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Cephenniini of the Philippines. Part 4. Two new species of  
*Cephenomicrus* REITTER from Luzon  
(Coleoptera: Staphylinidae: Scydmaeninae)

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ABSTRACT. Two new species of *Cephenomicrus* REITTER (Staphylinidae, Scydmaeninae, Cephenniini) are described from the Philippines: *C. lasios* n. sp. and *C. clypeatus* n. sp. They have been collected on Luzon, and represent the first finding of this genus on this largest island of the archipelago. Diagnostic characters, including the aedeagi of both species, are discussed and illustrated.

Key words: entomology, taxonomy, new species, Coleoptera, Staphylinidae, Scydmaeninae, Cephenniini, *Cephenomicrus*, Oriental, Philippines.

INTRODUCTION

The ant-like stone beetles of the tribe Cephenniini known to occur in the Philippines belong to three genera: *Cephenodes* REITTER, *Hlavaciellus* JALOSZYŃSKI, and *Cephenomicrus* REITTER (BLATTNÝ 1929; JALOSZYŃSKI 2009a, 2009b, 2010). The latter genus is represented by only two described species found in Leyte (JALOSZYŃSKI 2009a) and Palawan (JALOSZYŃSKI 2010). A survey of museum collections undertaken by the author yielded only a small number of Cephenniini collected on this large subtropical archipelago of more than seven thousand islands, reflecting very unsatisfactory knowledge of biodiversity of Philippinian fauna. In the present paper two new species of *Cephenomicrus* are reported to occur on Luzon, broadening the known range of this genus within the archipelago significantly to the north.

The type material is deposited in the Muséum d'Histoire Naturelle, Geneva, Switzerland (MHNG).

***Cephenomicrus lasios* n. sp.**

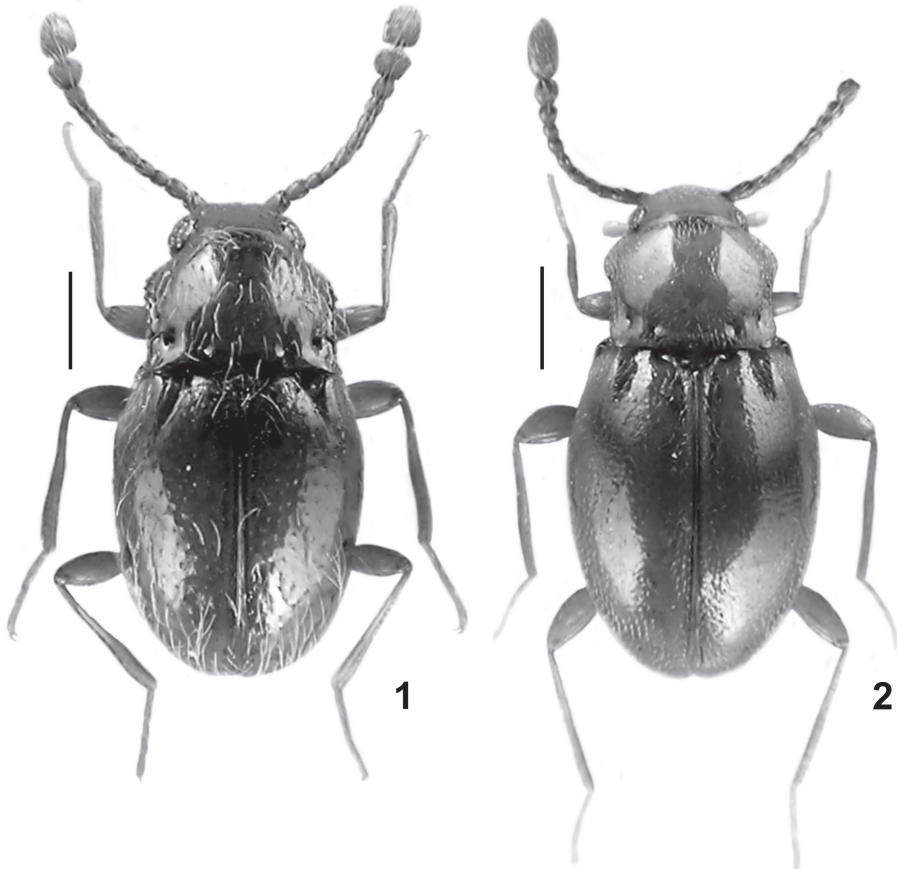
(Figs. 1, 3-5)

## Name derivation

The Greek adjective *λάσιος* (*lasios*), meaning “hairy, shaggy”, refers to the long basic vestiture of this species.

## DIAGNOSIS

Moderately small (body length ca. 1 mm), very slender species with moderately dense, long and suberect basic vestiture that obscures several more erect macrosetae; head finely but distinctly punctate, pronotal disc nearly impunctate, elytra with very small and shallow but slightly coarse punctures; aedeagus very elongate, with separated long apical part, circular membranous area located on base of median lobe and internal armature with long and thin ducts forming a system of loops.



1-2. Holotype males. 1 – *Cephenomicrus lasios* n. sp.; 2 – *Cephenomicrus clypeatus* n. sp. (scale bars: 0.2 mm)

## DESCRIPTION

*Male.* Body (Figs. 1, 3) slender and strongly convex, length 1.08 mm, pigmentation reddish-brown, dorsum glossy; vestiture distinctly lighter than cuticle. Head widest at very large and convex, coarsely faceted eyes, length 0.15 mm, width 0.28 mm. Tempora not visible in dorsal view; vertex and frons moderately convex; frontal glands very distinct, each circular, slightly larger than single ommatidium, located near internal margin of eye; supraantennal tubercles very small and weakly raised; clypeus deflexed. Punctuation on vertex fine but well visible under magnification 40x, punctures small and shallow but sharply marked, distributed unevenly, separated by spaces comparable to puncture diameters, punctures becoming smaller and sparser anteriorly and those on frons are barely discernible; frons and vertex appear asetose under magnification 100x, clypeus bears short and sparse setae. Antennae long, with very slender and moderately compactly assembled antennomeres I-IX covered with dense, long and suberect setae and strongly enlarged, two-segmented club bearing setae slightly longer and denser; length 0.53 mm; antennomere I about 1.5x as long as broad; II distinctly narrower and shorter than I, only 1.2x as long as broad; III-IV equal in length and width, each distinctly smaller than II, 1.2x as long as broad; V-VIII subequal in length and width, each about as broad as IV but slightly longer, 1.3x as long as broad; IX slightly longer and broader than VIII, about 1.1x as long as broad; X distinctly longer and twice as broad as IX, transverse; XI slightly broader and much longer than X, with cylindrical basal part and distinctly delimited subconical apical part.

Pronotum broadest near anterior third, length 0.30 mm, maximum width 0.40 mm; anterior margin strongly convex; lateral margins distinctly serrate, strongly rounded in anterior third, slightly concave in posterior third and slightly convergent toward nearly right and blunt hind angles; posterior margin arcuate with shallow and short but distinct median emargination; base of pronotum with two lateral pairs of moderately large, deep foveae. Disc appears impunctate under magnification 80x; basic vestiture moderately sparse, long and suberect, additionally pronotum bears two pairs of barely distinguishable macrosetae, distributed as shown in Fig. 3.

Elytra oval and relatively slender, broadest near anterior third, length 0.63 mm, width 0.50 mm, elytral index (length/width) 1.25. Humeral calli well marked, each forming longitudinal wrinkle accompanied at internal side by short basal impression; basal foveae barely discernible. Punctures on elytra very small and shallow but slightly coarse and well visible under magnification 40x, distributed unevenly and separated by spaces 1-3x as long as puncture diameters; vestiture similar to that on pronotum, macrosetae obscured by basic setation, distributed as in Fig. 3. Hind wings long, functional.

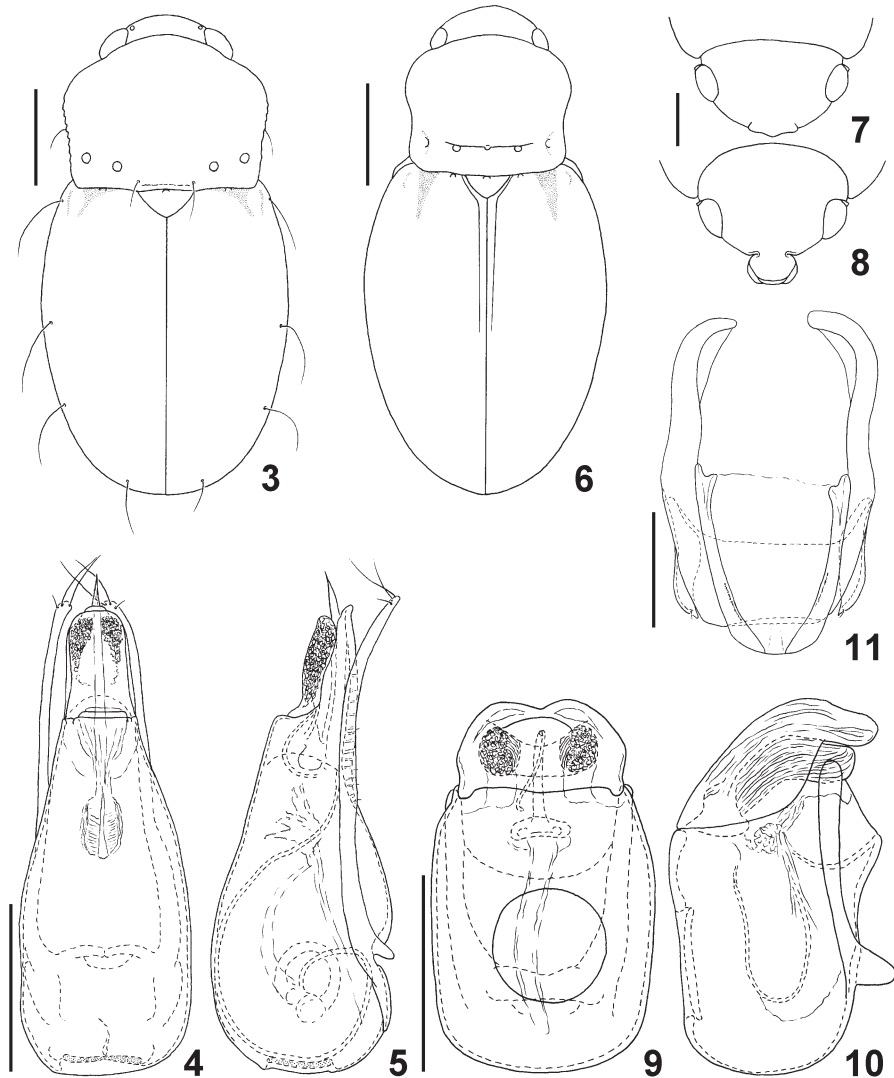
Legs long and slender, all tibiae slightly recurved.

Metaventricle glossy, very finely and sparsely punctate, without median tubercle and without lateral carinae.

Aedeagus (Fig. 4, 5) length 0.28 mm, very slender, broadest near base and strongly narrowing toward relatively long and distinctly separated apical part; circular membranous area located on basal part of median lobe; dorsal wall in subapical region with short and sparse setae; internal armature with thin tubular

structures forming system of loops; parameres long and slender, each with two long and one short seta.

*Female.* Unknown.



3-5. *Cephennomicrus lasios* n. sp. 6-11. *Cephennomicrus clypeatus* n. sp.; 3, 6 – simplified body outline and distribution of macrosetae; 4, 5, 9, 10 – aedeagus in ventral (4, 9) and lateral (5, 10) views; 7, 8 – simplified outline of head in fronto-dorsal (7) and frontal (8) views; 11 – male terminal abdominal segments in ventral view (scale bars: 3, 6 – 0.2 mm, 4, 5, 7-11 – 0.1 mm)

## TYPE MATERIAL

Holotype (male): two labels: “LUZON: Lagunas \ Mt.Makiling, summit rd \ (SE Los Banos) 600m \ I.Löbl,21-22.XI.1995 \ moss,epiph.bark on logs” [white, printed]; “*CEPHENNOMICRUS* \ *lasios* m. \ HOLOTYPUS \ det. P. JAŁOSZYŃSKI ‘10” [red, printed] (MHNG).

## DISTRIBUTION.

Philippines: Luzon.

## REMARKS

External morphology of this species is sufficiently remarkable to distinguish it from any other *Cephenomicrus*; the aedeagus is unique and shows an interesting combination of characters, each separately found in other species of the genus. The general shape and the internal system of ducts and loops resembles that known in the *taiwanensis*-group of *Cephenomicrus* (JAŁOSZYŃSKI 2009c), but the circular membranous area is shifted to its base. In most species of *Cephenomicrus*, the membranous area, when present, is located on the ventral wall of the median lobe, but in some cases it is shifted closer to the base (e.g., in the *japonigenus*-group) or is located on the base, as in *C. minimus* (FRANZ) from Sri Lanka (JAŁOSZYŃSKI 2009d). In the latter species, the aedeagus also contains entangled tubular structures, but the median lobe is short and stout. More detailed study is necessary to analyze homologies and polarities of the characters associated with various structures of the aedeagus in *Cephenomicrus*. The descriptive work done so far provided records of complex components of the male copulatory organs in this genus, suggesting a similar degree of diversity as that found in *Cephenodes* REITTER (e.g., JAŁOSZYŃSKI 2007), staying in striking contrast to relatively uniform external morphology in these two genera. A similar phenomenon can be seen in other members of the Cephenniini (e.g., in *Cephenium* MÜLLER & KUNZE) and the entire Scydmaeninae, and seems to be a hallmark of their adaptive radiation.

***Cephenomicrus clypeatus* n. sp.**

(Figs. 2, 6-11)

## NAME DERIVATION

The specific epithet refers to the unusually shaped clypeus of this species.

## DIAGNOSIS

Clypeus nearly pentagonal, separated from frons by deep lateral notches; pronotum much narrower than elytra and distinctly constricted behind middle; vestiture of dorsum extremely short and recumbent but dense and well visible; head and pronotum nearly impunctate; elytra covered with very dense but very shallow punctures forming smoothed “scaly” wrinkles; and aedeagus very stout, with slightly asymmetrical internal armature and broad, distinctly separated apical part of median lobe.

## DESCRIPTION

*Male.* Body (Figs. 2, 6) slender, with well marked constriction between pronotum and elytra, strongly convex, length 1.06 mm, pigmentation light brown, dorsum glossy; setae distinctly lighter than cuticle. Head (Figs. 7, 8) widest at large and convex, coarsely faceted eyes, length 0.14 mm, width 0.28 mm; tempora very short and forming small ridge disrupting posterior margin of each eye; vertex and frons strongly convex; frontal glands indiscernible under magnification 100x; supraantennal tubercles very small and weakly raised; clypeus deflexed, separated from frons by deep and narrow lateral notches. Punctures and setae on frons and vertex barely discernible under magnification 100x, except for sparse and short setae on anterior part of clypeus visible under magnification 40x. Antennae relatively short but slender and with loosely assembled flagellomeres, with indistinctly delimited but large 3-segmented club; length 0.50 mm; antennomere I about 1.5x as long as broad; II much narrower and distinctly longer than I, twice as long as broad; III much narrower and shorter than II, 1.2x as long as broad; IV as broad as III but slightly longer, 1.3x as long as broad; V as broad as IV but nearly 1.4x as long as broad; VI barely noticeably shorter and narrower than V, ca. 1.3x as long as broad; VII slightly longer and broader than VI, 1.3x as long as broad; VIII distinctly shorter and slightly narrower than VII, only 1.1x as long as broad; IX distinctly larger than VIII, nearly spherical; X much larger than IX, 1.1x as long as broad; XI strikingly large, much broader than X and distinctly longer than IX-X together, not divided into separate basal and apical parts.

Pronotum broadest near anterior third, length 0.30 mm, maximum width 0.36 mm; anterior margin broadly rounded; lateral margins smooth (i.e., not microserrate), strongly rounded in anterior third, distinctly constricted just behind middle; hind angles obtuse and blunt; posterior margin arcuate with narrow and shallow median emargination; base of pronotum with two lateral pairs of shallow but well marked foveae, internal pair connected by shallow and diffused transverse groove with very small and indistinct pit in middle. Punctures extremely fine, barely discernible under magnification 80x; setae dense but recumbent and extremely short.

Elytra oval, much broader and much more convex than pronotum, broadest near anterior third, length 0.63 mm, width 0.53 mm, elytral index (length/width) 1.19. Humeral calli well marked, elongate, each separated from internal part of elytron by longitudinal impression; basal foveae barely discernible; narrow adsutural area in anterior half of each elytron slightly raised and delimited by longitudinal stria; apices of elytra separately rounded. Surface of elytra covered with small, very dense but very shallowly impressed and smooth punctures forming indistinct transverse rows, so that cuticle appears "scaly"; setae similar to those on pronotum. Hind wings well developed, functional.

Legs long and very slender, pro- and metatibiae nearly straight, mesotibiae slightly recurved.

Metaventricle very glossy, with very fine and sparse punctures, without median tubercle, with pair of longitudinal carinae each running from postero-lateral margin of mesocoxal cavity caudad and slightly towards middle of ventrite.

Aedeagus (Fig. 9, 10) length 0.19 mm, darkly sclerotized, very stout and in ventral view with apical part of median lobe only slightly narrower than basal part; circular membranous area located on ventral wall; internal armature with asymmetrical system of tubular structures; parameres relatively short, no apical setae were found (either truly missing or broken off).

Male genital segment (Fig. 11) particularly massive and darkly sclerotized, with sternite IX thickened at each side, and tergite IX with very broad proximal lateral projections.

*Female.* Unknown.

#### TYPE MATERIAL

Holotype (male): two labels: "PHILIPPINES: Luzon \ Doline en amount Sagada \ 9.I.80 \ Deharveng-Orousset" [white, with first and last line printed, three middle lines handwritten in black]; "*CEPHENNOMICRUS clypeatus* m. \ HOLOTYPUS \ det. P. JAŁOSZYŃSKI '10" [red, printed] (MHNG).

#### DISTRIBUTION.

Philippines: Luzon.

#### REMARKS

The external morphology of *C. clypeatus* is unique and the remarkable body shape itself, with the very broad elytra and narrow, constricted pronotum, is sufficient to distinguish this species from any congeners. The most similar species are those belonging to the *nomurai*-group of *Cephenomicrus* (JAŁOSZYŃSKI 2009c), and *C. anderssoni* (FRANZ) (JAŁOSZYŃSKI 2009d). All these species share slender antennae with indistinctly separated club; the terminal antennomere without abruptly separated apical part; the transverse ante-basal groove of the pronotum; and the short vestiture without macrosetae. However, the *nomurai*-group is unique in having the median longitudinal groove on the pronotum, and the pronotum of *C. anderssoni* (a species from Sri Lanka) has a distinctly different shape.

The male terminalia (i.e., sternite and tergite IX and tergite X) were described for only two species of *Cephenomicrus*, representing the *taiwanensis*- and *nomurai*-groups (JAŁOSZYŃSKI 2009c). However, during the author's work on this genus, male genital segments in all other hitherto studied species were found very similar to those in that latter study, i.e. lightly sclerotized and fragile, easily distorted or damaged during extracting the aedeagus. The terminal abdominal segments of *C. clypeatus* are similar in the general structure, but differ in much darker sclerotization; the sternite IX is even "reinforced" by thickened areas along its lateral margins, and the proximal lateral projections of the tergite IX are very broad and massive. The functional meaning of such transformations (or a retained ancestral condition?) remains unclear.

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