

A new species of *Scotomedes* from Taiwan (Insecta: Heteroptera: Velocipedidae)

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A new species of Velocipedidae (Heteroptera), *Scotomedes formosanus* spec. nov., is described from Taiwan.

Introduction

Dr I.M. Kerzhner (Zoological Institute, St. Petersburg, Russia), kindly brought to the attention of the first author a paper by T. Esaki (1931). Obviously, this paper was overlooked during the revision of the Velocipedidae by the first author (van Doesburg,



Fig. 1. *Scotomedes formosanus* spec. nov., holotype female. Total length: 9 mm.

2004). Esaki (1931: 75) reported the velocipedid *Velocipeda aliena* (Distant, 1904) from Taiwan, filling the gap in the distribution of the genus as presented in the fore-mentioned revision. However, *V. aliena* was described from Burma (now Myanmar) and some doubts on the true identity seem to be justified. After a long search it was not possible to locate Esaki's original specimen, but the co-author succeeded to find another specimen from Taiwan and also identified as *Velocipeda aliena* by Esaki. It proved to be an undescribed species, of which the description is here presented. For the abbreviations in the description, see van Doesburg (2004).

Systematic part

Velocipedidae Bergroth, 1891

Velocipedidae Bergroth, 1891: 265.

Scotomedes Stål, 1873

Scotomedes Stål, 1873: 111.

Velocipeda Bergroth, 1891: 263.

Godefridus Distant, 1904: 328.

Scotomedes formosanus spec. nov.

(figs 1-4)

? *Velocipeda aliena*; Esaki, 1931: 75.

Material.— Holotype ♀ (Kysuhu University Entomology Collection). "Formosa, S. Asahina", "26. vii.1936, Tyokakurai [= South Taiwan, about 800 m, 120°48'55"E 22°24'09"N], DAIBU", "*Velocipeda aliena* (Distant). Det. Teiso Esaki", "1936/56" (red).

Remarks.— The additional data for the locality of the holotype was found on internet via Google on the entry "Tyokakurai", giving more details from Dr S. Asahina's collecting at the same day in 1936!

On receipt of the specimen, the micro-pin on which the specimen has been mounted was fallen out of its carrier, a cork point. Fortunately, the specimen suffered only minor damage. Subsequently, the micro-pin was re-inserted in the cork point and secured with glue.

The micro-pin is severely corroded just under and above the contact with the specimen. Obviously, the corrosion has been totally eaten through the pin on the upper side, as that part of the pin was already fallen off. How far the pin is corroded at the under-side could not be ascertained but considering the relative large amount of corrosion material around the pin, the pin is here most likely not far from collapsing. As re-pinning the fragile specimen is practically out of the question, and to prevent the specimen from falling off the pin, the specimen has been secured at the under-side with glue to the micro-pin.

The specimen shows clearly the remainders of the debris by which several species cover themselves for camouflage (van Doesburg, 2004: 92). The many long erect setae on the upper side of the specimen (except the membranes) and probably a sticky secretion, may well secure the debris particles on the upper face.

Description

Habitus.— Medium sized female *Scotomedes* (fig. 1), a broadly oval species, brown with yellow markings; head, pronotum, scutellum and hemelytral clavus dark brown;

Head.— Surface of head including the normally bulging eyes, blackish brown, neck light brown; ocelli lucid light brown, diameter 0.075 mm, situated behind level of posterior boundary of the eyes, two times its diameter out of the eyes; antennae brown, first segment 0.69 mm, second 1.75 mm (fig. 2), beyond middle somewhat bent posteriorly and beyond the big seta slightly incrassate and lighter coloured, in life possibly yellow; big seta, 1/5 of length of second segment, born on 5/7 from base: ratio 0.71; segment before seta sparsely and short setose, part beyond seta densely and long setose including a second long seta; third segment, only left, 1.24 mm; head sparingly set with fine, rather long setae; under-side shiny black, transversely grooved, along median a row of shiny black verrucae; neck brown; bucculae curved posteriorly around base of rostrum to reach each other behind of it, bucculae and rostrum light brown, bare and shiny, rostrum reaching middle of mesosternum.

Thorax.— Pronotum trapezoid, dark brown, wider than long, ratio about 1.4 times, posterior margin shallowly excavated medially, posterior corners rounded, lateral margins finely ridged, somewhat undulating and converging anteriorly to the anterior corners where the ridges are broadened forming anteriorly directed round flaps; anterior margin feebly excavated medially, collar entire; anterior part of pronotum blackish brown, glossy, remotely finely punctured; calli as uneven swellings, partly united medially and each subdivided into a posterior, more or less united part, an anterior and a lateral swelling; posterior part of pronotum dark brown, matt by microsculpturing of the integument and densely and deeply punctured; at both side of the median the surface is a little swollen more or less as a posteriorly continuation of the calli; the whole pronotal surface is set with long, fine setae (0.1-0.2 mm) born on the anterior to lateral rims of the punctures.

Scutellum blackish brown, same texture and setosity as the posterior part of the pronotum, triangular, raised but centrally a little depressed; sides slightly convex, posterior angle rounded.

Wings.— Fore wings surpassing abdomen by 0.75 mm; and in rest position much wider than the abdomen; exocorium very wide and costal margin, especial anteriorly, turned-up; surface dull by a dense, almost submicroscopic sculpturing, light brown, towards base

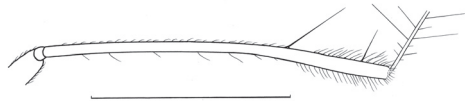


Fig. 2. Right second antennal segment showing setation. Bar represents 1 mm.

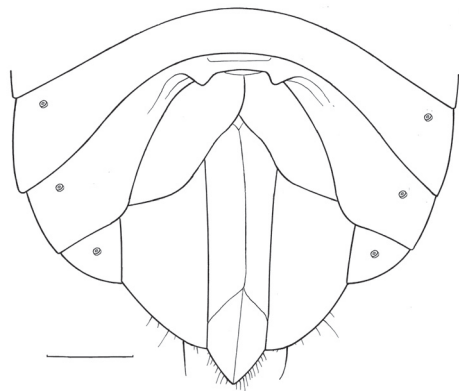


Fig. 3. Ventral aspect of female genital sclerites. Bar represents 0.5 mm.

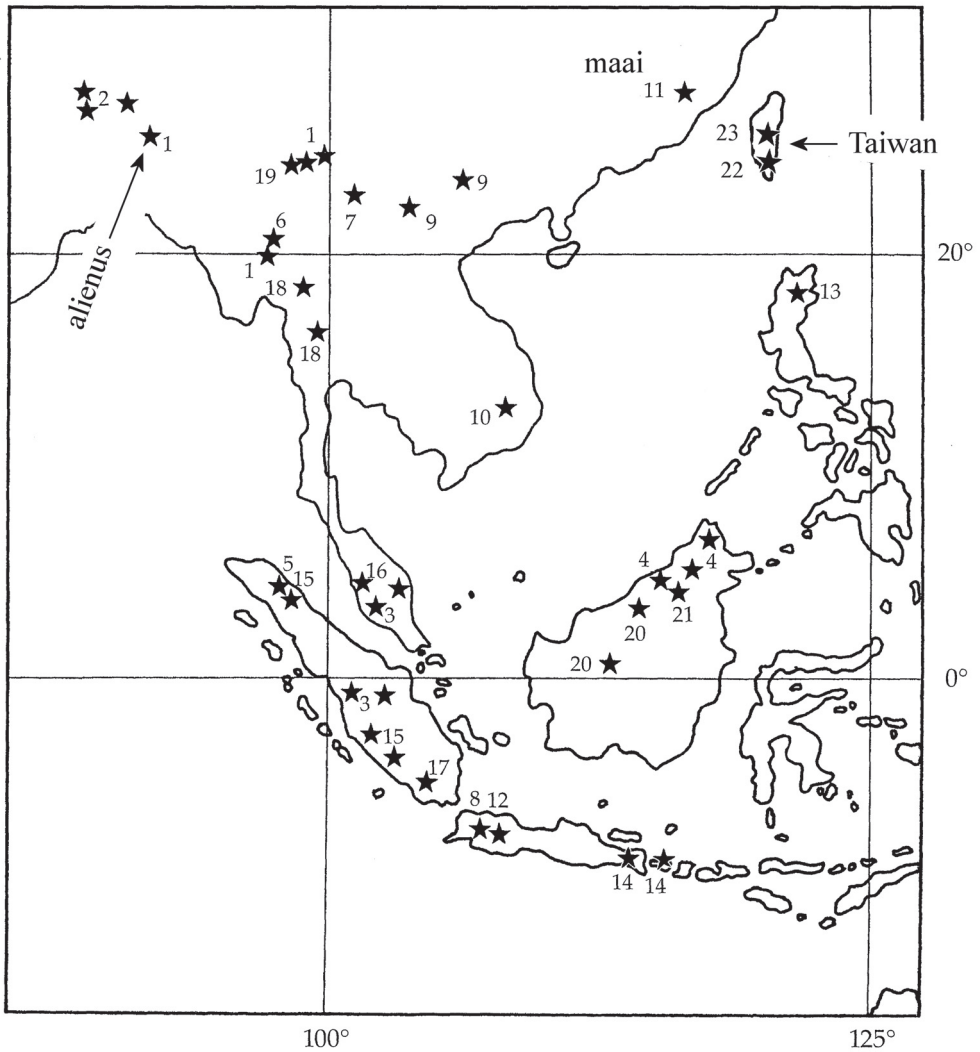


Fig. 4. Map of SE Asia, showing the distribution of the species of Velocipedidae of the Western group, *Scotomedes* Stål, 1873 and *Bloeteomedes* van Doesburg, 1970. Numbers on the map: 1 = *S. alienus* (Distant, 1904); 2 = *S. alienus sikkimensis* van Doesburg, 2004; 3 = *S. ater* Stål, 1873; 4 = *S. ater* subsp. *confrater* van Doesburg, 2004; 5 = *biguttulata* (Reuter, 1908), (= *ater* Stål); 6 = *S. distanti* van Doesburg, 2004; 7 = *S. doesburgi* Ren, 2000; 8 = *S. gedehensis* van Doesburg, 2004; 9 = *S. guangxiensis* Ren, 2000; 10 = *S. lemoulti* van Doesburg, 2004; 11 = *S. maai* van Doesburg, 2004; 12 = *S. minor* (Breddin, 1903); 13 = *S. polis* van Doesburg, 2004; 14 = *S. priscus* (Bergroth, 1891); 15 = *S. priscus jacobsoni* van Doesburg, 2004; 16 = *S. rudolfi* van Doesburg, 2004; 17 = *S. sumatrensis* van Doesburg, 2004; 18 = *S. thai* van Doesburg, 2004; 19 = *S. yunnanensis* Ren, 2000; 20 = *B. borneensis* van Doesburg, 1970; 21 = *B. sarawakensis* van Doesburg, 1980; 22 = *S. formosanus* van Doesburg & Ishikawa, 2008; 23 = *S. ? alienus*; (after Esaki, 1931). (After van Doesburg, 2004, fig. 226, adapted).

and clavus dark brown, with three yellow markings, a round one near costal margin on 1/3 of exocorium, one at the end of the exocorium against the costal fracture and one on the membrane; an insignificant small light stain at the end of the clavus; with a well developed costal fracture, separating cuneus from exocorium; coriaceus part of the hemelytron with a characteristic pattern of darkened deep punctures, especially along the veins and on the exocorium and cuneus while long, fine, erect setae (0.1-0.2 mm) are born of the anterior rim of the punctures; membrane with four (three closed) basal cells and 11 longitudinal veins emanating from distal veins of the cells and one born of the extreme base of the membrane; hind wings surpassing abdomen by 0.25 mm.

Legs. — Long and slender, of cursorial type, brown, unarmed, tarsi light brown.

Abdomen. — Almost parallel-sided, much narrower than the wings in rest position, brown, half mat, very fine, short decumbently setose, no trichobothriae found; seventh sternite medially deeply and widely emarginate to harbour the female genital sclerites (fig. 3), posterior margin of middle region heavily sclerotized forming a transverse, raised posteriorly directed edge with two submedial processes; the constellation of the remaining sclerites is normal.

Measurements. — Holotype, ♀, tl, incl.wings, 9; tl proprius, 8.25; ww, 4.6; w/h, 1.3; synthlipsis, 0.65; w/pr, 3.08; l/h, 1.48; l/pr, 1.65-1.79; l/w, 6; l/a2, 1.75; ratio seta: 50/70; w/abd, 2.5.

Distribution (fig. 4). — *Scotomedes formosanus* spec nov. is only known from Tyokakurai in South Taiwan, now known as Shih-pu (type locality, # 22).

The male is not known.

Etymology. — The new species is named after "Formosa", the old name of the island of Taiwan where the specimen was collected.

Discussion

Scotomedes formosanus spec. nov., is at first sight similar to *S. alienus* (Distant), but can be distinguished from this and other species by the combination of the following features. The body is smaller (9 mm); the neck of the head is wider, the transition from neck to eye is more direct, almost sharp, the widest part of the eye before the middle of the eye and the anterior part of the head shorter and wider, all relatively; the anteriorly directed round flaps of the pronotum more pronounced than in *S. alienus* and the species is comparatively wider in appearance (ww/tl, 0.51) by the broader embolium (exocorium) of the fore wings; the possession of six yellow spots on the fore wings (three on each); the location of the large seta on the second antennal segment being situated further apically, giving the highest ratio of 0.71 and the unique structure on the posterior margin in the female seventh abdominal segment. *S. maai* van Doesburg from Bohea Hill, South China at the other side of the Street of Formosa (see map, fig. 4) should be considered. Only the male is known and this species also resembles *S. alienus* (Distant). However, *S. maai* is much larger, 10.4 mm for the male, supposing a matching female of about 11 mm, more slender (ww/tl, 0.48) and an antennal ratio of only 0.60, so a direct relation with our new species is most unlikely.

The specimen Esaki (mis)identified as *Velocipeda aliena* in his 1931 paper, a female, is from Alishan [A-li-shan, 120°48'E-23°30'N], Middle Taiwan, Chiai Hsien, 1000 m alti-

tude (fig. 4, # 23) and gives as measurements a total length of 10.5 mm and a width of 5 mm which give a body ratio of 0.48 (in his published figure, 0.42!). As this specimen is considerably bigger than our new species, in Esaki's figure the extended anterior corners of the pronotum are wanting and the yellow spots on the membranes smaller, it is excluded from the type status. It may even be another species like *S. maai*. To clear this situation, more specimens (especially males) need to be collected.

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