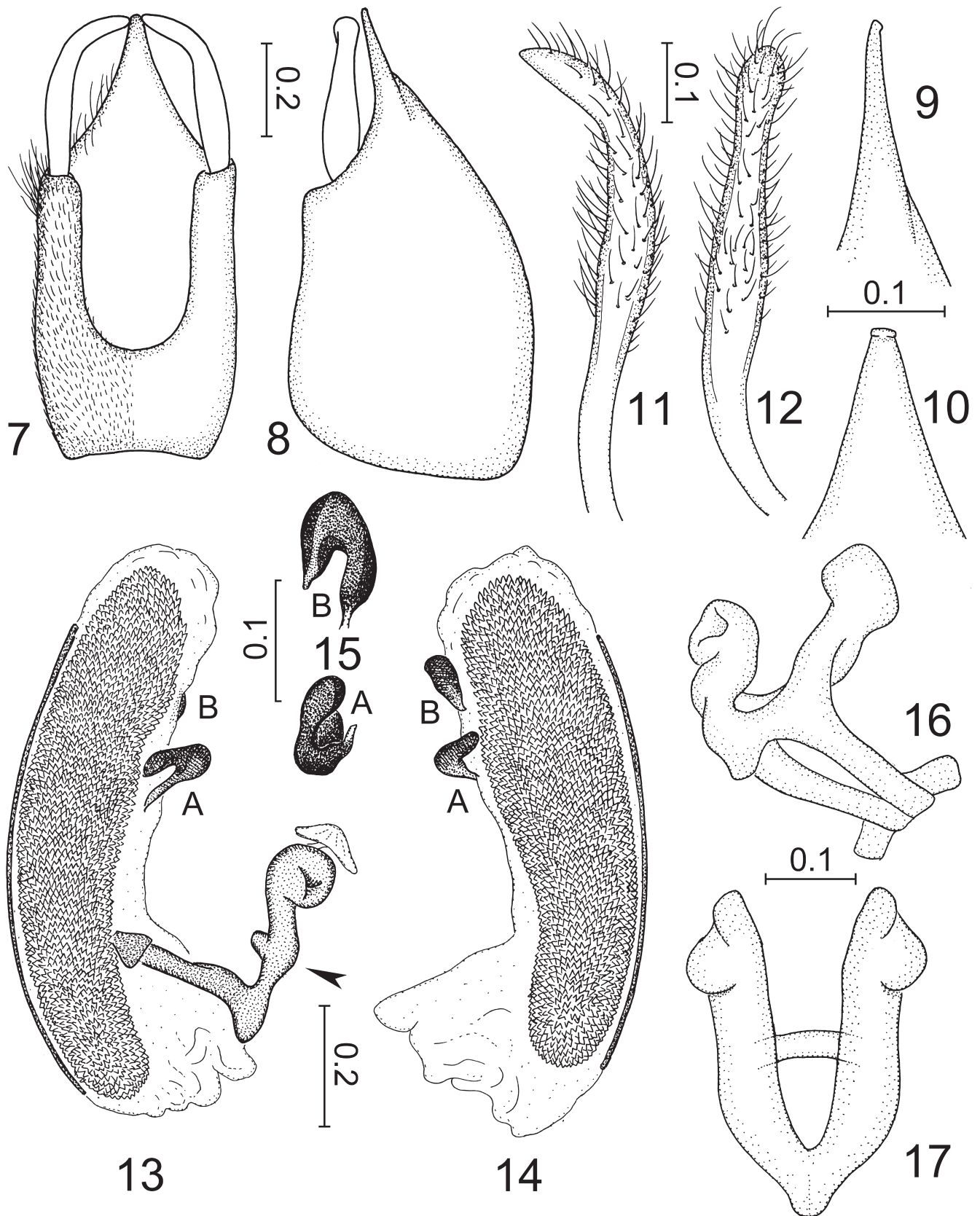
Colour. Head yellowish-brown; ventral surface as well as mandibular and maxillary plates dark brown; two narrow submedian longitudinal lines on anteocular part as well as postocular part posteriorly (except median longitudinal carina) and two spots between eyes confluent to latter area

brown. Labium dark brown, slightly lightened at its apex; apical halves of visible segments I and II, a narrow basal ring on visible segment III whitish. Antennal segments I, II and IV light brown; segment I with a narrow basal annulus dark brown and an adjacent wider subbasal annulus whitish; segment II darkened towards apex, extremely narrowly whitish apically; segment III brown. Prothorax dark brown laterally, distinctly lighter brown dorsally; mesonotum dark brown, slightly lighter at base; thoracic sternum and pleuron uniformly dark brown. Fore wing transparent, with transverse brown spots between M+Cu and PCu+1A on basal half and with irregular, frequently confluent dull brown spots on apical

half; anterior margin with brown spots at apex and middle. Abdomen dark brown ventrally; tergites brown; ventral laterotergites II–VIII each with a whitish spot around spiracle. Fore coxa brown with irregular, frequently confluent dark brown spots; trochanter dark brown with lighter spots; femur light brown with apex, base and two wide irregular annuli brown, and with several small, rounded dark brown spots; tibia dark brown with a distinct narrow subbasal annulus whitish; tarsus dark brown, with apex of segment I narrowly whitish. Mid and hind coxae dark brown; trochanters dark brown with yellowish spots; femora light brown with several small, short, longitudinal brown lines; apex of mid femur with



Figs. 1–6. *Ploiaria vandoesburgi*, new species, male: 1, head, thorax and fore leg, lateral aspect; 2, head and thorax, dorsal aspect; 3, head, dorsal aspect; 4, trochanter of left fore leg; 5, right fore wing; 6, joint area of pro- and mesosterna, ventral aspect. Scale bar measurements in mm.



Figs. 7–17. *Ploiaria vandoesburgi*, new species, male: 7, pygophore, dorsal aspect; 8, same, lateral aspect; 9, superoposterior projection of pygophore, lateral aspect; 10, same, ventral aspect; 11, left paramere, dorsal aspect; 12, same, lateral aspect; 13, phallus, from right; 14, phallosoma, from left; 15, dorsal sclerites of phallosoma, dorsal aspect; 16, articular apparatus, anterolateral aspect; 17, same, dorsal aspect. Arrow in Fig. 13 shows the aspect of Fig. 17. Scale bar measurements in mm.

wide whitish annulus apically; mid tibia yellowish with a small dark brown spot at base and with a dark brown annulus apically; tarsus dark brown; apex of femur, tibia and tarsus of hind leg missing.

Structure. Body surface and pilosity. Body dull, membranous parts of fore wing slightly shining, iridescent. Head, thorax and abdomen densely covered with rather long, adpressed, pale pubescence; antennal segments I and II with very long and fine pilosity; longest hairs about 8 times as long as diameter of segment I; hairs on segment II gradually shortening towards apex; segments III and IV and apex of segment II with short, semierect pilosity; fore legs with dense, semierect pilosity with longer hairs on dorsal surface of tibia; hind legs with very short and dense, adpressed hairs.

Head (Figs. 1–3) relatively short, about 1.15 times as long as width across eyes; antecular part about 2.2 times as long as postocular; anterior lobe strongly declivent anteriorly, with a short and deep sulcus along meson before interocular furrow; posterior lobe strongly converging posteriorly in dorsal aspect, with a distinct longitudinal ridge; width across eyes about 3 times as wide as interocular distance; eyes very large, globose, reaching ventral outline of head in lateral aspect. Labium almost straight; visible segment III longest, about 1.65 times as long as visible segment II, visible segments I and II subequal in length; apex of visible segment I surpassing antenniferous tubercle, apex of visible segment II slightly surpassing middle of eye. Antenna long and gracile; segment I about 1.15 times as long as segment II.

Thorax. Pronotum (Figs. 1–2) about 1.25 times as long as head, about 2.3 times as long as greatest width of anterior lobe; posterior lobe reduced, separated from anterior lobe by wide constriction, widely emarginated posteriorly. Prosternum very narrowly and shallowly excised posteriorly (Fig. 6). Mesonotum about 1.5 times as long as wide, about 0.95 times as long as pronotum along meson, with a wide, shallow median furrow. Fore wing (Fig. 5) reaching posterior margin of tergite VII.

Legs. Fore leg as in Fig. 1; coxa subcylindrical, slightly widening apically; trochanter (Fig. 4) with a ventral projection much longer than wide at base and bearing a relatively short apical spine; femur rather long, about 1.6 times as long as coxa, armed ventrally with two series of rather uniform, long and slender spines inserted on very short, wart-like basal processes, intermixed with several shorter spines; spines of both series gradually shortening towards apex of femur; posteroventral series beginning near base of femur, composed of about 30 spiniferous processes; anteroventral series not interrupted at base, composed of about 35 spiniferous processes; tibia about 0.6 times as long as femur, straight, distinctly widened in its apical third, armed with a single series of about 23 long and slender spines inserted on very short, wart-like basal processes; tarsus about half as long as tibia, three-segmented; segment I longest, about 1.6 and 2.3 times as long as segments II and III, respectively; pretarsus with two claws, outer (posterior) claw distinctly shorter than inner

(anterior) one. Mid and hind legs elongate and delicate; femora surpassing apex of abdomen.

Abdomen slender, about 1.3 times as long as head and thorax taken together, segment VII not projecting posteriorly.

Male genitalia. Pygophore (Figs. 7–8) elongate, slightly flattened laterally, with a narrow, triangular superoposterior projection (Figs. 9–10). Paramere (Figs. 11–12) distinctly bent in dorsal view, apically approaching apex of superoposterior projection of pygophore in resting position (Fig. 7). Phallus (Figs. 13–17) slightly asymmetrical; phallosoma largely membranous; phallosoma elongated, with a plate-like ventral sclerite and two short, asymmetrical, curved dorsal sclerotized processes (Fig. 15); endosoma with numerous small, subequal toothlike processes. Articulatory apparatus connected to phallosoma at considerable distance of its base (Fig. 13); basal plates slightly diverging apically (Fig. 17), connected to phallosoma with a long, paired basal plate extension (Fig. 16).

Measurements (in mm). – Body length 8.6. Length of head 1.08, preocular part 0.49, postocular part 0.22, width across eyes 0.93, interocular distance 0.31; lengths of antennal segments I, II, III and IV 10.9, 9.5, 2.05 and 1.74; length of (visible) labial segments I, II and III 0.34, 0.36 and 0.59. Length of pronotum along meson 1.36, greatest width of anterior lobe 0.59, of posterior lobe 0.71; length of mesonotum 1.27, greatest width 0.85, length of scutellum 0.31. Length of abdomen 9.8. Lengths of coxa, femur, tibia and tarsus (segments I, II and III) of fore leg 1.90, 3.04, 1.78, and 0.92 (0.51, 0.32 and 0.22), greatest widths of coxa and femur of fore leg 0.20 and 0.31; lengths of femur, tibia and tarsus of mid leg 9.2, 13.0 and 0.46.

Etymology. – It is a pleasure to dedicate this new species to Dr. Pieter H. van Doesburg, Jr., retired curator of Hemiptera at the Nationaal Natuurhistorisch Museum (Naturalis), Leiden, outstanding specialist of various groups of Heteroptera.

Comparative notes. – Eighteen species of *Ploiaria* have been recorded from the Oriental Region so far. One of them, *P. greeni* Distant, 1903 (Sri Lanka) was described based on a nymph (Bergroth, 1915); therefore, it was regarded as a species incertae sedis in subsequent works and its identity is still unknown. Fourteen of the remaining species (including the doubtful species *P. nude* Ravichandran & Livingstone, 1989) have unarmed fore trochanters. Most of these were originally placed to the genus *Luteva* Dohrn, 1860 (currently a junior synonym of *Ploiaria*) and belong to a distinct species-group. Species in this group have a glabrous fore trochanter and the fore femur is armed with only simple, subequal, short spines inserted on small, wart-like bases. The other three species occurring in the Oriental Region, *P. anak* Distant, 1909 (India; Pakistan), *P. insolida* (White, 1877) (the Oriental and Pacific Regions) and *P. macrophthalma* (Dohrn, 1860) (tropicopolitan), have more or less conspicuous but always distinct spiniferous process(es) on the fore trochanter.

Ploiaria vandoesburgi, new species, can be distinguished from the other three Oriental species having a distinct spiniferous process(es) on the fore trochanter by the following key.

Key to the Oriental species of *Ploiaria* having a spiniferous process on fore trochanter

1. Pronotum not or only slightly longer than head. Ventral projection of fore trochanter short, sometimes inconspicuous, wart-like, bearing a long apical spine. Body length less than 8 mm 2
- Pronotum much longer than head. Ventral projection of fore trochanter much longer than wide at base, bearing a relatively short apical spine. Body length more than 10 mm 3
2. Mid and hind femora with light apical annulus. Posterior process of pygophore bifid. Only macropterous morph known (tropicopolitan, occurs in the Neotropical, Afrotropical, Oriental, Australian and Pacific Regions) *P. macrophthalma* (Dohrn, 1860)
- Mid and hind femora uniformly brownish, without light apical annulus. Posterior process of pygophore simple, spine-like. Only macropterous morph known (Oriental and Pacific Regions) *P. insolida* (White, 1877)
3. Head distinctly granulate. Fore femur with two large dark spots on posterior surface. Only apterous morph known (India; Pakistan) *P. anak* Distant, 1909
- Head not granulate. Fore femur with four irregular brown annuli and several small, rounded dark brown spots. Only macropterous morph known (Malay Peninsula) *P. vandoesburgi*, new species

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