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Description of a new phaneropterine species, *Stylomolpa montana* (Orthoptera: Tettigoniidae) from Sabah, Borneo

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Abstract

A new phaneropterine species of *Stylomolpa* Karny 1926 is described, *Stylomolpa montana*. This species was found in the submontane zone (1000-1500m) of Sabah, Borneo.

Keywords

katydid, Borneo, submontane, Malaysia

Introduction

Stylomolpa Karny 1926 has been represented by a single species described from Johor, peninsular Malaysia: *Stylomolpa angustipennis* Karny 1926. This genus and *Molpa* Walker 1870 are peculiar among Phaneropterinae for the odd combination of characters: laterally compressed body, conical head, extraordinarily elongate antennal scape and small ovipositor. These 2 genera are very similar, but *Stylomolpa* is easily distinguished from *Molpa* by having a pair of styli on the tip of the male subgenital plate. The 2nd species of *Stylomolpa* was found among specimens collected during an Expedition at Crocker Range National Park, Sabah, conducted by Sabah Parks, Universiti Malaysia Sabah and Universiti Malaysia Sarawak in October 1999. The first author also identified 2 male specimens stored in Japan as the same species. In this paper we describe the species and illustrate useful taxonomic characters. Type specimens are deposited in the following institutions: Entomology Unit of Sabah Parks, Malaysia (EUSP); BORNEENSIS, Institute for Tropical Biology and Conservation, Universiti Malaysia Sabah, Malaysia (ITBC); Systematic Entomology, Hokkaido University, Japan (SEHU); and Osaka Museum of Natural History, Japan (OMNH).

Description

Stylomolpa montana n. sp.

Figs 1-8

Diagnosis.—Male cerci slightly incurved, widened and flattened apically; near apex without a long spine, instead 2 or 3 minute spines.

General morphology.— Mesosternal and metasternal lobes rounded. Fore coxae spined. Tibial tympana open on outside, conchate on inside. Internal and external genicular lobes of hind femora each with 2 small spines, the upper one longer. All tibiae with groove on each of internal and external sides. Femoral spines minute. Number of spines on ventral part of femora: fore femora 4 to 10, middle 5

to 14, hind 0 to 3. Number of spines of tibiae (preapical + apical spines): fore tibiae dorso-externally 0 + 0 to 1, ventro-internally 4 to 6 + 1, ventro-externally 2 to 4 + 1; middle tibiae dorso-internally 4 to 10 + 0 to 1, ventro-externally 8 to 10 + 1, ventro-internally 5 to 7 + 1; hind tibiae dorso-externally 27 to 30 + 1, dorso-internally 34 to 43 + 1, ventro-externally 15 to 18 + 2, ventro-internally 6 to 9 + 2.

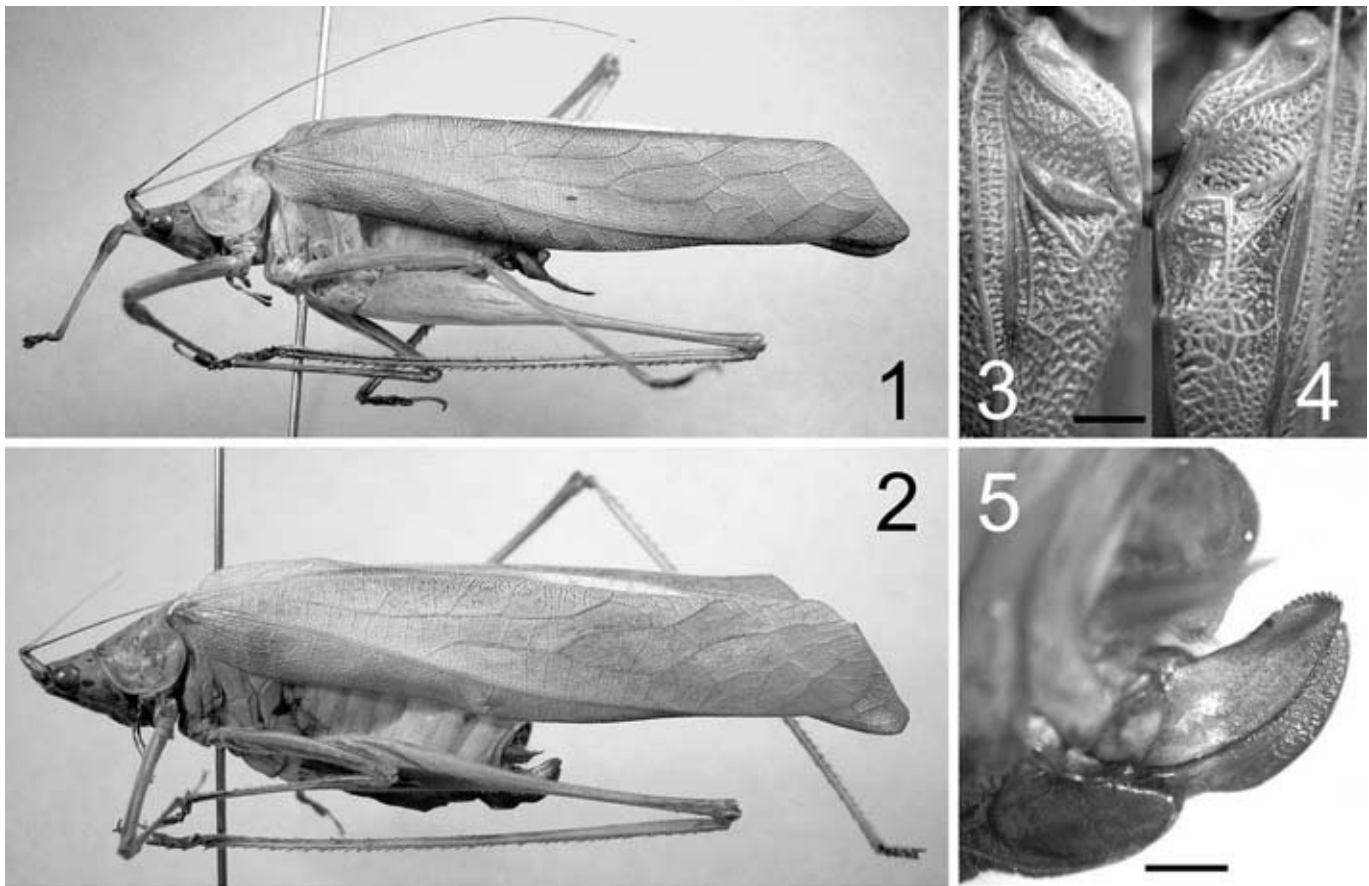
Male. Tegminal stridulatory apparatus, file vein (Fig. 3) and 'mirror' (Fig. 4), are similar to those of *S. angustipennis*. Tenth abdominal tergite small, shallowly depressed medially, apex slightly produced in the middle. Cerci (Fig. 7) slightly incurved, widened and flattened apically; tip with 2 or 3 minute spines. Subgenital plate (Fig. 8) with a medial keel; styli spatulate, about half as long as subgenital plate. Phallus (Fig. 6) trapezoid when seen from above, mainly membranous but somewhat sclerotized dorsally; dorsal part with many longitudinal furrows except in median portion.

Female. Cerci conical, slightly incurved; abruptly tapered on apical 3rd. Subgenital plate triangular, with a medial keel; apex obtuse and slightly incised. Ovipositor (Fig. 5) robust and very short, with several small serrations dorsally; tip tapered and obtuse.

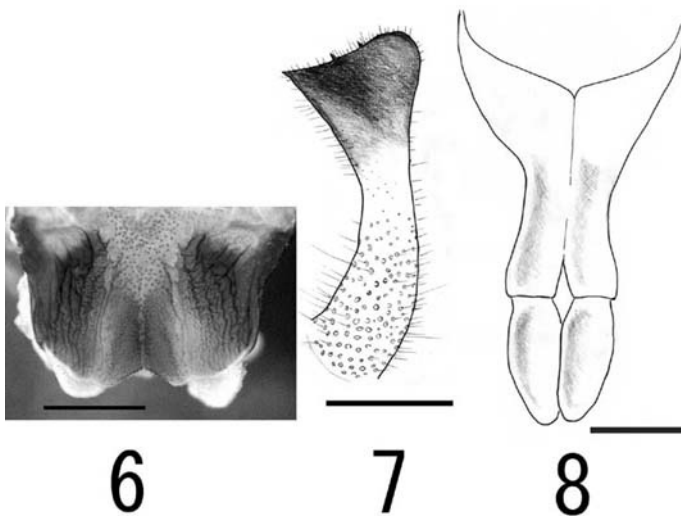
Coloration.—Body, tegmen, exposed part of wings, and legs yellow, or some parts yellowish green in dry specimens; probably yellowish green when alive. Antennae mainly yellowish brown, with paler bands sporadically; basal margin of scape blackish anteriorly. Wings transparent, uniformly tinged pale yellow except on exposed yellowish green part. Tip of spines on legs reddish brown. Abdomen generally yellowish green, with intermittent pinkish red band dorsally. Cerci light or dark brown. Ovipositor yellowish brown; margin dark brown.

Type-series.—Holotype: ♂, "MALAYSIA, Sabah / Crocker Range National Park, Mahua / Light trap / 14-24, x, 1999 / ITO Gen leg." (EUSP). Paratypes: 1 ♂ 2 ♀ - same data as holotype (1 ♀, EUSP; 1 ♂ 1 ♀, ITBC); 1 ♂, "Kinabalu National Park Head Quarters (alt. 1500m), Sabah / 5-10, x, 1988 / T. Kumata leg." (SEHU); 1 ♂ "Kimanis road (14ml.) / near Keningau / Sabah, MALAYSIA / 28, iii, 1992 / Hisashi OHISHI leg." (OMNH).

Notes.— The green color of Orthopteran insects is apt to change to yellow after their death. In the specimens from Mahua, their body color, tegmina, exposed parts of wings and legs, also changed from yellowish-green to yellow after killing them using ethyl acetate. The same could have happened to the others in the type-series. This new species is easily distinguished from the other member of the genus *Stylomolpa*, *S. angustipennis*, which has the following characters: male cerci abruptly incurved, tip tapering from the median portion, near



Figs 1-5. *Stylomolpa montana* n. sp.: 1, male, lateral view; 2, female, lateral view; 3, male, stridulatory apparatus dorsal view, left; 4, male, stridulatory apparatus dorsal view, right; 5, female, ovipositor. Figs 3-5 scale: 1mm.



Figs 6-8. *Stylomolpa montana* n. sp.: 6, male phallus, dorsal view; 7, male right cercus, ventral view; 8, male subgenital plate, ventral view. Scale: 1mm.

apex with a long spine. The new species has been found only in submontane Sabah, Borneo, Malaysia.

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