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First record of the occurrence of Eutheiini and Cephenniini in New Guinea, with descriptions of new species of *Paraneseuthia* Franz and *Cephennodes* Reitter (Coleoptera: Scydmaenidae)

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Abstract. *Paraneseuthia devia* n. sp. (Scydmaeninae, Eutheiini), and *Cephennodes* (s. str.) *papuanus* n. sp. (Scydmaenidae, Cephenniini) are described from New Guinea. The occurrence of another, undescribed species of *Paraneseuthia* is recorded. Diagnostic characters, including aedeagi, are discussed and illustrated. This is the first record of representatives of these two tribes of the Scydmaenidae from New Guinea.

Key words: entomology, taxonomy, new species, Coleoptera, Scydmaenidae, Eutheiini, Cephenniini, *Paraneseuthia*, *Cephennodes*, Papua, New Guinea.

INTRODUCTION

Hitherto known distribution of the Eutheiini was limited to the Palearctic (Europe, North Africa, Israel and Jordan, Mongolia, Siberia, Russian Far East, Japan, and Nepal), Oriental (Borneo, Thailand, Taiwan), Nearctic (North America), and Neotropical (Costa Rica) Regions. No species of this tribe have been reported to occur in the Australian Region (an Australian species, *Megaladerus inconspicuus* King, placed by Csiki (1919) in *Euthia*, was later transferred by Franz (1975) to *Neseuthia*, a genus now recognized to belong in the Cephenniini). The majority of species inhabit temperate climate zones, while only few Eutheiini are associated with subtropical forests. Unlike this tribe, representatives of the Cephenniini are more frequent in hot and humid regions, and most of them (including a number of undescribed taxa) seem to occur in the Oriental jungles. However, the cephenniines are known to inhabit all climate zones from temperate to tropical, with regions of remarkably high biodiversity

located in West Palearctis, China, and Oriental Region. Cephenniines have also been found on Pacific islands and in Australia, but number of taxa reported from these areas is marginally low compared to the northern hemisphere. No species belonging to this interesting tribe have been recorded from New Guinea, though they are common in Indonesia (Jałoszyński, unpublished observations).

Thanks to the kindness of Dr. Shepherd Myers, I had an opportunity to examine specimens of the Scydmaenidae from the Australian Region preserved in the Bishop Museum, Honolulu. Among materials from New Guinea, I found two remarkable species of *Paraneseuthia* Franz (Eutheiini) and a single species of *Cephennodes* Reitter (Cephenniini). Unfortunately, the more unusual, very large specimen representing the former genus appeared to be a female, but the remaining beetles were males with unique aedeagi, proving their separate placement as new species. They are described below as *Paraneseuthia devia* sp. n. and *Cephennodes* (s. str.) *papuanus* sp. n. Certainly these are not the only members of Eutheiini, and especially Cephenniini inhabiting this island, and more extensive sampling will very likely provide more abundant materials.

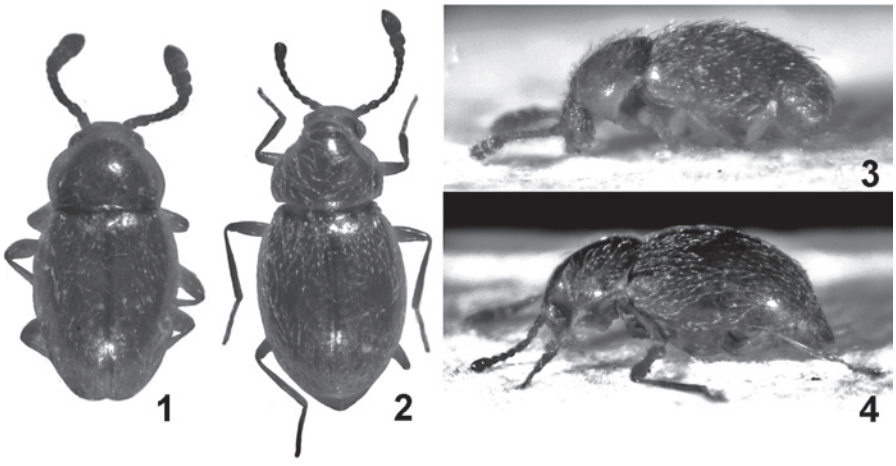
Morphology of the newly described *Cephennodes papuanus* provides an interesting example of variation in the lateral carinae on the pronotum within the genus. This character was thoroughly discussed in a previous paper (Jałoszyński 2007). The condition found in the Papuan species supports previous conclusions (see the description and remarks in the taxonomic part of this paper).

TAXONOMY

Tribe Eutheiini Casey

Paraneseuthia devia n. sp.

(Figs.1, 3, 5, 6)



1, 3. *Paraneseuthia devia* sp. n.; 2, 4. *Paraneseuthia* sp. Habitus in dorsal (1, 2) and lateral (3, 4) views (actual lengths: 1, 3 – 0.97 mm; 2, 4 - 1.75 mm)

Name derivation

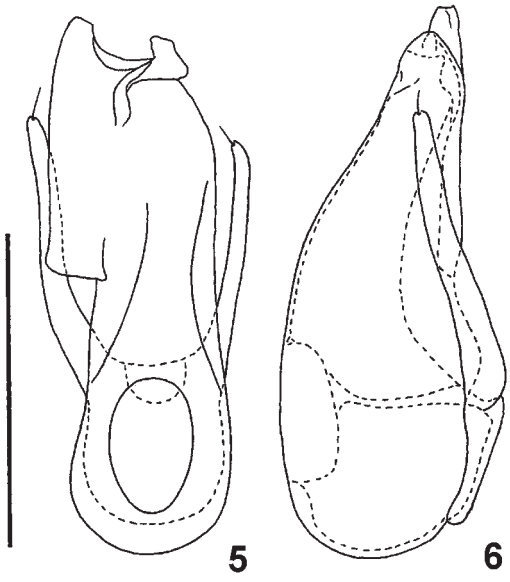
After a Latin noun "*devius*", meaning "lying off the high-road; out of the way".

Diagnosis

Males of this species can be distinguished from all other members of the genus on the basis of very stout body, shallow lateral longitudinal impressions separating broad median part of frons from its sides, and uniquely asymmetrical aedeagus. Females and their diagnostic characters remain unknown.

Description

Male (Figs. 1, 3). Body small and relatively stout, strongly convex, length (including pygidium) 0.97 mm, pigmentation light brown, vestiture yellowish. Head small, broadest at very large, coarsely faceted and strongly convex eyes, length 0.15 mm, width 0.22 mm; vertex and frons uniformly convex, broad median part of frons separated from sides by pair of shallow but distinct longitudinal impressions; supraantennal tubercles very indistinct. Punctation on frons and vertex very fine, moderately sparse; setation sparse, moderately long, suberect. Antennae relatively short, with slender funicle and broad, well separated 3-segmented club, length 0.40 mm; antennomere I twice as long as broad; II slightly narrower and shorter than I, about twice as long as broad at apex; III-VI subequal in length and width, each much narrower than II and about as long as broad; VII minimally larger than VI, as long as broad; VIII minimally larger than VII, as long as broad; IX much broader and slightly longer than VIII, much broader than long; X broader and slightly longer than IX, much broader than long; XI broader than X, about as long as IX-X together.



5. 6. *Paraneseuthia devia* sp. n. Aedeagus in dorsal (5) and lateral (6) views (scale bar: 0.1 mm)

Pronotum slightly broader than long, subrectangular with strongly rounded margins, broadest between anterior third and middle, length 0.25 mm, width 0.35 mm. Lateral margins distinctly convergent from widest place toward broadly obtuse hind angles; base with large, transverse impression near each hind angle. Punctation very fine, sparse; setation moderately long, sparse, composed of very thin, suberect setae.

Elytra oval and elongate, broadest distinctly anterior to middle, length 0.57 mm, width 0.47 mm, elytral index (EI; length / combined width) 1.21. Humeri relatively well marked, apices of elytra separately rounded. Punctation much more distinct than that on pronotum but still relatively fine, punctures are shallow and diffused, in central part of each elytron separated by spaces equal to or slightly longer than puncture diameters; setation similar to that on pronotum but setae are slightly thicker. Hind wings not studied due to small size and fragile condition of the only known specimen.

Legs slender, moderately long, protibiae slightly bent near middle, with indistinctly marked internal angel, but without tubercle or projection.

Aedeagus (Figs. 5, 6) 0.17 mm in length, with symmetrical base of median lobe and remarkably asymmetrical, large apical part, in dorsal view strongly shifted to the left side. Parameres slightly asymmetrical, one longer than the other, each with single apical seta.

Female. Unknown.

Type material

Holotype (male): two white printed labels: "NEW GUINEA: NETH. VOGELKOP: Dariowaria, June 2, 1959", "T. C. Maa Collector, BISHOP", handwritten in blue ink (most likely by Herbert Franz) "Cephenniini gen. spec.", and printed red label "*PARANESEUTHIA devia* m., det. P. JAŁOSZYŃSKI, 2007, HOLOTYPUS" (Bishop Museum).

Distribution

Indonesia: West New Guinea.

Remarks

The aedeagi known in the Russian and Japanese species of *Paraneseuthia* are stouter and they show only a minor asymmetry in the shape of the basal part of the median lobe. A high degree of asymmetry found in *P. devia* is unique within the Eutheiini. In all other aspects this species is a rather typical representative of the genus, externally more similar to the Palearctic species than to those known from Fiji, or the undescribed species recorded below from the Papuan part of the island.

***Paraneseuthia* sp.**

(Figs. 2, 4)

Material studied

Female, Papua New Guinea, Morobe Prov., Mt. Kaindi, 2350 m, 20. v. 1970, "Barlese Collection", ground moss, T. Tigner leg. (Bishop Museum). The specimen bears a

code number “HIDT-325” (or “IDT”, since the first character may be undecipherable and crossed out).

Remarks

This female specimen (Figs. 2, 4) is unusually large (body length 1.75 mm), moderately dark brown, with very slender antennae and legs, and very convex, proportionally very large elytra (elytral index 1.66). Although external characters may be unique (and certainly they clearly distinguish this species from *P. devia*), in this genus some species have females which are impossible to identify. It seems reasonable to assume that the two species treated here are not the only representatives of *Paraneseuthia* in New Guinea, and an occurrence of very similar taxa cannot be excluded. Therefore I prefer not to describe this single female specimen as a new species.

Tribe Cephenniini Reitter

Cephennodes (s. str.) *papuanus* n. sp.

(Figs. 7-9)

Name derivation

The specific epithet is locotypical, after the type locality.

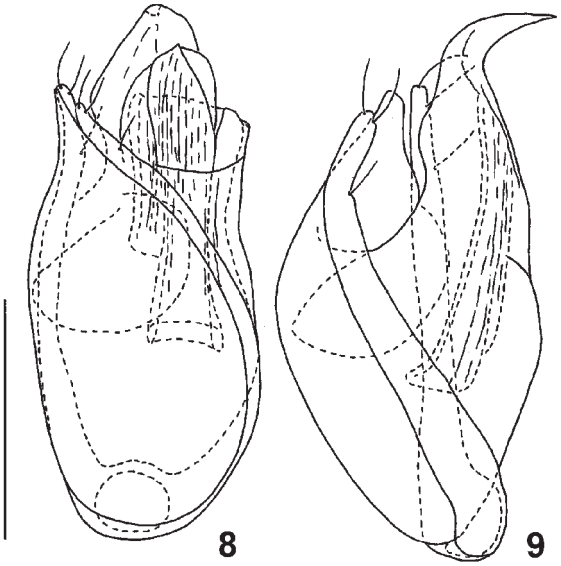
7. *Cephennodes papuanus* sp. n. Habitus of the holotype male (actual length 1.52 mm)

Diagnosis

Males of this species can be distinguished from all other members of the genus on the basis of the following set of characters: head modified, with broadly V-shaped, rounded transverse groove separating vertex from frons; pronotum with very distinct lateral carinae which are broadly separated from lateral margins, well visible in posterior part of pronotum but dissapearing before anterior third of lateral margin, lateral ante-basal pits small, deep and sharply delimited, punctation on dorsal area near each front angle of pronotum very fine; elytra with very short subhumeral lines; aedeagus representing a typical *simonis*-type. Females and their diagnostic characters remain unknown.

Description

Male (Fig. 7). Body very stout, broad and moderately strongly convex, sides of pronotum and elytra confluent, without constriction, pigmentation dark brown, vestiture light brown; body length 1.52 mm. Head relatively small, length 0.25 mm, width 0.35 mm; vertex short and broad, convex; frontoclypeal area about as narrow as 1/3 width of vertex, convex, separated from vertex by sharply marked, broadly rounded V-shaped transverse groove (with tip of V directed anteriorly), ends of groove are adjacent to interior margins of supraantennal tubercles, which are large but indistinctly delimited from vertex; eyes large, coarsely faceted, very convex. Punctation on vertex fine but dense, recognizable under magnification 40x, composed of sharply marked punctures, frontoclypeal region impunctate; setation sparse and relatively short, suberect. Antennae relatively short, with slender funicle and broad, indistinctly separated four or five-segmented club, length 0.70 mm; antennomere I only slightly longer than broad, II distinctly narrower than I but comparable in length, about 1.5x as long as broad;



8, 9. *Cephennodes papuanus* sp. n. Aedeagus in dorsal (8) and lateral (9) views (scale bar: 0.1 mm)

III-V similar in length and width, each distinctly narrower than II and about as long as broad; VI minimally larger than V and similar in shape; VII slightly larger than VI, slightly longer than broad; VIII only slightly broader than VII and about as long; IX distinctly broader and longer than VIII, minimally broader than long; X broader and longer than IX, slightly broader than long; XI broader than X and distinctly longer than IX-X together.

Pronotum much broader than long, nearly semicircular in shape, broadest at base, length 0.45 mm, width 0.75 mm; anterior margin and anterior halves of lateral margins rounded, posterior halves of sides nearly straight and slightly broadening toward sharp hind angles; posterior margin shallowly but distinctly biemarginate; lateral carinae very distinct, broadly separated from lateral margins but short, running from hind angles and disappearing before anterior third of lateral margin; lateral ante-basal pits small but deep and sharply delimited, distance between each pit and lateral carina is subequal to distance between carina and lateral margin and twice as long as distance between pit and posterior margin. Punctation on median part of pronotal disc fine but relatively dense, punctures are sharply marked, separated by spaces 2-3x as long as puncture diameters, relatively broad area along posterior margin remains impunctate, regions adjacent to front angles are covered with very fine and indistinct punctures; setation relatively short, moderately dense, suberect.

Elytra oval and short, broadest very close to base, length 0.82 mm, width 0.77 mm, EI 1.06. Subhumeral line on each elytron distinct, formed as sharp border between more convex humeral and less convex adsutural region, as short as only 0.3x length of elytra; apices of elytra separately rounded. Punctation similar to that on pronotum; setation slightly longer than setae on pronotum, moderately dense, suberect. Hind wings well developed.

Legs moderately slender and long, without peculiar characters.

Aedeagus (Figs. 8, 9) 0.22 mm in length, *simonis*-type, with drop-shaped median lobe and relatively small apical projections; parameres broad, each with three setae.

Female. Unknown.

Type material

Holotype (male): three white printed labels: "PNG: NEW GUINEA: NE: Morobe Prov.: Mt Missim: S side; 2000 m, 28. V. 1984", "pyrethrum fog of *Castanopsis* sp. mature canopy", "sample #4, tree #3304, W.C. Gagné, Coll. BISHOP Museum", and printed red label "*CEPHENNODES* (s. str.) *papuanus* m., det. P. JAŁOSZYŃSKI, 2007, HOLOTYPUS" (Bishop Museum).

Distribution

Papua New Guinea.

Remarks

This species has a modification on the head similar to grooves and carinae known in the *impressifrons*-species group (Jałoszyński 2007). However, the aedeagus in *C. papuanus* is clearly different, and this species cannot be placed within this group.

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