

A New *Trichiorhyssemus* Species (Coleoptera, Scarabaeidae) from Taiwan

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Abstract A new *Trichiorhyssemus* species is described from South Taiwan, under the name of *Trichiorhyssemus taiwanus* sp. nov.

We have been continually carrying out researches on the scarabaeoidological fauna of Taiwan for a long time. In the course of researches, we found an aphodiine species belonging to the genus *Trichiorhyssemus* that we had never seen in the collection of the late Mr. Shizumu NOMURA preserved in the National Museum of Nature and Science, Tsukuba, and also in the Chi-Feng LEE Collection, Taiwan Agricultural Research Institute, Wufeng. Up to the present, three species of this genus, *T. yu-mikoeae* PITTINO et KAWAI, 2007, *T. kitayamai* OCHI, KAWAHARA et KAWAI, 2011, and *T. lasionotus* CLOUËT, 1901, are known to distribute in Taiwan (PITTINO *et al.*, 2007; OCHI *et al.*, 2011). After a detailed examination, we confirmed that the unknown species proved to be distinguished from three known species, and is new to science. Thus, we are going to describe it in this paper. We followed RAKOVIC and KRÁL (1997) in part for the terminology used in the description. The abbreviations used below are as follows: Pl: pronotal length; Pw: pronotal width; El: elytral length; Ew: elytral width (mm); NSMT: National Museum of Nature and Science, Tsukuba; TARI: Taiwan Agricultural Research Institute, Wufeng.

Trichiorhyssemus taiwanus sp. nov.

(Figs. 1, 2–8)

Description of the holotype. Male. Length: 3.2 mm; width: 1.3 mm.

Body small in size, elongate-oval though a little shorter and stouter than the related species, strongly convex; dorsal side subopaque on the ground surface except for the shining crowded granules and clothed with microscopic pubescence on head, barely noticeable minute setae on pronotum, short but distinct setae on elytra; ventral side shining on metaventrite and abdomen, and opaque on pro- and mesoventrites and head. Color uniformly blackish brown; legs, mouth parts and palpi more or less reddish; antennae with foot-stalks reddish brown, club segments yellowish brown.

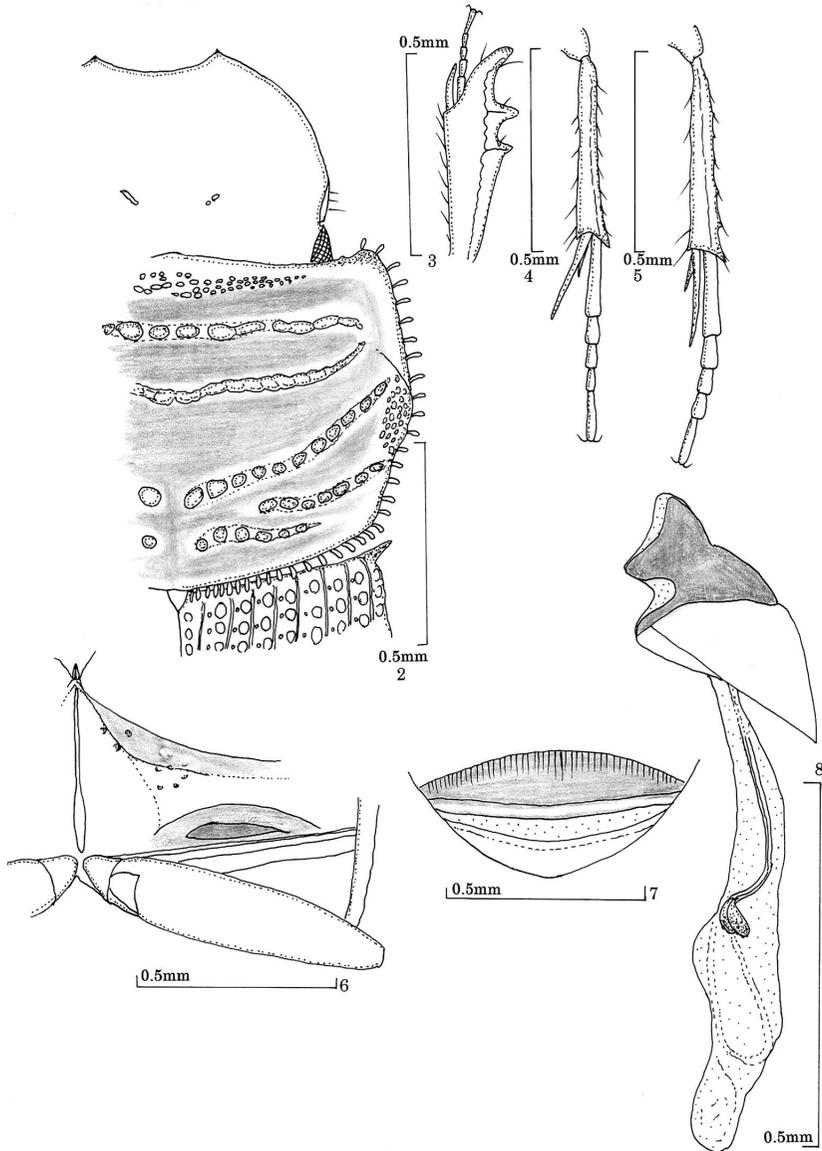
Head slightly transverse, convex dorsally, especially strongly so a little former of the middle; clypeal margin widely emarginate at middle, with each side of the emargination produced, only slightly reflexed and toothed, the teeth rather sharp; genae fairly narrow and not exceeding eyes, with genal margins almost straight; a pair of occipital oblique ridges situated at postero-median portion which are very weak, the left one is small and barely noticeable, the right one is indistinct; surface opaque in basal two-thirds and shining in apical third, densely covered with small granules in basal two-thirds, which become slightly larger and sparser toward the antero-median portion.



Fig. 1. Habitus of *Trichiorhyssemus taiwanus* sp. nov., male, dorsal view.

Pronotum strongly convex, about 1.3 times as wide as long ($P_l : P_w = 0.89 : 1.17$), distinctly but not so strongly constricted posteriad on each side; anterior margin bisinuate, with rather thick marginal membrane; lateral margins gently rounded in anterior part, only slightly sinuate and gradually narrowed in posterior part in dorsal view, with marginal border weakly crenulate; anterior angles moderately produced forward, with rounded apices, posterior angles obtuse; basal margin gently rounded in middle, almost straight on both sides, finely bordered throughout; basal and lateral margins fringed with short, yellowish and clavate setae; disc with five transverse ridges and a pair of well-developed accessory transverse swellings, and with five transverse furrows; three anterior ridges complete and not interrupted at each middle, 1st ridge very flat and broad, composed of two or three small granulate transverse rows, whose granules are obviously isolated mutually, 2nd and 3rd ones distinctly raised, each composed of a single granulate row whose granules are almost continuous or completely fused, not distinctly isolated; posterior two ridges narrowly interrupted by a fine median longitudinal furrow and distinctly raised, 4th and 5th ones each composed of almost isolated granules; a pair of accessory transverse swellings arising from a little farther the median longitudinal furrow between 4th and 5th ridges and extending to lateral crowded granulate area on each side; transverse furrows shallow though distinct, 2nd and 3rd ones rather deep; surface closely covered with fine granules or sculptures on the transverse furrows. Scutellum small, triangular and depressed.

Elytra strongly convex dorsally, weakly widened toward middle, where is the widest, about 1.3 times as long as wide ($E_l : E_w = 1.59 : 1.26$), and slightly wider than the maximum width of pronotum; each humerus with a sharp tooth, which is strongly and obliquely projected exteriorly; disc with 10 striae, strongly and finely grooved, stria punctures mostly elongate, weakly notching each margin of intervals; intervals strongly convex and elevated as seemingly almost costate; suture also costate and rather convex, with a single longitudinal row of nearly chained granules along margin; 2nd to 10th intervals with two longitudinally and regularly arranged rows of granules, the external row strongly



Figs. 2–8. *Trichiorhyssemus taiwanus* sp. nov., male. — 2, Model figure of anterior portions of body, dorsal view; 3, right protibia, dorsal view; 4, right mesotibia, dorsal view; 5, right metatibia, dorsal view; 6, right side of metaventricle including anterior post-mesocoxal groove, posterior ante-metacoxal groove (each showing darkened part), ventral view; 7, last abdominal ventrite, ventral view; 8, male genitalia, lateral view.

raised and consisting of somewhat coarse and round granules, the internal row not so raised and consisting of very small granules, and these intervals longitudinally and rather sparsely arranged with noticeable short setae.

Mesoventrite with apophysis stout, sharply defined, carinate along midline. Metaventricle strongly and longitudinally grooved throughout along midline; a pair of anterior post-mesocoxal grooves rather narrow though distinct in interior portion, and indistinct in exterior portion; a pair of posterior an-

te-metacoxal grooves broad, curved in anterior border, shining, leaving the median portion as a shining smooth transverse relief; median portion shining, smooth and impunctate, lateral portions opaque, finely granulate or microsculptured. Abdomen glabrous, weakly shining to partly subopaque; 2nd to 4th ventrites each transversely arranged with a row of very small, shallow and chained punctures throughout in middle, and also with a row of chained punctures or granules, which form a crenate edge; last ventrite deeply and transversely grooved in basal two-thirds, convex, smooth and glossy in apical third, the glossy area not broadened at middle.

Profemur about 2.0 times as long as wide, shining, distinctly covered with setiferous punctures. Mesofemur about 2.1 times as long as wide, shining, scattered with similar punctures though a little smaller than those of profemur in outer two-thirds, smooth and almost impunctate in inner third. Metafemur about 2.9 times as long as wide, also shining, scattered with similar punctures to those on mesofemur in exterior two-thirds and smooth, and almost impunctate in interior third. Protibia with three external teeth, 1st tooth sharp and well-curved externally, 2nd slightly shorter than 1st, 3rd smaller than 2nd. Meso- and metatibiae slender, though the latter is slightly longer; metabasotarsomere elongate, a little longer than two following segments combined and slightly shorter than upper terminal spur.

Aedeagus relatively short, 0.39 mm in length in left lateral view (measured on dorsal side in dorsal view). Phallobase short, 0.20 mm in length in left lateral view. Parameres robust, 0.19 mm in length in left lateral view, 0.15 mm in width in dorsal view, with head of it broad and obviously sinuate in left lateral view, ventral side very deeply sinuate in left lateral view. Internal sac with a pair of small sclerites in middle.

Variation. Length: 3.1–3.3 mm (n=3); width: 1.2–1.3 mm (n=3). Color reddish brown in two paratypes, appearing immature individuals.

F e m a l e. Protibia slightly stouter than that of male, with three external teeth stronger. Abdomen with last ventrite distinctly broadened at middle, shining, smooth and distinctly glossy apical portion obviously broadened at middle.

Type series. Holotype: ♂, Neiwan, Formosa, 24.VII.1969, T. KOBAYASHI leg. (NSMT). Paratypes: 1 ♂, 1 ♀, Taiwan; Tainan, Chiku (七股), C01004, 20.IV.2010, T.-H. LIN leg. (TARI).

Type depository. The holotype is deposited in the collection of the National Museum of Nature and Science, Tsukuba, Japan and the paratypes are in Taiwan Agricultural Research Institute, Wufeng, Taiwan.

Distribution. Taiwan.

Etymology. The specific name is given after Taiwan, the type locality.

Notes. This new species is closely related to *Trichiorhyssemus yumikoa* PITTINO et KAWAI from Taiwan and Japan (Miyakojima Is., the Ryukyus), in the structure of pronotum, such as the 4th and 5th transverse ridges which are composed of almost isolated granules, and a pair of well-developed accessory transverse swellings between the 4th and 5th ridges. The new species can be distinguished from *T. yumikoa* by the following characters: Body relatively smaller, about 3.1–3.3 mm in length (2.9–3.7 mm in *T. yumikoa*); elytra obviously shorter in comparison with the pronotal length (elytra distinctly elongate in *T. yumikoa*); head with a pair of occipital oblique ridges very weak (a pair of very distinct occipital oblique ridges in *T. yumikoa*); pronotum with granules of 2nd and 3rd transverse ridges almost chained or continuous (almost independent and neither chained nor continuous in *T. yumikoa*); elytral humeral tooth strong and well noticeable (weak and not so noticeable in *T. yumikoa*); aedeagus with male genitalia obviously smaller and shorter than in those of *T. yumikoa* in lateral view.

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要 約

越智輝雄・益本仁雄・李 奇峰：台湾産 *Trichiorhyssemus* 1 新種の記載（鞘翅目コガネムシ科）。——台湾の不明なホソケシマグソコガネを検討した結果、新種であることが判明したので、*T. taiwanus* sp. nov. として記載した。近縁種の台湾産 *T. yumikoeae* とは、本新種は明らかに体が小さくて、前胸背に比べて上翅が短く、後頭部中央付近の一对の小横隆起が微弱で発達せず、また、前胸背の第2、第3横隆起を構成する顆粒が合着して連続し、♂交尾器は横から見て明らかに小さく、短いことなどで明瞭に区別できる。

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