

Occurrence of *Paropisthius* (Coleoptera, Carabidae) in Taiwan¹⁾

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Abstract A new species of the genus *Paropisthius* belonging to the tribe Opisthiini is described from Taiwan under the name of *P. masuzoi* sp. nov. It is a high altitude species and highly hygrophilus, and is probably related to *P. davidis* (FAIRMAIRE) from Yunnan.

The genus *Paropisthius* CASEY, 1920, is a small group of strange carabid beetles belonging to the tribe Opisthiini of the subfamily Nebriinae, mainly characterized by the large head with two pair of supraorbital setae besides large prominent eyes, the transverse subhexagonal prothorax without marginal setae, and the peculiarly sculptured elytra. It has been known from three Asian species previously described, i.e., *P. indicus* (CHAUDOIR, 1863) from the Himalayas, *P. davidis* (FAIRMAIRE, 1887) from Yunnan and *P. unctulus* ANDREWES, 1932, from northern Kumaon. Of these, the first-named species occurs rather abundantly in the Himalayas, while the latter two have been only poorly known.

On the other hand, a fourth species of this genus occurs on the high mountains of Taiwan. Its existence has been known for some time (cf. NAKANE, 1974), but no proper description has been made until now because of lack of sufficient material.

In the summer of 1989, the National Science Museum (Nat. Hist.), Tokyo, made a biological survey on the high mountains of Taiwan under the leadership of Dr. Shun-Ichi UÉNO. The members of this expedition at last succeeded in obtaining a series of examples of the *Paropisthius* at two stations. Through the courtesy of Dr. UÉNO, I was able to examine this collection, and reached the conclusion that the species in question was new to science beyond all reasonable doubt. In this paper, I am going to describe it under the name of *P. masuzoi* sp. nov. The abbreviations used herein are the same as those explained in other papers of mine.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UÉNO for giving me the privilege of examining the valuable specimens and for reading the manuscript of this paper. Thanks are also due to Dr. Kintaro BABA, Professor Masataka SATÔ, Dr. Mamoru OWADA, Dr. Fumihiko ICHINOHE and Mr. Chiun-Chen KER, who kindly helped this study in various ways.

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Paropisthius masuzoi sp. nov.

(Figs. 1–3)

Description. Length 10.4–11.6 mm. Width 4.1–4.6 mm. Black, dorsal surface shagreened, and with faint greenish tinge; ventral surface shiny, with faint metallic lustre in anterior half; supraorbital areas, lateral sides of pronotum, and shoulders to lateral sides of elytra bright cupreous red; basal segments of antennae, apical parts of tibiae, and tarsi tinged with metallic green; median parts of tibiae brownish.

Head rather flat, shagreened, punctate, and longitudinally rugose in supraorbital areas; eyes large and prominent; temporae very short and oblique; mandibles sharply pointed at apices, with a seta in each scrobe; apex of labrum produced and raised at the middle; clypeus feebly emarginate at apex; clypeal suture very fine, though distinct; terminal segments of both maxillary and labial palpi moderately dilated, truncate at apices, the former a half as long again as the penultimate, the latter a little shorter than the penultimate, which is plurisetose on the inner margin; ligula short, constricted behind, strongly carinate along median line, rather pointed and bisetose at the centre of apex, narrow membranous paraglossae adnate at base, and extending a little beyond the apex of ligula; mentum with a strongly bifid tooth; antennae moderately long, extending to the basal fourth of elytra, pubescent from segment 5, though segments 3–4 bear a few hairs, scape and segments 2–4 flattened on the dorsal surface, often lightly foveolate; relative lengths of scape and segments 2–6 as follows:— 1 : 0.8 : 1.3 : 1.2 : 1.1 : 1.1.

Pronotum transverse, subhexagonal, gently convex, widest at apical third, a little wider than head (PW/HW 1.04–1.15, mean 1.11), more than a half as wide again as long (PW/PL 1.69–1.85, mean 1.77), a half as wide again as base (PW/PBW 1.47–1.61, mean 1.54); lateral margins entirely bordered, strongly produced laterad at the widest part, where they are reflexed, then strongly convergent anteriorly, and slightly sinuate behind apices, rather abruptly and strongly convergent posteriorly with concave lines, and almost parallel or a little divergent posteriorly at the basal part; apical margin somewhat produced at middle, gently emarginate on each side, apical angles acutely produced, though blunt at the tips; basal margin almost straight, though slightly sinuate on each side, as wide as or a little narrower than the apical, basal angles almost rectangular; disc strongly and densely punctate and rugose; median line short though deep, reaching neither apex nor base; basal transverse impression and oblique basal foveae deep, punctate.

Wings fully developed. Elytra subovate, widest a little behind the middle, gently convex though rather flat on the disc, a half as wide again as pronotum (EW/PW 1.45–1.56, mean 1.50), ca. 4 times as long as pronotum (EL/PL 3.94–4.24, mean 4.08), more than a half as long again as wide (EL/EW 1.51–1.59, mean 1.55); sides narrowly bordered from bases to apices; basal border absent; each apex rounded; scutellum rounded at apex; each elytron with three rows of polished convexities, three or four in number, which are widely interrupted by shagreened depressions, each

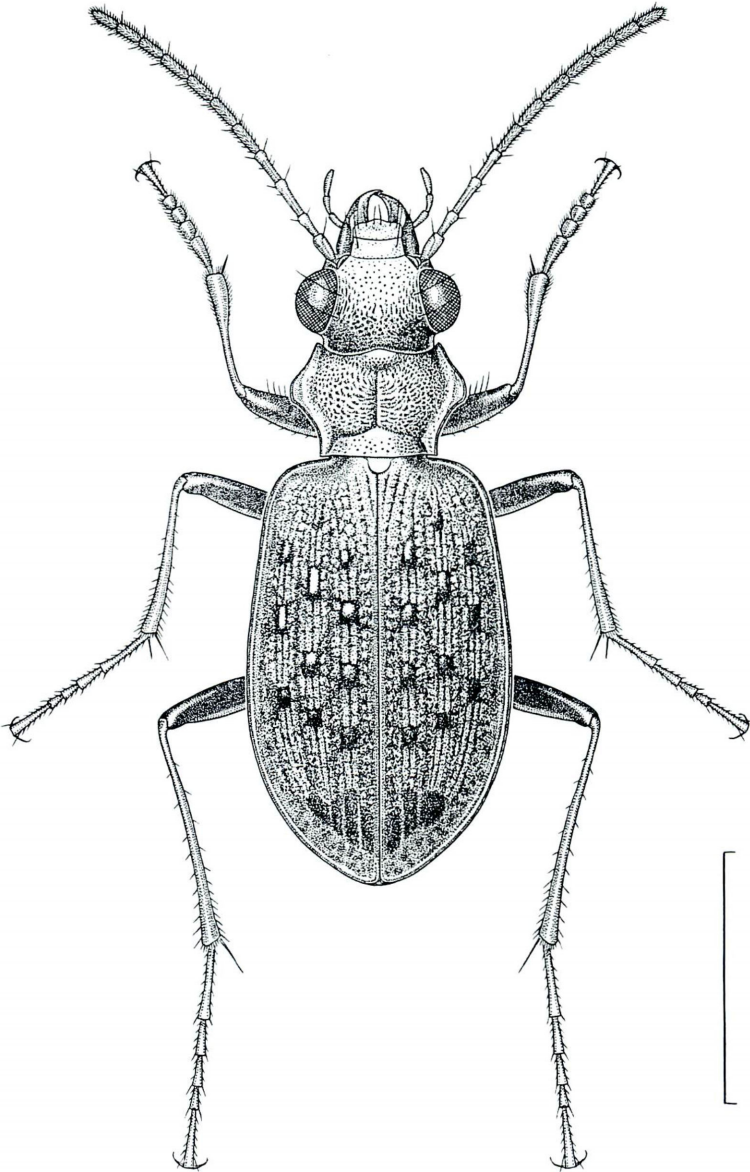
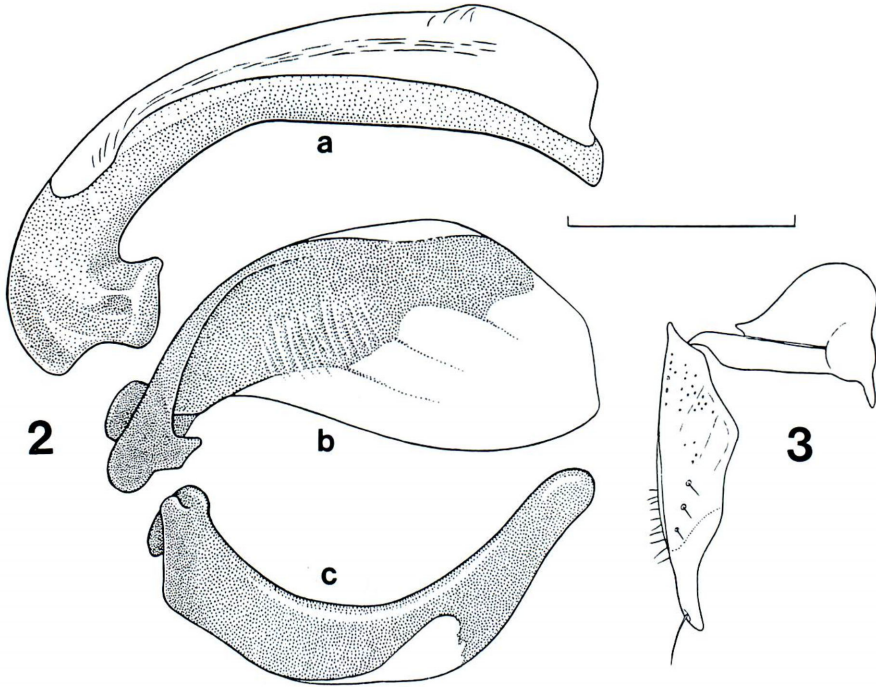


Fig. 1. *Paropisthius masuzoi* sp. nov., ♂, from Mt. Hsiao-hsüeh Shan, Ta-hsüeh Mts., T'ai-chung Hsien, Taiwan. (Scale: 4 mm.)

depression bearing three longitudinal costae and a pore at the centre; rows of convexities amalgamated into a large polished area at the preapical part.

Legs slender; protibiae concave on the inner side of each apex; dorsal surface of tarsi sparsely covered with fairly long hairs; protarsal segments 1-4 dilated and



Figs. 2-3. — 2. Male genitalia of *Paropisthius masuzoi* sp. nov., from Mt. Hsiao-hsüeh Shan, Ta-hsüeh Mts., T'ai-chung Hsien, Taiwan: a, left profile of aedeagus; b, left paramere, external aspect; c, right paramere, same aspect. — 3. Female stylus and hemisternite of *Paropisthius masuzoi* sp. nov., from Mt. Hsiao-hsüeh Shan, Ta-hsüeh Mts., T'ai-chung Hsien, Taiwan. (Scale: 1 mm.)

with thick adhesive hairs beneath in the male. Venter shiny; lateral side of pro-, meso-, and metasterna, metepisterna and basal sternite punctate; prosternal process spatulate and projecting, fitting into a groove at the apex of mesosternum; sternites 5-6 punctate and pubescent on median parts; sternites 4-8 with a row of hairs along each hind margin.

Aedeagus gently arcuate and compressed, largely membranous on the dorsal surface; apical lobe triangular, rounded at the apex; left paramere large, almost as long as aedeagus, subovate, widely translucent at the apical part; right paramere slender, well arcuate, with deeply emarginate membranous part at the middle on the dorsal margin, apex rounded and weakly swollen.

Type series. Holotype: ♂, Mt. Hsiao-hsüeh Shan, 2,630 m alt., Ta-hsüeh Mts., T'ai-chung Hsien, Taiwan, 15-VI-1989, S. UÉNO leg.; allotype: ♀, same data as for the holotype. Paratypes: 7 ♂♂, same locality and date as for the holotype, M. SATÔ leg.; 1 ♂, same locality as for the holotype, 16-VI-1989, S. UÉNO leg.

Further specimens examined. 1 ♂, Mt. Nan-hu-ta Shan, Nan-hu Ch'i, 3,250

m alt., T'ai-chung Hsien, Taiwan, 18-VI-1961, S. UÉNO leg.; 1 ♂, Mt. Ho-huan-tung-feng, 3,150 m alt., Nan-t'ou Hsien, Taiwan, 24-VI-1989, M. OWADA leg.; 1 ♀, same locality, 25-VI-1989, M. SATÔ leg.; 1 ♂, 1 ♀, Mt. Kuan-shan-ling-shan, Kuan-shan-ya-k'ou, 2,760 m alt., Kao-hsiung Hsien, Taiwan, 3-VI-1987, S. KASAHARA & K. BABA leg.

The holo- and allotypes are deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are separately preserved in the collections of the above museum, the Department of Plant Pathology and Entomology, National Taiwan University, and mine.

Notes. The present new species seems related to *P. davidis*, but may be discriminated from that species by larger body and different elytral coloration. It is readily distinguished from *P. indicus* and *P. unctulus* by different sculpture and coloration of elytra. The elytral features of opisthiines remind us of those of *Elaphrus*, though the characteristics of their male genitalia, especially glabrous parameres, indicate that they are much closer to *Nebria* than to *Elaphrus*.

Paropisthius masuzoi is a highly hygrophilous species, always occurring in very wet places near the timber limit. Sometimes, it is found from under stones half-immersed in the water under small cascades. This makes a sharp contrast with habitats of *P. indicus*, which can be found even in rather dry places of the alpine zone (acc. to Dr. UÉNO, pers. comm.).

The type series of *P. masuzoi* is limited to the specimens from Mt. Hsiao-hsüeh Shan, since slight geographical variation can be observed between the type population and others. Mt. Hsiao-hsüeh Shan lies at the southwestern part of the Hsüeh-shan Range, whereas all the other known localities, i.e. Mt. Nan-hu-ta Shan, Mt. Ho-huan-tung-feng and Kuan-shan-ya-k'ou, lie on the Chung-yang Range. Besides, Kuan-shan-ya-k'ou is rather isolated, more than 100 km distant to the south from Mt. Hsiao-hsüeh Shan and nearly 100 km distant even from Mt. Ho-huan-tung-feng.

The present new species is dedicated to the late Professor Masuzo UÉNO, who passed away on June 17, 1989, at the age of 89 when his son, Shun-Ichi, was looking for *Paropisthius* on the Ta-hsüeh Mountains. The late Professor UÉNO was a leading zoologist in Japan, and he himself made zoological surveys on Taiwanese mountains many years ago.

要 約

笠原須磨生：台湾の高山に生息するニセハンミョウ属の1新種。——ニセハンミョウ類は、マルクビゴミムシ亜科に含まれる特殊な一群で、外見がハンミョウモドキ類に似ている。従来、北アメリカ北西部とヒマラヤを中心とする地域から2属4種が知られていたが、台湾の高山に第5番目の新種の生息することがわかったので、*Paropisthius masuzoi*と命名して記載した。この種は、中国の雲南から報告された*P. davidis*に近縁のものらしく、ヒマラヤのものとはかなり異なっている。なお、新種名は故上野益三博士に捧げられたものである。

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