

The Micropeplids (Coleoptera) from the Tian-mu Mountains in Zhejiang Province, East China¹⁾

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Abstract Three Chinese species of micropeplids obtained on the Tian-mu Mountains in Zhejiang Province are dealt with. Two of them belong to *Micropeplus* and the other to *Peplomicrus*. One of the former and the latter prove new to science and are described under the names of *M. sinensis* and *P. yinae*.

Up to the present, no micropeplids have been recorded from China. The Sino-Japanese Cooperative Study on Soil Fauna of Subtropical Forests in China made in 1989 brought forth a short series of micropeplids obtained on the Tian-mu Mountains in Zhejiang Province. They were classified into three species, of which two belong to the genus *Micropeplus* and the remaining one belongs to *Peplomicrus*.

After a careful examination, it has become clear that one of the *Micropeplus* and the *Peplomicrus* are new to science, as will be described in the present paper. The holotypes of the two new species to be described are deposited in the collection of the Shanghai Institute of Entomology, Academia Sinica, China.

Before going further, the authors wish to express their hearty thanks to Dr. Shun-Ichi UÉNO of the National Science Museum (Nat. Hist.), Tokyo, for his kindness in giving them much valuable advice on the present study. Deep gratitude is also due to Professor YIN Wen-ying of the Shanghai Institute of Entomology, Academia Sinica, and Professor Gentaro IMADATÉ of Tokyo Medical and Dental University for their kind help through the Sino-Japanese cooperative study.

Micropeplus fulvus japonicus SHARP

Micropeplus fulvus ERICHSON, var. *japonicus* SHARP, 1874, Trans. ent. Soc. Lond., **1874**: 101.

Micropeplus fulvus japonicus: NAKANE, 1963, Icon. Ins. Japon. Col. nat. ed., **2**: 81, pl. 41, fig. 1.

Other references are omitted.

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The Chinese specimens obtained agree well with the Japanese subspecies in body size, structure of vertexal carinae and ground sculpture on the surface of pronotum rather than with the nominotypical subspecies.

Specimens examined. 1 ♀, Tian-mu Mountains, Tai-shun County, Zhejiang Province, China, 2-IX-1989, S. UÉNO leg.; 2 ♂♂, 2 ♀♀, same collecting data as above.

Distribution. China, Japan (Honshu, Shikoku).

***Micropeplus sinensis* sp. nov.**

(Figs. 1-6)

Body length: 2.5 mm (from front margin of head to anal end).

Body broadly elongate-oval and convex. Colour reddish black, moderately shining, except for subopaque head and pronotum, deplanate sides of pronotum, antennae and legs, all of which are yellowish brown.

Male. Head subtriangular, about twice as broad as long, lateral margins remarkably reflexed for the large part; surface uneven, impunctate, but covered with distinct coriaceous ground sculpture, largely depressed on frontal part and deeply impressed on each side of the middle before base, provided with a longitudinal median carina extending forwards to basal third, and also with a fine transverse carina at anterior third on the inner side of each eye, the carina a little shorter than the transverse diameter of an eye; clypeus not visible from above, strongly transverse, surface covered with coriaceous ground sculpture as on head; eyes somewhat prominent and coarsely faceted. Antennae relatively short, receding onto the under surface of pronotum for their reception; basalmost and apicalmost segments opaque, 2nd to 5th subopaque, 6th to 8th polished, 1st segment robust and dilated apicad, a little longer than broad (length/width=1.33), 2nd narrowed apicad, nearly 1.5 times as long as broad, considerably shorter (2nd/1st=0.70) and narrower (2nd/1st=0.67) than 1st, 3rd to 5th gradually decreasing in length, 3rd elongate, more than 1.5 times as long as broad, 4th oblong, distinctly longer than broad (length/width=1.67), 5th slightly longer than broad (length/width=1.13), 6th to 8th each much smaller than 5th and transverse, 8th 1.5 times as broad as long, apicalmost largest and oval, about 1.5 times as long as broad, remarkably pubescent in apical half and narrowly pointed at the apex.

Pronotum markedly convex at the median part and reflexed at the lateral parts, subtrapezoidal, narrowed apicad, twice as broad as long and remarkably broader than head (pronotum/head=1.83), widest just before the base, thence narrowed anteriorly, much more strongly so in apical two-thirds than in basal third; lateral margins obsoletely bordered, feebly arcuate in basal third but almost straight in apical two-thirds; anterior margin broadly and clearly emarginate, posterior one bisinuate; anterior angles produced forwards and narrowly rounded at the apices, posterior ones nearly rectangular; surface impunctate, but covered with coriaceous ground sculpture; median area provided with six cells enclosed by costae, three in anterior half and three

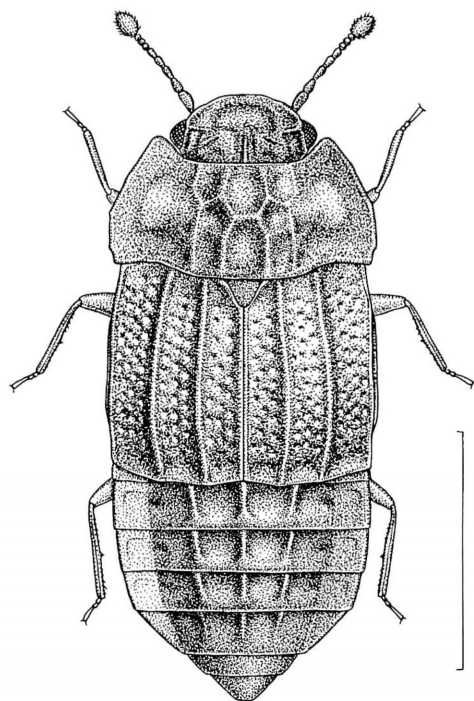
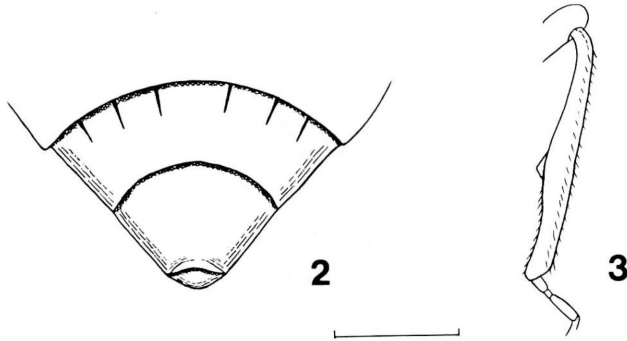
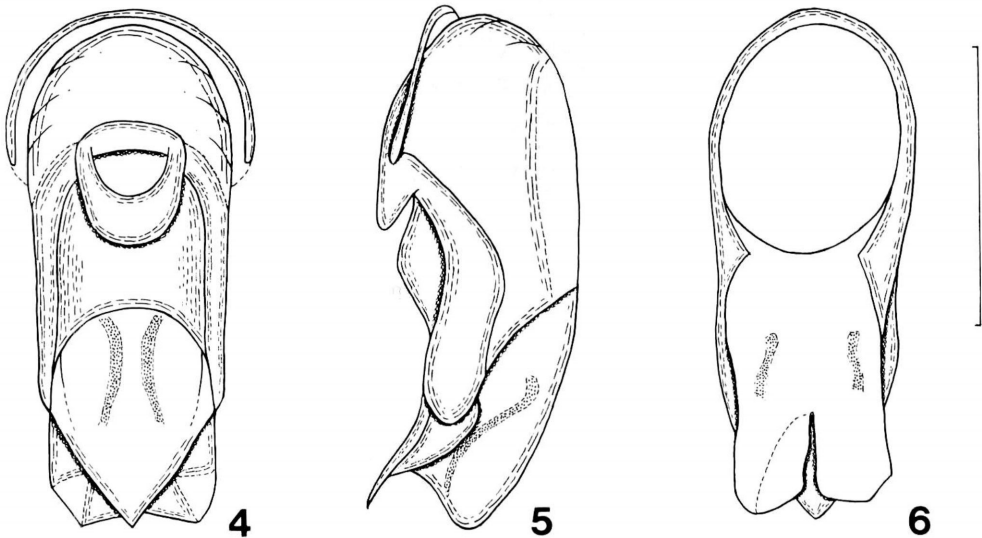


Fig. 1. *Micropeplus sinensis* n. sp., holotype (♂). Scale: 1.0 mm.

in posterior half, the anterior central and posterior central cells more conspicuously marked than the remaining; interspace of costae depressed, each side of basal area largely and shallowly depressed. Scutellum subtriangular, relatively large and gently convex, surface more or less uneven, impunctate, but finely coriaceous all over. Elytra transverse (width/length=1.28), considerably longer (elytra/pronotum=1.64) and slightly broader than pronotum (elytra/pronotum=1.05), a little widened in posterior sixth, distinctly elevated on dorsum but abruptly and transversely depressed in apical sixth along posterior margin; each elytron provided with four longitudinal keels throughout, one sutural, two discal and one humeral, of which the sutural pair are not so strong than the others; interspaces between keels with irregular and longitudinal rows of somewhat coarse punctures, 1st interspace with two rows, 2nd with three rows and 3rd with four rows; epipleural keel distinctly and arcuately raised, interspace between epipleural and humeral keels with a pseudepipleural keel, which is almost straight and abbreviated both behind humeral angle and before apical angle; interspace between epipleural and pseudepipleural keels with three irregular rows of coarse punctures, interspace between humeral and pseudepipleural keels also with a row of coarse punctures. Legs relatively short; protarsi thin; mesotibiae each armed with a small subtriangular tooth behind middle on internal margin; each metatibia also with a more developed tooth near the middle.



Figs. 2-3. Male secondary sexual characters of *Micropeplus sinensis* n. sp.; 2, last three abdominal sternites; 3, metatibia. Scale: 0.25 mm.



Figs. 4-6. Male genital organ of *Micropeplus sinensis* n. sp.; 4, ventral view; 5, lateral view; 6, dorsal view. Scale: 0.25 mm.

Abdomen convex medially and narrowed apicad; surface of each tergite impunctate, but finely coriaceous, the coriaceous ground sculpture becoming much coarser on lateral explanate parts than on median part; first four visible tergites each deeply transversely depressed in basal half and provided with three equidistant and longitudinal keels; 4th visible tergite also with three longitudinal keels, which are finer than those on the others and abbreviated to basal half; first four visible sternites each provided with three longitudinal carinae on each side, 5th visible sternite also with three longitudinal carinae on each side in basal third; subapical sternite shallowly emarginate at the apex of posterior margin, and obscurely depressed before the emargination.

Genital organ oblong and almost symmetrical. Median lobe nearly parallel-sided in basal two-thirds and abruptly narrowed in apical third towards the apex which is distinctly pointed in ventral view, with basal piece large and somewhat globular; viewed laterally, ventral surface remarkably elevated in basal half and depressed in apical half. Parameres fused with median lobe, elongate, though considerably shorter than median lobe.

Female. Unknown.

Holotype: ♂, Tian-mu Mountains, Tai-shun County, Zhejiang Province, China, 2-IX-1989, S. UÉNO leg.

Distribution. China.

Notes. Externally similar to *M. yasutoshii* Y. WATANABE from Japan, but differs from the latter in the following points: colour blackish; head more coarsely coriaceous all over and the transverse carina at the inner side of each eye stronger; pronotum more strongly convex medially; and, different configuration of male genital organ.

***Peplomicrus yinae* sp. nov.**

(Figs. 7-8)

Body length: 1.5 mm (from front margin of head to anal end).

Body fusiform and convex. Colour dark reddish brown and subopaque, with antennae, except for the apicalmost segment, reddish brown, both sides of pronotum, narrow areas along the posterior margin of elytra and legs yellowish brown.

Female. Head subtriangular and depressed above, strongly transverse, more than twice as broad as long; clypeo-frontal area subvertical and largely invisible from dorsal side, semicircular and transverse, anterior margin arcuate and very finely bordered, surface gently convex medially, impunctate but rather coarsely coriaceous; disc flat, antero-lateral border more or less raised, subtriangularly emarginate at the middle; surface impunctate and more strongly coriaceous than in clypeo-frontal area, longitudinally furrowed along the median line in the whole length, surface of the furrow nearly glabrous and provided with a fine longitudinal carina in posterior half; postocular part short, about a half as long as the longitudinal diameter of an eye, which is somewhat prominent and coarsely faceted. Antennae nine-segmented and short, receding onto the under surface of pronotum for their reception, all the segments nearly polished, except for setose apicalmost segment; 1st segment enlarged but contracted at the base, slightly longer than broad (length/width=1.11), 2nd narrowed apicad, somewhat longer than broad (length/width=1.25) but a little shorter (2nd/1st=0.75) and clearly narrower (2nd/1st=0.50) than 1st, 3rd to 5th elongate and subequal to one another in both length and width, each about 1.25 times as long as broad, 6th almost as long as broad but slightly shorter than 5th (6th/5th=0.80), 7th and 8th nearly equal in length to each other, each transverse and a little broader (7th or 8th/6th=1.25) but somewhat shorter (7th or 8th/6th=0.63) than 6th, apicalmost the largest, oval, nearly 1.5 times as long as broad, much longer than (apicalmost/8th=8.10) and more than

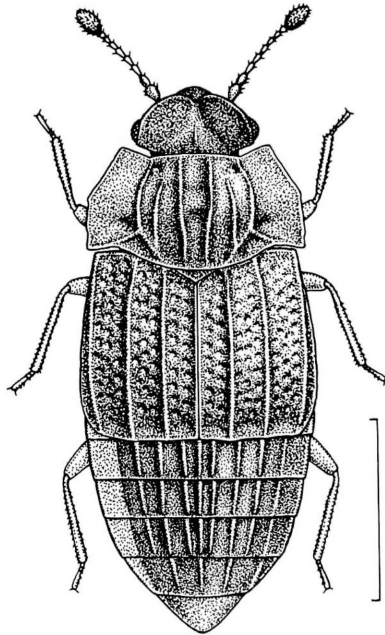


Fig. 7. *Peplomicrus yinae* n. sp., holotype (♀). Scale: 0.5 mm.

2.5 times as broad as 8th, narrowly rounded at the tip.

Pronotum convex medially, subtrapezoidal and strongly transverse (width/length= 1.79), widest at base, narrowed anteriorly, slightly so in posterior half and abruptly so in anterior half, anterior margin broadly emarginate but almost straight at the middle, posterior one bisinuate, broadly rounded at the middle and moderately produced backwards; anterior angles more acutely pointed than the posterior ones, which are nearly rectangular; surface impunctate but covered all over with coriaceous ground sculpture; median area provided with five longitudinal cells enclosed by costae, the median cell subdivided into two cells at the middle by a vague transverse carina, lateral and sublateral cells connected with each other in anterior fourth, each interspace between the costae being depressed, lateral areas broadly explanate, provided with a depression outside each outermost costa behind the middle. Scutellum small, somewhat convex at the middle. Elytra subquadrate, distinctly transverse (width/length= 1.31) and about 1.5 times as long as pronotum, somewhat dilated posteriorly and elevated dorsally, but abruptly and transversely depressed in apical fifth along posterior margin; surface covered with coriaceous ground sculpture, each elytron provided with four longitudinal keels, one sutural, two discal and one humeral, the sutural keel somewhat finer than the others, all the keels extending throughout, interspaces between keels with irregular longitudinal rows of coarse punctures, 1st interspace with two rows, 2nd and 3rd each with about three rows, pseudopleural keel present between epipleural margin and humeral keel, strongly and arcuately raised throughout,

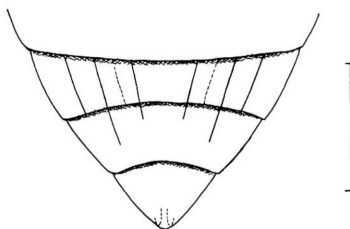


Fig. 8. Abdominal sternites of *Peplomicrus yinae* n. sp., ♀. Scale: 0.25 mm.

interspace between epipleural margin and pseudepipleural keel impunctate but coarsely coriaceous, interspace between pseudepipleural and humeral keels distinctly broader than the space between epipleural margin and pseudepipleural keel, surface with shallow and coarse punctures which are arranged in two or three rows. Legs relatively short, meso- and metatibiae simple.

Abdomen relatively broad, gradually narrowed towards the anal end; surface of each tergite impunctate but covered with coriaceous ground sculpture, which becomes indistinct at the median part; first three visible tergites each provided with seven longitudinal keels, the median keel somewhat finer than those of both sides, the fourth visible tergite provided with three longitudinal keels, which disappear before the posterior margin; first four visible sternites each with three longitudinal keels on each side and also with a vague longitudinal elevation between inner two keels on each side; fifth visible sternite with two longitudinal keels on each side, the inner keel being much shorter than the outer and not extending beyond the middle of the sternite; preapical sternite broadly emarginate at the middle of posterior margin; apical sternite feebly, shortly, and longitudinally depressed at the middle before posterior margin.

Male. Unknown.

Notes. The present new species is markedly different from the other members of the genus in configuration of pronotum, less transverse elytra and structure of abdominal keels.

This is the first record of a member of the genus *Peplomicrus* from the Palearctic Region.

Holotype: ♀, top of West Tian-mu Mountain (alt. 1,506 m), Tai-shun County, Zhejiang Province, China, 5-IX-1989, S. UÉNO leg.

Distribution. China.

The specific name is dedicated to Professor YIN Wen-ying, Shanghai Institute of Entomology, Academia Sinica, who arranged the Sino-Japanese cooperative research on soil fauna of the Tian-mu Mountains.

要 約

渡辺泰明・罗志义：中国浙江省天目山で採集されたチビハネカクシ科。——中国からは、これまでにチビハネカクシ科の記録がなかったが、1989年に実施された日中共同学術調査によって、浙江省天

目山の森林保護地域から3種が採集された。これらの3種を、国立科学博物館の上野俊一博士のご厚意によって検することができたので、その結果を報告した。

そのうちの1種は *Micropeplus fulvus* ERICHSON に該当するが、雄交尾器を含めた形態的特徴は、ヨーロッパ産のものより日本産亜種の *M. fulvus japonicus* SHARP によりよく一致する。残りの2種はそれぞれ新種と判定したので、下記のとおり命名記載した。

Micropeplus sinensis Y. WATANABE et LUO

本種は、体長および外部形態が日本から発見された *M. yasutoshii* Y. WATANABE に似ているが、色彩は暗色で、頭部表面の微細構造がより粗いこと、複眼内縁中央近くに存在する横隆条がより顕著であること、前胸背板がはるかに強く凸隆すること、また雄交尾器の中葉両側が基半では平行で、後半は末端に向かって急激に狭まること、側片が中葉より顕著に短いことなどの点で、後者から区別される。

Peplomicrus yinae Y. WATANABE et LUO

本種は雌1個体のみが採集されたが、前胸背板側縁は中央が角ばるのみで明瞭な歯状突起をもたないこと、上翅の第1間室の点刻列が2列であること、腹部基方3節の各背板に7縦隆条をそなえることなどの形態的特徴の組合わせによって、本属の他種から容易に区別される。

なお、*Peplomicrus* は、これまで新大陸から記録されていた属で、ユーラシア大陸からは初めての記録となる。種名は、中国科学院上海昆虫研究所の尹文英教授に献名した。

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