

A new genus and three new species of Lygaeoidea from New Guinea (Heteroptera, Lygaeoidea)¹

J. A. SLATER & H. BRAILOVSKY

Abstract: A new genus and three new species of stalk-eyed lygaeoids from New Guinea are described tentatively assigned to the family Heterogastridae. Their systematic position is discussed, a key is given to separate the species, and *Heissothignus armatus* nov.sp. is selected as the type species and is illustrated.

Key words: *Heissothignus* nov.gen., Heterogastridae, Heteroptera, Insecta, Lygaeoidea, New Guinea.

Introduction

This group of lygaeoids from New Guinea shows relationship to the Heterogastridae because of the ventral position of all of the abdominal spiracles, the very elongate ovipositor, the dorsal abdominal scent gland scars between segments III/IV, IV/V and V/VI (Fig. 1), the paraclypeal (jugal) carinae, and the closed basal cell on the membrane of the forewing (SCUDDER 1962, 1964; SCHUH & SLATER 1995). The taxon differs, however, in lacking inner laterotergites on all the abdominal segments and in having long bucculae (SCUDDER 1962; SWEET 1981). Genitalia and wings were not examined. Only two of the species have sterna II-IV united (SWEET 1981). It seems probable that this genus will eventually merit subfamily, or even family, status, but we are reluctant to erect an additional higher taxon with such limited material.

Description of new species

All measurements are in millimeters.

Heissothignus nov.gen. (Figs 1-6)

Type species: *Heissothignus armatus* nov.sp.

Description: Head with eyes produced on elongate up-tilted stalks. Labium elon-

gate, extending well onto abdominal segments. Bucculae long. Pronotal margins carinate. Scutellum with anterior half swollen, posterior half with low elevated median ridge. Corium with inner third hyaline. Apical corial margins straight. Membrane with a distinct basal cell. Prosternum with notched anterior margin; mesosternum swollen on either side of midline. Legs non-incrassate. All abdominal segments with spiracles located ventrally. No inner laterotergites. Sterna II-III or II-IV fused.

Etymology: The genus *Heissothignus* nov.gen. is named for Dr. Ernst Heiss, in combination with “-thignus”, a suffix of other heterogastrid genera. Gender is masculine.

Key to species of *Heissothignus* nov.gen.

- 1 Humeral pronotal angles produced into sharp acute projections (Figs 2, 3)
. *H. armatus* nov.sp.
- Humeral angles of pronotum evenly rounded, lacking acute projections 2
- 2 Pronotum with a dark reddish-brown central band with lateral areas strongly contrastingly pale yellow
. *H. reclusus* nov.sp.

¹ It is a pleasure to dedicate this unusual group of lygaeoid Heteroptera to Dr. Ernst Heiss in recognition of his many important contributions to the biology, distribution and systematics of the Heteroptera.

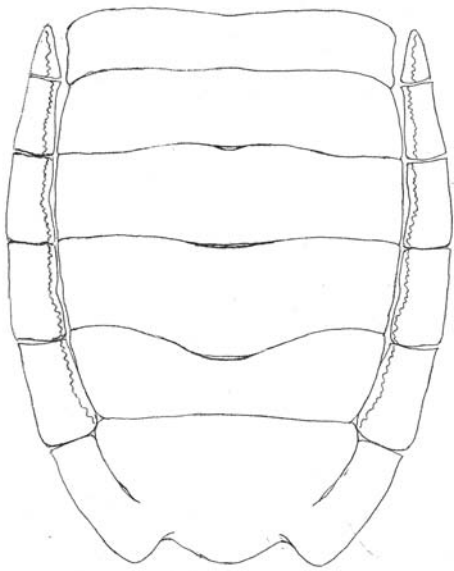


Fig. 1: Dorsal view abdomen, holotype of *H. armatus* nov.sp.

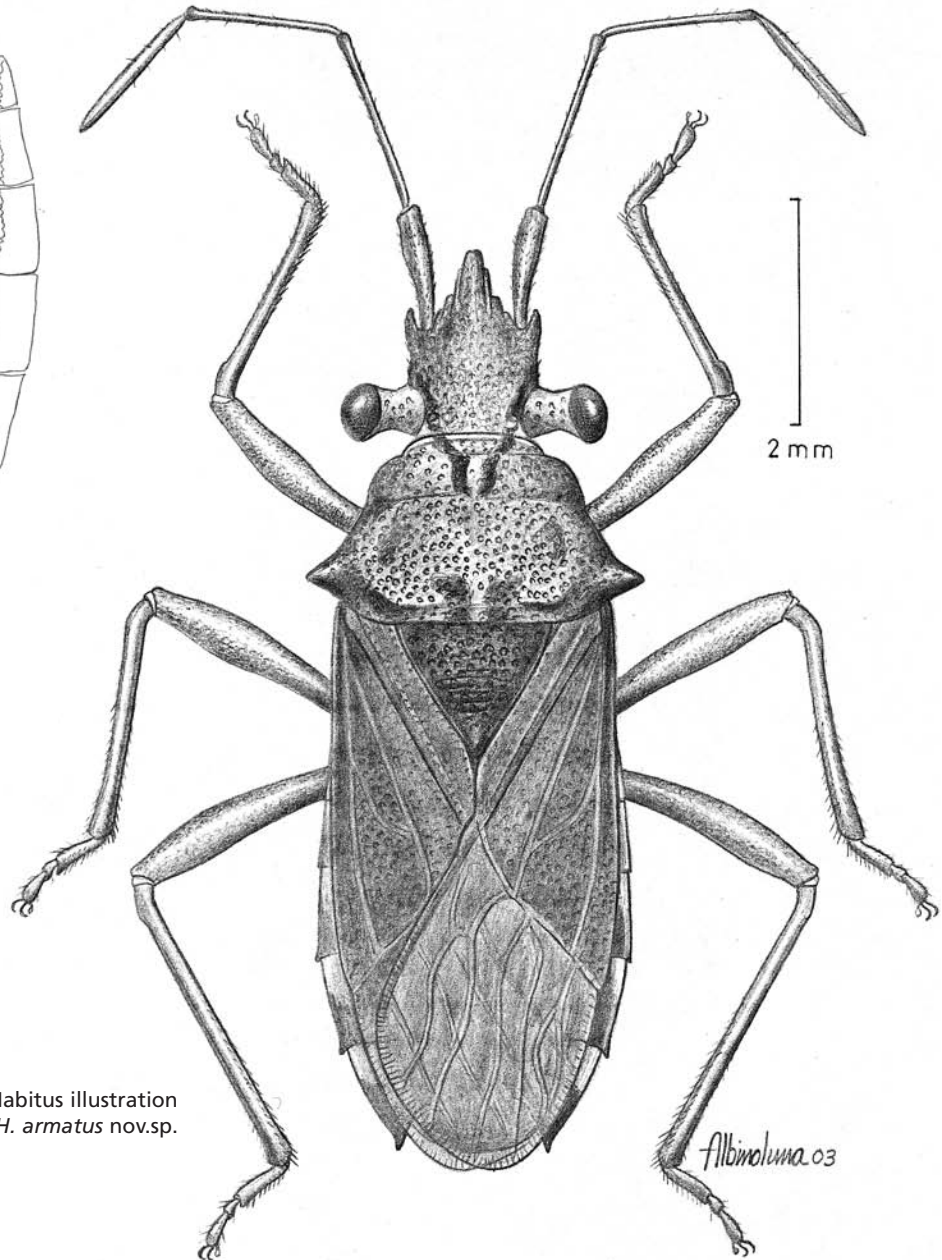


Fig. 2: Habitus illustration of *H. armatus* nov.sp.

- Pronotal coloration uniformly yellow brown *H. perfectus* nov.sp.

***Heissothignus armatus* nov.sp. (Figs 1-3)**

Holotype: ♂ New Guinea: Wau, Kilolo Creek, 26.VIII.1968 (Dr. J. Balogh). Deposited in Hungarian Museum of Natural History (HNHM). Paratypes: 1 ♀ Same data as holotype (HNHM). 1 ♀ New Guinea: (NE) Ping, Morobe Distr. Wau, 1160m, 20.V.1979 (J.L. Gressitt) (on avocado). Deposited in Bishop Museum (BPBM). 1♂ (general) Papua New Guinea: Morobe nr. Wau, Wau Ecol. Inst., 12-24 July 1983 (S.E. & P.M. Miller), 1200m, in second montane forest. Deposited in Bishop Museum (BPBM).

Description: Total body length 8.50. General coloration dull brown, but marked with white to light yellow as follows: a triangular area in center of anterior pronotal lobe; stalks of compound eyes; narrow mesal stripe on distal half of scutellum; an irregular macula on corium at level of distal one-fourth of claval commissure; bucculae; a small spot immediately behind evaporative area of metathoracic scent gland; a narrow elongate stripe on side of head, running from base of antenniferous tubercle to apex of jugum; and irregular paler areas on posterior pronotal lobe. Head and anterior pronotal lobe with a

black “v” starting at base of eye stalks and continuing across ocelli, pronotal collar, and anterior pronotal lobe, ending at transverse impression. Fourth antennal segment and spines of pronotal humeri subtly suffused with red; spines dark brown to black at apex; underside of opaque portions of corium bright red. Membrane of forewing hyaline with contrasting dark brown veins.

Entire head, pronotum, scutellum, and outer two-thirds of corium covered with closely set and conspicuous punctures. Inner third of corium smooth, hyaline, with row of even punctures along claval suture, and separated from punctate lateral area by an impressed line (corial fracture) that nearly attains apical corial margin. Clavus semi-hyaline, with two rows of closely set punctures along claval suture, and a more obscure series of smaller punctures adjacent to scutellum. Clothed with inconspicuous, decumbent silvery hairs especially on pronotum.

Head elongate, acuminate, non-declivent. Eyes set far out on distal ends of thick, elongate, dorso-lateral stalks. Antenniferous tubercle extending forward over base of antenna. Apex of tylus almost attaining distal end of antennal segment one; vertex of head nearly flat, becoming convex on tylus; ocelli located near base of eye stalks; jugum with carina paralleling tylus. Buccular groove reaching base of head; bucculae extending to level of base of eye stalk. Length head 1.60; width across eyes (including stalks) 2.40; interocular space 2.32; space between bases of stalks 1.60. Antennae slender, filiform. Length antennal segment I 0.96; II 1.84; III 1.44; IV 1.72. Labium extremely elongate, reaching distal end of abdomen, first segment reaching base of head. Length labial segment I 1.64; II 2.0; III 2.2; IV 2.68.

Pronotum strongly declivent; anterior margin of pronotum convex, with an upturned, slightly flared collar. Lateral margin narrowly but definitely carinate on anterior lobe, much less so on posterior lobe; humeral angle strongly expanded and elevated into a sharp spine (Figs 2, 3); posterior margin slightly convex. Posterior pronotal lobe swollen on either side of midline. Length pronotum 1.76; width across humeral spines 3.12. Scutellum swollen on anterior half and with a low carina on distal half. Length



Fig. 3: Dorsal view, Paratype of *H. armatus* nov.sp.



Fig. 4: Dorsal view, Holotype of *H. reclusus* nov.sp.

scutellum 1.36, width 1.40. Length claval commissure 0.56. Apical corial margin straight. Midline distance from apex of clavus to apex of corium 1.40; midline distance from apex of corium to apex of membrane 1.88. Anterior margin of prosternum notched; mesosternum swollen on either side of midline. Metathoracic scent gland auricle tear-drop shaped; evaporative area occupying ventral one-third of metapleuron, dorsal margin sloping ventrally towards abdomen. Fore femur with three long slender hair-spines. Mid and hind femora mutic. Sterna II-IV fused.

Etymology: From the Latin “arma”, in reference to the “armed” (spined) humeri.

Note: The paratypes all have labiums that exceed the end of the abdomen, and have red abdominal sternal punctures. The female ovipositor extends onto the fourth abdominal sternum. The male paratype has a narrow red stripe running mesally through the pronotum and scutellum and a red streak on the pleura running from base of antenna to end of abdomen. This male paratype is only 7.12 mm long, and so is much smaller than the holotype.



Fig. 5: Lateral view, Holotype of *H. reclusus* nov.sp.

Heissothignus reclusus
nov.sp. (Figs 4, 5)

Holotype: ♂ N.E. New Guinea: Morobe Dist., Wau, 3,500, 11.IX.1971 (W. Gagne). Deposited in Bishop Museum, Honolulu (BPBM).

Description: Total body length 4.72. Coloration reddish brown, with strongly contrasting pale whitish-yellow areas as follows: mesal stripe on head; anterior half of eye stalk dorsally and most of stalk ventrally; narrowly along anterior pronotal margin; large quadrate patch on each side of posterior pronotal lobe; basal third of scutellum,

and narrow mesal extension, and tip of scutellum; triangular macula near apex of corium; irregular light stripes adjacent to hyaline area of corium and narrow strip along middle third of lateral corial margin and along radial vein. Membrane transparent with veins very slightly darkened. Laterally and ventrally marked with pale yellow to white as follows: labium, bucculae and jugum; posterior third of each pleuron, with white on propleuron contiguous with dorsal pronotal patches; coxae; proximal fifth of profemur, proximal half to two-thirds of mid and hind femora; narrow mesal area on abdominal sterna III and IV, wider mesal area on sterna V-VII; dorsolateral patch on sternum IV, and dorsolateral margins on anterior half to two-thirds of sterna V-VII; and spots around trichobothria on sterna V-VII. Opaque areas of corium bright red beneath. Body surface nearly glabrous with scattered inconspicuous decumbent hairs present in punctures.

Head coarsely punctate, these irregular punctures anastomosing. Pronotum evenly punctate, with punctures contiguous on dark areas. Scutellum with large coarse punctures, anastomosing on lighter areas. Clavus semi-hyaline, with two regular rows of punctures along claval suture and an indistinct series along scutellum. Corium with inner third hyaline, separated from remainder of corium by impressed line (corial fracture); corium with prominent row of punctures along claval suture, and regularly punctate on dark areas; light subapical macula and hyaline area impunctate. Pleural and sternal surfaces punctate, especially in dark areas.

Head declivent, tylus almost attaining distal end of first antennal segment. Eye stalks extending strongly outward and upward as in *N. armatus* nov.sp. Antenniferous tubercle expanded and almost spine-like, extending over base of antenna laterally. Buccular groove reaching base of head; bucculae extending to level of base of eye stalk. Length head 1.12; width across eyes (including stalks) 1.80; interocular space 1.12. Antennae filiform. Length antennal segments I 0.56; II 0.94; (III and IV missing). Labium elongate. Length labial segments I 0.80; II 0.88; III 1.08; IV 1.24 (approx.).

Fig. 6: Dorsal view, Holotype of *H. perfectus* nov.sp.



Pronotum declivent, with narrow, punctate, slightly upturned collar, set off from rest of pronotum by additional coarse punctures. Anterior margin convex. Anterior pronotal lobe short; separated from prominent posterior lobe by complete transverse impression. Anterior half of posterior pronotal lobe with inconspicuous median carina. Lateral pronotal margins narrowly carinate; lateral margin of anterior lobe convex, lateral margin of posterior lobe evenly expanded to humeral angle, which is somewhat swollen but lacks lateral expansions or sharp spines. Length pronotum 1.12; length anterior lobe 0.32, length posterior lobe 0.80. Width pronotum 1.84. Posterior pronotal margin evenly convex. Scutellum with anterior half swollen, distal half depressed on either side of slightly raised midline and lateral ridges. Length scutellum 0.90; width 1.00. Apical corial margin straight. Length claval commissure 0.30. Midline distance from apex clavus to apex corium 0.80. Midline distance from apex of corium to apex of membrane 1.16. Prosternum with anterior margin notched; mesosternum strongly swollen on either side of midline. Metathoracic scent gland auricle narrow and irregularly oval. Evaporative area occupying ventral third of metapleuron, dorsal margin rounded. All femora slender. Spiracles on abdominal segments III and IV directly on lateral edge of abdomen. Sterna II and III fused, IV apparently not.

Etymology: "Reclusus" is in reference to the species' apparently reclusive nature, the holotype being the only specimen known.

***Heissothignus perfectus*
nov.sp. (Fig. 6)**

Holotype: ♀, N.E. New Guinea: Morobe Dist., Wau, 3600', 9-IX.1971 (W. Gagne) (on *Pipturus*). Deposited in American Museum of Natural History, New York.

Description: Total body length 5.6. Coloration bright yellow-brown, becoming somewhat darker through middle and along apical margin of corium. Tinges of red apparent through apical third of corium (underside not visible). Basal half and extreme apex of scutellum, bucculae, propleuron and prosternum, posterior half of metapleuron, posterior one-third of metapleuron, proximal portions of legs, and all abdominal ster-

na light yellow; apex of labium black. Glabrous. Evenly punctate over entire pronotum and scutellum, somewhat sparser on anterior pronotal lobe. Clavus semi-hyaline, with two regular rows of punctures along claval suture and an indistinct series along scutellum; even row of punctures along claval-corial suture. Inner third of corium smooth and hyaline. Membrane hyaline.

Head declivent, acuminate, tylus extending to middle of first antennal segment. Eyes strongly stalked. Buccular groove reaching base of head; bucculae extending to level of base of eye stalk. Length head 1.16, width across eyes 2.08, interocular space 1.32. Antenniferous tubercle extending over base of antenna. Length first antennal segment 0.64. (Segments II, III, and IV missing). Labium extending at least to sixth abdominal sternum, first segment reaching base of head. Length labial segments I 0.88; II 1.00; III 1.16; IV 1.24.

Pronotum with anterior lobe convex, with upturned punctate collar; lateral margin narrowly carinate; posterior margin slightly convex. Anterior pronotal lobe much shorter than posterior pronotal lobe; length anterior lobe 0.36; length posterior lobe 0.96; length pronotum 1.32; width pronotum 2.28. Transverse impression complete; anterior half of posterior pronotal lobe with a low median carina. Scutellum with anterior half swollen, posterior half with low median carina. Length scutellum 1.24, width 1.24. Length claval commissure 0.28. Lateral and apical corial margins straight. Midline distance from apex of clavus to apex of corium 1.16. Midline distance apex of corium to apex of membrane 1.28. Prosternum with anterior margin notched; mesosternum strongly swollen on either side of midline. Metathoracic scent gland auricle elongate-oval, surrounded closely by a dorsally rounded evaporative area that occupies ventral one-third of metapleuron. All femora slender. Sterna II-IV fused.

Etymology: "perfectus" is in reference to the perfect occasion for naming a new species, a Festschrift.

Acknowledgments

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Zusammenfassung

Ein neues Genus und drei neue Arten stieläugiger Lygaeoidea aus Neuguinea werden beschrieben und vorläufig in die Familie Heterogastridae gestellt. Ihre systematische Stellung wird diskutiert, ein Bestimmungsschlüssel der Arten wird präsentiert und die Typus-Art *Heissothignus armatus* nov.sp. wird illustriert.

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Addresses of the Authors:

Dr. James A. SLATER
Department of Ecology and
Evolutionary Biology
University of Connecticut
Storrs, Ct. 06268, U.S.A.
E-Mail: lygslat@sbcglobal.net

Dr. Harry BRAILOVSKY
Instituto de Biología
Departamento de Zoología
Universidad Nacional
Autónoma de México (UNAM)
Apdo Postal 70153
México D.F. 04510, México
E-Mail: coreidae@ibiologia.unam.mx

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