# Two new species of thread-legged assassin bugs from Australia (Hemiptera: Heteroptera: Reduviidae: Emesinae)

# Dávid Rédei

Institute of Entomology, Faculty of Life Sciences, Nankai University, Weijin Road 94, 300071 Tianjin, China & Department of Zoology, Hungarian Natural History Museum, H-1088 Budapest, Baross u. 13, Hungary; e-mail: david.redei@gmail.com

RÉDEI D. 2013: Two new species of thread-legged assassin bugs from Australia (Hemiptera: Heteroptera: Reduviidae: Emesinae). In: KMENT P., MALENOVSKÝ I. & KOLIBÁČ J. (eds.): Studies in Hemiptera in honour of Pavel Lauterer and Jaroslav L. Stehlík. *Acta Musei Moraviae, Scientiae biologicae* (Brno) **98(2)**: 347–361. – Two new species of thread-legged assassin bugs (Hemiptera: Heteroptera: Reduviidae: Emesinae) are described from Australia: *Ploiaria stehliki* sp.nov. (Leistarchini) from Western Australia: Derby and *Bargylia lautereri* sp.nov. (Metapterini) from Queensland: Cooktown. The type species of the genus *Bargylia* Stål, 1866 is discussed.

Keywords. Heteroptera, Reduviidae, Emesinae, true bugs, Ploiaria, Bargylia, taxonomy, Australia

### Introduction

The thread-legged assassin bugs (Hemiptera: Heteroptera: Reduviidae: Emesinae) of Australia were revised by WYGODZINSKY (1956); the Australian species were addressed in a monograph on the world fauna (WYGODZINSKY 1966) as well. Only WYGODZINSKY (1974), RÉDEI (2007), TATARNIC & CASSIS (2011), TATARNIC *et al.* (2011), and TATARNIC (2013) have provided additional data on the fauna of the continent (including its territorial islands).

The subject of the current contribution is the description of two new species, one in genus *Ploiaria* Scopoli, 1786 and the other in *Bargylia* Stål, 1866, from mainland Australia.

*Ploiaria* is a cosmopolitan genus with about 130 species worldwide. WYGODZINSKY (1956) revised the Australian fauna and described the majority of its endemic species. RÉDEI (2007) described an additional species. Currently there are eleven species known from Australia, two of them cosmopolitan, the rest endemic. One new species is described in the present paper.

*Bargylia* is an endemic Australian genus. It was redefined, its type species described and fixed as type species by WYGODZINSKY (1951). Three additional new species were described and members of the genus were keyed by WYGODZINSKY (1956). The genus was redefined and redescribed, one species was removed, another was described as new, and the included species were revised and keyed once more by WYGODZINSKY (1966). The relationships and diagnostic characters of the genus and species groups within the genus were discussed and an additional species described by RÉDEI (2007). The genus now contains five species, and a further one is described in the present paper.

This contribution is dedicated to two eminent Czech hemipterists, Jaroslav L. Stehlík and Pavel Lauterer, both of whom worked for the Moravian Museum for many years. With this paper I would like not only to pay tribute to their scientific contributions but also to acknowledge the great improvements they have made to the Hemiptera collection of the Hungarian Natural History Museum by identifying hundreds of pyrrhocoroid and psyllid specimens.

# Material and methods

Examinations of external structures were carried out using a Zeiss Discovery V8 stereoscopic microscope. Drawings were made with the aid of a camera lucida. Male genitalia were dissected after careful heating in hypertonic KOH solution, stained with Chlorazole Black E where necessary, and examined under a transmitted light microscope (Olympus CX21). Measurements were taken with a micrometer eyepiece.

Abbreviations for depositories:

# Taxonomy

#### Genus Ploiaria Scopoli, 1786

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

For a complete list of synonyms of the genus see WYGODZINSKY (1966: 158), MALDONADO CAPRILES (1990: 108), PUTSHKOV & PUTSHKOV (1996: 158) and CASSIS & GROSS (1995: 292). A selected bibliography of the most important references on the genus was provided by RÉDEI & TSAI (2010: 21).

Selected references for the Australian fauna. WYGODZINSKY (1956): 215 (revision and key to Australian species), WYGODZINSKY (1966): 158 (redescription, revision and keys to world species), CASSIS & GROSS (1995): 292 (catalogue, Australia), MALDONADO CAPRILES (1990): 108 (catalogue, world), RÉDEI (2007): 365 (description of a new species), TATARNIC & CASSIS (2011): 22, 28 (fauna of Lord Howe and Norfolk Islands, description of a new species).

**Distribution and diversity.** *Ploiaria* is a cosmopolitan genus containing about 130 species. Eleven species are known from continental Australia, and an additional 13 species occur in the surrounding islands usually considered to belong to the Australian Region: New Guinea, New Zealand and the oceanic islands of the tropical Pacific Ocean (WYGODZINSKY 1956, 1966; RÉDEI 2007; TATARNIC & CASSIS 2011).

#### Ploiaria stehliki sp.nov.

#### (Figs 1–16)

**Type material.** Holotype:  $\mathcal{J}$ , **Australia:** [1] "Derby" [printed], [2] "N. V. Austr. \*Mjöberg*" [printed], [3] "okt." [printed], [4] "REDUVIIDAE [handwritten] \ Emesinae [handwritten] \ Genn.? sp.? [handwritten] \ Froeschner [printed] 69 [handwritten]"; pinned, segments III–IV of left and segments II–IV of right antenna lacking (deposited in NHRS, identifier: NHRS-GUL1000006461). Paratypes: with labels identical with those of [1], [2] and [3] of holotype (5  $\mathcal{J}\mathcal{J}$  4  $\mathcal{Q}\mathcal{Q}$  deposited in NHRS, identifiers: NHRS-GUL1000006462–6467, 6481, 6917–6918; 1  $\mathcal{J}$  deposited in HNHM).

348

**Diagnosis.** Medium-sized species of *Ploiaria* (body length 10–11 mm) with quite uniformly brown ground colour, lacking contrasting pattern elements; known only from macropterous specimens of both sexes. It may be recognized by the following combination of characters: postocular portion of head much shorter than length of eye (Figs 1–2), posteriorly truncate in dorsal view (Fig. 1); pronotum about 1.1–1.2 times as long as its greatest width (Fig. 1); fore femur relatively slender (about seven times longer than its greatest diameter), ventral surface with a small, angulate tumescence at its extreme base (Fig. 5: arrow), anteroventral and posteroventral series of simple, relatively narrow spines inserted on minute, wart-like basal tubercles (Figs 4–5); genital capsule (Figs 7–8) relatively short, laterally flattened, with a relatively short and narrow, spine-like median process projecting posterodorsad.

#### Description. Macropterous male and female.

*Colour, integument and vestiture.* General colour brown, with paler areas but without distinct contrasting pattern; head brown, a pair of submedian longitudinal fasciae on anterior lobe, converging posteriorly, dark brown, ventral surface of head yellowish-brown; antenna dark brown; labium yellowish-brown; prothorax brown, dorsally marked with a fine, longitudinal-median yellowish line; yellowish-brown ventrally; fore leg quite uniformly yellowish-brown; mesonotum brown, its median longitudinal impression yellowish, membranous suture between mesonotum and mesopleuron whitish; mesoscutellum brown; fore wing brown; dorsal portion of pterothoracic pleuron brown, ventral surfaces of abdomen yellowish-brown; mid- and hind coxae and trochanters yellowish-brown, femora brown with a pale, narrow annulus apically, tibiae dark brown, gradually becoming lighter towards apex, with a pale, narrow annulus basally. Integument dull, delicately granulate, body and legs covered in very short, fine, inconspicuous hairs, appears glabrous even when observed under a stereoscopic microscope at 50× magnification; antenna without conspicuous hairs in both sexes.

*Structure. Head* (Figs 1–2) 1.1–1.2 times as long as its width across eyes, 2.5–2.6 times as broad as interocular distance; preocular portion about 2.2 times longer than postocular portion, relatively narrow and subparallel forward of eyes; interocular furrow weakly curved posteriad; postocular portion about 1.3 times as wide as preocular portion, broadly rounded, posteriorly truncate in dorsal view; eyes large, semiglobular, strongly protruding laterally in both sexes, approaching but not surpassing ventral outline of head in lateral view; first visible segment of labium slightly longer than second visible segment (and about 1.25 times as long); antennal insertions situated slightly below centre of preocular portion.

*Pronotum* (Figs 1–2) short, 1.1–1.2 times as long as its greatest width (somewhat forward of its mid-point), anterior lobe broadly rounded laterally, with a fine furrow along midline, posterior lobe short, collar-like, distinctly broadened posteriorly. *Pterothorax.* Mesonotum 1.3–1.4 times longer than pronotum, 1.2–1.3 times longer than its basal width; metasternum with a fine, narrow, median longitudinal carina. *Fore wing* (Fig. 3) elongate; r-m cross vein very short, situated slightly basad to the cross vein between Cu and AA<sub>1+2</sub>; cubital cell (= discal cell *sensu* WYGODZINSKY 1966; Fig. 3: cuc)



Figs 1–6. *Ploiaria stehliki* sp.nov. 1 – head and anterior portion of thorax, dorsal view; 2 – same, lateral view; 3 – right fore wing; 4 – right fore leg, anterior (= inner) view; 5 – trochanter and base of femur of right fore leg, anterior (= inner) view; 6 – pretarsus of right fore leg, posterior (= outer) view. Lettering: ac = anterior claw; pc = posterior claw; for fore wing venation, see the text. Scales in mm.

nearly two times as long as apical free portion of M, about as long and as broad as length and greatest diameter of the area delimited by Sc+R, M, r-m and Rs cross-veins respectively; apical free portion of M running at about same distance from anterior and posterior margins of wing; Rs joined to apical free portion of M around midway between

Acta Musei Moraviae, Sci. biol. (Brno), 98(2), 2013

apex of cubital cell and apex of wing. Fore leg (Fig. 4) relatively slender; coxa 1.6–1.7 times as long as pronotum; trochanter with two narrow spines inserted on minute, wartlike basal tubercles and with a few additional setae; femur relatively slender, 6.9-7.05 times longer than its greatest diameter (in its basal third), dorsal and ventral outlines nearly subparallel, anteroventral and posteroventral series of simple, relatively thin spines inserted on minute, wart-like basal tubercles; anteroventral series of about 40 spines, posteroventral series of about 55-60 spines, anteroventral series uninterrupted at base; ventral surface of fore femur with a small, angulate tumescence at its extreme base (Fig. 5: arrow), basal fifth of ventral surface with 10–15 spines somewhat longer and stronger than remaining spines of posteroventral series, arranged in two or three irregular rows; tibia slender, straight, about 0.6 times as long as femur, ventral surface with a single series of deflected spine-like setae ventrally; tarsus slender, straight, about 0.55 times as long as tibia, with two series of short, fine, adpressed spine-like setae ventrally, with two claws of different sizes, posterior (= outer) claw (Fig. 6: pc) shorter and stouter than anterior (= inner) claw (Fig. 6: ac). Mid- and hind legs delicate, hind femur about as long as body from apex of head to apex of abdomen.

*Abdomen* relatively slender; posterior margin of sternite VII of female (Fig. 16: s<sub>7</sub>) slightly rounded posteriorly.

External male genitalia. Genital capsule (Figs 7–8) relatively short, laterally flattened, anterior and posterior apertures separated by a broad dorsal sclerotized, bridgelike portion, so the posterior aperture occupies only about the posterior half of the segment, its proximal margin broadly rounded and broadly emarginate in middle third; cup-like sclerite with a relatively short, narrow, spine-like median process projecting posterodorsad, gradually narrowing towards apex; genital capsule tumescent at its posterior margin below median process. Parameres (Figs 9-11) sickle-shaped, with long, scattered setae. *Phallus* (Figs 12–13): articulatory apparatus (Fig. 13: aa) restricted to extreme base of phallus, basal plates (Figs 12–13: bp) subparallel in their proximal halves, diverging in their distal halves; phallosoma (Fig. 13: phs) simple, tubular, curved; basal aula with a pair of distinct lobes (Figs 12-13: lba) proximally; "struts" (Figs 12-13: str) separate proximally, sharply converging towards midline and fused quite close to centre, fused portion gradually narrowing towards distal portion and fused with dorsal sclerotized plate of phallosoma, pointed distally; dorsal sclerotized plate (Figs 12–13: dsp) narrowly split along midline; ventral sclerotized plate (pedicel?) (Figs 12–13: vsp) running along whole length of phallotheca; endosoma with densely-packed, denticle-like sclerites (Fig. 13: ses).

*External female genitalia* (Figs 14–16). Tergite VIII (Figs 14–15:  $t_8$ ) broadly triangularly produced posteriorly at middle; valvifers VIII (Figs 14–16:  $vf_8$ ) broadly surrounding derivatives of segments IX laterally, their inner margins straight, adjacent along midline, with a long, narrow apophysis projecting into segment VII (Figs 15:  $avf_8$ ); valvula VIII (Figs 14, 16:  $va_8$ ) short, simple, obliquely directed; tergite IX (Figs 14–15:  $t_9$ ) broadly emarginate basally, subtruncate apically in dorsal view; valvifer IX (Fig. 14:  $vf_9$ ) and valvula IX (Fig. 14:  $va_9$ ) both rod-shaped, simple; gonoplac (Figs 14–16: gpc) short, directed posteriad, contralateral gonoplacs not fused.



Figs 7–14. Ploiaria stehliki sp.nov. 7 – genital capsule, dorsal view; 8 – same, lateral view; 9–10 – left paramere, two different aspects; 11 – apical portion of left paramere; 12 – phallus, dorsal view; 13 – same, lateral view; 14 – apex of abdomen of female, lateral view. Arrow in Fig. 10 shows aspect of Fig. 11. Lettering: aa = articulatory apparatus; dsp = dorsal sclerotized plate; gpc = gonoplac; lba = lobe of basal aula; phs = phallosoma; s<sub>7</sub> = sternite VII; ses = denticle-like sclerites of endosoma; str = "struts"; t<sub>8</sub>–t<sub>9</sub> = tergites VIII and IX; va<sub>8</sub>–va<sub>9</sub> = valvulae VIII and IX; vf<sub>8</sub>–vf<sub>9</sub> = valvifers VIII and IX; vsp = ventral sclerotized plate; X = segment XI. Scales in mm.

*Measurements* (in mm) (holotype  $\Im$  / paratypes,  $n = 3 \Im \Im 3 \Im$ ). Body length 10.7 / 10.0–11.0, length of head 1.19 / 1.24–1.29, width across eyes 1.10 / 1.05–1.10, interocular distance 0.42 / 0.41–0.42, lengths of antennal segments I : II as 6.88 / 6.40–6.80 : 5.94 / 5.50–5.90 (segments III–IV lacking in all specimens), median length of pronotum 1.06 / 1.07–1.17, greatest width (across anterior lobe) 0.97 / 0.91–0.98,

Acta Musei Moraviae, Sci. biol. (Brno), 98(2), 2013

New species of thread-legged assassin bugs (Reduviidae: Emesinae)



**Figs 15–16.** *Ploiaria stehliki* sp.nov. 15 – apex of abdomen of female, dorsal view; 16 – same, ventral view. Lettering: avf<sub>8</sub> = apophysis of valvifer VIII; t<sub>7</sub> = tergite VII; others as in Fig. 14. Scale in mm.

length of fore coxa 1.76 / 1.78–1.98, length of fore femur 3.28 / 3.15–3.53, greatest diameter 0.47 / 0.45–0.51, length of fore tibia 2.05 / 1.86–2.08, length of fore tarsus 1.10 / 1.05–1.22, median length of mesonotum 1.60 / 1.34–1.55, posterior width 1.22 / 1.19–1.20, length of fore wing 7.15 / 7.10–7.50, greatest width 1.60 / 1.55–1.60, greatest width of abdomen 7.15 / 7.10–7.50.

**Etymology.** Patronymic, dedicated to Jaroslav L. Stehlík for the occasion of his 90th birthday, in recognition of his achievements in the taxonomy, faunistics and bionomics of various groups of Heteroptera.

# Distribution. Australia: Western Australia.

**Discussion.** *Ploiaria stehliki* sp.nov. is morphologically not notably similar to any of the described congeners from continental Australia, so its taxonomic relationships are uncertain. The distinct tumescence at the extreme base of the ventral surface of the fore femur (Fig. 5: arrow) is a peculiar autapomorphy of this species. I am not aware of any other species of *Ploiaria* exhibiting this character.

The general habitus of this new species seems more or less similar to that of *P. weiri* Tatarnic & Cassis, 2011, described from Norfolk Island, although the rather superficial description of the latter species, ignoring several taxonomically important characters, renders comparison difficult. Some important differences between the two species (shape of postocular portion of head, base of ventral surface of fore femur, fore wing venation) makes it probable that, in spite of their superficial similarity, the two species are not phylogenetically close.



Figs 17–20. *Bargylia lautereri* sp.nov. 17 – head, thorax and first abdominal segment, dorsal view; 18 – same, lateral view; 19 – abdomen of female, dorsal view; 20 – same, lateral view. Scales in mm.

Acta Musei Moraviae, Sci. biol. (Brno), 98(2), 2013

D. Rédei



New species of thread-legged assassin bugs (Reduviidae: Emesinae)

Figs 21–26. Bargylia lautereri sp.nov. 21 – right fore leg, anterior (= inner) view; 22 – apex of abdomen of male, lateral view; 23 – same, dorsal view; 24 – genital capsule, dorsal view; 25–26 – left paramere, two different aspects. Lettering: s<sub>7</sub> = sternite VII; t<sub>7</sub> = tergite VII; VIII = segment VIII. Scales in mm.

### Genus Bargylia Stål, 1866

*Bargylia* Stål, 1866a: 163. Type species: *Emesa iuncea* (non Erichson, 1842): STÅL (1874: 96), misidentification (= *Bargylia stali* Wygodzinsky, 1951), by subsequent designation by Wygodzinsky (1951): 611, 616 (see Nomenclature paragraph below).

References. STÅL (1866b): 168 (listed), STÅL (1874): 94 (in key), 96 (catalogue), LETHIERRY & SEVERIN (1896): 75 (catalogue), WYGODZINSKY (1951): 610 (designation of type species, redescription), WYGODZINSKY (1956):

196 (in key), 197 (identity, taxonomic history, nomenclature, key to species), WYGODZINSKY (1966): 434 (in key), 449 (redescription, revision, key to species), MALDONADO CAPRILES (1990): 121 (catalogue), KERZHNER (1992): 49 (type species, nomenclature), CASSIS & GROSS (1995): 296 (catalogue), RÉDEI (2007): 372 (diagnostic characters, species groups).

**Nomenclature.** WYGODZINSKY (1951) demonstrated that the genus *Bargylia* was based on a misidentified type species, and he selected the taxonomic species actually involved in the misidentification (*B. stali* Wygodzinsky, 1951) as type species of the genus. In this, and also in a subsequent paper (WYGODZINSKY 1966: 449), he indicated that an application had been submitted to the International Commission on Zoological Nomenclature intending to fix *B. stali* as type species of *Bargylia*. KERZHNER (1992), referring to WYGODZINSKY (1966), also mentioned that such an application had been submitted. However, it appears that no such Case or Opinion has been published to date.

The current edition of the International Code of Zoological Nomenclature (4th edition, ICZN 1999, Art. 70.3) does not require such cases to be referred to the commission but requires a First Reviser Act to have the type species fixed. Although the condition "the author must refer to this [= 70.3] Article" is of course not met, in all other respect WYGODZINSKY's (1951) First Reviser Act fully conforms to Art. 70.3.2 and was uniformly followed by all subsequent authors; it is therefore here considered as a valid type species fixation.

**Distribution and diversity.** Five species of *Bargylia* were known prior to this study, all occurring in Australia (RÉDEI 2007). An additional new species is described below.

#### Bargylia lautereri sp.nov.

#### (Figs 17–32)

**Type material.** Holotype: 3, Australia: [1] "Cook- \ town" [printed], [2] "Queensl. \ *Mjöberg*" [printed], [3] "REDUVIIDAE [handwritten] \ Emesinae [handwritten] \ Genn.? spp.? [handwritten] \ Froeschner [printed] 67 [handwritten]"; mounted on pointed card, left antennal segment IV and both mid tibiae and tarsi lacking (deposited in NHRS, identifier: NHRS-GULI00006482). Paratypes: with labels identical with those of [1] and [2] of holotype (1 3 5 9 and 1 specimen lacking abdomen deposited in NHRS, identifiers: NHRS-GULI000006483–6488 and 6919; 1 9 deposited in HNHM).

**Diagnosis.** A small member of the genus *Bargylia* (body length 8–9 mm) diagnosed by the following combination of characters: body surface finely but distinctly granulate; thoracic segments relatively short; clypeus and antenniferous tubercles without spine-like process (Figs 17–18); fore femur relatively stout (9–9.7 times as long as its greatest diameter), with long spiniferous processes, 5 processes of posteroventral series subequal to or longer than diameter of segment (Fig. 27).

### Description. Apterous male and female.

*Colour, integument and vestiture.* Body with complex pattern of dark brown to yellowish areas (Figs 17–18); head yellowish, a pair of lateral longitudinal fasciae as broad as height of eye running from base of head to antenniferous tubercles, a pair of more narrow submedian longitudinal fasciae running from posterior fourth of postocular portion to antenniferous tubercles, and gena dark brown; antenna brown; labium yellowish-brown; prothorax yellowish, broadly dark brown laterally; fore leg yellowish,



New species of thread-legged assassin bugs (Reduviidae: Emesinae)

**Figs 27–32.** *Bargylia lautereri* sp.nov. 27 – phallus, ventral view; 28 – same, lateral view; 29 – basal plate; 30 – apex of abdomen of female, dorsal view; 31 – same, lateral view; 32 – same, ventral view. Lettering: ism<sub>9–10</sub> = intersegmental membrane between segments IX and X; phm = phallosoma mouth; other abbreviations as in Figs 12–16. Scales in mm.

Acta Musei Moraviae, Sci. biol. (Brno), 98(2), 2013

posterior surface of femur and apical third of tibia more or less distinctly suffused with brown; median thirds of meso- and metanota yellowish, lateral thirds brown; meso- and metathoracic pleurosternites (= fused pleurites and sternites) laterally brown, ventrally yellow; mid and hind coxae and trochanters yellowish, femora light brown, tibiae somewhat darker brown, with a narrow and rather indistinct pale annulus on femora subapically and tibiae sub-basally (usually more distinct on tibiae, frequently virtually lacking on femora); abdominal tergites yellowish to light brown, mottled with brown, most abdominal sternites yellowish to light brown, broadly suffused with brown along their lateral margins. Integument dull, delicately granulate, body appears glabrous.

*Structure. Head* (Figs 17–18) about 1.6 times as long as its width across eyes, about 1.6 times as broad as interocular distance; portion behind antennifers nearly ovoid, with evenly convex gula, portion in front of antennifers strongly narrowing towards apex; clypeus without process; preocular portion about 1.6 times longer than postocular portion; postocular portion 1.15–1.2 times as wide as preocular portion, nearly globose; eyes small in both sexes, semiglobular, situated slightly closer to dorsal than to ventral surface of head in lateral view; first visible segment of labium surpassing level of antennifer but far distant from anterior margin of eye; antennal insertions situated slightly behind middle of preocular portion.

*Pronotum* (Figs 17–18) moderately elongate, 3.0–3.1 times as long as its greatest width (in its anterior fourth), gradually narrowing posteriorly, posterior lobe short, collarlike, weakly demarcated. *Pterothorax*. Mesonotum 0.45–0.5 times as long as pronotum; metanotum 0.6–0.65 times as long as mesonotum. *Fore leg* (Fig. 21) relatively slender; coxa 0.95–1.0 times as long as pronotum; femur 1.5–1.6 times as long as coxa, relatively slender, 9.0–9.7 times as long as its greatest diameter (around middle); anteroventral series of about 30 spines inserted on elongate basal processes and an additional short spiniferous process next to basalmost process of posteroventral series; posteroventral series of 5–6 greatly elongate spiniferous processes (basal one longest, in some specimens nearly two times as long as diameter of femur) intermixed with about 15 shorter spiniferous processes; basalmost process about as long as, or slightly shorter than, distance from base of femur to insertion of that process; tibia about 0.35–0.4 times as long as femur; tarsus about 0.85 times as long as tibia.

Abdomen ( $\bigcirc$ : Figs 19–20) slender, about 7.8 ( $\bigcirc$ ) / 8.1–8.3 ( $\bigcirc$ ) as long as its greatest diameter; spiracles I–VIII each situated on a large, conspicuous tubercle; posterior margin of tergite VII of male strongly produced towards the rear, covering genital capsule from above, segment VIII greatly exposed (Figs 22–23); posterior margin of tergite VII of female straight (Fig. 27: t<sub>7</sub>), that of sternite VII broadly and obtusely subtriangularly produced posteriad at middle (Fig. 32: s<sub>7</sub>).

*External male genitalia.* Genital capsule (Fig. 24) laterally flattened, anterior and posterior apertures separated by a narrow, dorsal, sclerotized, bridge-like portion close to base of segment; apical portion of cuplike sclerite protruding nearly vertically from genital capsule, trapezoid, apically relatively narrowly truncate in posterior view. *Parameres* (Figs 25–26) simple, with straight basal portion and curved apical portion. *Phallus* (Figs 27–29) (homologies very unclear): basal plates (Figs 28–29: bp) robust,

fused along their whole length except at extreme base, continued in a pair of elongate sclerites surrounding basal aula (basal portion of phallosoma) ventrolaterally (derivative of pedicel?), apical portion with a pair of rod-like processes surrounding phallotheca ventrally (derivatives of ventral sclerotized plate?); phallosoma (Fig. 28: phs) simple, membranous, phallosoma mouth (Fig. 28: phm) slightly widened.

*External female genitalia* (Figs 14–16). Posterior margin of tergite VIII (Figs 30–31: t8) with a pair of long, broad, posteromedially-directed projections that converge towards midline and become contiguous distally; spiracles VIII large, situated on prominent protuberances; valvifers VIII (Figs 30–32: vf<sub>8</sub>) broadly surrounding derivatives of segments IX laterally, their inner margins adjacent proximally, strongly diverging distally; valvula VIII (Figs 31–32: va<sub>8</sub>) small, semicircular, with median margin nearly straight; tergite IX (Figs 31–32: va<sub>9</sub>) rod-shaped; gonoplac (Figs 31–32: gpc) short, directed posteriad, apex curved downwards, contralateral gonoplacs fused apically.

*Measurements* (in mm) (holotype  $\delta$  / paratype  $\delta$ , n = 1 / paratypes QQ, n = 3). Body length 8.2 / 8.5 / 8.8–9.0, length of head 0.89 / 0.91 / 0.94–0.98, width across eyes 0.55 / 0.56 / 0.57–0.58, interocular distance 0.34 / 0.35 / 0.35–0.38, lengths of antennal segments I : II : III : IV as 3.33 / 3.40 / 3.40–3.50 : 2.73 / 2.85 / 2.95–3.05 : 0.25 / ? / 0.22–0.25 : 0.76 / ? / 0.78–?, median length of pronotum 1.36 / 1.40 / 1.48–1.50, greatest width 0.43 / 0.47 / 0.49–0.50, length of fore coxa 1.34 / 1.33 / 1.39–1.44, length of fore femur 2.03 / 2.11 / 2.20–2.21, greatest diameter 0.22 / 0.22 / 0.24–0.26, length of fore tibia 0.76 / 0.78 / 0.84–0.85, length of fore tarsus 0.63 / 0.69 / 0.70–0.72, median length of mesonotum 0.63 / 0.74 / 0.70–0.74, median length of metanotum 0.41 / 0.42 / 0.45–0.49, length of abdomen 4.70 / 4.85 / 5.45–5.50, greatest width 0.60 / 0.60 / 0.66–0.68.

**Etymology.** Patronymic, dedicated to Pavel Lauterer for the occasion of his 80th birthday, in recognition of his contributions to the taxonomy, faunistics and bionomics of psyllids and auchenorrhynchans.

Distribution. Australia: Queensland.

**Discussion.** RÉDEI (2007) highlighted problems of discrimination between the genera *Bargylia* and *Bobba* Bergroth, 1914 arising from the discovery of a species showing a combination of diagnostic characters from the two genera (*B. longispina* Rédei, 2007). In contrast with the last-named species, the new species *B. lautereri* sp.nov. is morphologically similar to the remaining four species of the genus and does not exhibit *Bobba* characters.

*Bargylia lautereri* sp.nov. has a mosaic-like combination of the characters used by RÉDEI (2007) for defining a "*stali*-group" and a "*longinota*-group", thus making separation of these two species groups impossible. It is similar to *B. stali* Wygodzinsky, 1951 and *B. grossi* Wygodzinsky, 1966 in the relatively stout fore femur (although its femur is somewhat more narrow than that of the two species) and the presence of long spiniferous processes on the fore femur, but it differs from these species in the absence of a spine-like projection on the clypeus, the conspicuously longer spiniferous processes

of the posteroventral series of the fore femur, and the relatively longer fore tarsus. It is similar to *B. babinda* Wygodzinsky, 1956 and *B. longinota* Wygodzinsky, 1956 in the absence of a spine-like projection on the clypeus, but these two species conspicuously differ from the new species in their smooth or inconspicuously granulate integument, more strongly elongate thoracic segments (particularly *B. longinota*), conspicuously more gracile fore leg, the fore femur being armed with shorter spiniferous processes, and the distance between the base of ventral surface of femur and lowest spiniferous processes being distinctly larger than the length of the process. Finally, *B. longispina* Rédei, 2007 may easily be distinguished from the new species by its coarsely granulate body, produced antenniferous tubercle, and the widened abdomen of the male.

The shape of tergite VIII (largely covering tergite IX, provided with a pair of long posterior projections) (Fig. 30:  $t_8$ ) seems unique in the genus, although no female of *B. longispina* has yet been published.

#### Acknowledgements

I am grateful to Gunvi Lindberg (NHRS) for her hospitality during my visit to Stockholm and for access to the collection under her care; to Dimitri Forero (Pontifica Universidad Javeriana, Bogotá) for reviewing the manuscript; to Jing-Fu Tsai (Hokkaido University, Sapporo) for discussion about the homologies of the male genitalia; to András Orosz (HNHM) for various kinds of help; and to Petr Kment (National Museum, Prague) and Igor Malenovský (Moravian Museum, Brno) for their invitation to contribute to this volume and for their careful editorial work.

#### References

- CASSIS G. & GROSS G. F. 1995: Hemiptera: Heteroptera (Coleorrhyncha to Cimicomorpha). In: HOUSTON W. W. K. & MAYNARD G. V. (eds.): Zoological Catalogue of Australia. Vol. 27.3A. CSIRO Australia, Melbourne, xv + 506 pp.
- ICZN (INTERNATIONAL COMMISSON ON ZOOLOGICAL NOMENCLATURE) 1999: International Code of Zoological Nomenclature. Fourth edition. International Trust for Zoological Nomenclature, London, 306 pp.
- KERZHNER I. M. 1992: Nomenclatural and bibliographic corrections to J. Maldonado Capriles (1990) "Systematic catalogue of the Reduviidae of the world (Insecta: Heteroptera)". Zoosystematica Rossica 1: 46–60.
- LETHIERRY L. & SEVERIN G. 1896: Catalogue général des Hémiptères. Tome III. Hétéroptères, Tingidae, Phymatidae, Aradidae, Hebridae, Hydrometridae, Henicocephalidae, Reduviidae, Saldidae, Apophilidae, Ceratocombidae, Cimicidae, Anthocoridae. Friedländer & Fils, Berlin, 275 pp.
- MALDONADO CAPRILES J. 1990: Systematic catalogue of the Reduviidae of the world (Insecta: Heteroptera). Caribbean Journal of Sciences, Special Edition, x + 694 pp.
- PUTSHKOV P. V. & PUTSHKOV V. G. 1996: Family Reduviidae Latreille, 1807 assassin-bugs. Pp. 390–538 In: АИКЕМА В. & RIEGER CH. (eds): Catalogue of the Heteroptera of the Palaearctic Region, vol. 2. The Netherlands Entomological Society, Amsterdam, xiv + 361 pp.
- RÉDEI D. 2007: New and little-known thread-legged assassin bugs from Australia and New Guinea (Heteroptera: Reduviidae: Emesinae). *Acta Zoologica Academiae Scientiarum Hungaricae* 53(4): 363–379.
- RÉDEI D. & TSAI J. F. 2010: A survey of the emesine assassin bugs of the tribes Collartidini, Leistarchini, Emesini, and Metapterini of Taiwan (Hemiptera: Heteroptera: Reduviidae). *Deutsche Entomologische Zeitschrift* 57(1): 11–36.

- SCOPOLI J. A. 1786: Deliciae faunae et florae insubricae, seu novae aut minus cognitae species plantarum et animalium quas in Insubria austriaca tum spontaceas quum exoticas vidit descripsit et aeri incindi curavit. Vol. 1. Salvator, Ticini, ix + 85 pp.
- STÅL C. 1866a: Hemiptera africana. Vol. 3. Norstedtiana, Holmiae, [1865], 200 pp.
- STÅL C. 1866b: Analecta hemipterologica. Berliner Entomologische Zeitschrift 10: 151-172.
- STÅL C. 1874: Enumeratio Hemipterorum. Bidrag till en Förteckning öfver alla hittills kända Hemiptera, jemte systematiska meddelanden. 4. Kongliga Svenska Vetenskaps-Akademiens Handlingar 12(1): 1–186.
- TATARNIC N. J. 2013: Mafulemesa schuhi (Heteroptera: Reduviidae: Emesinae), a new species from Australia. Entomologica Americana 118(1–4) [2012]: 274–277.
- TATARNIC N. J. & CASSIS G. 2011: The thread-legged bugs (Hemiptera: Heteroptera: Reduviidae: Emesinae) of Lord Howe and Norfolk Islands. Zootaxa 2967: 21–43.
- TATARNIC N. J., WALL M. A. & CASSIS G. 2011: A systematic revision of the Australian ploiarioline threadlegged assassin bugs (Hemiptera: Reduviidae: Emesinae). Zootaxa 2762: 1–30.
- WYGODZINSKY P. W. 1951: On Bargylia Stål, 1865, Pseudobargylia, gen. nov. and Leistarches serripes Dohrn, 1860 (Emesinae, Reduviidae: Hemiptera). Annals and Magazine of Natural History, Series 12 4(42): 609–617.
- WYGODZINSKY P. W. 1956: Synopsis of the Australian Emesinae (Hemiptera: Reduviidae). University of California Publications in Entomology 11(4): 193–246.
- WYGODZINSKY P. W. 1966: A monograph of the Emesinae (Reduviidae, Hemiptera). Bulletin of the American Museum of Natural History 133: 1–614, plates 1–4.
- WYGODZINSKY P. W. 1974: Description of the first winged species of Pseudobargylia (Emesinae, Reduviidae, Hemiptera). Memoirs of the National Museum of Victoria 35: 111–113.