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Taxonomic status of Cephenniini described by SCHAUFUSS from
Singapore
(Coleoptera: Staphylinidae: Scydmaeninae)

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ABSTRACT. *Cephennium festivum* and *C. raffrayi* described by SCHAUFUSS from Singapore are revised based on the type specimens. Lectotypes are designated, and the following new combinations are established: *Cephennodes* (s. str.) *festivus* (SCHAUFUSS) comb. n., and *Cephennula raffrayi* (SCHAUFUSS) comb. n. Diagnostic characters of both species are illustrated.

Key words: entomology, taxonomy, lectotype designation, Coleoptera, Staphylinidae, Scydmaeninae, Cephenniini, *Cephennodes*, *Cephennula*, Oriental, Singapore.

INTRODUCTION

Ludwig Wilhelm SCHAUFUSS described two species of Cephenniini from Singapore, and placed both of them in *Cephennium* MÜLLER & KUNZE: *C. festivum* and *C. raffrayi* (SCHAUFUSS 1889). As discussed by JAŁOSZYŃSKI (2007), *Cephennium* does not occur in the Oriental region, and the systematic position of these apparently misplaced taxa needed verification. The original description of *C. festivum* suggested *Cephennodes* REITTER as the most plausible placement for this species, while the generic position of *C. raffrayi* was not possible to guess. The syntype of the latter species was several years ago studied by the author and its placement in or near *Neseuthia* SCOTT was suggested; when *Neseuthia* was placed in the synonymy with *Cephennomicrus* REITTER, *C. raffrayi* was transferred to that genus (JAŁOSZYŃSKI 2008a). However, subsequent studies of *Cephennomicrus* and very similar, undescribed genera of extremely small Oriental Cephenniini revealed novel characters and resulted in the description of *Cep-*

hennula JALOSZYŃSKI, 2008b. Another species, previously placed in *Cephennomicrus*, was transferred to a new genus *Lathomicrus* (JALOSZYŃSKI, 2010a), and several other new genera in this interesting lineage of Cephenniini await descriptions (JALOSZYŃSKI, in preparation). Reexamination of the syntype of *C. raffrayi*, and the new data concerning morphology of cephenniine beetles accumulated in the past few years allow now for an unambiguous placement of this species in *Cephennula*. *Cephennium festivum*, in turn, has proven to belong to *Cephennodes*, and the aedeagus of this species clearly shows characters characteristic of the nominotypical subgenus.

The type specimens examined in the present study are deposited in the Deutsches Entomologisches Institut (DEI), Müncheberg, Germany. The measurements and nomenclature used in the descriptive part follow those of JALOSZYŃSKI (2007). Lectotypes are designated in order to provide name-bearing types for *C. festivum* and *C. raffrayi*.

***Cephennodes* (s. str.) *festivus* (SCHAUFUSS) n. comb.**

(Figs. 1-3, 6)

Cephennium festivum SCHAUFUSS, 1889: 27; CSIKI, 1919: 10.

DIAGNOSIS

Body without constriction between pronotum and elytra; both pronotum and elytra broadest at base; head of male non-modified; sublateral carinae on pronotum present; antennomere II 1.3x as long as broad, antennomeres III and V subquadrate, IV distinctly transverse; punctures on entire dorsum fine and sparse, except for distinct and slightly coarse punctures between lateral edges and sublateral carinae on pronotum; aedeagus *simonis*-type, median lobe with abruptly truncate apex, apical projections subtriangular and recurved, directed toward apex of median lobe, in lateral view subapical part of median lobe broadly open.

REDESCRIPTION

Male. Body (Fig. 1) strongly convex, nearly perfectly oval, without even slightest trace of constriction between pronotum and elytra and their lateral margins confluent, length 1.15 mm, pigmentation dark reddish-brown, dorsum glossy; vestiture yellowish. Head widest at moderately large, convex and coarsely faceted eyes, length 0.13 mm, width 0.30 mm; vertex and frontoclypeal region confluent and weakly convex, supraantennal tubercles small and weakly raised. Punctures and setae on vertex and frons fine, inconspicuous. Antennae relatively short and stout, compactly assembled, with four terminal antennomeres distinctly enlarged and forming club, but antennomeres IX-XI are much broader than VIII, and therefore club can be interpreted as 3-segmented; length of antennae 0.55 mm; antennomere I 1.5x as long as broad; II slightly narrower and shorter than I, only 1.3x as long as broad; III slightly smaller than II, subquadrate; IV as broad as III but shorter, distinctly transverse; V as broad as IV but longer, subquadrate; VI as broad as V but distinctly longer, slightly longer than broad; VII as broad as VI but much longer, about 1.5x as long as broad; VIII distinctly broader than VII but much

shorter, slightly broader than long; IX much larger than VIII, transverse; X much larger than IX, transverse; XI distinctly broader than X, as long as IX-X together.

Pronotum in dorsal view nearly semicircular, broadest at base, length 0.38 mm, maximum width 0.61 mm; anterior margin broadly rounded; lateral margins weakly rounded and distinctly divergent caudad; hind angles distinctly sharp and acute; posterior margin shallowly, but distinctly biemarginate; sublateral carinae present, narrow but distinct, each disappear near front angle of pronotum; ante-basal foveae small and shallow, each separated from lateral margin of pronotum by distance twice as long as that to posterior margin. Punctures on disc very fine and sparse, barely discernible under magnification 40x; area on each side of pronotum contained between lateral margin and sublateral carina covered with distinct, dense but small and shallow punctures appearing slightly coarse in posterior half of pronotum; setae short and relatively sparse, suberect.

Elytra oval, broadest at base, length 0.65 mm, width 0.60 mm, elytral index (length/width) 1.08. Humeral denticles well marked; subhumeral lines distinct but not carinate (i.e., each developed as sharp border between raised humeral region and impressed adsutural area), slightly shorter than 0.4x elytral length, distinctly divergent caudad; large and deep basal fovea on each elytron prolonged posteriorly by short oval basal impression; apices of elytra separately rounded. Punctures on elytra very small but distinct due to raised margins, separated by spaces 1.5-2x as long as puncture diameters; vestiture similar to that on pronotum, but setae thicker. Hind wings not studied.

Legs moderately long and slender, non-modified.

Metaventricle very finely and sparsely punctate, without postmesocoxal impressions.

Aedeagus (Figs. 2-3) *simonis*-type, broad and stout, length 0.16 mm; median lobe drop-shaped with abruptly truncate apex; in lateral view subapical part broadly open; apical projections subtriangular and recurved, in ventral view directed toward apex of median lobe; parameres slender, equal in length, reaching apex of median lobe, each with one apical and two subapical setae.

Female. Unknown (see remarks).

TYPE MATERIAL

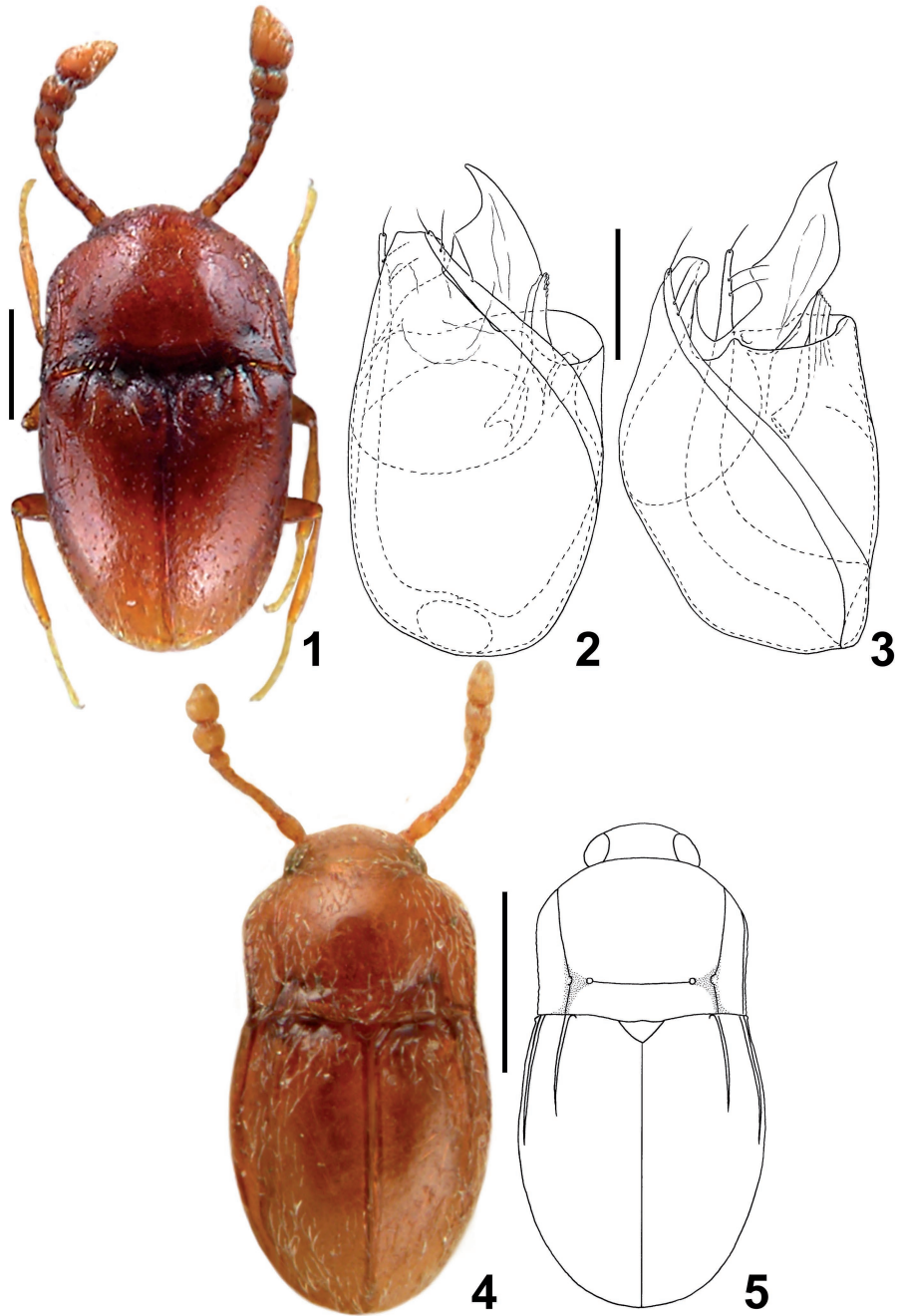
Lectotype (here designated) (male): "Singapur" [white, handwritten]; "Ceph. \festivum \m" [white, handwritten]; "Syntypus" [red, printed]; "C. Schaufuss 1930" [white, printed] "Cephenodes \festivus Schauf. \Cl. Besuchet \det. I 60" [white, handwritten except for printed name of determinator]; "CEPHENNODES (s. str.) \festivus (Schaufuss) \LECTOTYPUS \det. P. JAŁOSZYŃSKI '10" [white, printed] (DEI).

DISTRIBUTION.

Singapore.

REMARKS

Specimens of Scydmaeninae from the collection of L. W. SCHAUFUSS (and later of his son, Camillo Festivus Christian SCHAUFUSS) are currently preserved in the Deutsches



1-5. *Cephennodes festivus* (SCHAUFUSS) (1-3) and *Cephennula raffrayi* (SCHAUFUSS) (4, 5); 1, 4 – dorsal habitus of lectotype; 2, 3 – aedeagus in ventral (2) and lateral (3) views; 5 – simplified body outline (scale bars: 1, 4, 5 – 0.25 mm; 2, 3 – 0.05 mm)

Entomologisches Institut, Müncheberg, Germany (DEI) and The Natural History Museum, London, United Kingdom (BMNH). DEI holds two males labeled as syntypes and a single female bearing handwritten, faded label reading “*festivum* ♀?”, also coming from the SCHAUFUSS Collection, as confirmed by the standard label “C.Schaufuss 1930” (the year when the collection was acquired by the Deutsches Entomologisches Institut in Berlin). Each of these three specimens belongs to a different species - the female is much more slender and has clearly different proportions of body parts than the males, and the males show different details of the aedeagus. One of these males is most likely conspecific with the single syntype preserved at BMNH, but both specimens have slightly (specimen from DEI) or heavily (BMNH) distorted or damaged aedeagi. Therefore, the only male syntype with perfectly intact aedeagus was selected to be designated lectotype in the present paper; the other species remain undescribed.

Species of *Cephennodes* without any peculiar modifications in males and with the aedeagus similar to that of the type species of the genus (i.e., the *simonis*-type; see JALOSZYŃSKI 2007) are difficult to identify. The most reliable characters are proportions of various body parts (first of all lengths and widths of the pronotum and elytra and their ratios); relative lengths of antennomeres; lengths of subhumeral lines; arrangement, diameters and depths of the punctures on the head, pronotum and elytra; and details of the aedeagus. Within this very uniform (and not necessarily natural) group, *C. festivus* is relatively distinct in having the strikingly short antennomere II, which is less than 1.5x as long as broad; and the pronotum and elytra both broadest at base and with confluent lateral margins (i.e., the usual constriction between the pronotum and elytra in dorsal view is entirely missing). The aedeagus of *C. festivus* is most similar to that of *C. simonis* REITTER from Borneo in having the apical projection in ventral view curved toward the apex of the median lobe, and the latter tapered. Also the presence of the sublateral carinae on the pronotum and, to a lesser extent, the general body shape is shared by these two species. However, important details of the aedeagi are clearly different: in *C. simonis* the parameres are unequal in length, one distinctly exceeding the apex of the median lobe, while the parameres in *C. festivus* are equal and both reaching



6-7. Original labels of lectotypes; 6 – *Cephennodes festivus* (SCHAUFUSS); 7 – *Cephennula raffrayi* (SCHAUFUSS)

as far as to the distal margin of the apex of the median lobe; the apical projection in *C. simonis* is narrow and nearly falciform both in ventral and lateral views, whereas the projection in *C. festivus* is distinctly broader and especially in lateral view shows more complex shape.

***Cephennula raffrayi* (SCHAUFUSS) n. comb.**
(Figs. 4-5, 7)

Cephennium raffrayi SCHAUFUSS, 1889: 29; CSIKI, 1919: 13.
Cephennomicrus raffrayi (SCHAUFUSS); JAŁOSZYŃSKI, 2008: 34.

DIAGNOSIS

Body extremely small, below 0.7 mm in length; humeral carinae nearly as long as half length of elytra, and subhumeral carinae only slightly shorter.

REDESCRIPTION

Tentative male (see remarks). Body (Figs. 4-5) stout and moderately convex, with very shallow constriction between pronotum and elytra, length 0.68 mm, pigmentation yellowish-brown, dorsum glossy; setae distinctly lighter than cuticle. Head widest at large, convex and coarsely faceted eyes, length 0.08 mm, width 0.18 mm; vertex and frons confluent and convex; frontal glands distinct, each slightly paler than surrounding cuticle and much larger than single ommatidium; supraantennal tubercles hardly discernible; clypeus deflexed, trapezoidal. Punctures on frons and vertex extremely fine, barely visible under magnification 100x; setae very short, sparse, recumbent (on median and posterior parts of head) to suberect (on clypeus). Antennae slender, length 0.24 mm, antennomeres III-VIII compactly assembled and subquadrate to slightly longer than broad; antennomeres IX-XI forming large and flattened, loosely assembled club, with two terminal antennomeres much broader than VIII.

Pronotum broadest near anterior third, length 0.23 mm, maximum width 0.29 mm; anterior margin shallowly arcuate; lateral margins very finely microserrate, strongly rounded in anterior third, slightly (barely noticeably) convergent posteriorly and nearly straight in posterior half; hind angles nearly right and acute; posterior margin with pair of shallow and broad lateral emarginations and narrow and indistinct median emargination; base of pronotum with shallow but distinct transverse groove joining two pairs of shallow and indistinct lateral pits; sublateral carinae distinct, entire, in strictly dorsal view distinctly divergent anterad. Punctures on disc extremely fine, barely discernible under magnification 100x, those contained between lateral edges and sublateral carinae slightly more distinct, but only in posterior third punctures on these lateral areas are large enough to appear coarse; setae distinct but short and recumbent, relatively dense.

Elytra oval, broadest slightly anterior to middle, length 0.38 mm, width 0.34 mm, elytral index (length/width) 1.11. Humeral carinae nearly reaching middle of elytra; subhumeral carinae distinctly shorter than humeral ones, slightly divergent caudad; humeral denticle and basal foveae barely discernible; apices of elytra separately roun-

ded. Punctures distinct and discernible under magnification 40x, but very small, very shallow and diffused, separated by spaces comparable to puncture diameters; setae similar to those on pronotum. Hind wings not studied.

Legs moderately long, very slender.

TYPE MATERIAL

Lectotype (here designated) (probably male; see remarks): “Singapur” [white, handwritten]; “Cephenni \ um \ (n.g.) \ Raffrayi \ m.” [white, handwritten]; “15” [white, handwritten]; “C. Schaufuss 1930” [white, printed]; “Syntypus” [red, printed]; “coll. DEI \ Eberswalde” and “coll. DEI \ Müncheberg” [both white and printed]; “Phenne-codes \ raffrayi Schauf \ Cl. Besuchet \ det. XII 59” [white, handwritten with name of determinator printed]; and “*CEPHENNULA \ raffrayi* (Schaufuss) \ LECTOTYPUS \ det. P. JALOSZYŃSKI ‘10” [white, printed] (DEI).

DISTRIBUTION.

Singapore.

REMARKS

The specimen preserved at DEI has been dissected in the past and the pin under the card with beetle bears also a plastic rectangle. However, the rectangle bears only a trace of a mounting medium, in which some structures, presently lost, might have been embedded. It is not possible to recognize whether the specimen is a male or female, but a higher possibility is that of mounting rather the aedeagus than female terminalia in Canada balsam, euparal or any similar medium. Therefore, the specimen is most likely a male. Unfortunately, in the Cephenniini the primary diagnostic characters are those associated with the aedeagus, and *C. raffrayi* may be very difficult to identify. Nevertheless, among hitherto known species – four from Malaysia and Indonesia (JALOSZYŃSKI 2008) and one from Thailand (JALOSZYŃSKI 2010b) – *C. raffrayi* is unique in the extremely small body, reaching only 0.68 mm. *Cephennula scaphisoma* JALOSZYŃSKI, 2008 from Pahang and *C. porcata* JALOSZYŃSKI, 2010 from Thailand are large, 1.11 and 1.01 mm in length, respectively; and the three remaining species, *C. multicarinata* JALOSZYŃSKI, 2008 (Kalimantan), *C. minuta* JALOSZYŃSKI, 2008 (Sarawak) and *C. secunda* JALOSZYŃSKI, 2008 (Selangor) are 0.78–0.83 mm long. Moreover, the elytral carinae in *C. raffrayi* are very long; the humeral carina nearly reaching half length of elytra and the subhumeral carina only slightly shorter. These structures in all other species are clearly different: humeral and subhumeral carinae are equal or subequal in length in *C. secunda*, *C. scaphisoma* and *C. porcata*; in *C. multicarinata* the subhumeral carina is less than half as long as the humeral carina; and in *C. minuta* the humeral carina is slightly shorter than 1/3 length of elytra. Macrosetae were not found in *C. raffrayi*, but the specimen has been remounted and manipulated minimum two times and it is possible that the fragile long and upright setae known in other species of the genus have been broken off.

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