*Entomological Review of Japan*, **65** (1): 1–4, June 30, 2010

# On *Ischnagonum carinigerum* KASAHARA et SAT Ô (Coleoptera: Carabidae)

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**Abstract** *Ischnagonum carinigerum* KASAHARA et SATÔ, a highly modified platynine carabid is redescribed from Southwest Japan.

*Ischnagonum carinigerum* KASAHARA et SATÔ (1997, p. 587) was described from the River Nishi-funatsuki-gawa, on the Island of Iriomote-jima, Southwest Japan on the basis of a single male. Its highly modified elytral structure caused the authors to place it in a new genus of its own. Recently, I studied a male specimen from the same island. The identification is clear from the original description, but I found several important structures which were not found in the original description. Therefore, I will redescribe it below. The abbreviations used herein are the same as those explained in previous papers of mine. I thank Mr. Ichiro OSHIO for taking the photograph inserted in this paper.

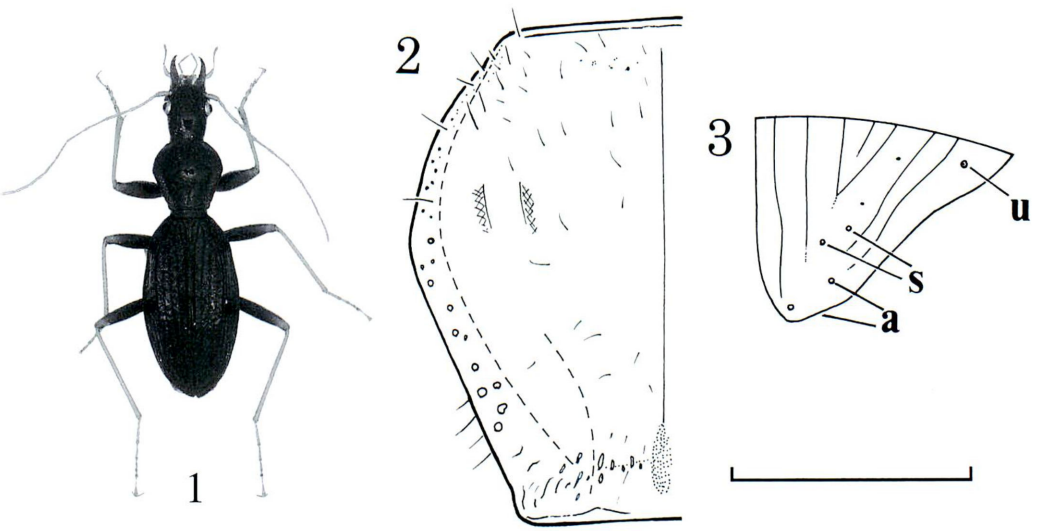
## *Ischnagonum carinigerum* KASAHARA et SAT Ô

*Ischnagonum carinigerum* KASAHARA et SATÔ, 1997, Elytra, Tokyo, **25**, 587–590, figs.1, 2.

Redescription. Length: 9.86 mm. (measured from apices of mandibles to those of elytra).

Head moderately convex; frontal furrows shallow, divergent posteriad, reaching a little before the anterior supraorbital pores and with irregular wrinkles at the outsides of basal part; inner sides of frontal furrows with fine oblique wrinkles; apex of clypeus very weakly emarginate; anterior supraorbital pore situated a little behind the mid-eye level; HW/PW 1.43; mentum tooth simply rounded at the tip; antennal segment II with a long seta and three short setae; relative lengths of antennal segments as follows: — I : II : III : IV : V : VI : XI ≒ 1 : 0.57 : 1.63 : 1.83 : 1.71 : 1.49 : 1.23.

Pronotum moderately convex; disc with a weak and longitudinal depression on each side at the level a little before the widest point; reflexed lateral sides rather wide; sides gutters shallow and vague; anterior transverse impression very weakly impressed; apex deeply and narrowly bordered throughout; hind angles not sharp and rounded at the tips; median line deeply impressed, not reaching apex nor base, and the basal part wide and granulate; PW/PL1.06; PW/PA 1.77; PW/PB 1.79; PA/PB 0.96.




Figs.1–3. *Ischnagonum carinigerum* KASAHARA et SATÔ. — 1, Habitus; 2, Left side of pronotum; 3, apical part of right elytron (a, Apical pores; s, subapical pores; u, umbilicate marginal series). Scale: 2 mm for 2 & 3.

Elytra elongate and convex; basal border deep, moderately curved and obtusely joining side; basal parts of striae 3 and 4 vanished; EW/PW 1.36; EL/EW 1.79; intervals I convex and forming a carina in rear view; umbilicate marginal series composed of 17 pores; apices obtuse; an apical pore present on the left elytron, two ones on the right as in Fig. 2; two subapical pores present on each side; epipleuron becoming narrower towards apex; inner plica distinct.

Anal sternite trapezoidal, with a pair of setae. TL/HW 1.48. Genital segment elongate, with wide handle.

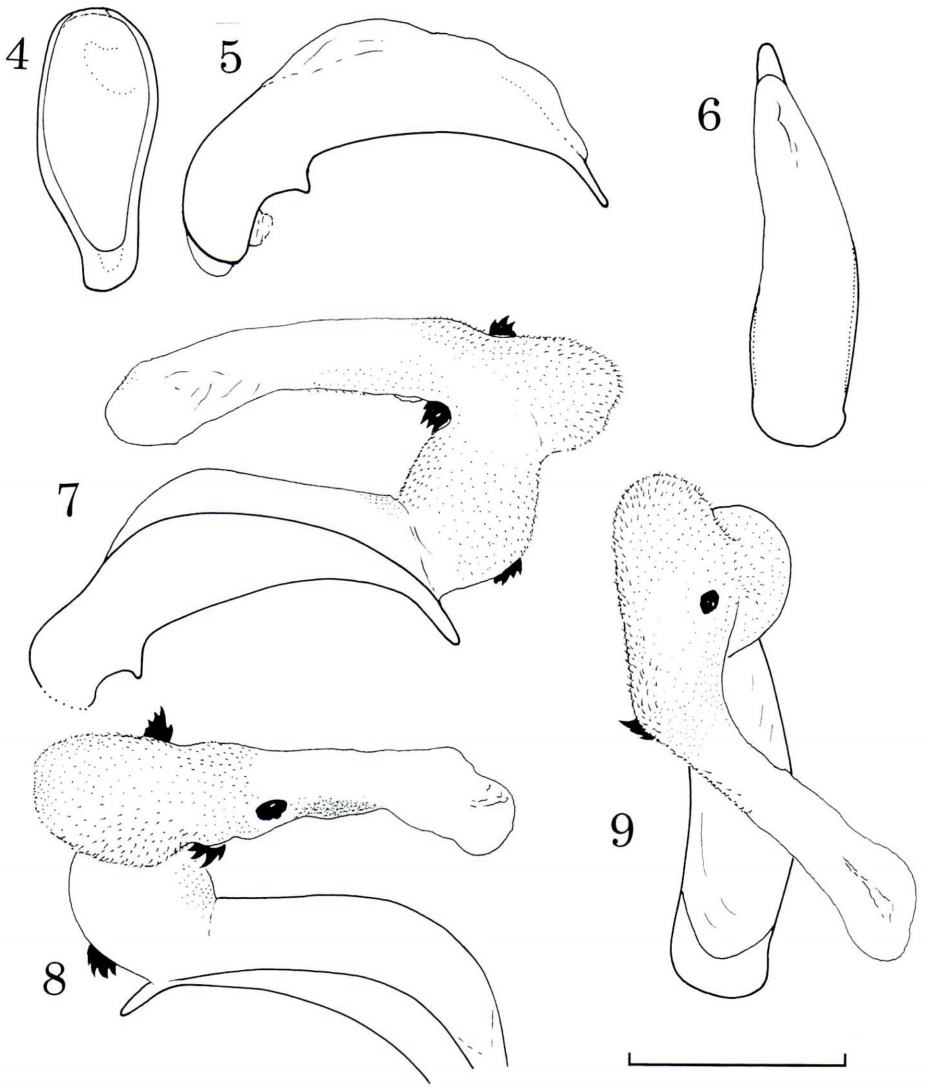
Aedeagus moderately arcuate and rather raised at about middle; viewed dorsally, apical part slightly inclined to the right; apical orifice open at dorsal side; sagital airelon narrow. Everted inner sac very elongate, with four sclerites which are composed of several heavily sclerotized teeth.

*Specimen examined.* 1 ♂, Riv. Nakama-gawa, on the Island of Iriomote-jima, Southwest Japan, 20.V.1999, S. INADA leg.

*Notes.* There are large differences between the original description and my observation based on the additional male. They are mainly in the form of elytral apices and the presence of the sagital airelon of the aedeagus.

It is very difficult to recognize the dorsal, apical, subapical pores and umbilicate marginal series, because of the pubescent dorsal surface. I determined each pore by the length of hairs and the presence of their roots.

After drawing the illustrations of the extracted aedeagus, I everted the inner sac. In order to do so, I used a syringe with a needle (MORITA, 2007). Unfortunately, the basal orifice was narrower than the needle, so the basal part of aedeagus was broken. Besides, it is possible that the everted inner sac was deformed by air pressure of a hair drier because of its fragile surface.




Figs.4–9. *Ischnagonum carinigerum* KASAHARA et SATÔ — 4, Genital segment, ventral view; 5, aedeagus, left lateral view; 6, same, dorsal view; 7, same, showing everted inner sac, oblique left lateral view; 8, same, showing everted inner sac, right lateral view; 9, same, showing everted inner sac, dorsal view. Scale: 2 mm for Fig 4; 1mm for Figs 5–9.

## 要　　約

森田 誠司：スジダカヤセヒラタゴミムシについて．——— 西表島を基産地として新属新種として記載されたスジダカヤセヒラタゴミムシ *Ischnagonum carinigerum* KASAHARA et SATÔ の再記載を行った．おもに，翅端が歯状にならないこと，陰茎基部に矢状片をもつことなど，原記載とは大きく異なる点を指摘した．

## References

KASAHARA, S., & M. SATÔ, 1997. A noticeable new platynine (Coleoptera, Carabidae) from Ryukyu Islands, Southwest Japan. *Elytra, Tokyo*, **25**: 587–591.

MORITA, S., 2007. Notes on the pterostichine subgenus *Eosteropus* (Coleoptera, Carabidae) from Japan. Part 1. Complex of *Pterostichus japonicus*. *Elytra, Tokyo*, **35**: 407–432.

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# Notes on Elaterid Beetles (Coleoptera : Elateridae) From East Asia (II)

## Three New Species of Elaterid Beetles from Okinawa-jima Island of the Ryukyu Islands, Japan

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**Abstract** Three new species, *Melanoxanthus okinawensis*, *M. sekii* and *M. matsumurai*, are described from Okinawa-jima Island of the Ryukyu Islands.

In Japan, three species of the genus *Melanoxanthus* ESCHSCHOLTZ, 1833, are known up to the present, namely, *M. doriae ryukyuensis* ARIMOTO, 2007, *M. melanocephalus* (FABRICIUS, 1781) and *M. sonani* MIWA, 1934.

Recently, I had an opportunity to examine eight specimens belonging to *Melanxanthus* from Okinawa-jima Island. After carefully examining them, I found that they included three new species which are described below.

Before going further, I wish to express my sincere gratitude to Dr. Hitoo ÔHIRA (Okazaki) for his constant guidance and to Dr. Hisashi ASHIDA (Graduate School of Biostudies, Kyoto University) for his critically reading the manuscript. Thanks are also due to Messrs, Akihiro SEKI (Setagaya) and Masafumi Matsumura (Yonabaru-son) for their kindly offering the specimens used in this study. I am also indebted to Mr. Saneaki TSUHA (Ginowan) for his kind help in this study.

The holotypes of the new taxa described in this paper are preserved in the Osaka Museum of Natural History.

### *Melanoxanthus okinawensis* sp. nov.

(Figs. 1, 4, 7, 10 and 11)

Male. Length 9.3–9.7mm, width 2.5–2.8 mm. Body elongate, almost parallel-sided, convex above and moderately shining. Body black; prothorax yellowish orange except for black apical portions of posterior angles, apical margin of prosternal lobe and prosternal process; antennae black with basal three segments brown to blackish brown; legs yellowish orange.

Head and elytra clothed with black and recumbent setae; pronotum with mixture of golden yellow and blackish setae, though one of the paratype with golden yellow setae only; ventral sur-

faces wholly with golden yellow and recumbent setae.

Head moderately convex between eyes and almost flattened between antennae; surface coarsely and densely punctate, each puncture forming like umbilicus; clypeal margin well ridged, rounded and more or less impressed at the middle. Antennae short, apical segment barely attaining to basal fifth of pronotum; basal segment robust and subclavate; the second short, subglobular and a little wider than long; the third obconical and about 1.4 times as long as the second; the fourth triangular and about 2.7 times as long as the third; from the fourth to tenth clearly serrate. Apical segment of each maxillary palpus large, oblong-triangular and about 2.3 times as long as wide.

Pronotum subquadrate, almost as long as wide at the middle, nearly parallel in basal third, then weakly arcuate and clearly convergent towards anterior angles; disc clearly convex, surface micro-reticulate, densely and shallowly punctate; posterior angles projecting posteriad and acutly pointed apicad, each with a distinct carina above.

Scutellum subvertical, lingulate and gently convex at the middle; surface micro- reticulate and coarsely punctate.

Elytra about 2.3 times as long as its basal width, almost straight at sides and gradually convergent from base to apical third, then rounded and convergent towards apices, which are crescently emarginate; striae well defined, deeply and regularly punctuate; intervals flattened, microreticulate and distinctly granulated in basal portions.

Legs slender, with tarsi and claws simple.

Prosternal process slightly incurved just behind procoxal cavities, then projecting straight towards obtusely pointed apex.

Male genitalia about 1.0 mm in length; median lobe a little longer than lateral lobes, gradually narrowed towards obtusely pointed apex; each apical portion of lateral lobes semicircular and furnished with some long setae.

Female. Length 9.8–9.9mm; width 2.8–2.9 mm. Similar to male in general structures, but the body more robust, antennae shorter and the pronotum clothed with golden yellow setae only.

*Type series*. Holotype: ♂, Genka [源河], Nago City, Okinawa-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 17. V. 2009, A. SEKI leg. Paratypes: 2♂♂, 2♀♀, same date and locality as the holotype.

*Etymology*. This specific name is taken from the distributional area, Okinawa.

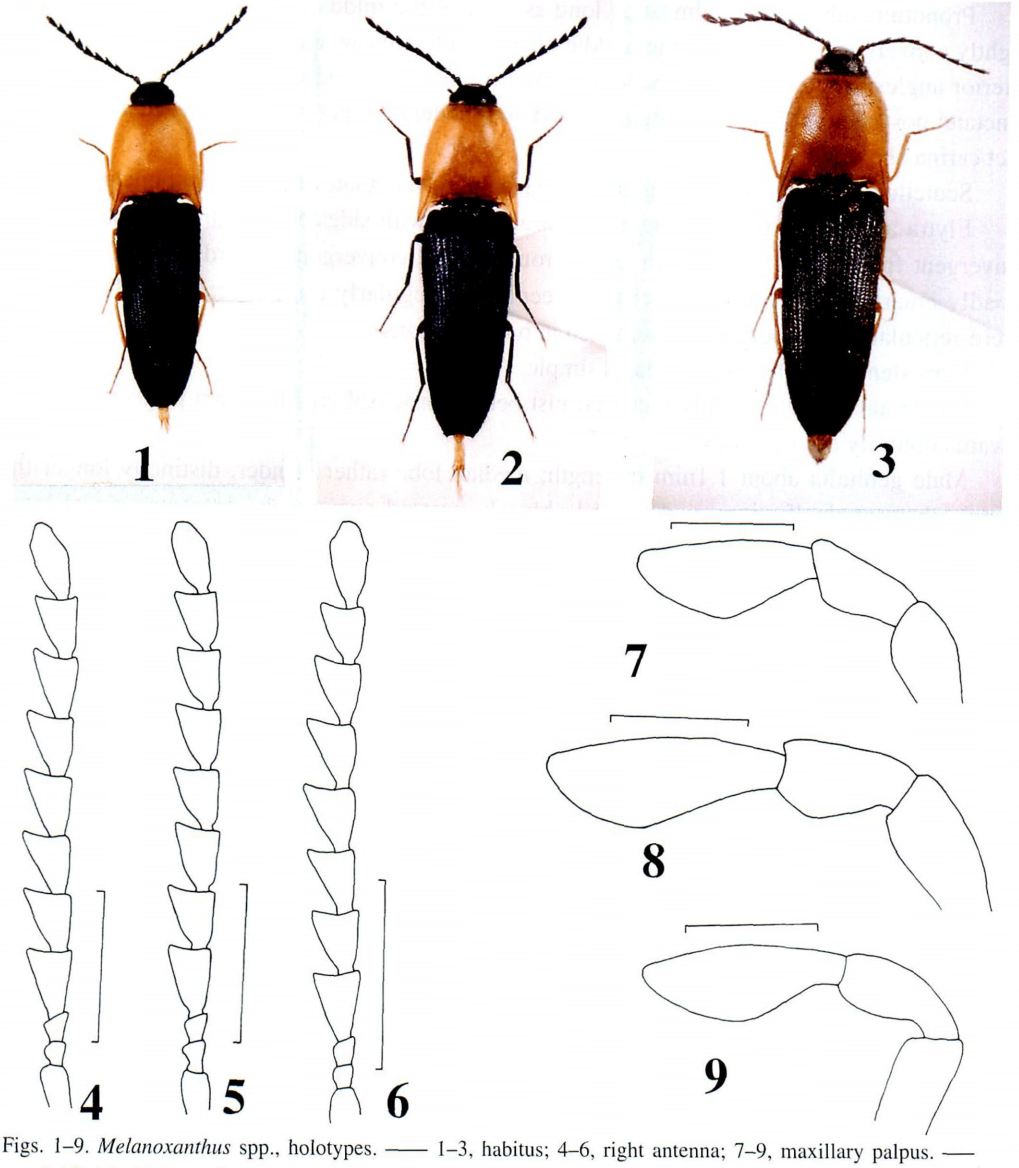
*Notes*. This new species is similar to *Melanoxanthus taiwanus* ARIMOTO, 2009, described from Taiwan, but can be distinguished from the latter by the following points: 1) the body is a little smaller; 2) the antennae are distinctly shorter; 3) the legs are orange and the apical portions of the posterior angles of the pronotum black; 4) each puncture on the head forms like an umbilicus. The type specimens were obtained from tree hollow of *Trema orientalis* (L.) BLUME.

## ***Melanoxanthus sekii*** sp. nov.

(Figs. 2, 5, 8, 12 and 13)

Male. Length about 10.6 mm, width about 3.3 mm. Body moderately elongate, subparallel-sided, convex above and moderately shining. Body black; prothorax yellowish orange except for black prosternal process; legs black with claws yellowish brown.

Head and elytra clothed with black and recumbent setae; pronotum and ventral surfaces




Figs. 1–9. *Melanoxanthus* spp., holotypes. —— 1–3, habitus; 4–6, right antenna; 7–9, maxillary palpus. —— 1,4,7: *M. okinawensis* sp. nov.;—— 2, 5, 8: *M. sekii* sp. nov.;—— 3, 6, 9: *M. matsumurai* sp. nov. Scales: 1 mm for figs. 4–6; scales: 0.2 mm for figs. 7–9.

with golden yellow setae.

Head moderately convex between eyes and slightly impressed and subvertical between antennae; surface rather densely punctate, each puncture forming like umbilicus; clypeal margin well ridged, rounded and more or less impressed at the middle. Antennae short, apical segment not attaining to posterior angle of pronotum; basal segment robust and subclavate; the second short, subglobular and a little wider than long; the third obconical and about 1.3 times as long as the second; the fourth triangular and about 2.5 times as long as the third; from the fourth to tenth clearly serrate. Apical segment of each maxillary palpus large, oblong-triangular and about 2.5 times as long as wide.

Pronotum subquadrate, almost as long as wide at the middle, almost straight at sides and slightly convergent from base to the middle, then weakly arcuate and clearly convergent towards anterior angles; disc clearly convex, surface micro-reticulate, moderately densely and shallowly punctate; posterior angles projecting posteriad and moderately pointed apically, each with a distinct carina above.

Scutellum subvertical and lingulate; surface micro-reticulate and coarsely punctuate.

Elytra about 2.3 times as long as its basal width; with sides almost straight and gradually convergent from base to apical third, then rounded and convergent towards apices, which are broadly emarginate; striae well defined, deeply and regularly punctuate; intervals flattened, micro-reticulate and moderately granulated in basal portions.

Legs slender, with tarsi and claws simple.

Prosternal process slightly incurved just behind procoxal cavities, then projecting straight towards obtusely pointed apex.

Male genitalia about 1.1mm in length; median lobe rather slender, distinctly longer than lateral lobes, gradually narrowed toward obtusely pointed apex; each apical portion of lateral lobe semicircular and furnished with some long setae.

Female. Unknown.

*Type series*. Holotype: ♂, Tamagusuku [玉城], Nakijin-son, Okinawa-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 29. V. 2004, A. SEKI leg.

*Etymology*. The specific name is dedicated to Mr. Akihiro SEKI [関章弘] who found this beautiful new species.

*Notes*. This new species is very similar to *M. okinawensis* sp. nov., but can be distinguished from the latter by the following points: 1) the body is a little more robust; 2) the legs are black; 3) apical portions of the posterior angles of the pronotum and the apical margin of the prosternal lobe are yellowish orange; 4) the punctures on the pronotal disc are sparser. The holotype was collected by sweeping flower of *Meliosma arnottiana* (WIGHT) WALP subsp. *oldhamii* (MAXIM) H. OHBA.

## ***Melanoxanthus matsumurai*** sp. nov.

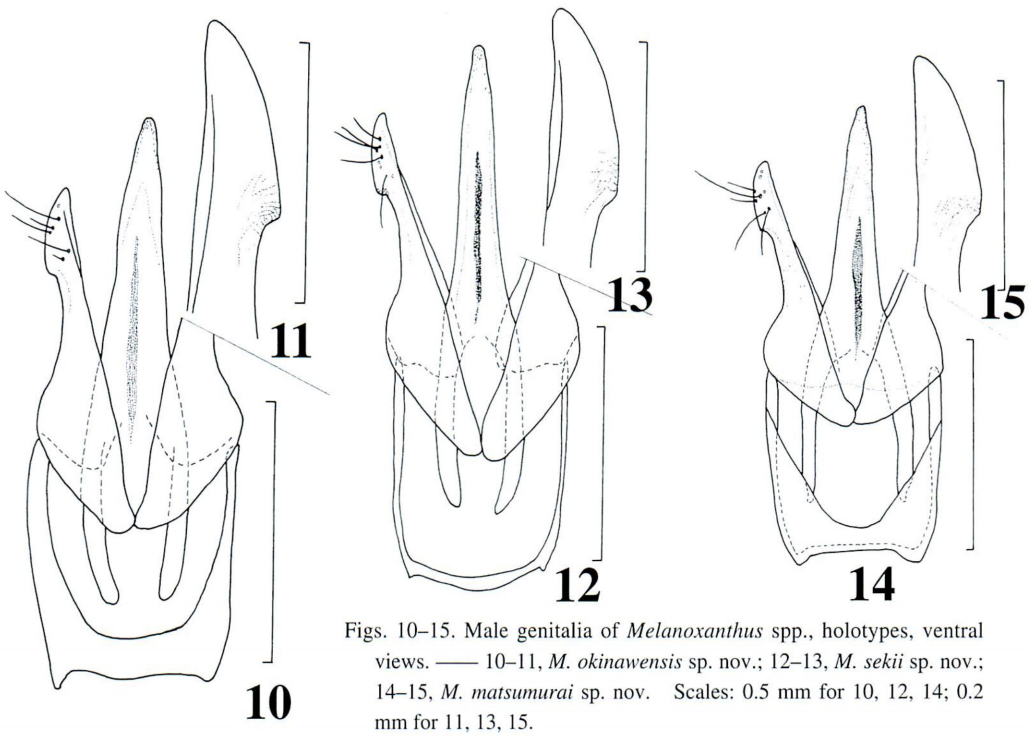
(Figs. 3, 6, 9, 14 and 15)

Male. Length about 9.1 mm, width about 2.5 mm. Body moderately elongate, almost parallel-sided, convex above and a little shining. Body black,; prothorax reddish orange except for black prosternal process; antennae black with basal three segments blackish brown; legs reddish orange.

Head and elytra clothed with black and recumbent setae; pronotum and ventral surfaces with golden yellow setae except for pronotum scattered with black setae.

Head rather convex between eyes and almost flattened between antennae; surface coarsely and densely punctate, each puncture forming like umbilicus; clypeal margin will ridged and rounded at the middle. Antennae short, apical segment not attaining to posterior angle of pronotum; basal segment robust and subclavate; the second short, subglobular and alittle wider than long; the third obconic and about 1.3 times as long as the second; the fourth triangular and about 2.4 times as long as the third; from the fourth to tenth strongly serrate.

Apical segment of maxillary palpus large, oblong-triangular and about 2.6 times as long as




Figs. 10–15. Male genitalia of *Melanoxanthus* spp., holotypes, ventral views. —— 10–11, *M. okinawensis* sp. nov.; 12–13, *M. sekii* sp. nov.; 14–15, *M. matsumurai* sp. nov. Scales: 0.5 mm for 10, 12, 14; 0.2 mm for 11, 13, 15.

wide.

Pronotum subquadrate, almost as long as wide at the middle, almost straight at sides, slightly convergent from base to apical third, then rounded and convergent towards anterior angles; disc clearly convex, surface micro-reticulate and moderately densely punctuate; posterior angles projecting posteriad and moderately pointed apically, each with a distinct carina above. Scutellum subvertical and lingulate; surface micro-reticulate and coarsely punctuate.

Elytra about 2.3 times as long as its basal width, almost straight at sides and slightly convergent towards apices, which are broadly emarginate, with each inner angles acutely pointed; striae well defined, deeply and regularly punctate; intervals flattened, micro-reticulate and distinctly granulated in basal portions.

Legs slender, with tarsi and claws simple.

Prosternal process slightly incurved just behind procoxal cavities, then projecting straight towards obtusely pointed apex.

Mele genitalia about 1.0 mm in length; median lobe longer than lateral lobes, gradually convergent towards obtusely pointed apex; each apical portion of lateral lobe semicircular and furnished with some long setae.

Female. Unknown.

*Type series*. Holotype: ♂, Makiya [真喜屋], Nago City, Okinawa-jima Is., Okinawa Pref., Ryukyu Islands, Southwest Japan, 2. V. 1998, M. MATSUMURA leg. Paratype: 1♂, Mt. Yonaha-dake [与那覇岳], Kunigami-son, Okinawa-jima Is., Okinawa Pref., 1 . VI. 1974, H. IRIE leg.

*Etymology*. The specific name is dedicated to Mr. Masahumi MATSUMURA [松村雅史] who found this interesting new species.

*Notes*. This new species is similar to *M. sekii*, but can be distinguished from the latter by the following points: 1) the body is a little smaller; 2) basal three segments of antennae are blackish brown; 3) the legs are black; 4) the punctures on the pronotal disc are deeper.

## 要　　約

有本 久之：東アジア産コメツキムシ科甲虫（第２報）：日本産 Elaterinae 亜科 *Melanoxanthus* 属の３新種.——— 沖縄本島から採集された *Melanoxanthus* 属の3新種をそれぞれ *M. okinawensis* (オキナワヒメツヤケシコメツキ), *M. sekii* (セキヒメツヤケシコメツキ)および *M. matsumurai* (マツムラヒメツヤケシコメツキ)と命名して記載した. これら３種は互いによく似ているが, *M. okinawensis* は前胸後角の先端部および前胸腹板片の前縁部が黒色をしている, *M. sekii* は前胸後角の先端部および前胸腹板片の前縁部は黒色をしていないが脚が黒色をしている, *M. matsumurai* は体の配色は *M. sekii* に似るが脚の色は赤橙色をしている, などの体色の違いにより区別することができる. *M. okinawensi* はウラジロエノキの樹洞内から得られた. また *M. sekii* はヤンバルアワブキの花上から得られた.

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# A New Species of the Genus *Euaesthetus* GRAVENHORST (Coleoptera: Staphylinidae) from Japan

## (102nd Contribution to the Knowledge of Euaesthetinae)

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**Abstract** *Euaesthetus nomurai* sp. nov., the third Japanese representative of the genus *Euaesthetus* GRAVENHORST is described from Iwate Prefecture and a key to the Japanese *Euaesthetus* is provided.

The staphylinid genus *Euaesthetus* GRAVENHORST, 1806, is mainly distributed in the Northern hemisphere (Fig. 1, PUTHZ, 2001). Most of its 42 described species occur in North America, few in the Northern Oriental region (Thailand, Vietnam), some others extend the generic area down to Panama (PUTHZ, 1994). Fifteen species have been known from the Palearctic region, two from Northern Japan. In this paper I describe a new brachypterous species from Iwate Prefecture, Japan and give a key with some new figures for the Japanese species. The new mountainous species leads to the supposition that there should be more species of the genus in Japan.

### *Euaesthetus nomurai* sp. nov.

(Fig. 4)

Brachypterous, moderately shiny, head and pronotum reddish brown, elytra light brown, abdomen dark brown, head and pronotum moderately coarsely and very densely punctate, elytra moderately finely, densely punctate, abdomen very finely and densely punctate; pubescence short, recumbent. Antennae light brown, maxillary palpi yellowish, legs reddish brown.

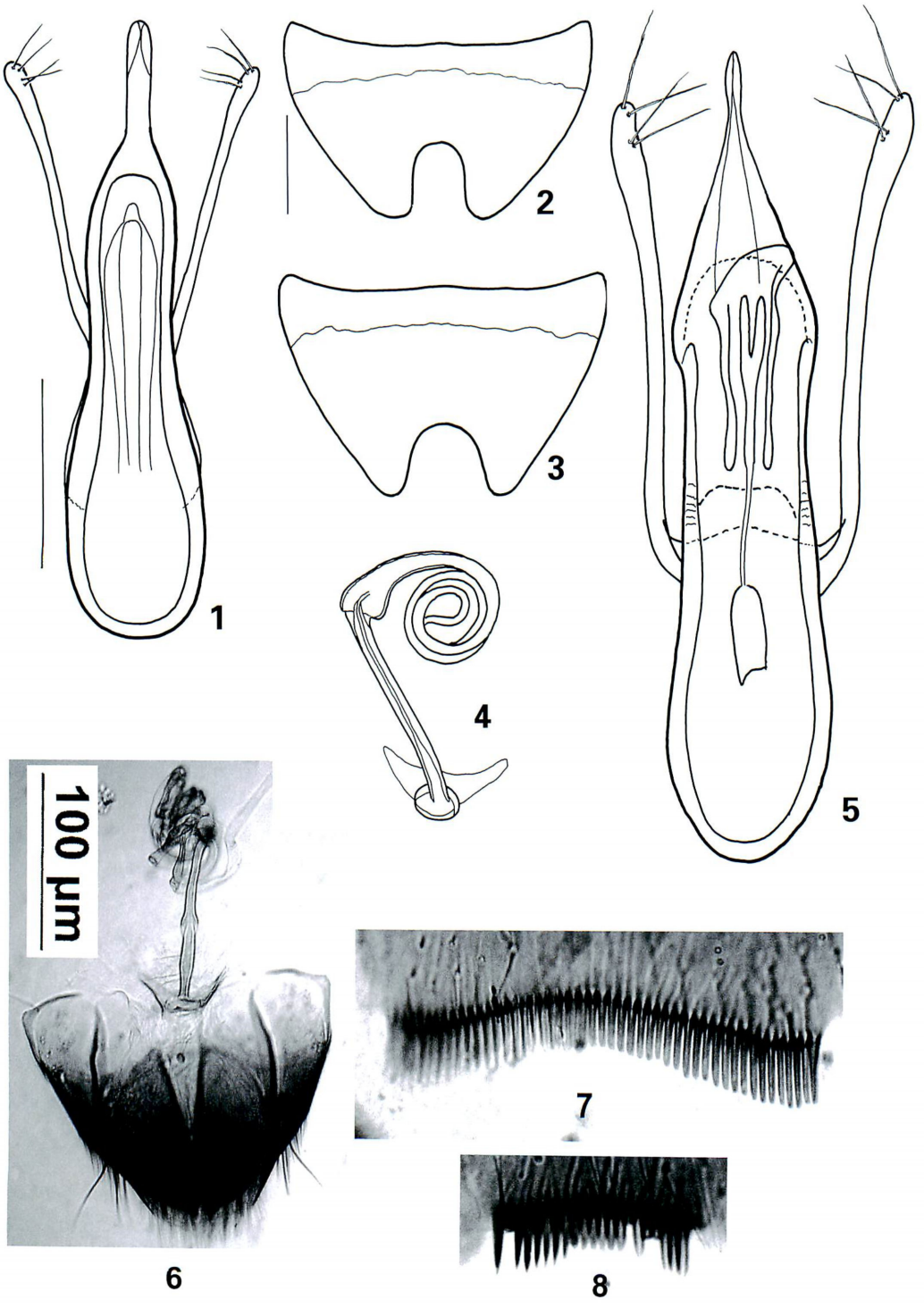
Length: 1.6–1.8 mm (forebody: 0.7–0.75 mm).

Proportional measurements of the holotype (in mm): Head width: 1.16; distance between eyes: 0.95; eye length: 0.28; temple length: 0.05; pronotal width: 1.15; pronotal length: 0.98; greatest width of elytra: 1.19; greatest length of elytra: 0.68; sutural length: 0.5.

Male. Unknown.

Female. Sternite 8 broadly rounded at posterior margin. Spermatheca as in Fig. 4.

Head slightly broader than pronotum, eyes large, prominent, temples short, retracted, labrum with a prominent median callus, punctation of frons moderately coarse and very dense, diameter of largest punctures nearly as large as basal cross section of protibia, interstices smaller




Figs. 1–8. Ventral aspect of edeagus (1, 5), sternite 8 of male (2, 3), spermatheca (4, 6), apicomedian comb of sternite 6 of male (7, 8). *Euaesthetus nitidulus* SHARP (1, 2, 7); *Eu. hammondi* PUTHZ (Hokkaido, 3, 5, 6, 8), *Eu. nomurai* sp. n. (4). Scale = 0.1 mm (1 = 4, 5, 7, 8, 2 = 3).

than half diameter of punctures.

Antennae robust, segment 10 nearly twice as broad as long, segment 11 almost twice as long as segment 10.

Pronotum cordiform, distinctly broader than long, sides strongly convex in anterior half, concavely retracted in posterior half; surface with two small, short, shlightly distinct longitudinal impressions in posterior half and 6-8 small, slightly delimited basal foveae; punctation as dense as on frons but slightly less coarse, less dense on a small area posteromedially.

Elytra slightly broader than head, trapezoidal, much broader than long, shoulders simple, sides convex, strongly widened behind, posterior margin broadly emarginate; punctation moderately fine, dense, punctures about as large as eye-facets, interstices smaller than diameter of punctures.

Abdomen broad, moderately narrowed behind, basal impressions of first tergites deep, tergite 7 without a membranous fringe apically; punctures very fine and very dense.

Holotype (♀) and 1 ♀-paratype: JAPAN: Iwate Prefecture, Mt. Yakushidake Hayachine, 17. VII. 1985, S. NOMURA.- Holotype in the National Museum of Nature and Science, Tokyo, paratype in coll. Puthz.

*Euaesthetus nomurai* sp. nov. may be easily distinguished from the other two *Euaesthetus* species of Japan by the shape of the pronotum and the short wings (see key).

*Etymology*: The new species is warmly dedicated to Dr. Shuhei NOMURA (National Museum of Nature and Science, Tokyo), who collected this remarkable species.

## Key to the *Euaesthetus* of Japan

1 (2) Brachypterous, pronotum only with 2 short, shallow and slightly distinct impressions in posterior half. 1.6–1.8 mm (forebody: 0.7–0.8 mm). Iwate ..... *nomurai* sp. nov.

2 (1) Macropterous, pronotum with 7 distinct impressions: a narrow, long median impression, a deep sulcus on each side in posterior half and 2 strong foveae in anterior half

3 (4) Lighter, head and pronotum light reddish brown, elytra reddish brown or lighter, abdomen reddish; punctation of pronotum shallower and less dense. ♂: Sternite 6 with a broad apicomedian comb (Fig. 7), sternite 8 (Fig. 2), edeagus (Fig. 1). ♀: Spermatheca unknown. 1.5–1.8 mm (forebody: 0.8–0.9 mm). Nagasaki; Fukui: 1 ♂: Mt. Monju, 19. IV. 1975, H. SASAJI (coll. NAOMI) ..... *nitidulus* SHARP

4 (3) Darker, head and pronotum chestnut brown, elytra mainly dark brown, abdomen dark brown. ♂: sternite 6 with a less broad apicomedian comb (Fig. 8), sternite 8 (Fig. 2), edeagus (Fig. 5). ♀: Spermatheca (Fig. 6). 1.5–1.9 mm (forebody: 0.8–0.9 mm). Osaka, Hokkaido: 1 ♂, 3 ♀♀: Higashi-Ônuma Nanae, Oshima, 16. VI. 1986, S. NOMURA (National Museum of Nature and Science, coll. NAOMI, coll. PUTHZ); China: Heilongjiang ..... ..... *hammondi* PUTHZ


## 要　　約

PUTHZ, Volker：日本産チビフトハネカクシの１新種．――東北地方の岩手県からチビフトハネカクシの新種，*Euaesthetus nomurai* sp. nov.（キタチビフトハネカクシ：新称）を記載した．

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# A New Species of the Genus *Hoshihananomia* KÔNO (Coleoptera: Mordellidae) from Luzon Is., the Philippines

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**Abstract** A new species, *Hoshihananomia okuboi* sp. nov., is described from Luzon Is., the Philippines. This species is a member of a group consisting of *H. splendens* (MIWA), *H. trichopalpis* NOMURA and *H. masatakai* TSURU et TAKAKUWA, and closely allied to the last species. Sexual dimorphism is noted on the new species and its allies, in which the males exhibit peculiar and aberrant sexual modifications in the fore legs.

Through the courtesy of Mr. Kiyoshi OKUBO, one of the taxonomists of Lepidoptera in Japan, I was able to examine a graceful mordellid specimen belonging to the genus *Hoshihananomia* captured by him in Luzon Is., the Philippines. It is a new species and belongs to a group consisting of *H. splendens* (MIWA), *H. trichopalpis* NOMURA and *H. masatakai* TSURU et TAKAKUWA (see TSURU and TAKAKUWA, 2007), all of which have peculiarly arranged golden yellow markings on the pronotum and elytra in common, and the markings of the present new species are more closely similar to those of *H. masatakai* than to those of the other two species. In this paper I am going to describe it under the name of *Hoshihananomia okuboi* sp. nov. The present new species bears remarkable secondary sexual characters in the male upon the fore legs, maxillary palpi and antennae as in the known spesies of the group, as noted at the end of this paper.

Before proceeding further on the subject, I wish to express my hearty thanks to Mr. Kiyoshi OKUBO, Nishinomiya City, for his kindness giving me the specimen, and to Mr. Yasuhiko HAYASHI for his critical reading of this manuscript. I am grateful to the late Mr. Taichi SHIBATA for the examination of his rich collection of Mordellidae in the course of the present study.

The holotype designated in this paper will be added to the SHIBATA type collection now preserved in the Kashihara City Museum of Insects, Nara.

## *Hoshihananomia okuboi* sp. nov.

(Figs. 1–10)

Male. Body stout, strongly narrowed backwards from bases of elytra; body and legs black, mouth parts and clypeus reddish brown, except for black mandibles and dark brownish-black labrum, maxillary- and labial palpi; antennae dark brownish black, but a little lighter in their venter like maxillary palpi. Dorsal surface of body (Fig. 1) covered with black pubescence and

decorated with markings of golden-yellow pubescence, the markings really similar to those of *H. masatakai* in shape, colour and arrangement; head with reddish fuscous pubescence on vertex instead of yellow as in *H. masatakai*; each elytron bearing a post-basal median rotund spot and an antemedian just-juxta-sutural oval spot located a little nearer to base than in *H. masatakai*, the former being situated at basal sixth* and the latter at basal third, a post-median rotund spot a little smaller than the post-basal one, and a large patch before apex indefinitely comma-shaped, especially that on the right elytron, which is devoid of a small projection directed forwards at its outer side; pygidium mostly covered above with golden-yellow pubescence, leaving black pubescence along midline from base to apex and also on distal area. Ventral surface of body and legs covered with black pubescence and golden-yellow one, the arrangement of which is exactly the same as in *H. masatakai*. The pubescence on whole surface of body, especially that with golden-yellow colour, very dense and almost completely concealing sculpture, except for hind coxae bearing considerably sparse black pubescence.

Head (Fig. 2) fairly small in size as compared with the extent of pronotum, moderately convex above, distinctly wider than long** (13.3:10.5), widest just behind eyes; tempora very narrow, though more or less widened at temporal angles, which are a little obtuse and rather narrowly rounded; occipital margin very slightly emarginate in middle; mandibles separated from eyes in a short distance which is almost equal to the diameter of antennal cavity; eyes short oval, finely faceted and glabrous. Antennae (Fig. 3) a little shorter than width of head (12.4:13.3), rather sparsely with relatively short and erect hairs as a secondary sexual character on ventral surface of 8th to 10th segments; 1st and 2nd segments cylindrical as usual; 3rd and 4th slender, each gently dilating towards apex; 5th to 10th distinctly serrate; each inner margin of 5th and 6th weakly but distinctly emarginate and that of 7th to 10th almost straight; 11th oblong-oval, very widely rounded at apex; relative length/width of each segment from 1st to 11th as follows: 1.9/1.1, 1.4/1.0, 1.9/0.8, 1.7/0.9, 2.2/1.4, 1.9/1.4, 1.6/1.5, 1.6/1.5, 1.5/1.5, 1.5/1.4, 2.1/1.1. Maxillary palpi (Fig. 4) identical in almost all characteristics with those of *H. masatakai*, but 2nd segment is more distinctly emarginate in basal two-thirds of its inner margin, ultimate one a little more widened scalene-triangular with rectangular inner angle, its apical margin being distinctly longer than inner one (ca. 7.6 : 5) and outer margin a little shorter than 2nd segment (ca. 8 : 9).

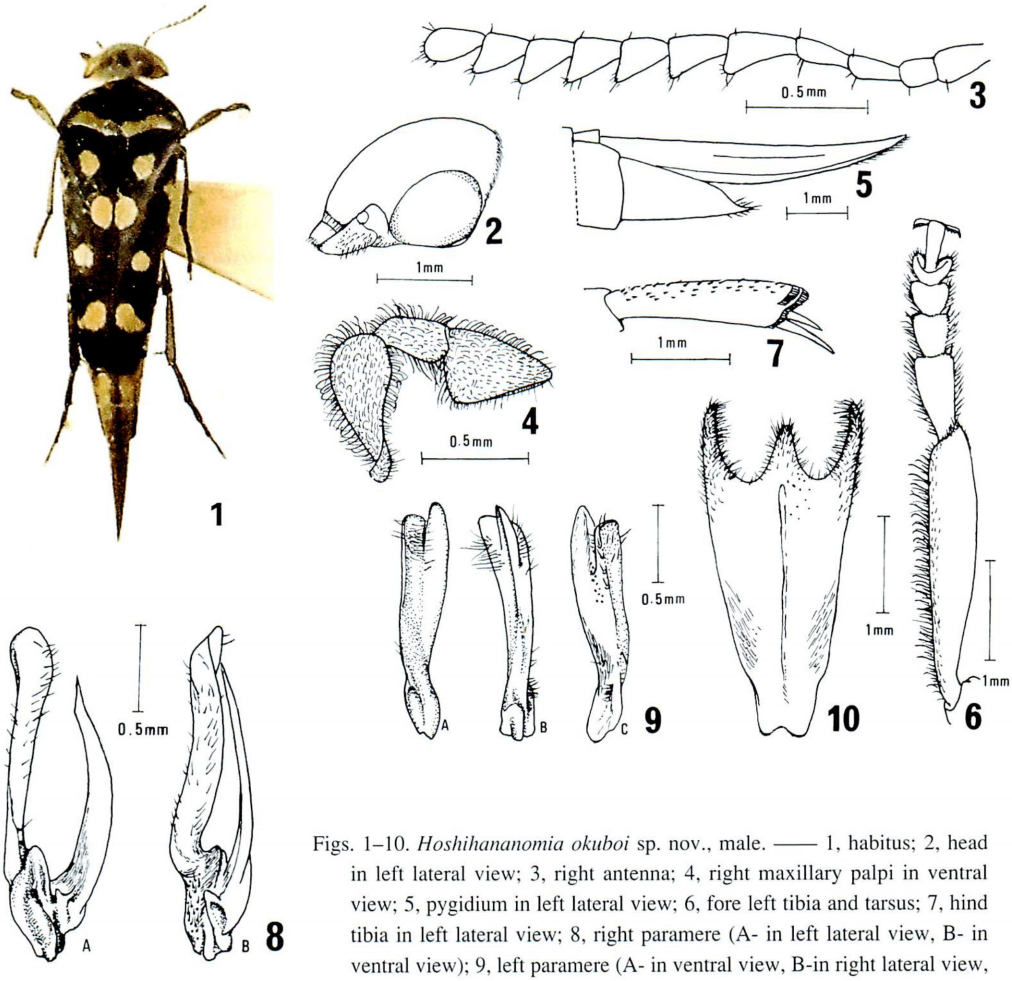
Pronotum wider than long (19:15), widest at about basal third, moderately convex on disc; lateral margins regularly and moderately rounded in dorsal view, though very weakly and arcuately concave in front and straight behind in lateral view; basal angles obtuse, rather narrowly rounded, and a little more obtuse and a little more widely rounded than well-marked apical angles; basal median lobe almost straight in median part of its margin. Scutellum transversely subtrapezoidal, weakly convergent at lateral margins towards apex, which is widely straight, with apical angles rounded.

Elytra a little slenderer than in *H. masatakai*, about 1.93 times as long as wide at base, widest at base, then markedly narrowed to apical two-ninths in a very slightly bisinuate curvature at sides; apices separately and more or less narrowly rounded; humeral callosities fairly distinct, oblique inwards, and traceable to the level of posterior margin of post-basal spot close to outside of the spot.

Pygidium (Fig. 5 ) very long and slender, 3.92 times as long as wide at base, about seven-ninths the length of elytra, regularly attenuate from base to sharply pointed apex, and slightly curved upwards; dorsum gently convex like an arched vault in about basal third, though very

* measured at the centre of the spot

** The distance from apex of clypeus to occipital margin




Figs. 1–10. *Hoshihananomia okuboi* sp. nov., male. —— 1, habitus; 2, head in left lateral view; 3, right antenna; 4, right maxillary palpi in ventral view; 5, pygidium in left lateral view; 6, fore left tibia and tarsus; 7, hind tibia in left lateral view; 8, right paramere (A- in left lateral view, B- in ventral view); 9, left paramere (A- in ventral view, B-in right lateral view, C-in dorsal view); 10, 8th abdominal sternite.

strongly compressed vertically and edged along midline in the remaining part, bearing a fine and long carina at the edge, extending from basal three-sevenths to apical extremity, and a similar but much shorter one on each lateral steep slope, starting in front a little in advanced of the median carina and ending behind at about apical one-fourth.

Mesosternum scantily overhanging above anterior part of metasternal plate between middle coxae, so that the plate is almost exposed; apex wide and gently rounded. Anal sternite longer than wide, extending slightly beyond the middle of pygidium; lateral margins gently and evenly narrowed to apical one-seventh, then abruptly and strongly so to moderately rounded apex, in front of which they are gently but distinctly sinuate.

Fore legs extremely simillar to those of *H. masatakai*, inclusive of having very long erect dense hair as a male secondary sexual character on their ventral surfaces; fore tibiae (Fig. 6) a little wider than in *H. masatakai*, about 5.6 times as long as wide, and devoid of a cluster of tomenta on dorso-basal areas which is usually highly characteristic in males; hind tibiae (Fig. 7) with many irregularly scattered spinulae (not forming so-called a neat dorsal ridge at all) both on dor-

sal face and dorso-marginal area of outer face; outer terminal spur of hind tibia about 1.5 times as long as inner one; relative length of each segment of tarsi from base to apex as follows: fore tarsus: 2.7, 1.4, 1.2, 1.0, 1.5; middle tarsus: 3.5, 1.7, 1.1, 1.0, 1.7; hind tarsus: 10.5, 6.0, 3.3, 3.6.

Parameres of male genitalia exceedingly alike those of *H. masatakai*; but left paramere (Fig. 9) with the two lobes of apex never divergent but close one to the other, the cleft between them deeper; right paramere (Fig. 8) with ventral branch a little slenderer, especially in its basal half, without tooth before apex on dorsal side, which is replaced by a blunt angulation. Eighth sternite (Fig. 10) exactly identical in conformation with that of *H. masatakai*; lateral prominences of apical margin with black and median one with brown hairs.

Body length: 9.5 mm. (excl. pygidium); 8.25mm. (excl. head and pygidium).

Female: Unknown.

Holotype: ♂, Atimonan, Quexon, Luzon Is., The Philippines, 24–26. III. 1978, K. OKUBO leg.

*Etymology*. The specific name is dedicated to Mr. Kiyoshi OKUBO, and I had the pleasure of making his acquaintance in the Malay peninsula in 1974.

*Notes*. The new species is closely related to *H. masatakai* TSURU et TAKAKUWA, 2007 from Taiwan, but is distinguished without difficulty from the latter by the pygidium bearing three fine carinae dorsally, the 5th and 6th segments of antennae being distinctly emarginate at the inner margin, the vertex of head with reddish fuscous pubescence, and the parameres of the male genitalia different in some details of the structure as mentioned in the description.

Two species described by ERMISCH and CHÛJO (1968), *H. sumbaensis* from Sumba Is., Indonesia and *H. laosensis* from Laos, each of which was based on a single female specimen, can be no doubt included in the group, the former having the dorsal pubescent markings on the pronotum and elytra similar to those of *H. splendens* and the latter to those of this new species or *H. masatakai*; in addition *H. laosensis* is said to provide only one longitudinal median carina on the pygidium, which is a feature separating it from the new species.

*Notes on sexual dimorphism*. The male of this new species, as well as those of *H. masatakai* and *H. splendens*, bears the long erect dense hairs on the ventral surfaces of fore legs (except the coxae and claw segments). This is a peculiar feature, and the absence of a cluster of tomenta on the dorso-basal areas of fore tibiae is an aberrant feature in these species, contrary to the general rule occurring invariably in the males of congeners or prevailing in those of many of other genera among Mordellini, while the absence of it is usually characteristic of the other sex. It is true that these features are essentially of vital importance for understanding properly the identity of the group. Judging from its original description, the male of *H. trichopalpis*, which I have not examined, appears to have no long erect hairs on the ventral surfaces of fore femora. This is the interesting exception and may have some weight in treating affinity among the species. The same hairs as on the venter of fore legs occur also on the ventral surfaces of both maxillary palpi and antennae in the male of this new species, as in those of the three allied species, but this is in reality a general male feature found in great majority of members of the genus, although the hairs vary in the degree of the length and hairiness according to species. At any rate in the new species and its allies, it is certain that such male sexual dimorphism is found to exhibit in the most striking degree.

## 要　　約

清山　好美：フィリピン産ホシハナノミ属（ハナノミ科）の１新種．――― フィリピンのルソン島で大久保潔氏によって発見されたホシハナノミ属の１種を *Hoshihananomia okuboi* sp. nov. として命名記載した．本種はヤエヤマオオキボシハナノミ *H. splendens* (Miwa), オガサワラキボシハナノミ *H. trichopalpis* Nomura, *H. masatakai* Tsuru et Takakuwa からなるグループに属し，台湾より知られている *H. masatakai* と，体上面の金黄色毛斑紋，外部形態及び雄交尾器の様相において，きわめて密接な類縁関係が認められる．本種のもつ諸特徴，すなわち尾節板に３本（正中部と両側面）の細く明瞭な縦隆起線をもつこと，触角第５及び６節の内縁が明らかな弓状湾曲をなしていること，頭頂部に赤みがかった暗褐色毛をもつこと，そして雄交尾器側片の若干の相違等は後者の種との区別を容易にしている．また，本種の雄は，*H. masatakai* とヤエヤマオオキボシハナノミの雄と同様に，前肢下面にたいへん長く，直立した軟毛を密に生じる特徴，前脛節基部上面に一群の毛束を欠いている特徴と併せて他に類を見ないかなり極端な雄異形性を示している．この特徴はヤエヤマオオキボシハナノミ群の独自性を理解するうえで重要なものである．オガサワラキボシハナノミは，標本を検していないので定かではないが，原記載から判断すると雄前脛節基部上面に一群の毛束を欠いている特徴を有しているが，前腿節下面に非常に長い，直立した軟毛を密に生じる特徴を欠いているらしい．この種の存在は，種間の類縁関係を検討する上で重要であるかもしれない．また，このグループの雄に共通して見出される小腮枝下面の長軟毛及び本種とヤエヤマオオキボシハナノミの雄における触角下面の長軟毛は，ホシハナノミ属の多くの種に見られる一般的雄の特徴である．しかしながら，それらの二次的性徴はこのグループの種の雄において最もきわだっていることは確かである．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# *Strongylium* Species (Tenebrionidae: Coleoptera) from Nepal and its Neighbouring Areas

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**Abstract** The fauna of *Strongylium* from Nepal and its neighbouring areas is dealt with. All known species recorded from these areas are listed with new faunal records. Five new species are described: *Strongylium martensi* sp. nov., *S. brancuccii* sp. nov., *S. suridhobanum* sp. nov., *S. wittmeri* sp. nov., and *S. arunense* sp. nov. A new synonym is proposed: *Strongylium westermanni* MÄKLIN, 1864 = *Strongylium cariosipenne* FAIRMAIRE, 1896. Altogether, now 18 species of *Strongylium* are known from Nepal.

Senior author has been studying the strongyline species from East Asia for a long time. The junior author treated the tenebrionid fauna of the Nepal Himalayas. Thus, they decided to prepare a joint study about the *Strongylium* from Nepal and its neighbouring areas, when they met at Stuttugart in 2008. As yet, an overview about the huge genus *Strongylium* from the Himalayas is lacking.

The authors at first list the known species from the Himalayas with new faunistic records and then describe five new species from these areas. Altogether, now 18 species of *Strongylium* are known from Nepal.

In spite of quite restrited knowledge of the biology and distribution, this genus is presumed to be more species-rich in eastern Nepal. According to own field observations (SCHAWALLER), all congeners populate arboreal habitats and can be collected during the night on the bark of old trees, not only in mature dense forests, if any, but also in open cultivated land. They are attracted also by light traps. All Nepalese species are characteristic elements of the lower mountainous altitudinal belt and are lacking in the higher zones above 3,000 m.

The specimens for the present study have been prepared from the authors' collections and are also offered from museums and private collections of their holders as mentioned below. We deeply acknowledge the following persons who permitted the authors to examine their collections for the present study: Maxwell BARCLAY, The Natural History Museum, London; Ing.

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Stanislav BEČVÁŘ, České Budějovice; Dr. Ottó MERKL, the Hungarian Natural History Museum, Budapest; Dr. Giulio CUCCODORO, the Museum d'Histoire Naturelle, Genève; Dr. Michel BRANCUCCI and Dr. Daniel BURCKHARDT, both the Naturhistorisches Museum, Basel; Matthias HARTMANN, Naturkundemuseum, Erfurt; Dr. Martin BAEHR, the Zoologische Staatssammlung, München; Dr. Claude GIRARD, the Muséum National d'Histoire Naturelle, Paris; Dr. Kiyoshi ANDO, Osaka Pref.; Mr. Katumi AKITA, Tsu City; Dr. Roland GRIMM, Tübingen.

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The abbreviations herein used are also mentioned: BMNH: the Natural History Museum, London; CSBC: Collection of Stanislav BEČVÁŘ, České Budéjovice; HNHM: the Hungarian Natural History Museum, Budapest; MHNG: the Museum d'Histoire Naturelle, Genéve; NHMB the Naturhistorisches Museum, Basel; NME: the Naturkundemuseum, Erfurt; ZSM: the Zoologische Staatssammlung München; MNHNP: the Muséum National d'Histoire Naturelle, Paris; AC: ANDO Collection, Osaka Pref.; AKC: AKITA Collection, Tsu City; GCT: GRIMM Colletion, Tübingen; NSMT: the National Museum of Nature Science, Tokyo; SMNS: the Staatliches Museum für Naturkunde, Stuttgart.

## 1. List of Known Species from Nepal and its Neighbouring Areas*

*The areas include Nepal, Sikkim, Darjeeling, Himalaya, India borealis and so on.

### *Strongylium angusticolle* MÄKLIN, 1864

*Strongylium angusticolle* MÄKLIN, 1864, Monographie: 333. (Bangladesh, Sylhet).

*New materials*: India: 2 exs., Darjeeling Distr., Sukna, 180 m, 22. V. 1980, G. TOPÁL leg., HNHM.; Nepal: 1 ex., 5 km E. Manhari, 350 m, 2. VI. 1976, C. BARONI-URBANI & W. WITTMER leg., SMNS.

*Distribution*: Bangladesh, India, Nepal (new record).

*Notes*. The above listed specimens coincide with a non type specimen in the British Museum (examined by W. S.).

### *Strongylium angustissimum* PIC, 1922

*Strongylium angustissimum* PIC, 1922, Mél. exo.-ent., 37: 27. (Yunnan).

*New materials*: China: 2 exs., Yunnan, Xishuangbanna, 27 km NW. Jinghong, Beng Gang Ha Ni, 1,800–2,000 m, 29. V. 2008, A. WEIGEL leg., 1 ex., NME, 1 ex., SMNS; India: 3exs., Uttar Pradesh, Mussoorie, 1,300 m, 9–10. VII. 1989, A. RIEDEL leg., SMNS; India: 1 ex., Darjeeling, Kurseong, 800 m, 5.–10. V. 1987, N. DANGAI leg., NME; India, 2 exs., Darjeeling, Pedong, 1956, collection. OBERTHÜR leg., HNHM; India, 1 ex., Sikkim, collection FAIRMAIRE, 1 ex., NSMT (from Muséum Paris); India, 5 exs., Meghalaya, 1 km E Tura, 500–600 m, 10–15. VI. 2002, P. BENDA leg., SMNS; India, 6 exs., Meghalaya, 3 km E. Tura, 1,150 m, 6–12. V.2 002, leg. P. BENDA leg., , SMNS; India, 2 exs., Assam, Umrongso, 700 m, 3–8. VI. 2002, leg. P. BENDA leg., SMNS; Nepal, 1 ex., Dolakha Distr., lower Amatal Khola, 1,700 m, 9. VI. 2000, W. SCHAWALLER leg., SMNS; Nepal, 1ex., Dolakha Distr., Gyalsung, 1,800 m, 6.VI.2000, W.

SCHAWALLER, SMNS; Nepal, 1 ex., Dolakha Distr., Tama Koshi Valley, Gonga Khola to Suri Doban, 1,300–1,000 m, 4. VI. 2000, J. SCHMIDT leg., NME; W Nepal, 4 exs., Myagdi, Distr., Kali Ghandaki, Kopchepani Gasa, 2,000 m,19. VI. 1986, C. HOLZSCHUH leg., AC; Nepal, 1 ex., NW Pokhara, Modi-Khola, Landrung, 1,100 m, 3–6. VI. 1984, C. HOLZSCHUH, AC; C Nepal, Tokcha, 10. VI. 1969, T. MIYASHIA leg., NSMT; Nepal, 2 exs, Jumla Distr., Gothichaur Khola, 3,400–3,600 m, 10.VI.1997, A. WEIGEL leg.,1ex. NME, 1 ex. SMNS. - Nepal, Kali Gandaki, Suikhet to Chandrakot, 1,000-1,600 m, 8.VI.1986, leg. C. HOLZSCHUH, 1 ex., NHMB. - Nepal, Kali Gandaki, Gasa to Kalopani, 2,000-2,500 m, 20.VI.1986, leg. C. HOLZSCHUH, 3 exs., NHMB. - Nepal, Kali Gandaki, Kopchepana to Gasa, 1,600-2,000 m, 19.VI.1986, leg. C. HOLZSCHUH, 2 exs., NHMB. - Nepal, Kali Gandaki, Kapchepani, 1,600 m, 18.VI.1986, leg. C. HOLZSCHUH, 1 ex., SMNS. - Nepal, Kali Gandaki, Gasa to Kalopani, 2,000-2,500 m, 20.VI.1986, leg. C. HOLZSCHUH, 2 exs., SMNS. - Nepal, Kathmandu Valley, Godavari, 1,500 m, 21.-27.V.1989, leg. M. BRANCUCCI, 2 exs., NHMB. - Nepal, Kathmandu Valley, Godavari, 1,500-1,900 m, 16.-18.V.1992, leg. J. MORAVEC, 1 ex. SMNS. - Nepal, 12 km NW. Kathmandu, Shivapuri NP, Sundarijal, 1,600 m, 23.VI.2005, leg. A. WEIGEL, 1 ex., NME. Nepal, Kathmandu Valley, Godawari, 1,500 m, 22.-25.VI.1983, leg. M. BRANCUCCI, 1 ex., SMNS. - Nepal, Kathmandu Valley, Phulchoki, 2,200-2,700 m, 1.-7.VI.1996, leg. P. ČECHOVSKÝ,1 ex., SMNS. - Nepal, Chitwan NP, Sauraha, 700 ft., 3.-6.VI.1983, leg. M. J. D. BRENDELL, 1 ex., BMNH. - Nepal, Chitwan Distr., Chitwan N.P., Sauraha, 150 m, 31.V.-4.VI.1997, leg. W. SCHAWALLER, 1 ex., SMNS. - E Nepal, Arun Valley, Lamobagar Gola, 1,400 m, 8.-14.VI.1983, leg. M. BRANCUCCI, 1 ex., SMNS. - Nepal, Arun Valley, Num, 1,550 m, 5.-6.VI.1981, leg. M. BRANCUCCI, 2 exs., NHMB. - Nepal, Dhankuta Distr., Arun Valley, Hille to Shidua, Bhedetar, 2,000-2,700 m, 24.-28.V.1996, leg. P. ČECHOVSKÝ 1 ex., SMNS. - Nepal, Kangchenjunga Himal, Chiruwa, 1,260 m, 30.VI.-1.VII.2000, leg. J. FARCAČ, 1 ex., NHMB, 1 ex., SMNS.

*Distribution*: Yunnan (type locality), Uttar Pradesh, Nepal, Darjeeling, Sikkim, Assam, Meghalaya (all new records).

*Notes*. The junior author (W. S.) previously identified this taxon erronously as *Strongylium kulzeri* KASZAB, 1954, described from Fujian (paratype in HNHM). As yet, it is not clear if this species is a valid taxon or a junior synonym.

## ***Strongylium beesoni*** BLAIR, 1937

*Strongylium beesoni* BLAIR, 1937, The Ent. mon. Mag., 73: 37. (Darjeeling).

*Type material examined*: Darjeeling, Kurseong, 3,500 ft., 30. IV. 1936, C. F. C. BEESON, leg. ♂ holotype BMNH (labelled as type).

*New materials*: Nepal, Kaski Distr., Kali Gandaki, Chadrakot, 1,000-1,600 m, 9.VI.1986, leg. C. HOLZSCHUH, 1 ex., SMNS. - Nepal, Myagdi Distr., Kali Gandaki, Tatopani to Kopchepani, 1,100-1,500 m, 17.VI.1986, leg. C. HOLZSCHUH, 1 ex., SMNS. - Nepal, Pokhara, VI.1985, 3 exs., GCT. - Nepal, Dolakha Distr., Suridhoban, 1,050 m, 27.-28.V.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Arun Valley, Hille to Shidua, Bhedetar, 2,000-2,700 m, leg. P. ČECHOVSKÝ, 1 ex., SMNS. - Nepal, Arun Valley, Hedangna to Lamobagar, 1,100-1,400 m, 27.V.1980, leg. W. WITTMER, 3 exs., NHMB. - Nepal, Arun Valley, Lamobagar to Hedangna, 800–1,400 m, 15.VI.1983, leg. M. BRANCUCCI, 3 exs., SMNS. - Nepal, Arun Valley, Hedangna to Sheduwa, 1,000-1,700 m, 5.VI.1980, leg. W. WITTMER. - Nepal, Arun Valley, Lamobagar Gola, 1,400 m, 8.-14.VI.1983, leg. M. BRANCUCCI, 4 exs., NHMB. - Nepal, Arun Valley, Num, 800-1,550 m, 5.-6.VI.1983, leg. M. BRANCUCCI, 3 exs., NHMB.

*Distribution*: Darjeeling, Nepal (new record).

## *Strongylium castanescens* FAIRMAIRE, 1896

*Strongylium castanescens* FAIRMAIRE, 1896, Not. Leyden Mus., 18: 112. (Ind. bor.).

*Distribution*: Northern India.

## *Strongylium cultellatum* MÄKLIN, 1864

*Strongylium cultellatum* MÄKLIN, 1864, Monographie: 345. (China meridionali, Hong-kong).

*New materials*: Nepal, Kali Gandaki, Tatopani, 1,100-1,400 m, 14.-17.VI.1986, leg. C. HOLZSCHUH, 2 exs., NHMB, 1 ex., SMNS. - E Nepal, Biratnagar, 140 m, 21.V.1980, leg. W. WITTMER, 1 ex. NHMB. - Nepal, Hetaura, Pipley, 9.VI.1968, leg. WOYNAROVICH, 1 ex., HNHM. - Nepal, Chitwan NP, 13 km, W Sauraha, Kasara, 180 m, 20.VI.2005, leg. A. WEIGEL, 1 ex., NME. - Nepal, Chitwan NP, Sauraha, 3.-5.VI.1983, leg. M. J. D. BRENDELL, 1 ex., BMNH. - India, Darjeeling, Sevoke, 200 m, 6.VI.1980, leg. G. TOPÁL, 1 ex., HNHM. - India, Assam, Umrongso, 700 m, 3.-8.VI.2002, leg. P. BENDA, 1 ex., SMNS. - India, Meghalaya, 1 km E. Tura, 500-600 m, 2.-5.V.2002, leg. P. BENDA, 3 exs., SMNS.

*Distribution*: Hongkong (type locality), Japan, Taiwan, Sri Lanka, Vietnam, Laos, Malaysia (HNHM, SMNS), India, Darjeeling, Assam, Meghalaya, Nepal (new record).

## *Strongylium curvicomis* GRAVELY, 1915

*Strongylium curvicomis* GRAVELY, 1915, Rec. Indian Mus., Calcutta, 8: 535. (North Lakhimpur).

*Distribution*: Northeast India (Arborland).

## *Strongylium gardneri* BLAIR, 1930

*Strongylium gardneri* BLAIR, 1930, Ent. mon. Mag., 66: 180. (Darjeeling, Gopaldhara).

*Type material examined*: Darjeeling, Gopaldhara, 4,720 ft., 28. IX. 1914, H. STEVENS, leg. ♂ holotype BMNH (labelled as type).

*New materials*: India, Darjeeling, Gopaldhara, 4,720 ft., 16.-28.IX.1914, leg. H. STEVENS, 2 exs., BMNH. - Bhutan, Domphu, Gopani, 1,400 m, VIII.-IX.1983, leg. C. J. RAI, 1 ex., NHMB. - Nepal, Kathmandu, Pati Bhanjyang to Chaubas, 1,900-2,200 m, 19.VI.1989, leg. M. BRANCUCCI, 1 ex., SMNS. - Nepal, Kathmandu, Phulchoki (labelled Pulchauki), 8,000 ft., 6.VIII.1967, Canadian Nepal Exp., 3 exs., MHNG. - Nepal, Kathmandu, Godavari, 27.VII.1967, Canadian Nepal Exp., 3 exs., MHNG, 2 exs., SMNS. - Nepal, Myagdi Distr., upper Bathlekharka, 2,160 m, 20.VI.1998, leg. BERNDT & J. SCHMIDT, 1 ex., NME. - Nepal, Annapurna Himal, S Lamjun Himal, Taunja Danda, 2,400 m, 6.VIII.1985, leg. Fabrizi, JÄGER & SCHMIDT, 1 ex., GCT. - Nepal, Gorkha/Dhading Distr., Gorlabesi to Dobhan, 1,000-1,100, 30.VII.1983, leg. J. MARTENS & W. SCHAWALLER, 1 ex., SMNS. - Nepal, Helambu, above Chipling, 2,200-2,400 m, 28.-30.VIII.1997, leg. FABRIZI & AHRENS, 1 ex., SMNS. - Nepal, Manaslu Mts., Meme Pokhari Lekh, upper Taksar village, 2,100 m, 31.VIII.1995, leg. J. SCHMIDT, 1 ex., SMNS.

*Distribution*: Darjeeling, Bhutan (new record), Nepal (new record).

## *Strongylium interruptum* BLAIR, 1930

*Strongylium interruptum* BLAIR, 1930, Ent. mon. Mag., 66: 179. (Darjeeling).

*Type material Examined*: "Darjeeling", leg. Gardner, ♂ holotype BMNH (labelled as type).

*New materials*: India, Darjeeling, Gopaldhara, 4,720 ft., 1914, leg. H. STEVENS, 1 ex., BMNH (det. Blair). - Nepal, Sankhua Sabha Distr. Pahakhola, 30.-31.V.1988, leg. J. MARTENS & W. SCHAWALLER, 1 ex., SMNS. - Nepal, Solukhumbu Distr., Junbesi, 2,700 m, 11.V.1997, leg. M. HAUSER, 1 ex., SMNS. - Nepal, Solukhumbu Distr., Sanam, 2,700-2,800 m, 22.-23.V.1997, leg. W. SCHAWALLER, 3 exs., SMNS. - Nepal, Khandbari Distr., above Tashigaon, 3,100 m, 7.-8.IV.1982, leg. A. & Z. Smetana, 1 ex., MHNG. - Nepal, Khandbari Distr., forest NE Kuwapani, 2,500 m, 11.-15.IV.1982, leg. A. & Z. SMETANA, 1 ex., MHNG. - E Nepal, Tashiagon, 2,100 m, 14.VI.1980, leg. W. WITTMER, 1 ex., NHMB. - E Nepal, Hong Gaon to Kemathanka, 2,900 m, 30.V.1980, leg. W. WITTMER, 1 ex., NHMB. - Nepal, Dolakha Distr., road pass W Jiri, 2,500 m, 22.V.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Dolakha Distr., Serukapti, 2,400 m, 25.V.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Dolakha Distr., E Ting Sang La, 2,600 m, 10.-11.VI.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Chauki, 2,600-3,000 m, 22.-24.VI.2001, Expedition Museum Basel, 1 ex., NHMB. - Nepal, Kathmandu, Pati Bhanjyang to Chaubas, 1,900-2,200 m, 19.VI.1989, leg. M. Brancucci, 1 ex., NHMB. - Nepal, Kathmandu, Menegero, 2,500 m, 13.VI.1889, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Annapurna Himal, Madi Khola below Sikles, 1,500 m, 4.VIII.1995, leg. J. SCHMIDT, 1 ex., SMNS. - Nepal, Chautara Distr., Nauling Lekh, Gobre, 9,500 ft., 12.VI.1983, leg. M. J. D. BRENDELL, 1 ex., BMNH. - Nepal, Chautara Distr., Nauling Lekh, 9,500 ft., 11.-20.VI.1983, leg. M. J. D. BRENDELL, 1 ex., BMNH. - Nepal, Taplejung Distr., Chitre, Omje Khola, 2,300-2,400 m, 20.-21.V.2003, leg. A. WEIGEL, 1 ex., NME.

*Distribution*: Darjeeling, Nepal (new record).

*Notes*: This species is very similar or even a junior synonym of *S. simulator* DOHRN, 1880, originally described from "Birma".

## *Strongylium macrops* (WIEDEMANN, 1823)

*Helops macrops* WIEDEMANN, 1823, Zool. Mag., Altona, 2, (1): 41. (Bengalia).

*New materials*: India, Andrah Pradesh, Warangal to Tardvar, 31.VII.2005, leg. K. WERNER, 1 ex. SMNS. - India, Uttar Pradesh, Dehra Dun, 700 m, 20.-30.VI.1981, leg. C. HOLZSCHUH, 2 exs., NME, 1 ex. SMNS. - Nepal, Chitwan NP, Sauraha, 150 m, 31.V.-4.VI.1997, leg. M. HAUSER & W. SCHAWALLER, 3 exs., SMNS. - Nepal, Chitwan NP, Sauraha, 180 m, 15.VI.2005, leg. K. BHATTA, 1 ex., NME. - Nepal, Chitwan NP, Sauraha, 150 m, 16.-18.VI.2007, leg. M. HARTMANN, 3 exs., NME. - Nepal, Chitwan NP, Island Jungle Resort, 240 m, 21.-22.VI.1993, leg. G. CSORBA & M. HREBLAY, 1 ex., HNHM. - Nepal, Hetaura, Pipley, 9.VI.1968, leg. WOYNAROVICH, 2 exs., HNHM. - Nepal, Lumbini, Bhalubang, Rapati River, 280 m, 16.VI.2007, leg. M. HARTMANN & J. WEIPERT, 2 exs., NME. - E Nepal, Bheri Zone, Nepalgunj, 125 m, 5.VII.2009, leg. A. KOPETZ, 1 ex., NME.

*Distribution*: India, Sri Lanka (HNHM), Nepal (KASZAB 1973).

## *Strongylium mediofoveatum* BLAIR, 1931

*Strongylium mediofoveatum* BLAIR, 1931, The Ent. mon. Mag., 67: 200 (Assam, Patkai Mts.)

*Type material Examined.* "Assam, Patkai Mts.", leg. DOHERTY, holotype BMNH (sex not examined, labelled as type).

*New materials*: India, Darjeeling, Sindepung, 23.IV.1987, leg. B. BHAKTA, 2 exs. NHMB. - Nepal, Kathmandu Valley, Mt. Phulchoki, 1,900-2,200 m, 16.V.1983, leg. T. SHIMOMURA, coll. Masumoto 2002, 1 ex., NSMT. - Nepal, Kathmandu Valley, Godavari, 1,600 m, 24.V.1983, leg. T. SHIMOMURA, coll MASUMOTO 2002, 1 ex., NSMT. - Nepal, Kathmandu Valley, Godavari, 1,500 m, 19.V.1989, leg. C. HOLZSCHUH, 1 ex., MNE. - Nepal, Kathmandu Valley, Gokarna, 24.V.-21.VI.1976, leg. C. BARONI-URBANI & W. WITTMER, 1 ex., NHMB. - Nepal, Pokhara, 820 m, 15.-18.VI.1976, leg. C. BARONI-URBANI & W. WITTMER, 1 ex., NHMB. - E. Nepal, Arun Valley, Hedangna to Sheduwa, 1,000-1,700 m, 5.VI.1980, leg. W. WITTMER, 1 ex., SMNS. - E. Nepal, Arun Valley, Hedagna to Num, 16.VI.1983, leg. M. BRANCUCCI, 1 ex., NSMT. - Nepal, Kosi, Num Khola, 900-1,000 m, 8.-10.VI.2001, NHMB expedition, 1 ex., NHMB. - Nepal, Myagdi Distr., Tatopani, 1,100-1,400 m, 27.-28.VI.1986, leg. C. HOLZSCHUH, 1 ex., SMNS. - Nepal, Myagdi Distr., Sikha to Tatopani, 1,100–2,000 m, 14.-17.VI.1986, leg. C. HOLZSCHUH, 1 ex., SMNS. - Nepal, Kathmandu Valley, Thamel, Norbhu Linkha, 1,400 m, 25.VI.1997, leg. A. WEIGEL, 1 ex. NME.

*Distribution*: Assam, Sikkim, Darjeeling, Nepal (new record).

## *Strongylium metallescens* DOHRN, 1880

*Strongylium metallescens* DOHRN, 1880, Ent. Zeit., Stettin, 41: 377. (Darjeeling).

*New materials*: India, Sikkim, Rongay, 1800 m, 23.IV.1985, leg. C. J. RAI, 4 exs., NHMB. - Nepal, Kosi, Mutidhunga to Chitre, 2,200-2,400 m, 28.V.1984, leg. M. BRANCUCCI, 3 exs., NHMB, 1 ex., SMNS. - Nepal, Kosi, Gufa to Gorza, 2,800-2,100 m, 4.VI.1985, leg. M. BRANCUCCI, 3 exs., NHMB, 1 ex., SMNS. - Nepal, Arun Valley, Mure, 2,000 m, 2.-8.VI.1983, leg. M. BRANCUCCI, 2 exs., NHMB. - Nepal, Kosi, Mure, 2,000-2,100 m, 6.-12.VI.2001, Basel Expedition, 1 ex., NHMB. - Nepal, Arun Valley, Mure to Num, 1,550–2,000 m, 4.-7.VI.1983, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Arun Valley, Chichila to Mure, 2000 m, 1.VI.1983, leg. M. BRANCUCCI, 1 ex., SMNS. - Nepal, Arun Valley, Chichila, 1,950 m, 31.V.1983, leg. M. BRANCUCCI, 1 ex., SMNS. - Nepal, Taplejung Distr., 20 km NEE. Taplejung, Phumphe, 1,850 m, 24.V.2003, leg. A. WEIGEL, 4 exs., NME, 1 ex., SMNS. - Nepal, Kathmandu, Kakani, 1.-2.VI.1983, leg. M. J. D. BRENDELL, 1 ex. BMNH. - E. Nepal, Terhatum Distr., Tamur Valley, Basantpur, 2,400 m, leg. P. ČECHOVSKÝ, 1 ex., SMNS. - E. Nepal, Dhankuta Distr., Arun Valley, Hille to Shidua, Bhedetar, 2,000-2,700 m, 24–28.V.1996, leg. P. ČECHOVSKÝ, 5 exs., SMNS. - Nepal, Bagmati, Sindhupalchok, Dapkakharka, 2,100 m, 11.VI.1989, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Manaslu Mts., Dudh Pokhari Lekh below Helam Pokhari, 2,000 m, 22.IV.2003, leg. J. SCHMIDT, 1 ex., NME

*Distribution*: Darjeeling, Sikkim, Nepal (new record).

*Notes.* We strongly doubt whether this taxon is a synonym of *Strongylium mesopotamicum* GEBIEN, 1911 (as given in the new Palaearctic Catalogue) and do not follow this opinion here. For zoogeographical reasons it seems improbable that this species occurs also in Iraq. However, *Strongylium fossum* ALLARD, 1896 is considered as a junior synonym of *S. metallescens* DOHRN, 1880.

## *Strongylium rufipenne* L. REDTENBACHER, 1844

*Strongylium rufipenne* L. REDTENBACHER, 1844, Kashmir und Reich der Siek. Vieter Band. Zweite Abtheilung: 533. (Kashmir).

*New materials*: India, Darjeeling, 1 ex., ZSM. - India, Uttar Pradesh, 1 ex., HNHM. - Nepal, Kathmandu, Sunderijal, 5,000-8,000 ft., VI./VII.1967, Canadian Nepal Exp., 2 exs., MHNG. - Nepal, Kathmandu Valley, Godavari, 1,500-1,700 m, 31.V.-4.VI.1987, leg. C. HOLZSCHUH, 2 exs., NHMB, 2 exs. SMNS. - Nepal, Kathmandu Valley, Godavari, 1,500 m, 19.V.1989, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Langtang, 2,300-2,800 m, V.-VI.1990, leg. S. BILÝ, 1 ex., NHMB. - Nepal, Gandaki, Lamjung, Jagat to Dharapani, 1,300-1,860 m, 2.V.2007, leg. R. & H. FOUQUE, 1 ex., coll. Fouque. - Nepal, Dolakha Distr., Suridhoban, 1,050 m, 27–28.V.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Annapurna Himal, 1,000 m, 3.V.1982, leg. F. BAUM, 1 ex., NHMB. - E Nepal, Arun Valley, Num, 1,550 m, 5–6.VI.1983, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Kathmandu, 1–18.VI. 1963, Lep. Soc. Japan Exped. 1963 to Nepal Himalaya, coll. MASUMOTO, 2005, 1 ex., NSMT. - Nepal, Kathmandu Valley, Godavari, 1,600 m, 21.V.1983, T. SHIMOMURA leg., coll. MASUMOTO, 2002, 1 ex., NSMT. - Nepal, Kathmandu, Godavari, 22.VI.1983, leg. M. J. D. BRENDELL, 1 ex., BMNH. - Nepal, Dhankuta Distr., Arun Valley, Hille to Shidua, Bhedetar, 2,000-2,700 m, 24.-28.V.1996, leg. P. ČECHOVSKÝ, 1 ex., SMNS. - Nepal, Seti, Bajhang, Chainpur, 1,300 m, 14.VI.2009, leg. M. HARTMANN, 1 ex., NME.

*Distribution*: Uttar Pradesh, Darjeeling, Sikkim (BMNH), Nepal (new record).

## *Srongylium schawallerianum* MASUMOTO, 2004

*Strongylium schawallerianum* MASUMOTO, 2004, Elytra, Tokyo, 32: 371. (Nepal, Dolakha Distr.).

*Type material examined* : Nepal, Dolakha Distr., lower Khare Khola, 1,200 m, 3.-4.VI.2000, leg. W. Schawaller, holotype ♂, SMNS. 6 paratypes, same data as for the holotype.

*New material*: Nepal, Dolakha Distr., Suridhoban, 1,050 m, 27.-28.V.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Dolakha Distr., Bazar Bridge below Amatal, 1,660 m, 8.VI.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Dolakha Distr., lower Amatal Khola, 1,700 m, 9.VI.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Dolakha Distr., Tama Koshi Valley, Chet Chet to Gonga Khola, 1,300 m, 3.VI.2000, leg. J. SCHMIDT, 1 ex., NME. - Nepal, Dhading Distr., Thorpu to Kordunje, 1,300-1,400 m, 24.VII.1983, leg. J. MARTENS & W. SCHAWALLER, 1 ex., SMNS. - Nepal, Surkhet Distr., 20 km N Surkhet, 2000 m, 1.VI.1995, leg. A. WEIGEL, 1 ex., NME. - Nepal, Annapurna, Madi Khola below Sikles, 1,500 m, 4.VIII.1995, leg. J. SCHMIDT, 1 ex., NME. - Nepal, Kathmandu Valley, Phulchoki, 2,200-2,700 m, 1.-7.VI.1996, leg. P. ČECHOVSKÝ 1 ex., SMNS. - Nepal, Arun Valley, Lamobagar, leg. W. WITTMER, 1400 m, 28.-31.V.1980, 2 exs., NHMB. - Nepal, Arun Valley, Hille to Shidua, Bhedetar, 2,000-2,700 m, 24.-28.V.1996, leg. P. ČECHOVSKÝ, 1 ex., SMNS.

*Distribution*: Nepal, Myanmar (1 paratype in MNHNP).

*Notes*. This taxon was previously identified by the second author as a part of *Strongylium opacicolle* FAIRMAIRE, 1891, described from Moupin/Sichuan.

## *Strongylium sobrinum* DOHRN, 1880

*Strongylium sobrinum* DOHRN, 1880, Ent. Zeit., Stettin, 41: 376. (Darjeeling).

*New materials*: Nepal, Kosi, Depitar to Barahbise, 560–1,250 m, 12.VI.2001, Basel Expedition, 2 exs., NHMB, 1 ex. SMNS. - Nepal, Lamobagar Gao, 1,400 m, 28.-31.V.1980, leg. W. WITTMER, 1 ex., NHMB. - Nepal, Arun Valley, Lamobagar Gola, 1,400 m, 8.-14.VI.1983, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Arun Valley, Khandbari, Arunthan, 1,100-1,300 m, 29.V.1983, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Arun Valley, Chichila, 1,300–1,950 m, 19.VI.1983, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Arun Valley, Num to Hedagna, 800-1,500 m, 7.VI.1983, leg. M. BRANCUCCI, 1 ex., SMNS. - E Nepal, Num Khola, 900-1,000 m, 8.-10.VI.2001, Expedition Museum Basel, 1 ex., NHMB. - India, Darjeeling, Pedong, 1935, coll. OBERTHÜR, 2 exs., HNHM, 1 ex. SMNS. - India, Darjeeling, 4 exs., ZSM. - India, Darjeeling, Kurseong, Chiple Forest, 1,000 m, IV.1988, leg. H. K. CHHETRI, 1 ex., NME. - India, Upper Assam, Dejoo, 15.VII.1910, leg. H. STEVENS, 1 ex., BMNH. - India, Assam, Margherita, IV.-V.1889, 2 exs., BMNH. - India, Assam, Umbrongso, 700 m, 3.-8.VI.2002, leg. P. BENDA, 1 ex., SMNS.

*Distribution*: Assam, Darjeeling, Uttar Pradesh, Nepal (new record).

## *Strongylium stevensi* GRAVELY, 1915

*Strongylium stevensi* GRAVELY, 1915, Rec. Indian Mus., Calcutta, 8: 534. (N. Lakhimpur).

*New materials*: India, Assam, Patkai Mts., leg. Fry, 1 ♀, BMNH (det. Blair). - India, Assam, Umbrongso, 700 m, 3.-8.VI.2002, leg. P. BENDA, 8 exs., SMNS. - India, Meghalaya, 1 km E Tura, 500-600 m, 2.-5.V.2002, leg. P. BENDA, 1 ex., SMNS.

*Distribution*: Assam, Meghalaya.

## *Strongylium westermanni* MÄKLIN, 1864

*Strongylium westermanni* MÄKLIN, 1864, Monographie: 341 (449). (India orientali).
*Strongylium cariosipenne* FAIRMAIRE, 1896, Not. Leyden Mus., 18: 112. (Pedong). [**Syn. nov.**]

*New materials*: Nepal, Kathmandu Valley, NW Gorkhana Park, 1,350 m, 19.VII.2001 leg. A. WEIGEL, 3 exs., NME, 1 ex. SMNS. - Nepal, Kathmandu Valley, Godavari, 1,600 m, 25.VI.1997, leg. M. HARTMANN, 1 ex., NME. - Nepal, Kathmandu Valley, Godavari, 1,500 m, 10.-12.VI.1984, leg. B. BHAKTA, 1 ex., NHMB. - Nepal, near Kathmandu, VI.1987, leg. K. AKIYAMA, 2 exs., HNHM. - Nepal, Dolakha Distr., Tama Koshi Valley, Gonga Khola to Suri Doban, 1,000–1,300 m, 4.VI.2000 leg. J. SCHMIDT, 1 ex., NME. - Nepal, Dolakha Distr., lower Kare Khola, 1,200 m, 3.-4.VI.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Dolakha Distr., Suridhoban, 1,050 m, 27.-28.V.2000, leg. W. SCHAWALLER, 1 ex., SMNS. - Nepal, Bhojpur Distr., Gothe to Majwa, 600-800 m, 27.V.1997, leg. M. HAUSER, 1 ex., SMNS. - Nepal, Kosi, Phulvari to Waku, 1,200-1,600 m, 9.VI.1985, leg. M. BRANCUCCI, 1 ex., NHMB. - Nepal, Arun Valley, Num to Hedangna, 800-1,500 m, 7.VI.1983, leg. M. BRANCUCCI, 2 exs., NHMB. - Nepal, Arun Valley, Hedangna to Num, 800 m, 16.VI.1983, leg. M. BRANCUCCI, 2 exs., SMNS. - Nepal, Arun Valley, Num, 1,550 m, 5.-6.VI.1983, leg. M. BRANCUCCI, 4 exs., NHMB. - Nepal, Arun Valley, Lamobagar Gola, 1,000-1,400 m, 27.V.-3.VI.1980, leg. C. HOLZSCHUH, 2 exs., HNHM. - Nepal, Pokhara, 820 m, 15.-18.VI.1976, leg. C. BARONI-URBANI, 1 ex., NHMB. - Nepal, Kali Gandaki, Tatopani, 1,100-1,400 m, 14.-17.VI.1986, leg. C. HOLZSCHUH, 1 ex., NHMB. - India, Uttar Pradesh, Gangani, 1,250 m, 13.-20.VI.1981, leg. M. BRANCUCCI, 1 ex., NHMB. - India, Sikkim, Gopaldhara, Rungbong Valley, 1916, leg. H. Stevens, 4 exs., BMNH.

*Distribution*: "Himalaya" (type locality), Sikkim, Uttar Pradesh, Nepal (new record).

*Notes*: Since the examination of two female types preserved in MNHNP by the first author

(K. M), *S. cariospipenne* FAIREMAIRE, 1896 is newly synonymised with *S. westermanni* MÄKLIN, 1864.

## 2. Descriptions of New Species

### *Strongylium martensi* sp. nov.

(Figs. 1, 9–10)

Dark brownish black with feeble bluish tinge, head and pronotum black with weak blassy reflexion, central portion of pronotum and scutellum with feeble coppery reflexion, elytra dark greenish blue; dorsal surface moderately, rather metallically shining, antennae and legs weakly shining, ventral surface weakly, somewhat alutaceously shining; head with dense, pily hairs, pronotum with sparse, pily hairs, scutellum with pily hairs in apical part, elytra with pily hairs, which are sparser, longer and bolder than those on pronotum, ventral surface with dense, fine hairs, which are simlar to those on head. Body rather elongate, convex longitudinally.

Male. Head subdecagonal; clypeus semicircular, produced anteriad, rather closely punctate and haired, weakly depressed in basal part, gently bent ventrad in middle, truncate in front, with a vague transverse impression in posterior part, fronto-clypeal border curved and defined from frons and genae; genae rather noticeably raised antero-exteriad, finely punctate and haired, with outer margins roundly produced; frons somewhat Y-shaped, gently inclined anteriad, rugoso-punctate and haired, vertex impressed at the middle; diatone (=interocular space) narrow and about 1/5 times the width of the transverse diameter of an eye. Eyes large, somewhat transversely comma-shaped in dorsal view, strongly convex laterad, broadly inlaid into head. Antennae subfiliform, reaching basal 1/4 of elytra, ratio of the length of each segment from base to apex: 0.67, 0.22, 1.14, 0.90, 0.88, 0.87, 0.76, 0.66, 0.63, 0.61, 0.68.

Pronotum subtrapezoidal, wider than long (4 : 3), widest at base; apex sublinearly rimmed, the rim tapering laterad, finely punctate and haired, the punctures becoming sparser in middle; base gently bisinuous, finely bordered and rimmed, the rim slightly finer than that of apex, gently tapering laterad and feebly interrupted at the middle, minutely punctate; sides steeply inclined and moderately produced laterad, gently sinuous before base, the borders of ventral parts ridged, though they are hardly visible from above; front angles almost rounded, hind angles acutely projected postero-laterad in dorsal view; disc gently convex, shallowly depressed along median line, very weakly so in lateral parts close to base, coarsely and irregularly punctate, the punctures often connected with one another and forming foveae, each puncture with a pily hair. Scutellum elongated triangular, feebly convex in basal part, weakly depressed and longitudinally aciculate in middle and apical parts, scattered with punctures, each with a long bent hair.

Elytra elongated subfusiform, about 2.13 times as long as wide, 4.15 times the length and 1.47 times the width of pronotum, widest at apical 1/3, feebly sinuous at basal 1/3; dorsum rather strongly convex, highest at basal 1/4, weakly depressed along scutellar strioles; disc with rows of punctures, which are small and closely set in interior portion, and become larger and sparser in exterior portions; intervals feebly convex, scattered with small punctures, some of which bear long pily hairs; humeri gently swollen; apices weakly produced and dehiscent.

Prosternum weakly rugulose and densely haired, not margined along apex, depressed among procoxal cavities, prosternal process semicircular and rimmed along posterior margin; mesosternum narrowly triangularly raised in basal part, weakly depressed, closely punctulate

and densely haired in posterior parts of the triangle, depressed along median line; metasternum also weakly depressed along median line, gently convex in posterior parts on each side, densely punctulate and haired. Abdomen somewhat transversely punctulate, densely haired; male anal sternite noticeably, semicircularly depressed in major apical part, densely haired along margin, with each exterior end of the margin feebly produced.

Legs rather slender; male protibiae gently curved, with interior face weakly gouged and haired widely in middle; male mesotibiae rather simple and feebly curved; male metatibiae nearly straight, weakly narrowed in apical 2/5 in ventral view, and twisted in middle; ratios of the lengths of pro-, meso- and metatarsal segments: 0.26, 0.19, 0.22, 0.21, 1.23; 1.48, 0.60, 0.51, 0.46, 1.52; 1.38, 0.63, 0.42, 1.49.

Male genitalia elongated subfusiform, tapering apicad, weakly curved in lateral view, 3.15 mm in length and 0.61 mm in width; basal piece subovate in dorsal view; fused lateral lobes elongated triangular, 1.78 mm in length, with dorsal surface finely punctate; apices rather extremely prolonged and acute.

Female. Unknown.

Body length: 16.1 mm.

Holotype. ♂, "415 Sankhua Sabha Distr., Arun Val / ley, betw. Chichila and Bhotobas / *Quercus* forest, 1,850–2,000 m, 20 June / 1988 J. MARTENS & W. SCHAWALLER leg. // Nepal Expeditionen / Jochen Martens" (SMNS).

*Notes.* This new species somewhat resembles *Strongylium westermanni* MÄKLIN, 1864, originally described from "Himalaya" (*S. cariosipenne* FAIRMAIRE, 1896, from "Darjeeling, Pedong" is a synonym of the latter), but can be distinguished from those two whose bodies are covered with distinctly finer hairs by the body above more strongly punctate and the elytra covered with rather bold hairs.

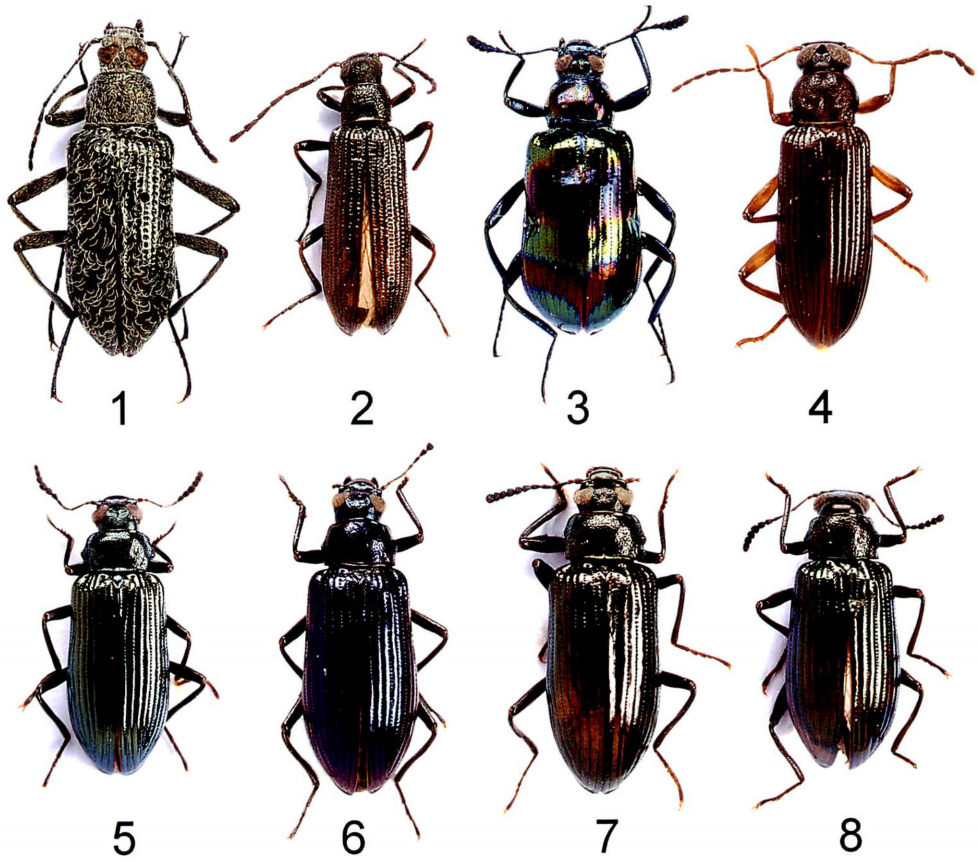
The specific name is given in honor of Prof. Dr. Jochen MARTENS, who collected together with the junior author the specimen of the holotype.

## ***Strongylium brancuccii*** sp. nov.

(Figs. 2, 11–12)

Brownish black, head almost black, pronotum with apex and base dark reddish black, posterior part of head, pronotum, scutellum and elytra with feeble coppery tinge; dorsal surface moderately, rather metallically shining, five basal segments of antennae and legs weakly shining, ventral surface somewhat alutaceously shining; anterior portion of head covered with short fine hairs, posterior portion of head, pronotum, scutellum and elytra almost glabrous, six apical segments of antennae, ventral surface and parts of legs covered with fine hairs. Body elongate, subparallel-sided, and convex longitudinally.

Male. Head subdecagonal; clypeus transverse, weakly widened apicad, gently inclined anteriad in basal portion, strongly so in anterior portion, feebly rounded at apex, closely punctate and finely haired, fronto-clypeal border gently curved and defined from frons and genae; genae moderately raised antero-exteriad, finely punctate and haired, with outer margins roundly produced; frons somewhat widely T-shaped, steeply declined to fronto-clypeal border, rather closely, irregularly punctate and finely haired in anterior part, coarsely punctate and often rugulose in




Figs. 1–8. Habitus of *Strongylium* spp.—— 1. *Strongylium martensi* sp. nov., holotype, male; 2. *S. brancuccii* sp. nov., holotype, male; 3. *S. suridhobanum* sp. nov., holotype, female; 4. *S. wittmeri* sp. nov., holotype, male; 5. S. *arunense* sp. nov., holotype, male (Sankhua Sabha District); 6. S. *arunense* sp. nov., paratype, male (Num); 7. *S. arunense* sp. nov., paratype, male (Arunthan); 8. *S. arunense* sp. nov., holotype, male, (Lamobagar).

medial part, with a vague impression at the middle between eyes; diatone rather wide and almost of the same width of the transverse diameter of an eye. Eyes medium-sized, subreniform in dorsal view, moderately convex laterad, obliquely roundly inlaid into head. Antennae subfiliform, reaching basal 1/3 of elytra, ratio of the length of each segment from base to apex: 0.27, 0.11, 0.24, 0.16, 0.14, 0.37, 0.36, 0.36, 0.35, 0.34, 0.44.

Pronotum subquadrate in dorsal view, wider than long (5: 4), widest at base; apex sublinearly rimmed, the rim tapering laterad and sparsely, finely punctate; base gently bisinuous, bordered and rimmed, the rim bolder than that of apex, gently tapering laterad and feebly interrupted at the middle, sparesely finely punctate; sides steeply inclined and gently produced laterad in middle, feebly sinuous before base, the borders of ventral parts weakly ridged, though they are hardly visible from above; front angles almost rounded, hind angles angular in dorsal view; disc gently convex, rather closely, coarsely and irregularly punctate, the punctures often connected with one another, with a weak impression at the middle close to base. Scutellum sublinguiform, feebly raised in posterior part, sparsely scattered with small and minute punctures.

Elytra elongate, about 2.33 times as long as wide, 5.30 times the length and 1.8 times the width of pronotum, widest at apical 1/3, very feebly sinuous at basal 1/4; dorsum rather strongly convex, highest at basal 1/4, softly flattened in medial portion, very weakly depressed along scutellar striole; disc with rows of punctures, which are small and deep at each center, transversely subquadrate in each outer marginal part, often connected with one another, and forming transverse wrinkles; intervals gently convex, weakly ridged in exterior parts, rather sparsely scattered with minute punctures; humeri gently swollen; apices mildly rounded.

Prosternum transversely punctate and finely haired, feebly margined along apex, weakly raised between procoxial cavities, prosternal process semicircular and rugulose; mesosternum rather short, ruguloso-punctate and finely haired, with antero-interior margins of mesocoxal cavities gently raised; metasternum rather long, depressed and rugulose in anterior portion, convex, finely punctate and haired in medial and posterior portions, coarsely punctate in antero-lateral portions, with a longitudinal impression in posterior half along medial line. Abdomen finely punctate and haired; male anal sternite roundly glabrous in apical part and weakly emarginate at apex.

Legs rather slender; protibiae slightly curved, with interior face weakly gouged and haired widely in middle; mesofemora rather clavate, with posterior face gouged and haired, mesotibiae feebly curved, with interior face haired; metatibiae feebly curved, with interior face haired; tarsi slender, particularly mesotarsi long, ratios of the lengths of pro-, meso- and metatarsal segments: 0.24, 0.14, 0.15, 0.13, 0.46; 0.48, 0.36, 0.32, 0.24, 0.46; 0.63, 0.34, 0.23, 0.62.

Male genitalia elongated subfusiform, tapering apicad, rather strongly curved in lateral view, 1.29 mm in length and 0.28 mm in width; basal piece subelliptical in dorsal view; fused lateral lobes elongated triangular, 0.73 mm in length, with dorsal surface finely punctate; apices acutely pointed.

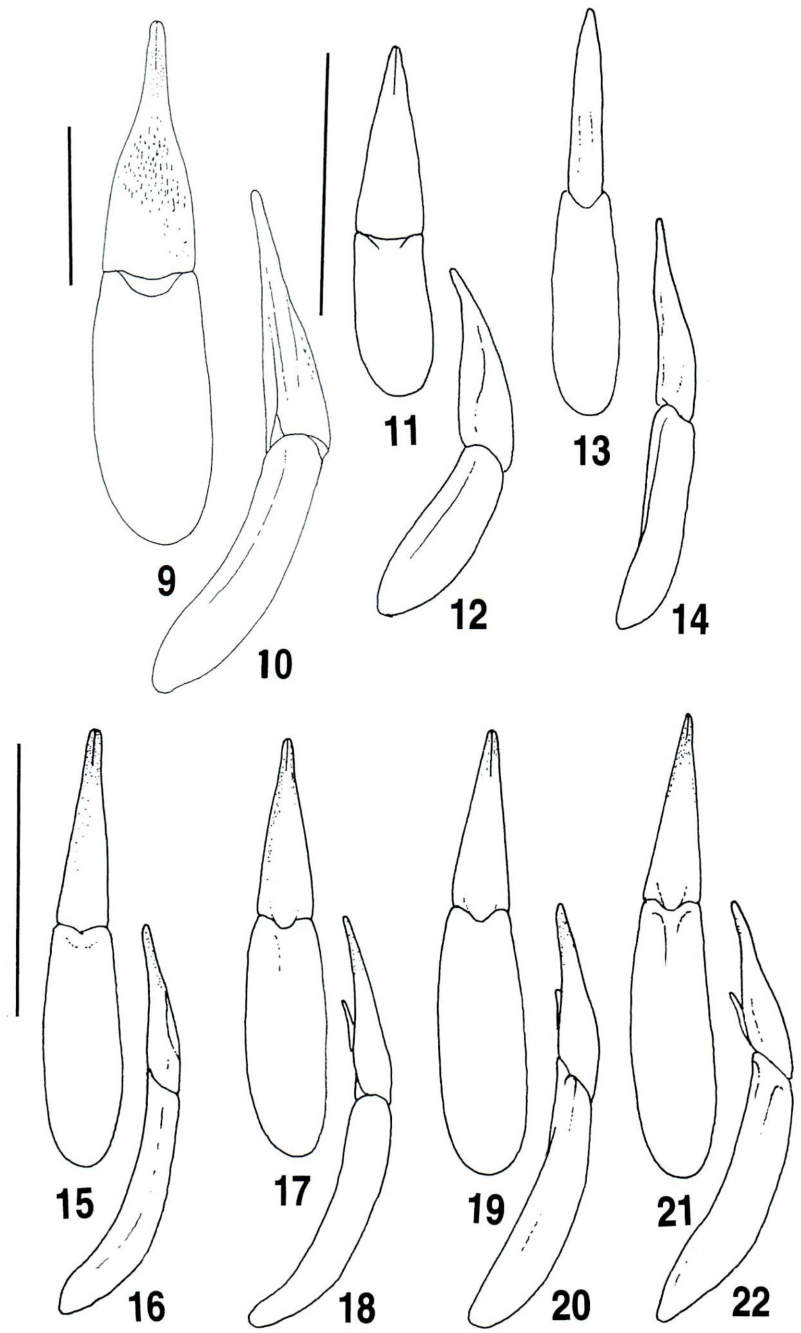
Female. Compared with male, eyes smaller, antennae shorter, dorsal surface more coarsely punctate, and mesofemora with posterior face neither gouged nor haired.

Body length: 6.7–7.6 mm.

Holotype. ♂, "Sundarijal 1,465 m / 15–21. VI. 83 // Nepal, Kathmandu v. / M. BRANCUCCI" (NHMB). Paratypes: 1 ex., same data as the holotype (SMNS) ; 1 ex., "Sindhupalchok / Gangjwal, 2,500 m, 6–7. VI. 89 // Nepal Bagmati / M. BRANCUCCI // Museum Stuttgart / SMNS (SMNS); 2 exs., NEPAL, Kathmandu N. Shivapuri Lekh, 2,000–2,300m, slope W of / Bagmati river, 22–23. V. 2005, J. SCHMIDT leg." (NME); 1 ex., "NEPAL: 6800', / Kathmandu Dist., / Kakani, / 1–2. VI. 1983, M.J.D. BRENDELL / B.M. 1983-222" (BMNH); 1 ex., "Nepal Bagm an / Sindhupalchok // Sarmatang / 2,500m, 4. VI. 89 / M. BRANCUCCI" (NHMB); 1 ex., "Pothana 1,900m, 5–7. V. 1984, W-Nepal, Modi Khola / C.J. RAI (NHMB); 1 ex., "Gangjwal-Parahang / 1,700–2,500 m 8.VI.89 / M. BRANCUCCI // Nepal / Bagm ati / Sindhupalchok" (SMNS); 1 ex., "Nuwakot Gul Bh. -Pati Bhanjyang // 1,900–2,300m, 16. VI. 89 / M. BRANCUCCI" (NSMT).

*Notes.* This new species somewhat resembles *Strongylium elongatissimum* MASUMOTO, 1997, originally described from S. India, but can be distinguished from the latter by the smaller body, with the head more closely, irregularly punctate, eyes smaller and the diatone widely separated, the pronotum narrower, particularly so in anterior portion, more strongly, irregularly punctate, the scutellum narrower in basal part, and the elytra with rows of punctures more irregularly set and often transversely connected with one another, and the intervals often interrupted by low transverse wrinkles.

The specific name is given after Dr. Michel BRANCUCCI, who collected the type material.




Figs. 9–22, Male genitalia (dorsal view and lateral view).—— 9–10. *Strongylium martensi* sp. nov.; 11–12. *S. brancuccii* sp. nov.; 13–14. *S. wittmeri* sp. nov.; 15–16. *S. arunense* sp. nov., holotype (Sankhua Sabha District); 17–18. *S. arunense* sp. nov., paratype (Num); 19–20. *S. arunense* sp. nov., paratype (Arunthan); 21–22. *S. arunense* sp. nov., paratype (Lamobagar). Scales: 1 mm.

impressed, lateral parts of the impression extending to outer margins; genae gently raised antero-laterad, with outer margins obtusely produced, scattered with minute punctures; frons somewhat extremely widely T-shaped, steeply inclined anteriad, noticeably, longitudinally impressed in medial portion, irregularly scattered with mitute punctures, which are often fused with one another; vertex weakly convex, partly, weakly depressed, ruguloso-puncate. Eyes large and somewhat oblique, rather strongly convex laterad, approximate to each other, with diatone about 1/8 time the width of an eye diameter. Antennae subfiliform, reaching base of elytra, ratio of the length of each segment from base to apex: 0.34, 0.20, 0.57, 0.47, 0.39, 0.37, 0.36, 0.35, 0.34, 0.33, 0.35.

Pronotum 1.25 times as wide as long, weakly angular and widest at the middle, feebly sinuous before base; apex very slightly emarginate, gently rimmed, the rim tapering laterad and sparsely scattered with minute punctures; base feebly bisinuous, bordered by a groove and rimmed, the rim obviously bolder than the apical one, tapering laterad and sparsely punctate; sides rather steeply inclined laterad, bordered from ventral sides by rims, which are contiuous with apical and basal ones; front angles rounded, hind angles subrectangular; disc weakly convex, depressed along the median line, roundly impressed at basal 2/5 on each side, and also obliquely impressed in lateral portions close to base, covered with isodiametric microsculpture, irregularly scattered with shallow (bearing a short hair at each centre) punctures, which are often fused with one another, and sparsely intermixed with minute punctures among them. Scutellum triangular with rounded sides, gently raised posteriad, weakly wrinkled in basal portion.

Elytra oblong, 2.33 times as long as wide, 4.12 times the length and 1.30 times the width of pronotum, widest at apical 3/7 and very weakly narrowed at basal 1/3 in dorsal view; dorsum moderately convex, weakly depressed in basal 1/4 around scutellary strioles, highest at basal 3/7; disc grooved and punctate, the punctures in grooves rather ovate, those in lateral portions becoming larger, and those in apical portions becoming finer; intervals gently convex, weakly covered with isodiametric microsculpture, sparsely scattered with microscopic punctures and finely aciculate; humeri gently convex; apices very slightly, roundly produced.

Prosternum rather short, finely rimmed along apex, covered with isodiametric microsculpture, minutely, irregularly impressed, strongly raised in posterior portion, with prosternal process subpentagonal, depressed in general but convex in medial part, covered with isodiametric microsculpture and shallowly punctate, with posterior margins bordered and finely rimmed; mesosternum rather short, covered with isodiametric microsculpture, anterior portion somewaht triangularly depressed and ruguloso-punctate, posterior portion gently raised in areas before mesocoxae, microscopically punctate; metasternum covered with isodiametric microsculpture, finely impressed along midline, depressed and scattered with punctures in anterior portion, rather noticeably convex behind the middle on both sides, almost impunctate in posterior portion, with a pair of oblong tufts in postero-medial parts. Abdomen covered with isodiametric microsculpture, rather closely scattered with small punctures, weakly, longitudinally wrinkled in basal and/or lateral parts of three anterior sternites; anal sternite rather closely punctate, each puncture with a bent hair, with feebly truncate apex.

Legs normal in shape and size; femora gently becoming bolder towards the middle to apical 1/3; protibiae nearly straight, with ventral face rather densely haired in apical 3/5; mesotibiae very weakly curved intero-ventrad at apical 2/5, with ventral face feebly gouged at basal 2/5, metatibiae very feebly curved anteriad, with ventral face haired in apical 3/5; tarsi rather slender, ratios of the lengths of pro-, meso- and metatarsal segments: 0.19, 0.10, 0.12, 0.13, 0.48; 1.00,

## ***Strongylium suridhobanum*** sp. nov.

(Fig. 3)

Anterior portion of head, femora, tibiae, and anterior and posterior margins of pronotum dark blue, posterior portion of head, elytra with areas in anterior 1/5, anterior 2/5 to 3/5 and posterior 1/9 greenish golden to bluish green, pronotum with large rounded areas on both sides purplish, central parts of the areas becoming dark blue, elytra with a transversely subquadrate, purplish band from anterior 1/8 to the middle, whose major central portion become dark blue, also with another transverse band from posterior 4/9 to the same 2/9 somewhat ferreous colored, posterior margins of the (hind) band violet in colour and somewhat serrate; ventral sides dark blue or partly dark violet, antennae and tarsi almost black, mouth parts and claws almost dark brown; dorsal surface strongly, metallically shining, legs moderately shining, ventral surface weaky, somewhat alutaceously shining; major portions of body glabrous, antennal clubs, ventral portions of tibiae, and tarsi, particularly ventral sides, haired. Body oblong-ovate; strongly convex above.

Female. Head subdecagonal; clypeus transverse, gently narrowed apicad, basal portion weakly depressed, gently bent ventrad in middle, rather closely punctate, each puncture with a minute hair, posterior margins of eyes depressed, fronto-clypeal border clearly sulcate, roundly curved, and reaching outer margins; genae obliquely subrhombical, gently raised, irregularly punctate, with outer margins obtuse, areas before eyes depressed and wrinkled; frons somewhat widely T-shaped, rather sparsely punctate in medial portion, closely and irregularly punctate in other portions; eyes rather large, somewhat transversely comma-shaped, gently convex laterad, rather obliquely inlaid into head, diatone about 0.75 times the width of an eye diameter. Antennae subclavate, reachinig basal 1/5 of elytra, 6th to 11th segments flattened, 6th to 10th more or less dilated to each apex, 10th the widest, 11th semicircular, ratio of the length of each segment from base to apex: 0.35, 0.20, 0.79, 0.39, 0.35, 0.31, 0.28, 0.25, 0.23, 0.22, 0.25.

Pronotum short barrel-shaped, 1.43 times as wide as long, widest slightly before the middle; apex almost straight and rimmed, the rim tapering laterad, sparsely scattered with microscopic punctures; base ridged and slightly bisinuous, the ridge thicker and more closely scattered with microscopic punctures than apical rim; sides rather steeply declined to lateral margins, which are rounded and finely rimmed, the rim visible from above; front angles rounded, hind angles subrectangular and feebly projected postero-laterad in dorsal view; disc moderately, somewhat transversely convex, with a pair of oblique impressions at basal 1/5, irregularly punctate, with a fine, shallow and longitudinal impression and impunctate area at the middle. Scutellum triangular and weakly convex, sparsely scattered with microscopic punctures, rather longitudinally aciculate.

Elytra suboblong ovate, 1.72 times as long as wide, 4.44 times the length and 1.75 times the width of pronotum, weakly widened posteriad and widest at apical 2/7, feebly wrinkled; dorsum strongly convex, slightly undulate at basal 1/5, depressed at basal 5/11 in lateral portions, weakly ridged along suture from basal 2/9 to posterior portion; disc with rows of small, somewhat longitudinally ovate punctures, which are sometimes very finely striate, and become larger in the lateral portions; intervals feebly convex, sparsely scattered with microscopic punctures; sides steeply declined to lateral margins, which are hardly visble from above, and weakly supressed from lateral portions at basal 1/3; hurmeri rather distinctly swollen; apices roundly produced posteriad and feebly explanate.

Prosternum rather short, weakly, transversely wrinkled and sparsely punctate in anterior portion, finely ridged along apex, weakly raised and rugulose in area among procoxial cavities, prosternal process semicircular, depressed on each side, coarsely punctate in medial portion, margined along posterior edge; mesosternum rather short, anteriror portion depressed ridged and scattered with small punctures medially, antero-lateral portions rugoso-punctate, antero-interior margins of mesocoxal cavities strongly raised and scattered with fine punctures, intercoxal space depressed; metasternum medium-sized, anterior portion (=posterior portion of inter-mesocoxal cavities) depressed and rugulose, medial portion rather widely, gently, longitudially depressed, very weakly wrinkled and sparsely scattered with microscopic punctures, each with a fine hair, postero-lateral portions rather noticeably convex and micro-aciculate, with declivities of the convexities strongly, obliquely aciculate and sparsely scattered with strong punctures. Abdomen rather wide, scattered with microscopic punctures, each with a fine hair; sternites I-IV with longitudinal wrinkles in basal and/or lateral portions.

Legs medium in size; each femur more or less clavate; protibiae nearly straight, with intero-ventral face very finely haired apicad; mesotibiae gently curved intero-ventrad, with interior-ventral face finely haired apicad; metatibiae feebly curved interiad in basal portion, very weakly curved exteriad in apical half, with interior face haired apicad; tarsi nomal in size, ratios of the lengths of pro-, meso- and metatarsal segments: 0.21, 0.14, 0.15, 0.15, 0.62; 0.82, 0.36, 0.32, 0.23, 0.67; 0.72, 0.27, 0.21, 0.68.

Male. Unknown.

Body length: 10.6 mm.

Holotype: ♀, "608 NEPAL: Dolakha Distr., Suridhoban 1,050m, 27–28. V. 2000, leg.W. SCHAWALLER" (SMNS).

This new species somewhat resembles *Strongylium siisuai* MASUMOTO, 1996, from Doi Pui, Chiang Mai Prov., N. Thailand, but can be distinguished from the latter by the body shorter and more strongly convex, with the dorsal surface more strongly shining and less closely punctate, the elytra not grooved but with rows of punctures, the intervals wider and more flat, and meso- and metatibiae more noticeably curved.

The specific name is given after the village Suridhoban, where the type specimen was collected.

### ***Strongylium wittmeri*** sp. nov.

(Figs. 4, 13–14)

Brown yellow, central portions of head blackish brown, pronotum, scutellum and elytra yellowish brown, apical segments of antennae, apical parts of femora darkened; head, pronotum and scutellum weakly, somewhat sericeously shining, elytra, femora, tibiae, meso- and metasterna gently shining, prosternum and abdomen rather alutaceous, antennal segments in basal parts weakly shining, those in apical parts and tarsi almost mat; dorsal surface almost glabrous, antennae, interior sides of tibiae, ventral sides of tarsi and anal sternite finely haired, metasternum in male with a longitunal tuft at postero-medial portion. Body elongate, moderately convex longitudinally.

Female: Head subdecagonal, covered with isodiametric microscupture; clypeus widely semicircular, gently flattened in basal portion, bent ventrad in apical portion, scattered with minute punctures, each with a microscopic hair, fronto-clypeal border roundly curved, finely

0.53, 0.39, 0.26, 0.68; 1.18, 0.47, 0.27, 0.60.

Male genitalia somewhat elongated subfusiform, tapering apicad, gently curved in lateral view, 1.52 mm in length and 0.27 mm in width; basal piece subelliptical in dorsal view; fused lateral lobes strongly elongated triangular, 0.71 mm in length, with dorsal surface finely punctate in apical parts; apices acutely pointed.

Female. Compared with male, female possessing eyes more roundly inlaid into head, termial segment of maxillary palpi less strongly widened apicad, and antennae shorter.

Body length: 8.7 - 11.3 mm.

Holotype: ♂, "O. Nepal 1980, W. WITTMER, Lamobagar Gao 1,400m 28.— 31.5." (NHMB). Paratypes: 1 ex., "Pokhara, NEPAL, 3. VI. 1985, 1,100 m" (GCT); 1 ex., "Ghar Khola / Shikha-Tatopani / 1,100–2,000 m, 13. VI. 1986, W. Nepal / Dhawalagiri, Myagdi D. / C. HOLZSCHUH" (SMNS).

*Notes.* This new species somewhat resembles *Strongylium sawaiae* MASUMOTO, 1996, from Doi Pa Muang, Hang Chat, Lampang Prov., N. Thailand, but can be distinguished from the latter by the body obviously smaller and slenderer, with the antennae longer and subfiliform (subserrate in *S. sawaiae*), the eyes more roundly inlaid into the head, lateral margins of the pronotum weakly angular at the middle, and the elytra smoother with punctures in striae smaller and denser.

The specific name is given in honor of the late Dr. Walter WITTMER, who collected the holotype specimen.

### ***Strongylium arunense*** sp. nov.

(Figs. 5–8, 15–16, 17–18, 19–20, 21–22)

Mostly brownish black partly with feeble purplish tinge, dorsal surface dark green to dark blue, six apical segments of antennae almost black, tarsi dark brown (apical parts of terminal segments and claws pale brown); dorsal surface gently, somewhat metallically shining, ventral surface weakly, rather alutaceously shining; each surface almost glabrous, antennae finely haired, femora with anterior or posterior sides haired in basal portions, tibiae with ventral sides haired in apical portions, tarsi haired with ventral sides densely tufted. Body subfusiform, gently convex longitudinally, very softly flattened in anterior portion.

Male. Head subdecagonal, finely and irregularly punctate, each puncture with a fine bent hair; clypeus transversely subelliptical, flattened in basal portion, gently inclined anteriad in middle, rather steeply so in lateral portions, roundly produced apicad in dorsal view, bent ventrad in front, fronto-clypeal border gently curved, extending to lateral margins, noticeably with a pair of oblique impressions along the border; genae obliquely elliptical, gently raised anteroexteriad, with outer margins rounded; frons wide, gently inclined anteriad, with a shallow longitudinal impresson at the middle; diatone about 0.8 times the width of transverse diameter of an eye. Eyes subreniform in dorsal view, roundly convex laterad, obliquely inlaid into head. Antennae weakly clavate, flattened in apical parts, 11th segment the widest, reaching basal 1/10 of elytra, ratio of the length of each segment from base to apex in the holotype: 0.26, 0.10, 0.39, 0.26, 0.16, 0.14, 0.13, 0.15, 0.13, 0.14, 0.16.

Pronotum transverse, 1.5–1.8 times as wide as long, widest at the middle (=lateral projections); apex feebly produced, rather boldly rimmed, the rim sparsely punctulate and tapering lat-

erad; base weakly bisinuous, bordered and ridged, the ridge sparsely scattered with fine punctures in dorsal view, rather closely so in posterior view; sides gradually declined to lateral margins, which are weakly produced, finely rimmed, sligthtly sinuous before base, and each with a blunt and feebly reflexed projection slightly behind the middle; front angles almost rounded, hind angles subrectangular with rounded corners in dorsal view; disc moderately convex, rather closely, irregularly scattered with finely haired punctures, sparsely scattered with smaller punctures among larger ones, with a pair of oblique impressions close to base. Scutellum slightly elongated triangular, weakly convex in medio-basal part, sparsely and irregularly scattered with microscopic punctures, weakly, obliquely wrinkled in lateral parts.

Elytra slightly elongated subfusiform, about twice as long as wide, 4.5–4.7 times the length and 1.4–1.5 times the width of pronotum, widest at apical 3/8–3/7, feebly sinuous at basal 1/4; dorsum rather strongly convex, highest at basal 2/7–3/7, weakly depressed in basal 1/5–1/7 along scutellary strioles; disc punctato-striate, the punctures round and closely set in anterior portions, becoming closer, finer and somewhat ovate in posterior portions; intervals moderately convex, sprarsely scattered with minute punctures; humeri gently swollen; apices feebly, roundly produced.

Prosternum short, finely margined along apex, weakly coriaceous, rugoso-punctate, strongly raised between procoxal cavities, with prosternal process strongly declined to roundly produced and rimmed apex; mesosternum short, gently depressed and ruguloso-punctate in anteror portion, gently raised and rugulose in antero-interior portions around mesocoxal cavities, wtih intercoxal space gently, triangularly grooved; metasternum rather short, gently convex in postero-laterad, trasversely depressed, covered with microsculpture and sparsely scattered with shallow punctures in antero-lateral portions, scattered with coarse punctures in lateral portions, sparsely scattered with microscopic punctures in posterior portion, with a longitudinal impression in posterior half. Abdomen weakly covered with isodiametric microsculputure, closely, finely punctate and microscopically haired, weakly, longitudinally wrinkled in basal and lateral portions, lateral margins of each sternite rimmed, anal sternite semicircularly depressed at apical part, with truncate apex.

Legs with rather long femora; profemora subclavate, weakly gouged in apical portion opposite to basal portion of protibiae, with anterior face finely haired in basal half, protibiae almost straight, with ventral face densely haired in apical half and tufted in apical 1/5, protarsi rather stout (four basal segments weakly widened towards each apex), rather densely haired, with ventral sides tufted; mesofemora slender and feebly clavate, weakly gouged in apical 1/3 opposite to basal portion of mesotibia, with posterior face haired in basal half, mesotibiae nearly straight, weakly gouged with interior face gouged in middle, and haired in apical half, mesotarsi slender and haired, with ventral face tufted; metafemora slender and gently clavate, with posteriror face weakly gouged in basal half, metatibia rather short, weakly curved exteriad from the middle, weakly twisted in middle in dorsal view, with interior face finely haired in apical 2/5, metatarsi slender, wholly, finely haired, with ventral faces densely haired; ratios of the lengths of pro-, meso- and metatarsal segments in holotype: 0.13, 0.10, 0.09, 0.06, 0.42; 0.32, 0.16, 0.12, 0.09, 0.44; 0.50, 0.22, 0.11, 0.41.

Male genitalia elongated subfusiform, weakly curved in lateral view, 1.47 mm in length and 0.23 mm in width, feebly constricted between basal piece and lateral lobes; basal piece suboblong in dorsal view; fused lateral lobes prolonged triangular in dorsal view, 0.63 mm in length, minutely punctate in apical part, with prolonged and acute apices.

Female. Compared with male, female with antennae shorter, eyes smaller, pronotum narrower, and metatibiae less noticeably modified.

Body length: 6.2–7.2 mm.

Holotype. ♂, "414 Sankhua Sabha Distr., Arun Valley, Chichil 1,900–2,000 m, *Quercus* / forest, bushes near village, 18–20. June. 88 J. MARTENS & W. SCHAWALLER [Nepal-Expeditionen, Jochen MARTENS", Museum Stuttgart] SMNS (SMNS).

Paratypes: 5 exs., same data as for the holotype; 1 ex., "412 Sankhua Sabha Distr., Arun Valley, betw. Mure and Hurure, mixed broad-leaved forest, 2,050–2,150 m, 9–17. June. 88 MARTENS & SCHAWALLER leg. [NEPAL-Expeditionen, Jochen MARTENS" // Museum Stuttgart], SMNS (SMNS); 3 exs, "Num 1,550m, 5–6. VI. 1983, E-Nepal, Arun V., M. BRANCUCCI, Museum Stuttgart] SMNS." (SMNS); 3 exs., Arunthan 1300–Chichilia 1,950m, 29. V. 1983, [E-Nepal, Arun V., M. BRANCUCCI, Museum Stuttgart] / SMNS." (SMNS); 1 ex., "Lamobagar 1400–Hedangna (Arun), 15. VI. 83 800–1,400 m E-Nepal / Arun V., M. BRANCUCCI, Museum Stuttgart] SMNS." (SMNS); 2 ex, Mure–Chichila 1,900–1,800 m, 18. VI. 1983 E. Nepal, Arun V., M. BRANCUCCI (NHMB); 1 ex., E-Nepal. 30. VI.–1. VII. 2000 / Kangchenjunga Himal Mts. / Chiruwa vill. env. 27°.29'N 87°.45'E; 1260 [GPS], Jan FARKAČ lgt. [NEPAL Expedition], Jan FARKAČ, David KRÁL & Jan SCHNEIDER, 2000" (NHMB); 1 ex.,"E-Nepal. 30. VI–1. VII. 2000, Kang-chenjunga Himal, Mts. Chiruwa vill. env. 27°29'N 87°45'E; 1260 [GPS], Jan SCHNEIDER lgt., [NEPAL Expedition], Jan FARKAČ, David KRÁL & Jan SCHNEIDER, 2000" (NHMB→ NSMT); 1 ex., "NEPAL: Kosi–# 12b, Num Khola 27°33'N, 87°18'E, 900–1,000 m, 8–10. VI. 01 // NHMB Basel, [expedition to Nepal, 2001]" (NHMB→NSMT); 2 exs., "E-NEPAL, Arun Valley, Chichila–Mure, 2,050 m, 7. VI. 1992, leg. J. & J. PROBST" (SMNS); 1 ex., "E-NEPAL, Dhankuta, Arun–River, 1,800–1,900 m / Mure–Chichila, 18. VI. 1983, leg. C. HOLZSCHUH" (SMNS); 1 ex., "Lumbughat–Baiseghat 450m, 15. VI. 85, E-Nepal, Koshi, M. BRANCUCCI, [Museum Stuttgart], SMNS" (SMNS); 2 exs., "Mure 2000, Num 1,550m, 4–7. VI. 1983, E-Nepal, Arun V., M. BRANCUCCI, [Museum Stuttgart], SMNS" (SMNS); 1 ex., "Num 1,550m, 3–6. VI. 1983, E. Nepal, Arun V., M. BRANCUCCI, [Museum Stuttgart ], SMNS" (SMNS); "Num 1,550m, 5–6. VI. 1983, E. Nepal, Arun V., M. BRANCUCCI, [Museum Stuttgart / SMNS]" (SMNS).

*Notes.* This new species possesses a certain range of variation in the characters, *e.g.* the body shape (length / width ratios of the pronotum, convexity of elytral intervals, etc.) and coloration (dark green to dark blue or blackish purple), are observed in indivulals in the same locality and those among different localities. The present authors concluded that these differences are just as infraspecific variations. The aedeagi of these forms are identical.

The new species somewhat resembles *S. pacholatkoi* MASUMOTO, 1998, from N. Thailand, but can be distinguished from the latter by the head with a wider diatone, the pronotum also wider, the elytra slenderer and less strongly striated, and the legs in male less strongly twisted.

Several unnamed species of *Strongylium* from East Asia are commonly characterized by rather shortened bodies, with the antennae subclavate and flattened, the pronotum transverse with lateral margins more or less projected near the middle, and the protarsi slightly widened towards each apex.

The specific name "*arunense*" is given after the river Arun in eastern Nepal, where the type materials were collected.

## 要　　約

益本 仁雄・Wolfgang SCHAWALLER：ネパール及び近縁地域のナガキマワリについて．――ネパール及び近縁地域におけるナガキマワリのファウナをに関する研究で5新種 *Strongylium martensi* sp. nov., *S. brancuccii* sp. nov., *S. suridhobanum* sp. nov., *S. wittmeri* sp. nov., 及び *S. arunense* sp. nov.を記載した．既知種の *Strongylium cariosipenne* FAIRMAIRE, 1896は，*Strongylium westermanni* MÄKLIN, 1864 のシノニムであった．本研究によって，ネパールには合計18種のナガキマワリが分布していることが明らかになった．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# *Phymatosoma* Species (Tenebrionidae: Coleoptera) from SE Asia

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**Abstract** Three new species, *Phymatosoma barclayi* sp. nov., and *P. borneense* sp. nov., both from Borneo, and *P. lebongense* sp. nov. from West Sumatra, are described. *Phymatosoma gibbosum* PIC, 1916 is regarded as a good species.

Members of the genus *Phymatosoma* possess the bodies rather oblong-ovate and slightly hunchbacked, with the apical parts of the antennae subperfoliate, the pronotum transverse and not so strongly convex dorsad, and the elytra with a pair of tubercles and/or humps. They are reddish yellow to pale yellow and humeral parts are also reddish yellow.

This genus was erected by De LAPORTE and BRULLÉ (1831) for "*P. tuberculata*" from Java and they placed it in the family "Hétéromères". MÄKLIN (1864) described two species, *P. vesiculosum* from Java, and *P. tuberosum* from Borneo, and he recognized this genus is a relative of *Strongylium* in the family Tenebrionidae. FAIRMAIRE (1896) described *P. metallicum* from Java. Later, PIC (1916) described *P. tuberculatum* v. *obscurithorax* from Java, *P. rufonotatum* from Malacca, and *P. gibbosum* from "?Java".

About ten years ago, the first author (K. M.) had an opportunity of examining types of PIC and FAIRMAIRE in the Muséum National d'Histoire Naturalle, Paris (MNHNP). Recently, he had an opportunity of examining *Phymatosoma* materials preserved in the Staatliches Museum für Naturkunde, Stuttgart, the Természettudományi Múzeum, Budapest, the Natural History Museum, London (NHML), and a private collection of Kiyoshi ANDO in Osaka Prefecture. The second author (K. A.) joined in the present study. After careful study, the authors found new species among those materials. In this paper, they are going to describe those new species of this genus.

Before going into further details, they would like to express their cordial acknowledgements to Dr. Wolfgang SCHAWALLER, Staatliches Museum für Naturkunde, Stuttgart, Dr. Ottó MERKL, Természettudományi Múzeum, Budapest, Mr. Maxwell BARCLAY, the Natural History Museum, London, Dr. Claude GIRARD, Muséum National d'Histoire Naturelle, Paris, Ing. Stanislav BEČVÁŘ, České BUDĚJOVICE, and Dr. Kiyoshi ANDO, Osaka Pref., for permitting to loan types and materials for the present study.

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## Genus ***Phymatosoma*** De LAPORTE et BRULLÉ, 1831

*Phymatosoma* LAPORTE et BRULLÉ, 1831, Annls. Sci. nat. Paris, **23** : 408. Type species: *P. tuberculata* LAPORTE et BRULLÉ, 1831.

*Original description.* "ANTENNÆ apice perfoliatæ; articulo basali incrassato, secundo brevissimo, tertio elongato, cœteris triangulis, ultimis quatuor dilatatis.

CORPUS elongatum.

ELYTRA lateribus abdomen obtegentia, apice subsinuata.

PEDES longi, tarsis subdilatatis.

Les antennes sont longues, perfoliées á l'extremité. Le premier article est gros et renflé; le deuxième très-court ; le troisième fort long; les quatrième, cinquième, sixième et septième triangulaires, et les huitième, neuvième, dixième et onzième élargis, et formant une sorte de massue aplatie. La tête est presque arroundie; le corselet est presque carré, très-peu transversal, tronqué en avant, un peu arrondi latéralement, tronqué en arrière; il présente á son milieu un fort enfoncement longitudinal; l'écusson est presque triangularie, arrondi en arrière. Les élytres sont allongées, elles enveloppent les côtés de l'abdomen, et s'élargissent un peu vers leurs deux tiers postérieurs; elles présentent une petite sinuosité près de leur extrémité; ells sont striées, et offrent vers leur base deux forts tubercules. Les pattes sont très-longues, les tarses assez peu élargis."

### ***Phymatosoma tuberculatum*** De LAPORTE et BRULLÉ, 1831

(Figs. 1, 10 &11)

*Phymatosoma tuberculata* De LAPORTE et BRULLÉ, 1831, Annls. Sci. nat. Paris, **23**: 408. (Java).

*Phymatosoma tuberculatum* var. *obscurithorax* PIC, 1916, Échange, Moulins, (375): 11. (Java). The type specimen is preserved in MNHNP.

*Distribution.* Java.

*Specimens examined.* 1 ex., "Coll. I. R. Sc. N. B. / Java - Togoe / 1902 / Ex. Coll. Oberthür // versiculosum"; 1 ex.,"Coll. I. R. Sc. N. B. / Java - Togoe / 1902 / Ex. Coll. Oberthür"; 1 ex., "53493 // V. Huacl // Java / Kecliri // Fry Coll. / 1905. 100. // *Phymatosoma / tuberculatum* / Cast / & Brullé / Java"; 1 ex., "1249 // Java // *Phymatosoma / tuberculatum* / det. K.G B."; 1 ex., "Java / Malang // *Phymatosoma / vesiculosum* / Mkl. // München".

*Notes.* PIC (1916) described a variant *obscurithorax* from Java. The present authors concluded that it is just an intraspecific variation.

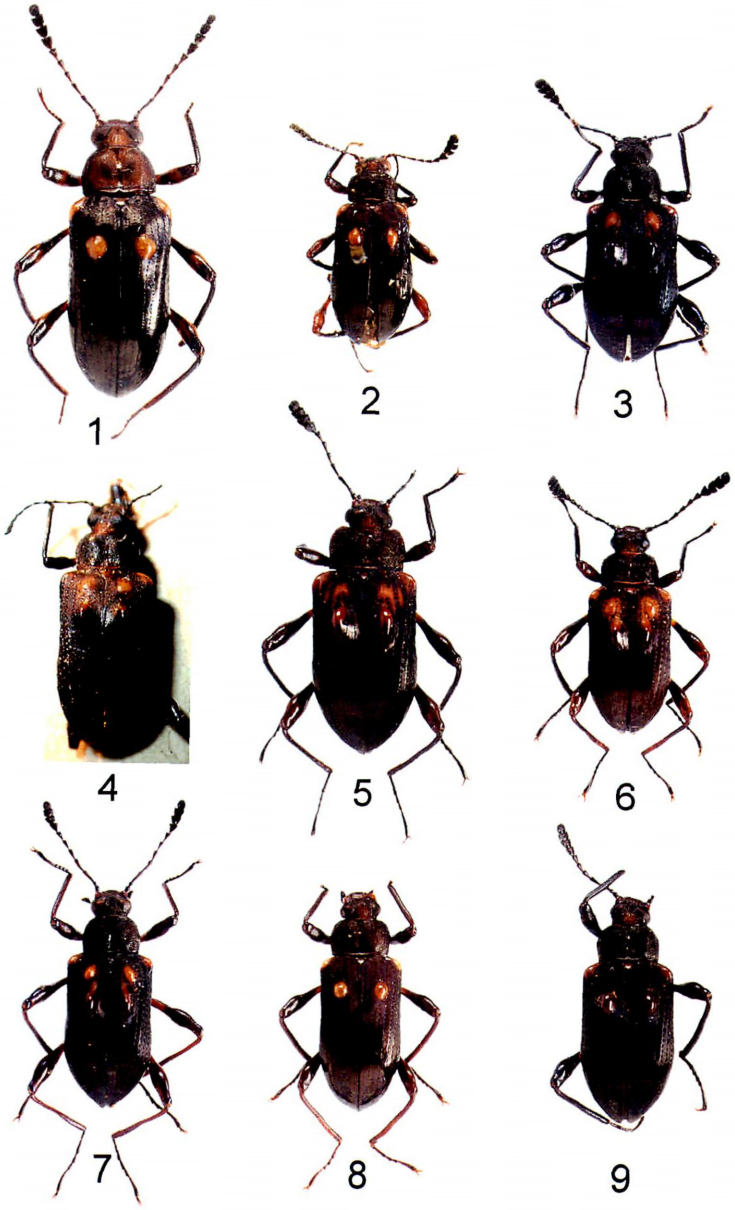
### ***Phymatosoma vesiculosum*** MÄKLIN, 1864

(Figs. 2, 12 & 13)

*Phymatosoma vesiculos*um MÄKLIN, 1864, Monographie: 400, fig, 31. (Insula Java).

*Distribution.* Java.

*Specimens examined.* 1 ex., "Java / Horsfield. / 60-15. // 60-15 / E. I. C. // 910."; 1 ex., "Dr. / Horsf. // *Phymatosoma / Castln. et Brullé / tuberculatum / Java // Phymatosoma / vesiculosum / Mkl* / det. K. G. B."; 2 exs., "48 / 92 / Java".




Figs.1–9. *Phymatosoma* spp., habitus. —— 1, *P. tuberculatum* De LAPORTE et BRULLÉ, ♂, 2, *P. vesiculosum* MÄKLIN ♂, 3, *P. tuberosum* MÄKLIN, ♂, 4, *P. metallicum* FAIRMAIRE, type, ♂, 5, *P. rufonotatum* PIC, ♂, 6, *P. gibbosum* PIC, ♂, 7, *P. barclayi* sp. nov., holotype, ♂, 8, *P. borneense* sp. nov., holotype, ♂, 9, *P. lebongense* sp. nov., holotype, ♀.

## *Phymatosoma tuberosum* MÄKLIN, 1864

(Figs. 3, 14 & 15)

*Phymatosoma tuberosum* MÄKLIN, 1864, Monographie: 401. (Habitat in insula Borneo).

*Distribution.* Borneo.

*Specimens examined.* 1 ex., "NW - BORNEO, SARAWAK / 14. - 16. III. 1990, BELAGA / lgt. A. Riedel // COLLECTION / STANISLAV BEČVÁŘ // *Phymatosoma* / *tuberosum* / Mäklin / Det. K. Masumoto 2009"; 1 ex., "SARAWAK: / 4 th Division / Gn. Mulu NP. // P. M. Hammond & / J. E. Marehall / v - viii. 1978/ B. M. 1978-49 // In company with *Cacodaemon* / *arrowi* Strohecher / (Endomychidae) which / is appears to mimic. // *Phymatosoma* / *tuberosum* Makl. / M. J. D. Brendell det. 1980."; 1 ex., "Trap. 5. // SARAWAK: / foot of Mt. Dulit, / Junction of rivers / Tinjar & Lejok. / 13. IX. 1932. // Oxford Univ. Exp. / B. M. Hobby & / A. W. Moore. / B. M. 1933-254."; 1 ex., "N. Borneo // F. Bates. 81-19".

## *Phymatosoma metallicum* FAIRMAIRE, 1896

(Fig. 4)

*Phymatosoma metallicum* FAIRMAIRE, 1896, Notes Leyden Mus., **18**: 234. (Java). Type specimen preserved in MNHNP.

*Distribution.* Java.

*Specimen examined.* 1 ex., "Java" (type).

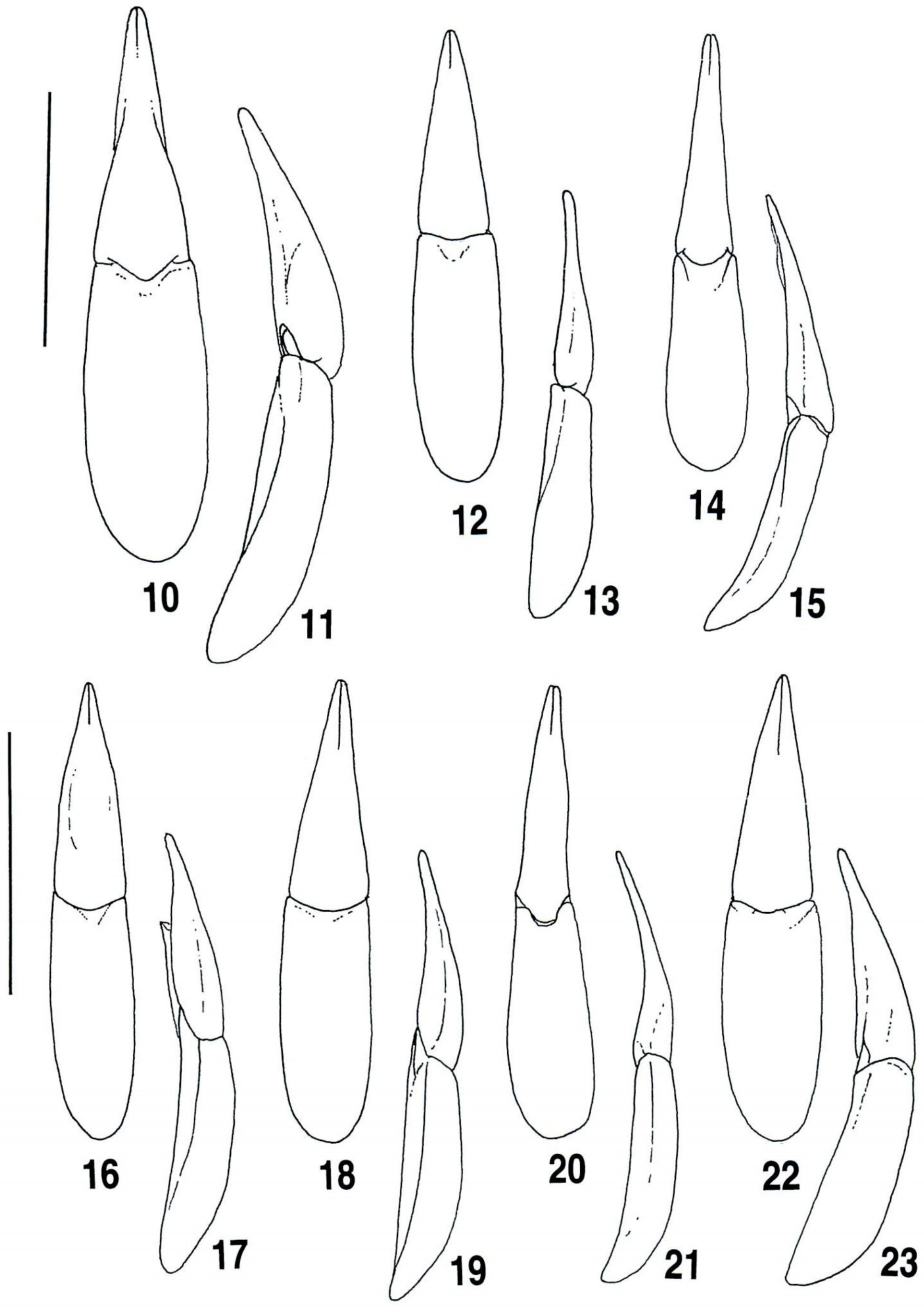
## *Phymatosoma rufonotatum* PIC, 1916

(Figs. 5, 16 & 17)

*Phymatosoma rufonotatum* Pic, 1916, Échange, Moulinus, (375): 12. (Malacca). Type specimen is served in MNHNP.

*Distribution.* Malay Peninsula; Penang Is. (New Record); Tioman Is. (New Record); Sumatra (New Record); Borneo (New Record).

*Specimens examined.* 1 ex., "Perak, Malacca" (type); 1 ex., "Penang"; 1 ex., "MALAYSIA: Pahang / Tioman Island / Umg. Kempung Tekek / 15.- 24. 7. 1993 lg. Schuh // COLLECTION / STANISLAV BEČVÁŘ"; 1 ex., "MALAYSIA: Tioman : 400m : / Kampong Tekek -K. Juara / 9. iii. 1998: 2.48N 104.11E / Dembicky & Pecholatko leg. // 08- Stutt"; 3 exs., "Doherty // Perak L. C. // Fry Coll. / 1905. 100."; 1 ex., "PERAK, F. M. S. / Batang Patang / Jor Camp. 2500 ft. / March 16 1925 / H. M. Pendlebury // Phymatosoam / tuberosum Makl. / det. K. G. Blair."; 1 ex., MALAYSIA - Perak / Banjaran Binbang / Bukit Berapit (Taiping) / 20. - 23. 2. 1997 / Ivo Jenis leg. // COLL. / H. J. Bremer // Zool. Staatsslg / München"; 1 ex., MALAYSIA - Perak / Banjaran Binbang / Bukit Berapit (Taiping) / 11. - 12. 3. 1997 / Ivo Jeniš leg. // COLL. / H. J. Bremer // Zool. Staatsslg / München"; 1 ex., "MALAYSIA - Perak / Banjaran Bintang / Maxwell Hill (Taiping) / 18. - 19. 2. 1997 / Oliver Ďuík leg." 1 ex., W. MALAYSIA: Perak / Cameron Highlands / Januar 1985 / leg. WONG // Phymatosoam / tuberosum M. / det. SCHAWALLER 1999 // 08- Stutt."; 1 ex., MALAYSIA, Perak / Cam. High., 21 km N. / Tapah, 7 - 31 - 1992 / C. W. & L. B. O'Brien // Hung"; 1 ex., (17-18 miles) / Cameron Highlands /




Figs. 10–23. *Phymatosoma* spp., male genitalia. —— 10 & 11, *P. tuberculatum* De Laporte & Brullé, 12 & 13, *P. vesiculosum* Mäklin, 14 & 15, *P. tuberosum* Mäklin, 16 & 17, *P. rufonotatum* Pic, 18 & 19, *P. gibbosum* Pic, 20 & 21, *P. barclayi* sp. nov., holotype, 22 & 23, *P. borneense* sp. nov., holotype, 10, 12, 14, 16, 18, 20 & 22, dorsal view, 11, 13, 15, 17, 19, 21 & 23, lateral view. Scales: 1 mm.

PAHANG, MALAYSIA / 18 th, March, 1976 / coll. Kaoru Sakai"; 1 ex., "19 miles Near / Cameron HLD / 19. IV. 2000 / M. Maruyama leg. // Coll. Masumoto / 2004"; 1 ex., "MALAYSIA - Kelantan / Banjaran Titi Wangsa / Kanpong Lawa env. / 24. - 26. 2. 1997 / Oliver ĎUÍK leg. // COLLECTION / STANISLAV BEČVÁŘ"; 1 ex., MALAYSIA / KAMPUNG ULU DONG / NEAR RAUB / 1. -3. 03. 1998 / A. KUDRNA JR. LGT. // COLLECTION / STANISLAV BEČÁŘ"; 1 ex., MALAYSIA - Pahang / Banjaran Benon / Lata Jarom / 18. - 21. 3. 1997 / Dulik & Jenis leg. // COLLECTION / STANISLAV BEČVÁŘ"; 1 ex., MALAYSIA: Benom Mts.: / 15 km E Kampong Dong: 700m / 3.53 N 102.01 E: 1. iv. 1998: / Dembicky & Pacholáiko leg. // COLLECTION / STANISLAV BEČVÁŘ"; 1 ex., "Selangore. / 96-102." 1 ex., MALAYSIA. / no closer locality / leg. C. O'Brien // Phymatosoma / rufonotatum MÄKL. / det. O. Merkl, 1999 // Hung"; 1 ex., KENINGAU SABAH / BORNEO Is. / 1 - 22. IV. 1988 / M. ITOH // K. ANDO / Collection"; 3exs., "J. B. CORPORAAL. / Sumatra's O. K. / Lau Rakit 2. 1918 / 300 M"; 2 exs., "J. A. LOERZING. / Sumatra's O. K. / Sibolangit 17. X. 21 / 550M"; 1 ex., same data // Phymatosoma / rufonotatum Pic / Dr Z. Kaszab det. // Hung."; 1 ex., "J. B. CORPORAAL. / Sumatra's O. K. / Sibolangit 27. 10. 21 / 550M" (NHML); 1ex., "Sumatra exp. / Bandat-Horst // rufonotatum / Pic / det. Kaszab // Hung."; 1 ex., "Susuk, alt. 700m, nr / Brastagi, N. Suma- / tra, 3. V. 1994 / Takakuwa, M. leg."; 1 ex., "NORD-SUMATRA / Dolok Mesangir / 14. 12. 1974 // Dr. Diehl leg. // 08 - Stutt"; 2 exs., "Banda Bau / Sumatra / Indonesia / 30 - III - 1997 / N. KANIE leg."; 1 ex., "INDONESIA / WEST SUMATRA / BUKIT LAWANG / 10.- 16. iv. 1996 / lgt. S.BEČVÁŘ // COLLECTION / STANISLAV BEČVÁŘ".

## *Phymatosoma gibbosum* PIC, 1916

(Figs. 6, 18 & 19)

*Phymatosoma gibbosum* PIC, 1916, Échange, Moulins, (32): 12. (?Java). The type specimen is preserved in MNHNP.

*Phymatosoma gibbosum*: GEBIEN, 1943, a junior synonym of *S. tuberosum* MÄKLIN, 1864, nec PIC.

*Distribution*. Java, Sumatra.

*Specimens examined*. 1 ex., "Kande Ampat" (type) ; 2exs., "Haru Valley / Paya Kumbhu / Central Sumatra / INDONESIA / - IX. 1987 / E. MARLIS leg. // K. ANDO / Collection; 1 ex., "WEST SUMATRA / south hills above / PADANGPANJANG / leg. S. Bečvář, 2 - 6. 4. 1996 // COLLECTION / STANISLAV BEČVÁŘ"; 1 ex., "Bandar Baru / Sumatra Utara / INDONESIA / 1 V 1999 / S. TSUYUKI leg. // Coll. Masumoto / 2002"; 1 ex., "WEST SUMATRA / south. hills above / PADANGPANJANG / 2 -6. 4. 1996 / lgt. S. Becvar // COLLECTION / STANISLAV BEČVÁŘ"; 1ex., "W. Sumatra / Payakumbuh / 10. 1995 // COLL / H. J. Bremer // Zool. Staatsslg. / München"; 1 ex., "Indonesia, Sumatra (Aceh) / 20 km S of Blangkeieren / Kedah, 4 - 8 Mar 1998 / L. BOCÁK, lgt., 1,700m" // COLLECTION / STANISLAV BEČVÁŘ"; 1ex., "W. Sumatra / Payakumbuh /8/1995 // *Phymatosoma* / *tuberosum* Mäklin / H. J. BREMER det. 1997 // COLL / H. J. Bremer // Zool. Staatsslg. / München"; 1 ex.,"Sumatra. / Siolak Daras. / Korinchi Valley. / 3,100 ft Mch. 1914. // *Phymatosoma* / *tuberosum* Mäkl / det. K. G. B. // Robinson - Kloss // Expedition. / 1918 - 35 // Ex F. M. S. / Museum. / B. M. 1955-354"; 1 ex., "W. Sumatra / Taland Mt. / III. 97 // COLLECTION / STANISLAV BEČVÁŘ // *Phymatosoma* / *metallicum* ssp. ? / det. S.BEČVÁŘ 1995"; 1 ex., "Sumatra / 1932"; 1 ex., FED. MALAY STATES: / 1909 / C. J. Brooks. / B.M.1931-570 // *Phymatosoma* / sp. / M.J.D. Brendell det. 1980".

*Notes*. In the GEBIEN Katalog (1943), *Phymatosoma gibbosum* PIC, 1916 is arranged as a synonym of *P. tuberosum* MÄKLIN, 1864. On this occasion, the present authors carefully examined the type and the other additional materials. Finally they concluded that *S. gibbosum* is a good species and distributed not only in Java but also Sumatra.

## ***Phymatosoma barclayi*** sp. nov.

(Figs.7, 20 & 21)

Brownish black, genae, major parts of legs, ventral side of head, prosternum, pro-, meso- and metepisterna, and annal sternite lighter in colour, humps and tubercles on elytra reddish yellow to dark reddish brown, mouth parts mostly yellow, legs partly with purplish to violet tinge; head and pronotum almost mat, scutellum feebly sericeously shining, elytra, except for summits of tubercles, mat and sericeous, summits of tubercles moderately shining, basal parts of antennae weakly shining and apical parts mat, femora and tibiae moderately shining, tarsi weakly shining, anterior parts of ventral side feebly shining, posterior parts of ventral side feebly, rather alutaceously shining; dorsal surface almost glabrous, ventral surface also almost glabrous, tibiae partly covered with hairs, tarsi beneath densely covered with fine hairs. Body rather stout, suboblong-ovate, convex dorsad.

Male. Head subdecagonal, very weakly covered with microsculpture; clypeus flattened in major basal parts, narrowed by genae in basal parts, moderately produced anteriad, gently rounded and weakly bent ventrad in apical parts, rather closely punctate, each puncture with a minute bent hair at the centre, fronto-clypeal border weakly curved; genae strongly raised and rounded antero-laterad, closely, irregularly scattered with punctures, which are fused in interior parts; frons somewhat T-shaped, rather steeply inclined anteriad, coarsely rugoso-punctate, each puncture with a short minute hair at the centre; vertex weakly depessed at the middle; diatone about 1/3 time the width of the transverse diameter of an eye. Eyes large, subreniform in dorsal view, strongly convex laterad, obliquely inlaid into head. Antennae subclavate, reaching basal 1/4 of elytra, flattened and widened in apical parts, 10th segment the widest, ratio of the length of each one from base to apex: 0.32, 0.12, 0.58, 0.56, 0.36, 0.35, 0.34, 0.35, 0.36, 0.35, 0.37.

Pronotum subtrapezoidal, very weakly covered with isodiametric microsculpture, wider than long (3 : 2), widest at the middle, more strongly narrowed anteriad than posteriad; apex very weakly emarginate, rimmed, the rim tapering laterad, microscopically punctate; base feebly bisinuous, bordered and more boldly rimmed than apex, the rim scattered with microscopic punctures along posterior margin; sides rather steeply inclined and weakly produced laterad, finely rimmed along lateral margins, which are hardly visible from above; front angles rounded, hind angles feebly obtusely angular in dorsal view; disc weakly convex, shallowly depressed along the median line, obliquely impressed at basal 1/3 and close to base on each side, closely punctate, the punctures often fused one another and each with a minute bent hair. Scutellum sublinguiform, weakly concave in medial part, very weakly covered with isodiametric microsculpture, sparsely scattered with minute punctures.

Elytra subparallel-sided in anterior 2/3, roundly narrowed apicad, about 1.8 times as long as wide, 4.1 times the length and 1.5 times the width of pronotum, widest at apical 3/7, feebly sinuous at basal 3/7; dorsum moderately convex, highest at slightly before basal 1/3, weakly depressed in posterior half of medial parts; disc with rows of longitudinally ovate to elongate

punctures, which are often finely striated, and become larger and sparser in lateral parts; intervals rather flattened, weakly covered with isodiametric microsculpture and sericeous, 2nd interval with a longitudinally oblong, strongly raised tubercle slightly before basal 3/8, 3rd interval with a low, obliquely ovate hump at basal 1/8; humeri noticeably, obliquely ridged; apices produced and feebly dehiscent.

Prosternum short and rather narrow, covered with microscopic sculpture, somewhat sericeous, and rugulose in anterior part, moderately raised in medial part, weakly covered with microsculpture and closely, ruguloso-punctate in intercoxal space, prosternal process inclined apicad, weakly covered with microsculpture, ruguloso-punctate, sparsely pubescent, widened in basal part, and blunt-produced at apex; mesosternum short, depressed in wide triangular, and rather closely punctate in anterior part, rather strongly raised, weakly covered with microsculpture and irregularly punctate in antero-interior parts along mesocoxae, each puncture with a fine bent hair; metasternum rather short, weakly convex in posterior parts on each side, weakly covered with microsculpture, fine aciculations and minute punctures (each with a fine bent hair), impressed along the median line in posterior 3/4, depressed and ruguloso-punctate in area between posterior parts of metacoxae, noticeably covered with somewhat sericeous microsculpture in antero-lateral parts. Abdomen short, weakly covered with microsculpture, four basal sternites weakly, longitudinally wrinkled in each basal part, and scattered with small, somewhat transverse punctures, each with a minute hair, anal sternite very weakly depressed in apical part with feebly truncate apex, scattered with fine punctures, each with a fine bent hair.

Legs rather long; femora subclavate, noticeably becoming bolder towards apical 1/3 - 1/4, and then finer apicad, scattered with small punctures, each with a minute hair, profemora with anterior face clothed with fine bent hairs, mesofemora weakly curved posteriad at basal 1/4, with posterior face clothed with fine bent hairs, metafemora with posterior face clothed with fine bent hairs; protibiae very weakly bent ventrad, with ventral face weakly gouged and finely haired in apical 2/5, mesotibiae weakly bent at the middle, with interio-ventral face weakly gouged and finely haired in apical 3/7, metatibae becoming bolder in apical 3/7, weakly twisted at the middle, with intero-ventral face very feebly gouged and finely haired in apical half; tarsi rather slender, ventral faces densely tufted, ratios of the lengths of pro-, meso- and metatarsal segments: 0.23, 0.12, 0.11, 0.12, 0.77; 0.73, 0.28, 0.24, 0.22, 0.92; 0.92, 0.32, 0.29, 0.98.

Male genitalia tapering apicad, straight in basal half and weakly curved in apical 1/3 in lateral view, 1.63 mm in length and 0.26 mm in width; basal piece oblong ovate in dorsal view; fused lateral lobes 0.80 mm in length, rather strongly narrowed in basal 1/4, then more gently narrowed to apical 1/3, and again more strongly narrowed apicad, with dorsal surfaces microscopically punctate in anterior parts.

Female. Body wider, elytra with apices less strongly projected, antennae slightly shorter and bolder, reaching basal 1/5 of elytra, with clubs more widened, and legs shorter and more robust.

Body length: 7.4–9.3 mm.

*Distribution*. N. Borneo.

Holotype. ♂, "Kimanis RD. / Sabah / 11. V. 1981 / M. TAO leg. // Coll. Masumoto / 2003" (National Museum of Nautre and Science=NSMT). Paratypes. 2 exs., same data as the holotype; 1 ex., "Kimanis RD. / Sabah / 11. V. 1981 / M. TAO leg. // Coll. Masumoto / 2003"; 3 exs., "Head Quarter / Sabah / 29. IV. 1981 / M. TAO leg. // Coll. Masumoto / 2003"; 1 ex., "BORNEO - SABAH 1995 / Crocker Mt. 500 - 1900 m / Gunung Emas / 6. - 21. 5. / Ivo JENIŠ

leg. // COLLECTION / STANISLAV BEČVÁŘ"; 1 ex., "BORNEO, Sabah / Crocker Mts. 500 - 1900 m / Gunung Emas / 6. - 21. V 1995 / Ivo Jeniš leg. // *Phymatosoma* / *tuberosum* ? Mäkl. / det. S. BEČVÁŘ 1995 // COLL / H. J. Bremer // *Phymatosoma* / *tuberosum* / Mäklin / H.J. Bremer det. 1997 // Zool. Staatsslg. München"; 1 ex., "BORNEO: SABAH / Kinabalu N. P.: Sayap / 1000 m, 25. - 29. IX. 1996 / leg. W. SCHAWALLER // *Phymatosoma turberosum* M. / TMB 97/ det. Schawaller"; 1 ex., "6034 / Whitehead // Borneo / Kina Balu // Fry Coll. / 1905. 100.; 3 exs., "Whitehead // Borneo / Kina Balu // Fry Coll. / 1905. 100. / *Phymatosoma* / *tuberosum* Mäkl. / det. K. G. B." (NHML). 1 ex., "BORNEO - SABAH 1995 / Ban Jaran Makland / Balu Pungul 25. -27. 5. / Ivo JENIŠ leg. // coll. S. BEČVÁŘ" .

*Notes*. This new species closely resembles *Phymatosoma tuberosum* MÄKLIN, 1864, originally described from Borneo, but can be distinguished from it by the body slightly narrower, the head and pronotum more strongly and closely punctate, the elytra with a pair of humps and the same of the tubercles more strongly convex, the elytral apices dehiscent, and the legs slenderer.

The specific name of the present new species is given after Mr. Maxwell BARCLAY, the Natural History Museum, London, who provided the present authors with *Phymatosoma* materials for the present study.

## ***Phymatosoma borneense*** sp. nov.
(Figs. 8, 22 & 23)

Dark reddish brown to brownish black, humps on elytra and humeral swellings reddish yellow, mouth parts, gula and posterior marginal parts of annal sternite brownish yellow, bands near basal parts of meso- and metafemora yellowish brown; head, pronotum and scutellum feebly, sericeously shining, elytra, except for humps, humeral swellings and posterior parts, almost mat and sericeous, humps and humeral swellings moderately shining, posterior parts rather strongly, vitreously shining, legs moderately shining, pro-, mesosterna and abdomen except for anal sternite weakly, rather alutaceously shining, major posterior parts of metasternum and anal sternite moderately shining; dorsal surface almost glabrous, ventral surface also almost glabrous, tibiae partly covered with hairs, tarsi beneath densely covered with fine hairs. Body suboblong-ovate, gently convex in posterior part.

Male. Head subdecagonal, very weakly covered with microsculpture; clypeus semicircular, flattened in major basal parts, inclined and produced anteriad, gently rounded and bent ventrad in apical parts, rather closely punctate, the punctures becoming larger and ovate in basal part, each with a minute bent hair at the centre, fronto-clypeal border finely sulcate; genae strongly raised and rounded antero-laterad, closely, irregularly scattered with small punctures, which are often fused in interior parts; frons somewhat T-shaped, rather steeply inclined anteriad, coarsely rugoso-punctate, each puncture with a minute bent scale at the centre, interocular space less than 1/3 time the width of the transverse diameter of an eye, with an impression at the middle. Eyes rather large, subreniform in dorsal view, strongly convex laterad, obliquely inlaid into head. Antennae lost in the holotype.

Pronotum subtrapezoidal, very weakly covered with isodiametric microsculpture, wider than long (3 : 2), widest at the middle, more strongly narrowed anteriad than posteriad; apex very weakly emarginate, rimmed, the rim tapering laterad, sparsely scattered with microscopic punctures; base feebly bisinuous, bordered and more boldly rimmed than apex, the rim scattered

with microscopic punctures along posterior margin; sides gently inclined and expanded laterad, with lateral margins finely rimmed; front angles rounded, hind angles obtusely angular in dorsal view; disc weakly convex on both sides, depressed along the median line, closely punctate in major parts (medial depression impunctate), the punctures often fused one another, and each with a minute bent hair. Scutellum sublinguiform and flattened, micro-aciculate in antero-lateral parts, sparsely scattered with minute punctures in postero-lateral parts.

Elytra elongated subelliptical, 1.84 times as long as wide, 4.21 times the length and 1.43 times the width of pronotum, widest at apical 3/7, feebly sinuous at basal 3/8; dorsum moderately convex, highest at basal 2/9 (the humped area), weakly depressed at basal 3/7, then feebly convex dorsad, and inclined apicad; disc with rows of longitudinally ovate to elongate punctures, which are often finely striated, and become larger and sparser in lateral parts; intervals very weakly convex in anterior parts, rather flattened in posterior parts, weakly covered with isodiametric microsculpture, sericeous in anterior parts, polished in posterior parts, 3rd interval with a round hump at basal 2/9, which lies 3rd and 4th intervals, 2nd rows of punctures gently curved, the 3rd strongly so by the hump; humeri noticeably swollen; apices roundly produced.

Prosternum short and rather narrow, feebly covered with microsculpture and somewhat sericeous, finely rimmed along apex, rugulose in apical parts, shallowly punctate in lateral parts, longitudinally aciculate in medial part, weakly raised towards area between coxae, then inclined posteriad, scattered with small punctures in posterior part, prosternal process widely triangular, raised medially, and blunt- pointed at apex; mesosternum short, wide-triangularly depressed in anterior part, longitudinally ridged in antero-medial part, grooved in V-shape and polished in medial part, rather strongly raised and finely, irregularly punctate in antero-interior parts along mesocoxae; metasternum rather short, weakly convex in posterior parts on each side, weakly covered with isodiametric mirosculpture, sparsely scattered with minute punctures (each with a fine hair) in interior part, transversely wrinkled in lateral parts, impressed along the median line in posterior 3/4, transversely depressed and ruguloso-punctate in area between posterior parts of metacoxae. Abdomen short, weakly covered with microsculpture, four basal sternites weakly, longitudinally wrinkled in each basal part, and scattered with small, somewhat transverse punctures, each with a minute hair; anal sternite very weakly depressed in apical part with rounded apex, scattered with fine punctures, each with a fine bent hair.

Legs moderate in size; femora subclavate, rather noticeably becoming bolder towards apical 1/3 - 1/4, and then slenderer apicad, scattered with small punctures, each with a minute hair; protibiae very weakly bent ventrad, with ventral face weakly gouged and finely haired in apical half, mesotibiae nearly weakly curved intero-dorsad, with ventral face finely haired, metatibae feebly becoming bolder in apical half, weakly twisted at the middle, with interio-ventral face very feebly gouged and finely haired in apical half; tarsi rather slender, ventral faces densely tufted, ratios of the lengths of pro-, meso- and metatarsal segments: 0.29, 0.17, -, -, - (three apical segments lost in the holotype); 0.64, 0.27, 0.25, 0.21, 0.93; 0.68, 0.26, 0.23, 0.91.

Male genitalia subfusiform and tapering apicad, weakly curved in lateral view, 1.69 mm in length and 0.30 mm in width; basal piece suboblong ovate in dorsal view; fused lateral lobes 0.89 mm in length, gently narrowed apicad, with dorsal surfaces microscopically punctate in anterior parts.

Female. Pro- and metatibiae shorter and less modified than in male.

Body length: 7.4–8.6 mm.

Holotype. ♂, "(Sapong) / N. BORNEO, SABAH / MALAYSIA / 27. IV. 1984 / M.

Nishikawa leg." // Coll. Masumoto / 2004" (NSMT). Paratypes. 1 ex., "Sandakan / Borneo / Baker // 11726 // Brit. N. Borneo. / C. F. Baker. / 1919-207."; 1 ex.,"N. BORNEO, / BETTOTAN, / NR. SANDAKAN. / Aug. 4th 1927 // *Phymatosoma visculosum* Mäkl. / det. K. G. Blair"; 1 ex., "Bowling. / 63·47*" 1 ex., "Poso / Celebes / 21. V. 84 // Coll. Masumoto / 2004"

*Notes*. The present new species closely resembles *Phymatosoma versiculosum* MÄKLIN, 1864, originally described from Java, but can be distinguished from the latter by the eye more oblique and more closely approximate with each other in dorsal view, the elytral swellings rounded (ovate in *P. versiculosum*) and the legs shorter and bolder.

The collecting data of the last specimen in the type series is presumably mistaken. The characteristics of this specimen are fully agreed with those of the holotype, furthermore, no specimen of this genus has ever been collected from Sulawesi.

In the collection of the Muséum National d'Histoire Naturelle, Paris, a type of "*Phymatosoma borneense* FAIRMAIRE" is preserved. This specific name is actually invalid because it was not described in any paper.

The specific name of the present new species is given from the place where the type specimens were collected.

## ***Phymatosoma lebongense*** sp. nov.

(Fig. 9)

Blackish brown, antennae black, posterior portion of head, scutellum, elytra with a pair of tubercles in anterior portions and humeral ridges reddish brown, bands near basal parts of meso- and metafemora also reddish brown; head, pronotum feebly shining, anterior portions of elytra very feebly, rather sericeously shining, posterior portions of elytra more strongly shining than the anterior, scutellum, humeral ridges and a pair of elytral tubercles gently shining, antennae weakly shining, legs gently shining, pro-, meso- and metasterna weakly, rather sericeously shining, abdomen gently, somewhat alutaceously shining; dorsal and ventral surfaces almost glabrous, tibiae partly covered with hairs, tarsi beneath densely covered with fine hairs. Body rather stout, suboblong-ovate, convex dorsad.

Female. Head subdecagonal; clypeus semicircular, gently inclined anteriad, weakly depressed in lateral parts, feebly produced and bent ventrad in apical parts, rather closely punctate, each puncture with a minute bent hair, fronto-clypeal border finely sulcate and defined from frons; genae rather noticeably raised laterad, rather closely scattered with minute punctures, with outer margins rounded; frons somewhat T-shaped, rather steeply inclined anteriad, coarsely rugoso-punctate, vertex weakly depressed at the middle; diatone about a half the width of the transverse diameter of an eye. Eyes rather large, subreniform in dorsal view, strongly convex laterad, obliquely inlaid into head. Antennae subclavate, fairly reaching base of elytra, flattened and widened in apical parts, 10th segment the widest, ratio of the length of each one from base to apex: 0.44, 0.14, 0.52, 0.44, 0.42, 0.40, 0.36, 0.40, 0.36, 0.32, 0.40.

Pronotum transversely subquadrate, very weakly covered with isodiametric microsculpture, about 1.7 times as wide as long, widest at the middle, rather strongly narrowed anteriad, and weakly so posteriad; apex weakly emarginate, rimmed, the rim tapering laterad, microscopically punctate; base feebly bisinuous, clearly bordered, the rim scattered with microscopic punctures and notched with small punctures along posterior margin; sides weakly inclined and pro-

duced laterad, rimmed along lateral margins, which are closely punctate in medial parts; front angles rounded and feebly produced anteriad, hind angles rectangular in dorsal view; disc moderately convex, shallowly depressed along the median line, closely punctate, the punctures often fused with one another. Scutellum triangular with feebly curved sides, weakly convex in medial part, rather smooth, very weakly covered with isodiametric microsculpture, sparsely scattered with minute punctures.

Elytra somewhat widely cuneiform, about 1.7 times as long as wide, 4.6 times the length and 1.5 times the width of pronotum, widest at slightly after the middle; dorsum rather strongly convex, highest at slightly after the middle, weakly depressed at the middle in medial portion; disc with rows of longitudinally ovate to elongate punctures, which are often finely striated, and become larger and sparser in lateral parts; intervals covered with isodiametric microsculpture, 3rd interval with an ovate tubercle strongly raised behind basal 1/5; humeri rather noticeably, obliquely ridged; apices gently, roundly produced.

Prosternum short and rather narrow, covered with microsculpture, somewhat sericeous, and very sparsely scattered with small, shallow punctures in anterior part, rather strongly raised in medial part, weakly covered with microscopic sculpture in intercoxal space, prosternal process depressed, weakly covered with microsculpture and wrinkled, wide in basal part, blunt-produced at apex; mesosternum short, depressed in wide V-shape, rather closely ruguloso-punctate in anterior part, weakly covered with microsculpture and wrinkled in posterior part, with anterior-interior areas along mesocoxae rather strongly raised and weakly wrinkled; metasternum rather short, weakly convex in posterior parts on each side, weakly covered with microsculpture and fine aciculation, impressed along median line in posterior 3/5, depressed and rugoso-punctate in area between posterior parts of mesocoxae, noticeably covered with somewhat sericeous microsculpture in antero-lateral parts. Abdomen weakly covered with microsculpture, four basal sternites weakly, longitudinally wrinkled, sparsely scattered with small, somewhat transverse punctures, each with a minute hair, anal sternite very weakly depressed in apical part with rounded apex, scattered with rather round and shallow punctures, each with a fine bent hair, the hairs becoming longer in apical part. Legs moderate in shape and size; femora rather stout, becoming bolder in apical 1/3 - 1/4, rather strongly punctate, meso- and metafemora with reddish yellow bands at basal 1/3, protibiae almost straight, with interior face weakly gouged and haired in anterior half; mesotibiae very weakly curved interiad, feebly becoming bolder apicad, with interior face haired in apical 1/3; metatibiae very weakly curved dorsad, with interior face haired in apical half; tarsi slender, ratios of the lengths of pro-, meso- and metatarsal segments: -, -, -, -, - (protarsi lost in the holotype); 0.58, 0.30, 0.25, 0.26, 1.00; 0.58, 0.30, 0.28, 1.10.

Body length: 9.1 mm.

Male. Unknown.

*Distribution*. Sumatra.

Holotype. ♀, "Lebong Tandai, / W. Sumatra. / 10. VI. 1923. / C. J. Brooks coll. / No. 14417. // C. J. Brooks. / B. M. 1936 - 681." (NHML).

*Notes*. This new species resembles *Phymatosoma vesiculosum* MÄKLIN, 1864, originally described from Java, but can be distinguished from the latter by the punctures of the elytra larger and deeper, a pair of the elytral humps more strongly convex, and the meso- and metafemora blackish brown with reddish brown band near the basal parts (meso- and metafemora almost reddish brown in *P. vesiculosum*).

The specific name of the present new species is given after the place where the holotype was collected.

## 要　　約

益本 仁雄・秋田 勝己：東南アジアの *Phymatosoma*（ゴミムシダマシ科）．——— *Phymatosoma* 属（ゴミムシダマシ科ナガキマワリ族）は，ナガキマワリ類としては体形が短く幅広く，上翅に1－2対の瘤状突起物を具え，触角は先端に向かって扁平となり幅広くなるなどの特徴をもつ．今回本属を検討した結果，3新種を認め，それぞれ *Phymatosoma barclayi* sp. nov.（ボルネオ），*P. borneense* sp. nov.（ボルネオ），*P. lebongense* sp. nov.（スマトラ）と命名記載した．また，*P. tuberosum* MÄKLIN, 1864のシノニムとされてきた *P. gibbosum* PIC, 1916を独立種と認めた．

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# A New Species of the Genus *Stenaesthetus* SHARP from Japan (Coleoptera: Staphylinidae)

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**Abstract** A new species of the genus *Stenaesthetus* SHARP from Japan, *Stenaesthetus insulanus* sp. nov. (Ryukyu Islands), and the sexual characters of *S. okinawaensis* PUTHZ are described.

The euaesthetine genus *Stenaesthetus* SHARP is distributed in the Southern hemisphere. Two species have been already described from Japan (*S. sunioides* SHARP, *S. okinawaensis* PUTHZ), a third species is added here.

For the loan of the material my thanks are due to Dr. Shûhei NOMURA (Tokyo) and Dr. Shun-Ichiro NAOMI (Chiba).

## *Stenaesthetus insulanus* sp. nov.

(Figs. 1, 4, 5, 7)

This new species belongs to a complex of apterous species with longitudinal furrows on the pronotum.

Apterous, reddish brown, moderately shiny, punctures of frons moderately coarse, dense, pronotum densely, rimulosely sculptured, elytra with a dense and shallow, moderately fine punctures, abdomen densely pine-apple-like sculptured; pubescence dense, recumbent. Antennae and maxillary palpi yellow, legs yellowish.

Length: 2.0–2.2 mm (fore-body: 0.95–1.0 mm).

Proportional measurements of the ♂-holotype and the ♀-paratype: Head width: 55.5 (55); distance between eyes: 43 (42); eye length: 15 (14); temple length: 3 (3); pronotal width: 57.5 (54); pronotal length: 52 (47); greatest elytral width : 63 (57); greatest elytral length: 39 (37); sutural length: 27 (25) [1 unit = 0.025 mm].

Male. Sternites 3-5 simple. Sternite 6 broadly and shallowly impressed posteromedially. Sternite 7 (Fig. 7) with a horse-shoe-shaped impunctate impression in posterior middle, of which the sides are roundly projecting apically. Sternite 8 (Fig. 5). Sternite 9 pointed apically. Aedeagus (Fig. 1), parameres with 5 setae at median lobe.

Female. Sternite 8 triangular, narrowly rounded apically. Spermatheca (Fig. 4).

Holotype ♂: Japan: Okinawa Pref., Iriomote Is., Kampiree, 27. III. 1984, S. NOMURA; 1 ♀-paratype: Ishigaki Is., Omotodake, 22. III. 1984, S. NOMURA. HT in the National Science Museum (Nat. Hist.), Tokyo, PT in the author's collection.

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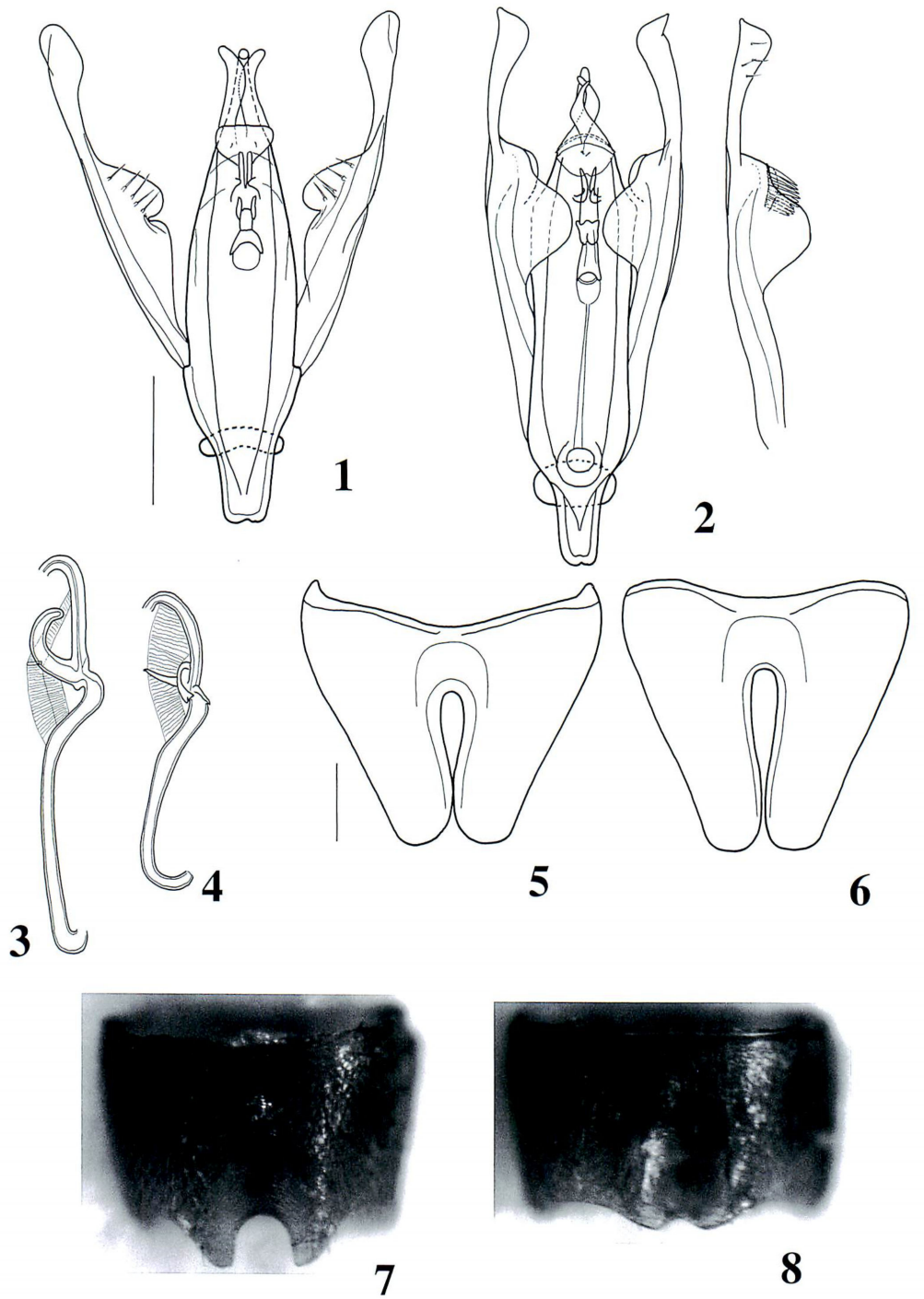
*103rd Contribution to the Knowledge of Euaesthetinae




Figs. 1–8. *Stenaesthetus* spp. —— Ventral aspect of edeagus (1, 2); spermatheca (3, 4); sternite 8 (5, 6) and sternite 7 (7, 8) of male of *Stenaesthetus insulanus* sp. nov. (1, 5, 7: holotype; 4: paratype) and *S. okinawaensis* PUTHZ (2, 6: Mt. Nishimedake; 3: Mt. Darumayama; 8: Mt. Yuwan). Scale = 0.1 mm (1= 2–4, 5= 6).

*Discussion*. In most respects this new species is similar to *S. okinawaensis* PUTHZ, but the medio-longitudinal furrow of the pronotum is shorter (pronotal length: length of medio-longitudinal furrows = 52 : 21 (47 : 21); in *S. okinawaensis* 49 : 29 (holotype), 51 : 31 (♂ from Mt. Yuwan) and the sexual characters are different.

The new species is easily distinguished from *S. sunioides* SHARP by its apterous state and by the longitudinal furrow of the pronotum, from the taiwanese relatives, *S. nomurai* PUTHZ and *S. taiwanensis* PUTHZ, by the shorter medio-longitudinal furrows of the pronotum and the sexual characters.

*Etymology*. Because this species was found on the Nansei Islands, it is described as "islander" (Lat. insulanus).

## *Stenaesthetus okinawaensis* PUTHZ

(Figs 2, 3, 6, 8)

*Stenaesthetus okinawaensis* PUTHZ, 1986: 299.

Of this species only one female specimen was known from Yonaha-dake, Okinawa, 24. VII. 1951, F. WERNER (Museum of Comparative Zoology, Harvard University, Cambridge, Mass.).

New records: 3♂♂: Ie Rindo, Kunigami, 14. III. 1985, S. NOMURA; 1♀: ibidem, 11. X. 1988, S. NOMURA; 4♂♂11♀♀: Kumeijima Isl., Mt. Darumayama, 7. VI. 1994, T. UENO; 1♀: ibidem, 11. X. 1988, S. NOMURA; 1♂: Yona, 15. III. 1985, S. NOMURA; 1♂: Kumigami Son, Mt. Nishimedake, 14. III. 1991, S. NOMURA; 1♀: Amami-Oshima Is., Yuwan-dake, 6. XII. 1985, Y. TAIKAI; 1♂: Amami Is., Mt. Yuwan, 8. V. 1987, S. NOMURA; 1♂: Amami Is., Hatsuno, 10. VIII. 1984, S. NOMURA (National Science Mus. (Hat. Hist.), Tokyo and coll. PUTHZ).

Male. Sternite 3–6 simple. Sternite 7 (Fig. 8) with an impunctate triangular impression in posterior half, of which the sides slightly project apically. Sternite 8 (Fig. 6). Sternite 9 pointed apically. Aedeagus (Fig. 2), parameres with 4 setae apically and a comb of 9 is very strong setae at median lobe.

Female. Sternite 8 broadly rounded apically. Spermatheca (Fig. 3).


## 要　　約

PUTHZ, V.：日本産ニセメダカハネカクシの一新種．——ニセメダカハネカクシの新種 *Stenaesthetus insulanus* sp. nov. を石垣島，西表島から記載した．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Puthz, V., 1995. Beiträge zur Kenntnis der Euaesthetinen LXXVI Stenaesthetini aus China (Staphylinidae, Coleoptera). *Philippia* **7**: 177–183.


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*Entomological Review of Japan*, **65** (1): 59–62, June 30, 2010

# A New Species of *Agrilus* (Coleoptera: Buprestidae: Agrilinae) from Honshû, Japan

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**Abstract** A new species, *Agrilus watanukiorum* of the buprestid subfamily Agrilinae, is described based on material collected from *Carpinus cordata* BLUME in Niigata Prefecture, Honshû, Japan. This species is similar to *A. salicivola* KUROSAWA known from mainlands Japan, but is distinguished from it by absence of prehumeral keel on the pronotum and presence of a pair of white maculations on the elytra.

Among 98 species of the genus *Agrilus* 1825 are known to occur in Japan, 56 species are recorded from the Honshû. However, the fauna of buprestid is not fully investigated in Japan. Actually, *Agrilus sugiurai* JENDEK, 2007 was currently discovered from the Honshû.

In 2006, through the courtesy of Mr. Yoshiyuki NAGAHATA and Mr. Nobuo SUGIURA, I received an interesting buprestid of the genus *Agrilus* collected by Mr. Shûtarô WATANUKI and Mrs. Satomi WATANUKI in Niigata Prefecture, which was unknown from Japan. Since it was found to be a new species as a result of present examination, it is described as follows.

The median lobe was pull out from parameres, and they were mounted in Euparal on small glass board (MARUYAMA, 2004).

The holotype of the new species is deposited in the National Science Museum, Tokyo (NSMT), and the paratypes are in the collections of mine and Mr. S.WATANUKI.

All measurements in the text are given in millimetres, and the following abbreviations are used for measurements: BL, body length; BW, body width; EL, elytral length; EW, elytral width; L, length; PL, pronotal length; PW, pronotal width; W, width.

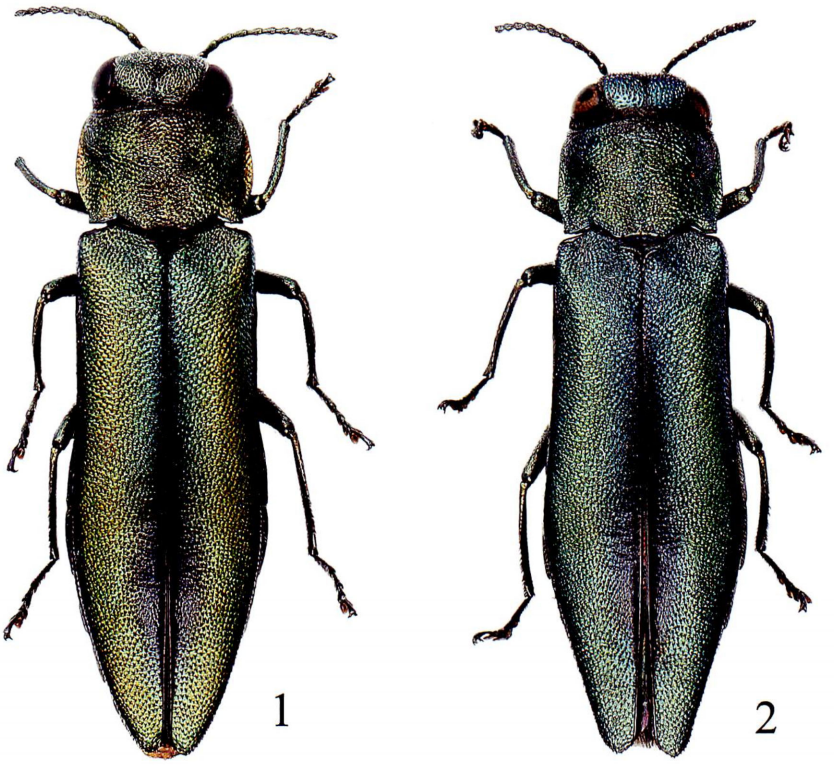
The following abbreviations are also used in the descriptions; DV, dorsal view; FV, frontal view; LV, lateral view; PDV, postero-dorsal view; VV, ventral view.

## *Agrilus watanukiorum* sp. nov.

(Figs. 1–9)

*Type material*. Holotype: 1 ♂, Nokogiri-yama, Suyoshi-machi, Nagaoka-shi, Niigata-ken, 20. VI. 2008, H. FUKUTOMI leg. Paratypes: 1 ♀, same locality, 29-VII-2006, Shûtarô WATANUKI leg.; 1 ♂, same locality, 17 VI. 2007, Satomi WATANUKI leg. 1 ♀, same locality, 20. VI. 2009, H. FUKUTOMI leg.

*Diagnosis*. Among the East Asian congeners, this species is similar to *Agrilus salicivola*




Figs. 1–2. Habitus of *Agtilus watanukiorum* FUKUTOMI, sp. nov.,1, male, holotype; 2, female.

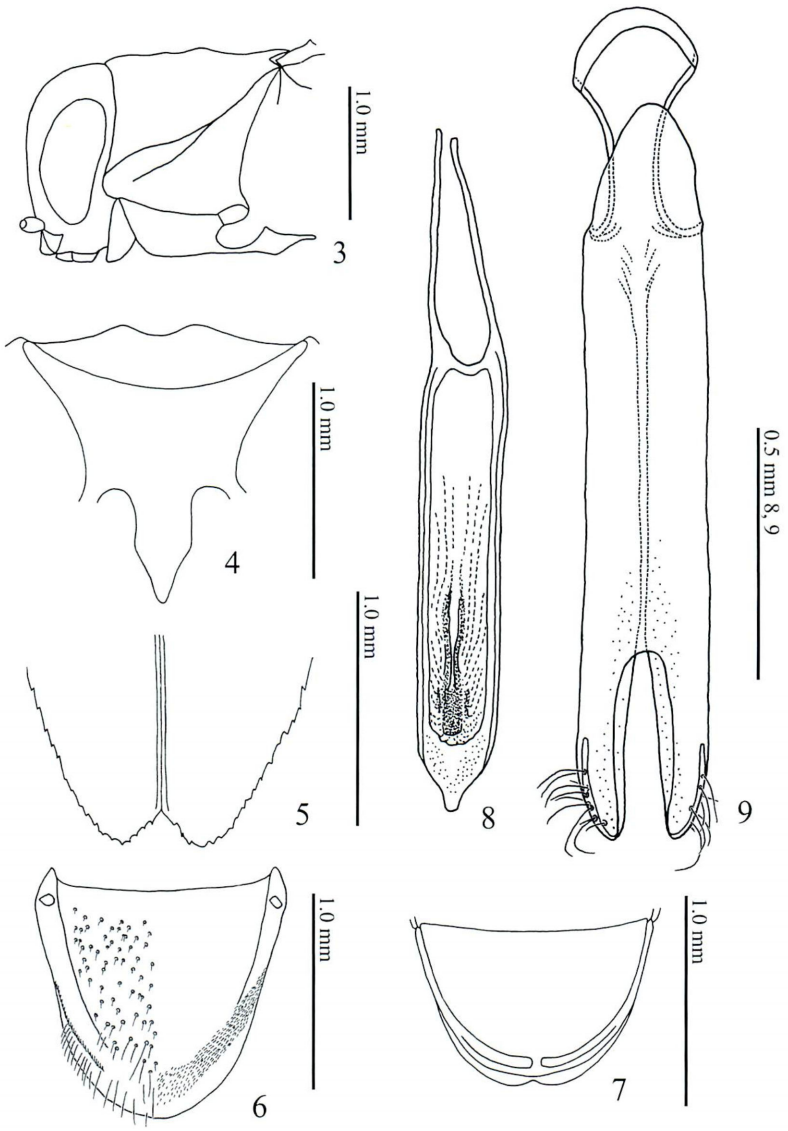
KUROSAWA, 1963 in the size of eye and the shape of prosternal prossess, but is distinguished from it by absence of the prehumeral keel on the pronotum, presence of a pair of maculations on the elytra, and the narrower parameres.

This species is easily distinguished from the other species distributed in Honshû by the body coloration and the pattern of the elytral maculations.

*Description.* Male: Body (Fig. 1) elongate. Coloration: pronotum and elytra metallic green with silky lustre, but elytral suture metallic black; frons and anterior part of vertex metallic yellowish green. Prosternum and prosternal process with white recumbent pubescence. Elytra uniformly covered with short recumbent pubescence, and with a pair of maculations on an apical third.

Frons in lower part densely rugosely punctate, subtrianglarly impressed (FV), surface of impression smooth; upper part of frons and vertex punctate, divided by medial sulcus (DV, PDV); Eyes small, convex (DV), extending ventrally below dorsal margin of antennal sockets; vertex 2.0 times as wide as width of eye (DV); clypeus flat; antennae slender and long, overreaching beyond of pronotal length.

Pronotum (Fig. 3) transverse (L/W=0.88), widest at middle; narrowed posteriad (DV); basal pronotul angles sharp; anteromedial lobe absent; anterior angles sharply projecting forward; disc transversely rugose, medical sulcus obvious, lateral impressions moderate in depth, prehumerus absent; marginal and submagial carinae prolonged anteriorly not united at apex (LV). Scutellum (l:w=0.62) obsolete, without transverse carina.




Figs. 3-9. *Agrilus watanukiorum* sp. nov - 3, Frons and pronotum (LV); 4, prosternal process (VV); 5, elytoral apices (DV); 6, pygidium (DV); 7, eighth sternite (VV); 8, median lobe of male genitalia (DV); 9, parameres of male genitalia (DV).

Prosternal process (Fig. 4) almost flat, triangular, subparalell-sided in anterior half, acutely pointed caudally.

Elytra moderate in length (L/W=3.1), somewhat extending beyond abdominal apex (VV); humeral pits very deep; apices (Fig. 5) regularly and separately rounded, finely serrate.

Metatarsi much shorter than metatibiae; tarsal claws bifid, inner tooth obviously shorter than outer one.

Pygidium (Fig. 6) grooved along lateral margins, uniformly covered with minute setae, with crowded fine hairs along with lateral margins. Eighth sternite (Fig. 7) rounded at apex, with marginal groove. Median lobe (Fig. 8) subparallel-sided, with a small projection at apex. Para-

meres (Fig. 9) subparallel-sided; apical emargination about 1/8 as long as parameral length, with a small projection medially.

Female: A little wider than male (Fig. 2).

*Measurements*. BL, 7.2–7.8 mm; BW, 1.8-2.0 mm; PL, 1.6–1.7 mm; PW, 1.8–2.0 mm; PL/PW, 0.86–0.89; EL, 5.8–6.2 mm; EW, 1.9–2.0; EL/EW, 3.05–3.10.

Holotype. BL, 7.4 mm; BW, 1.9 mm; PL, 1.6 mm; PW 1.8 mm; EL, 5.8 mm; EW, 1.9 mm

*Bionomics*. Adults were collected from the middle of June to the end of July by sweeping the canopy of *Carpinus cordata* BLUME of height 2–4 m high. This plant species must be the host plant of adult, but the larval host plant is not clarified yet.

*Etymology*. The name is dedicated to Mr. Shûtarô WATANUKI and Mrs. Satomi WATANUKI, who first collected this interesting buprestid-beetle.

## Acknowledgments

I wish to express my sincere gratitude to Dr. Munetoshi MARUYAMA (the Kyûshû University Museum) and Dr. Sadahiro OHMOMO (Ibarki) for their continuous guidance and reading the original manuscript, especially to Dr. M. MARUYAMA for his instruction of line drawings used in this paper and taking the habitus photographs. Special thanks are also due to Mr. Yoshiyuki NAGAHATA (Yamagata), Mr. Nobuo SUGIURA (Fukushima) Mr. Shûtarô WATANUKI (Yamagata) and Mrs. Satomi WATANUKI (Niigata) for their kind offer of the material, and to Mr. Akihiro SEKI (Tokyo) for his encouragement and advice.

## 要　　約

福富 宏和：本州から発見されたナガタマムシ属の新種．——新潟県長岡市鋸山よりナガタマムシ属の新種，*Agrilus watanukiorum* sp. nov. ワタヌキミドリナガタマムシを記載した．ワタヌキミドリナガタマムシは，北海道・本州・四国・九州などから記録がある *A. salicivola* KUROSAWA 1963 ヤナギナガタマムシに似るが，体色が鮮やかな緑色でかつ金属光沢があり，鞘翅に一対の白斑が現れることで区別され，同定は容易である．本種は山腹にあるサワシバのスイーピングによって得られており，成虫の後食植物と推察される．

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*Entomological Review of Japan*, **65** (1): 63–68, June 30, 2010

# Notes on the Species of Staphylinidae (Coleoptera) from Asia, I
## Two New Species of the Genus *Nazeris* from Sapa District in northern Vietnam

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**Abstract** Two new species, *Nazeris vietnamensis* T. ITO, sp. nov. and *Nazeris tramtonus* T. ITO sp. nov., from Sapa District northern Vietnam.

Recently many species of the genus *Nazeris* have been described from Asia, especially from Yunnan District in China (WATANABE, *et. al.* 1993, 1997 and 2000; ZHENG, 1992). It has been reported two species of *Nazeris* so far from northern Vietnam, namely *N. coomani* JARRIGE, 1948 and *N. odzisan* WATANABE, 1996.

In this paper I am going to add the two new species of *Nazeris* to the Vietnamese fauna. They are *Nazeris vietnamensis* T. ITO, sp. nov. and *Nazeris tramtonus* T. ITO sp. nov., both from Sapa District in northern Vietnam and these two new species are found sympatrically, where is a mountainous region of about 1,900 meters above the sea level. The habitat is under dead leaves of bamboo thicket of a forest near a mountain trail. (Figs. 8–10).

Before going further into detailed description of it, I would like to express my hearty thanks to Mr. Yasuhiko HAYASHI (Kawanishi City, Hyogo Prefecture) for his kindly giving me some useful suggestions and great encouragement to study on Staphylinidae and also to all the members of the collecting trip to Sapa District in 2009 for their pleasant acquaintance and friendly support.

### *Nazeris vietnamensis* T. ITO sp. nov.

(Figs.1–4)

Body shining except for dull head, dark reddish brown, apical segments on abdomen somewhat blackish brown, antennae (except darkened basal segment), labrum and mandibles brown, labial and maxillary palpi and legs sordid yellow; pubescence of body brownish to blackish, but those of antennae, mouth parts and legs yellowish. Length : 5.0–5.5 mm.

Head apparently suborbicular, scarcely longer than wide, slightly and transversely depressed between eyes, coarsely and closely punctured, the punctures wholly umbilicate and reticulate, those on apical half isodiametric and on basal half more or less longitudinal net-work; postgenae subequal to twice as long as longitudinal diameter of eyes in both sexes and behind

eyes subparallel-sided; labrum clearly four-toothed, all the teeth pointed at tip; the inner ones robuster and longer than the outer ones; antennae moderate in length, passing the middle of pronotum, 1st segment robust, as long as the following two segments together, 2nd clavate, 3rd less than twice as long as 2nd, 3rd to 10th shortened distally, 10th about twice as long as wide, 11th larger than 10th.

Under side of head rather coarsely and closely punctured; mentum relatively smooth; submentum fairly roughend; maxillary and labial palpi without any specified characters.

Pronotum oval, rather narrow (ratio of width to length=1 : 1.22), slightly longer (1.06 : 1), and narrower than head (1 : 1.12), provided with a few erect long setae near the widest point at apical third, wholly arched apically and gradually sublinearly narrowed basally; lateral margins mostly invisible when viewed from above; apical and basal margins visible; disc coarsely and rather sparsely punctured and slightly depressed on each side of meian line, which is narrow and throughout from base to apical margin, the punctures longitudinally disturbed on outer sides of the discal slight depressions. Prosternum medianly carinate, coarsely and deeply punctured except smooth subapical area; the median carina lessened in height toward apex and almost vanishing extremely; each proepipleural process scattered only on apical parts with punctures which are weaker and sparser than on prosternum. Scutellum small and distinctly punctured.

Elytra abbreviate, much shorter (1 : 1.25) and just a little narrower (1 : 1.03) than pronotum, narrowed basally, width at the widest point near apex, surface coarsely, a little closely and roughly punctured.

Abdomen slightly enlarged laterally; 6th sternite widest and wider than head; basal tergites coarsely and closely punctured, more coarsely and closely than on apical tergites; punctures on each sternite coarser and deeper than those on the corresponding tergite, those on the apicalmost tergite very fine and obsolete; microsculpture not discernible throughout.

In male 7th sternite triangularly depressed along middle and apparently emarginate at apical margin, bottom of the depression glabrous; 8th sternite relatively widely and deeply excised at apical margin (Fig. 2), slightly and medianly depressed throughout in front of the excision, and perceptibly tuberculated in middle of the slight depression.

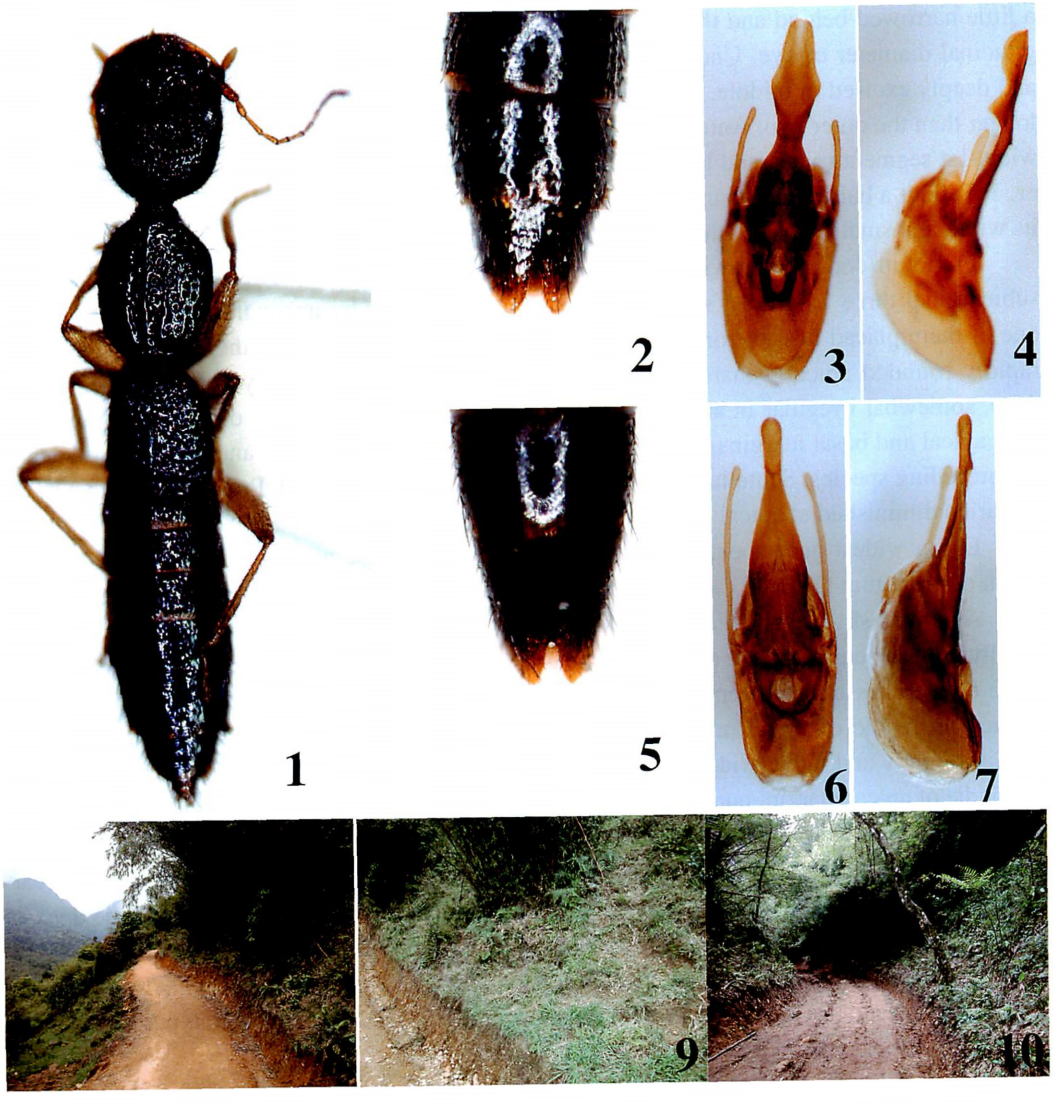
Legs of moderate length, hind femora and their trochanters without any specific characters.

Aedeagus (Figs. 3, 4) well sclerotized except for membranous dorsal side of median lobe, almost symmetrical; median lobe lanceolate, moderately expanded at an apical sixth, constricted at apical third, thence bending dorsally and rounded at apex, each with a small aural lobe lateromedianly; its tip produced diagonally toward base; lateral lobes (=apophyses) short, not beyond the apical expantion of median lobe, slightly bisinuate near base.

Holotype: ♂, Tram Ton, alt. 1,900 m, Sapa District, Vietnam, 4. V. 2009, Tateo Ito leg. (coll. to be eventually deposited in the Osaka Museum of Natural History). Paratypes: 15 ♂♂, 2 ♀♀, the same local as holotype, 3–5. V. 2009, Tateo Ito leg.

The present species is allied to *Nazeris giganteus* Watanabe from Yunnan, China and *N. gotoi* T. Ito from Amami-ohshima Is., Japan in general appearance of reticulate punctures on head and secondary sexual features of the 7th and 8 th sternites, but it is different from *N. giganteus* by the smaller size and the aedeagus being quite differently shaped, and from *N. gotoi* by the different coloration and the different shaped aedeagus such as not bifurcated apophyses at the tip, etc.

*Etymology*. The specific epithet of this new species is given after Vietnam.




Figs.1–4. — 1, *Nazeris vietnamensis* T. Ito sp. nov. (holotype); 2, the 7 th and 8 th sternites; 3, aedeagus in lateral view; 4, the same in lateral view (paratype; Figs.5–7. — *Nazeris tramtonus* T. Ito sp. nov., 5, the 7 th and 8 th sternites; 6, aedeagus in ventral view; 7, the same in kateral view. (paratype). Figs.8–10. — Vietnam, Sapa District , Tram Ton, alt. about 1,900 m (Hoang Lien National Park) from which the present two new species have been collected (photo by authour).

## *Nazeris tramtonus* T. Ito sp. nov.

(Figs. 5–7)

Body somewhat feeble; the same coloration as the preceding species.

Length : 4.8–5.5 mm.

Head suboblong, longer than wide (1.05 : 1), with punctures coarse, close and apparently umbilicate; frons slightly depressed; vertex evenly convex; postgenae subparallel-sided raterally,

a little narrowed behind and then arcuately narrowed toward neck and longer than twice of longitudinal diameter of eye. Under side of head with punctures not umbilicate. Labrum narrowly and deeply excised in middle, four teeth pointed at tip, the inner two teeth thicker and distinctly longer than the outer two. Antennae fully reaching middle of pronotum, all segments longer than wide, 1st segment robust and large, a little longer than the following two segments taken together, 3rd about a half longer than 2nd and gradually thickened to 10th, which shorter than twice of its width and smaller than 11th.

Pronotum longer than wide (1.20 : 1.00), as long as and narrower (1.00 : 1.14) than head, submarginal three long erect setae separated from each other by unequal distances, the middle one of them placed just in front of the widest point at apical third, from there lateral sides more rapidly rounded apically than basally; disc with punctures almost very coarse, rather sparse, deep, somewhat irregular in arrangement or size and with a median line distinct, fully reaching both apical and basal margins, and with the same longitudinal rugosities and depressions such as the preceding species. Scutellum coarsely and not shallowly punctured. Prosternum with a median carina diminished at apical end.

Elytra widest near apex, the width twice as wide as base and slightly narrower than the width of pronotum (1 : 1.05); surface coarsely, rather closely and roughly punctured.

Abdomen slightly enlarged laterally, widest at 6th segment, from which tapered apically and basally with punctures coarse and close on basal tergites, fine and rather sparse on apical tergites, those on sternites clearly deeper and stronger than on tergites. In male 7th sternite faintly emarginated in middle of apical margin, and subtly depressed along middle on apical extremity, 8th sternite slightly and rather widely depressed entirely along middle, and widely and deeply excised in middle of apical margin; punctures relatively sparser just in front of the excision (Fig. 5.).

Aedeagus (Figs.6–7) rather slender and symmetrical, median lobe slightly narrowed at apical fifth, thence subparallel-sided toward rounded apex, and provided laterally with a pair of earlike projections at basal third; apophyses slender and relatively long but not beyond the apex of median lobe, weakly sinuate near basal part.

Holotype: ♂, Tram Ton, alt. 1,900 m, Sapa District, Vietnam, 3. V. 2009, Tateo Ito leg. (coll. to be eventually deposited in the Osaka Natural History Museum). Paratypes: 5♂♂, 4♀♀, the same local and data as holotype, Tateo Ito leg.

*Diagnosis*. The present species is much closely similar to *Nazeris vietnamensis* in general appearance, but is easily differentiated from the latter by the following points: the aedeagus quite differently shaped, the median lobe being slenderer, particularly in its apical part, the apophyses being much thinner and longer. The male second sexual features also different, the 7th abdominal sternite not depressed along the middle and less emarginated at the apical margin, the 8th sternite with no tuberculation on the depression, etc.

*Etymology*. The specific name of this new species is given after the local name Tram Ton in which the types have been collected.

## 要　　約

伊藤　建夫：ベトナム産 *Nazeris* 属（ハネカクシ科）の 2新種の記載. ——— 北部サパ州の山地から，*Nazeris* 属の 2 新種，*Nazeris vietnamensis* T. Ito sp. nov. と *Nazeris tramtonus* T. Ito sp. nov.を命名記載した.

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# New Records of *Lobrathium ryukyuense* T. ITO and Redescription of its Aedeagus (Coleoptera: Staphylinidae)

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*Lobrathium ryukyuense* T. ITO, 1996 is distributed over the wide range the Ryukyu Islands, and there are some variations in the elytral spot, the pronotal punctures, the aedeagal shape and so on. In this short report I would like to add some new records of the species and redescribe its aedeagus.

## *Lobrathium ryukyuense* T. ITO

*Lobrathium ryukyuense* T. ITO, 1996: 114.

*Redescription of aedeagus*. Aedeagus moderately sclerotized except for membranous dorsal side, provided with a ventral lamella whose apical part spade-shaped, and laterally with a pair of very thin, fin-like and transparent appendixes which are hardly observable, because of adhering to median lobe at a glance (Fig.1).

*Comments*. I overlooked the appendixes in the original description (ITO, 1996), because they are too thin and transparent.

*Additional materials examined*: 1♀, Nakatane-cho, Tanegashima Is, Kagoshima Pref., 9–12. V. 1996, M. MARUYAMA leg.; 1♂1♀, Nakanoshima Is.,Tokara Iss., Kagoshima Pref., 28. IV. 1987, S. NOMURA leg.; 1♂1♀, ditto, 28–30. III. 2009, R. UTOH leg.

*Distribution*: Kagoshima Pref. (Tanegashima Is.*, Nakanoshima Is.*, Amami-oshima Is., Tokunoshi-ma Is., Okinoerabu-jima Is.); Okinawa Pref. (Okinawa-honto Is., Yonaguni-jima Is.). (* New record)

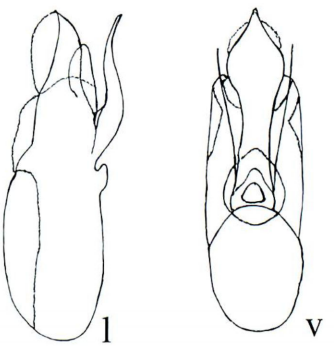


Fig. 1. The aedeagus of *Lobrathium ryukyuense* T. ITO: l: in lateral view; v: in ventral view.

I thank Drs. S. NOMURA and M. MARUYAMA (through the courtesy of Dr. S. NAOMI) and Mr. R. UTOH for kindly offering me the materials for this short report.

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*Entomological Review of Japan*, **65** (1): 69–73, June 30, 2010

# Notes on Elaterid Beetles (Coleoptera: Elateridae) from Southeast Asia (III)

## Two New Species of Elaterid Beetles from Philippines

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**Abstract** Two new species of elaterid beetles, *Pachyderes rufiventralis* and *Zorochros mohagani*, are described from Philippines.

In recent years, I had an opportunity to examine a lot of specimens of elaterid beetles from the Philippines through the courtesy of Mr. Takeshi MATSUMOTO. After a careful examination, I have found that two undescribed species belonging to the genus *Pachyderes* GUÉRIN-MÉNEVILLE, 1829 and the genus *Zorochros* C. G. THOMSON, 1859 were contained among them. In the Philippines, two species of the genus *Pachyderes*, *P. bakeri* FLEUTIOUX, 1940 and *P. philippinus* FLEUTIOUX, 1940, are known up to the present, whereas the genus *Zorochros* is unknown. In this paper, I am going to describe these two new elaterid beetles from the Philippines.

Before going further, I wish to express my sincere gratitude to Dr. Hitoo ÔHIRA in Okazaki for his continuous guidance, and to Dr. Hisashi ASHIDA of Graduate School of Biostudies, Kyoto University, for his critically reading the manuscript. I am also indebted to Mr. Takeshi MATSUMOTO in Osaka for his kind help in various ways.

The holotypes of new taxa are deposited in the collection of the Osaka Museum of Natural History.

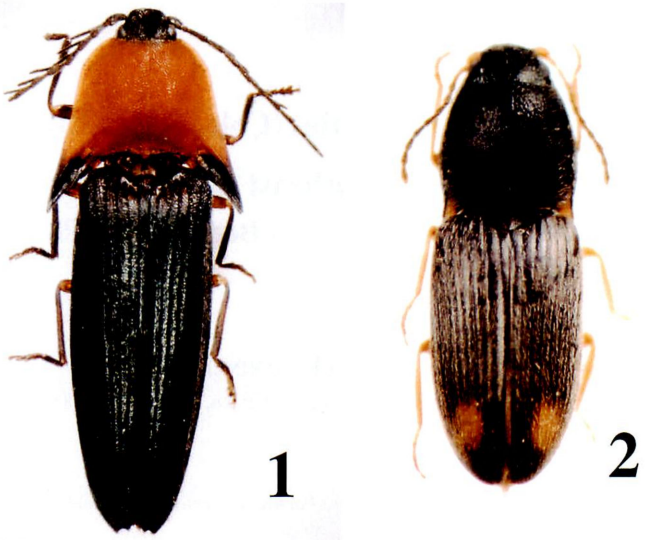
### *Pachyderes rufiventralis* sp. nov.

(Figs. 1, 3–5)

Male. Length about 17.5 mm, width about 7.0 mm. Body elongate, flattened above and a little shining. Head, antennae, posterior angles of pronotum, and elytra black; pronotum and most parts of ventral surfaces vermilion; legs infuscate with throchanters and claws yellowish brown, femora more or less dusky brown, tibiae and tarsi black.

Dorsal surface clothed with short and recumbent black setae except for pronotum with vermilion setae; ventral surface with short, cinereous setae all over.

Head triangularly impressed between eyes; surface coarsely, deeply and very densely punctate; clypeal margin transversely prominent, well ridged and rounded at the middle. Antennae short and barely attaining to tip of posterior angles of pronotum; basal segment robust and subclavate; the second short and 1.8 times as wide as long; the third about 5.0 times as long as




Figs. 1–2. 1, Habitus of *Pachyderes rufiventralis* sp.nov., holotype; 2, Habitus of *Zorochros mohagani* sp. nov., holotype.

second; the fourth slightly shorter than the third; from the third to tenth clearly flabellate, the apical segment the longest and about 1.8 times as long as the preceding one.

Pronotum subtrapezoidal, about 0.6 times as long as the distance across tips of posterior angles, with sides almost straight and clearly convergent from base to just behind anterior angles, then rounded and clearly convergent towards anterior angles; disc gently convex, with a median longitudinal impression feebly seen in the middle; surface coarsely, deeply and contiguously punctuate; posterior angles elongate, projecting postero-laterad and sharply pointed apically, each with a distinct carina above. Scutellum subvertical, subquadrate and convex above; surface coarsely and densely punctate.

Elytra about 2.7 times as long as its basal width; with sides almost parallel in basal halves, then rounded and gradually convergent towards apices, which are divergent and clearly emarginated; striae well defined, deep and regularly punctate; intervals flattened, scabrous and coarsely punctate.

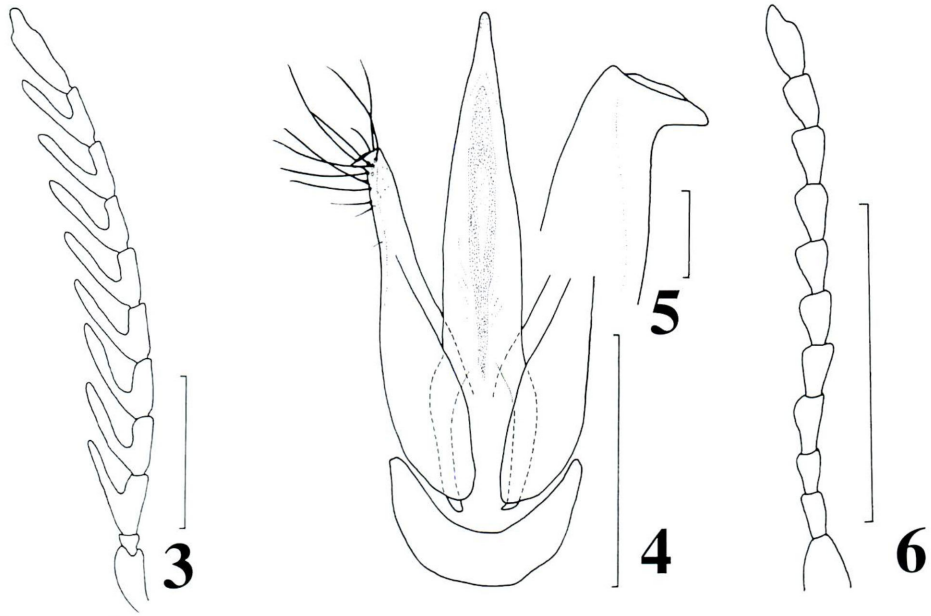
Legs slender; with apical end of the second and third tarsal segments slightly expanded beneath, though the fourth is more clearly expanded than the second and third; claws simple.

The sides of seventh sternite rounded and clearly convergent towards acutely pointed apex.

Ventral surface of male genitalia elongate; median lobe clearly longer than lateral lobes, gradually convergent towards obtusely pointed apex; each apical portion of lateral lobes transversely truncate, with outer angle triangularly pointed laterad and furnished with many long setae.

Female. Length about 16.0 mm, width about 6.1 mm. Similar to male in general structures, but antennae distinctly shorter, the third to tenth segments serrate and apical margin of seventh sternite truncate.

*Type series*. Holotype: ♂, Mt. Mandalagun, North Negros Is., the Philippines, III. 2004, D. MOHAGAN leg. Paratype: 1♀, Mt. Apo, Mindanao Is., the Philippines, 20. IV. 2004, D. MOHAGAN leg.




Figs. 3–6. —— 3, Right antenna of *Pachyderes rufiventris* sp. nov., holotype. Scale: 2.0 mm; 4–5, Aedeagus of *Pachyderes rufiventris* sp. nov., holotype. ventral view. Scales:1 mm for 4, 0.1 mm for 5; 6, Right antenna of *Zorochros mohgani* sp. nov., holotype, scale: 0.5 mm.

*Etymology*. This specific name is derived from reddishness in most parts of ventral surface of body.

*Notes*. This new species is similar to *Pachyderes ruficollis* GUÉRIN-MÉNEVILLE, 1829 known from Sumatra and Borneo, but can be distinguished from the latter by the following points: 1) body is slenderer; 2) most parts of ventral surface are vermilion, whereas those of *P. ruficollis* are black except for prosternum and propleura vermilion; 3) the sides of seventh sternite are rounded and convergent towards apex, whereas those of *P. ruficollis* are almost straight and convergent towards apex in male.

## ***Zorochros mohagani*** sp. nov.

(Figs. 2, 6)

Female. Length about 2.5 mm, width about 0.9 mm. Body oblong-ovate, flattened above and a little shining. Colour black to blackish brown except for brownish yellow posterior angles of pronotum and a pair of spots in apical portion of elytra; antennae blackish brown, with basal three segments yellow; legs yellow with throchanteres yellowish brown; most parts of ventral surface dusky brown to blackish brown, with prostenum yellowish brown to brown.

Body surfaces clothed with short, whitish and recumbent setae.

Head gently convex between eyes; surface coarsely, shallowly punctate and seemingly granulate; clypeal margin well ridged, gradually convergent towards apex, which is obtusely angulate and weakly impressed at the middle. Antennae rather short and barely attaining to base of posterior angles of pronotum; basal segment robust and subovate; the second subclavate and

about twice as long as wide; the third obconical and about 0.9 times as long as the second; the fourth subtriangular and about 1.4 times as long as the third; the fourth to tenth weakly serrate; apical segment subovate and about twice as long as wide.

Pronotum subquadrate, widest at the middle, about 1.2 times as wide as long, with sides slightly sinuate just before posterior angles, rounded in the middle, then feebly arcuate and clearly convergent towards anterior angles; disc gently convex, rather densely, coarsely and rugosely punctuate, median longitudinal line smooth, clearly seen in the middle; posterior angles projecting posteriad, each with a distinct carina above, which extends anteriorly along lateral margin to about basal one-fourth of pronotal length. Scutellum lingulate and subvertical; surface convex above, densely and minutely punctate.

Elytra about 1.7 times as long as its median width; with sides almost parallel in basal two-thirds, then rounded and gradually convergent towards apices, which are normally rounded; striae well defined, intervals slightly elevated, minutely punctuate and irregularly and transversely rugose.

Prosternal process elongate, clearly incurved just behind procoxal cavities in lateral aspect and rounded and a little emarginate extremity on the innerside.

Legs slender, with tarsi and claws simple.

Male. Unknown.

*Type series*. Holotype: ♀, IX. 2006, Mt. Canlaon, North Negros Is., the Philippines, D. MOHAGAN leg.

*Etymology*. This specific name is dedicated to Mr. Danny MOHAGAN who is the collector of this holotype.

*Notes*. This new species is similar to *Zorochros amamiensis* (ARIMOTO, 1987) from Japan, but can be distinguished from the latter by the following points: 1) basal three segments of antennae are yellow, whereas only the second and third segments are brownish yellow in *Z. amamiensis*; 2) apical portion of elytra decorated with a pair of brownish yellow spots; 3) carina of posterior angles of pronotum shorter. The holotype was captured with a flight interception trap.

## 要　　約

有本 久之：東南アジア産コメツキムシ科甲虫（第III報）・フィリピンから発見されたコメツキムシの２新種．――― フィリピンから採集されたコメツキムシの２新種をそれぞれ *Pachyderes rufiventralis*および *Zorochros mohagani* と命名して記載した．前者は *P. ruficollis* GUÉRIN-MÉNEVILLE, 1829 に似るが，体はより細く，体下面の色彩および第7腹板の形態の相違により区別できる．後者は *Z. amamiensis* (ARIMOTO, 1987) に似るが，触角基部3節の色彩の相違，上翅先端部に一対の黄褐色の斑紋があること，および前胸背後角上の隆起線は明らかに短いことによって区別できる．

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# Revision of the *Platycis* Genus-Group (Coleoptera: Lycidae) from the Holarctic Region

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**Abstract** The Holarctic genera and species of the *Platycis* genus-group in the tribe Erotini are revised, and three genera including two subgenera and 14 species are recognized. All taxa are redescribed and illustrated including new species and new combinations as follows. Four new species, *Erotides* (*Glabroplatycis*) *bocaki* sp. nov. from Yunnan, China, *E.* (*G.*) *hayashii* sp. nov. from Yaku-shima Is., Southwest Japan, *E.* (*G.*) *lalashanus* sp. nov. and *Platycis formosomontanus* sp. nov. from North and Central Taiwan are herein described. The subgenus *Konoplatycis* NAKANE, 1969 of *Platycis* THOMSON, 1864 is restored to the generic status within the tribe Erotini, and the genus *Glabroplatycis* PIC, 1914 is regarded as a subgenus of *Erotides* WATERHOUSE, 1879 in this paper. *Erotides* (*Glabroplatycis*) *matsudai* (BOCAK, 1996) is newly transferred to the genus *Konoplatycis* by the inspection of the holotype. *Erotides* (*Erotides*) *kanoi* (NAKANE) comb. nov. and *E.* (*E.*) *schneideri* (KIESENWETTER) comb. nov. are proposed. A key to the genera, subgenera and species of the *Platycis* genus-group herein newly defined is provided.

## Introduction

The genus *Platycis* was established by THOMSON (1864) as a subgenus of the genus *Eros* NEWMAN, 1838 based on the two European species, *Phrochroa minuta* FABRICIUS and *Dictyoptera Cosnardi* CHEVROLAT. Later, WATERHOUSE (1879) described a related new genus *Erotides* based on a North American species, *Eros oblitus* NEWMAN (= *Omalisus sculptilis* SAY). Then he commented that "The European *Eros cosnardi*, CHEV., must be associated with it".

BOURGEOIS (1882) regarded *Erotides* as a junior synonym of *Platycis* in his monograph of the Palaearctic Lycidae. He (1891) also downgraded *Platycis* to a subgenus of *Dictypterus* MULSANT, 1838 and designated *Dictyopterus minutus* (FABRICIUS) as the type species.

Afterwards, PIC (1914) described a new genus, *Glabroplatycis* based on a French species, *Platycis Cosnardi* (CHEVROLAT), but he did not compare it with a North American genus *Erotides*.

KLEINE (1933) regarded *Platycis* and *Glabroplatycis* each as a valid genus and WATERHOUSE's *Erotides* as a junior synonym of the genus *Eros* NEWMAN in his JUNK-SCHENKLING Catalogue.

After the World War II, GREEN (1951) synonymized *Erotides* with *Platycis* from his viewpoint of the former not having any significant characters as a valid genus in his revisional work on the North American Lycidae.

Later, NAKANE (1969a) described *Konoplatycis* as a new subgenus of *Platycis* based on a

Japanese species, *Platycis otome* KÔNO in his monograph of Japanese Lycidae. This subgenus *Konoplatycis* was soon upgraded to the generic status by himself (1969b), and this treatment had been supported by SATÔ & MATSUDA (1985) and KAZANTSEV (2004).

Separately from these trends, WINKLER (1989) revalidated *Glabroplatycis* as a valid genus by comparison with *Platycis* based on their morphological characters including terminal abdominal sternites and genitalia in both sexes. He did not study *Konoplatycis* in this paper.

Recently, KAZANTSEV (2004) recognized three genera and two subgenera, *Erotides* (*Erotides*), *E.* (*Glabroplatycis*), *Konoplatycis and Platycis* as valid genera on *Platycis* and its closely related genera in his revisional work on the tribe Erotini LECONTE, 1881.

In the catalogue of the palaearctic Coleoptera, part Lycidae, BOCÁKOVÁ & BOCÁK (2007) listed two genera and four subgenera, *Erotides* (*Erotides*), *E.* (*Glabroplatycis*), *Platycis* ( *Konoplatycis*) and *P.* (*Platicis*) with other 15 genera within Erotini.

BOCÁK & BOCÁKOVÁ (2008) listed five genera as typical members of Erotini, and cited *Platycis* and *Konoplatycis* on *Platycis* and its closely related genera in their new publication on phylogeny and classification of the family Lycidae based on both morphological and molecular data sets.

In recent years, the author had re-examined the relationship between the *Platycis* genus-group herein newly defined for *Platycis* and its closely related genera mainly based on morphological data. As the results of the taxonomic study, he came to the conclusion to propose a new combination of the taxa for the classification of this genus-group in the present paper. Now the author recognizes three genera and two subgenera, *Erotides* (*Erotides*), *E.* (*Grabroplatycis*), *Konoplatycis* and *Platycis*, and 14 species including four new species, *Erotides* (*Grabroplatycis*) *bocaki* sp. nov, *E.* (*G.*) *lalashanus* sp. nov., *E.* (*G.*) *hayashii* sp. nov. and *Platycis formosomontanus* sp. nov. as a member of the *Platycis* genus-group from the Holarctic region.

## Material and Methords

Approximate 300 material belonging to the 14 species of the *Platycis* genus-group were used for this taxonomic study. All species of these genera were observed and measured through a stereomicroscope (Vixen SL - 60 T, 40×, 80×) with the aid of a micrometer attached to the right ocular lens. Two species, *Erotides* (*Glabroplatycis*) *nasutus* and *Konoplatycis otome* were coated by ion sputtering methord using ion coater (EIKO IB-2). These surface structures were observed under a scanning electoron microscope (HITACHI-AKASHI MSM-7, 30×, 50×, 100×, 200×). Male and female genitalia were extracted from abdomen and boiled in 5.0 % KOH solution for five minutes or more, and then washed by water and preserved in 70 % etyl alchol. Magnifying photographs of body parts including hind wing and genitalia were taken by using a digital camera (Nikon COOLPIX P 5000) attached to the top of the stereomicroscope. Figures were drawn from these photographs.

*Abbreviation for measurements.* HW = head width; E = eye diameter; DE = distance between eyes; PW = maximum width of prothorax; PL = pronotal length; EW = elytral width at humeri; EL = elytral length.

*Depositories.* BMNH–the Natural History Museum, London; CBM–the Natural History Museum and Institute, Chiba; FMNH–the Field Museum of Natural History, Chicago; MNHN–the Museum national d'Histoire naturelle, Paris; NSMT–the National Museum of

Nature and Science, Tokyo; OMNH–the Osaka Museum of Natural History, Osaka; SEHU–the Hokkaido University Museum, Sapporo; LBC–Dr. Ladislav BOCÁK Collection in the Department of Zoology, Faculty of Science, Palacky University, Olomouc; SKC–Dr. Sergei KAZANTSEV Collection, Insect Centre, Moscow; KMC–author's Collection, Takarazuka; TSC–Mr. Taichi SHIBATA Collection in the Kashihara City Museum of Insect, Kashihara.

## Taxonomy

### Subfamily **Lycinae** LAPORTE, 1836

### Tribe Erotini LECONTE, 1881

### Genus ***Erotides*** WATERHOUSE, 1879

Type species: *Eros oblitus* NEWMAN, 1838 = *Omalisus sculptilis* SAY, 1835

*Erotides* WATERHOUSE, 1879: 37.
*Erotides* (*Erotides*): KAZANTSEV, 2004: 37.
*Eros* (*Erotides*): LECONTE, 1881: 24.
*Eros*: NEWMAN, 1838: 382; GEMMINGER & HAROLD, 1869: 1635; KLEINE, 1933: 37.
*Dictyopterus*: MELSHEIMER, 1846: 302.
*Platycis*: GREEN, 1951: 10; MCCABE & JOHNSON, 1979: 297; BOCÁK & MATSUDA, 2003: 1488.
*Glabroplatycis* PIC, 1914: 50.

Body elongate, subparallel-sided, slightly widened posteriad. Pronotal carinae and elytral costae glabrous or pubescent. Head with a short process on frons which is transversely trancate at apex, deeply and widely grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Maxillary palpi with terminal segment securiform. Labial palpi with terminal segment securiform or subtriangular. Antennae filiform; 1st segment strongly swollen apicad; 2nd segment cylindrical; 3rd to 10th segments somewhat flattened dorso-ventrally; 3rd segment long, about twice as long as 2nd segment. Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/3 to 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other in front of the basal margin; postero-median areole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum subquadrate or bilobate, shallowly or deeply incised at apex. Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of large and irregular cells which are frequently connected with each other. Abdomen with terminal sternite lanceolate, strongly or gradually narrowed towards apex in male, or widely rounded at apex, with a long spiculum ventrale and a pair of elongate long arms at base in female. Legs moderate in length; hind trochanters round or subtriangular, each with or without a small or large pilose cavity at latero-apical portion in male; femora each with a small or large oval pilose fovea on ventral side in basal portion in male. Head, pronotum and inner portions of elytral cells microreticulately punctured. Aedeagus elongate, with a pair of long parallel-sided parameres devoid of thorns on each inner side; phalobase large. Female genitalia elongate; styli short, with several short or long hairs at each apex; coxites long, with several short hairs in apical portions, gradually narrowed towards apices; valvifers slender and very long.

*Distribution*. Palaearctic and Nearctic Regions.

## Subgenus *Erotides* WATERHOUSE, 1879

Type species: *Eros oblitus* NEWMAN, 1838 = *Omalisus sculptilis* SAY, 1835.

Body elongate, subparallel-sided, slightly widened posteriad. Pronotal carinae and elytral costae glabrous or pubescent. Head with a short process on frons which is transversely trancate at apex, deeply and widely grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Maxillary palpi with terminal segment relatively long, securiform. Labial palpi with terminal segment subtriangular. Antennae filiform; 2nd segment cylindrical; 3rd to 10th segments somewhat flattened dorso-ventrally; 3rd segment long, longer than twice as long as 2nd segment. Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/3 to 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other in front of the basal margin; postero-median areole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum subquadrate or bilobate, shallowly or deeply incised at apex. Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of very large and irregular cells which are frequently connected with each other. Abdomen with terminal sternite lanceolate, strongly narrowed towards apex in male, or widely rounded at apex, with a long spiculum ventrale and a pair of elongate long arms at base in female. Legs moderate in length; hind trochanters round or subtriangular, each with a small or large pilose cavitiy at latero-apical portion in male; femora each with a small oval pilose fovea on ventral side in basal portion in male. Head, pronotum and inner portions of elytral cells microreticulately punctured. Aedeagus elongate, with a pair of long parallel-sided parameres devoid of thorns on each inner side; phalobase large. Female genitalia elongate; styli short, with several short hairs at each apex; coxites long, with several short hairs in apical portions, gradually narrowed towards apices; valvifers slender and very long.

*Distribution.* Palaearctic and Nearctic Regions.

### *Erotides* (*Erotides*) *kanoi* (NAKANE, 1967) comb. nov.

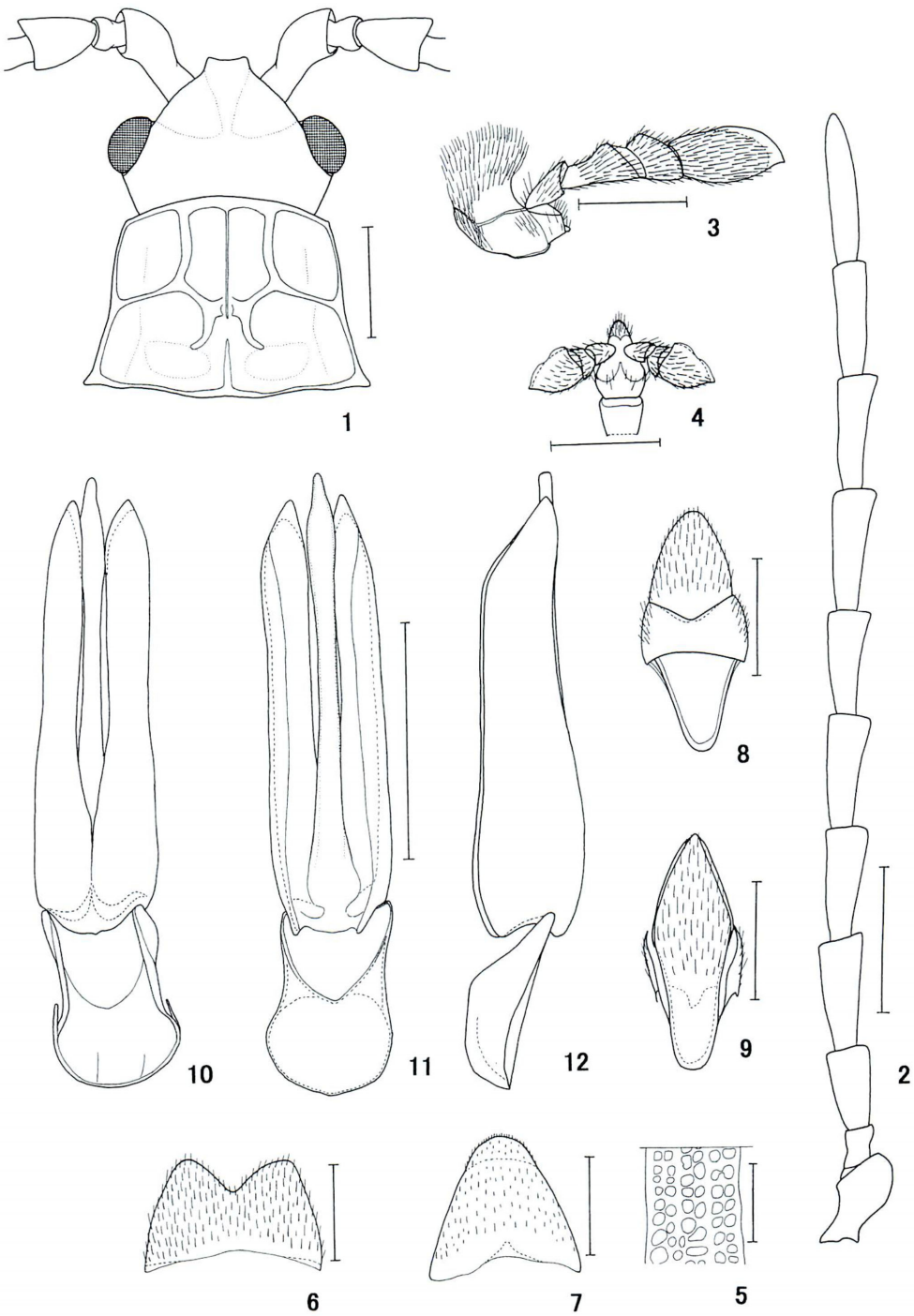
(Figs. 1–12)

*Platycis kanoi* NAKANE, 1967: 285; JENG, YANG & SATÔ, 2002: 181.
*Erotides* (*Glabroplatycis*) *kanoi*: KAZANTSEV, 2004: 38; BOCÁKOVÁ & BOCÁK, 2007: 215.

*Redescription.* Body dark reddish brown, shining, with mandibles and claws somewhat lighter in color; head, antennae, pronotum, scutellum and legs brackish brown to dark reddish brown; elytra yellowish brown, each with a wide longitudinal blackish brown or dark reddish brown stripe along sutural costa.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; pronotum sparsely clothed with short, suberect, light reddish pubescence; elytra moderately covered with short, recumbent yellowish brown or light reddish brown pubescence.

Head with a short process on frons which is usually transversely trancate at apex, deeply and widely grooved between antennal insertions. Eyes small, hemispherically prominent laterad.




Figs. 1–12. *Erotides* (*Erotides*) *kanoi* (NAKANE) ♂—— 1. head and pronotum; 2. antenna; 3. maxilla; 4. labium; 5. elytral cells; 6. 7th abdominal sternite; 7. 7th abdominal tergite; 8. terminal abdominal tergite; 9. terminal abdominal sternite; 10. aedeagus in dorsal view; 11. same in ventral view; 12. same in lateral view. Scale for 1, 2, 5–12: 0.5 mm; scale for 3, 4: 0.25 mm.

Antennae long, filiform; 2nd segment cylindrical; 3rd to 10th segments slightly flattened dorso-ventrally; 3rd segment long, about 2.5 times as long as 2nd segment; relative lengths of 1st to 11th segments from basal to apical: 0.9 : 0.4 : 1.0 : 1.3 : 1.3 : 1.5 : 1.4 : 1.5 : 1.5 : 1.5 : 2.0 (male), 1.0 : 0.4 : 1.0 : 1.2 : 1.2 : 1.2 : 1.1 : 1.1 : 1.1 : 1.1 : 1.4 (female). Maxillary palpi with terminal segment securiform, about 1.8 times as long as wide, about 1.4 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.2 times as long as wide.

Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other just before the basal margin; postero-median areole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum subquadrate or bilobate, deeply incised at apex.

Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of large and irregular cells.

Abdomen microreticulately punctured; 7th abdominal sternite subtriangularly emarginate at apex in male; terminal sternite lanceolate, strongly narrowed apicad in male.

Legs moderate in length; hind trochanters round, each with a relatively large shallow pilose cavity at latero-apical portion in male; femora each with a small pilose fovea on ventral side in basal portion in male, these foveas about 0.2–0.3 times as long as the length of femora; hind tarsi with 1st segment the longest in length; 2nd to 4th segments gradually shorter in length, distinctly shorter than 5th segment; claws simple, somewhat angulate at base.

Head, pronotum and inner portions of elytral cells microreticulately punctured.

Aedeagus elongate, with a pair of long parallel-sided parameres devoid of thorns on each inner side; phalobase large.

Mesurements. DE/E≒2.1 (male), 2.6 (female); PW/HW≒1.1 (male), 1.5 (female); PL/PW ≒0.8 (male), 0.7 (female); EL/EW≒3.1 (male), 2.8 (female); EL/PL≒6.0 (male), 5.3 (female).

Length: 6.1–9.0 mm; width: 1.6–2.6 mm.

*Type locality*. Habon, Formosa (Taiwan).

*Material examined*. Holotype, ♂, labels: [HOLOTYPE], [Habon, Formosa, 27. IV. 1927, T. KANO], [*Platycis kanoi* sp. nov. m. 1967, Det. T. NAKANE] (NSMT); Paratype, ♂, labels: [PARATYPE], [Urai, Formosa, 8. IV. 1926, T. KANO], [*Platycis kanoi* sp. nov. m. 1967, Det. T. NAKANE] (NSMT); 1 ♂, Nanshanchi, alt. 800 m, Nantou Hsien, Taiwan, 17. IV. 1974, K. SUGINO leg., (KMC); 1 ♂, Lushan, alt. 1200 m, Nantou Hsien, 29. IV. 1977, T. MIKAGE leg., (KMC); 1 ♂, Lushan, 13. V. 1978, S. IMASAKA leg.; (KMC) 1 ♂, Meifeng, alt. 2200 m, Nantou Hsien, 23. VI. 1976, S. IMASAKA leg., (KMC); 1 ♂, Meifeng, 16. V. 1978, S. IMASAKA leg., (KMC); 1 ♀, Sungkang, alt. 1950 m, Nantou Hsien, 2. VII. 1971, Y. MAEDA leg., (TSC); 1 ♀, Sungkang, 17. VI. 1996, C. LOU leg., (KMC); 1 ♀, Sungkang, 16. V. 1997, C. LOU leg., (KMC); 1 ♂, Wantasche, Nantou Hsien, 8. V. 1997, C. LOU leg., (KMC); 2 ♂♂, 1 ♀, Fenchifu, Chiai Hsien, Taiwan, 23. V. 1975, K. MATSUDA leg, (KMC).

*Distribution*. Taiwan.

*Remarks*. This species is closely related to *Erotides* (*Erotides*) *sculptilis* (SAY) from North America, but can be distinguished from the latter by the following characteristics: 1) pronotum unicolour brackish brown to dark reddish brown; 2) elytra yellowish brown, each with a wide longitudinal blackish brown or dark reddish brown stripe along sutural costa; 3) elytra more pubescent; 4) maxillary palpi with terminal segment wider; 5) antennae longer in male; 6) pronotum with posterior angles strongly projecting laterad.

*E.* (*E.*) *kanoi* (NAKANE) has a sympatric distribution with *E.* (*Glabroplatycis*) *taiwanus* (KÔNO) on the mountain range in Taiwan. These two species appear in the same season and in the same sites, however, they are easily distinguished by the distinct morphological characteristics such as their pronotal and elytral colorations or with or without a cavity on hind trochanter and the size of femoral foveas in male.

## ***Erotides*** (***Erotides***) ***schneideri*** (KIESENWETTER, 1878) comb. nov.

(Figs. 13–24)

*Eros Schneideri* KIESENWETTER, 1878: 206.
*Platycis Schneideri*: BOURGEOIS, 1882; WINKLER, 1925: 489; KLEINE, 1933: 40; KLEINE, 1942: 55.
*Platycis schneideri*: JACOBSON, 1911: 666.
*Erotides* (*Glabroplatycis*) *schneideri*: KAZANTSEV, 2004 : 38; BOCÁKOVÁ & BOCÁK, 2007: 215.
*Eros abdominalis* REICHE, 1878: xxviii.

*Redescription.* Body light yellowish brown, shining, with abdomen blackish brown except for terminal segment yellowish brown in male; head, pronotum, scutellum, elytra and legs light reddish brown; antennae blackish brown to dark reddish brown, with basal two or three segments and apical one or two segments yellowish brown.

Body surface closely furnished with short, recumbent, light yellowish brown pubescence; antennae densely covered with short, suberect, yellowish brown or reddish brown hairs; pronotum and elytra sparsely covered with short, recumbent, light yellowish brown pubescence.

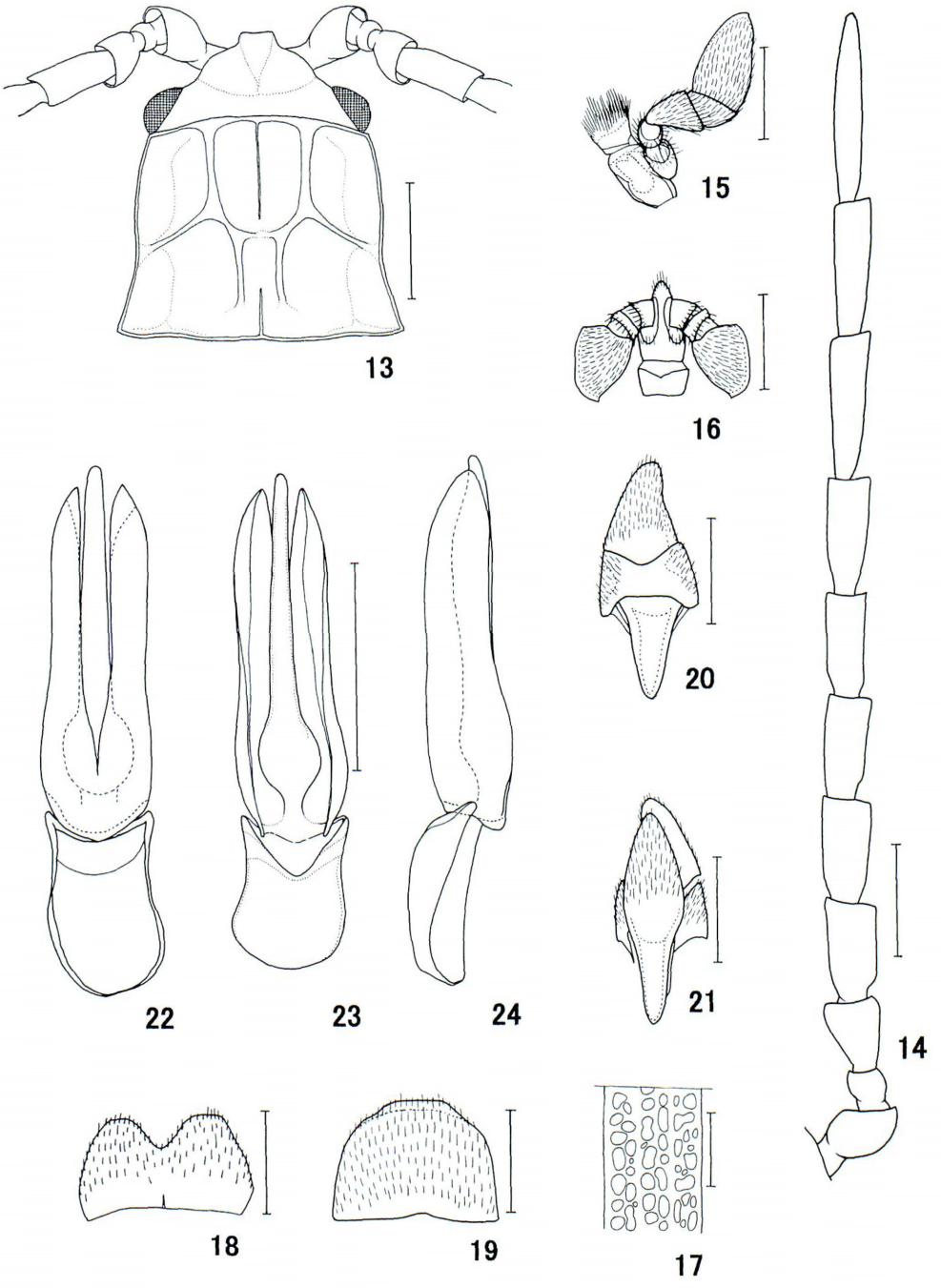
Head with a short process on frons which is usually transversely trancate at apex, deeply and widely grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae long, filiform; 2nd segment cylindrical; 3rd to 10th segments slightly flattened dorsoventrally; 3rd segment long, about 2.0 times as long as 2nd segment; relative lengths of 1st to 11th segments from basal to apical: 1.0 : 0.5 : 1.0 : 1.4 : 1.5 : 1.6 : 1.5 : 1.6 : 1.7 : 1.6 : 2.2 (male), 1.0 : 0.5 : 1.0 : 1.3 : 1.3 : 1.5 : 1.4 : 1.3 : 1.3 : 1.3 : 1.8 (female). Maxillary palpi with terminal segment long, securiform, about 1.8 times as long as wide, about 1.8 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.3 times as long as wide.

Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other just before the basal margin; postero-median areole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of very large and irregular cells, which are frequently connected with each other.

Abdomen microreticulately punctured; 7th abdominal sternite subtriangularly emarginate at apex in male; terminal sternite fusiform, gradually narrowed apicad in male.

Legs moderate in length; hind trochanters subtriangular, each with a small shallow pilose cavity at latero-apical portion in male; femora each with a small pilose fovea on ventral side in basal portion in male, fovea about 0.2 times as long as the length of femur; hind tarsi with 1st segment the longest in length; 2nd to 4th segments subequal in length, distinctly shorter than 5th




Figs. 13–24. *Erotides* (*Erotides*) *schneideri* (KIESENWETTER) ♂—13. head and pronotum; 14. antenna; 15. maxilla; 16. labium; 17. elytral cells; 18. 7th abdominal sternite; 19. 7th abdominal tergite; 20. terminal abdominal tergite; 21. terminal abdominal sternite; 22. aedeagus in dorsal view; 23. same in ventral view; 24. same in lateral view. Scale for 13, 14, 17–24: 0.5 mm; scale for 15, 16: 0.25 mm.

segment; claws simple, somewhat angulate at base.

Head, pronotum and inner portions of elytral cells microreticulately punctured.

Aedeagus elongate, with a pair of long parallel-sided parameres devoid of thorns on each inner side; phalobase large.

*Measurement*. DE/E≒2.6 (male), 2.9 (female); PW/HW≒1.2 (male), 1.4 (female); PL/PW≒0.8 (male), 0.8 (female); EL/EW≒3.0 (male), 3.0 (female); EL/PL≒5.1 (male), 5.3 (female).

Length: 6.7–8.3 mm; width: 1.8–2.4 mm.

*Type locality*. Lenkoran.

*Materials examined*. 1♂, labels: [Persia sept., Jusufa Abad, 12. IV. 1915, B. Jejin], [*Platycis schneideri* KIES. W. BAROVSKY det.] (SEHU); 3♂♂,2♀♀, Nord-IRAN, Mazandaran, 5 km ostrichi NOWSHAR, 1–3. V. 1974, 20–200 m, HOLZSCHUH & RESSL leg. (LBC); 1♂, Nord-IRAN, Guilan, 70 km NW Bandar–e Pahlavi Assalem, 18. V. 1974, 300 m, HOLZSCHUH & RESSL leg.(LBC).

*Distribution*. Europe (Azerbaijian) and Iran.

*Remarks*. This species is closely related to *Erotides* (*Erotides*) *kanoi* (NAKANE) from Taiwan, but can be distinguished from the latter by the following characteristics: 1) pronotum and elytra unicolor light reddish brown; 2) antennae with 2nd segment longer; 3) maxillary palpi robuster in male; 3) elytra less pubescent; 4) aedeagus with parameres shorter in length.

## ***Erotides* (*Erotides*) *sculptilis*** (SAY, 1835)

(Figs. 25–38, 190)

*Omalisus sculptilis* SAY, 1835: 156.
*Eros* (*Erotides*) *sculptilis*: LECONTE, 1881: 24.
*Eros sculptilis*: GEMMINGER & HAROLD, 1869: 1635; KLEINE, 1933: 37.
*Platycis sculptilis*: GREEN, 1951: 10; MCCABE & JOHNSON, 1979: 297; BOCÁK & MATSUDA, 2003: 1488.
*Erotides* (*Erotides*) *sculptilis*: KAZANTSEV, 2004: 37.
*Eros oblitus* NEWMAN, 1838: 382.
*Erotides oblitus*: WATERHOUSE, 1879: 38.
*Dictyopterus axillaries* MELSHEIMER, 1846:302.
*Eros incestus* LECONTE, 1847: 78.

*Redescription*. Body dark reddish brown, shining, with claws yellowish brown. Head, antennae, scutellum and legs brackish brown to dark reddish brown. Pronotum blackish brown; lateral sides widely light yellowish brown; anterior and posterior rims and carinae in central portion shiny reddish brown. Elytra brackish brown with four longitudinal costae and transverse carinae surrounding cells shiny reddish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; pronotum and elytra sparsely covered with short, recumbent, yellowish brown pubescence.

Head with a short process on frons which is transversely truncate at apex, deeply and widely grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae filiform; 2nd segment cylindrical; 3rd to 10th segments slightly flattened dorso-ventrally; 3rd segment long and about 2.0–3.3 times as long as 2nd segment; relative lengths of 1st to 11th

segments from basal to apical: 0.8 : 0.3 : 1.0 : 1.4 : 1.5 : 1.6 : 1.7 : 1.6 : 1.6 : 1.5 : 2.1 (male), 0.9 : 0.5 : 1.0 : 1.1 : 1.1 : 1.1 : 1.1 : 1.1 : 1.1 : 1.0 : 1.5 (female). Maxillary palpi with terminal segment long, securiform, about 2.0 times as long as wide, about 1.4 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.3 times as long as wide.

Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other in front of the basal margin; postero-median areole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of very large and irregular cells, which are frequently connected with each other.

Abdomen microreticulately punctured; 7th abdominal sternite roundly emarginate at apex in male; terminal sternite lanceolate, strongly narrowed apicad in male, or widely rounded at apex, with a long spiculum ventrale and a pair of elongate long arms at base in female.

Legs moderate in length; hind trochanters round, each with a relatively large shallow pilose cavity at latero-apical portion in male; femora each with a small pilose fovea on ventral side in basal portion in male, these foveas about 0.2–0.3 times as long as the length of femora; hind tarsi with 1st segment the longest in length; 3rd and 4th segments subequal in length, distinctly shorter than 2nd and 5th segments; claws simple, somewhat angulate at base.

Head, pronotum and inner portions of elytral cells microreticulately punctured.

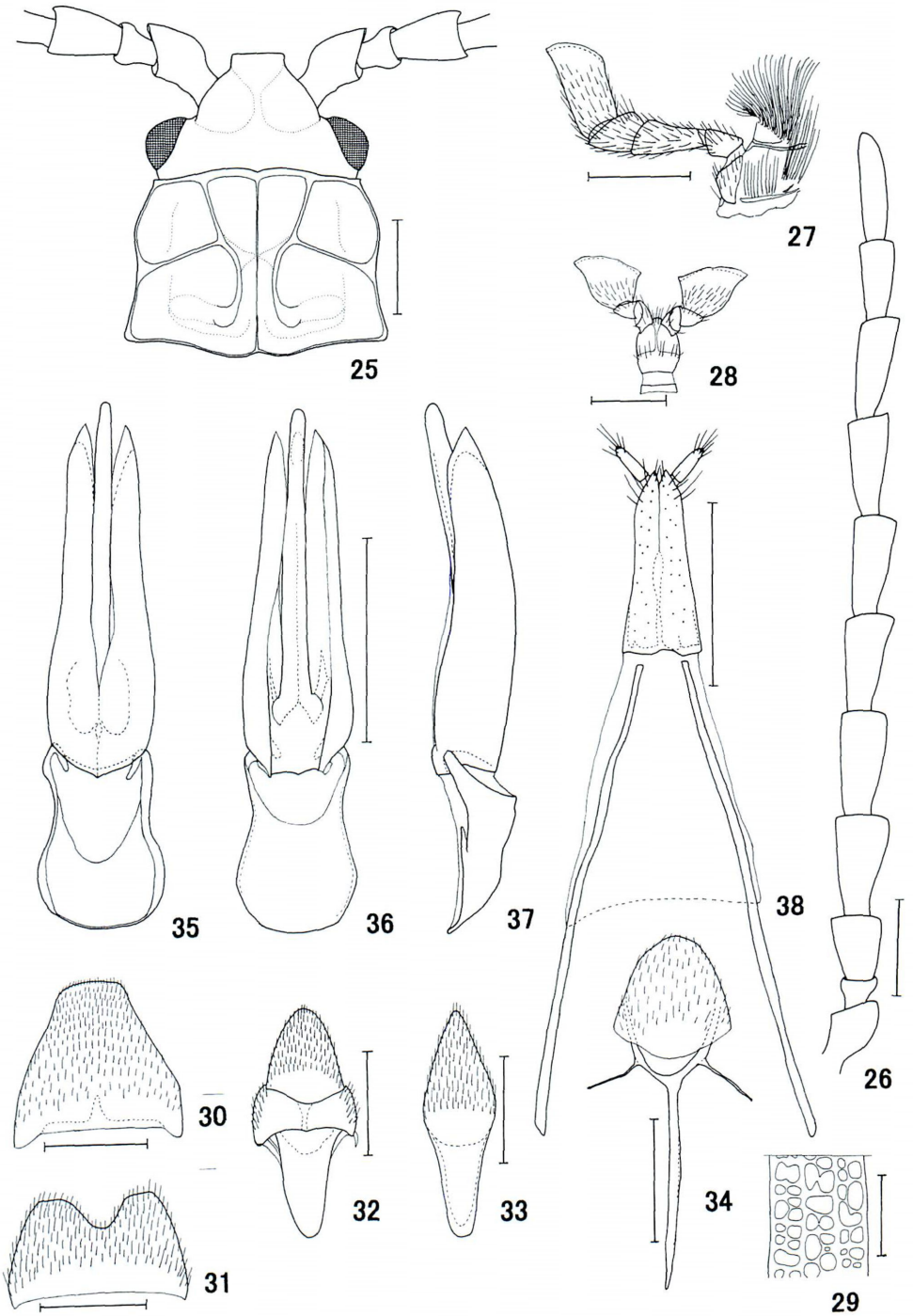
Aedeagus elongate, with a pair of long parallel-sided parameres devoid of thorns on each inner side; phalobase large. Female genitalia elongate; styli short, with several short hairs at each apex; coxites long, with several short hairs in apical portions, gradually narrowed towards apices; valvifers slender and very long.

*Measurements*. DE/E≒2.3 (male), 2.2 (female); PW/HW≒1.3 (male), 1.4 (female); PL/PW≒0.7 (male), 0.7 (female); EL/EW≒3.0 (male), 2.7 (female); EL/PL≒5.8 (male), 5.4 (female).

Length: 5.9–7.5 mm; width: 1.7–2.2 mm.

*Type locality*. Missouri, USA

*Material examined*. 1♂, labels: [AMESIA or OHAIO], [*sculptilis* ?], [C. AMERICA, H. E. HINTON. Coll. 1936-201], [*Eros sculptilis* ? 6940 (SAY)], [*Platycis sculptilis* (SAY), det. R. S. MILLER, 1984] (BMNH); Holotype, ♂,labels: [Type], [*Eros oblitus* Type NEWM.], [*Erotides oblitus* NEWM.] (BMNH); 1♂, labels: [Bear Mt. N.Y., 14. VII. 40], [C. N. H. M. 1960, Borys MALKIN Coleoptera Colln.], [*Eros sculptilis*], [*E. sculptilis* (SAY) 6940] (FMNH); 1♀, labels: [VA: Hampton, 8-12. V. 1944, N. M. DOWNIE], [N. M. DOWNIE Colln., 1992 Acc. Z-18.343, FIELD MUSEUM] (FMNH); 1♂, Tippecanoe, Co., Ind., U.S.A., 14. VI. 1953, N. M. DOWNIE leg. (FMNH); 2♂♂,1♀, Tippecanoe, Co., Ind., 20-26. VI. 1953, N. M. DOWNIE leg. (FMNH); 1♀, Tippecanoe, Co., Ind., 24. VII. 1960, N. M. DOWNIE leg. (FMNH); 1♂, Tippecanoe, Co., Ind., 20. VI. 1962, N. M. DOWNIE leg. (FMNH); 1♀, Tippecanoe, Co., Ind., 2. VII. 1969, N. M. DOWNIE leg. (FMNH); 1♀, Tippecanoe, Co., Ind., 25. VI. 1970, N. M. DOWNIE leg. (FMNH); 1♀, Tippecanoe, Co., Ind., 3. VII. 1970, N. M. DOWNIE leg. (FMNH); 3♀♀, Tippecanoe, Co., Ind., 5-8. VII. 1972, N. M. DOWNIE leg. (FMNH); 1♂, Tippecanoe, Co., Ind., 18. VI. 1976, N. M. DOWNIE leg. (FMNH); 1♂, 1♀, IN: Tippecanoe, Co., McCormicks Woods, 25. VI. 1984, N. M. DOWNIE leg. (FMNH); 1♂, U.S.A., Georgia, Clarke Co. 200m, 33°54'N, 83°16'W, 27-03. V.




Figs. 25–38. *Erotides* (*Erotides*) *sculptilis* (SAY) ♂—25. head and pronotum; 26. antenna; 27. maxilla; 28. labium; 29. elytral cells; 30. 7th abdominal tergite; 31. 7th abdominal sternite; 32. terminal abdominal tergite; 33. terminal abdominal sternite; 35. aedeagus in dorsal view; 36. same in ventral view; 37. same in lateral view: ♀— 34. terminal abdominal sternite; 38. female genitalia. Scale for 25, 26, 29–38: 0.5 mm; scale for 27, 28: 0.25 mm.

1992, J. PICKERING leg. 108, label: [*Erotides sculptilis*, S. KAZANTSEV, 2004], (KMC); 1♀, Clark, Co. Il., Rocky Branch, 29. VI. 1984, P. S. KELLY leg. label: [*Erotides sculptilis*, S. KAZANTSEV, 2004], (KMC).

*Distribution*. U.S.A. and Canada.

*Remarks*. This species is closely related to *Erotides* (*Erotides*) *kanoi* (NAKANE) from Taiwan and *E.* (*E.*) *schneideri* (KIESENWETTER) from Azerbaijian and Iran, but can be distinguished from the latters by the following characteristics: 1) pronotum blackish brown with lateral sides widely light yellowish brown and anterior and posterior rims and carinae in central portion shiny reddish brown; 2) elytra brackish brown, with four longitudinal costae and transverse carinae shiny reddish brown; 3) maxillary palpi with terminal segment more elongate in male.

*E.* (*E.*) *sculptilis* (SAY) has the same colour pattern as many lycid beetles of the genera *Eropterus*, *Eros* and *Plateros* having a sympatric distribution in North America.

## Subgenus ***Glabroplatycis*** PIC, 1914

Type species: *Dictyoptera Cosnardi* CHEVROLAT, 1838

Body elongate, subparallel-sided, slightly widened posteriad. Pronotal carinae and elytral costae moderately or sparsely covered with short pubescence. Head with a short process on frons which is usually transversely trancate at apex, deeply and widely grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Maxillary palpi with terminal segment relatively short, securiform. Labial palpi with terminal segment securiform or subtriangular. Antennae long, filiform; 2nd segment cylindrical; 3rd to 10th segments slightly flattened dorso-ventrally; 3rd segment long, about twice as long as 2nd segment. Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other just before the basal margin; postero-median aleole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum subquadrate or bilobate, shallowly or deeply incised at apex; Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of large and irregular cells. Abdomen with terminal sternite lanceolate, gradually narrowed towards apex in male, or widely rounded at apex, with a long spiculum ventrale and a pair of elongate long arms at base in female. Legs moderate in length; trochanters round or subtriangular, each without a pilose cavity at latero-apical portion in male; femora each with a large or medium-sized pilose fovea on ventral side in basal portion in male. Head, pronotum and inner portions of elytral cells microreticulately punctured. Aedeagus elongate, with a pair of long parallel-sided parameres devoid of thorns on each inner side; phalobase large. Female genitalia elongate; styli short, with a long hair and five or more short ones at each apex; coxites long, with five or more short hairs in apical portions, gradually narrowed towards each apex; valvifers slender and very long.

*Distribution*. Palaearctic Region.

## ***Erotides* (*Glabroplatycis*) *bocaki*** MATSUDA, sp. nov.

(Figs. 39–50)

*Description.* Male. Body blackish brown, shining, with mandibles and claws yellowish brown; head, antennae, scutellum and legs brackish brown to dark reddish brown; pronotum yellowish brown with inner portions of areoles blackish brown; elytra unicolour yellowish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; pronotum and elytra sparsely covered with short, recumbent, yellowish brown pubescence.

Head microreticulately punctured, with a short process on frons which is transversely truncate at apex, deeply and widely grooved between frontal tubercles which are strongly swollen just behind antennal insertions; vertex with a deep inverse V-shaped impression in central portion. Eyes small, lateral, hemispherically prominent; distance between eyes about 2.4 times as wide as eye diameter. Antennae long, filiform, fully reaching basal 1/2 of elytra; 1st segment stout and strongly swollen at apex; 2nd segment cylindrical, about as long as wide; 3rd to 10th segments somewhat dorso-ventrally depressed; 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.9 : 0.4 : 1.0 : 1.4 : 1.5 : 1.5 : 1.6 : 1.7 : 1.7 : 1.6 : 2.3. Maxillary palpi with terminal segment securiform, about 1.5 times as long as wide, about 1.4 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.6 times as long as wide.

Pronotum transverse, subquadrate, about 0.8 times as long as the basal width, about 1.2 times as wide as head; anterior margin nearly straight; anterior angles subsquare; lateral margins subparallel-sided in apical 1/2, slightly diverging in basal 1/2; posterior angles triangularly projecting laterad; basal margin bisinuate; sides widely reflexed; disc uneven, with seven areoles; two antero-median areoles distinctly narrower than anteo-lateral areoles, bearing a narrow longitudinal carina between them; postero-median areole widely opened posteriad and connected with postero-lateral areoles, bearing a long narrow longitudinal carina starting from the middle of basal margin; inner portions of areoles microreticulately punctured. Scutellum bilobate, triangularly incised at apex; surface microreticulately punctured.

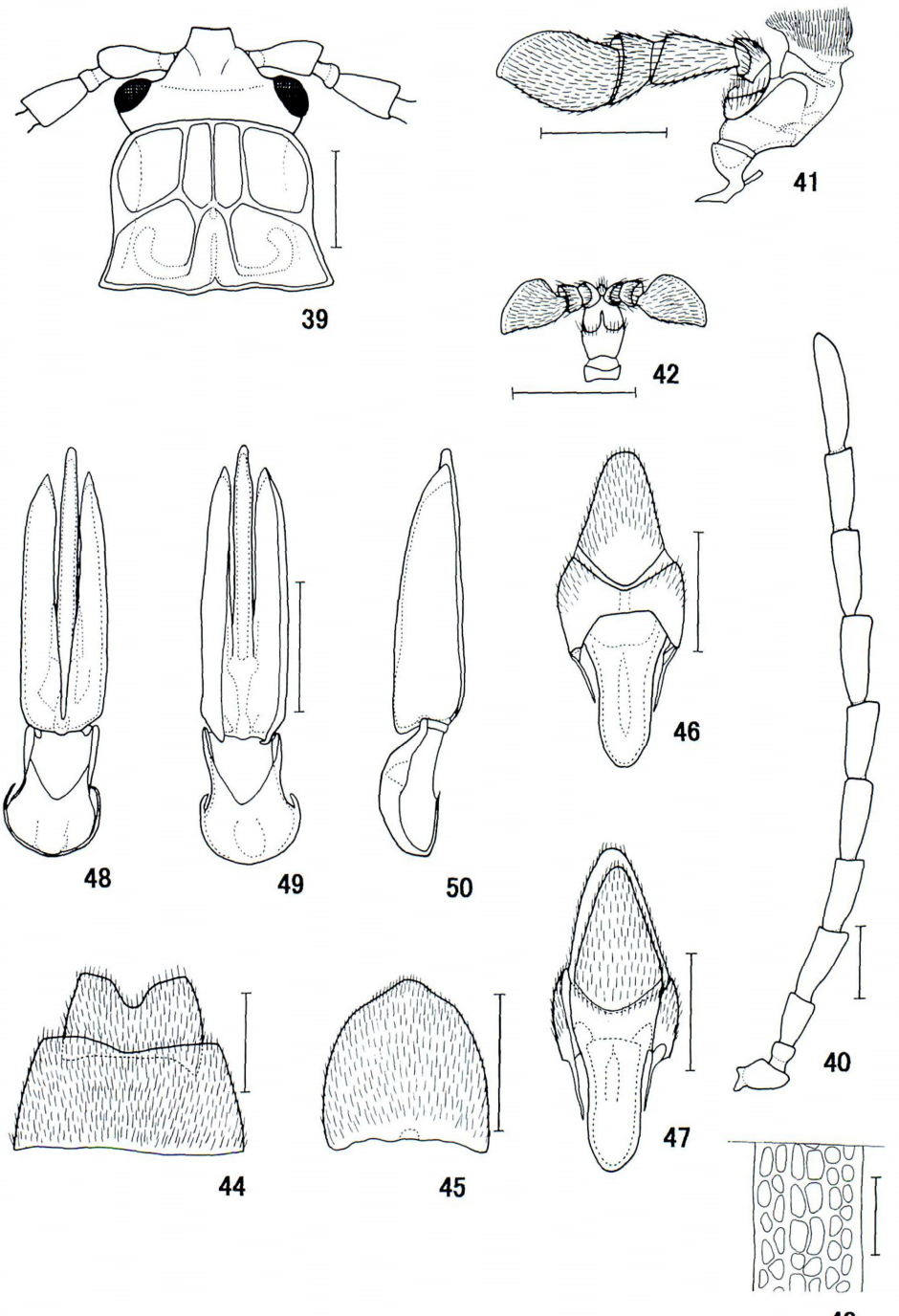
Elytra very long, subparallel-sided, dehiscent just behind scutellum and separately rounded at apices, about 3.4 times as long as wide, about 6.6 times as long as pronotum; each elytron bearing four longitudinal costae; intervals between costae with double rows of large and irregular cells; inner portions of the cells microreticulately punctured.

Ventral surface feebly rugose, finely and closely punctured on metasternum, microreticulately punctured on abdominal sternites; 7th abdominal sternite roundly emarginate at apex; terminal sternite lanceolate, gradually narrowed towards apex.

Legs moderate in length; hind trochanters subtriangular, each without a pilose cavity at latero-apical portion; femora each with a large oval pilose fovea on ventral side in basal portion, these foveas about 0.5 times as long as the length of femora; tibiae slender, slightly arched laterad; hind tarsi with 1st and 5th segments subequal in length, distinctly longer than 2nd to 4th segments; claws simple, somewhat angulate at base.

Aedeagus long and slender; median lobe elongate, obtusely pointed at apex; parameres narrow and long, acuminate at each apex, devoid of thorns on each inner side; phallobase relatively large.

Female unknown.




Figs. 39–50. *Erotides* (*Glabroplatycis*) *bocaki* sp. nov. ♂— 39. head and pronotum; 40. antenna; 41. maxilla; 42. labium; 43. elytral cells; 44. 6th and 7th abdominal sternites; 45. 7th abdominal tergite; 46. terminal abdominal tergite; 47. terminal abdominal sternite; 48. aedeagus in dorsal view; 49. same in ventral view; 50. same in lateral view. Scale for 39, 40, 43–50: 0.5 mm; scale for 41, 42: 0.25 mm.

*Mesurements*. Length: 8.1–9.4 mm; width: 1.9–2.1 mm.

*Type series*. Holotype: ♂, Meibaoshan Mts., alt. 2,800–3,000 m, 25°12'N, 100°24'E, Yunnan, China, 29–30. VI. 1992, D. KRÁL leg. The holotype is deposited in the Dr. Ladislav BOCÁK Collection of the Department of Zoology, Faculty of Science, Palacky University, Olomouc, Czech Republic. Paratype: 1 ♂, Meibaoshan Mts., alt. 2,800–3,000 m, 25°12' N, 100°24' E, Yunnan, China, 29–30. VI. 1992, V. KUBÁN leg. (KMC).

*Distribution*. Yunnan, China.

*Etymology*. This new species is named in honor of Dr. Ladislav BOCÁK of the Department of Zoology, Faculty of Science, Palacky University, Olomouc, Czech Republic, who is a prominent specialist of Lycidae, and gave me a chance to study this interesting lycid beetles.

*Remarks*. This new species is closely related to *Erotides* (*Glabroplatycis*) *nasutus* (KIESENWETTER) from Japan, but can be distinguished from the latter by the following characteristics: 1) antennae slightly longer, 2) elytra distinctly longer, 3) elytral punctures larger and more irregular, 4) aedeagus with parameres slightly shorter in length.

## ***Erotides* (*Glabroplatycis*) *cosnardi*** (CHEVROLAT, 1838)

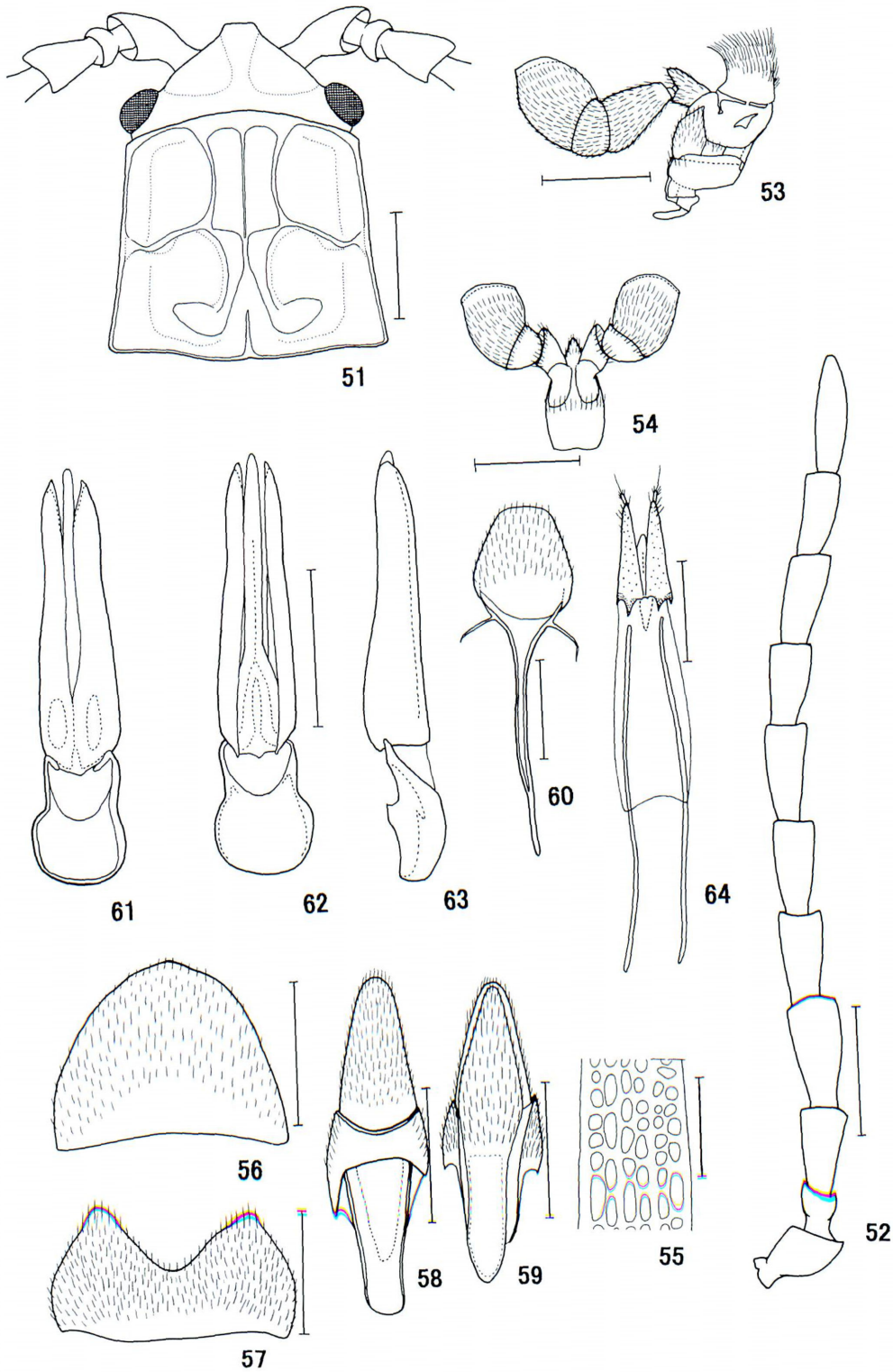
(Figs. 51–64, 191)

*Dictyoptera Cosnardi* CHEVROLAT, 1838: 46.
*Eros Cosnardi*: KIESENWETTER, 1858: 442; GEMMINGER & HAROLD, 1869: 1634; REDTENBACHER, 1874: 2.
*Dictyoptera* (*Platycis*) *Cosnardi*: SEIDLITZ, 1874: 332.
*Dictyopterus* (*Platycis*) *Cosnardi*: REITTER, 1911: 250.
*Eros* (*Platycis*) *Cosnardi*: THOMSON, 1864: 163.
*Platycis Cosnardi*: BOURGEOIS, 1882: 89.
*Platycis cosnardi*: JACOBSON, 1911: 666.
*Glabroplatycis Cosnardi*: PIC, 1914: 50; WINKLER, 1925: 489; KLEINE, 1933: 40; KLEINE, 1942: 56.
*Erotides* (*Glabroplatycis*) *cosnardi*: KAZANTSEV, 2004: 38; BOCÁKOVÁ & BOCÁK, 2007: 215.
*Dictyopterus Mercki* MULSANT, 1838: 5; MULSANT, 1862: 49.
*Dictyopterus flavescens* REDTENBACHER, 1849: 319.

*Redescription*. Body dark reddish brown, shining, with mandible and claws somewhat lighter in color; head, antennae, scutellum and legs brackish brown to dark reddish brown; pronotum blackish brown with antero-lateral portions widely yellowish brown; elytra unicolor yellowish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; pronotum and elytra sparsely covered with short, recumbent, yellowish brown pubescence.

Head with a short process on frons which is transversely truncate at apex, deeply and longitudinally grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae filiform; 2nd segment cylindrical; 3rd to 10th segments slightly flattened dorso-ventrally; 3rd segment long, about 2.0–2.5 times as long as 2nd segment; relative lengths of 1st to11th segments from basal to apical: 0.9 : 0.5 : 1.0 : 1.3 : 1.2 : 1.4 : 1.4 : 1.3 : 1.3 : 1.3 : 1.9 (male), 1.2 : 0.4 : 1.0 : 1.1 : 1.2 : 1.2 : 1.0 : 1.1 : 1.1 : 1.0 : 1.8 (female). Maxillary palpi with terminal segment short and robust, securiform, about 1.3 times as long as wide, about 1.2 times as long as 2nd segment. Labial palpi with terminal segment securiform, about 1.4 times as long as wide.




Figs. 51–64. *Erotides* (*Glabroplatycis*) *cosnardi* (CHEVROLAT) ♂—51. head and pronotum; 52. antenna; 53. maxilla; 54. labium; 55. elytral cells; 56. 7th abdominal tergite; 57. 7th abdominal sternite; 58. terminal abdominal tergite; 59. terminal abdominal sternite; 61. aedeagus in dorsal view; 62. same in ventral view; 63. same in lateral view: ♀— 60. terminal abdominal sternite; 64. female genitalia. Scale for 51, 52, 55-64: 0.5 mm; scale for 53, 54: 0.25 mm.

Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other just before the basal margin; post-median areole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of large and irregular cells.

Abdomen microreticulately punctured; 7th abdominal sternite widely and roundly emarginate at apex in male; terminal sternite lanceolate, gradually narrowed apicad in male, or widely rounded at apex, with a long spiculum ventrale and a pair of elongate long arms at base in female.

Legs moderate in length; hind trochanters subtriangular without a pilose cavity at each apex in male; femora each with a large or median sized oval pilose fovea on ventral side in basal portion in male, fore and hind femoral foveas about 0.4–0.5 times, and mid femoral fovea about 0.3 times as long as the length of each femur; hind tarsi with 1st segment the longest in length; 2nd to 4th segments gradually shorter in length; 5th segment distinctly longer than 2nd segment; claws simple, somewhat angulate at base.

Head, pronotum and inner portions of elytral cells microreticulately punctured.

Aedeagus elongate, with a pair of long parallel-sided parameres devoid of thorns on each inner side; phalobase large. Female genitalia elongate; styli short, with a long hair and five or more short ones at each apex; coxites long, with five or more short hairs in apical portion, gradually narrowed towards each apex; valvifers slender and very long.

*Measurements.* DE/E≒2.8 (male), 2.8 (female); PW/HW≒1.1 (male), 1.3 (female); PL/PW≒0.8 (male), 0.7 (female); EL/EW≒2.9 (male), 2.8 (female); EL/PL≒4.9 (male), 5.1 (female).

Length: 6.6–7.4 mm; width: 2.0–2.8 mm.

*Type locality.* Fontainebleau, France.

*Materials examined.* 1♂, labels: [57, 107], [*Cosnardi* CHEVR., *flavescens* REDTB., *Mercki* MULS.] (BMNH); 1♀, labels: [Europe], [Ind. Mus. 79,64] (BMNH); 1♀, labels: [Lucqrnq, 20. V. 04], [*Platycis flavescens*] (BMNH); 1♂, Mladec, Mor., 4. VI. 1979, L. BOCÁK leg, label: [*Platycis cosnardi* (CHEV.), L. BOCÁK det., 1985] (LBC); 1♀, Moravlcanv, 28. V. 1976, L. BOCÁK leg, label: [*Platycis cosnardi* (CHEV.), L. BOCÁK det., 1985] (LBC).

*Distribution.* Europe and Asia (Russia: West Siberia).

*Remarks.* This species is closely related to *Erotides* (*Glabroplatycis*) *nasutus* (KIESENWETTER) from Japan, but can be distinguished from the latter by the following characteristics: 1) eyes smaller, 2) maxillary and labial palpi robuster, 3) pronotum with hind angles slightly projected laterad, 4) elytra shorter, 5) mid and hind femoral foveae distinctly smaller in male.

## ***Erotides* (*Glabroplatycis*) *hayashii*** MATSUDA, sp. nov.

(Figs. 65–76)

*Description.* Male. Body black to blackish brown, shining, with mandibles and claws yellowish brown; head, antennae, scutellum and legs brack to blackish brown; pronotum black to blackish brown with marginal rims and carinae somewhat lighter in color; elytra unicolor light

reddish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; pronotum and elytra sparsely covered with short, recumbent yellowish brown pubescence.

Head microreticulately punctured, with a short process on frons which is transversely truncate at apex, deeply and widely grooved between frontal tubercles which are strongly swollen just behind antennal insertions; vertex with a deep inverse V-shaped impression in central portion. Eyes small, lateral, hemispherically prominent; distance between eyes about 2.1 times as wide as eye diameter. Antennae long, filiform and fully reaching basal 1/2 of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about as long as wide; 3rd to 10th segments somewhat dorso-ventrally depressed; 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.8 : 0.4 : 1.0 : 1.4 : 1.5 : 1.7 : 1.7 : 1.7 : 1.8 : 1.8 : 2.2. Maxillary palpi with terminal segment securiform, about 1.4 times as long as wide, about 1.1 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.2 times as long as wide.

Pronotum transverse, subquadrate, about 0.8 times as long as the basal width, about 1.1 times as wide as head; anterior margin nearly straight; anterior angles subsquare; lateral margins subparallel-sided in apical 3/5, slightly diverging in basal 2/5; posterior angles triangularly projecting laterad; basal margin bisinuate; sides widely reflexed; disc uneven, with seven areoles; two antero-median areoles distinctly narrower than anteo-lateral areoles, bearing a narrow longitudinal carina between them, narrowly opened posteriad and connected with postero-median areole; postero-median areole opened in front and behind and connected with postero-lateral areoles, bearing a long narrow longitudinal carina starting from the middle of basal margin; inner portions of areoles microreticulately punctured. Scutellum bilobate, triangularly incised at apex; surface microreticulately punctured.

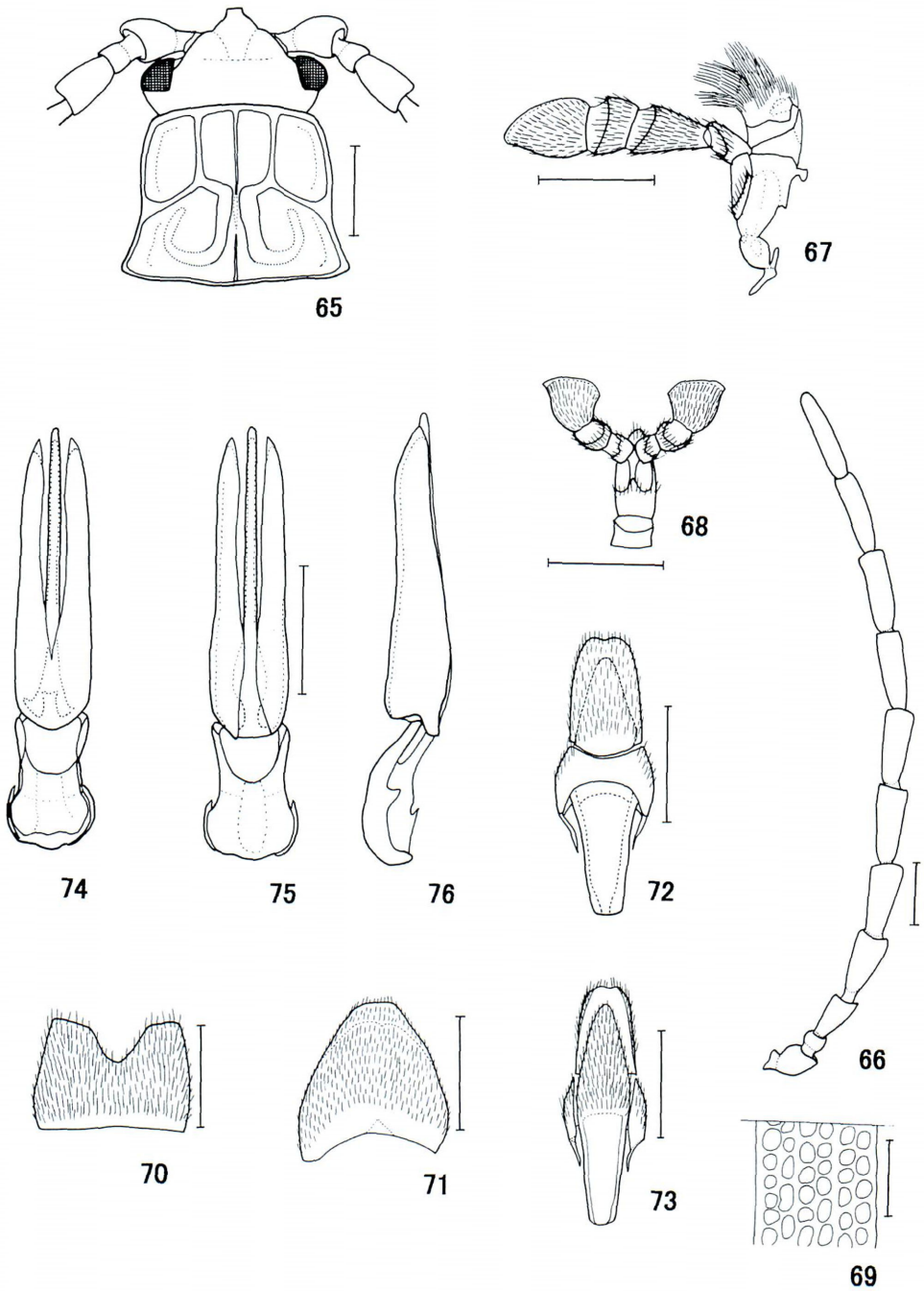
Elytra long, subparallel-sided, dehiscent just behind scutellum and separately rounded at apices, about 3.1 times as long as wide, about 6.2 times as long as pronotum; each elytron bearing four longitudinal costae; intervals between costae with double rows of large and round cells; inner portions of the cells microreticulately punctured.

Ventral surface feebly rugose, finely and closely punctured on metasternum, microreticulately punctured on abdominal sternites; 7th abdominal sternite roundly emarginate at apex; terminal sternite lanceolate, gradually narrowed towards apex; terminal tergite gradually narrowed towards apex which is slightly emarginate at middle.

Legs moderate in length; trochanters subtriangular, each without a pilose cavity at latero-apical portion; femora each with a large oval pilose fovea on ventral side in basal portion, fovea about 0.4–0.5 times as long as the length of femur; tibiae slender, slightly arched laterad; hind tarsi with 1st and 5th segments subequal in length, slightly longer than 2nd to 4th segments; claws simple, somewhat angulate at base.

Aedeagus long and slender; median lobe elongate, obtusely pointed at apex; parameres narrow and long, acuminate at each apex, devoid of thorns on each inner side; phallobase large.

Female. Eyes small, weakly prominent; distance between eyes about 2.8 times as long as eye diameter. Antennae filiform, not reaching the middle of elytra; relative lengths of 1st to 11th segments from basal to apical : 0.8 : 0.4 : 1.0 : 1.3 : 1.3 : 1.3 : 1.1 : 1.1 : 1.2 : 1.1 : 1.6. Pronotum about 0.7 times as long as the basal width, about 1.4 times as wide as head. Elytra about 2.9 times as long as wide, about 5.6 times as long as pronotum.




Figs. 65–76. *Erotides* (*Glabroplatycis*) *hayashii* sp. nov. ♂—65. head and pronotum; 66. antenna; 67. maxilla; 68. labium; 69. elytral cells; 70. 7th abdominal sternite; 71. 7th abdominal tergite; 72. terminal abdominal tergite; 73. terminal abdominal sternite; 74. aedeagus in dorsal view; 75. same in ventral view; 76. same in lateral view. Scale for 65, 66, 69–76: 0.5 mm; scale for 67, 68: 0.25 mm.

Length: 6.7–8.4 mm; width: 1.8–2.2 mm.

*Type series*. Holotype: ♂, Ôkawa-rindo, Yaku-shima Is., Kagoshima Pref., Japan, 5. V. 2008, Y. HAYASHI leg., (OMNH); paratypes: 1♂, Anbou, Yaku-shima Is., 3-6. V. 2008, Y. HAYASHI leg., (KMC); 1♀, 5. V. 2008, Ôkawa-rindo, Yaku-shima Is., Y. HAYASHI leg., (KMC).

*Distribution*. Yaku-shima Island, Southwest Japan.

*Etymology*. This new species is named in honor of Dr. Yasuhiko HAYASHI, Kawanishi, Japan, who is a prominent specialist of Staphylinidae, and collected this interesting new species.

*Remarks*. This new species is closely related to *Erotides* (*Glabroplatycis*) *nasutus* (KIESENWETTER) from Japan, but can be distinguished from the latter by the following characteristics: 1) head, antennae, pronotum, scutellum and legs brack to blackish brown, 2) maxillary palpi with terminal segment shorter, 3) elytra longer, 4) terminal abdominal tergite shallowly emarginate at apex in male.

## ***Erotides (Glabroplatycis) lalashanus*** MATSUDA, sp. nov.

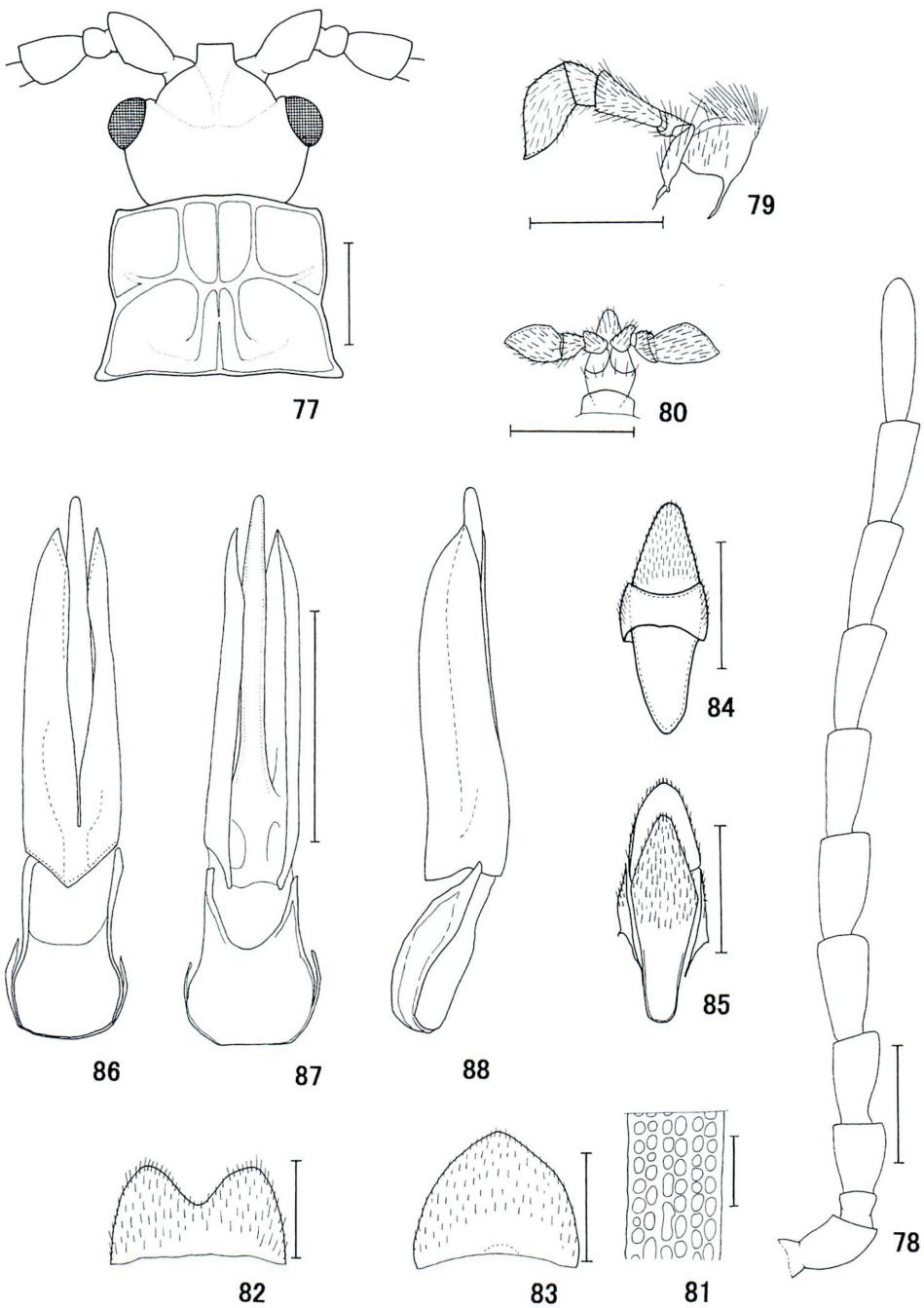
(Figs. 77–88)

*Description*. Male. Body dark reddish brown, shining, with mandibles and claws somewhat lighter in color; head, antennae, scutellum and legs dark reddish brown; pronotum dark reddish brown to yellowish brown with inner portions of areoles somewhat darker in colour; elytra unicolour yellowish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; marginal rims and carinae of pronotum and primary longitudinal costae of elytra moderately covered with short, recumbent yellowish brown pubescence.

Head microreticulately punctured, with a short process on frons which is transversely truncate at apex, bearing a deep wide longitudinal groove between frontal tubercles which are strongly swollen just behind antennal insertions; vertex with a shallow inverse V-shaped impression in central portion. Eyes small, lateral, hemispherically prominent; distance between eyes about 2.5 times as wide as eye diameter. Antennae long, filiform, reaching basal 1/2 of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about as long as wide; 3rd to 10th segments somewhat dorso-ventrally depressed; 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 1.2 : 0.5 : 1.0 : 1.4 : 1.6 : 1.7 : 1.7 : 1.7 : 1.7 : 1.7 : 2.5. Maxillary palpi with terminal segment securiform, about 2.1 times as long as wide, about 1.3 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.5 times as long as wide.

Pronotum transverse, subquadrate, about 0.7 times as long as the basal width, about 1.2 times as wide as head; anterior margin slightly arched anteriad; anterior angles subsquare; lateral margins subparallel-sided in apical 3/5; posterior angles triangularly projecting laterad; basal margin bisinuate; sides widely reflexed; disc uneven, convex at middle, with seven areoles; two antero-median areoles distinctly narrower than anteo-lateral areoles, bearing a narrow longitudinal carina between them; postero-median areole widely opened posteriad and connected with postero-lateral areoles, bearing a long narrow longitudinal carina starting from the middle of basal margin; inner portions of areoles microreticulately punctured. Scutellum bilobate, triangularly incised at apex; surface microreticulately punctured.




Figs. 77–88. *Erotides* (*Glabroplatycis*) *lalashanus* sp. nov. ♂—77. head and pronotum; 78. antenna; 79. maxilla; 80. labium; 81. elytral cells; 82. 7th abdominal sternite; 83. 7th abdominal tergite; 84. terminal abdominal tergite; 85. terminal abdominal sternite; 86. aedeagus in dorsal view; 87. same in ventral view; 88. same in lateral view. Scale for 77, 78, 81–88: 0.5 mm; scale for 79, 80: 0.25 mm.

Elytra long, subparallel-sided, dehiscent behind scutellum and separately rounded at apices, about 3.1 times as long as wide, about 5.9 times as long as pronotum; each elytron bearing four longitudinal costae; intervals between costae with double rows of large and irregular cells; inner portions of the cells microreticulately punctured.

Ventral surface feebly rugose, finely and closely punctured on metasternum, microreticulately punctured on abdominal sternites; 7th abdominal sternite roundly emarginate at apex; terminal sternite lanceolate, gradually narrowed towards apex.

Legs moderate in length; trochanters subtriangular, each without a pilose cavity at laterapical portion; femora relatively wide, each with a large oval pilose fovea on ventral side in basal portion, fovea about 0.4-0.5 times as long as the length of femur; tibiae slender, slightly arched laterad; hind tarsi with 1st and 5th segments subequal in length, distinctly longer than 2nd to 4th segments; claws simple, somewhat angulate at base.

Aedeagus long and slender; median lobe elongate, obtusely pointed at apex; parameres narrow and long, acuminate at each apex, devoid of thorns on each inner side; phallobase relatively large.

Female. Eyes small, weakly prominent; distance between eyes about 2.5 times as long as eye diameter. Antennae filiform, not reaching the middle of elytra; relative lengths of 1st to 11th segments from basal to apical : 1.1 : 0.5 : 1.0 : 1.4 : 1.4 : 1.4 : 1.3 : 1.4 : 1.4 : 1.3 : 2.0. Pronotum about 0.7 times as long as the basal width, about 1.4 times as wide as head. Elytra about 2.9 times as long as wide, about 5.5 times as long as prothorax.

Length: 5.0–8.5 mm; width: 1.4–2.4 mm.

*Type series*. Holotype: ♂, Mt. Lalashan, Taipei Hsien, Taiwan, 4. V. 1981, S. TSUYUKI leg. The holotype is deposited in the collection of the Hokkaido University Museum, Sapporo. Paratypes: 1♀, Mt. Lalashan, Taipei Hsien, 5. V. 1978, T. KAMAKARI leg., (KMC); 1♀, Mt. Lalashan, 26. IV. 1981, O. YAMAJI leg., (KMC); 1♀, Mt. Lalashan, 28–29. IV. 1987, T. OCHI leg., (LBC); 1♀, Mt. Lalashan, 5. V. 1985, K. KINUGASA leg., (NHMT).

*Distribution*. Taiwan.

*Etymology*. This new species is named after the type locality, Mt. Lalashan.

*Remarks*. This new species is closely related to *Erotides* (*Glabroplatycis*) *taiwanus* (KÔNO) from Taiwan, but can be distinguished from the latter by the following characteristics: 1) body smaller in length, 2) pronotum lighter in color, 3) maxillary pulpi with terminal segment narrower, 4) eyes larger in male, 5) aedeagus with phallobase smaller.

## ***Erotides* (*Glabroplatycis*) *nasutus*** (KIESENWETTER, 1874)

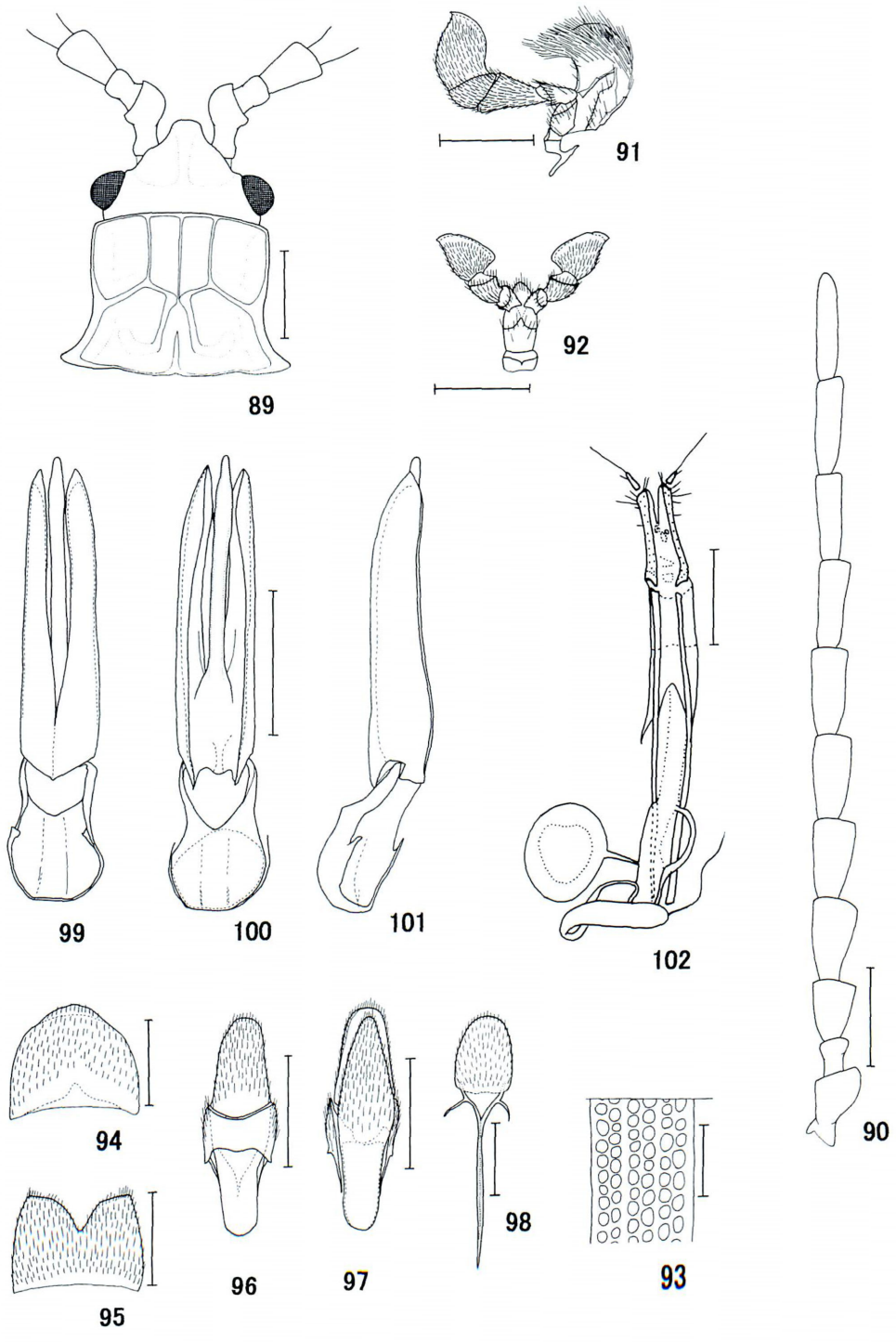
(Figs. 89–102, 181–183, 187, 188)

*Eros nasutus* KIESENWETTER, 1874: 255; LEWIS, 1879: 17.

*Dictyopterus* (*Platycis*) *nasutus*: BOURGEOIS, 1902: 90.

*Platycis nasuta*: JACOBSON, 1911: 666; WINKLER, 1925: 489; MATSUMURA, 1931: 166; KÔNO, 1932: 58; YUASA, 1932: 674; YUASA & KÔNO, 1950: 1052.

*Platycis nasutus*: GORHAM, 1883: 402; SCHÖNFELDT, 1887: 121; KLEINE, 1926: 98; KLEINE, 1933: 40; KLEINE, 1942: 56; NAKENE, 1953: 3; NAKANE, 1963: 175; KUWAYAMA, 1967: 143; NAKANE, 1969a: 161; NAKANE, 1969b: 28; SATÔ & MATSUDA, 1985: 105; BOCÁK & BOCÁKOVÁ, 1991: 322; KAZANTSEV, 1993: 101; Bocák & Bocáková, 2008: 706.




Figs. 89–102. *Erotides* (*Glabroplatycis*) *nasutus* (KIESENWETTER) ♂—89. head and pronotum; 90. antenna; 91. maxilla; 92. labium; 93. elytral cells; 94. 7th abdominal tergite; 95. 7th abdominal sternite; 96. terminal abdominal tergite; 97. terminal abdominal sternite; 99. aedeagus in dorsal view; 100. same in ventral view; 101. same in lateral view; ♀—98. terminal abdominal sternite; 102. female genitalia. Scale for 89, 90, 93-102: 0.5 mm; scale for 91, 92: 0.25 mm.

*Erotides* (*Glabroplatycis*) *nasuta*: KAZANTSEV, 2004: 38.
*Erotides* (*Glabroplatycis*) *nasutus*: BOCÁKOVÁ & BOCÁK, 2007: 215.
*Platycis Cosnardi* subsp. *raddensis* PIC, 1904: 25.
*Platycis cosnardi* subsp. *raddensis*: JACOBSON, 1911: 666; MEDVEDEV, 1966: 37; KUWAYAMA, 1967: 144; NAKANE, 1969a: 164.

*Redescription*. Body blackish brown, shining, with inner sides of genae and claws yellowish brown; head, antennae, scutellum and legs dark reddish brown to yellowish brown; pronotum dark reddish brown with marginal rims and carinnae shiny yellowish brown; elytra unicolor shiny yellowish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; pronotum and elytra sparsely covered with short, recumbent, yellowish brown pubescence.

Head microreticulately punctured, with a short process on frons which is usually transversely trancate at apex, deeply and longitudinally grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae long, filiform; 2nd segment cylindrical; 3rd to 10th antennal segments slightly flattened dorso-ventrally; 3rd segment long, about 2.0–2.5 times as long as 2nd segment; relative lengths of 1st to 11th segments from basal to apical: 1.0 : 0.4 : 1.0 : 1.4 : 1.5 : 1.5 : 1.6 : 1.6 : 1.5 : 1.6 : 2.1 (male), 1.0 : 0.5 : 1.0 : 1.3 : 1.3 : 1.3 : 1.3 : 1.2 : 1.3 : 1.2 : 1.6 (female). Maxillary palpi with terminal segment securiform, about 1.4 times as long as wide, about 1.0 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.2 times as long as wide.

Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other just before the basal margin; postero-median areole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum subquadrate or bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of large and round cells.

Abdomen microreticulately punctured; 7th abdominal sternite subtriangularly emarginate at apex; terminal sternite lanceolate, gradually narrowed apicad in male, or gradually narrowed posteriad, widely rounded at apex, with a long spiculum ventrale and a pair of short arms at base in female.

Legs moderate in length; trochanters subtriangular, each without a pilose cavity at latero-apical portion in male; femora relatively wide, each with a large oval pilose fovea on ventral side in basal portion in male, fovea about 0.5 times as long as the length of femur; hind tarsi with 1st segment the longest in length; 2nd to 4th segments gradually shorter in length; 5th segment slightly longer than 2nd segment; claws simple, somewhat angulate at base.

Head, pronotum and inner portions of elytral cells microreticulately punctured.

Aedeagus elongate, with a pair of long parallel-sided parameres, devoid of thorns on each inner side; phalobase large. Female genitalia elongate; styli small, with sevral short and long hairs at apices; coxites oblong, with five or more short hairs in apical 1/2, slightly narrowed towards apices; valvifers very long.

*Measurements*. DE/E≒2.3 (male), 2.6 (female); PW/HW≒1.2 (male), 1.2 (female); PL/PW≒0.8 (male), 0.8 (female); EL/EW≒3.2 (male), 3.2 (female); EL/PL≒5.6 (male), 5.6 (female).

Length: 7.1–8.1 mm; 1.9–2.5 mm.

*Type locality*. Japonia.

*Materials examined*. 1 ♂, labels: [Japan, G. LEWIS, 1910-320], [*Eros nasutus* ♀ KIESW.], [? syntype ?, C. M. F. von HAYEK, det. 1967] (BMNH); 1 ♂, labels: [Japan, G. LEWIS, 1910-320], [*Eros nasutus* ♂ KIESW.], [? syntype ?, C. M. F. von HAYEK, det. 1967] (BMNH); 3 ♂♂, 1 ♀, labels: [Nikko], [Japan, G. LEWIS, 1910-320], [*nasutus* KIES.], [*nasutus* KIESENW., GORH., 1883], [C. M. F. von HAYEK, 1967] (BMNH); 1 ♂, [Oyama, 24. V.–26. V. 80], [Japan, G. LEWIS, 1910-320], [*Platycis nasutus* (*Eros*) KIES.], [*nasutus* KIESENW., GORH., 1883], [C. M. F. von HAYEK, 1967] (BMNH); 1 ♂, [Suyama, 20. IV.–22. IV. 80], [Japan, G. LEWIS, 1910-320], [*Platycis nasutus* (*Eros*) KIES.], [*nasutus* KIESENW., GORH., 1883], [C. M. F. von HAYEK, 1967] (BMNH); 1 ♀, labels: [MUSEUM PARIS NIPPON MOYEN, ENV. DE TOKIO ET ALPES DE NIKKO, J. HARMAND 1901], [*Dictyopterus* (*Platycis*) *nasutus* KSW., J. BOURGEOIS det. 1902] (MNHN); 1 ♂1 ♀, labels: [Jyozankei, 3. VII. 1912], [Sapporo, MATSUMURA] (SEHU); 1 ♂, labels: [♂], [Hokkaido, C. WATANABE], [*Platycis nasuta*, det. H. KÔNO] (SEHU); 1 ♀, labels: [♀], [Chichibu Musashi, Japan, 10 June, 1913, H. TAKABAYASHI], [*Platycis nasuta* KIES., det. H. KÔNO] (SEHU); 1 ♂, Tokachi-mitsumata, Hokkaido, 1. VII. 1975, K. MASAKI leg., (KMC); 2 ♂♂, Kosai-rindo, Ajigasawa-cho, Aomori Pref., Japan, 22. VI. 1997, T. OZAKI leg., (KMC); 1 ♂, Akano-rindo, near Haranomachi, Fukushima Pref., Japan, 1. VI. 1980, S. TSUYUKI leg., (KMC); 1 ♀, Hidorisawa-rindo, Shioya, Tochigi Pref., Japan, 20. V. 1989, A. IZUMI leg., (KMC); 1 ♂, Gozaishi-kosen, Hoozan, Yamanashi Pref., Japan, 25. VI. 1988, K. HOSODA leg., (KMC); 2 ♂♂, Shomaru-pass, Hanno, Saitama Pref., Japan, 6. V. 1977, A. IZUMI leg., (KMC); 1 ♂, Mt. Kiyosumiyama, Chiba Pref., Japan, 21. IV. 1973, M. TAKAKUWA leg., (KMC); 1 ♀, Gosakushin-do-yu, Zawa-machi, Niigata Pref., Japan, 14. VI. 1986, A. IZUMI leg., (KMC); 1 ♂, Kamikochi, Nagono Pref., Japan, 26. VI. 1977, T. KAMAKARI leg., (KMC); 1 ♂, Mt. Ashitakayama, Shizuoka Pref., Japan, 27. V. 1979, S. TSUYUKI leg., (KMC); 1 ♂, Mt. Kuramayama, Kyoto Pref., Japan, 31. V. 1982, K. MASAKI leg., (KMC); 1 ♂, Mt. Obako-dake, Nosegawa-mura, Nara Pref., Japan, 17. V. 1971, K. MATSUDA leg., (KMC); 1 ♂, Mt. Myokensan, Toyono-cho, Osaka Pref., Japan, 29. IV. 1990, K. MATSUDA leg., (KMC); 1 ♂, Mt. Hyonosen, Hyogo Pref., Japan, 11-12. VI. 1991, H. KÔNO leg., (KMC); 1 ♂, Shimohinachi, Nabari, Mie Pref., Japan, 4. V. 1992, S. OKUNO leg., (KMC); 1 ♀, Mt. Daisen, Tottori Pref., Japan, 12. VI. 1960, T. KAMEMOTO leg., (KMC); 1 ♀, Mt. Daimanjizan, Oki Isls., Shimane Pref., Japan, 20. V. 2003, T. SHIMADA leg., (KMC); 1 ♂, 1 ♀, Mt. Akaboshiyama, Doi-cho, Uma-gun, Ehime Pref., Japan, 28. IV. 2002, M. SHIRAISHI leg., (KMC); 1 ♂, Kamikoba, Shimabara City, Nagasaki Pref., Japan, 13. IV. 1977, S. IMASAKA leg., (KMC); 1 ♂, Mt. Kunimiyama, Imari, Saga Pref., Japan, 9. V. 1980, S. IMASAKA leg., (KMC); 1 ♀, Mt. Kuro-dake, Kujyu Mts., Ohita Pref., Japan, 23. V. 1993, S. OGATA leg., (KMC); 1 ♂, 1 ♀, S. Primorje (Ussuri), 30 km E Ussurijsk, env. Kamenushka, Russia, 20–25. VI. 1990, S. Kazantsev leg., (SKC).

*Distribution*. Russia, China, Korea and Japan.

*Remarks*. This species is closely related to *Erotides* (*Glabroplatycis*) *lalashanus* MATSUDA sp. nov. and *E.* (*G.*) *taiwanus* (KÔNO) from Taiwan, but can be distinguished from the latters by the following characteristics: 1) eyes slightly larger than *E.* (*G.*) *lalashanus* and slightly smaller than *E.* (*G.*) *taiwanus* in male, 2) maxillary palpi with terminal segment wider in male, 3) pronotum with posterior angles more strongly projecting laterad, 4) elytra sparsely covered with short pubescence, 5) aedeagus with parameres narrower.

## *Erotides (Glabroplatycis) taiwanus* (KÔNO, 1932)

(Figs. 103–114)

*Platycis nasuta* subsp. *taiwana* KÔNO, 1932: 59.
*Platycis taiwanus*: NAKANE, 1967: 286; NAKANE, 1971: 152; JENG, YANG & SATÔ, 2002: 181.
*Erotides* (*Glabroplatycis*) *taiwana*: KAZANTSEV, 2004: 38.
*Erotides* (*Glabroplatycis*) *taiwanus*: BOCÁKOVÁ & BOCÁK, 2007: 215.

*Redescription*. Body blackish brown to dark reddish brown, shining, with mandibles and claws yellowish brown; head, antennae, pronotum, scutellum and legs brackish brown to dark reddish brown; elytra unicolour yellowish brown.

Body surface closely furnished with short, recumbent, light reddish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; pronotum and elytra moderately covered with short, recumbent, yellowish brown pubescence.

Head with a short process on frons which is usually transversely truncate at apex, deeply and longitudinally grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae long, filiform; 2nd segment cylindrical; 3rd to 10th antennal segments slightly flattened dorso-ventrally; 3rd segment long, about 2.0–2.5 times as long as 2nd segment; relative lengths of 1st to 11th segments from basal to apical: 1.1 : 0.5 : 1.0 : 1.5 : 1.6 : 1.8 : 1.8 : 1.9 : 1.9 : 1.5 : 2.3 (male), 0.9 : 0.4 : 1.0 : 1.3 : 1.2 : 1.2 : 1.2 : 1.2 : 1.2 : 1.2 : 1.7 (female). Maxillary palpi with terminal segment securiform, about 1.8 times as long as wide, about 1.3 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.4 times as long as wide.

Pronotum transverse, subquadrate, slightly or strongly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other just before the basal margin; postero-median areole with a long narrow longitudinal carina starting from the middle of basal margin. Scutellum bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of large and round cells.

Abdomen microreticulately punctured; 7th abdominal sternite subtriangularly emarginate at apex in male; terminal sternite lanceolate, gradually narrowed towards apex in male.

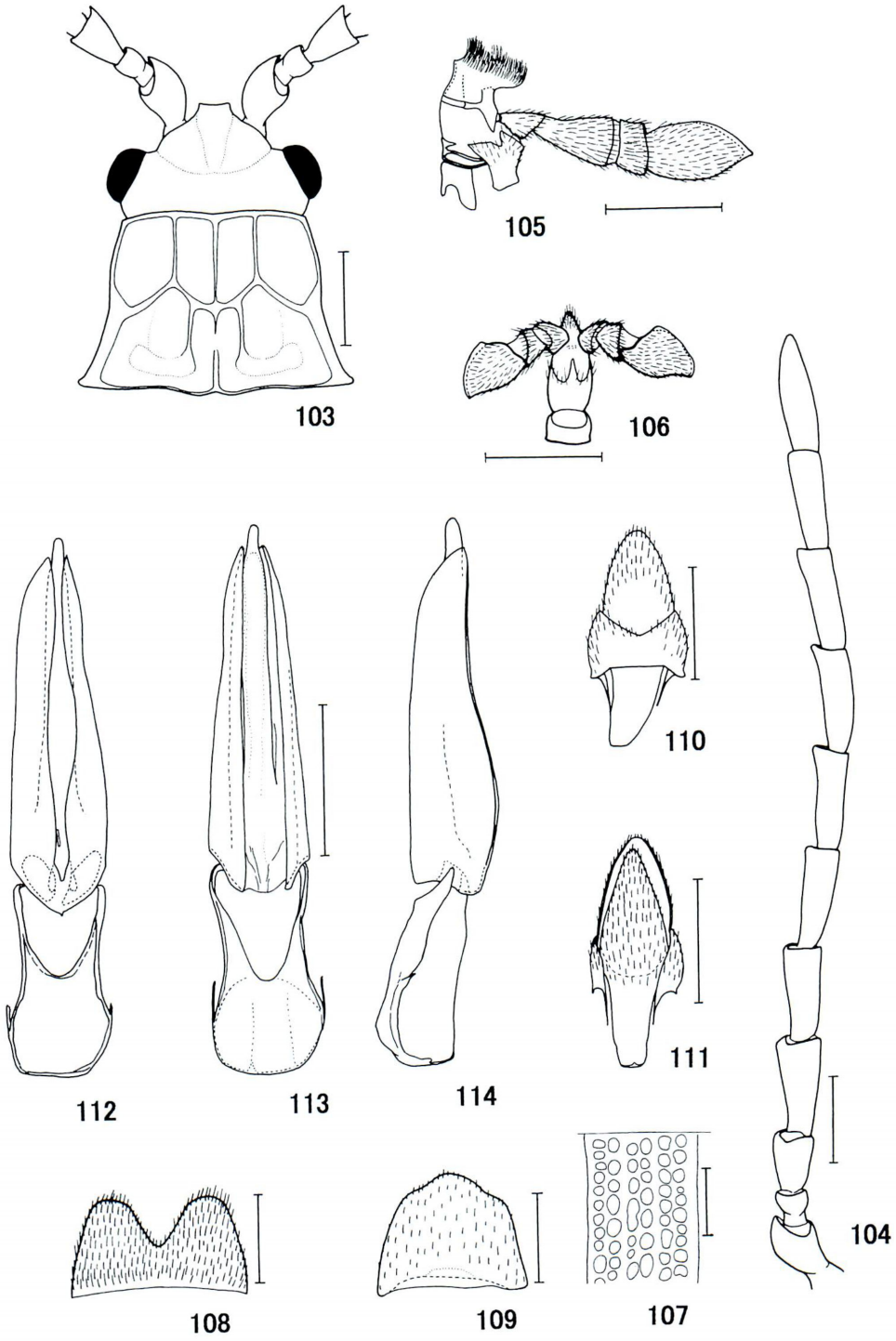
Legs moderate in length; trochanters subtriangular, each without a pilose cavity at latero-apical portion in male; femora relatively wide, each with a large oval pilose fovea on ventral side in basal portion in male, fovea about 0.4–0.5 times as long as the length of femur; hind tarsi with 1st segment the longest in length; 2nd to 4th segments gradually shorter in length; 5th segment about as long as or slightly longer than 2nd segment; claws simple, somewhat angulate at base.

Head, pronotum and inner portions of elytral cells microreticulately punctured.

Aedeagus elongate, with a pair of long parallel-sided parameres, devoid of thorns on each inner side; phalobase large.

*Measurements*. DE/E≒2.2 (male), 2.8 (female); PW/HW≒1.3 (male), 1.4 (female); PL/PW≒0.7 (male), 0.7 (female); EL/EW≒3.2 (male), 2.8 (female); EL/PL≒6.1 (male), 5.4 (female).

Length: 6.3–8.2 mm; width: 1.3–1.8 mm.




Figs. 103—114. *Erotides* (*Glabroplatycis*) *taiwanus* (KÔNO) ♂—103. head and pronotum; 104. antenna; 105. maxilla; 106. labium; 107. elytral cells; 108. 7th abdominal sternite; 109. 7th abdominal tergite; 110. terminal abdominal tergite; 111. terminal abdominal sternite; 112. aedeagus in dorsal view; 113. same in ventral view; 114. same in lateral view. Scale for 103, 104, 107–114: 0.5 mm; scale for 105, 106: 0.25 mm.

*Type locality*. Alisan, Formosa (Alishan, Chiai Hsien, Taiwan).

*Materials examined*. Holotype, ♂, labels: [Alisan (=Alishan), 23-24. IV. 1928], [Formosa, MATSUMURA], [♂], [*Platycis taiwana*, Type, KÔNO] (SEHU); 1 ♂, labels: [Kuyaniya, 25. IV. 07], [Formosa, MATSUMURA], [Paratype, ♂, *Platycis nasuta taiwana* KÔNO] (SEHU); 1 ♂,labels: [Tappan, 24. IV. 07], [Formosa, MATSUMURA], [Paratype, ♂, *Platycis nasuta taiwana* KÔNO] (SEHU); 2 ♂ ♂, Tattaka (Sungkang), Formosa, 1. VI. 1965, T. SHIRÔZU leg. (NSMT); 1 ♀, Jujiro (Shihtzulu), Formosa, 19. III. 1926, T. KANÔ leg. (NSMT); 2 ♂ ♂, Fenchifu, alt. 1400 m, Chiai Hsien, Taiwan, 26. III. 1970, T. KOBAYASHI leg., (TSC); 1 ♂, Fenchifu, 1. V. 1983, T. ITO leg., (TSC); 1 ♀, Shenmuh, Chiai Hsien, 21. VI. 1979, T. MIKAGE leg., (KMC); 1 ♂, Nanshanchi, alt. 800 m, Nantou Hsien, Taiwan, 14. V. 1978, T. HATAYAMA leg., (KMC); 1 ♂, Sungkang, alt. 1950 m, Nantou Hsien, Taiwan, 17. V. 1976, M. KUBOKI leg., (KMC); 1 ♂, 1 ♀, Meifeng, alt. 2200 m, Nantou Hsien, 20. V. 1974, K. MATSUDA leg., (KMC); 1 ♀, Meifeng, 19. V. 1977, S. IMASAKA leg., (KMC); 1 ♂, Mt. Anma-shan, alt. 2,160-2,300 m, Taichung Hsien, Taiwan, 23. V. 1991, A. SAITO leg., CBM-ZI 24640 (CBM).

*Distribution*. Taiwan.

*Remarks*. This species is closely related to *Erotides* (*Glabroplatycis*) *hayashii* MATSUDA sp. nov. from Yaku-shima Is., Japan, but can be distinguished from the latter by the following characteristics: 1) eyes slightly smaller, 2) maxillary palpi with terminal segment distinctly longer, 3) pronotum with posterial angles more strongly projected laterad, 4) terminal abdominal tergite gradually narrowed towards rounded apex in male, 5) aedeagus with phalobase more elongate.

## Genus ***Konoplatycis*** NAKANE, 1969

Type species: *Platycis otome* KÔNO, 1932

*Platycis* KÔNO, 1932: 59; KLEINE, 1942: 55; NAKANE, 1953: 3; NAKANE, 1963: 175.
*Platycis* (*Konoplatycis*): NAKANE, 1969a: 155; BOCÁKOVÁ & BOCÁK, 2007: 216.
*Konoplatycis*: NAKANE, 1969b: 28; SATÔ & MATSUDA, 1985: 94; KAZANTSEV, 2004: 496; BOCÁK & BOCÁKOVÁ, 2008: 706.

Body elongate, subparallel-sided, slightly widened posteriad. Head, pronotum and elytra densely or moderately covered with subrecumbent short pubescence. Head with a very short process on frons, deeply or shallowly grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae long, filiform; 2nd and 3rd segments cylindrical; 4th to 10th segments somewhat flattened dorso-ventrally; 3rd segment short, about as long as 2nd segment. Maxillary palpi with terminal segment securiform. Labial palpi with terminal segment subtriangular or securiform. Pronotum transverse, slightly narrowed anteriad, with seven areoles; two antero-median areoles with a wide longitudinal carina between them; three posterior areoles complete or connected with each other in front of basal margin; postero-median areole with or without a very short median longitudinal carina starting from the middle of basal margin. Scutellum bilobate, triangularly incised at apex. Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of small or large cells. Abdomen with terminal sternite lanceolate, strongly or gradually narrowed towards apex in male, or wide, strongly narrowed towards apex which is transversely truncate and slightly emar-

ginate at middle, with a long spiculum ventrale and a pair of elongate long arms at base in female. Legs moderate in length; hind trochanters subtriangular, each without a pilose cavity at latero-apical portion in male; femora each without a pilose fovea on ventral side in basal portion in male. Head, pronotum and inner portions of elytral cells microreticulately or finely and closely punctured. Aedeagus elongate or robust, with parameres widely arched laterad, bearing a lobe or two thorns on each inner side; phalobase relatively small. Female genitalia elongate; styli short, with a long hair and four or more short hairs at each apex; coxites long, with six or more short hairs in apical 1/2, slightly narrowed towards apices; valvifers slender and very long.

*Distribution*. Palaearctic Region (China and Japan).

## ***Konoplatycis matsudai*** (BOCÁK, 1996) comb. nov.

(Figs. 115–126)

*Platycis* (s. str.) *matsudai* BOCÁK, 1996: 1.
*Erotides* (*Glabroplatycis*) *matsudai*: KAZANTSEV, 2004: 496; BOCÁKOVÁ & BOCÁK, 2007: 215.

*Redescription*. Male. Body dark reddish brown, shining, with mandibles and claws lighter in color; head, pronotum, scutellum and legs dark reddish brown to yellowish brown; antennae blackish brown except for 1st to 3rd segments dark reddish brown; elytra light reddish brown.

Body surface closely furnished with short, recumbent, red pubescence; head, pronotum, elytra and legs moderately covered with short, recumbent red pubescence; antennae densly covered with short, suberect, light yellowish brown hairs except for 1st to 3rd segments densely covered with red hairs.

Head with a very short process on frons, shallowly grooved between antennal insertions. Eyes small, hemispherically promonent laterad. Antennae long; 2nd and 3rd segments cylindrical; 4th to 8th segments somewhat flattened dorso-ventrally (lacking 9th to 11th segments) ; 3rd segment short, about as long as 2nd segment; relative lengths of 1st to 8th segments from basal to apical: 1.9 : 0.9 : 1.0 : 2.7 : 3.0 : 3.5 : 3.7 : 3.5. Maxillary palpi with terminal segment long, securiform, about 2.0 times as long as wide, about 0.9 times as long as 2nd segment. Labial palpi with terminal segment subtriangular, about 1.3 times as long as wide.

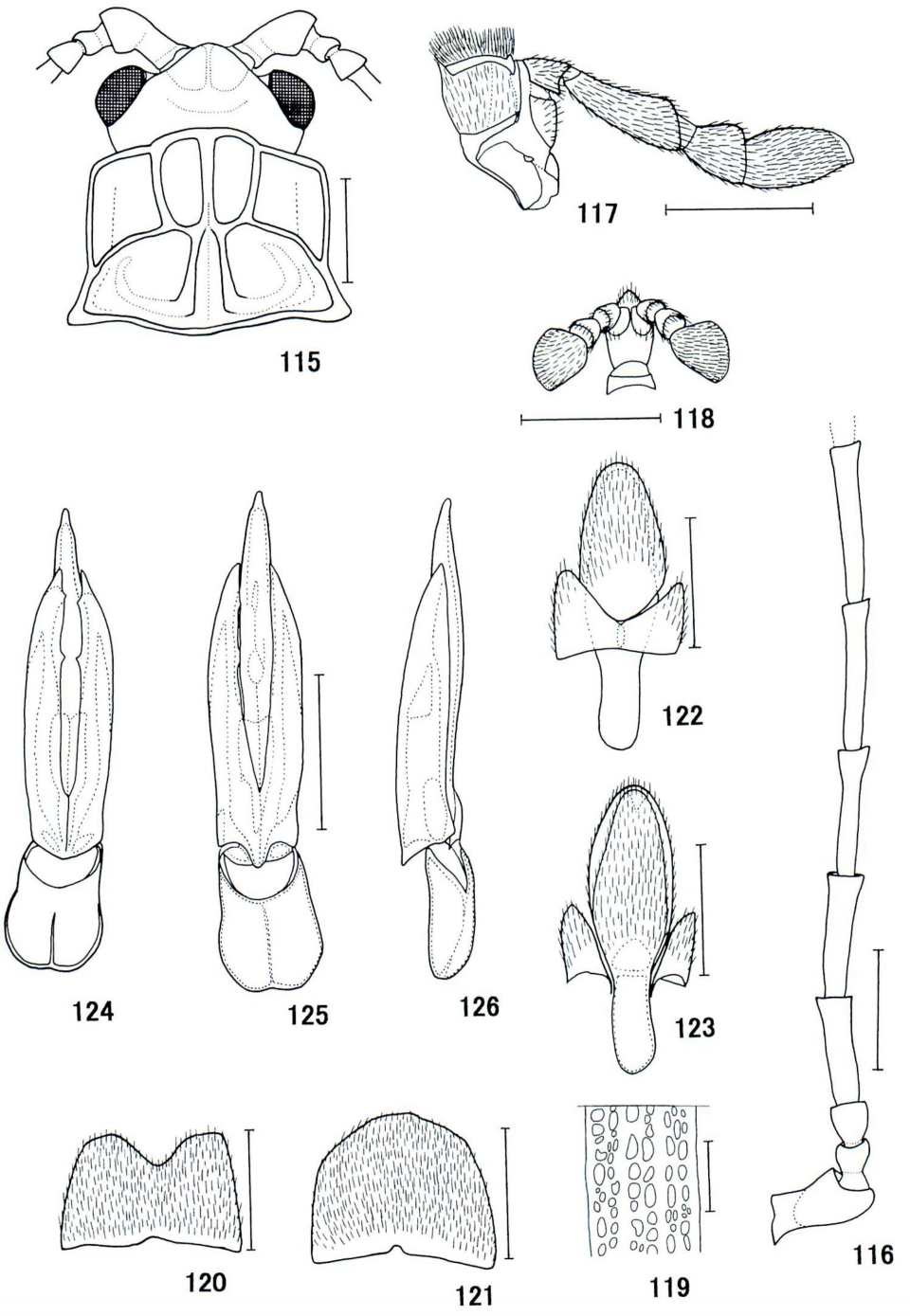
Pronotum transverse, subpentagonal, almost entirely divided into seven areoles; two antero-median areoles with a wide longitudinal carina between them; postero-median areole without a longitudinal carina at middle. Scutellum bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four longitudinal costae; interval between costae with double rows of large and irregulr cells; inner portions of the cells finely and closely punctured.

Abdomen microreticulately punctured, with 7th abdominal sternite shallowly and roundly emarginate at apex; terminal sternite lanceolate, gradually narrowed towards apex.

Legs moderate in length; hind trochanters subtriangular, each without a pilose cavity at latero-apical portion; femora slender, each without a pilose fovea on ventral side in basal portion; hind tarsi with 1st segment the longest in length; 2nd to 4th segments gradually shorter in length; 5th segment slightly longer than 2nd segment; claws simple, somewhat angulate at base.

Head, basal two segments of antennae, pronotum and scutellum microreticulately punctured.




Figs. 115–126. *Konoplatycis matsudai* (BOCÁK) ♂—115. head and pronotum; 116. antenna; 117. maxilla; 118. labium; 119. elytral cells; 120. 7th abdominal sternite; 121. 7th abdominal tergite; 122. terminal abdominal tergite; 123. terminal abdominal sternite; 124. aedeagus in dorsal view; 125. same in ventral view; 126. same in lateral view. Scale for 115, 116, 119–126: 0.5 mm; scale for 117, 118: 0.25 mm.

Aedeagus elongate, with parameres widely arched laterad, bearing two short thorns on each inner side; phalobase relatively small.

*Measurements*. DE/E≒1.7 (male); PW/HW≒1.3 (male); PL/PW≒0.8 (male); EL/EW≒3.4 (male); EL/PL≒5.7 (male).

Length: 8.1 mm; width: 2.0 mm.

*Type locality*. Jizu Mts., Yunnan, China.

*Materials examined*. Holotype: ♂, labels: [JIZU MTS., 2800 m, 25'.58° N, 100'.21° E, YUNNAN, 30. V–3. VI. 1993, BOHM leg.], [PLATYCIS MATSUDAI SP. N., L. BOCÁK det, 1994, HOLOTYPE ♂], [HOLOTYPE], (LBC).

*Distribution*. Yunnan, China.

*Remarks*. This species was originally described as a member of the genus *Platycis* (*Platycis*) by BOCÁK (1997), and then tranceferred to the genus *Erotides* (*Glabroplatycis*) by KAZANTSEV (2004) and BOCÁKOVÁ & BOCÁK (2007). However, the morphological characteristics such as pronotum and elytra moderately pubescent, antero-median pronotal carina wide, 3rd antennal segments short, hind femora without pilosa foveas in male and aedeagus with parameres widely arched laterad and phalobase relatively small well coincide with the generic characteristics of the genus *Konoplatycis* regarded as a valid genus in this paper. Therefore, the author moves this species from the former genera to the latter genus.

BOCÁK (1997) pointed out that *Platycis matsudai* could be considered the most ancestral member of the subgenus *Platycis* in his original description from his recognition mainly based on such characteristics as the projection of the frontal part of the head much less conspicuous and carinae of pronotum complete.

## ***Konoplatycis otome*** (KÔNO, 1932)

(Figs. 127–140, 184–186, 189, 192)

*Platycis otome* KÔNO, 1932: 59; KLEINE, 1942: 55; NAKANE, 1953: 3; NAKANE, 1963: 175.
*Platycis* (*Konoplatycis*) *otome*: NAKANE, 1969a: 155; BOCÁKOVÁ & BOCÁK, 2007: 216.
*Konoplatycis otome*: NAKANE, 1969b: 28; SATÔ & MATSUDA, 1985: 105; KAZANTSEV, 2004: 38; BOCÁK & Bocáková, 2008: 706.

*Redescription*. Body black to dark reddish brown, shining, with mandibles and claws light reddish brown; pronotum light reddish brown with inner portions of areoles darkened in color; antennae blackish brown; elytra light reddish brown.

Body surface closely furnished with short, recumbent, red pubescence; head, pronotum, scutellum, elytra and legs closely covered with short, recumbent, red pubescence; antennae densely covered with short, suberect, light yellowish brown hairs except for 1st to 3rd segments densely covered with red hairs.

Head with a very short process on frons, deeply and longitudinally grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae long; 2nd and 3rd segments cylindrical; 4th to 10th segments somewhat flattened dorso-ventrally; 3rd segment short, about as long as 2nd segment; relative lengths of 1st to 11th segments from basal to apical: 1.9 : 0.9 : 1.0 : 2.6 : 2.5 : 2.9 : 3.0 : 3.1 : 3.1 : 3.2 : 4.6 (male), 1.7 : 0.8 : 1.0 : 2.1 : 2.0 : 2.0 : 2.0 : 2.0 : 2.1 : 2.1 : 2.8 (female). Maxillary palpi with terminal segment securiform, about 1.4 times as

long as wide, about 1.0 times as long as 2nd segment. Labial palpi with terminal segment securiform, about 1.3 times as long as wide.

Pronotum transverse, subpentagonal, with seven areoles; two antero-median areoles narrowly opened posteriad; postero-median areole connected with postero-lateral areoles in front of basal margin; antero-median longitudinal carina wide; postero-median longitudinal carina short and narrow. Scutellum bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four costae; interval between costae with double rows of small and irregular cells.

Abdomen microreticulately punctured; 7th abdominal sternite widely and shallowly emarginate at apex in male; terminal sternite lanceolate, gradually narrowed apicad in male, or wide, strongly narrowed towards apex, which is transversely truncate and slightly emarginate at middle, with a long spiculum ventrale and a pair of elongate long arms at base in female.

Legs moderate in length; hind trochanters subtriangular, each without a pilose cavity at latero-apical portion; femora robust, without a pilose fovea on ventral side in basal portion; hind tarsi with 1st and 5th segments subequal in length, distinctly longer than 2nd to 4th segments; claws simple, somewhat angulate at base.

Head, basal two segments of antennae, pronotum, scutellum and inner portion of elytral cells finely and closely punctured.

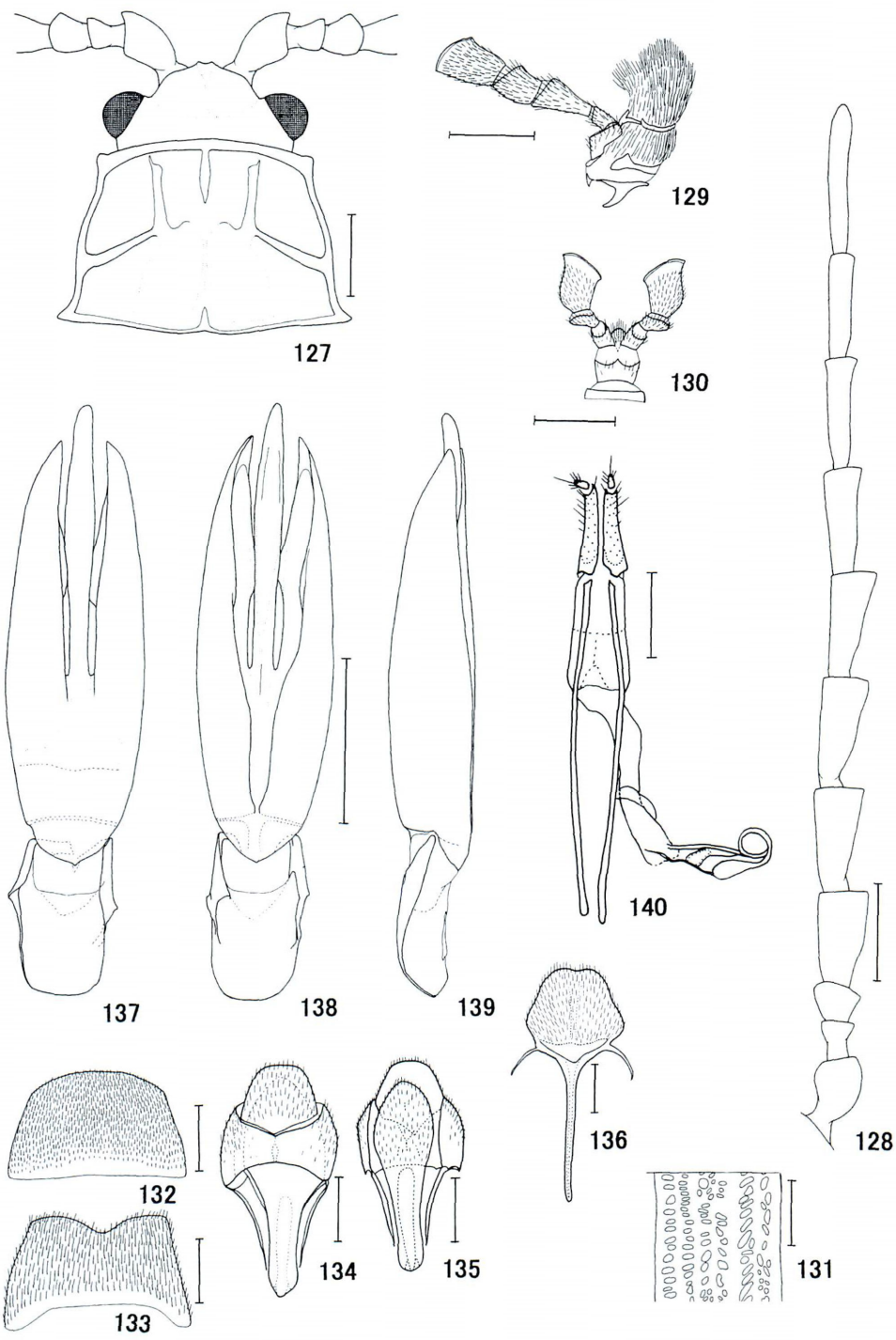
Aedeagus robust, with parameres bearing a wide lobe on each inner side; phalobase relatively small. Female genitalia elongate; styli short, with a long hair and five or more short hairs at each apex; coxites long, with five or more short hairs in apical 1/2, slightly narrowed towards apices; valvifers slender and very long.

*Measurements*. DE/E≒2.2 (male), 2.5 (female); PW/HW≒1.3 (male), 1.5 (female); PL/PW≒0.7 (male), 0.6 (female); EL/EW≒2.8 (male), 2.7 (female); EL/PL≒5.6 (male), 5.5 (female).

Length: 5.9–9.7 mm; width: 1.6–2.8 mm.

*Type locality*. Japan.

*Materials examined*. Holotype, ♂, labels: [*Platycis otome* KÔNO, det. H. KÔNO], [*Eros agilis* m.], [Coleopt. 151] (SEHU); 1♂, labels: [Japan, G. LEWIS. 1910-320], [Nagasaki, 13.11~21. IV. 81], [*Eros erythropterus* GORHAM], [wrong det. n. su des or. Erytr. det. K. G. BLAIR], [*Platycis otome* KÔNO, Det. T. NAKANE] (BMNH); 1♂, Hinoemata, Minami-aizu, Fukushima Pref., Japan, 10. VI. 1978, A. IZUMI leg., (KMC); 1♂, Hikawa-rindo, Daibosatsu, Yamanashi Pref., Japan, 22. V. 1982, K. EMOTO leg., (KMC); 1♂, Takyu-path, Suifu-village, Ibaraki Pref., Japan, 28. IV. 1996, S. TSUYUKI leg., (KMC); 1♀, Unasawa, Okutama, Tokyo, Japan, 7. V. 1982, K. EMOTO leg., (KMC); 1♀, Yuzunoki-rindo, Kamogawa City, Chiba Pref., Japan, 2. V. 1999, K. EMOTO leg., (KMC); 1♀, Ochiai, Taga-chiyo, Shiga Pref., Japan, 29. V. 1988, K. MASAKI leg., (KMC); 1♂, Kamigamo, Kyoto Pref., Japan, 29. IV. 1970, S. IMASAKA leg., (KMC); 1♀, Yamatedai, Ibaraki City, Osaka Pref., Japan, 23. IV. 1983, R. IWATA leg., (KMC); 1♀, Mt. Kasuga-yama, Nara Pref., Japan, 3. V. 1974, S. IMASAKA leg., (KMC); 1♀, Reigenji, Arida City, Wakayama Pref., 26. IV. 1958, H. NARA leg., (KMC); 1♂, Hirode, Mie Pref., Japan, 10. IV. 1998, K. MASAKI leg., (KMC); 7♂♂, 4♀♀, Mt. Rokkosan, Kobe City, Hyogo Pref., Japan, 26. III. 1938, K. KUROSA leg., (KMC); 1♂,1♀, Mt. Gagyuzan, Takahashi City, Okayama Pref., Japan, 15. IV. 1978, O. YAMAJI leg., (KMC); 1♀, Ohku, Dogo, Oki Isls., Saigo-cho, Shimane Pref., Japan, 12. V. 2003, T. SHIMADA leg., (KMC); 1♂, Yashima, Kagawa Pref., Japan, 29. III. 1981, M. TAKAGI leg., (KMC); 1♀, Ishima, Anan City, Tokushima Pref.,




Figs. 127–140. *Konoplatycis otome* (KÔNO) ♂—127. head and pronotum; 128. antenna; 129. maxilla; 130. labium; 131. elytral cells; 132. 7th abdominal tergite; 133. 7th abdominal sternite; 134. terminal abdominal tergite; 135. terminal abdominal sternite; 137. aedeagus in dorsal view; 138. same in ventral view; 139. same in lateral view; ♀— 136. terminal abdominal sternite; 140. female genitalia. Scale for 127, 128, 131–140: 0.5 mm; scale for 129, 130: 0.25 mm.

Japan, 6. V. 1991, S. OKUNO leg., (KMC); 1♀, Mt. Sugitate, Matsuyama City, Ehime Pref., Japan, 22. IV. 1967, M. TAKAGI leg., (KMC); 1♂, Motoike, Shimabara City, Nagasaki Pref., Japan, 10. IV. 1972, S. IMASAKA leg., (KMC); 12♂♂, 2♀♀, Mehoro, Tsushima Is., Nagasaki Pref., 4. IV. 1988, N. OKUDA leg., (KMC).

*Distribution*. Japan (Honshu, Shikoku, Kyushu, Tsushima Is.).

*Remarks*. This species is closely related to *Konoplatycis matsudai* (BOCÁK) from Yunnan, China, but can be distinguished from the latter by the following characteristics: 1) body robuster, 2) maxillary palpi shorter, 2) 4th to 8th antennal segments wider in male, 3) terminal abdominal sternite shorter in male, 4) aedeagus with parameres bearing a wide lobe instead of two thorns on each inner side.

## Genus ***Platycis*** THOMSON, 1864

Type species: *Pyrochroa minuta* FABRICIUS, 1787

*Eros* (*Platycis*): THOMSON, 1864: 163.
*Platycis*: WATERHOUSE, 1878: 101; WATERHOUSE, 1879: 37; BOURGEOIS, 1882: 85; JACOBSON, 1911: 666; PIC, 1914: 50; KLEINE, 1933: 39; KLEINE, 1942: 57; NAKANE, 1953: 3; NAKANE, 1969a: 158; NAKANE, 1969b: 28; SATÔ & MATSUDA, 1985: 94; BOCÁK & BOCÁKOVÁ, 1991: 322; KAZANTSEV, 2004: 37; BOCÁK & BOCÁKOVÁ, 2008: 715.
*Platycis* (*Platycis*): BOCÁKOVÁ & BOCÁK, 2007: 216.
*Pyrochroa*: FABRICIUS, 1787: 163; PANZER, 1789: 31.
*Lampyris*: DEGEER, 1774: 46; VILLERS, 1789: 286; GMELIN, 1790: 1886; SCHRANK, F., 1798: 577.
*Lycus*: OLIVER, 1790: 11; FABRICIUS, 1792: 108; PANZER, 1797: 11; PAYKULL, 1799: 176; FABRICIUS, 1801: 117; LATREILLE, 1804: 88; GYLLENHAL, 1808: 323; SAHLBELG, 1822: 112.
*Dictyoptera*: LATREILLE, 1829: 464; SEIDLITZ, 1874: 332.
*Dictyoptera* (*Platycis*): SEIDLITZ, 1891: 470.
*Dictyopterus*: MULSANT, 1838: 80; REDTENBACHER, 1849: 318; MULSANT, 1862: 46.
*Dictyopterus* (*Platycis*): BOURGEOIS, 1891: 345; REITTER, 1911: 250.
*Eros*: LACORDAIRE, 1857: 301; KIESENWETTER, 1858: 440; GEMMINGER & HAROLD, 1869: 1634; REDTENBACHER, 1874: 2.

Body elongate, subparallel-sided, slightly widened posteriad. Head, pronotum and elytra densely covered with short recumbent pubescence. Head with a short process on frons which is transversely truncate at apex, deeply and longitudinally grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Maxillary palpi with terminal segment long, securiform. Labial palpi with terminal segment securiform. Antennae filiform; 2nd segment cylindrical; 3rd to 10th segments somewhat flattened dorso-ventrally; 3rd segment slightly longer than or subequal to twice as long as 2nd segment. Pronotum transverse, subquadrate, slightly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other in front of basal margin; postero-median areole with a short narrow longitudinal carina starting from the middle of basal margin; anterior and posterior angles rounded. Scutellum bilobate, triangularly incised at apex. Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of small and irregular cells. Abdomen with terminal sternite lanceolate, strongly or gradually narrowed towards apex in male, or oblong or round, gradually

narrowed towards apex which is transversely truncate in the middle, with a long spiculum ventrale and a pair of elongate long arms at base in female. Legs moderate in length; trochanters subtriangular, each without a pilose cavity at latero-apical portion in male; fore and mid femora each with an oval large pilose fovea on ventral side in basal portion in male; hind femora each with an oval small fovea on the same portion in male; these foveas each bearing a small appendage in basal portion. Head, pronotum and inner portions of elytral cells finely and closely punctured. Aedeagus elongate, with a pair of long parallel-sided parameres, bearing a small thorn on each inner side; phalobase relatively small or large. Female genitalia elongate; styli short, with five or more short hairs at each apex; coxites long, with five or more short hairs in each apical portion, slightly narrowed towards apices; valvifers slender and very long.

*Distribution*. Palaearctic Region.

## ***Platycis consobrinus*** (BOURGEOIS, 1902) comb. rev.

(Figs. 141–154)

*Dictyopterus* (*Platycis*) *consobrinus* BOURGEOIS, 1902: 90.
*Platycis consobrina*: JACOBSON, 1911: 666; KAZANTSEV, 2004: 37.
*Platycis consobrinus*: KLEINE, 1933: 39; KLEINE, 1942: 57; NAKANE, 1953: 3; NAKANE, 1969a: 159; NAKANE, 1969b: 28; SATÔ & MATSUDA, 1985: 105.
*Platycis* (*Platycis*) *consobrinus*: BOCÁKOVÁ & BOCÁK, 2007: 216.

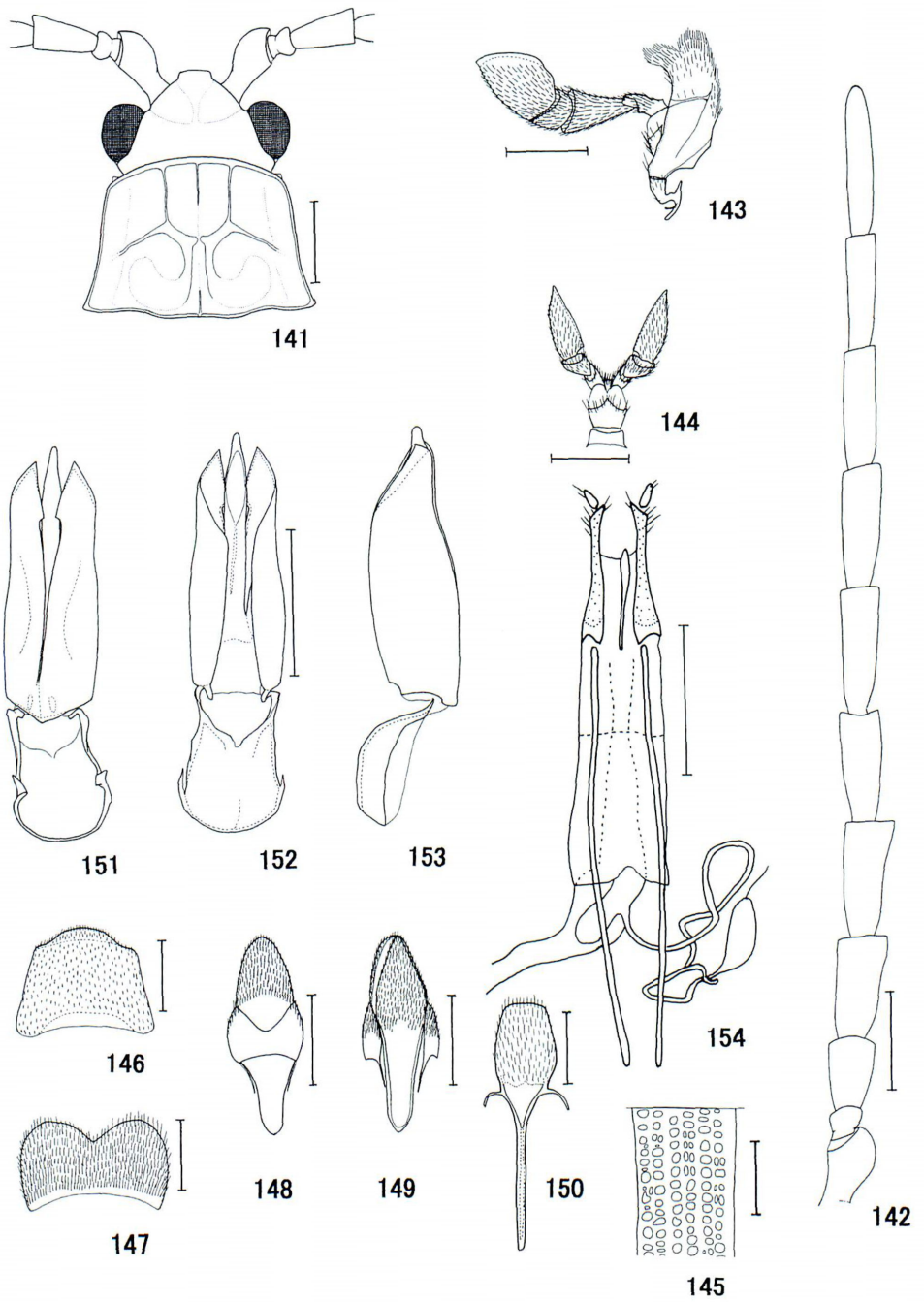
*Redescription*. Body blackish brown to dark reddish brown, shining, with mandibles and claws lighter in colour; head, pronotum, scutellum and legs black to blackish brown; antennae black to blackish brown except for apical portion of 11th segment yellowish brown; elytra unicolor red.

Body surface closely furnished with short, recumbent, light yellowish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs except for apical portion of 11th segment densely covered with short, recumbent, light yellowish brown hairs; pronotum and scutellum closely clothed with short, recumbent, dark reddish brown pubescence; elytra closely covered with short, recumbent and red pubescence.

Head with a short process on frons which is transversely truncate at apex, deeply and widely grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae filiform; 2nd segment cylindrical; 3rd to 10th segments somewhat flattened dorso-ventrally; 3rd segment about 2.5–3.3 times as long as 2nd segment; relative lengths of 1st to 11th segments from basal to apical: 0.9 : 0.3 : 1.0 : 1.7 : 1.8 : 2.0 : 1.9 : 1.9 : 1.9 : 1.9 : 2.3 (male), 1.0 : 0.4 : 1.0 : 1.4 : 1.4 : 1.5 : 1.5 : 1.4 : 1.4 : 1.3 : 1.9 (female). Maxillary palpi with terminal segment securiform, about 1.5 times as long as wide, about 1.1 times as long as 2nd segment. Labial palpi with terminal segment securiform, about 2.0 times as long as wide.

Pronotum transverse, subquadrate, slightly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other in front of basal margin; postero-median aleole with a short narrow longitudinal carina starting from the middle of basal margin; anterior and posterior angles rounded. Scutellum bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals




Figs. 141–154. *Platycis consobrinus* (BOURGEOIS) ♂—141. head and pronotum; 142. antenna; 143. maxilla; 144. labium; 145. elytral cells; 146. 7th abdominal tergite; 147. 7th abdominal sternite; 148. terminal abdominal tergite; 149. terminal abdominal sternite; 151. aedeagus in dorsal view; 152. same in ventral view; 153. same in lateral view; ♀— 150. terminal abdominal sternite; 154. female genitalia. Scale for 141, 142, 145–154: 0.5 mm; scale for 143, 144: 0.25 mm.

between costae with double rows of small and irregular cells.

Abdomen somewhat rugose, finely and closely punctured; 7th abdominal sternite triangularly emarginate at apex in male; terminal sternite lanceolate, gradually narrowed towards apex in male, or oblong, gradually narrowed towards apex, which is transversely truncate in the middle, with a long spiculum ventrale and a pair of elongate long arms at base in female.

Legs moderate in length; trochanters subtriangular without a pilose cavity at latero-apical portion in male; fore and mid femora each with a large oval pilose fovea on ventral side in basal portion in male, the fovea about 0.4 times as long as the length of femur; hind femora each with a small oval pilose fovea on the same portion in male, the fovea about 0.2 times as long as the length of femur; these foveas each bearing a small semielliptical appendage in basal portion; hind tarsi with 1st segment the longest in length; 2nd to 4th segments gradually shorter in length, 5th segment slightly longer than 2nd segment; claws simple, somewhat angulate at base.

Head, pronotum and inner portions of elytral cells finely and closely punctured.

Aedeagus long and slender; median lobe elongate, obtusely pointed at apex; parameres narrow and long, acuminate at each apex, the inner margins bearing a small thorn on each inner side; phalobase relatively small. Female genitalia elongate; styli short, with five or more short hairs at each apex; coxites long, with seven or more short hairs in each apical portion, gradually narrowed towards apices; valvifers slender and very long.

*Measurements*. DE/E≒1.6 (male), 2.1 (female); PW/HW≒1.2 (male), 1.3 (female); PL/PW≒0.8 (male), 0.7 (female); EL/EW≒3.1 (male), 3.0 (female); EL/PL≒5.9 (male), 6.0 (female).

Length: 6.6–8.4 mm; width: 1.8–2.2 mm.

*Type locality*. Nikko, Japan.

*Material examined*. Holotype, ♀, labels: [TYPE], [MUSEUM PARIS NIPPON MOYEN, ENV. DE TOKIO ET ALPES DE NIKKO, J. HARMAND 1901], [*Dictyopterus* (*Platycis*) *consobrinus* ♀, J. BOURGEOIS det. 1902] (MNHN); 1 ♂, Gozaishi-kosen, Mt. Hoozan, Yamanashi Pref., Japan, 7. IX. 1991, K. HOSODA leg., (KMC); 1 ♂,1 ♀, Gozaishi-kosen, Mt. Hoozan, 12. IX. 1995, K. HOSODA leg., (KMC); 1 ♂,1 ♀, Inugoshigi, Nishi-Tanzawa, Kanagawa Pref., Japan, 17. IX. 1978, K. EMOTO leg., (KMC); 1 ♂, Taireinoatama, Tanzawa Mts., Kanagawa Pref., 29. IX. 1996, S. TSUYUKI leg., (KMC); 1 ♂, Naragawa, Nagano Pref., Japan, 30. VIII. 1975, R. FUJIMOTO leg., (KMC); 1 ♂, Akagawara, Nagano Pref., 14. VIII. 1977, M. YAGI leg., (KMC); 1 ♂, Honzawa-rindo, Mt. Yatsuga-dake, Nagano Pref., 15. IX. 1995, Y. KUROSA leg., (KMC); 1 ♂, Ichinose, Ishikawa Pref., Japan, 1. IX. 1974, T. MIKAGE leg., (KMC); 1 ♀, Ashiu, Miyamachiyo, Kyoto Pref., Japan, 14. IX. 1982, K. HOSOKAWA leg., (KMC); 1 ♂, Mt. Gomanodanzan, Wakayama Pref., Japan, 13. IX. 1981, I. MATOBA leg., (KMC); 1 ♂, Mt. Gomanodanzan, Wakayama Pref., 15. IX. 1982, I. MATOBA leg., (KMC); 1 ♂, Mt. Kuro-dake, Kujyu Mts., Oita Pref., Japan, 26. VII. 1992, S. OGATA leg., (KMC); 1 ♂, Mt. Kuro-dake, Kujyu Mts., Oita Pref., 16. IX. 1995, S. OGATA leg., (KMC).

*Distribution*. Japan (Honshu, Kyushu).

*Remarks*. This species is closely related to *Platycis minutus* (FABRICIUS) from Europe, but can be distinguished from the latter by the following characteristics: 1) eyes larger in male, 2) antennae with 3rd to 11th segments each longer, 3) maxillary palpi with terminal segment slightly shorter, 4) aedeagus much slender, with phalobase distinctly shorter in length, 5) female terminal abdominal sternite narrower in wide.

## *Platycis formosomontanus* MATSUDA, sp. nov.

(Figs. 155–166)

*Description.* Male. Body blackish brown to dark reddish brown, shining, with mandibles and claws lighter in color; head, pronotum, scutellum and legs black to blackish brown; antennae black to blackish brown except for apical portion of 11th segment light reddish brown; elytra unicolor red.

Body surface closely furnished with short, recumbent, light yellowish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs; head, pronotum and scutellum closely clothed with short, recumbent, reddish brown pubescence; elytra closely covered with short, recumbent, red pubescence.

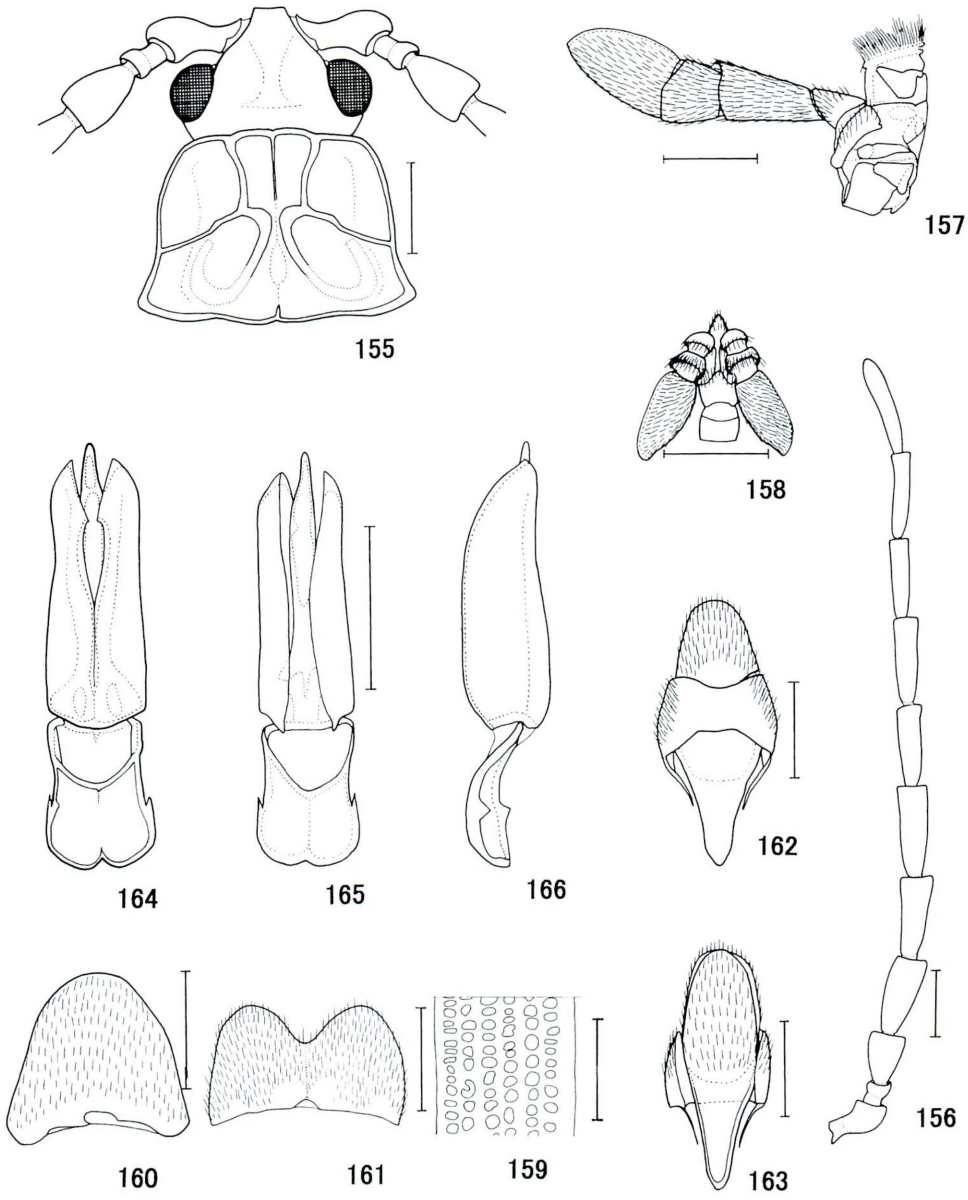
Head finely and closely punctured; frons with a short process in the middle with apex transversely truncate, bearing a deep inverse lanceolate longitudinal groove between frontal tubercles which are moderately swollen just behind antennal insertions; vertex slightly depressed in central portion. Eyes small, lateral, hemispherically prominent; distance between eyes about 1.8 times as wide as eye diameter. Antennae long, filiform, reaching basal 4/5 of elytra; 1st segment stout, strongly swollen at apex; 2nd segment cylindrical, about as long as wide; 3rd segment subtriangular; 3rd to 10th segments somewhat dorso-ventrally depressed; 11th segment fusiform; relative lengths of 1st to 11th segments from basal to apical: 0.9 : 0.3 : 1.0 : 1.4 : 1.4 : 1.5 : 1.4 : 1.5 : 1.4 : 1.4 : 1.8. Maxillary palpi with terminal segment securiform, about 1.7 times as long as wide, about 1.1 times as long as 2nd segment. Labial palpi with terminal segment securiform, about 2.0 times as long as wide.

Pronotum transverse, subquadrate, about 0.7 times as long as the basal width, about 1.4 times as wide as head; anterior margin slightly arched anteriad; anterior angles widely rounded; lateral margins subparallel-sided in apical 2/3, slightly diverging in basal 1/3; posterior angles rounded at each apex; basal margin bisinuate; sides widely reflexed; disc uneven, with seven areoles; two antero-median areoles distinctly narrower than anteo-lateral areoles, narrowly opened posteriad, bearing a narrow longitudinal carina between them; postero-median areole opened in front and behind, and widely connected with postero-lateral areoles near the basal margin, bearing a short narrow longitudinal carina starting from the middle of basal margin; inner portions of areoles finely and closely punctured. Scutellum bilobate, triangularly incised at apex; surface finely and closely punctured.

Elytra long, subparallel-sided, dehiscent behind scutellum, slightly delated in apical 1/4, and separately rounded at apices, about 2.9 times as long as wide, about 5.7 times as long as pronotum; each elytron bearing four longitudinal costae; 1st and 3rd costae faint in apical 1/6; intervals between costae with double rows of small and irregular cells; inner portions of the cells finely and closely punctured.

Ventral surface feebly rugose, finely and closely punctured on metasternum, finely and rugosely punctured on abdominal sternites; 7th abdominal sternite roundly emarginate at apex; terminal sternite lanceolate, gradually narrowed towards apex.

Legs moderate in length; trochanters subtriangular, each without a pilose cavity at latero-apical portion; fore and mid femora each with a large oval pilose fovea on ventral side in basal portion, the foveas about 0.4-0.5 times as long as the length of each femur; hind femora each with a small oval pilose fovea on the same portion, the fovea about 0.2 times as long as the length of femur; each fovea bearing a small semielliptical appendage in basal portion; tibiae




Figs. 155–166. *Platycis formosomontanus* sp. nov. ♂—155. head and pronotum; 156. antenna; 157. maxilla; 158. labium; 159. elytral cells; 160. 7th abdominal tergite; 161. 7th abdominal sternite; 162. terminal abdominal tergite; 163. terminal abdominal sternite; 164. aedeagus in dorsal view; 165. same in ventral view; 166. same in lateral view. Scale for 155, 156, 159–166: 0.5 mm; scale for 157, 158: 0.25 mm.

slender, slightly arched laterad; hind tarsi with 1st and 5th segments subequal in length, distinctly longer than the remaindering segments; 2nd to 4th segments gradually shorter in length; claws simple, somewhat angulate at bases.

Aedeagus long and slender; median lobe elongate, obtusely pointed at apex; parameres narrow and long, acuminate at each apex, the inner margins bearing a small thorn on each inner

side; phalobase relatively small.

Female unknown.

Length: 8.4 mm; width: 2.3 mm.

*Type series*. Holotype: ♂, Lishan, alt. 1900 m, Taichung Hsien, Taiwan, 13. VII. 1972, S. TAKEDA leg. The holotype is deposited in the Taichi SHIBATA Collection of the Kashihara City Museum of Insect, Kashihara, Japan.

*Distribution*. Taiwan.

*Etymology*. This new species is named after the mountain range in Taiwan which is the habitat of this species.

*Remarks*. This new species is closely related to *Platycis consobrinus* (BOURGEOIS) from Japan, but can be distinguished from the latter by the following characteristics: 1) eyes smaller, 2) 4th and 5th antennal segments shorter, 3) maxillary palpi with terminal segment longer, 4) male terminal sternaite widely rounded at apex.

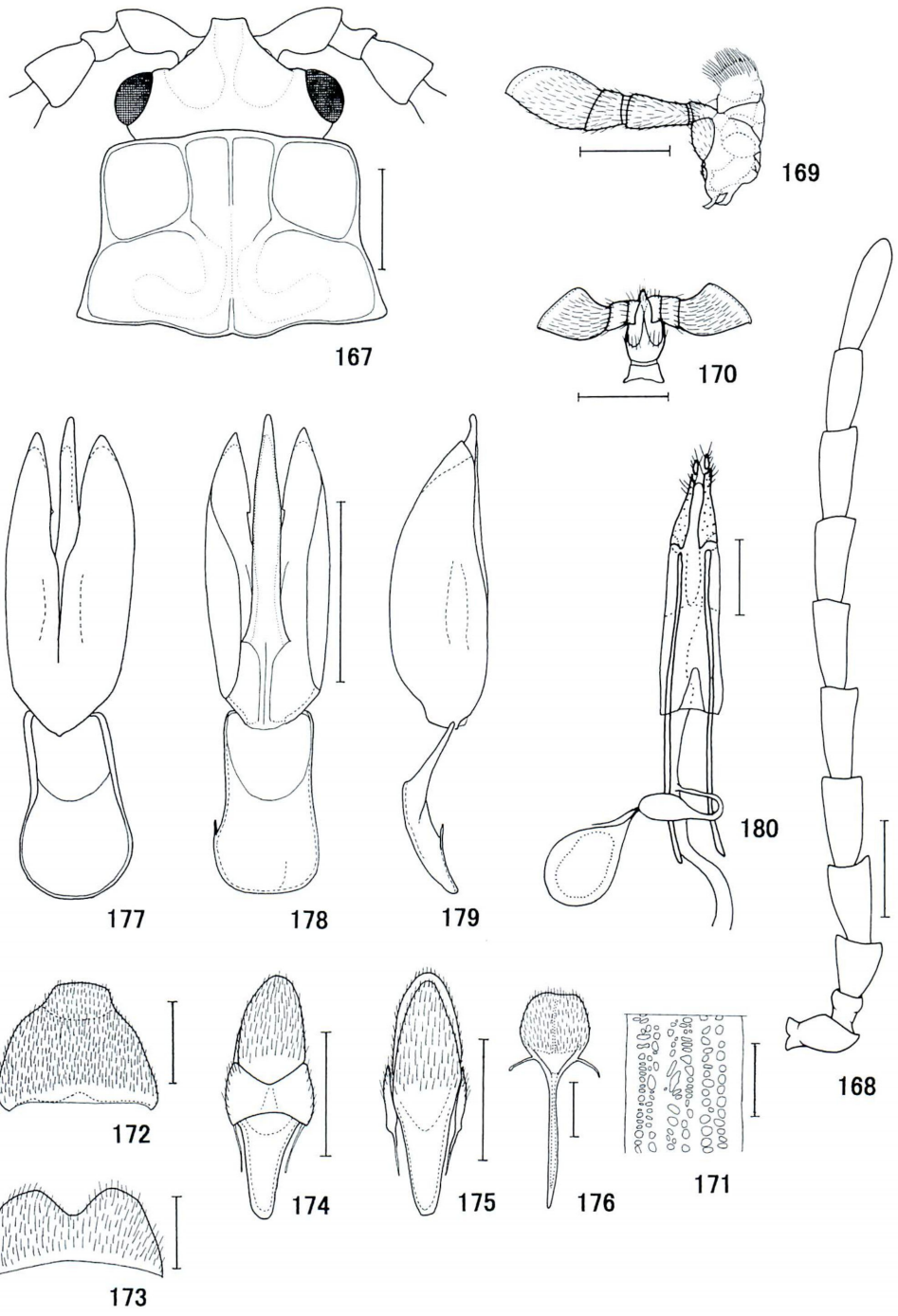
## ***Platycis minutus*** (FABRICIUS, 1787)

(Figs. 167–180, 193)

*Pyrochroa minuta* FABRICIUS, 1787: 163; PANZER, 1789: 31.
*Lampyris minuta*: VILLERS, 1789: 286; SCHRANK, 1798: 577.
*Lycus minutus*: OLIVER, 1790: 11; FABRICIUS, 1792: 108; PANZER, 1797: 11; PAYKULL, 1799: 176; FABRICIUS, 1801: 117; LATREILLE, 1804: 88; GYLLENHAL, 1808: 323; SAHLBELG, 1822: 112.
*Dictyoptera minuta*: LATREILLE, 1829: 464; SEIDLITZ, 1874: 332.
*Dictyoptera* (*Platycis*) *minuta*: SEIDLITZ, 1888: 470.
*Dictyopterus minutus*: MULSANT, 1838: 80; REDTENBACHER, 1849: 319; MULSANT, 1862: 46.
*Dictyopterus* (*Platycis*) *minutus*: BOURGEOIS, 1891: 345; REITTER, 1911: 250.
*Eros minutus*: LACORDAIRE, 1857: 301; KIESENWETTER, 1858: 440; GEMMINGER & HAROLD, 1869: 1634; REDTENBACHER, 1874: 2.
*Eros* (*Platycis*) *minutus*: THOMSON, 1864: 163.
*Platycis minutus*: WATERHOUSE, 1878: 101; WATERHOUSE, 1879: 37; KLEINE, 1942: 57; NAKANE, 1953: 3; NAKANE, 1969a: 158; NAKANE, 1969b: 28; BOCÁK & BOCÁKOVÁ, 1991: 322; BOCÁK & BOCÁKOVÁ, 2008: 706.
*Platycis minuta*: BOUGEOIS, 1882: 85; JACOBSON, 1911: 666; KLEINE, 1933: 39; KAZANTSEV, 2004: 37.
*Platycis minutus* subsp. *siculus* PIC, 1914: 50.
*Platycis* (*Platycis*) *minutus*: BOCÁKOVÁ & BOCÁK, 2007: 216.
*Lampyris nigro-rubra* DEGEER, 1774: 46.
*Lampyris pusilla* GMELIN, 1790: 1886.

*Redescription*. Body blackish brown to dark reddish brown, shining, with mandibles and claws lighter in color; head, pronotum, scutellum brack to blackish brown; antennae brackish brown except for 11th segment light yellowish brown; elytra unicolor, red.

Body surface closely furnished with short, recumbent, light yellowish brown pubescence; antennae densely covered with short, suberect, reddish brown hairs except for 11th segment densely covered with light yellowish brown hairs; pronotum and scutellum closely clothed with short, recumbent, dark reddish brown pubescence; elytra closely covered with short, recumbent, red pubescence.




Figs. 167–180. *Platycis minutus* (FABRICIUS) ♂—167. head and pronotum; 168. antenna; 169. maxilla; 170. labium; 171. elytral cells; 172. 7th abdominal tergite; 173. 7th abdominal sternite; 174. terminal abdominal tergite; 175. terminal abdominal sternite; 177. aedeagus in dorsal view; 178. same in ventral view; 179. same in lateral view; ♀— 176. terminal abdominal sternite; 180. female genitalia. Scale for 167, 168, 171–180: 0.5 mm; scale for 169, 170: 0.25 mm.

Head with a short process on frons which is transversely truncate at apex, widely and longitudinally grooved between antennal insertions. Eyes small, hemispherically prominent laterad. Antennae long, filiform; 2nd segment cylindrical; 3rd to 10th segments somewhat flattened dorso-ventrally; 3rd segment about 2.0 times as long as 2nd segment; relative lengths of 1st to 11th segments from basal to apical: 1.0 : 0.5: 1.0 : 1.4 : 1.5 : 1.5 : 1.6 : 1.6 : 1.6 : 1.5 : 2.0 (male), 0.8 : 0.5 : 1.0 : 1.1 : 1.2 : 1.1 : 1.2 : 1.0 : 1.1 : 1.0 : 1.3 (female). Maxillary palpi with terminal segment securiform, about 1.6 times as long as wide, about 1.4 times as long as 2nd segment. Labial palpi with terminal segment securiform, about 1.2 times as long as wide.

Pronotum transverse, subquadrate, slightly widened in basal 1/2, with seven areoles; two antero-median areoles with a narrow longitudinal carina between them; three posterior areoles connected with each other in front of basal margin; postero-median areole with a short narrow longitudinal carina starting from the middle of basal margin; anterior and posterior angles rounded. Scutellum bilobate, triangularly incised at apex.

Elytra long, subparallel-sided, each with four distinct longitudinal costae; intervals between costae with double rows of small and irregular cells; inner portions of the cells finely and closely punctured.

Abdomen somewhat rugose, finely and closely punctured; 7th abdominal sternite roundly emarginate at apex in male; terminal sternite lanceolate, gradually narrowed towards apex in male, or round, gradually narrowed towards truncate apex, which is slightly emarginate in the middle, with a long spiculum ventrale and a pair of long elongate arms at base in female.

Legs moderate in length; trochanters subtriangular, each without a pilose cavity at latero-apical portion in male; fore and mid femora each with a large oval pilose fovea on ventral side in basal portion in male, the fovea about 0.4–0.5 times as long as the length of femur; hind femora each with a small oval pilose fovea on the same portion in male, the fovea about 0.2 times as long as the length of femur; each fovea bearing a small pointed appendage in basal portion; hind tarsi with 1st segment the longest in length; 2nd to 4th segments gradually shorter in length; 5th segment slightly longer than 2nd segment; claws simple, somewhat angulate at bases.

Aedeagus wide, with a pair of long parallel-sided parameres, bearing a small thorn on each inner side; phalobase relatively large. Female genitalia elongate; styli short, with five short hairs at each apex; coxites long, with five short hairs in each apical portion, slightly narrowed towards apices; valvifers slender and very long.

*Measurements*. DE/E≒2.2 (male), 2.7(female); PW/HW≒1.3 (male), 1.6(female); PL/PW≒0.7 (male), 0.7(female); EL/EW≒2.8 (male), 2.4 (female); EL/PL≒5.4 (male), 5.0 (female).

Length: 5.2–8.5 mm; width: 1.5–2.4 mm.

*Type locality*. Norwagia.

*Material examined*. 1 ♂, labels: [*Platycis minutus* FAB.], [63] (BMNH); 1 ♂, labels: [*Eros minutus*], [PASCOE Coll. 93–60 ](BMNH); 4 ♂ ♂,2 ♀ ♀, labels: [Hallstatt], [ANDREWS, Bequest. B.M. 1922-221] (BMNH); 1 ♂, Moravcany, 17. IX. 1978, L. BOCÁK leg. (LBC); 1 ♂, Moravia Bor, Liyultovice, 26. VIII. 1983, KEPLER leg.(LBC); 5 ♂ ♂, Vlmperk Boh., 1985, L. BOCÁK leg. (LBC); 1 ♂,1 ♀, Dobroc, Slov., 3. VIII. 1987, L. BOCÁK leg. (LBC); 1 ♂, Kanderstef, Bern, SCHWEIZ, 11. VIII. 1990, VITALI leg., label: [*Platycis minuta*, Det. F. VITALI], (KMC).

*Distribution*. Europe, Russia (West and East Siberia, Far East) and Japan.

*Remarks*. This species is closely related to *Platycis consobrinus* (BOURGEOIS) from Japan and *P. formosomontanus* MATSUDA sp. nov. from Taiwan, but can be distinguished from the lat-

ters by the following characteristics: 1) 11th antennal segment entirely light yellowish brown, 2) eyes smaller, 3) antennae shorter, 4) aedeagus wider with relatively longer phalobase, 5) female terminal sternite wider.

## Key to the Genrea, Subgenera and Species of the *Platycis* Genus-Group from Holarctic Region

1 (4) Head with a very short process on frons; 3rd antennal segment short, cylindrical, about as long as 2nd segment; pronotum with a wide median longitudinal carina between antero-median areoles; femora normal, each without a pilose fovea on inner side in basal portion in both sexes; aedeagus with parameres widely arched laterad with a wide lobe or two thorns on each inner side ..... (genus *Konoplatycis*)

2 (3) Head shallowly grooved between antennal insertions; pronotum almost entirely divided into seven areoles; scutellum without short pubescence; pronotum and elytra moderately covered with short pubescence; femora slender; head, basal two segments of antennae, pronotum and scutellum micro-reticulately punctured; aedeagus with parameres bearing two short thorns on each inner side. 8.1 mm. Yunnan, China. ..... *K. matsudai* (BOCÁK)

3 (2) Head deeply grooved between antennal insertions; pronotum not entirely divided into seven areoles, two antero-median aleoles narrowly opened posteriad, postero-median areole connected with postero-lateral areoles in front of basal margin; pronotum, scutellum and elytra closely covered with short pubescence; femora robust; head, basal two segments of antennae, pronotum and scutellum finely and closely punctured; aedeagus with parameres bearing a wide lobe on each inner side. 5.9–9.7 mm. Japan (Honshu, Shikoku, Kyushu, Tsushima Is.). ..... *K. otome* (KÔNO)

4 (1) Head with a short process on frons; 3rd antennal segment long, about twice as long as 2nd segment; pronotum with a narrow median longitudinal carina between antero-median areoles; femora each with a pilose fovea on ventral side in basal portion in male; aedeagus with parameres subparallel-sided with or without a thorn on each inner side. ..... (genera *Platycis* and *Erotides* )

5 (10) Pronotum with anterior angles widely rounded, antero-median longitudinal carina about 1/2 times as long as the length of antero-median areoles; pronotum and elytra densely covered with short pubecence; head, pronotum and inner portions of elytral cells finely and densely punctured; aedeagus long, parameres relatively shorter, with a pair of small thorns near apices on inner sides. ..... (genus *Platycis*)

6 (7) Head widely and longitudinally grooved between antennal insertions; elytra relatively short, about 2.4–2.8 times as long as basal width, about 5.0–5.4 times times as long as pronotum; femoral pilose fovea bearing a small pointed appendage in basal portion in male. 5.2–8.5 mm. Europe, Russia (West and East Siberia, Far East) and Japan. ..... *P. minutus* (FABRICIUS)

7 (6) Head deeply and longitudinally grooved between antennal insertions; elytra relatively long, about 2.9–3.1 times as long as basal width, about 5.7–5.9 times as long as pronotum; femoral pilose fovea bearing a small semielliptical appendage in basal portion in male.

8 (9) Eyes relatively larger, distance between eyes about 1.6 times as wide as eye diameter; antennae with 4th segment about 1.7 times as long as 3rd segment in male. 6.8–8.4 mm. Japan (Honshu, Kyushu)..... ..... ..... *P. consobrinus* (BOURGEOIS)

9 (8) Eyes relatively smaller, distance between eyes about 1.8 times as wide as eye diameter; Antennae with 4th segment about 1.4 times as long as 3rd segment in male. 8.4 mm. Taiwan ..... ..... *P. formosomontanus* sp. nov.

10 (5) Pronotum with anterior angles square, antero-median longitudinal carina long, about as long as antero-median areoles; pronotum and elytra sparsely or moderately covered with short pubescence; head, pronotum and inner portions of elytral cells microreticulately punctured; aedeagus very long, paremeres relatively longer, without thorns near apices. ..... (genus *Erotides*)

11 (16) Hind trochanters each with a small or large pilose cavity at latero-apical portion in male; femora each with a small oval pilose fovea on ventral side in basal portion in male. ····· (subgenus *Erotides*)
12 (13) Elytra with longitudinal costae and transverse carinae surrounding cells moderately covered with short pubescence. 6.1–9.0 mm. Taiwan. ····· *E.* (*E.*) *kanoi* (NAKANE)
13 (12) Elytra with longitudinal costae and transverse carinae surrounding cells glabrous or sparsely covered with short pubescence.
14 (15) Elytra blackish brown with longitudinal costae and transverse carinae surrounding cells somewhat lighter in colour; pronotum blackish brown, with lateral sides widely light yellowish brown and anterior and posterior marginal rims and carinae in central portion shiny reddish brown. 5.7–7.5 mm. U. S. A. and Canada. ····· *E.* (*E.*) *sculptilis* (SAY)
15 (14) Elytra unicolor light yellowish brown; head, basal two and apical one or two segments of antennae, pronotum, scutellum and legs also light yellowish brown. 6.7–8.3 mm. Europe (Azerbaijan) and Iran. ··· ····· *E.* (*E.*) *schnideri* (KIESENWETTER)
16 (11) Hind trochanters each without a pilose cavity at latero-apical portion in male; femora each with a large oval pilose fovea on ventral side in basal portion in male. ····· (subgenus *Glabroplatycis*)
17 (18) maxillary pulpi with terminal segment short and robust; middle femoral fovea about 0.3 times as long as the length of femur in male; pronotum light yellowish brown, with a large black spot in the middle; elytra relatively short, about 2.9 times as long as wide or about 4.9 times as long as pronotum in male; 6.6–7.4 mm. Europe and Asia (Russia: West Siberia). ····· *E.* (*G.*) *cosnardi* (CHEVROLAT)
18 (17) maxillary pulpi with terminal segment elongate; middle femoral fovea about 0.4–0.5 times as long as the length of femur in male.
19 (20) Elytra very long, about 3.4 times as long as basal width or about 6.6 times as long as pronotum in male. 8.1–9.4 mm. Yunnan, China. ····· *E.* (*G.*) *bocaki* sp. nov.
20 (19) Elytra long, shorter than 3.3 times as long as basal width or 6.2 times as long as pronotum in male.
21 (24) Elytra with longitudinal costae and transverse carinae surrounding cells glabrous or sparsely covered with short pubescence; pronotum bicolour, blackish brown to yellowish brown with marginal rims and carinae surrounding areoles lighter in color.
22 (23) Head, pronotum, scutellum and legs black to blackish brown; elytra about 6.2 times as long as pronotum in male. 6.7–8.4 mm. Japan (Yaku-shima Is.) ····· *E.* (*G.*) *hayashii* sp. nov
23 (22) Head, pronotum, scutellum and legs dark reddish brown to yellowish brown; elytra about 5.6 times as long as pronotum in male. 7.1–8.1 mm. Russia, China, Korea and Japan. ····· ····· *E.* (*G.*) *nasutus* (KIESENWETTER)
24 (21) Elytra with longitudinal costae and transverse carinae surrounding cells moderately covered with short pubescence; pronotum almost unicolour.
25 (26) Pronotum reddish brown or yellowish brown. 5.0–8.5 mm. Taiwan. ····· *E.* (*G.*) *lalashanus* sp. nov.
26 (25) Pronotum blackish brown. 6.3–8.2 mm. Taiwan. ····· *E.* (*G.*) *taiwanus* (KÔNO)

## Discussion

In recent decade, study of the lycid tribe Erotini LECONTE, 1881 has been progressed on adult and larval morphology by BOCÁK & MATSUDA (2003) and KAZANTSEV (2005). And this tribe was also discussed on phylogeny and classification based on both morphological and molecular data sets by BOCÁK & BOCÁKOVÁ (2008).

Now we recognize Erotini as a member of the subfamily Lycinae LAPORTE, 1836 which is phylogenetically far from the subfamily Dictyopterinae KLEINE, 1928 and closely related to the tribe Calichromini LACORDAIRE, 1857 within Lycinae. These relationships were supported by the results of the molecular analysis by BOCÁK & BOCÁKOVÁ (2008).

BOCÁK & BOCÁKOVÁ (2008) cited the following five genera as typical members of Erotini: *Eropterus* GREEN, 1951, *Eros* NEWMAN, 1838, *Lopheros* LECONTE, 1881, *Microcoleborus* PIC, 1913 and *Platycis* THOMSON, 1864. The genus *Konoplatycis* NAKANE, 1969 was only shown in figure 2 & 5. The genus *Erotides* WATERHOUSE, 1879 was not refered in their paper, because they probably regarded this genus as a junior synonym of *Platycis*.

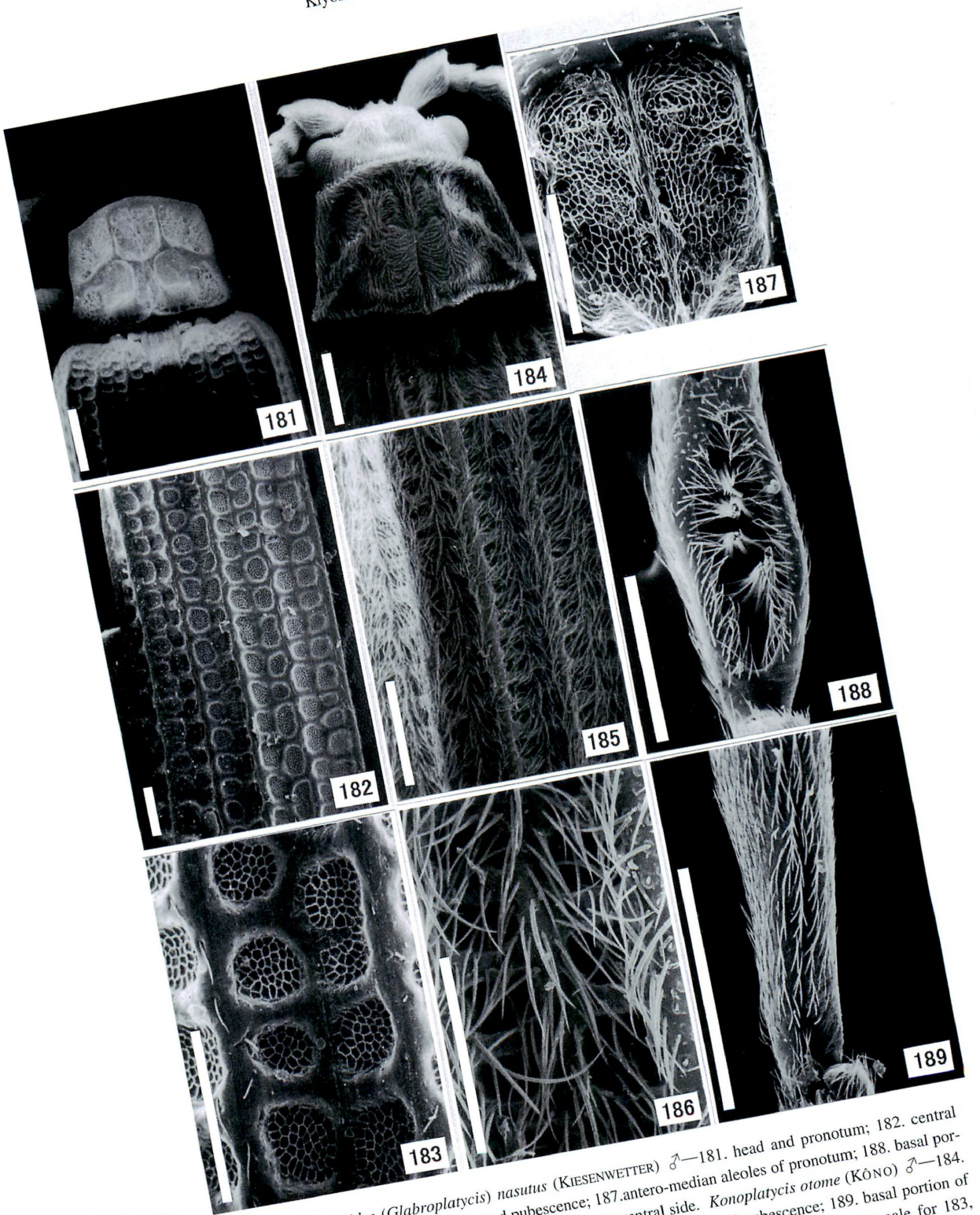
In recent years, the author had re-examined all the species belonging to the genus *Platycis* and its closely rerated genera within Erotini mainly based on the adult morphological characters including hind wing venation and both male and female genitalia. After the close examination, he found four distinct groups among them sharing some significant characters which should be separated each other into different generic or subgeneric statuses. These distinguishing characters have already shown in the descriptions and also in the key to genera, subgenera and species in this paper. Some characters such as presence or absence of a pilose cavity on hind trochanter and an appendage in a pilose fovea on each femur in male are firstly pointed out by the author in this paper.

Therefore, *Platycis* genus-group is herein newly defined by him based on the following diagnosis. —— Adult: body small to medium-sized, parallel-sided; head with a short process on frons; eyes small; antennae filiform, 11-segmented; pronotum with seven areoles, postero-median areole widely opened posteriad; elytra each with four primary costae and five secondary costae; aedeagus with long parameres; female terminal sternite with a long speculum ventrale; female genitalia with a pair of very long valvifers. This genus-group is now composed of three genera: *Erotides* WATERHOUSE, 1879, *Konoplatycis* NAKANE, 1969 and *Platycis* THOMSON, 1864 and two subgenera: *Erotides* sensu stricto and *Glabroplatycis* PIC, 1914 within *Erotides*.

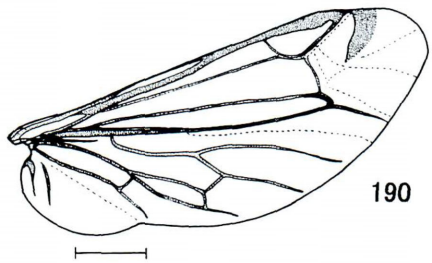
*Konoplatycis* is supposed to be the most primitive group in the *Platycis* genus-group because it has hypothetically ancestral characters such as a very short process on frons, a wide pronotal antero-median carina (Fig. 184), densely or moderately pubescent pronotum and elytra (Figs. 184–186) and absence of femoral pilose fovea in male (Fig. 189). This genus has a relict distribution in Yunnan, China and Japan (Fig. 196).

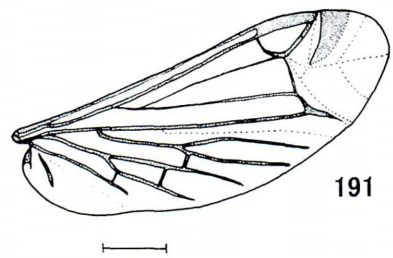
*Erotides* and *Platycis* are considered to be the derived groups in the *Platycis* genus-group because they have presumably apomorhic characters such as a short process on frons, a narrow pronotal antero-median carina (Fig. 181), presence of a pilose fovea on each femur in male (Fig. 188). Nevertheless, these two genera are separated from each other in having different punctation on head, pronotum and elytra, different pattern of hind wing venation (Figs. 190, 191, 193) and aedeagus. *Erotides* (*Glabroplatycis*) and *Platycis* each has a wide distribution from Europe to East Asia (Figs. 195, 197).

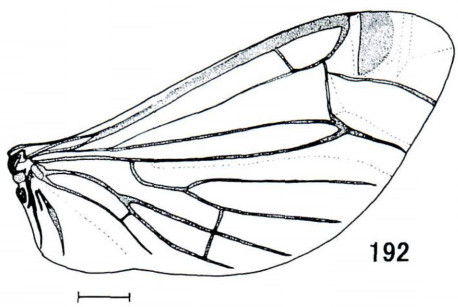
*Erotides* (*Erotides*) is the closest related to *Erotides* (*Glabroplatycis*) in having microreticulate punctation on head, pronotum and inner portions of elytral cells (Figs. 183. 187) and the same pattern of hind wing vanation (Figs. 190, 191), but it deffers from the latter in having a pilose cavity on each hind throchanter and a relatively smaller pilose fovea on each femur in male. This subgenus has a wide but disjunct distribution in Europe (Azerbaijan) and Iran, Taiwan and North America (Fig. 194). One branch of ancestors of the subgenus *Erotides* would seem to be originated from East Asia and then extend their distribution to the north and probably over the North Pacific Ocean by marine drift or wind or other means of transport and enter into North America. After arriving the New World, ancestor of *Erotides* (*E.*) *sculptilis* (SAY) would presumably gain the same aposematic colour pattern of light yellowish brown pronotum with a black stripe and blackish brown elytra as many lycid beetles of the genera *Eropterus, Eros* and

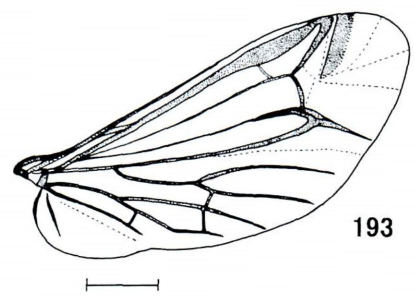


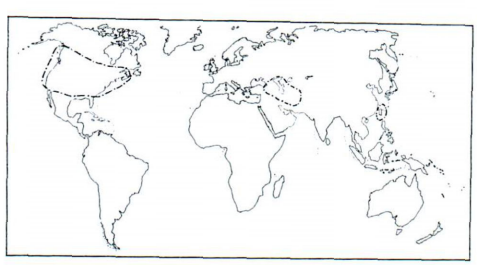

Figs. 181–189. *Erotides* (*Glabroplatycis*) *nasutus* (KIESENWETTER) ♂—181. head and pronotum; 182. central portion of elytron; 183. elytral cells and pubescence; 187.antero-median aleoles of pronotum; 188. basal portion of hind femur in male with an oval pilose fovea on ventral side. *Konoplatycis otome* (KÔNO) ♂—184. head and pronotum; 185. central portion of elytron; 186. elytral cells and pubescence; 189. basal portion of hind femur in male without a fovea on ventral side. Scale for 181, 182, 184: 0.5 mm; scale for 183, 185–189: 0.25 mm.

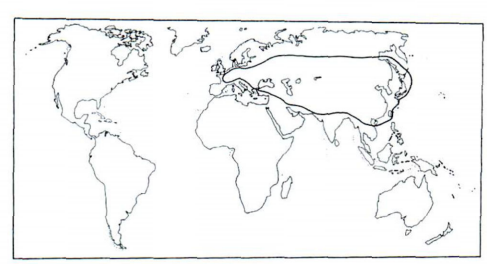


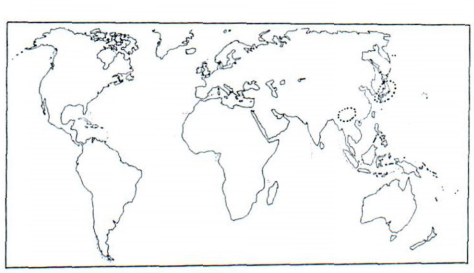



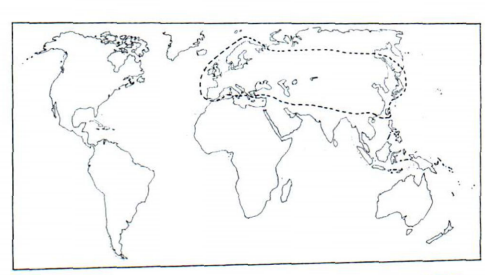




Figs. 190–193. Hind wing vanation —— 190. *Erotides* (*Erotides*) *sculptilis* (SAY); 191. *Erotides* (*Glabroplatycis*) *cosnardi* (CHEVROLAT); 192. *Konoplatycis otome* (KÔNO); 193. *Platycis minutus* (FABRICIUS). Scale for 190–193: 1.0 mm.

Figs. 194–197. Geographical distribution —— 194: *Erotides* (*Erotides*); 195: *Erotides* (*Glabroplatycis*); 196: *Konoplatycis* ; 197: *Platycis* .

*Plateros* inhabiting there for the defense from the predators. The coloration of reddish brown longitudinal costae and transverse carinae surrounding cells on elytra is supposed to be an ancestral character of *E.* (*E.*) *sculptilis*, which is widely observed among the Eurasian members of *Erotides*.

In the original description of *Konoplatycis matsudai* (BOCÁK), BOCÁK (1996) considered this species as the most ancestral member of the subgenus *Platycis* s. str. mainly based on the conspicuous characters of head and pronotum. The author also considers the species as the most ancestral member within *Platycis* genus-group. It has the same character of microreticulate punctuation on head and pronotum as the members of *Erotides*. Whereas, it shares several characters such as a very short process on frons, short cylindrical 3rd antennal segment and absence of femoral fovea in male with *Konoplatycis otome* (KÔNO) which has the resemblant pattern of hind wing vanation with *Platycis* (Figs. 192, 193).

In the present paper, the author only pointed out some aspects of the evolutional trends on the *Platycis* genus-group based on the hypothetically plesiomorphic and synapomorphic characters. In the future, the phylogenenetical relationship in the *Platycis* genus group should be considered again including larval characters of the members especially belonging to the genera *Platycis* and *Konoplatycis*. This genus group needs further study.

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## 要　　約

松田　潔：全北区のテングベニボタル属群の再検討．——— 全北区に分布するテングベニボタル属群 *Platycis* genus-group 14 種の再検討を行い，この属群がテングベニボタル属 *Erotides*

(*Erotides*), *E.* (*Glabroplatycis*), ムネアカテングベニボタル属 *Konoplatycis*, ムナグロテングベニボタル属 *Platycis* の3属2亜属からなることを示し，合わせて4新種：中国雲南省産の *Erotides* (*Glabroplatycis*) *bocaki* sp. nov., 本邦屋久島産のヤクシマテングベニボタル *E.* (*G.*) *hayashii* sp. nov., 台湾産の *E.* (*G.*) *lalashanus* sp. nov. と *Platycis formosomontanus* sp. nov を命名記載した．また，全北区のテングベニボタル属群3属2亜属とこれらに所属する14種の検索表を示し，ベニボタル亜科 Lycinae, Erotini 族内における3属の系統関係について論じ，若干の生物地理学的考察を行った．

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# Two New Taxa of *Copris* (Coleoptera: Scarabaeidae) from Asia

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and

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**Abstract** A new species of the genus *Copris* is described from Nepal under the name of *C. schoolmeestersi* sp. nov. This species appeared flightless. In addition, we describe a new subspecies of *C. pecuarius* from North Korea under the name of *C. pecuarius continentalis* ssp. nov.

Up to the present, the 3 species of *Copris*, *C. sabinus* GILLET, *C. sacontala* REDTENBACHER, *C. sarpedon* HAROLD, have been recorded from Nepal (ARROW, 1931; BALTHASAR, 1963; LÖBL et al., 2006). We found some specimens of a peculiar-formed *Copris* species from Nepal, which has the relatively small elytra in comparison with the pronotum, and concluded that this form is new to science. Thus, we describe a new species of *Copris* from Nepal. In addition, we also describe a new subspecies of *Copris pecuarius* from North Korea.

## *Copris* (*Copris*) *schoolmeestersi* sp. nov.

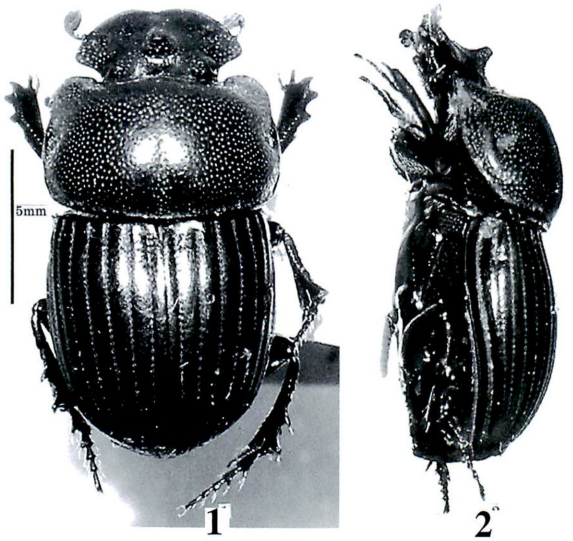
(Figs. 1-5)

Length: 9.2–11.7 mm; width: 5.1–5.8 mm (n=6).

Body small-sized, oblong-oval, somewhat strongly convex above; dorsal side moderately shining, entirely glabrous; ventral side shining, partly clothed with reddish hairs. Color unicolor black; mouth parts, palpi, antennae, and legs more or less reddish brown.

Male. Head somewhat strongly produced forward, nearly semicircular in front; clypeal margin shallowly and widely incised at the middle, with either side of the incision slightly lobed and reflexed, the remaining margin gently rounded and broadly bordered; genae strongly produced laterad, with genal corner a little more obtuse than a right angle, margin straight and broadly bordered in front, slightly sinuate and finely so behind; a short horn located in the middle, which is 0.5 mm in length (owing to the superficial defacement) in the largest individual; surface densely and partly irregularly covered with coarse to fairly coarse punctures except for anterior portion of the short horn and vertex where are almost impunctate or at most sparsely and finely punctate; in smaller males, the horn reduced to slight short transverse tubercle.

Pronotum fairly large as compared with elytra, moderately convex, about 1.4- 1.6 times as wide as long (n=3), with a strong median longitudinal groove in basal three-fourths; anterior margin gently bi-sinuate, rather broadly bordered in the middle and finely so laterad; lateral margins finely bordered, weakly sinuate near the middle, rounded in front and behind; anterior




Figs. 1–2. Habitus of *Copris* (*Copris*) *schoolmeestersi* sp. nov., male,—— 1, dorsal view; 2, lateral view. Scale 5 mm.

angles distinctly produced forward though rounded at apex; posterior angles entirely rounded; base with a fine transverse furrow along basal margin; basal margin entirely rounded and finely bordered throughout; disc shortly declivous in front, with the upper edge of the declivous area very obtusely and straightly ridged in front, the ridge sometimes slightly curved; surface densely covered with coarse punctures, the punctures becoming fairly larger on either side of the median longitudinal groove and lateral portions; in smaller males, disc less convex dorsally.

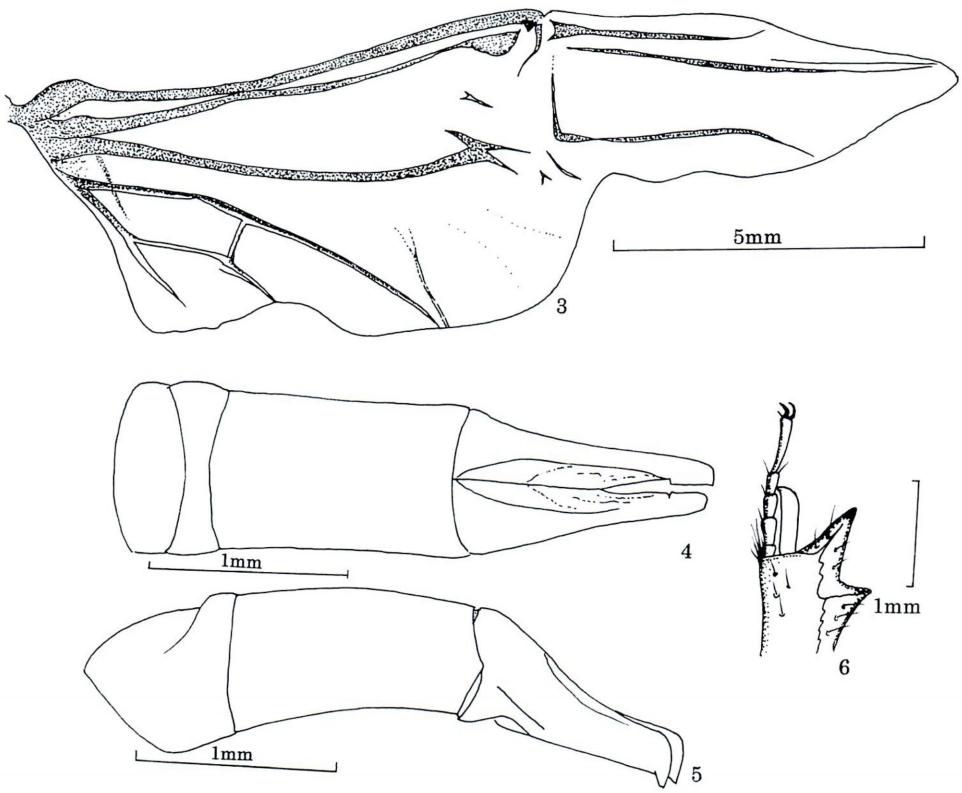
Elytra relatively short and abbreviated, strongly convex, about 1.1 times as wide as long (n=3), obviously shorter than those of *C. delicatus*, with 10 striae on each elytron; 9th and 10th striae almost confluent in basal third, 8th incomplete, usually interrupted halfway near apex, 1st and 10th, 2nd and 9th, 3rd and 4th, 5th and 6th distinctly or barely joined at apex, 7th and 8th joined a little before apex and then shortly confluent apicad; all striae fairly strongly and rather broadly grooved, finely ridged throughout on either side; strial punctures dense, strong and round in shape, each with a very small granule in the middle, clearly notching both margins of intervals; intervals strongly convex, nearly impunctate or at most sparsely and finely punctate partly.

Hind wings clearly reduced and probably nonfunctional, about 15.1 mm in length (n=1).

Pygidium transverse, rather strongly convex, moderately covered with strong and round punctures, the punctures densely and transversely arranged along apical margin. Prothorax with anterior angles ordinary, not excavated on the ventral side. Protibiae rather short and broad, with four external teeth; terminal spur broad, parallel-sided, slightly pointed at inner distal end.

Aedeagus about 3.0 mm (n=1) in total length from lateral view. Phallobase slender, about 1.8 mm (n=1) in length in lateral view, about 0.7 mm (n=1) in apical width in dorsal view. Parameres elongate, about 1.2 mm (n=1) and clearly curved downward at apex in lateral view; dorsal membranes elliptic in outline in dorsal view; basal sinus distinct in lateral view, and with a short carina along the sinus; lateral portions strongly carinate in apical two-thirds along either lateral edge; ventral side with membranes elongate and well developed, about 1.0 mm in length (n=1) and occupying 4/5 length of parameres .

Female. Head more strongly produced forward than in male; genae with genal angle clearly obtuse than in male; frons with a short transverse tubercle in the middle. Pronotum less con-




Figs. 3–6. *Copris* (*Copris*) *schoolmeestersi* sp. nov., male. 3, right hind wing, dorsal view; 4, aeagus, dorsal view; 5, ditto, lateral view; 6, terminal spur of right protibia, dorsal view.

vex dorsally than in large males, shortly declivous in front, with a very obtuse transverse ridge on the upper edge of the declivous area.

*Type series*. Holotype: ♂, Landrung, Nepal. Paratypes: 2♂♂, 3♀♀, the same data as the holotype.

*Type depository*. The holotype will be deposited in the collection of the National Museum of Nature and Science, Tokyo (NSMT).

*Distribution*. Nepal.

*Etymology*. This species is dedicated to Mr. P. SCHOOLMEESTERS who has helped the authors for literatures.

*Notes*. The present new species is closely related to *Copris* (*Copris*) *delicatus* ARROW from India, but can easily be distinguished from the latter by the following characters: 1) the elytra are clearly short and abbreviated at a glance, whereas in *C. delicatus*, they are ordinary in shape and length; 2) the pronotum is fairly large in comparison with the elytra, whereas in *C. delicatus*, it is ordinary in size; 3) in the male, the disc of pronotum is shortly declivous in front, with the upper portion of declivous area simply and straightly defined by a very obtuse ridge, whereas in *C. delicatus*, it is more broadly declivous in front, with the upper portion of declivous area bearing a short straight ridge in the middle and either slight tubercle laterad.

### *Copris (Sinocopris) pecuarius continentalis* subsp. nov.

Length: 24.1–25.3 mm; width: 11.9–12.8 mm (n=2).

Male. Body rather large-sized, strongly convex, oblong oval; dorsal side entirely glabrous and distinctly shining, especially on elytra. Color unicolor balck, though legs somewhat reddish. Head and pronotum almost the same as in the nominotypical subspecies, but cephalic and prothorathic armatures slightly weaker. Elytra relatively elongate.

The present new subspecies differs from the nominotypical one from Japan by the following points: 1) the body is generally larger; 2) the elytral intervals are shining, with microgranules not developed, whereas in the nominotypical subspecies, they are distinctly opaque, with microgranules fully developed; 3) in the male, four prominences on the pronotal disc are not so developed than those of the nominotypical subspecies in comparing between almost the same-sized individuals; 4) in the male, the cephalic horn is relatively short and not so developed.

Type series. Holotype: ♂, North Korea, 1939 (NSMT). Paratype: 1♂, North Korea, 1940.

*Type depository*. The National Museum of Nature and Science, Tokyo (NSMT).

*Distribution*. North Korea.

*Etymology*. The subspecific name means "continental form".


## 要　　約

越智 輝雄・近 雅博：アジア産のダイコクコガネ属の2新分類群．——ネパール産ダイコクコガネ属の1新種を，*C. schoolmeestersi* sp. nov. と命名し記載した．この種は近縁の種と比べて上翅が際立って短く，後翅がやや退化しており，飛翔能力を欠くことが推察される．ダイコクコガネ属において後翅の退化した種類は，これまで世界で3種(日本から1種，アフリカから2種)知られている．また，朝鮮半島北部に分布するミヤマダイコクコガネは，上翅間室に光沢があり，微細顆粒が殆んど見られないこと及び♂頭角と前胸背の4突起の発達が明らかに弱いことから亜種 C. *pecuarius continentalis* ssp. nov. として日本本土の個体群から区別した．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# A New Species of the Genus *Trox* from Sichuan, China (Coleoptera: Scarabaeoidea: Trogidae)

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**Abstract** A new trogid species *Trox parvisetosus* sp. nov. is described from Sichuan, China.

PITTINO (1985) classified Palearctic and Oriental species of the genus *Trox* FABRICIUS into five species-groups. Later, PITTINO and KAWAI (2006) established the terrestris group, which includes all the species that had been assigned to either the *opacotuberculatus* or *mandli* group, and they presented the photographs of the male genitalia of *T. cambodjanus*, *T. poringensis*, *T. brahminus* and *T. kiuchii*, all of which are assigned to the terrestris group.

Almost coincidentally, SCHOLTZ *et al.* (2007) reviewed the *opacotuberculatus* group sensu PITTINO (1985) (actually corresponding to a part of the *terrestris* group) and described *T. jeanae* from Thailand. SCHOLTZ *et al.* (2007) illustrated the male genitalia of all the species that they treated. Owing to SCHOLTZ *et al.*, (2007) as well as PITTINO and KAWAI (2006), species of the terrestris group became rather easily identifiable.

Recently, we have examined some *Trox* specimens from China, which appear to belong to the *terrestris* group, and found a species distinct from any known species. Thus, we describe a new *Trox* species from China and assign it to the terrestris group since it appears closely related to *T. brahminus* PITTINO 1985.

## ***Trox parvisetosus*** sp. nov.

(Figs. 1–2)

Length: 6.8–7.6 mm; width: 3.7–4.0 mm (n=5).

Body oblong-oval and strongly convex above, clearly narrower than in *T. brahminus*.

Black on the ground color, though whole surface mostly covered with earthy velvety secretions; palpi and tarsi reddish brown; mandibles black; antennae reddish brown, each with scape darker.

Male. Head transverse, broadly pentagonal in outline; clypeus triangularly and strongly produced forward, with apical portion obtusely angled in the middle, the angle not distinctly toothed; clypeus with a small tubercle near either antennal insertion, and with an indistinct median one; vertex arranged with four small tubercles in a transverse row, the median two of which are distinctly separated to each other and slightly larger than the outer two ones; whole margins except for posterior one fringed with long fine yellowish brown hairs.

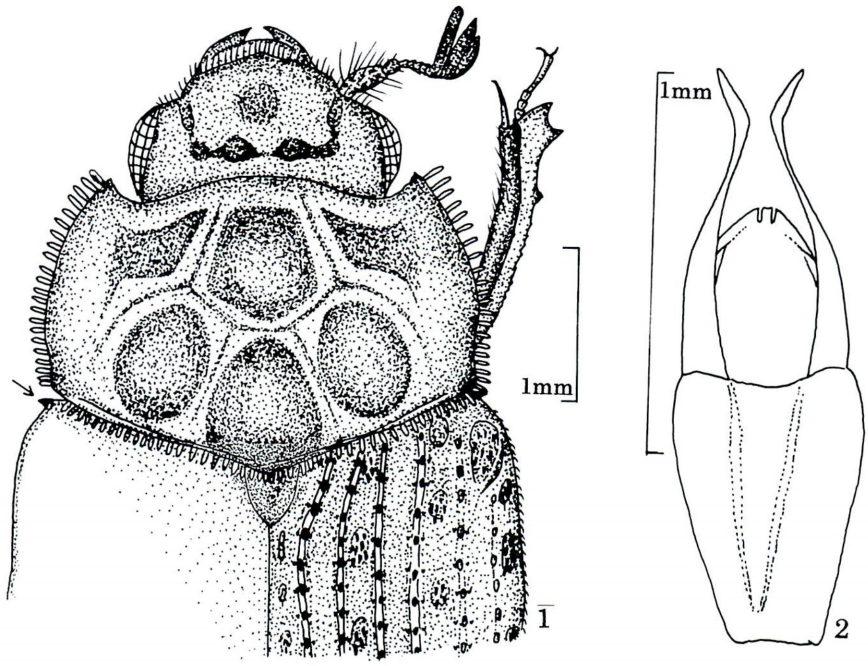
Pronotum transverse, about 1.5 times as wide as long (n=2), and widest a little behind the middle; anterior margin widely arcuate; lateral margins simply formed, gently rounded and only slightly sinuate near posterior angle; anterior angles sharply produced forward and more obtuse than in *T. brahminus*; posterior angles obtuse and not produced laterad; basal margin triangularly and strongly produced posteriad, and forming a slight lobe in the middle, with a fine marginal furrow which is becoming obsolete at the middle; lateral and posterior margins fringed with yellowish brown flattened setae which are rather sparse in the former and dense in the latter; disc with six concavities surrounded by strongly elevated obtuse ridges and clearly shallower than those of *T. brahaminus*; ante-scutellar concavity and antero-median one sub-trapezoidal, a pair of rather large baso-lateral ones oval and a pair of antero-lateral ones transverse. Scutellum small, tongue-shaped.

Elytra strongly and rather evenly convex, about 1.1–1.3 times as long as wide (n=1), widest at apical 2/5; each humeral callus swelled and rounded; humeral tooth small but distinct; lateral margins almost smooth, sparsely fringed with short pale brown setae; disc with ten punctate-striae; strial punctures distinct and also a pair of small granules located on either outer side of each puncture; 1st to 4th striae clearly and rather widely grooved and finely ridged throughout on either side; 5th stria partly or interruptedly grooved, 6th to 10th striae entirely devoid of both groove and ridge though punctures becoming a little larger than those of inner four intervals; intervals rather narrow, odd-numbered intervals slightly convex, composed of usually oval, sometimes elongate-oval, earthy velvety tubercles alternated with black narrow glabrous areas, and mostly clothed with about 8 to 14 short setae, even-numbered intervals not convex, slightly uneven and weakly wrinkled, and also composed of round very small velvety tubercles, alternated with black narrow glabrous areas, and mostly clothed with 1 to 2 short setae; the setae on all the tubercles pale yellowish brown, fairly short and small, clearly smaller than those of *T. brahminus*.

Meso- and metafemora with posterior edge emarginate near apex, the emargination of the former distinctly narrower and shallower than in *T. brahminus*. Protibiae slender and almost straight, with three lateral teeth; apical two teeth bifid, obtuse, the 3rd small, slightly spaced from the 2nd. Meso- and metatibiae rather slender, with dorsal outer edge bearing a strong spinule near the middle.

Aedeagus with basal piece about 0.7 mm in length (n=2), and about 1.3–1.4 times as long as median lobe (n=2), and about 1.1 times as long as parameres (n=2); parameres very similar to those of *T. brahminus* and *T. taiwanus*, about 0.8 mm in length (n=2), somewhat broad and incurved at basal two-thirds, and then becoming slender and clearly curved outward; median lobe distinctly hooked at apical third, with apex shortly but deeply notched on either side of the middle.

Female. Pronotum with posterior angles slightly but distinctly produced laterad than in male.




Figs. 1–2. *Trox parvisetosus* sp. nov., ♂.—— 1, head, pronotum and parts of elytra, dorsal view, and an arrow indicating humeral tooth; 2, aedeagus, dorsal view.

*Type series*. Holotype: ♂, Namping, 1,800 m alt., North Sichuan, China, 1986.

*Paratypes*: 1 ♂, 2 ♀ ♀, the same data as the holotype.

*Type depository*. The holotype is deposited in the collection of the Institute of Zoology, Chinese Academy of Sciences, Beijing.

*Etymology*. The specific name means "having small setae".

*Notes*. The present new species is closely related to *T. brahminus* PITTINO described from the Malay Peninsula in parameral shape, but can be distinguished from the latter by the following characters: 1) the lateral margin of pronotum is simply formed, without two or three strong sinus, whereas in *T. brahminus*, it is trisinuate, with three distinct and strong sinus; 2) the setose on the elytral tubercles are fairly small, short and pale yellowish brown, whereas in *T. brahminus*, they are ordinary in size, elongate and dark brown; 3) the elytron has a distinct humeral tooth, whereas in *T. brahminus*, it is entirely missing; 4) in the male, the aedeagus with basal piece is obviously longer than that of *T. brahminus*, and the parameres are clearly different in shape at the apex.

## Acknowledgements

We wish to express our cordial thanks to Mr. Masakazu KAWAHARA for his invaluable information. This research was partly supported by the grants from the Key Laboratory of Zoological Systematics and Evolution of the Chinese Academy of Sciences (No. O529YX5105), the

National Science Fund for Fostering Talents in Basic Research (Special Subjects in Animal Taxonomy, NSFC-J0630964/J0109, J0930004), and the National Natural Science Foundation of China (Nos. 30900144).

## 要　　約

越智 輝雄・近 雅博・白 明：中国四川省産コブスジコガネの1新種．――― 中国四川省からコブスジコガネ属の1新種を記載し，*Trox parvisetosus* sp. nov. と命名した．本新種は *"terrestris"* 種群に属し，特徴のある交尾器側片の形態からマレー半島及びタイに分布する *T. brahminus* PITTINO に近縁であると考えられる．しかし，上翅間室にある瘤の毛が極めて小さく，その色が淡黄色であること，前胸背側縁が三波曲せず，単調に形作られること，上翅に肩歯を具えること，交尾器中片の形が明らかに異なることなどの特徴により，*T. brahminus* から容易に区別できる．

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# A New Species of the Subgenus *Parascatonomus* of the Genus *Onthophagus* (Coleoptera: Scarabaeidae) from Sarawak, Borneo

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**Abstract** *Onthophagus* (*Parascatonomus*) *itiokai* sp. nov. described from Sarawak, Borneo.

OCHI *et al.* (2008) reviewed the Bornean species of the subgenus *Parascatonomus* of the genus *Onthophagus* and recorded 22 species from Borneo. Subsequently, KRIKKEN & HUIJBREGTS (2009) added two species of this subgenus to the Bornean fauna.

Recently, the last author (KK) has been conducting ecological researches on the dung beetle assemblage in Sarawak. Among the dung beetles collected during the research, we found a species of the subgenus *Parascatonomus*, which has not been known from Borneo. After a close examination and comparisons, we concluded that this form is a new to science. Thus, we describe it as a new species.

ZUNINO (1978) confirmed that internal characteristics of male genitalia, especially copulating lamellae, were important to classify of Onthophagini species. In contrast, HOWDEN (1993) suspected that these characteristics did not always reflect true phylogenetic relationships and that they were morphologically unstable because those characteristics were possibly changeable depending on mount conditions. However, the first author has agreed with ZUNINO's (1978) approach: the utility of internal characteristics of male genitalia (OCHI, 2003; OCHI, 2007). Therefore, in the following descriptions, we use the copulating lamellae on the internal sac of male genitalia as well as external characters.

**Methods**. A detached aedeagus was soaked in 10% Sodium hydroxide solution and heated for about 15 second. After rinsed in water, the internal sac was extracted from the treated aedeagus using a dissection pin and, thereafter, it was extended on a slide glass with water. After weakly pressed with a cover glass, the copulating lamellae were closely examined under a binocular microscope.

## *Onthophagus* (*Parascatonomus*) *itiokai* sp. nov.

(Figs. 1–6)



Fig. 1. Habitus of *Onthophagus* (*Parascatonomus*) *itiokai* sp. nov., ♂. Scale 5 mm.

Length: 8.0–8.7 mm; width: 4.2–5.5 mm (n=4).

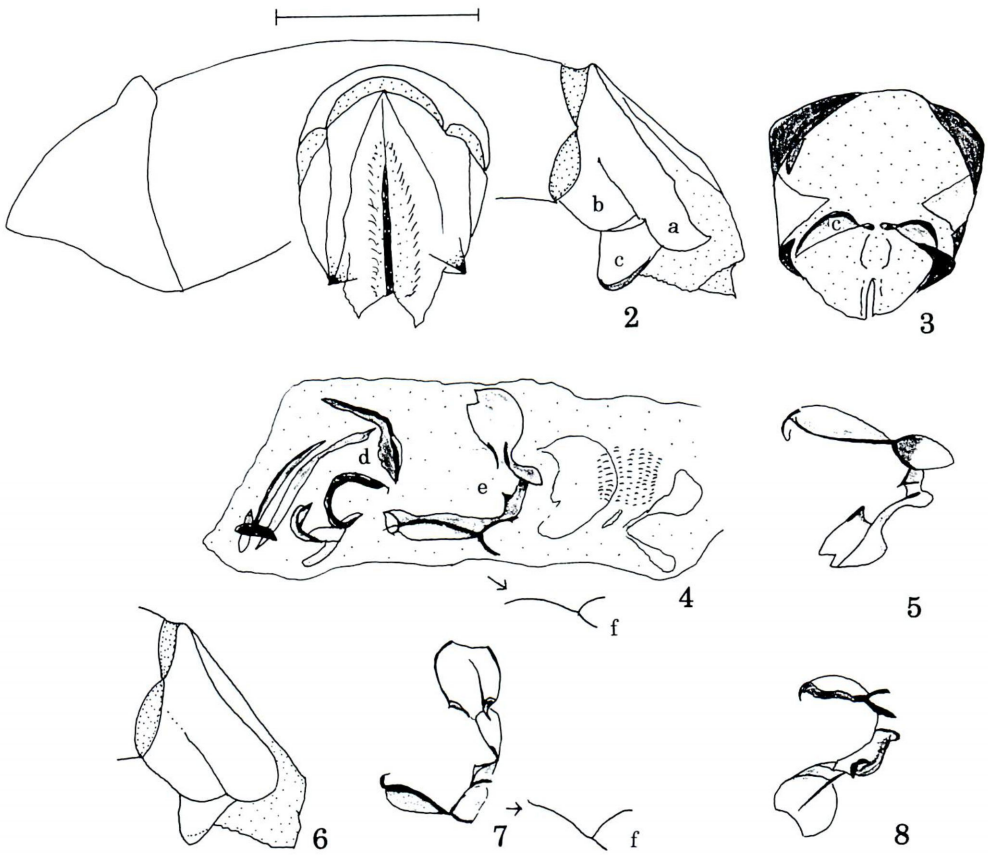
Body moderate-sized, oblong-oval, strongly convex dorsally, distinctly constricted between pronotum and elytra; dorsal side entirely glabrous, with head and pronotum somewhat shining and elytra slightly opaque; ventral side also weakly shining, partly clothed with yellowish hairs. Color black, head and pronotum tinged with dull aeneous to cupreous luster, elytra entirely black without metallic tinge; mouth organs and legs more or less reddish to brownish; antennae with footstalks reddish brown, club-segments yellowish brown.

Male. Head clearly transverse and somewhat polygonal in outline; clypeus moderately produced forward, with margin gently rounded laterad, only slightly emarginate or truncate at the middle, weakly reflexed and bordered; frontoclypeal suture strongly carinate, clearly curved forward and raised toward the middle; genae strongly produced laterad, with margin obtusely angled a little before the middle and rounded at the corner, almost straight in front and behind; posterior portion of head strongly carinate slightly before posterior margin, the carina long, weakly curved backward or straight and slightly longer than the frontoclypeal one; interspace between two carinae shallowly depressed; surface rather densely covered with fine punctures, weakly and transversely wrinkled on clypeus.

Pronotum simply formed, strongly convex, about 1.1–1.2 times as wide as long (n=3); median longitudinal impression indistinct; anterior margin emarginate, finely bordered though median portion not well visible in dorsal view; lateral margins gently rounded in front, clearly sinuate behind, finely bordered; anterior angles rectangular, rounded at the tip; posterior angles obtuse; basal margin obtusely angled at the middle and only slightly raised at the tip, not bordered throughout; surface moderately and evenly covered with rather small and distinct punctures in the middle, the punctures becoming denser and coarser toward anterior margin and especially anterior angles where the punctures are fairly dense, coarse and somewhat asperate.

Elytra about 1.3–1.4 times as wide as long (n=3); striae strongly grooved and ridged throughout on both sides; 1st and 2nd striae wider than the remaining striae, 7th stria scarcely curved or almost parallel to 6th near base; strial punctures sparse, small and distinct, feebly notching either margin of intervals; intervals slightly convex, somewhat micro-granulose; the micro-granules becoming weaker or entirely fading away and changed into satiny surface toward both base and sides of elytron, especially on humeral callus.

Pygidium transverse, strongly convex in the middle, carinate at base, weakly and transversely wrinkled, moderately covered with strong, transverse and ocellate punctures. Prothorax with anterior angles distinctly hollowed on the ventral side. Metasternum slightly convex, weakly and longitudinally grooved along midline, somewhat densely punctate in the middle, the punctures changing into dense and coarse granules at apex; MT-elevation obvious, with the dis-




Figs. 2–8, *Onthophagus* (*Parascatonomus*) spp. —— 2–5, *O.* (*P.*) *itiokai* sp. nov. 2, aedeagus, lateral and dorsal views, a= apex of paramere except for membraneous areas, b= baso-lateral elevation, c= apical tooth; 3, parameres, ventral view; 4, internal sac, dorsal view, d= accessory lamellae, e= copulating lamellae, f= schematic presentation of Y-shaped beam; 5, copulating lamellae, the reverse side. 6–8, *O.* (*P.*) *semicupreus* HAROLD. 6, parameres, lateral view; 7, copulating lamellae, dorsal view; 8, ditto, the reverse side. Scale 0.5 mm.

tal end not produced forward though sharply defined as a short longitudinal carina, and then declivous antero-laterally; a slight transverse groove indistinct. Protibiae short and rather stout, weakly incurved, with four strong external teeth; terminal spur short and robust, broadly spatulate in outline.

Aedeagus moderate-sized in general. Phallobase elongate, about 1.4–1.5 mm in length, about 0.5 mm in apical width (n=2). Parameres broad and quadrate in outline in dorsal view, about 0.6 mm in length (n=2), each baso-lateral elevation distinctly short and visible from lateral view, with tooth rounded, medio-lateral notch and apico-lateral tooth not developed and indistinct, apical tooth well developed and strongly produced ventrally from lateral view; in ventral view, both apical teeth well visible. Internal sac with copulating lamellae composed of two branches, one branch forming a round lobe, another forming elongate lobe which has an elongate "Y-shaped beam".

Female. Head more strongly wrinkled on clypeus and anterior half of genae than in male; both carinae on frontoclypeal suture and posterior portion of head slightly stronger. Protibiae with external four teeth stronger, terminal spur ordinary, sharp, slender and slightly decurved.

*Type series*. Holotype: ♂, Miri, Sarawak, Malaysia, 5. VIII, 2009, K. KISHIMOTO-YAMADA leg. Paratypes: 1 ♀, same data as the holotypes; 1 ♂, ditto, 29. VII. 2009; 1 ♂, ditto, 3. VIII. 2009.

*Type depository*. Forest Research Center, Sarawak, Malaysia.

*Distribution*. Borneo (Sarawak).

*Etymology*. This species is dedicated to Dr. Takao ITIOKA, Kyoto University, who is the leader of research team.

*Notes*. The present new species is closely related to *Onthophagus* (*Parascatonomus*) *semicupreus* HAROLD, 1877 from Borneo, but can be distinguished from the latter by the following characters: 1) the body is clearly larger; 2) the frontoclypeal suture of head is strongly curved forward and clearly raised toward the middle, whereas in *O. semicupreus*, it is not strongly curved forward nor raised toward the middle; 3) the head is more distinctly transverse than that of *O. semicupreus*, with the genae more strongly produced laterad; 4) in the male, the terminal spur of protibia is obviously short and stout in shape, whereas in *O. semicupreus*, it is rather elongate in shape; 5) in the male, the parameres are very similar at a glance, though baso-lateral elevation is distinctly short and the apex of paramer except for membraneous area is slightly long, whereas in *O. semicupreus*, baso-lateral elevation is longer and the apex of paramer except for membraneous area is short; 6) the internal sac with copulating lamellae are differently shaped, especially Y-shaped beam shorter.

## *Onthophagus* (*Parascatonomus*) *semicupreus* HAROLD

(Figs. 7–8)

*Onthophagus semicupreus* HAROLD, 1877: 81 (Type area: Sarawak, Borneo; type depository: MNSG.); LANSBERGE, 1883: 61; BOUCOMONT, 1914: 276; BOUCOMONT, 1924: 670; KRAJCIK, 2005: 131.

*Onthophagus* (*Onthophagus*) *semicupreus*; BALTHASAR, 1963: 519.

*Onthophagus* (*Parascatonomus*) *semicupreus*; KON, SAKAI et OCHI, 2000: 370; OCHI, KON et BARCLAY, 2008: 220; KRIKKEN J. & J. HUIJBREGTS, 2009: 41.

*Supplementary description*. Aedeagus: internal sac with copulating lamellae similar to those of the preceding species, composed of two branches, one branch forming a round lobe as well as in the preceding species, but a little larger another forming elongate lobe, which has an elongate Y-shaped beam although the rod is clearly shorter

**Acknowledgements**

This research was supported by the Research Institute for Humanity and Nature (project number D-04). We wish to express our cordial thanks to Lucy CHONG and Het KALIANG of Sarawak Forestry Corporation, and the Sarawak Forest Department for the permission to conduct this study. We thank T. ITIOKA of Kyoto University, Y. HASHIMOTO of Hyogo University and F. HYODO of Okayama University for field assistance, and Danny Lawai KAJAN and people

of Lg. Semiyang for their warm companionship during the last author's stay. Thanks are also due to N. YAMAMURA and S. SAKAI, the Research Institute for Humanity and Nature, for supporting the present research.

## 要　　約

越智 輝雄・近　雅博・岸本 圭子：ボルネオ，サラワク産のツヤエンマコガネ亜属の１新種．————ボルネオのサラワクからツヤエンマコガネ亜属の１新種を記載し，*Onthophagus* (*Parascatonomus*) *itiokai* sp. nov.と命名した．

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## Errata and Corrigenda

Teruo OCHI

Teruo OCHI, Masahiro KON and Maxwell V. L. BARCLAY: Six New Taxon of the Subgenus *Indachorius* of the Genus *Onthophagus* (Coleoptera: Scarabaeidae) from Borneo
*Entomological Review Japan*, **64**:

p. 196, line 13, for less evident..... read less evidently;
p. 199, line 11, for it does not not..... read it does not have;
p. 201, line 25, for it does not have not such..... read it does not have such;
p. 202, line 44, for usually arm with..... read usually armed with

Teruo OCHI, Masahiro KON and Ming BAI: Three New Species of *Copris* (Coleoptera, Scarabaeidae) from China, with Description of A New Subgenus.
*Entomological Review Japan*, **64**:
p. 207, line 15, for HAMBOONSONG, OCHI et MASUMOTO..... read HANBOONSONG, MASUMOTO et OCHI;
ditto, line19, for MASUMOTO, OCHI et HAMBOONSONG..... read HANBOONSONG, MASUMOTO et OCHI;
ditto, line 27, for HAMBOONSONG, OCHI et MASUMOTO..... read HANBOONSONG, MASUMOTO et OCHI.

Teruo OCHI, Masahiro KON and Yoshitaka TSUBAKI: Notes on the Coprophagous Scarab-beetles (Coleoptera, Scarabaeidae) from Southeast Asia (XXI) Nine New Species and Two New Subspecies of *Onthophagus* from the Malay Peninsula, Sumatra and Borneo.
*Entomological Review Japan*, **64**:
p. 217, line14, for *viridicervecapra*..... read *viridicervicapra*;
p. 221, line 5, for gently rounded..... read nearly straight;
p. 223, line 24, for *obcurior*..... read *obscurior*;
p. 225, line 12, for *obcurior*..... read *obscurior*

Teruo OCHI, Masahiro KON and Maxwell V. L. BARCLAY: Notes on the Coprophagous Scarab-beetles (Coleoptera, Scarabaeidae) from Southeast Asia (XXII) A New Species of *Haroldius* and Four New Species of *Panelus* from Borneo.
*Entomological Review Japan*, **64**:
p. 241, line 5, for aede-agus..... read aedeagus;
p. 243, line 27, for narrow toward..... read narrowed toward...

*Entomological Review of Japan*, **65** (1): 141–150, June 30, 2010

# Four New Species of the Genus *Phelotrupes* (Coleoptera: Geotrupidae) from China

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**Abstract** Four new species of the genus *Phelotrupes* are described from China: *P.* (*Sinogeotrupes*) *cheni* sp. nov. from Zheijiang, *P.* (*S.*) *yangi* sp. nov. from Hubei, *P.* (*S.*) *zhangi* sp. nov. from Jiangxi, and *P.* (*Eogeotrupes*) *subaeneus* sp. nov. from Fujian.

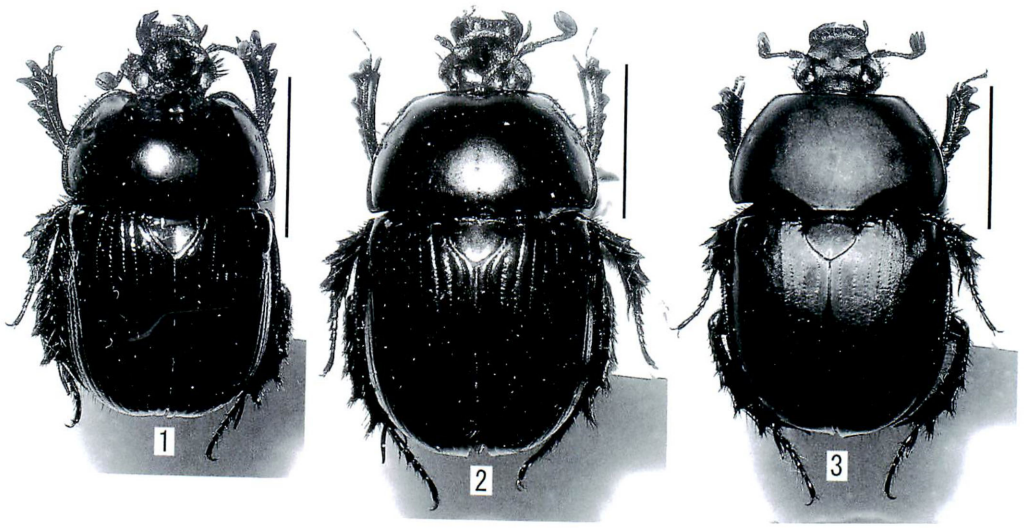
KRÁL *et al.* (2001) reviewed the geotrupid-genera *Odontotrypes* and *Phelotrupes* (Geotrupidae). Their revisional work contributed to making the species of these genera easily identifiable. Subsequently, some authors have described several species of these genera from China and Myanmar (CERVENKA, 2005, 2007, 2009; HOWDEN, 2006; NIKOLAJEV, 2005, 2009a, b; SHOKHIN, 2008). Recently, we have made close examinations on *Phelotrupes* specimens from China preserved in several collections in Japan. Consequently, four undescribed species were found from the collections. Thus, we describe herein four new *Phelotrupes* species from China. We follow BOVO & ZUNINO (1983) and also KRÁL *et al.* (2001) for the terminologies.

All the holotypes will be deposited in the collection of the Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

## ***Phelotrupes* (*Sinogeotrupes*) *cheni*** sp. nov.
(Figs. 1, 7-8)

Length: 17.1–19.0 mm (excluding mandibles); width: 11.1–9.8 mm (n=3).

Male. Body oblong-oval, strongly convex. Dorsal side moderately shining, entirely glabrous; ventral side almost opaque except for lustrous legs and partly clothed with blackish hairs. Color black, with weak and distinct bluish luster; mouth parts, palpi and legs blackish brown, the latter with slight bluish tinge, antennae with foot-stalks dark reddish brown, club segments also dark reddish brown though clearly paler on marginal portion of each segment.




Figs. 1–3. Habitus of *Phelotrupes* spp., scale 10 mm. — 1, *P.* (*Sinogeotrupes*) *cheni* sp. nov., male; 2, *P.* (*S.*) *yangi* sp. nov. male; 3, *P.* (*S.*) *zhangi* sp. nov., male.

Head with labrum distinctly emarginate in front; clypeus clearly wide, less strongly produced forward; clypeal margin broadly elliptical in outline, thinly bordered in the middle and rather thickly so on either side; median portion of clypeus prominent as a small longitudinal tubercle which is sharply angled and rather pointed from lateral view; clypeal suture indistinct though slightly depressed; T-shaped suture scarcely visible; eye-tubercles vague, slightly raised; eye canthus with external margin gently rounded; surface finely micro-granulose, rugosely and densely punctate on clypeus, irregularly sculptured on genae, smooth and almost impunctate on post-median portion of head and eye-tubercles.

Pronotum strongly convex, about 1.8-1.9 times as wide as long (n=3), widest a little before base, with a very obtuse median longitudinal impression in basal half; anterior margin bisinuate on either side and suddenly produced as a elevated tubercle in the middle which is somewhat trapezoidal in anterior view, emarginate at apex and almost vertical in front, with marginal line effaced in the middle and distinctly bordered laterad; lateral margins gently rounded throughout, not crenulate, with marginal line thin in front and thick behind; basal margin broadly bisinuate laterad and almost straight at ante-scutellar portion as well as in *P. hunanensis*, with marginal line unbordered except for bordered lateral portion; disc with a broad anterior concavity, which is occupying in apical third of pronotal length and slightly tuberculate on either lateral portion; lateral fovea distinctly grooved, posteromedial fovea lacking; surface very finely micro-granulose, almost impunctate or at most scattered with several fine punctures in the middle and distinctly punctate along lateral margin; in smaller individuals, anterior concavity becoming clearly narrower and shallower, and reduced to widely opened V-shape as usually noticeable in *P. compressidens* or *P. hunanensis*. Scutellum broadly triangular in outline, finely micro-granulose, scarcely punctate.

Elytra about 1.1-1.2 times as wide as long (n=3), slightly narrower than pronotum at base, with a distinct humeral callus; disc strongly convex, each with 14 striae, inner 7 of which are

distinctly grooved, situated between suture and humeral callus; outer 7 striae more shallowly grooved than the inner 7, and sometimes interrupted partly; strial punctures distinct and dense, slightly notching either margin of intervals; intervals clearly convex, finely micro-granulose, finely punctate, though the punctures becoming indistinct in one paratype. Macropterous.

Profemora not armed on anterior edge; ventral side distinctly micro-sculptured on anterior half, shining and partly punctate on posterior half. Mesofemora with ventral side mostly micro-sculptured on posterior third, shining on anterior two-thirds. Metafemora armed with a weak round tooth on posterior edge; ventral side also micro-sculptured on posterior third, shining on anterior two-thirds. Protibiae ordinary though rather stout; ventromedial edge arranged with about 7 or 8 small denticles in whole length, the median 4 or 5 of which are stronger than the remaining ones. Abdominal sternites roughly micro-granulose, coarsely and densely punctate.

Aedeagus relatively large. Phallobase broad and well developed, about 3.9-4.1 mm in length and about 2.1 mm in width (n=2), completely enclosing paramerses in dorsal view; sagittary ventral suture indistinct, only slightly notched at the middle of apical margin in ventral view. Parameres about 1.1–1.2 mm in length and about 1.5–1.6 mm in width (n=2); general appearance somewhat similar to those of *P. insulanus*, though both apical margins slightly asymmetrical and apical hairs entirely lacking in dorsal view.

Female. Unknown.

*Type series*. Holotype: ♂, Zeijiang, China, 1986. Paratypes: 2 ♂♂, the same data as the holotype.

*Distribution*. China (Zeijiang).

*Etymology*. This species is named in honor of Prof. Sicien CHEN, the former leader of Group of Morphology and Evolution of Coleoptera, the Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

*Notes*. The present new species is closely related to *Phelotrupes* (*Sinogeotrupes*) *hunanensis* KRÁL, MALÝ et SCHNEIDER from Hunan Province in general, China, but can be distinguished from the latter by the head more distinctly transverse, the clypeus less strongly produced forward, the eye-tubercle present, the pronotum with anterior concavity well developed in large males.

KRÁL *et al.* (2001, Figs. 152, 153) also illustrated the male genitalia of *P.* (*S.*) *insulanus* (HOWDEN), another species related to the present new species. However, KRÁL's illustrations appear quite different from the male genitalia of Taiwanese specimens of *P.* (*S.*) *insulanus*. Therefore, we suspect that KRÁL's illustrations may be drawn based not on a specimen of true *P.* (*S.*) *insulanus* but on that of a different species.

## ***Phelotrupes* (*Sinogeotrupes*) *yangi*** sp. nov.

(Figs. 2, 9–10)

Length: 20.8–23.8 mm (excluding mandibles); width: 12.1–13.2 mm (n=14).

Body generally larger than in the congeners, oblong-oval, strongly convex. Dorsal side moderately shining, entirely glabrous; ventral side almost opaque except for lustrous legs, and partly clothed with blackish hairs. Color black, usually with distinct bluish, occasionally dark greenish, metallic luster; mouth parts and legs black to blackish brown, partly with bluish tinge, palpi and antennae dark brown to dark reddish brown except for slightly bluish scape of the lat-

ter.

Male. Head with labrum shallowly emarginate in front; clypeus distinctly wide, moderately produced forward; clypeal margin broadly elliptic in outline, thinly bordered throughout; median portion of clypeus prominent as a small longitudinal tubercle which is slightly raised and obtusely angled from lateral view; clypeal suture distinct, clearly depressed; T-shaped suture indistinct but obtusely depressed; eye-tubercles distinct, rather pointed; eye canthus with external margin almost straight in front and gently rounded behind; surface weakly micro-granulose, very densely, partly confluently, punctate on clypeus, irregularly sculptured or punctate on genae, irregularly punctate on post-median portion of head.

Pronotum strongly convex, about 1.7-1.8 times as wide as long (n=2), widest a little before base, with an obtuse median longitudinal impression in basal half; anterior margin bisinuate, with a gently raised tubercle in the middle which is broadly triangular in anterior aspect and emarginate at apex, marginal line thickly bordered in the middle and thinly so laterad; lateral margins clearly rounded throughout, not crenulate, with marginal line thin in front and thick behind; basal margin broadly bisinuate laterad and almost straight at ante-scutellar portion, broadly unbordered except for bordered lateral portion; disc almost simply formed except for very narrow anterior concavity; lateral fovea distinctly grooved; posteromedial fovea lacking; surface finely micro-granulose, very sparsely and finely punctate in the middle, the punctures becoming clearly coarser toward either lateral portion where is weakly and obtusely wrinkled. Scutellum broadly triangular in outline, obtusely impressed along midline in apical half, finely micro-granulose, scarcely punctate.

Elytra about 1.1 times as long as wide (n=2), somewhat narrower than pronotum at base, with a distinct humeral callus; disc strongly convex, each with 14 striae, inner 7 of which are distinctly grooved, situated between suture and humeral callus; outer 7 striae rather shallowly grooved than the inner 7, and sometimes interrupted partly; strial punctures distinct and dense, slightly notching either margin of intervals; intervals clearly convex, distinctly micro-granulose, finely and slightly wrinkled, densely and finely punctate. Macropterous.

Profemora not armed on anterior edge; ventral side distinctly micro-sculptured on anterior two-thirds, shining and partly punctate on posterior third. Mesofemora with ventral side distinctly micro-sculptured on posterior half, shining and partly punctate on anterior half. Metafemora obviously armed with a strong and internally curved projection on posterior edge; ventral side also distinctly micro-sculptured on posterior third, shining and partly punctate on anterior two-thirds. Protibiae somewhat slender and weakly incurved; ventromedial edge arranged with about 7 to 8 small denticles in whole length, median 2 or 3 of which are slightly stronger than the remaining ones; terminal spur ordinary, sharp and slightly decurved. Abdominal sternites roughly micro-granulose, coarsely and densely punctate.

Aedeagus relatively large. Phallobase elongate, about 5.0–5.1 mm in length and about 1.9–2.0 mm in width (n=2), almost enclosing parameres from dorsal view; from ventral view, sagittary ventral suture deeply notched, ventral lobes clearly separated in apical half. Parameres symmetrical, about 2.2–2.3 mm in length and about 1.4 mm in width (n=2) from dorsal view; from dorsal view, median portion of parameres deeply notched in the middle, apical margin of each paramere deeply and obliquely emarginate with latero-distal end produced into sharp tooth which bears very fine several hairs.

Female. Head with both median clypeal tubercle and eye-tubercles stronger and sharper than those of male. Pronotum with anterior concavity deeper and median tubercle of anterior

margin more strongly elevated and emarginate at apex. Metafemur with ventral side ordinary on posterior edge. Protibiae shorter and clearly broader, with external teeth stronger and close mutually; ventromedial edge arranged with about 7 or 8 small denticles which are somewhat even in size.

*Type series*. Holotype, ♂, Hubei, China, 1988. Paratypes: 5 ♂♂, the same data as the holotypes; 7 ♂♂, 1 ♀, Yunnan, 1988.

*Etymology*. This species is named in honor of Prof. Xing-Ke YANG, the leader of Group of Morphology and Evolution of Coleoptera, the Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

*Notes*. The present new species is closely related to *Phelotrupes* (*Sinogeotrupes*) *hunanensis* KRÁL *et al.*, from China in general, but can be distinguished from the latter by the following characters: 1) the body is much larger; 2) the pronotum has a distinctly narrow anterior concavity, whereas in *P.* (*S.*) *hunanensis*, it has a rather broad anterior concavity; 3) the body is suffused with strong bluish or dark greenish luster, whereas in *P.* (*S.*) *hunanensis*, it has very slight dark greenish tinge. The present new species is also somewhat similar to *P.* (*S.*) *smetanai* KRÁL *et al.*, but can be distinguished from the latter by the clearly larger body, distinctly convex elytral intervals and simply formed pronotum.

## ***Phelotrupes* (*Sinogeotrupes*) *zhangi*** sp. nov.

(Figs. 3, 11–12)

Length: 18.1–20.8 mm (excluding mandibles); width: 11.2–12.3 mm (n=9).

Body oblong-oval, strongly convex. Dorsal side entirely opaque; ventral side also opaque except for lustrous tibiae, partly clothed with blackish hairs. Color unicolor black; mouth parts, palpi, antennae and legs blackish brown.

Male. Head with labrum scarcely emarginate or almost straight in front; clypeus wide, moderately produced forward; clypeal margin regularly rounded and semicircular in outline, thinly bordered; post-median portion of clypeus slightly prominent as a small round tubercle; clypeal suture very distinct and rather weakly depressed; T-shaped suture indistinct; eye-tubercle small and slightly raised; eye canthus with external margin gently rounded; surface strongly micro-granulose except for lustrous clypeal suture and eye-tubercles, rather densely punctate except for irregularly sculptured genae and impunctate posterior portion of head.

Pronotum strongly convex, though slightly depressed along lateral margin than in the related species, simply formed, about 1.7-1.8 times as wide as long (n=3), widest a little before base; median longitudinal impression scarcely visible; anterior margin weakly bisinuate, with marginal line thickly bordered in the middle and thinly so laterad; lateral margins clearly rounded throughout, not crenulate, with marginal line thin in front and clearly more thick behind than that of *P. taiwanus*; basal margin broadly bisinuate laterad and almost straight at ante-scutellar portion, broadly unbordered except for shortly bordered lateral portion; lateral fovea distinctly grooved and polished, posteromedial fovea lacking; surface strongly micro-granulose, almost impunctate except for distinctly punctate marginal portions, the punctures increasing in number along lateral margins. Scutellum broadlytriangular, micro-granulose and sparsely punctate.

Elytra about 1.1–1.2 times as long as wide (n=3), slightly narrower than pronotum at base, with a distinct humeral callus; outer margin of elytron broadly bordered and also distinctly

depressed along marginal line; disc strongly convex, each with 14 striae, inner 7 of which are weakly and finely grooved, situated between suture and humeral callus; outer 7 striae scarcely grooved and mostly interrupted; strial punctures small but distinct, slightly notching either margin of intervals; intervals almost flat, strongly micro-granulose, sparsely and finely wrinkled in part, almost impunctate. Macropterous.

Protrochanter strongly toothed at distal end, the tooth produced downward and rounded at apex as well as in *P.* (*S.*) *taiwanus*. Profemora not armed on anterior edge; ventral side distinctly micro-sculptured on anterior two-thirds, shining and smooth on posterior third. Mesofemora with ventral side shining and smooth on anterior third, half shining and micro-sculptured on the median portion, and distinctly micro-sculptured on posterior third. Metafemora armed with a weak and round projection on posterior edge; ventral side also distinctly micro-sculptured except for narrow shining anterior portion..

Aedeagus relatively small. Phallobase elongate, about 3.4-3.5 mm in length and about 1.2 mm in width (n=2), simply formed near the base of parameres, almost enclosing parameres from dorsal view; sagittary ventral suture deeply and rather broadly notched; ventral lobes clearly separated in apical half from ventral view. Parameres almost symmetrical, about 0.8-0.9 mm in length and about 0.9 mm in width (n=2) from dorsal view; from dorsal view, apical median portion of parameres notched though very close or overlapped, and either apico-lateral portion strongly and sharply prominent

Female. Dorsal side more strongly opaque than in male. Head with clypeus more densely and more strongly punctate. Pronotum with anterior margin noticeably widened at the middle. Metafemora with ventral side ordinary on posterior edge. Protibiae slightly broader, with external teeth stronger.

*Type series*. Holotype: ♂, Jinggang Shan, Ciping, Jianxi, China, 1994. Paratypes: 2♂♂, 2♀♀, the same data as the holotype; 3♂♂, 1♀, NW-Yunnan, China, 1986.

*Etymology*. This species is named in honor of Dr. Youwei ZHANG, the Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

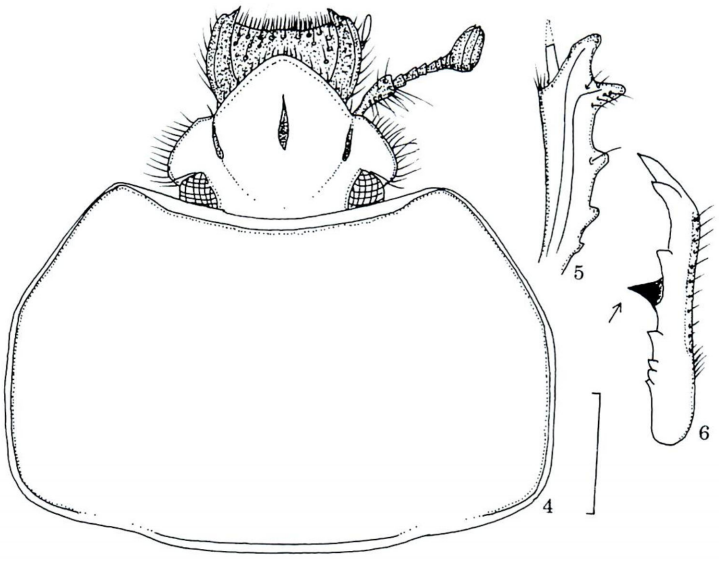
*Notes*. The present new species is closely related to *Phelotrupes* (*Sinogeotrupes*) *taiwanus* (MIYAKE et YAMAYA) from Taiwan in general, China, but can be distinguished from the latter by the following characters: 1) the lateral margin of pronotum is broadly bordered behind, whereas in *P.* (*S.*) *taiwanus*, it is rather finely bordered behind; 2) the outer margin of elytron is thickly bordered and also depressed along the marginal line, and the depression is distinct near apex, whereas in *P.* (*S.*) *taiwanus*, it is more thinly bordered and narrowly depressed along the marginal line, the depression fairly weak at apex; 3) the elytral intervals are generally more strongly micro-granulose instead of being more weakly micro-granulose; 4) in the male, aedeagus with phallobase is simply formed near the base of parameres in dorsal view instead of being obviously bilobed.

### ***Phelotrupes* (*Eogeotrupes*) *subaeneus*** sp. nov.

(Figs. 4–6, 13–15)

Length: 21.1–21.5 mm (excluding mandibles); width: 11.8–12.4 mm (n=3).

Body rather broadly oval in outline, strongly convex. Dorsal side shining and smooth, entirely glabrous; ventral side also weakly to distinctly shining, and partly clothed with brownish hairs. Color black, with weak aeneous tinge on elytra; mouth parts and legs blackish brown,



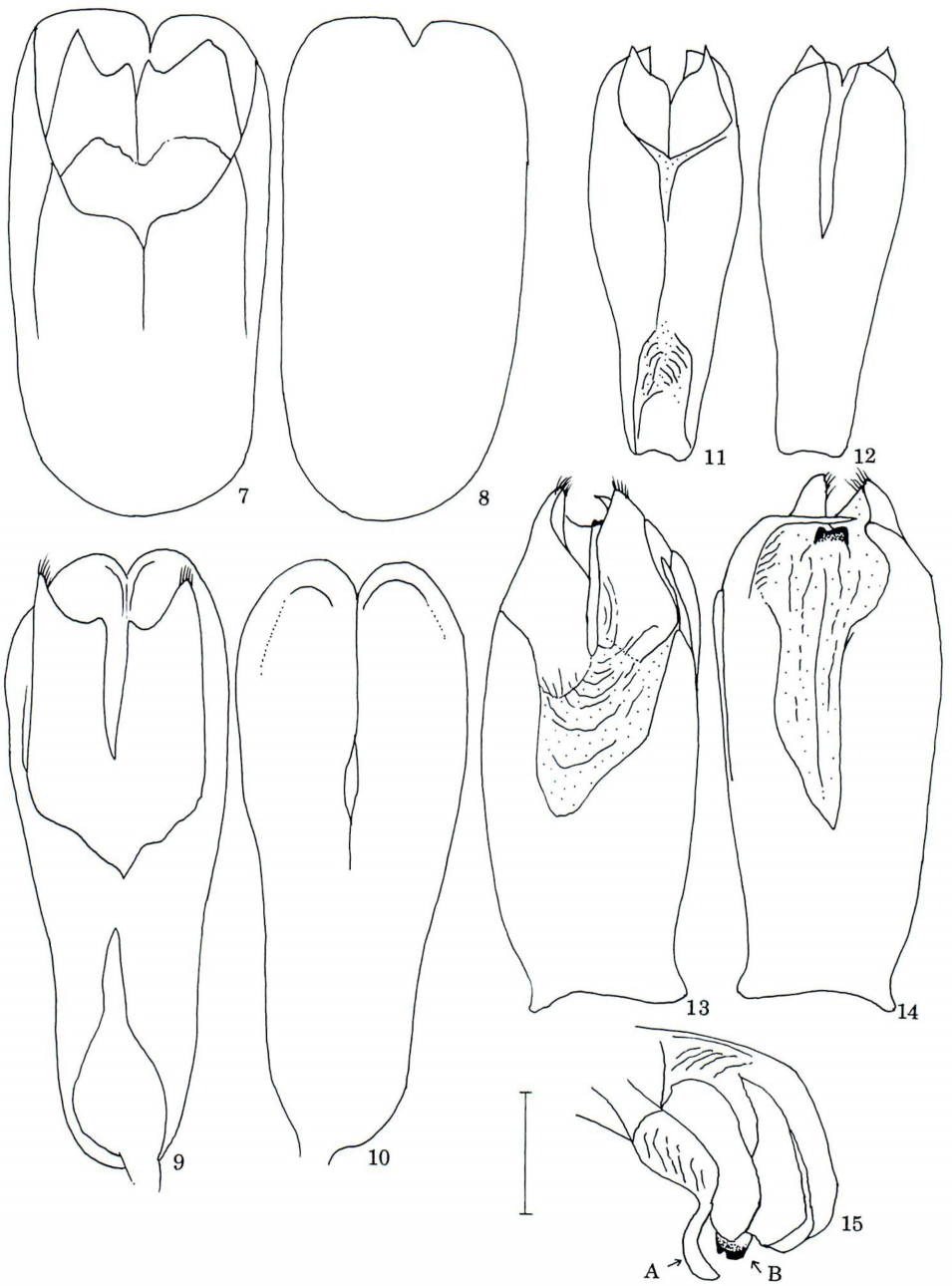

Figs. 4–6. *Phelotrupes* (*Eogeotrupes*) *subaeneus* sp. nov., male, —— 4, head and pronotum, dorsal view; 5, right protibia, dorsal view; 6, left protibia, left lateral view, an arrow indicating a sharp tooth of ventromedial edge. Scale 5 mm.

palpi and antennal foot-stalks dark brown to dark reddish brown, club segments of antennae bright yellowish brown.

Male. Head with labrum distinctly emarginate in front; clypeus strongly produced forward, with clypeal margin somewhat parabolic in outline and thinly bordered; median portion of clypeus slightly prominent as a longitudinal tubercle which is gradually raised backward and pointed at posterior third; clypeal suture distinct and well depressed; T-shaped suture vaguely impressed; eye-tubercle distinct, slightly raised backward; eye canthus relatively narrow, with external margin gently rounded; surface rather densely punctate on clypeus, micro-sculptured and impunctate on genae, sparsely punctate or partly almost smooth on the remaining portions.

Pronotum strongly convex and simply formed, about 1.6 times as wide as long (n=1), widest behind the middle, with an obtuse median longitudinal impression in basal half; anterior margin emarginate, with marginal line somewhat thickly bordered in the middle and rather thinly so laterad; lateral margins straight or slightly sinuate in front and gently rounded behind, not crenulate, with marginal line thin in front and thick behind; anterior angles rounded; posterior angles also rounded; basal margin bisinuate, thickly bordered except for unbordered ante-elytral portions of 4th to 6th intervals; anterior concavity absent; lateral fovea distinctly grooved; posteromedial fovea missing; surface impunctate on the median portion, though the median longitudinal impression arranged with several small punctures, marginal portions a little densely arranged with strong, partly vague, punctures along margins, and either narrow lateral portion irregularly scattered with small distinct punctures. Scutellum fairly transverse and somewhat triangular in outline, sparsely and finely punctate, with a distinct oval fovea near apex in the middle.

Elytra about 1.1 times as long as wide (n=1), slightly narrower than pronotum at base, with




Figs. 7–15. *Phelotrupes* spp., —— 7–8, *P.* (*Sinogeotrupes*) *cheni* sp. nov. 7, parameres, dorsal view; 8, ditto, ventral view; 9–10, *P.* (*S.*) *yangi* sp. nov. 9, parameres, dorsal view; 10, ditto, ventral view; 11–12, *P.* (*S.*) *zhangi* sp. nov. 11, parameres, dorsal view; 12, ditto, ventral view; 13–15, *P.* (*Eogeotrupes*) *subaeneus* sp. nov. 13, parameres, dorsal view; 14, ditto, ventral view; 15, ditto, dorso-lateral view, arrow A indicating "left" lobe of phallobase and arrow B indicating small asymmetrical tubercle on antero-median portion of phallobase. Scale 1 mm.

a distinct humeral callus; disc strongly convex, each with 14 striae, inner 7 of which are distinctly grooved, situated between suture and humeral callus; outer 7 striae rather shallowly grooved than the inner 7, and sometimes interrupted partly; strial punctures vague, slightly notching either margin of intervals; intervals clearly convex, shining though distinctly micro-granulose along striae, sparsely and finely wrinkled, almost impunctate. Macropterous.

Profemora not armed on anterior edge; ventral side shining. Mesofemora with ventral side also shining. Metafemora armed with a strong and incurved projection before the middle on posterior edge; ventral side shining. Protibiae rather slender and weakly incurved; ventromedial edge with a fairly strong sharp tooth near the middle; terminal spur ordinary (both apices damaged in the holotype). Abdominal sternites roughly micro-granulose, coarsely and unevenly punctate.

Aedeagus moderate-sized in general. Phallobase broadly membraneous on antero-median portion in dorsal view, about 4.4 mm in length and about 1.9 mm in width (n=1); in ventral view, ventral lobes clearly separated, "left" lobe developed as a strongly incurved elongate process and "right" lobe short, incurved and rounded at apex, antero-median portion broadly membraneous with a small asymmetrical tubercle at apex. Parameres asymmetrical, about 1.8 mm in length (in left paramere), about 1.4 mm in width (n=1) from dorsal view; from dorsal view, median portion of parameres deeply notched, left paramere narrow, rather long, incurved at apex and strongly sinuous on inner margin, right paramere broad and slightly curved outward; apices of both parameres fringed with fine hairs.

Female. Head with clypeus more strongly produced forward than in male; both median clypeal tubercle and eye-tubercles stronger and sharper; surface more densely punctate on clypeus. Pronotum with anterior margin strongly raised and more thickly bordered at the middle. Elytra with strial punctures clearly stronger. Metafemur with ventral side ordinary on posterior edge. Protibiae stouter, with external teeth stronger and close mutually.

*Type series*. Holotype, ♂, Dongliushan, 1,500 m alt., Fujian, China, 1988. Paratype: 2♀♀, the same data as the holotype.

*Etymology*. The specific name means "weakly aeneous-colored".

*Notes*. The present new species is closely related to *Phelotrupes* (*Eogeotrupes*) *amethystinus* (JEKEL) from India in general, but can be distinguished from the latter by the following characters: 1) the body is obviously larger and broader; 2) the pronotum is entirely shining, whereas in *P.* (*E.*) *amethystinus*, it is strongly micro-granulose; 3) the elytral intervals are shining except for micro-granulose narrow portion along striae, whereas in *P.* (*E.*) *amethystinus*, they are wholly micro-granulose; 4) the parameres are quietly different in shape.

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## 要　　約

越智 輝雄・近　雅博・白　明：中国産センチコガネ属の4新種．――― 中国からセンチコガネ属の4新種を記載し，*P.* (*Sinogeotrupes*) *cheni* sp. nov.（浙江省），*P.* (*Sinogeotrupes*) *yangi* sp. nov.（湖北省），*P.* (*S.*) *zhangi* sp. nov.（江西省），*P.* (*Eogeotrupes*) *subaeneus* sp. nov.（福建省）と命名した．


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# Fungivorous Tenebrionidae (Coleoptera) collected in Lambir Hills National Park, Sarawak, Malaysia by Dr. YAMASHITA

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**Abstract** Fungivorous tenebrionid beetles collected in lowlands of northern Borneo are listed, in which seven species and one genus are newly described under the names *Microatasthalus* gen, nov., *Microatasthalus hadrocerus*, *Boletoxenus inouei*, *Bolitonaeus exiguus*, *Bolitonaeus yamashitai*, *Uloma itiokai*, *Ischnodactylus consobrinus*, and *Ischnodactylus hutanicolus*.

December of 2009, Drs. ITIOKA and YAMASHITA, Kyoto University, entrusted their Bornean tenebrionid collection to me for identification through Dr. MARUYAMA, the Kyushu University Museum. In the Canopy Biology Program in Sarawak (CBPS), Dr. YAMASHITA collected a number of tenebrionid beetles during three years of his research from June 2006 to August 2008 on fungal ecology in Lambir Hills National Park, Sarawak. These beetles were collected only from the surfaces or insides of fungi, and never from the areas nearby fungi nor under barks. In my careful examination, these are very interesting tenebrionid specimens and rather unfamiliar than the recent collections I checked (recent specimens were collected usually in high mountain areas), because of these specimens were collected in the lowlands jungles of Borneo, altitude between 150 and 450 m, the most of whose areas are already destroyed at present.

Consequently, these Bornean lowland tenebrionid-beetles includ 40 species in which eight are new to science and one is a new genus. I list 36 species hereinafter and describe a new genus and seven new species except for the genus *Pentaphyllus*, species of which will be described in separate paper.

The holotypes and the most of paratypes and of specimens are deposited in the Forestry Department of Sarawak, Kuching, some of paratypes and of specimens are deposited in the Ehime University Museum, Matsuyama and in the Kyoto University Museum, Kyoto.

The common data of collecting area: Lambir Hills National Park, Miri, Sarawak, Borneo, Malaysia, S. YAMASHITA leg. "myco+Arabic numbers" in the data of the specimens examined is shown the discrination nymber of each specimen.

Abbreviations employed herein are as follows: IE – width of interspace between eyes; TD – transverse diameter of an eye measured from dorsal aspect; PL – length of pronotum measured along the median line; PW – width at the widest level of pronotum; EL – middle length of elytra; EW – greatest width of elytra. The asterisk shows that the distributional line has been hitherto unrecorded from the country.

## Tribe **Amarygmini** GISTEL, 1848

### 1. ***Amarygmus nigrofasciatus*** PIC, 1915

*Amarygmus nigrofasciatus* PIC,1915: 22.

*Notes*. This species is easily identified by the beautiful fasciae on elytra.
*Specimen examined*: 1 ex., 13. VIII. 2008, myco2049.
Type locality: Malacca: Perak.
Type depository: Muséum National d'Histoire Naturelle, Paris.
Distribution: Malaysia, Borneo (Sabah, Sarawak), Sumatra, and Sulawesi.

### 2. ***Amarygmus blairi*** BREMER, 2001

*Amarygmus blairi* BREMER, 2001: 97.

*Notes*. This species is very small in size, body strongly globate, almost hemispherical, covered with strong metallic seen, with ultimate segment of antennae light yellow. This species was determined by Dr. BREMER, Melle.
*Specimens examined*. 1 ex., 24. VII. 2008, myco3219.
Type locality: Mt. Matang, W. Saraswak.
Type depository: The Bishop Museum, Honolulu.
Distribution: Borneo (Sarawak).

### 3. ***Amarygmus proteus*** BREMER, 2010

*Amarygmus proteus* BREMER, 2010: 227.

*Notes*. Body darkened, basal area of elytra somewhat tinged with dark red. This species was determined by Dr. BREMER.
*Specimen examined*: 2♂♂, 1♀, 13. VIII. 2008, myco2070, myco2046, myco2048.
Type locality: Borneo (Gunung Gading NP).
Type depository: Collection of Dr. Roland GRIMM.
Distribution: Borneo, Singapore.

## Tribe **Bolitophagini** KIRBY, 1837

### 4. ***Atasthalus spectrum*** PASCOE, 1871

(Figs. 19–22)

*Atasthalus spectrum* PASCOE, 1871: 348.
*Atasthalus spectrum callosus* GEBIEN, 1925b: 425.

*Notes*. GEBIEN (1925b) established a new subspecies of this species, *callosus*, but as these following data the both subspecies are collected in the same places under same days, so that the subspecies *callosus* would be within infraspcific variety and should be included into the nominotypical species.
*Specimens examined*. 1♀, 3. VIII. 2008, myco1278; 2♂♂, 3♀♀, 21. XII. 2007, No. 16:

myco3904, myco3906, No. 17: myco3914, No. 2 (Inoue Trail Gap): myco3789, myco3787; 1♀, 8. VIII. 2008, myco1282; 1♀, 26. VII. 2008, 3224; 6♀♀, C (A. 8) No. 377: myco3691, myco3693, myco3695, myco3692, C (T. 13) No. 317: myco3699, myco3698; 1♀, 16. VI. 2006, Inoue Trail 246: myco3644; 8♂♂, 6♀♀, 28. II. 2008, myco1424, myco1691, myco1471, myco1423, myco1891, myco1473, myco1481, myco1599, myco1449, myco14479, myco1469, myco1888, myco1458, myco1459; 5♀♀, 6. III. 2008, myco1312, myco1141, myco1171, myco1132, myco1146; 1♀, 20. VI. 2006, Crane (T. 12) No. 40: myco3679; 4♀♀, 6. VIII. 2008, myco1136, myco2692, myco1119, myco1035; 1♂, 26. II. 2008, myco1942; 2♂♂, 2♀♀, 3. III. 2008, myco1264, myco1022, myco1376, myco1279; 2♀♀, No. 225: myco3670, myco3670, myco3671; 4♀♀, 5. III. 2008, myco1147, myco1151, myco1303, myco1340; 2♀♀, 19. VI. 2006, No. 38, Inoue Trail: myco3658, myco3660; 3♀♀, 3. I. 2008, No. 95: myco4510, myco4511, No. 88: myco4351; 1♂, 9. VI. 2006, No. 200T: myco3633; 1♂, 8. XII. 2006, C (T.12) No. 265: myco3690; 2♀♀, 30. XII. 2007, No. 52: myco4103, No. 53: myco4104, 1♀, 27. II. 2008, myco1876; 1♀, 29. VII. 2008, myco2068; 1♀, 5. VIII. 2008, myco2191; [*A. spectrum callosus*]: 21♂♂, 28. II. 2008, myco1472, myco1452, myco1484, myco1485, myco1692, myco1462, myco1468, myco1448, myco1463, myco1461, myco1482, myco1467, myco1483, myco1466, myco1460, myco1465, myco1453, myco1480, myco1426, myco1464, myco1427; 1♂, 6. III. 2008, myco1014; 1♂, 31. XII. 2007, No. 78: myco4314; 1♂, 3. I. 2008, No. 93: myco4402; 3♂♂, 3. III. 2008, myco1276, myco1021, myco1236; 2♂♂, 13. VI. 2007, No. 13 *G. aus.*: myco3764, myco3765; 5♂♂, 21. XII. 2007, No. 16: myco3905, No. 17: myco3915, myco3916, No. 23: myco3922, myco3929.

Type locality: Malacca.

Type depository: The Natural History Museum, London.

Distribution: Malay Peninsula (Malacca), Sumatra, Java, and Borneo (Kuching, Sarawak).

## ***Microatasthalus*** gen. nov.

Type-species: *Microatasthalus hadrocerus* sp. nov.

Body oblong-oval, more or less parallel in posterior portion, strongly convex.

Head hexagonal, clypeus transversely elliptical, with an erect horn at middle; genae edged anteriorly and posterior part at middle of eye, with an irregular process at upper surface before each eye, and running posteriad until posterior margin of eye, so that deep genal canthus is completely separated each eye into two parts; postgenae not emarginate; eyes small, far distant to each other; frons more or less sloping forwards. Antennae 11-segmented, four distal segments forming a distinct club, and 11th more or less embedded into the apex of 10th. Terminal segment of labial palpus elongate, more or less securiform, that of maxillary palpus elongate-oval; outer margin of buccal plate in front of ventral eyes bearing antennal insertion; area between submentum and gula coarsened and densely microsculptured; gula smooth, both external side of gular sutures densely punctate.

Pronotum well convex, covered with punctures, and minute setiferous nodules, with a pair of long horns behind anterior margin; anterior margin shallowly emarginate, not bordered; lateral margins distinctly serrate by clear teeth. Scutellum visible.

Elytra oblong, subparallel-sided, with rows of punctures; lateral margins decorated with serrate teeth; intervals each with a row of setiferous nodules, feebly ridged between nodules

except for those on 9th interval which has no ridges and their nodules much larger than the other; humeral calli weak.

Prosternum short, a little longer than procoxa, deeply depressed along anterior margin; prosternal process entirely adunc inwards. Mesosternum very short, with a postero-median conical process. Metasternum short, divergent laterad, distinctly excavate at middle, with coarse punctation. Abdominal sternites microsculptured; 1st sternite short, with a strong and oval depression in middle; fifth visible sternite rather densely setous.

Mesocoxae very close to each other, with space between them about 1/5 space of their width.

Legs short; femora barely produced beyond lateral margins of body, densely covered with setiferous punctures, weakly ancipital anteriorly in anterior two femora or so posteriorly in posterior four; tibiae short and robust, thickened in each median portion, and emarginate in each apical third of outer margin; tarsi short, small and simple in basal four segments of anterior four tibiae and in basal three segments of posterior two, claw segment very large and robust.

*Diagnosis*. This new genus is similar to the genus *Atasthalus* PASCOE, 1871 in having the long cephalic horn, and sculpture of head, but is different from the latter in having the divided eyes, very large punctures in the elytral regular rows and peculiar form of intervals, rather broadly explanate and dentate lateral portions of pronotum, and small body size (nearly 3.5 mm in body length). Three genera *Sumbawia* GEBIEN, *Bolitophagus* ILLIGER, and *Parabolitophagus* MIYATAKE are similar in having separated eyes to this new genus, but each genus has very different construction of the head, pronotum and elytra.

*Etymology*. The name of this genus derives small body size and similar structures to the genus *Atasthalus* PASCOE (micro + atasthalus). The gender is masculine.

### 5. ***Microatasthalus hadrocerus*** sp. nov.

(Figs. 1–3, 23–24)

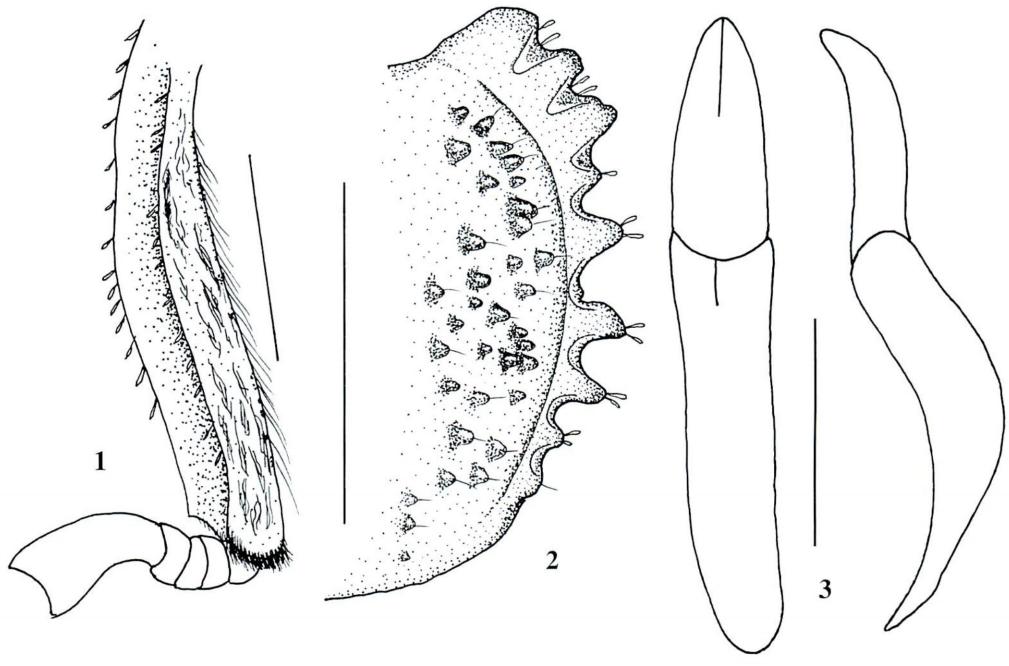
*Type series*: Holotype: ♂, Lambir Hills N. P. Sarawak, Borneo, myco3118-8, 6. VIII. 2008, S. YAMASHITA leg. Paratype: 1 ♂, same data as for the holotype except for "myco3417-32".

*Etymology*. The specific name is derived from Greek "strong" and "horn" combined to each other, and means cephalic horn.

*Measurements*. Length: 3.2–3.5 mm; width: 1.7–1.8 mm.

Male. Oblong, subparallel-sided, chestnut brown, head and abdomen more or less reddish brown, shiny.

Head flattened, steeply sloping forwards, coarsely and densely punctate; clypeus short and narrow, weakly arcuate at apex, with a long erect cylindrical horn at middle, which is slightly tapers apicad and setiferous, truncate at the apex; frontoclypeal suture fine; genae edged anteriorly and strongly nodulous in front of eye, angulate forwards at the part invading eyes and reaching posterior margin of eye; frons very broad and unevenly flat, IE/TD = 3.75 or 4.09; eyes deeply invaded by the genal canthus, and separated clearly into two, dorsal and ventral, parts; supra-ocular ridge weak. Antennae rather long, reaching beyond middle of pronotum, 1st segment long, elongate and tumid apicad, 3rd oblong, and nearly as long as oval 2nd segment, four distal segments strongly transverse and forming a club, relative length (width) of each segment




Figs. 1–3, *Microatasthalus hadrocerus* gen et sp. nov. — 1, Metatibia; 2, pronotum; 3, aedeagus (right in lateral view; left in dorsal view). Scales: 0.5 mm for 2, 0.25 mm for 1 and 3.

from base to apex: 21.1 (9.2): 7.0 (7.1): 9.2 (6.0): 6.3 (6.6): 8.0 (6.1): 6.5 (7.3): 6.5 (7.5): 7.5 (12.3): 8.5 (16.5): 9.0 (18.0): 10.1 (14.5). Mentum cupulate, convex, with a feeble longitudinal carina along middle.

Pronotum transverse, rather weakly convex, widest at apex, PW/PL = 1.83 or 1.95, with a pair of long incurved symmetrical horns just behind anterior margin; the horns obliquely produced forwards, and each tapering towards apex, rather densely setous, and not pubescent at the apex; anterior margin feebly bisinuous, not margined; lateral margins arcuately divergent forwards, each with six to seven flattened teeth; basal margin moderately bisinuous, hardly margined; disc coarsely and rather densely punctate, with minute and rather sparse tubercles among the punctures, the punctures setiferous, large on median area and becoming smaller to each marginal portion; anterior angles forming by flattened tooth which is produced latero-anterior direction, posterior angles subrectangular. Scutellum very small, depressed, with a pair of large punctures.

Elytra short and parallel-sided, distinctly convex, nearly as wide at base as pronotum, with steeply falling to apical declivity, EL/EW = 1.21 or 1.22; lateral margins with small teeth from humeri to near apices, the teeth gradually becoming minuter posteriad; surface with regular rows of rather sparse and very large punctures which become smaller apically; intervals very wide, each with a series of minute and setiferous nodules along the middle, and these also present along suture, the nodules linked with each other by low ridge except for 9th interval, where the nodules are large and distinct; epipleura broadened posteriad, slightly depressed, weakly microsculptured, and punctate only along inner margin.

Prosternum steeply descendant inwards anteriorly; prosternal process cuneate, adunc,

irregularly excavate, with apical portion rounded or triangular. Mesosternum strongly sloping forwards, with distinct conical process medio-posteriorly, which is directed antero-downwards. Metasternum weakly convex, excavate at middle, densely and coarsely punctate in median half and sparsely so in the rest. Abdominal sternites densely microsculptured; three basal sternites rather densely punctate; 5th sternite covered with minute and hair-bearing punctures.

Aedeagus simple, similar to those of the genus *Byrsax*, basale and apicale distinctly curved ventrad, individually, apicale lobate, rounded at apices.

Legs short, femora covered with setiferous and minute punctures; tibiae ancipital along outer margin, pro- and metatibiae thickened near middle mesotibiae thickened before middle; claw segment robust, strongly dilated towards apex, longer than its preceding segments together.

Female. Unknown.

## 6. ***Boletoxenus bifurcus*** PASCOE, 1871

(Figs. 4, 25–28)

*Bolitoxenus* [sic] *bifurcus* PASCOE, 1871: 350.
*Bolitoxenus* [sic] *capricornis* GEBIEN, 1914: 6.

*Specimens examined.* 1♂, 1♀, 8. VIII. 2008, myco2835, myco2836; 1♂, 21. XII. 2007, No. 2 (Inoue Trail gap): 3788; 7♂♂, 6. VIII. 2008, myco2255, myco2690, myco2709, myco1145, myco2256, myco1299, myco1138; 5♂♂, 2♀♀, 5. III. 2008, myco1148, myco1341, myco1298, myco1149, myco1342, myco1150, myco1046; 7♂♂, 28. II. 2008, myco1447, myco1601, myco1487, myco1451, myco1887, myco1600, myco1780; 1♂, 1♀, 3. I. 2008, No. 95: myco4509, myco4512; 1♂, 3♀♀, 30. XII. 2007, No.60: myco4124, myco4123, No. 55: myco4108, No. 52: myco4102; 3♂♂, 1♀, 9. XII. 2006, C (T.13) 317: myco3700, myco3697, myco3696, C (A.8) No. 377: myco3694; 3♂♂, 2♀♀, 3. III. 2008, myco1377, myco1281, myco1375, myco1387, myco1280; 4♂♂, 1♀, 6. III. 2008, myco1137, myco1139, myco1142, myco1140, myco1034; 3♂♂, 16. VI. 2006, Inoue Trail 2009: myco3656, Inoue Trail 283: myco3647, Inoue Trail 246: myco3643; 3♂♂, 23. XII. 2007, No. 36: myco4052, myco4051, No. 34: myco4023; 1♂, 1♀, 19. VI. 2006, No. 38, Inoue Trail: myco3661, myco3659; 1♂, 20. VI. 2006, Crane (T,12) No. 40: myco3678; 1♂, 21. VI. 2006, C(A.10) No. 225: myco3669; 2♂♂, 1♀, 29. VII. 2008, myco2593, myco2067, myco2069.

Type locality: Penang (in Malaysia).

Type depository: The Natural History Museum, London.

Distribution: Malay Peninsula, Sumatra, and Borneo (Kuching).

## 7. ***Boletoxenus gibber*** MOTSCHULSKY, 1858

(Figs. 29–30)

*Boletoxenus gibber* MOTSCHULSKY, 1858: 63, f. 15.

*Specimens examined.* 23 exs., 1. VIII. 2008, myco2608, myco2602, myco2614, myco2612, myco2613, myco2607, myco2606, myco2488, myco2617, myco2605, myco2611, myco2489, myco2630, myco2555, myco2616, myco2609, myco2604, myco2610, myco2603, myco2619, myco2631, myco2618, myco2615.

Type locality: Birma.

Type depository: The Zoological Museum of Moscow state University.

Distribution: South India, Myanmar, Malay Peninsula (Malacca), Sumatra, and Borneo*.

## 8. ***Boletoxenus recticornis*** GEBIEN, 1925

(Figs. 31–32)

*Bolitoxenus* [sic] *recticornis* GEBIEN, 1925b: 433.

*Notes*. This species is distinct by having the peculiar form of pronotal horns and construction of clypeus, and is recorded from Borneo for the first time.

*Specimens examined*. 3♂♂, 5♀♀, 31. XII. 2007, No. 63: myco4140, myco4139, myco4138, No. 61: myco4128, myco4127, myco4130, myco4129, No. 68: myco4145; 2♂♂, 5♀♀, 26. VII. 2008, myco3223, myco3465, myco3464, myco3222, myco3463, myco2285, myco3221; 1♂, 1♀, 28. II. 2008, myco1881, myco1882; 1♂, 6. VIII. 2008, myco2468.

Type locality: Sumatra (Soekaranda, Liangagas, Serdang, Tandjong Morawa).

Type depository: The Nationaal Natuurhistorisch Museum Leiden, and Naturhistorisches Museum Basel.

Distribution: Sumatra, Borneo*.

## 9. ***Boletoxenus serratus*** (GEBIEN, 1913)

(Figs. 33–34)

*Atasthalus serratus* GEBIEN, 1913a: 383.

*Notes*. Body of this species is peculiar in form, especially the teeth of pronotal lateral margins are very unique.

*Specimens examined*. 1♂, 5♀♀, 6. VIII. 2008, myco2893, myco2894, myco2895, myco2695, myco3064, myco3065.

Type locality: Philippines (Negros Occident, Maao).

Type depository: The Naturhistorisches Museum Basel.

Distribution: The Philippines, Borneo*.

## 10. ***Boletoxenus inouei*** sp. nov.

(Figs. 5–6, 35–38)

*Type series*. Holotype: ♂, Lambir Hills N. P. Sarawak, Borneo, myco3649, 12. VI. 2006, from Inoue Trail 283, S. YAMASHITA leg. Paratypes. 1♂, Lambir Hills N. P. Sarawak, Borneo, myco3640, 16. VI. 2006, from P7 1062, S. YAMASHITA leg.; 1♀, ditto, myco3648, Inoue Trail 283, 16. VI. 2006, S. YAMASHITA leg.; 1♀, ditto, myco1862-20, 27. II. 2008, S. YAMASHITA leg.; 1♂, ditto, myco1198-111, 5. III. 2008, S. YAMASHITA leg.; 5♂♂, 3♀♀, ditto, myco1892-40, myco1756-48, myco1891-40, myco1754-48, myco1595-61, myco1755-48, myco1758-48, myco1883-42, 28. II. 2008, S. YAMASHITA leg.; 3♂♂, 2♀♀, ditto, myco1200-111, myco2318-100, myco2985-10, myco2972-10, myco2959-10, 5. VIII. 2008, S. YAMASHITA leg.; 1♂, 4♀♀, ditto, myco2469-62, myco2254-63, myco1199-111, myco2480-20, myco2685-5, 5. VIII. 2008, S. YAMASHITA leg.

*Etymology*. The specific name of this new species is dedicate to the late Professor Dr.

Tamiji INOUE, Center for Ecological Research, Kyoto University, who made outstanding contributions to the establishment of the field research facility in Lambir Hills National Park (LHNP), Sarawak. He and his colleagues established a canopy observation system there. He organized an research project to study the biology in the forest canopy there, called "the Canopy Biology Program in Sarawak (CBPS)", and had led the research team, consisting of more than one hundred scientists, since 1991. He passed away in an aviation accident at the base of Mt. Lambir in 1997.

*Diagnosis*. This new species is similar to *Boletoxenus bifurcus* PASCOE, but is readily separable from the latter by the following points: Pronotum broadly flattened laterally; lateral margins not constricted near base, each feebly and roundly narrowed, with two or three teeth basally instead of one in *B. bifurcus*, marginal teeth rather finger-shaped, not triangular; elytra mat, not shiny, with 2nd tubercles from base on 3rd intervals extremely large, and strongly produced, marginal teeth more distinctly produced; head with punctures on frons much more distinct, those on occipital area minuter; three basal sternites of abdomens also coarsely and densely punctate, while those in the latter scarcely so. This new species is also similar to *B. serratus* GEBIEN, but clearly different from the latter in having the longitudinal and not barrel-shaped humps of elytra.

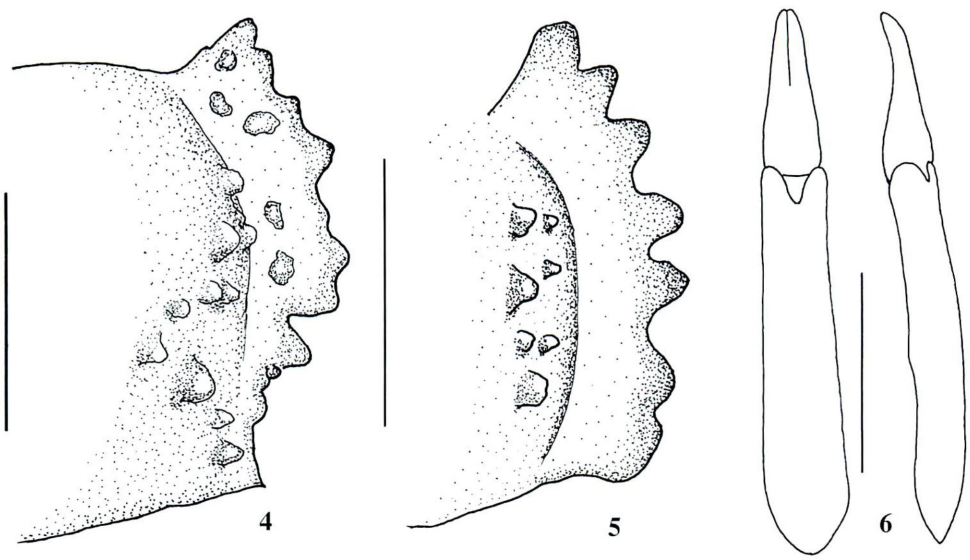
*Measurements*. Body length: 4.9–6.9 mm (excluding pronotal horns); width: 2.6–3.7 mm.

Body oblong, robust, strongly convex above, matted. Colour infuscate black, mouthparts, antennae, and legs dark reddish brown.

Male. Head transverse, about 2.3 times as wide as long; clypeus transversely elliptical, almost flat, coarsely and obscurely punctate, with apical margin serrated by the ten to eleven minute teeth; genae rather broad, more or less raised anteriorly, posteriorly reaching middle of each eye, outer margin with two or three pointed teeth; frons depressed, covered with dense rugoso-punctures, with a pair of distinct tubercles at the middle, IE/TD = 4.90 (n=9); eyes rather large, dorsal part conjoint to ventral part in a space of two facets. Antennae reaching near middle of pronotum, distal four segments forming a weak club; 1st segments robust, about as long as the combined length of 2nd and 3rd segments; 2nd segment very small and oval, about half length of 3rd; 3rd long and pedunculate; 4th oval; 5th also oval but obliquely truncate at the apex; 6th to 8th asymmetrically triangular; 9th and 10th obtrapezoidal, well transverse, and emarginate at each apex; 11th small and flabellate, free from 10th. Mentum obtrapezoidal, semicircularly convex at antero-median portion, with rather coarse hair-bearing punctures.

Pronotum quadrate, densely microsculptured, widest before base, PW/PL = 1.91, moderately convex, and gently sloping laterally, broadly deplanate along lateral margins; anterior margin gently and roundly emarginate; sides moderately arcuate, distinctly and evenly serrate from anterior corner to basal one by teeth which are not pointed at each tip, each margin consists of 6 to 9 teeth; disc moderately convex, coarsely and not densely punctate, irregularly bearing conical tubercles, in which seven to eight median tubercles together form a V-shape; a pair of pronotal horns bearing behind anterior margin, the horns obliquely produced forwards, gently incurved, covered with dense tubercles and each apex with a tuft of short and dense hairs. Scutellum oval, almost glabrous.

Elytra strongly convex, parallel-sided, EL/EW = 1.25 (n=9); humeral callus recognizable, with several minute tubercles; sides hardly deplanate, with twenty to twenty one distinct teeth which are rounded at each tip; surface covered with short and sparse yellow setae, and with rows of distinct punctures; intervals uneven, each with a row of sparse tubercles, the most of




Figs. 4–6, *Boletoxenus* spp. — 4, *Boletoxenus bifurcus* PASCOE; 5–6, *Boletoxenus inouei* sp. nov.; 4–5, Pronota; 6, aedeagus (right in lateral view; left in dorsal view). Scales: 1.0 mm for 4–5, 0.5 mm for 6.

large tubercles bearing rugoso-like sculpture near each apical portion, those in 3rd intervals longitudinal in form and largest than the other; and a tubercle behind base in 5th intervals with two or three pointed tips.

Prosternum densely punctate; prosternal process cuneate, coarsened, weakly carinate along middle, and not pointed at apex. Propleuron covered with large and distinct punctures. Mesosternum very short. Metasternum short, a little longer than mesocoxae, deeply depressed in the middle and strongly convex at both sides of the depression, coarsely and densely punctate medianly and sparsely so laterally. Abdominal sternites short, with coarse setiferous punctures; 1st sternite with large linguiform process at middle.

Aedeagus simple, parameres short, about 0.31 times as long as the basal piece.

Legs robust; femora densely covered with setiferous punctures, anterior margin of profemora and posterior margins of meso- and metafemora each distinctly bicarinate; tibiae weakly ancipital along outer margin, outer margin of protibiae distinctly emarginate in apical two-fifths.

Female. Pronotum bearing two large gibbosities at middle behind anterior margin instead of horns, these gibbosities covered with dense and strong tubercles; pronotal teeth of lateral margin consists of six to seven; antennae rather compactly articulate, 11th segment clearly embedded into apex of 10th, etc.

Distribution: Borneo.

## 11. ***Bolitonaeus dentipes*** GEBIEN, 1925

(Figs. 7, 10, 12, 14, 39–40)

*Bolitonaeus dentipes* GEBIEN, 1925b: 439, t 2, fig. 5.

*Notes.* The outer margin of each tibia in the male specimen of this species is armed with a

distinct seta at middle such as mentioned in the original description by GEBIEN. This species is firstly recorded from Borneo.

*Specimens examined.* 23♂♂, 11♀♀, 5. VIII. 2008, myco2964, myco2296, myco2294, myco2950, myco2299, myco2309, myco2967, myco2969, myco2174, myco2304, myco2977, myco2960, myco2300, myco2310, myco2308, myco2979, myco2948, myco2966, myco2101, myco2295, myco2299, myco2281, myco2949, myco2306, myco2297, myco2963, myco2315, myco2305, myco2298, myco2102, myco2170, myco2104, myco2293, myco2103; 4♂♂, 8♀♀, 28. II. 2008, myco1645, myco1513, myco1628, myco1519, myco1514, myco1633, myco1488, myco1685, myco1647, myco1752, myco1506, myco1646; 4♂♂, 2♀♀, 6. VIII. 2008, myco2477, myco2479, myco2486, myco2473, myco2474, myco2475; 1♀, 30. XII. 2007, No. 60: myco4125; 1♂, 3. III. 2008, myco1388; 1♀, 24. VII. 2008, myco3220; 2♀♀, 5. III. 2008, myco1241, myco1343; 1♀, myco3066.

Type locality: North Sumatra (Tebing-tinggi).

Type depository: The Naturhistorisches Museum Basel.

Distribution: Sumatra, Borneo*.

## 12. ***Bolitonaeus nasalis*** (PASCOE, 1871)

(Figs. 15, 41–42)

*Heledona nasalis* PASCOE, 1871: 350.

*Bolitonaeus nasalis* (PASCOE): GEBIEN, 1925b: 439.

*Notes.* This species is rather large-sized body among species of the genus, and the characteristic in the broadened horn of clypeus and the shape of apices of the pronotal horns. These specimens are collected from Borneo for the first time.

*Specimens examined.* 34♂♂, 39♀♀, 6. III. 2008, myco1054, myco1015, myco1056, myco1041, myco1076, myco1314, myco1158, myco1079, myco1275, myco1248, myco1210, myco1222, myco1082, myco1019, myco1081, myco1118, myco1004, myco1075, myco1007, myco1066, myco1197, myco1301, myco1287, myco1223, myco1262, myco1109, myco1087, myco1236, myco1003, myco1084, myco1074, myco1209, myco1274, myco1067, myco1110, myco1063, myco1092, myco1012, myco1085, myco1062, myco1061, myco1300, myco1157, myco1010, myco1058, myco1083, myco1016, myco1086, myco1183, myco1313, myco1006, myco1070, myco1028, myco1102, myco1170, myco1144, myco1077, myco1068, myco1005, myco1002, myco1235, myco1261, myco1249, myco1008, myco1184, myco1071, myco1327, myco1029, myco1196, myco1131, myco1288, myco1105; 23♂♂, 42♀♀, 5. VIII. 2008, myco3104, myco3113, myco3106, myco3101, myco3107, myco2343, myco2983, myco3103, myco3115, myco2323, myco2317, myco2339, myco3094, myco3114, myco2097, myco2337, myco2313, myco2334, myco2321, myco2324, myco2314, myco2198, myco2970, myco3110, myco2336, myco2096, myco2340, myco3112, myco2327, myco2332, myco3102, myco2971, myco2187, myco2319, myco2316, myco2330, myco2345, myco2328, myco2325, myco2322, myco2338, myco2898, myco1152, myco2341, myco3110, myco3098, myco2326, myco3105, myco2347, myco2189, myco3097, myco2188, myco2331, myco3095, myco2320, myco2346, myco3109, myco2344, myco3096, myco2342, myco3108, myco2333, myco2335, myco2329, myco3111; 9♂♂, 20♀♀, 28. II. 2008, myco1491, myco1597, myco1608, myco1611, myco1606, myco1502, myco1623, myco1613, myco1616, myco1499, myco1687, myco1609, myco1644, myco1893, myco1474, myco1897, myco1900, myco1619, myco1615, myco1894,

myco1617, myco1895, myco1620, myco1896, myco1618, myco1490, myco1612, myco1622, myco1621; 2♂♂, 6♀♀, 6. III. 2008, myco1069, myco1011, myco2689, myco2688, myco1099, myco1072, myco2236, myco2239; 2♂♂, 2♀♀, 5. III. 2008, myco1153, myco1337, myco1339, myco1338; 5♀♀, 1. VIII. 2008, myco2633, myco2632, myco2223, myco2666, myco2637; 4♀♀, 7. II. 2008, myco2232, myco2229, myco2225, myco2231; 1♀, 5. III. 2008, myco1154; 1♀, 3. I. 2008, No. 87: myco4342; 9♂♂, 2♀♀, 30. XII. 2007, No. 48: myco4095, myco4092, myco4096, myco4093, myco4094, No. 51: myco4100, No. 54: myco4107, No. 53: myco4105, No. 55: myco4109, No. 57: myco4115, No. 59: myco4120.

Type locality: Malacca (Penang).

Type depository: The Natural History Museum, London.

Distribution: Malay Peninsula, Sumatra, Mentawei, and Borneo*.

## 13. ***Bolitonaeus vacca*** (MOTSCHULSKY, 1858)

(Figs. 43–44)

*Boletophagus vacca* MOTSCHULSKY, 1858, 7: 64.

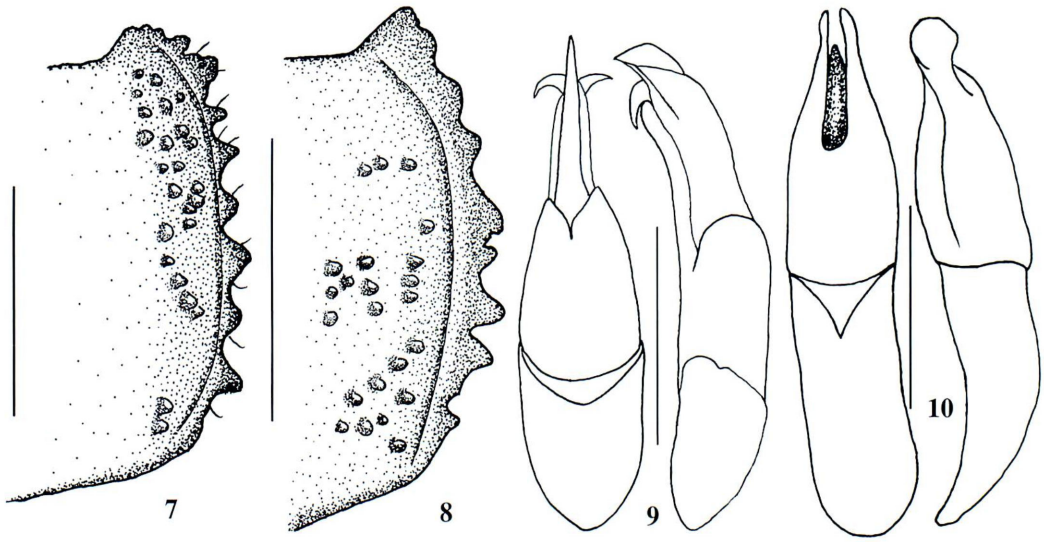
*Notes.* This species is famous and distributed widely in SE Asia, characteristics by the sculpture of clypeus and the shape of pronotal horns. Although the extremely small specimens were recognized in the examined specimens, these have no different characteristics from the larger specimens.

*Specimens examined.* 7♂♂, 10♀♀, 28. II. 2008, myco1688, myco1753, myco1751, myco1733, myco1735, myco1739, myco1704, myco1737, myco1702, myco1757, myco1750, myco1508, myco1505, myco1537, myco1624, myco1732, myco1736; 7♂♂, 29. VII. 2008, myco3211, myco3201, myco3197, myco3212, myco3208, myco3203, myco3202; 5♂♂, 2♀♀, 6. VIII. 2008, myco2242, myco1325, myco2237, myco2476, myco2541, myco2544, myco2478; 1♂, 2♀♀, 19. VI. 2006, No. 38: myco3665, myco3663, myco3664; 1♂, 3♀♀, 30. XII. 2007, No. 51: myco4101, No. 53: myco4106, No. 57: myco 4116, No. 59: myco4121; 2♂♂, 1♀, 23. XII. 2007, No. 36: myco4053, myco4054, myco4055; 2♂♂, 4♀♀, 5. III. 2008, myco1243, myco1242, myco1161, myco1251, myco1344, myco1239; 2♀♀, 27. II. 2008, myco1875, myco1852; 3♂♂, 2♀♀, 5. VIII. 2008, myco2307, myco2277, myco2965, myco2982, myco2289; 2♂♂, 1. VIII. 2008, myco2634, myco2635; 3♂♂, 26. VII. 2008, myco3403, myco3404, myco3402; 2♂♂, 13. VIII. 2008, myco2056, myco2077; 4♂♂, 7. II. 2008, myco2233, myco2227, myco2228, myco2230; 1 ex., 12. VIII. 2008, myco2009; 1♂, 6. II. 2008, myco1093; 1♂, 7. II. 2008, myco2234; 1♂, 8. VIII. 2008, myco2091; 1♂, 3♀♀, 3. I. 2008, No. 95: myco4513, myco4514, No. 99: myco4561, myco4562; 1♂, 19. VI. 2006, No. 38: myco3662.

Type locality: Birma.

Type depository: The Zoological Museum of Moscow state University.

Distribution: Myanmar, South India, Thailand, Sri Lanka, Sumatra, Borneo, and the Philippines.




Figs. 7–10, *Bolitonaeus* spp. — 7, 10, *Bolitonaeus dentipes* GEBIEN; 8–9, *Bolitonaeus exiguus* sp. nov.; 7–8, Pronota; 9-10, aedeagus (right in lateral view; left in dorsal view). Scales: 0.5 mm for 7–8, 0.25 mm for 9-10.

## 14. ***Bolitonaeus exiguus*** sp. nov.

(Figs. 8–9, 11, 13, 45–46)

*Type series*. Holotype: ♂, Lambir Hills N. P. Sarawak, Borneo, myco2008-96, 12. VIII. 2008, S. YAMASHITA leg. Paratypes: 1♂, same area and date as for the holotype except for "myco2006-96"; 1♂, 1♀, same area as for the holotype, except for "myco2091-56, myco2128-2, 8. VIII. 2008"; 1♀, ditto, 13. VIII. 2008, myco2083-35, S. YAMASHITA leg.; 1♀, ditto, myco2173-65, 5. VIII. 2008, S. YAMASHITA leg.; 1♀, ditto, myco2546-9, 4. VIII. 2008, S. YAMASHITA leg.; 1♀, ditto, myco2542-68, 6. VIII. 2008, S. YAMASHITA leg.; 1♀, ditto, myco2675-60, 24. VII. 2008, S. YAMASHITA leg.; 2♀♀, ditto, myco3432-43, myco3414-44, 23. VII. 2008, S. YAMASHITA leg.; 6♀♀, ditto, myco3210-89, 3209-89, 3205-89, 3207-89, 3206-89, 3204-89, 29. VII. 2008, S. YAMASHITA leg.

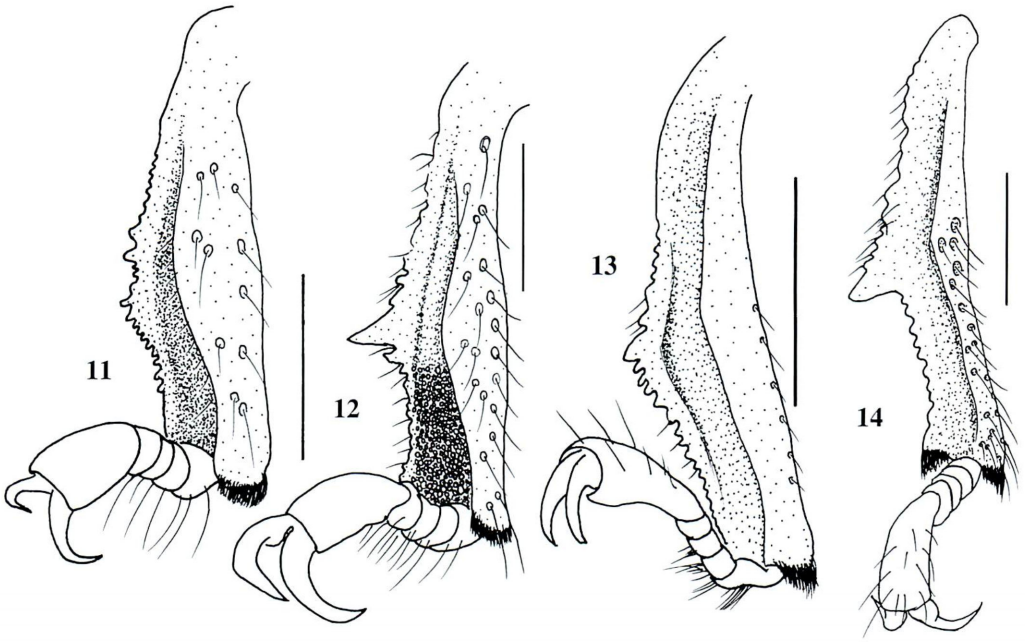
*Etymology*. The specific name is derived from small body size of this new species.

*Diagnosis*. This new species is very similar to *Bolitonaeus dentipes* GEBIEN, but the tibial tooth is present only in mesotibiae.

*Measurements*. Body length: 2.4–3.0 mm (excluding pronotal horns); width: 1.3–1.6 mm.

Body oblong-oval, strongly convex above, dark brown to piceous black, mouthparts, antennae and legs reddish brown; dorsal surface usually covered with a darkened or reddish yellow incrustation.

Male. Head transverse, about twice as wide as long, very steeply sloping forwards, very coarsely and densely punctate, the punctures combined with each other laterally; clypeus nearly smooth, raised anteriorly, with five to seven irregular and minute tubercles along anterior margin, genae small, a little produced anteriad, with uneven surface, somewhat constricted before eyes; frontoclypeal suture finely impressed; frons broad, with punctures largest than the other in head, IE/TD = ca. 5.0 (n=3); supra-ocular ridges sharply but not strongly prominent; vertex




Figs. 11–14, Tibiae of *Bolitonaeus* spp. — 11, 13, *Bolitonaeus exiguus* sp. nov.; 12, 14, *Bolitonaeus dentipes* GEBIEN; 11–12, Protibiae; 13-14, mesotibiae. Scales: 0.25 mm.

coarsely rugoso-punctate. Dorsal and ventral parts of eye linked by the space of three facets. Antennae nearly reaching before middle of pronotum; 1st segment pedunculate, as long as the length of 2nd to 5th segments combined; 2nd bold, narrowed apicad; 3rd and 4th longer than wide and dilated apicad; 5th oval, wider than long; 6th transversely oval, asymmetrically dilated apically; 7th to 11th extremely dilated and forming a distinct club; 11th short-oval, somewhat embedded into the truncate apex of 10th, with apex rounded. Mentum semicircular, flat, densely microsculptured, with a weak longitudinal median carina,

Pronotum transverse, widest a little before middle and PW/PL = 1.38 (n=3); disc strongly convex, and steeply declined in each lateral portion, coarsely and densely rugoso-punctate, with a pair of stout horns at middle of anterior margin, the horns almost horizontal and produced forwards, rather short, and incurved in well developed specimens or short triangular in ill-developed ones, both covered with irregular and oblique rugosities, and devoid of apical hairs; anterior margin between the horns roundly emarginate; sides narrowly explanate and irregularly serrate, divided into about seven to eight triangular blunt teeth at the left and six to seven at the right; anterior corners moderately projected; posterior corners obtusely rounded; base feebly oblique. Scutellum small, semicircular, covered with microscopic punctures.

Elytra oblong, subcylindrical, strongly convex, a little wider than the greatest width of pronotum, EL/EW = 1.44 (n=3), subparallel-sided in basal 3/4, thence gently rounded to apices; with nine rows of coarse and irregular punctures, which are large and rather sparse, space between the punctures furnished with transverse and obscure wrinkles in some specimens; each interval with a row of minute and ridgy nodules which are a little denser than the corresponding punctures in rows; humeral callus feebly prominent, with several small nodules; lateral margins feebly undulate and sparsely serrate, divided into about 18 teeth, but number of the teeth are

unstable. Elytral epipleura very broadened, coarsely microsculptured, sparsely with large punctures and tubercles, and with a series of large punctures along inner margin.

Prosternum depressed on each side of middle; prosternal process coarsely punctate, strongly adunc towards both directions of anterior and posterior. Mesosternum straight in the front, highly produced downwards at middle. Metasternum short, a little longer than mesocoxal cavity, very coarsely and densely punctate, covered with dense microsculpture, strongly raised in median 1/4 in a shape of circle, then the surface very roughened, and with an impression at middle, the punctures becoming larger and obscurer laterad. Abdomen coarsely and densely punctate, and densely microsculptured.

Legs robust; tibiae ancipital along outer margin, protibiae thickened towards middle, then outer margin a little produced, with outer margin minutely serrate along external edge, outer margin of mesotibiae distinctly spinous at middle, that of metatibiae with several teeth between apical 4/5 and 3/5.

Female. Pronotum minutely tuberculate, with a pair of longitudinal oblique carinae which are situated about anterior margin to apical third, pronotal sculpture also different, head and pronotum coarsened, covered with irregular and microscopic rugose-like carinae; mesotibial tooth weak.

## 15. ***Bolitonaeus quadridentatus*** (CANDÈZE, 1861) ?

(Figs. 47–48)

*Bolitotherus quadridentatus* CANDÈZE, 1861, 12: 368.

*Notes.* This species was occurred only in Sri Lanka until now, and it is thought as the one of doubtful species owing to the short original description. By the characteristics of the clypeus and so on, these specimens well fit to the original description of CANDÈZE, 1861, so that I adapted these specimens to this species although the body size of examined specimens are rather smaller.

*Specimens examined.* 1♂, 1♀, 6. VIII. 2008, myco2543, myco2708; 3♂♂, 3♀♀, 28. II. 2008, myco1518, myco1779, myco1522, myco1518, myco1504, myco1703; 1♂, 1♀, 5. VIII. 2008, myco2921, myco2924; 2♂♂, 6. III. 2008, myco1080, myco1192; 1♀, 13. VIII. 2008, myco2055; 1♂, 3. III. 2008, myco1025 8.3; 1♂, 1♀, 5. III. 2008, myco1336, myco1238; 1♀, 1. VIII. 2008, myco2554; 1♀, 3. III. 2008, myco1026 8.3; 1♀, 23. XII. 2007, No. 36, myco4057; 4♂♂, 30. XII. 2007, No. 48: myco4097, myco4098, No. 59: myco4122, myco4110.

Type locality: "Ceylan".

Type depository: Musée Royal d'histoire Naturelle Belgique.

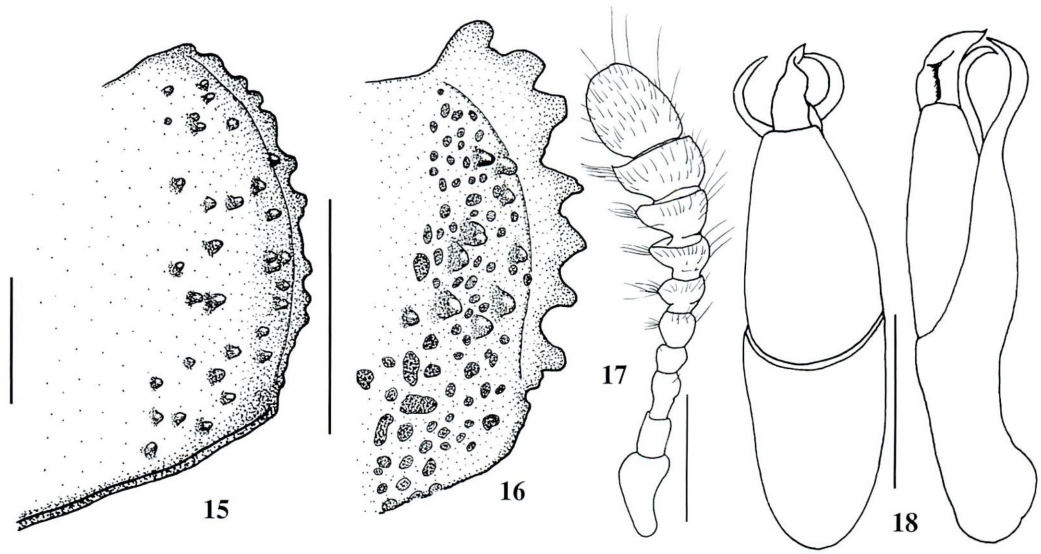
Distribution: Sri Lanka, Borneo*.

## 16. ***Bolitonaeus yamashitai*** sp. nov.

(Figs. 16–18, 49–50)

Holotype: ♂, Lambir Hills N. P. Sarawak, Borneo, No. 36, myco4056, 23. XII. 2007, S. YAMASHITA leg.

*Etymology.* The specific name of this new species is named after Dr. Satoshi YAMASHITA who collected not only the holotype of this species but also all specimens studied in this paper, and is a Research Fellow of the Japan Society for the Promotion of Science at Itioka Laboratory,




Figs. 15–18, *Bolitonaeus* spp. — 15, *Bolitonaeus nasalis* (PASCOE); 16–18, *Bolitonaeus yamashitai* sp. nov.; 15–16, Pronota; 17, antenna; 18, aedeagus. Scales: 0.5 mm for 15–16, 0.25 mm for 17–18.

Kyoto University. He joined the CBPS and started his research work on fungal ecology in LHNP as a postdoctroal fellow of the RIHN in 2005. Since then, he has studied mycology and fungi-insect interactions there.

*Diagnosis*. This new species is similar to *Bolitonaeus nasalis* in the shape of clypeus, but the body is much smaller, pronotal horns are horizontal and different in shape, and antennae are 10-segmented.

*Measurements*. Length: 3.4 mm (excluding pronotal horns); width: 1.7 mm.

Male. Subcylindrical, dark reddish brown, shiny under the extraneous encrusted surface.

Head distinctly sloping forwards, covered with dense and large punctures which become dense network at a glance, devoid of frontoclypeal suture; clypeus weakly produced forwards, with a short trapezoidal horn at middle of anterior ridge; genae almost flat, each triangularly protrudent like a tooth; ocular canthus feebly ridged; IE/TD = 4.71. Antennae reaching middle of pronotum, 10-segmented; 3rd segment a little shorter than the combined length of 4th and 5th; six distal segments forming a moderate club. Mentum cordate, flat, densely microsculptured, with feeble and longitudinal median carina.

Pronotum transverse, strongly convex, steeply declined laterally, PW/PL = 1.64; anterior margin shallowly and somewhat irregularly emarginate; lateral margins slightly roundly divergent forwards, each with six or seven minute triangular teeth; disc covered with large and dense network-like punctures which are larger posteriorly and obscurer anteriorly, area behind anterior margin armed with a pair of long slender and incurved horns, of which each apex is with a pair of tip; the horns devoid of apical hairs; surface between the horns depressed; several tubercles present at the middle before base and on lateral portions behind horns; anterior angle a little produced with a tooth and posterior angle obtuse. Scutellum small, with some large punctures.

Elytra subparallel-sided, slightly divergent posteriorly, EL/EW = 1.27, with rows of rather minute punctures, but the punctures on 4th to 7th rows are larger; each interval with a row of somewhat longitudinal tubercles which are more minute in apical declivity; lateral margins armed with small and irregular teeth; epipleura irregularly rugose, coarsely punctate along inner margin.

Ventral surface including elytral epipleura and abdomen covered with coarse and dense large punctures. Prosternum very short in front of coxae; prosternal process strongly adunc forwards and backwards, thickly bordered at sides, with a minute apical tubercle. Mesosternum extremely short and hardly raised, with a postero-median tubercle which is strongly produced downwards. Metasternum short, densely furnished with large and coarse punctures, with an oval median raised area which is coarsened by dense and roughened micropunctures and strongly depressed at the middle. Abdominal sternites coarsely and densely punctate wholly surface.

Aedeagus short and voluminous, basale shorter than apicale, parameres ventrally with a pair of long hooked branches which are crossed basally, apicale asymmetrical with an acute tip bent ventrad

Legs short and robust; femora barely beyond lateral margins of body, densely covered with setiferous punctures; tibiae weakly ancipital on each outer margin, protibiae almost even in thickness, mesotibiae thickest in middle, metatibiae gradually thickened towards apex.

Female. Unknown.

## 17. ***Byrsax tuberculatus*** GRAVELY, 1915

(Figs. 51–52)

*Byrsax tuberculatus* GRAVELY, 1915: 522.

*Specimens examined.* 2♂♂, 2♀♀, 11. VIII. 2008, myco2016, myco2017, myco2018, myco2019.

Type locality: Kobe, 400ft, Abor Country.

Type depository: Indian Museum.

Distribution: Himalayas, India, Sri Lanka, Borneo, Java, and Vietnam.

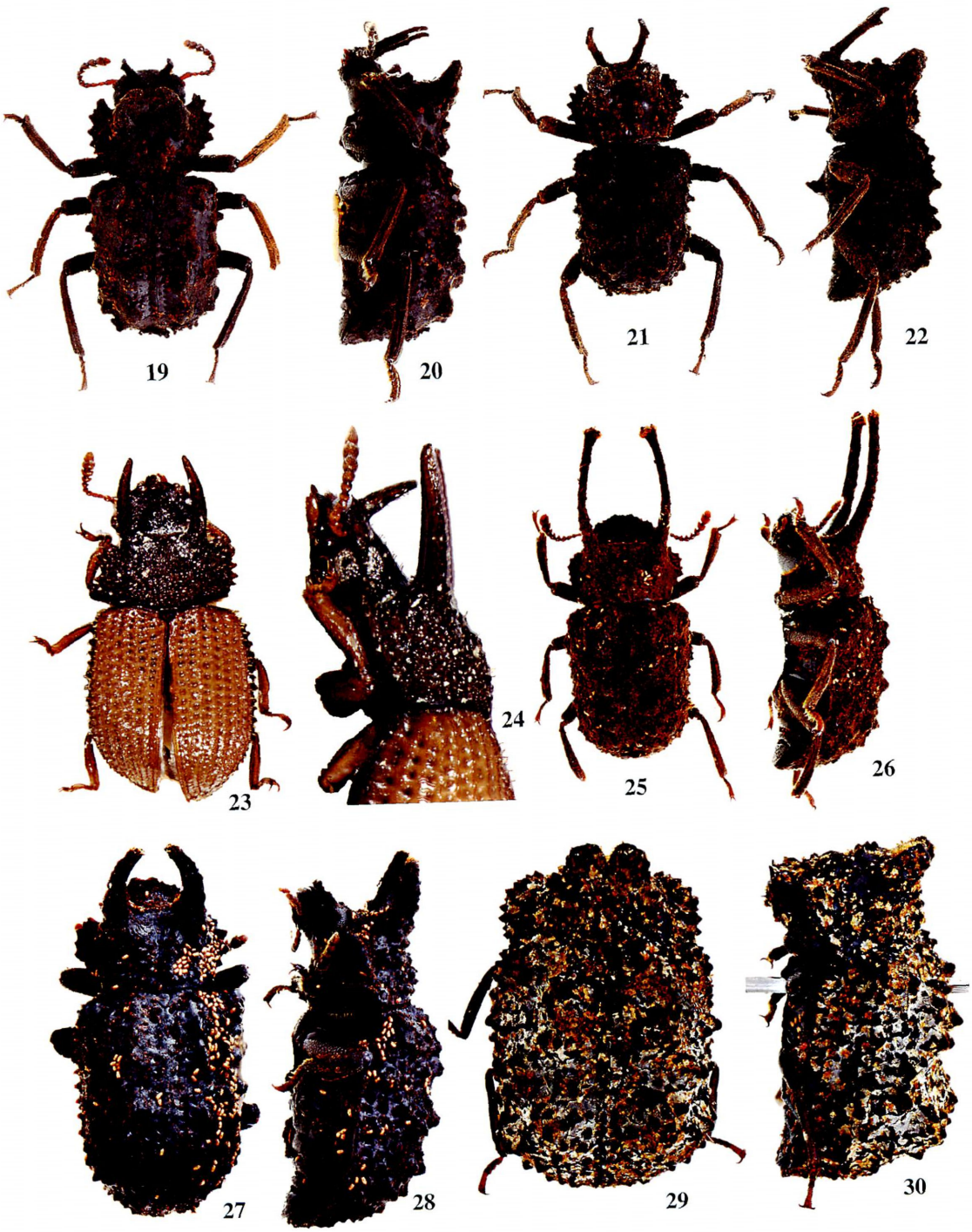
## 18. ***Byrsax gibbifer*** WESMAEL, 1836

(Figs. 53–54)

*Byrsax gibbifer* WESMAEL, 1836: 112.; GUERIN, 1838: 117.
*Boletox testudinarius* MOTSCHULSKY, 1863: 477.
*Byrsax coenosus* PSACOE, 1860-1862: 42.
*Byrsax quadrinodosus* GEBIEN, 1914: 9.
*Byrsax gibbifer* var. *quadrinodosus* GEBIEN, 1925a: 92.

*Notes.* This is unique species in the genus. Although the elytra of this species bear three pairs of large nodules, the hindmost pair are frequently trivialized or disappeared. This individual variation has lead to confusion. GEBIEN (1914) denominated "*quadrinodosus*" to the trivialized specimens at the first time, later (1925a) he changed the stage of "*quadrinodosus*" into form without any comments.

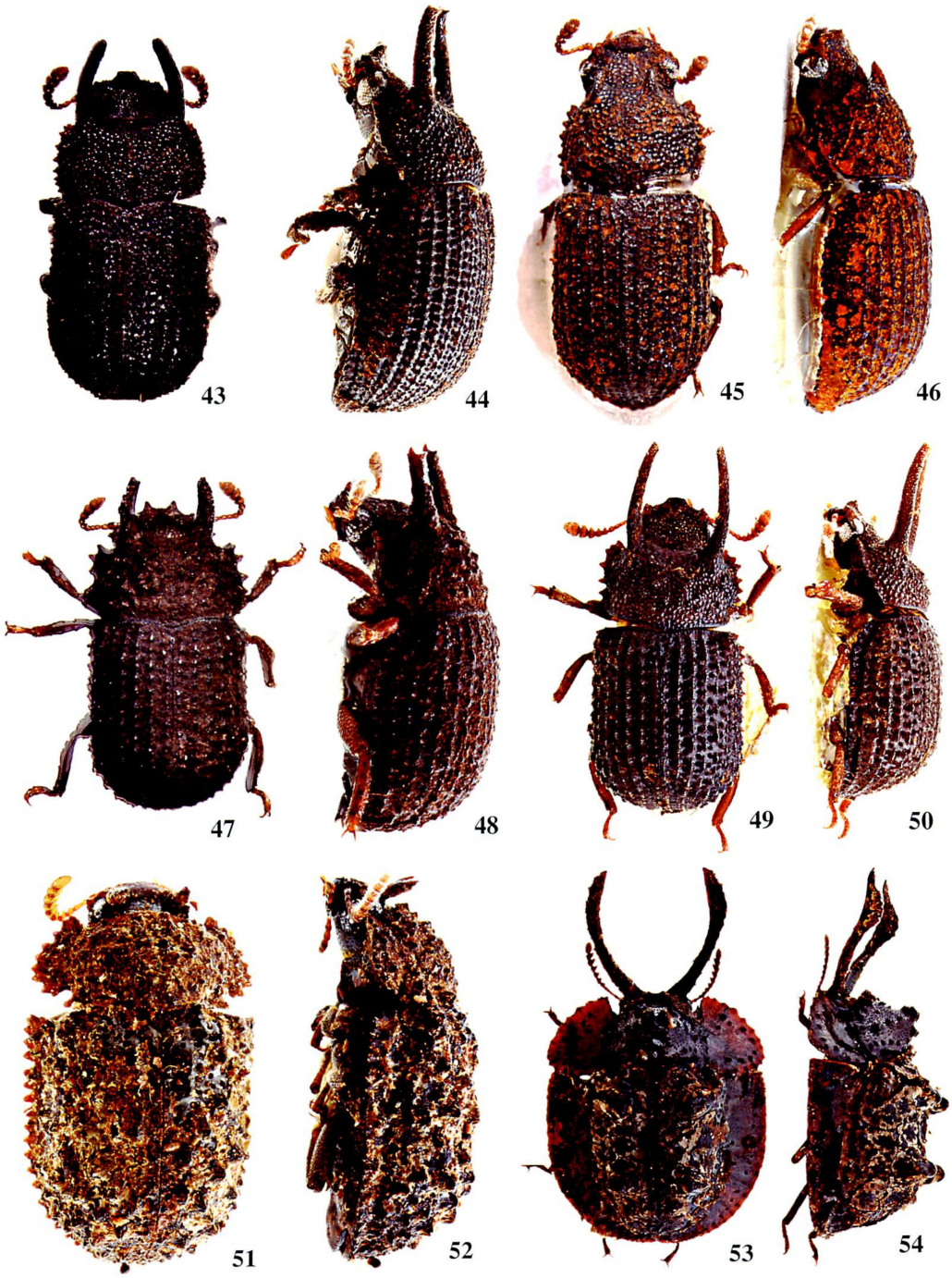
*Specimens examined.* 1♂, 3♀♀, 23. XII. 2007, No. 38: myco4064, No. 40: myco4068, myco4069, No. 42: 4071; 2♂♂, 1♀, 9. VI. 2006, No. 1019: myco3624, No. 1022: myco3635,




Figs. 19–30, Bolitophagini spp. Habitus. — 19, *Atasthalus spectrum* PASCOE, dorsal view; 20, ditto, lateral view; 21, *Atasthalus spectrum callosus* GEBIEN, dorsal view; 22, ditto, lateral view; 23, *Microatasthalus hadrocerus* gen. et sp. nov., dorsal view; 24, ditto, lateral view; 25, *Boletoxenus bifurcus* PASCOE, dorsal view; 26, ditto, lateral view; 27, ditto, pronotal horns reduced specimen, dorsal view; 28, ditto, lateral view; 29, *Boletoxenus gibber* MOTSCHULSKY, dorsal view; 30, ditto, lateral view.




Figs. 31–42, Bolitophagini spp. Habitus. — 31, *Boletoxenus recticornis* GEBIEN, dorsal view; 32, ditto, lateral view; 33, *Boletoxenus serratus* (GEBIEN), dorsal view; 34, ditto, lateral view; 35, *Boletoxenus inouei* sp. nov., dorsal view; 36, ditto, lateral view; 37, ditto, pronotal horns reduced specimen, dorsal view; 38, ditto, lateral view; 39, *Bolitonaeus dentipes* GEBIEN, dorsal view; 40, ditto, lateral view; 41, *Bolitonaeus nasalis* (PASCOE), dorsal view; 42, ditto, lateral view.




Figs. 43–54, Bolitophagini spp. Habitus. — 43, *Bolitonaeus vacca* (MOTSCHULSKY), dorsal view; 44, ditto, lateral view; 45, *Bolitonaeus exiguus* sp. nov., dorsal view; 46, ditto, lateral view; 47, *Bolitonaeus quadridentatus* (CANDÈZE), dorsal view; 48, ditto, lateral view; 49, *Bolitonaeus yamashitai* sp. nov., dorsal view; 50, ditto, lateral view; 51, *Byrsax tuberculatus* GRAVELY, dorsal view; 52, ditto, lateral view; 53, *Byrsax gibbifer* WESMAEL, dorsal view; 54, ditto, lateral view.

No. 59: myco3576; 2♂♂, 31. XII. 2007, No. 72: myco4165, No. 73: myco4268; 1♂, 2♀♀, 28. II. 2008, myco1714, myco1713, myco1681; 1♂, 1♀, 5. III. 2008, myco1297, myco1229; 1♂, 1♀, 6. III. 2008, myco1032, myco1033; 2♂♂, 1♀, 16. VI. 2006, Inoue Trail 2009: myco3654, myco3655, Inoue Trail 246: myco3642; 2♀♀, 3. I. 2008, No. 89: myco4363, No. 94: myco4435; 1♂, 1♀, 27. II. 2008, myco1696, myco1697; 1♀, 22. VII. 2008, myco3310. (Form of *B. gibbifer quadrinodosus*): 3♂♂, 26. II. 2008, myco1974, myco1948, myco1949; 1♀, 28. II. 2008, myco1774; 1♂, 1♀, 9. VI. 2006, No. 55: myco3577, No. 1022: myco3636; 1♂, 2♀♀, 31. XII. 2007, No. 76: myco4281, myco4282, No. 73: myco4269; 1♂, 23. XII. 2007, No. 42: myco4072; 1♂, 6. VIII. 2008, myco2118; 1♂, 5. III. 2008, myco1302; 1♂, 26. VII. 2008, myco3357.

Type depository: Unknown.

Distribution: Sri Lanka, Malay Peninsula, Singapore, Sumatra, Java, and Borneo.

## Tribe **Ulomini** BRANCHARD, 1845

### 19. ***Uloma itiokai*** sp. nov.

(Figs. 55, 57, 59, 66)

*Type series*. Holotype: ♂, Lambir Hills National Park, Sarawak, Borneo, myco2958, 10, 5. VIII. 2008, S. YAMASHITA leg. Paratypes: 1♂, 1♀, same data as for the holotype except for "myco2973" for male or "myco2974" for female.

*Etymology*. The specific name of this interesting new species is named after Dr. Takao Itioka, an associate professor of Graduate School of Human and Environmental Studies, Kyoto University, who joined the CBPS in 1994 after getting a doctoral degree under the late Prof. Inoue's supervision. Since then, over the past 16 years, he has studied insect ecology and worked for insect inventory in LHNP, and contributed to the management of the research facility there.

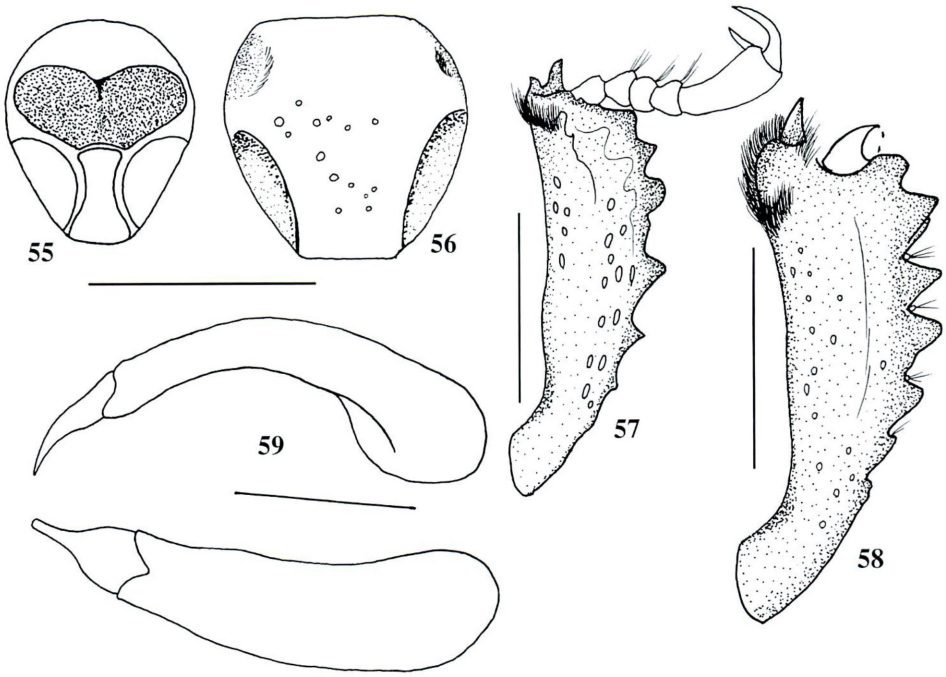
*Diagnosis*. Although the male pronotum devoid of rounded excavation, this new species is very similar in outline to *Uloma picicornis* FAIRMAIRE. Also this new species is very similar to *Uloma compacta* FAIRMAIRE, 1893, in common with unexcavate pronotum and narrow apical portions of parameres, but is very easily separable from the latter by the different shape of protibial outer margin (Fig. 57, that of *U. compacta* see SCHAWALLER, 2000: 9, Fig. 7), that of aedeagus (Fig. 59) and of mentum (Fig. 55).

*Measurements*. Body length: 6.1–6.5 mm; width: 2.5–2.7 mm.

Oblong, parallel-sided, reddish brown, shiny dorsally.

Male. Head abbreviate, with anterior margin shallowly emarginate in middle and obliquely truncate at sides; clypeus depressed, coarsely punctate, with a round and shallow pit on each lateralmost portion; frontoclypeal suture obscure; frons transversely and evenly raised, minutely punctate, IE/TD = 2.82 to 3.20; genae hardly raised, obtusely angulate laterally; eyes small in dorsal view, not produced. Antennae reaching middle of pronotum, compactly articulated, strongly transverse in each of 5th to 10th segments, gradually widened from 5th to 8th, thence to 10th slightly becoming narrower, thus, the 8th widest, 11th small and ogival. Mentum oval, with a pair of rounded areas of piles before the middle, and with a longitudinal and punctate median low ridge behind piles, each side of the ridge distinctly excavate.

Pronotum weakly convex, coarsely and rather densely punctate, devoid of anterior excava-




Figs. 55–59, *Uloma* spp. — 55, 57, 59, *Uloma itiokai* sp. nov.; 56, 58, *Uloma picicornis* FAIRMAIRE; 55–56, Mentum; 57–58, protibiae; 59, aedeagus (upper: in lateral view; lower: in dorsal view). Scales: 0.5 mm for 57–59, 0.25 mm for 55–56.

tion, PW/PL = 1.45 to 1.53; anterior margin roundly emarginate, very finely bordered; lateral margins strongly arcuate in anterior half and subparallel-sided in the rest, rather narrowly bordered. Scutellum very small, sloping forwards, and hardly punctate.

Elytra almost parallel-sided, seemingly flattened on disc, EL/EW = 1.53 to 1.60; striae distinctly engraved but tenuous; strial punctures minute, moderate in density; intervals convex, strongly so in 7th to 9th intervals and all of apical portions, microscopically and sparsely punctate.

Aedeagus robust, well incurved ventrad; parameres abruptly narrowed from middle to apex and truncate at the tip, almost beak-shaped.

Protibiae dilated apicad, inner margin feebly and roundly emarginate before base, outer margin with distinct six to seven teeth (Fig. 57).

Female. Mentum hexagonal, flattened and obscurely punctate, longitudinally and shallowly excavate along each basal half of lateral margin, protibial teeth weaker, IE/TD = 2.31, PW/PL = 1.41, EL/EW = 1.47.

## Tribe **Diaperini** LATREILLE, 1802

### 20. ***Platydema sericeum*** GEBIEN, 1914

*Platydema sericeum* GEBIEN, 1914: 16.

*Specimens examined.* 2♂♂, 1♀, 13. VIII. 2008, myco2074, myco2076, myco2072; 1♀, 1. VIII. 2008, myco2495.

Type locality: Banguey.
Type depository: Sarawak Museum.
Distribution: Borneo, Vietnam, Sumatra, Simalur, Nias, Lombok, Sulawesi, and the Philippines (Mindanao).

### 21. *Platydema jacobsoni* GEBIEN, 1927

*Platydema jacobsoni* GEBIEN, 1927: 25.

*Specimens examined.* 3♂♂, 13. VIII. 2008, myco2073, myco2071, myco2075.
Type locality: Sumatra: Fort de Kock.
Type depository: Nationaal Natuurhistorisch Museum Leiden.
Distribution: Thailand, W Malaysia, Sumatra, Mentawei, and Borneo.

### 22. *Platydema waterhousei* GEBIEN, 1925

*Platydema plagiatum* WATERHOUSE, 1894: 70. (nec MOTSCHULSKY, 1873)
*Platydema waterhousei* GEBIEN, 1925d: 553.

*Specimen examined.* 1♀, 13. VIII. 2008, myco2078.
Type locality: I. Sunda.
Type depository: The Natural History Museum, London.
Distribution: Widespread in SE Asia.

### 23. *Platydema schultheissi* KASZAB, 1939

*Platydema schultheissi* KASZAB, 1939, 6: 100.

*Specimen examined.* 1♀, 1. VIII. 2008, myco2600.
Type locality: NE Sumatra (Tebing-tinggi).
Type depository: Deutsches Entomologisches Institut, Eberswald.
Distribution: Borneo, Sumatra.

### 24. *Platydema* sp. 1

(Figs. 67)

This unknown species has intermediate characteristic between the genera *Platydema* and *Ischnodactylus* in body form, head, and elytral fascia. This species is very probably new to science but I don't describe herein because all the specimens examined are female only.

*Specimens examined.* 6♀♀, 5. VIII. 2008, myco2978, myco2962, myco2968, myco2980, myco2981, myco2975; 1♀, 28. II. 2008, myco1734.

### 25. *Ischnodactylus rubromarginatus rubromarginatus* (CHEVROLAT, 1878)

*Histeropsis rubro-marginatus* CHEVROLAT, 1878: 242.
*Ischnodactylus rubromarginatus*; GEBIEN, 1925c: 429; 1940: 418 (543).
*Basides unimaculatus* PIC, 1916: 12; 1925: 432, 435, 437, 438.
*Ischnodactylus unimaculatus*; GEBIEN, 1940: 419 (544).
*Ischnodactylus rubromarginatus rubromarginatus*; ANDO, 2001: 189.

*Specimens examined.* 1♀, 21. XII. 2007, myco3855, No. 13.

Type locality: Sarrow.

Type depository: Muséum National d'Histoire Naturelle, Paris.

Distribution: Malay Peninsula (Malacca, Perak, Penang), Sumatra, and Borneo*.

## 26. *Ischnodactylus batesi* CHEVROLAT, 1878

(Figs. 69–70)

*Ischnodactylus batesi* CHEVROLAT, 1878: 88; GEBIEN, 1925c, 1925: 426, 432; GEBIEN, 1940: 419 (544); ANDO, 2001: 186.

*Basides andamansis* Pic, 1916: 13.

*Basides andamensis* Pic, 1925: 432, 435, 436.

*Ischnodactylus andamensis*: GEBIEN, 1940: 419 (544).

*Specimens examined.* 11 exs., 26. II. 2008, myco1969, myco1973, myco1972, myco1970, myco1965, myco1963, myco1966, myco1968, myco1967, myco1971, myco1964; 1 ex., 22. II. 2008, myco1859; 1 ex., 6. VIII. 2008, myco2122; 7♀♀, 13. VI. 2007, G. australe, F. b. ID: 1, insect spec ID: myco192, F. b. ID: 2, insect spec ID: myco115, myco116, myco117, myco123, F. b. ID: 3, insect spec ID: myco190, No. 13: *G. aus*, myco3756; 3♂♂, 1♀, 31. XII. 2007, No. 72: myco4166, myco4167, myco4168, No. 73: myco4272; 2♂♂, 3. I. 2008, No. 93: myco4403, myco4404; 1♂, 21. XII. 2007, myco3790; 1♀, 6. VIII. 2008, myco2121; 1♂, 23. XII. 2007, No. 35: myco4026; 2♀♀, 6. VIII. 2008, myco2218, myco2219; 1♀, 26. II. 2008, myco1988; 1♀, 6. II. 2008, myco1987.

Type locality: Sumatra.

Type depository: Muséum National d'Histoire Naturelle, Paris.

Distribution: Sumatra, Andaman, and Borneo*.

## 27. *Ischnodactylus diversicornis diversicornis* (PIC, 1916)

(Fig. 60)

*Basides rufopiceus diversicornis* PIC, 1916: 14.

*Basides diversicornis* PIC, 1925: 432, 434.

*Ischnodactylus rufopiceus diversicornis*; GEBIEN, 1940: 419 (544).

*Ischnodactylus diversicornis*; GEBIEN, 1940: 419 (544).

*Ischnodactylus immaculatus* GEBIEN, 1925c: 426; 1940: 418 (543); Pic, 1925: 432, 434.

*Ischnodactylus diversicornis diversicornis*; ANDO, 2001: 187.

*Specimens examined.* 2♀♀, 21. XII. 2007, No. 13: myco3854, myco3857; 2♂♂, 2♀♀, 31. XII. 2007, No. 72: myco4170, myco4171, myco4172, No. 73: myco4271; 2♂♂, 1♀, 3. I. 2008, No. 94: myco4437, myco4439, myco4442; 2♀♀, 6. VIII. 2008, myco2119, myco2120; 1♂, 9. VI. 2006, Tower (11,2) No. 1022, *Formitopsis* sp. myco3637; 1♀, 26. II. 2008, myco1991; 1♀, 22. VII. 2008, myco3260; 1♀, 6. VIII. 2008, myco2123; 1♀, 5. VI. 2006, T(11,2) No. 27: myco3676.

Type locality: Sumatra.

Type depository: Muséum National d'Histoire Naturelle, Paris.

Distribution: Sumatra, Borneo.

## 28. *Ischnodactylus bisetiger* GEBIEN, 1925

(Figs. 71–72)

*Ischnodactylus bisetiger* GEBIEN, 1925c: 440; 1940: 419 (544); PIC, 1925: 436; ANDO, 2001: 187.

*Notes*. In the examined specimens, there are two patterns in elytral anterior fascia. One reaches the 3rd interval and another occupies not over from 4th interval. In spite of these variations, the variant of another characteristics are feeble, and these patterns are dealt with infraspecific variations. This species is collected in Borneo for the first time.

*Specimens examined*. 1♂, 1♀, 28. VII. 2008, myco3162, myco3163; 2♀♀, 22. VII. 2008, myco3256, myco3247; 1♀, 7. VIII. 2008, myco2396; 1♀, 9. VI. 2006, No. 1011, myco3586; 5♂♂, 12♀♀, 13. VI. 2007, *G. australe*, F. b. ID: 2, insect spec ID: myco114, myco121, myco122, myco118, myco119, myco129, myco127, myco120, myco125, myco133, myco132, myco130, myco128, myco131, myco124, myco126, F. b. ID: 4, insect spec ID: myco213; 3♂♂, 6♀♀, 21. XII. 2007, No. 13: myco3851, myco3852, myco3856, myco3845, myco3863, No. 10: myco3829, No. 12: myco3837, No. 14 (B188, Near the Lampes): myco3896, No. 23: myco3929; 2♂♂, 2♀♀, 13. VI. 2007, No. 13: *G. australe*, myco3760, myco3745, myco3754, myco3757; 4♀♀, 3. I. 2008, No. 93: myco4438, myco4405, No. 94: myco4436, myco4441.

Type locality: Sumatra (Soekaranda, Tebing-tinggi).

Type depository: The Naturhistorisches Museum Basel.

Distribution: Sumatra, Borneo*.

## 29. *Ischnodactylus bicornutus sumatrensis* (PIC, 1916)

(Fig. 77)

*Basides bicornutus sumatrensis* PIC, 1916: 13; 1925: 432, 434.

*Ischnodactylus bicornutus sumatrensis*; GEBIEN, 1940: 419 (544); ANDO, 2001: 186.

*Basides sumatrensis* PIC, 1925: 436.

*Ischnodactylus sumatrensis* GEBIEN, 1940: 419 (544).

*Ischnodactylus colon* GEBIEN, 1925c: 428; 1940: 418 (543); PIC, 1925: 432, 436.

*Specimens examined*. 5 exs., 13. VI. 2007, *G. australe*, F. b. ID: 2, insect spec ID: myco136, myco137, myco138, myco139, F. b. ID: 3, insect spec ID: myco191.

Type locality: Sumatra.

Type depository: Muséum National d'Histoire Naturelle, Paris.

Distribution: Sumatra, Borneo.

## 30. *Ischnodactylus fenestratus* GEBIEN, 1925

(Figs. 63, 68)

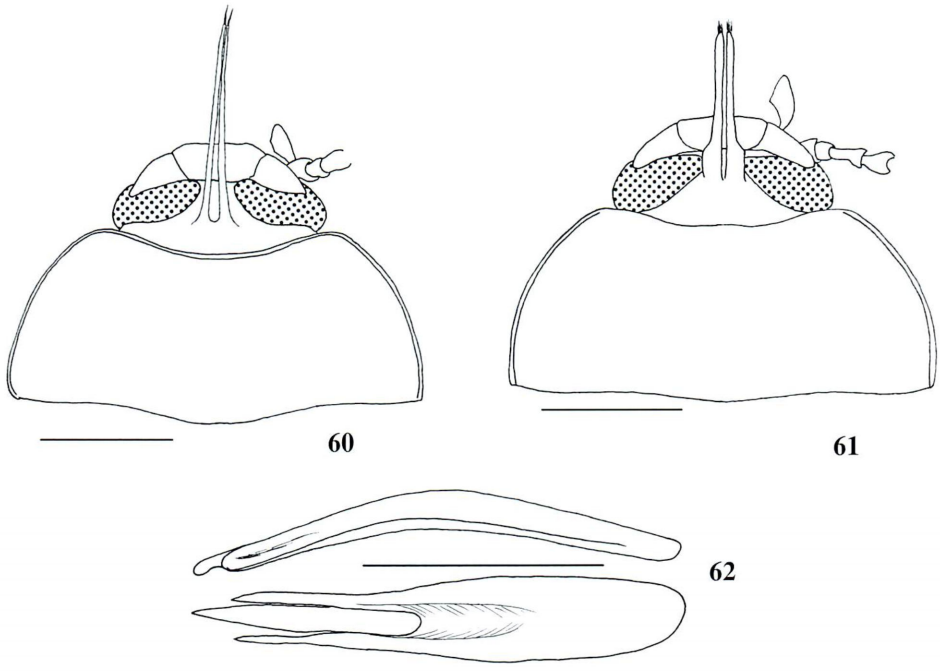
*Ischnodactylus fenestratus* GEBIEN, 1925c: 436; 1940: 418 (543); PIC, 1925: 436, 438; ANDO, 2001: 188.

*Specimens examined*. 2 exs., 27. II. 2008, myco1694, myco1787; 1 ex., 26. II. 2008, myco1941; 1 ex., 9. VI. 2006, myco3626 No. 1019.

Type locality: Borneo (Sandakan); North Sumatra (Tandjong Morawu, Serdang).

Type depository: The Naturhistorisches Museum Basel.

Distribution: Sumatra, Borneo.




Figs. 60–62, *Ischnodactylus* spp. — 60, *Ischnodactylus diversicornis diversicornis* (PIC); 61–62, *Ischnodactylus consobrinus* sp. nov.; 60–61, Head and pronota; 62, aedeagus (upper: in lateral view; lower: in dorsal view). Scales: 1.0 mm for 60–61, 0.5 mm for 62.

## 31. ***Ischnodactylus sexguttatus*** GEBIEN, 1925

(Figs. 73–74)

*Ischnodactylus sexguttatus* GEBIEN, 1925c: 438; 1940: 419 (544).; PIC, 1925: 433; ANDO, 2001: 190.

*Specimens examined.* 11♂♂, 9♀♀, 13. VI. 2007, *G. australe*, F. b. ID: 2, insect spec ID: myco100, myco101, myco102, myco103, myco104, myco105, myco106, myco107, myco108, myco109, myco110, myco111, myco112, myco113, myco277, F. b. ID: 3, insect spec ID: myco193, F. b. ID: 4, insect spec ID: myco210, myco211, myco212, F. b. ID: 8, insect spec ID: myco276; 10♂♂, 7♀♀, 9. VI. 2006, No. 1011: myco3587, myco3590, myco3589, myco3588, No. 1005: myco3594, myco3597, myco3598, myco3596, No. 1029: myco3628, No. 1019: myco3625; 1♀, 6. III. 2008, 128 myco1027; 1♀, 5. VIII. 2008, myco2098; 2♂♂, 3♀♀, 22. VII. 2008, myco3248, myco3251, myco3255, myco3250, myco3252; 4♂♂, 3♀♀, 28. VII. 2008, myco3149, myco3158, myco2562, myco3164, myco3148, myco3150, 3145; 10♂♂, 9♀♀, 21. XII. 2007, No. 10: myco3828, No. 13: myco3848, myco3864, myco3862, myco3850, myco3858, myco3846, myco3849, myco3853, myco3859, myco3847, myco3861, myco3860, No. 14 (B188): myco3895, No. 16: myco3908, myco3907, No. 19: myco3920, No. 23: myco-3928, myco3930.

Type locality: Sumatra (Soekaranda, Ober Langkat, Deli, Tebing-tinggi), Borneo (Sandakan).

Type depository: The Naturhistorisches Museum Basel.

Distribution: Sumatra, Borneo.

## 32. *Ischnodactylus consobrinus* sp. nov.

(Figs. 61–62)

*Type series*. Holotype: ♂, Lambir Hills National Park, Sarawak, Borneo, Malaysia, No. 72: myco4169, 31. XII. 2007, S. YAMASHITA leg. Paratypes: 1♀, same data as for the holotype except for 3. I. 2008, No. 94: myco4440; 1♀, ditto except for 5. VI. 2006, T (11,2), myco3578.

*Etymology*. The specific name of this new species derived from the close similarity to the allied species, *Ischnodactylus diversicornis diversicornis*.

*Measurements*. Body length: 5.7–6.2 mm; width: 3.1–3.2 mm.

This new species is very similar to *Ischnodactylus diversicornis diversicornis* (PIC, 1916), but is different from the latter in having the following characteristics: cephalic horns (Fig. 61) vertical, scarcely curved and not produced forwards, whose basal portions are abruptly broadened; pronotum larger and wider, less steeply narrowed forwards at sides, with punctures finer; elytra with lateral margins extremely broadened in apical fourth, then more or less reflexed and surface evenly flattened; mentum shorter, and quadrate; mesosternal ridge with anterior angles more obtuse in lateral view, and anterior margins rather straight in lateral view while those rather shallowly emarginate in *I. diversicornis*.

## 33. *Ischnodactylus hutanicolus* sp. nov.

(Figs. 64–65, 75–76)

*Type series*. Holotype: ♂, Lambir Hills National Park, Miri, Sarawak, Malaysia, 13. VI. 2007, YAMASHITA leg. *G. australe*, F.B. ID: 2, insect spec ID: myco135. Paratype: 1♂, same data as for the holotype except for "myco134".

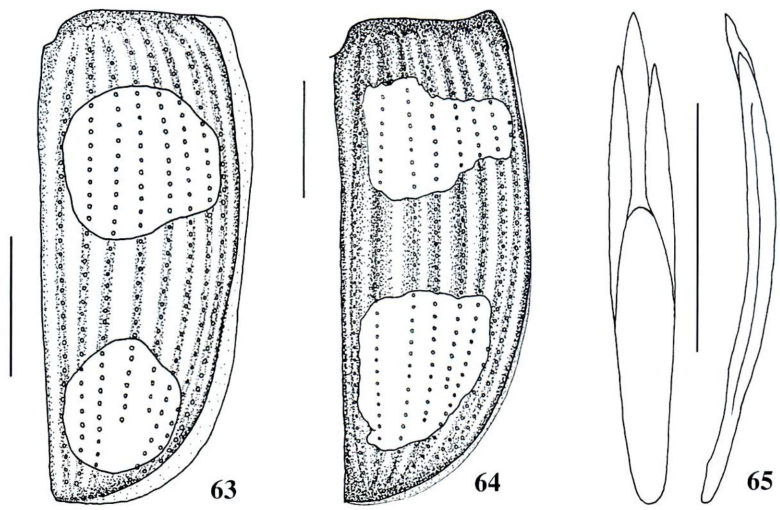
*Etymology*. The specific name is derived from the Malayan language "hutan = forest" and Latin word " colus, -la, -lum = live" combined one another.

*Diagnosis*. This new species is similar to *Ischnodactylus fenestratus* GEBIEN, but is different from the latter in having the following points: frons shallowly depressed; pronotum entirely bordered at anterior margin, with lateral margins weakly and gently rounded; male head bearing parallel horns; the most area of pronotum reddish; anterior fascia of each elytron not round, and transverse, nearly as long as the space between fasciae of each elytron, posterior fascia isolated from apical margin of elytron; punctures on elytral intervals evenly sparse and fine, 8th and 9th intervals weakly convex; antennae with ultimate segment yellow in distal half.

*Measurements*. Body length: 5.5–5.8 mm; width: 2.9–3.0 mm.

Male. Oblong-oval, weakly convex, shiny. Colour dark brown, greater part of pronotal disc reddish (which is formed like obscure transverse band) except for black marginal portion, ventral side, legs, and antennae more or less paler, with apical half of ultimate segment yellow; elytra each with a pair of very large yellowish red fasciae, the anterior fascia transverse, starting from 2nd and to 8th interval, becoming slightly narrower laterad and much longer than the space between elytral base and anterior margin of fascia; the posterior fascia oblong, occupying from 2nd to 6th intervals, free from elytral apex.

Head between eyes shallowly and longitudinally depressed under the horn, TD/IE = 3.00 or 3.67; clypeus short and feebly convex, truncate at apex, minutely and densely punctate; genae sparsely punctate, with lateral margins arcuately narrowed; frons very narrow, with a pair of




Figs. 63–65, *Ischnodactylus* spp. — 63, *Ischnodactylus fenestratus* (GEBIEN); 64–65, *I. hutanicolus* sp. nov.; 63–64, Right elytra; 65, aedeagus (right: in lateral view; left: in dorsal view). Scales: 1.0 mm for 63–64, 0.5 mm for 65.

lamellate horns posteriorly, the horns not vertical, rather oblique in lateral view, subparallel-sided and tapering towards apices, with a fine staple. Eyes very large, roundly produced laterad. Antennae loosely articulate, reaching behind base of elytra; 4th to 10th segments rather bead-shaped; 11th elongate-triangular. Mentum transversely obtrapezoidal, elliptically excavate, the excavation transverse and shallow, with a thick hair at middle.

Pronotum well transverse, moderately narrowed forwards from base, weakly convex above and not flattened along lateral margins, minutely and densely punctate, the punctures finer laterally, PW/PL = ca. 2.13 or 2.15; anterior margin shallowly emarginate, entirely and narrowly bordered; anterior angles very obtusely rounded. Scutellum microscopically and densely punctate in anterior half and smooth in the rest.

Elytra weakly convex above, widest at middle, EL/EW = ca. 1.32 or 1.39; striae shallowly and obscurely impressed; strial punctures rather dense and distinct, not becoming minuter posteriorly; intervals almost flat, but weakly convex in 8th and 9th intervals, with punctures moderately sparse.

Prosternal process sharply rhombic, with uneven surface. Mesosternal anterior ridge highly raised, with anterior corner subrectangular. Metastenum minutely punctate and sparsely pubescent in median fourth. Abdominal sternites densely and coarsely punctate on 1st to 3rd, finely so along posterior margin of 4th and moderately so on 5th.

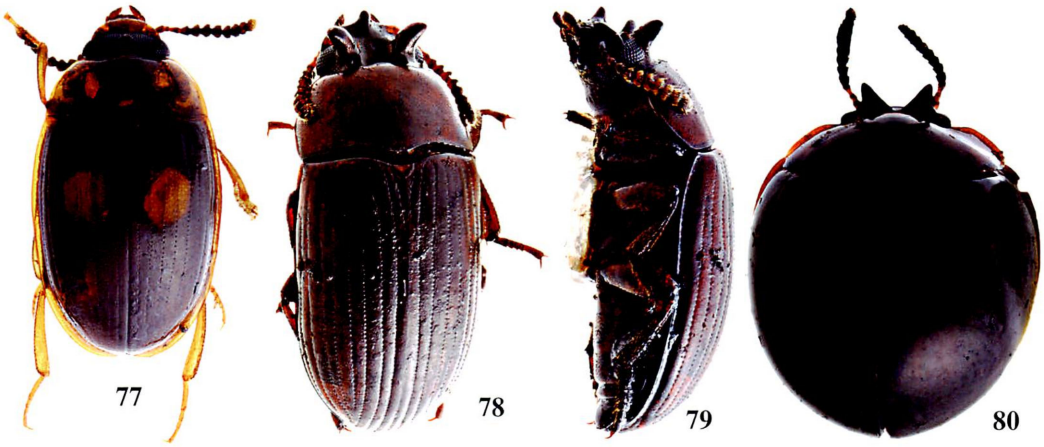
Aedeagus rather short, apical portion of median lobe shortened triangular, strongly tapering apicad, parameres distinctly produced, deeply notched at middle in dorsal view.

Legs normal, rather slender.

Female. Unknown.




Figs. 66–76, Tenebrionidae spp. Habitus. — 66, *Uloma itiokai* sp. nov., dorsal view; 67, *Platydema* sp. 1, dorsal view; 68, *Ischnodactylus fenestratus* GEBIEN, dorsal view; 69, *Ischnodactylus batesi* CHEVROLAT, dorsal view; 70, ditto, lateral view; 71, *Ischnodactylus bisetiger* GEBIEN, dorsal view; 72, ditto, lateral view; 73, *Ischnodactylus sexguttatus* GEBIEN, dorsal view; 74, ditto, lateral view; 75, *Ischnodactylus hutanicolus* sp. nov., dorsal view; 76, ditto, lateral view.



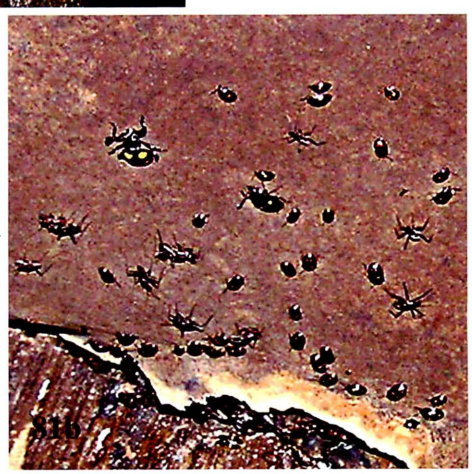

Figs. 77–80, Tenebrionidae spp. Habitus. — 77, *Ischnodactylus bicornutus sumatrensis* (PIC), dorsal view; 78, *Neomida tricornis* (GEBIEN), dorsal view; 79, ditto, lateral view; 80, *Stethotrypes borneensis* KASZAB, dorsal view.




Fig. 81a,b — ↑ a: Many small beetles shown under the cap of fungi are almost several kind of *Ischnodactylus*-specimens. Specific name of the fungi is *Ganoderma australe* (FR.) PAT., 1890

b: Partially Enlarged figure →

(Photo by Dr. S. YAMASHITA at 11th June, 2007 in Lanbir Hills N.P.)



### 34. *Neomida tricornis* (GEBIEN, 1925)

(Figs 78–79.)

*Hoplocephala tricornis* GEBIEN, 1925c: 449.

*Specimens examined.* 4♂♂, 3♀♀, 28. II. 2008, myco1593, myco1596, myco1711, myco1898, myco1709, myco1885, myco1884; 1♂, 5. VIII. 2008, myco2849.

Type locality: North Sumatra (Serdang, Tandjong Morawa).

Type depository: Nationaal Natuurhistorisch Museum Leiden.

Distribution: Sumatra, Borneo*.

## Tribe **Leiochrini** LEWIS, 1894

### 35. *Stethotrypes borneensis* KASZAB, 1961

(Figs. 80)

*Stethotrypes borneensis* KASZAB, 1961: 361, abb. 1–2; SCHAWALLER, 1998: 3.

*Notes.* The species of this genus has a pair of cephalic horns.

*Specimens examined.* 4♂♂, 3♀♀, 26. II. 2008, myco1928, myco1908, myco1920, myco1918, myco1919, myco1917, myco1923; 1♂, 24. VII. 2008, myco2672; 1♀, 6. VIII. 2008, myco2247.

Type locality: Borneo (Sarawak; R. Kapak trib. of R. Tinjar, in rotting felled timber; West-Sarawak, Mt. Matang, Lundu, and Tutu River).

Type depository: The Natural History Museum, London.

Distribution: Borneo (Sarawak, Kalimantan).

## Tribe **Cnodalonini** GISTEL, 1856

### 36. *Cryptobatoides opaca* KASZAB, 1941

*Cryptobatoides opaca* KASZAB, 1941: 16.

*Specimens examined.* 1 ex., 31. VIII. 2008, myco2745.

Type locality: Borneo (Pontianak).

Type depository: The Deutsches Entomologisches Institut, Eberswalder.

Distribution: Borneo.

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I wish to express my cordial thanks to associate professor Dr. Takao ITIOKA, Graduate School of Human and Environmental Studies, Kyoto University, Dr. Satoshi YAMASHITA, Kyoto University, for their permitting me to examine the interesting specimens, and to Prof. Dr. Hans J. BREMER, Melle, Germany, Dr. Munetoshi MARUYAMA, the Kyushu University Museum, and Yuji KATAYAMA, Matsuyama, for their invaluable support in the course of the present study. I also wish to my sincere gratitude to Mr. Noboru ITO, Kawanishi City, for his reviewing the manuscript.

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## 要　　約

安藤 清志：山下聡博士によりサラワク州（ボルネオ島）Lambir Hills 国立公園で採集された食菌性ゴミムシダマシ科について. ——— 北ボルネオの低地に位置する Lambir Hills 国立公園で，長期にわたり菌類食性の昆虫調査を継続してこられた山下博士より提供を受けた，大量のゴミムシダマシ科の甲虫を研究した．採集地は近年多くの研究者が訪れる山地帯の密林とは異なり，ほぼ平地に近い地域であり，非常に興味深い種を確認することが出来た．精査の結果，1新属8新種を含む 40 種類のゴミムシダマシを確認することが出来た．この内，ツノチビゴミムシダマシ属 *Pentaphyllus*属 を除く，36 種について本論文に報告し，1新属7新種をそれぞれ次の名を与え記載した．— *Microatasthalus* gen, nov., *Microatasthalus hadrocerus* sp. nov., *Boletoxenus inouei, Bolitonaeus exiguus* sp. nov., *Bolitonaeus yamashitai* sp. nov., *Uloma itiokai* sp. nov., *Ischnodactylus consobrinus* sp. nov., *and Ischnodactylus hutanicolus* sp. nov.

今回の報告の中に含めなかった *Pentaphyllus* 属に関しては別報文として発表の予定である．

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# Cholevine Beetles (Coleoptera: Leiodidae) from Gyeongsangnam-do and Ulsan, South Korea

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**Abstract** Cholevine beetles collected in Gyongsangnam-do and Ulsan, South Korea, are recorded. Six species are listed, including the new record of *Sciodrepoides nigromontanus* LAFER from Korea; redescription of this species is given on the basis of the Korean specimens.

The Korean Peninsula is southwardly stretched about 1,000 km from the East Asian continent which includes Northeast China and the Russian Far East, and is situated in the North Temperate Zone. This Peninsula topographically has many green covered mountains and drainage systems, having probably an interesting beetle fauna from a zoogeographic view point because it is considered that faunal shifts might occur there by the influence of climatic fluctuations between glacial and interglacial conditions in the Pleistocene and Pan-Japan Sea Area including the Peninsula was a refusium eminent in the Northern Hemisphere during the last glacial (*e.g.*, de LATTIN, 1967).

A total of 15 species belonging to the leiodid subfamily Cholevinae has been recorded so far from Korea (NISHIKAWA & CHO, 2000; LAFER *et al.*, 2001; PARK & NISHIKAWA, 2010). In this paper we report the cholevine fauna of Gyeongsangnam-do and Ulsan-gwangyeoksi, the southeastern corner of the Korean Peninsula; six species are recorded herein, including a new Korean record of *Sciodrepoides nigromontanus* LAFER, however, more members will be added through the progress of our further investigations, judging from the geographic situation and diverse natural environment of Korea.

The following relative measurements are mentioned in the redescription (those of the abbreviation are given in parentheses): length of head (HL); greatest width of head (HW); median length of pronotum (PL); greatest width of pronotum (PW); length of elytra (EL); greatest width of elytra (EW); arithmetic mean (M). Segmental measurements of antenna (SMA) are also given; whole length of specimen is a total of HL+PL+EL. The abbreviations of depositories used in this paper are as followings: Department of Biology, Chungnam National University, Daejeon,

Korea (DBCNU); private Collection of M. NISHIKAWA, Ebina, Japan (MNC); Natural History Museum, Hannam University, Daejeon, Korea (NHMHU).

## Summary of Geography and Habitat on Collecting Sites

Mt. Gaji-san: Gaji-san (1,240 m in hight) is included in the Nakdong Massif, which is situated at northwest of Ulsan-gwangyeoksi, southeast of the Korean Peninsula. More than twenty bait traps were set along the upper area of the Deokhyeon stream at an elevation of 400–600 m (ca. 35°35'N 129°02'E) on the mountain, where is surrounded by broad-leaved tree forest with pine trees.

Mt. Odo-san: Odo-san (1,133.7 m in hight) is located along border between Geochang-gun and Hapcheon-gun, Gyeongsangnam-do. Bait traps were set at an elevation of 900–1,000 m in the southeastern area behind summit (ca. 35°40'N 128°04'E). This area is mainly dominated with broad-leaved tree (oak) and small colonies of pine and larch trees are also planted.

## Enumeration and Redescription

Tribe Anemadini

### *Micronemadus pusillimus* (KRAATZ, 1877)

*Catops pusillimus* KRAATZ, 1877, Dt. ent. Z., **21**, p. 108; type area: Japan.

*Specimens examined.* 21 exs., Mt. Odo-san, Myonsan-myun, Hapchon-gun, Gyeongsangnam-do, 13–14. VII. 2000, Y. B. Cho leg. (bait traps) (NHMHU).

Tribe Cholevini

### *Catops angustipes angustipes* PIC, 1913

*Catops angustipes* PIC, 1913, Mél. Exot.-Ent., (6), p. 8; type locality: Nankin [=Nanjing, Jiangsu Prov., China].

*Specimens examined.* 8 exs., Mt. Gaji-san, Ulsan-gwangyeoksi,10–15. V. 1999, Y. B. CHO leg. (bait traps) (NHMHU).

### *Catops angustitarsis angustitarsis* (REITTER, 1896)

*Sciodrepa angustitarsis* REITTER, 1896, Wien. ent. Ztg., **15**, pp. 66–67; type locality: Karakorum, Northern Mongolia.

*Specimens examined.* 3 exs., Mt. Gaji-san, Ulsan-gwangyeoksi, 10–15. V. 1999, Y. B. CHO leg. (bait traps) (NHMHU).

## *Sciodrepoides fumatus* (SPENCE, 1815)

*Choleva fumata* SPENCE, 1815, Trans. Linn. Soc. London, **11**, pp. 155–156; type area: England.

*Specimens examined.* 3 exs., ♀, Mt. Gaji-san, Ulsan-gwangyeoksi, 10–15. V. 1999, Y. B. CHO leg. (bait traps) (NHMHU); 1 ex., Mt. Odo-san, Myonsan-myun, Hapchon-gun, Gyongsangnam-do, 13–14. VII. 2000, Y. B. CHO leg. (bait trap) (NHMHU).

## *Sciodrepoides nigromontanus* LAFER, 1989

(Figs. 1–5)

*Sciodrepoides nigromontanus* LAFER, 1989, Opred. Nasek. Dal'nego Vostoka SSSR, **3**(1), p. 315, figs. 198, 7–9, 199, 1–3; type locality: Primorsky Kray, Primorskaya, Kedrovaya Pad', Dolin, Russia.

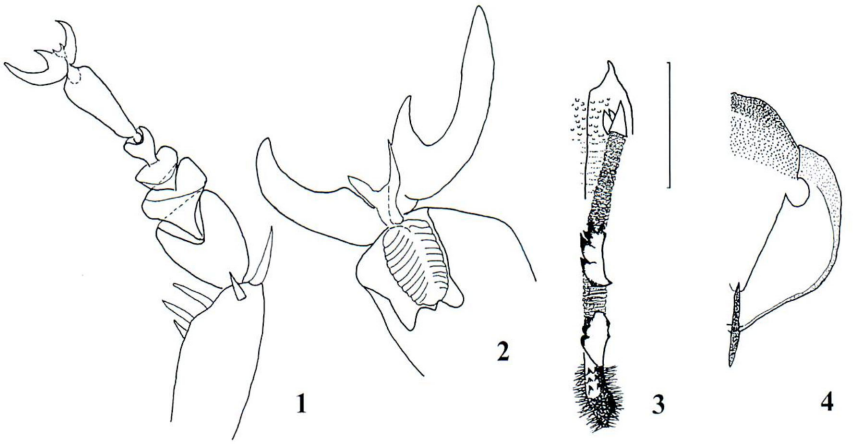
*Redescription based on the Korean specimens.* Male. Length 3.40–3.61 mm, width 1.50-1.63 mm. Body elliptical, almost clothed with moderately long and adpressed yellowish pubescence in dorsal surface; head, pronotum and scutellum blackish brown; mouth-parts clear reddish brown; antennae blackish brown except for segments I, II and XI paler; elytra reddish brown in basal halves and darker in apical halves, with weak opalescent lustre; epipleura also darker; legs dark reddish brown, except for protarsi paler; ventral surface almost blackish brown.

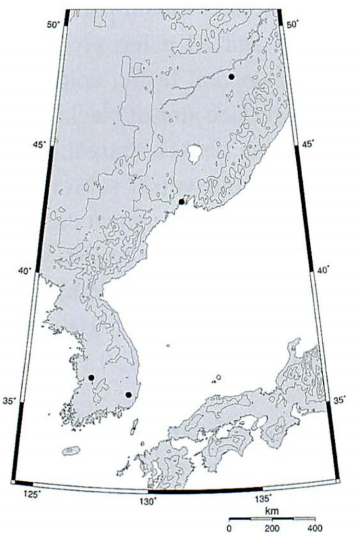
Head gently convex, shallowly foveolate, with clypeal margin almost straight, widest at the level of occipital end, HW/HL 1.38–1.52 (M 1.46); labrum transverse, subtrapezoidal, almost straight at front margin, sparsely punctate; maxillary palpi with last segment ca.1.3 times as long as the penultimate one; eyes normal, moderately prominent. Antennae robust, with segments VI and VIII–X transverse and XI pear-shaped. SMA (length followed by width) in a male from Kaji-san as follows: I, 0.13, 0.08; II, 0.10, 0.05; III, 0.10, 0.06; IV, 0.05, 0.06; V, 0.06, 0.08; VI, 0.05, 0.09; VII, 0.09, 0.10; VIII, 0.03, 0.10; IX, 0.08, 0.10; X, 0.08, 0.11; XI, 0.14, 0.10.

Pronotum transverse, subtrapezoidal, gently marginate except for front margin distinct, widest at base, which is almost as wide as elytral bases, PW/HW 1.65–1.75 (M 1.71), PW/PL 1.56-1.65 (M1.61); front margin emarginate; front angles rounded; sides arcuate; basal margin bisinuate; hind angles obtuse; surface clothed with asperate punctures; microsculpture formed by minute punctures. Scutellum triangular, with granulate punctures. Hind wings functional. Elytra elongate-ovate, convex, convergent apicad, widest at about basal 1/3, EW/PW 1.07–1.12 (M 1.10), EL/PL 2.17–2.51 (M 2.37), EL/EW 1.30–1.39 (M 1.34); sides arcuate, well marginate except for apical portions, with apices separately rounded; suture entire; sutural striae distinct; surface closed with asperate punctures; microsculpture as on pronotum; epipleura ending at about apical 1/7, with punctures as those on elytra.

Mesosternum granulate-punctate; metasternum rugosely punctate. Abdominal sternites III–VII simple in shape, granulate-punctate; VIII weakly emarginate in apical margin, foveolate.

Legs robust; protibia expanded towards apex along outer margin, widest at the apex; protarsus (Fig. 1) with segments I–III well expanded, segment I almost as wide as the apex of protibia, II asymmetrical, slightly narrower than I, III asymmetrical, 1/2 as wide as I, IV small and V robust, which is expanded towards apex along outer margin; empodium of each pretarsus bifurcate, with unguitractor plate (Fig. 2) fully exposed; outer claw large, C-shaped, though inner one is simple; proportions of length to width from segment I to V: 1.1, 1.0, 2.0, 1.0, 0.5;

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Figs. 1–4. *Sciodrepoides nigromontanus* LAFER, ♂, from Mt. Gaji-san, Ulsan-gwangyeoksi, South Korea. —— 1, left protarsus and the apical portion of protibia, ♂, dorsal view; 2, left pretarsus and the apex of tarsal segment V, showing empodium and unguitractor plate, ♂, ventral view; 3, ligula and internal sac of aedeagus, right side, ventral view; 4, Genital segment, ♂, right half. Scale: 0.2 mm for Figs. 1, 3 and 4; 0.05 mm for Fig. 2.

Fig. 5. Distribution of *Sciodrepoides nigromontanus* LAFER. Based on all published data in LAFER (1989), ZINCHENKO *et al.* (2009) and NISHIKAWA and CHO (in this paper).

mesotarsus with segment I also expanded, 4/5 as wide as the apex of mesotibia, relative length from segment I to V: 8, 4, 3.5, 3, 6; relative length of metatarsus from segment I to V: 11, 5, 5, 4, 6.

Median lobe of aedeagus robust, symmetrically hastate, gently expanded towards preapical portion, which is arcuately convergent apicad, longitudinally tuberculate at the apex; dorsal surface shallowly excavated in the middle of basal portion, with elliptic fenestra at the middle of preapex; in lateral view, dorsal margin bent at basal 1/3, sinuate in preapical portion, and ventral margin strongly bent at basal 1/8, upwardly reflexed at the apex; in ventral view, apical portion widely marginate, concave in middle, the concavity campanulate, with corniform ligulae; internal sac (Fig. 3) with two series of about three large teeth and scaly area in front of ligulae, two rows of scaly longitudinal field, two dentate sclerites and scaly field in middle, two series of dentate longitudinal sclerite and spinose field near the base of median lobe. Parameres long and

slender, reaching about apical 1/5 of median lobe, sinuate in each basal portion, and bearing two long setae at apex, thin and close-set. Basal piece tumid, large in size. Genital segment (Fig. 4) with short spiculum gastrale enclosed for about 1/2 by genital plates.

Female. Length 3.06–3.61 mm, width 1.55–1.65 mm. Similar in general appearance to male. SMA (length followed by width) in a female from Kaji-san as followings: I, 0.15, 0.09; II, 0.10, 0.06; III, 0.11, 0.08; IV, 0.05, 0.08; V, 0.05, 0.10; VI, 0.05, 0.11; VII, 0.08, 0.11; VIII, 0.03, 0.10; IX, 0.08, 0.13; X, 0.08, 0.13; XI, 0.14, 0.13. Proportions of body parts as followings: HW/HL 1.38–1.52 (M 1.44), PW/HW 1.65–1.75 (M 1.72), PW/PL 1.61–1.65 (M 1.64), EW/PW 1.08-1.14 (M 1.12), EL/PL 2.27–2.48 (M 2.41), EL/EW 1.21–1.39 (M 1.31). Abdominal sternite VII gently bisinuate at the middle of apical margin; VIII fan-shaped, roundly depressed in middle, with spiculum ventral 7/8 as long as the sternite. Protibiae, protarsus and segment I of mesotarsus not expanded, claws simple.

*Specimens examined.* 9♂♂, 14♀♀, Mt. Gaji-san, Ulsan-gwangyeoksi, 10–15. V. 1999, Y. B. Cho leg. (bait traps) (NHMHU & MNC).

*Specimen examined from other province.* 1♂, Sutongol, Taejon [=Daejeon]-shi, Chungnam Prov., South Korea, 21. IV. 1998, K.-J. Ahn, H.-J. Kim, H.-J. Lim, & K.-L. Yu leg. (bait trap) (DBCNU).

*Distribution.* Russia (Khabarovsky Kray, Primorsky Kray), South Korea.

*Notes.* This species is newly recorded from South Korea. It was originally described from Primorsky Kray of the Russian Far East, and is recently recorded from Khabarovsky Kray (Zinchenko *et al.*, 2009). According to Lafer (pers. comm.), fore legs of the holotype are missing. In this species, male fore tibiae each is expanded towards apex along outer margin and the segment V of each fore tarsus is also expanded towards apex along outer margin, with C-shaped large outer claws. These peculiar character states are shared to those of *Sciodrepoides dubius* Y. Hayashi, *S. tsukamotoi* Nakane and *S. pluvialis* M. Nishikawa together with the following characteristics: Median lobe of aedeagus is hastate or lanceolate; apical setae of parameres are long; basal piece is enlarged and tumid; abdominal sternite VII is rounded or feebly sinuate at the middle of apical margin in the female (cf. Nishikawa, 1992, described as abdominal sternite V).

The species seems to be distributed from the southern region of the Russian Far East to the Korean Peninsula (Fig. 5), though it has not been recorded from the intermediate areas among the known localities yet.

## *Sciodrepoides watsoni watsoni* (Spence, 1815)

*Choleva Watsoni* Spence, 1815, Trans. Linn. Soc. London, **11**, p. 156; type area: England.

*Specimens examined.* 2 exs., Mt. Odo-san, Myonsan-myun, Hapchon-gun, Gyeongsangnam-do, 13–14. VII. 2000, Y. B. Cho leg. (bait traps) (NHMHU).

**Acknowledgements**

We wish to express our deep gratitude to Dr. German Sh. Lafer of the Institute of Biology and Pedology, the Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia, and Dr. Kee-Jeong Ahn of the Department of Biology, Chungnam National University, Daejeon, Korea, for their kind help.

## 要　　約

西川 正明・趙　永福：韓国慶尚南道及び蔚山広域市産のチビシデムシ亜科甲虫（甲虫目，タマキノコムシ科チビシデムシ亜科）．——— 韓国慶尚南道及び蔚山広域市の吾道山と加智山で得られたチビシデムシ亜科甲虫6種を記録した．それらのうち，*Sciodrepoides nigromontanus* LAFER は朝鮮半島から初めて記録される．原著者からの私信によれば正基準標本は両前脚を欠く標本であったので，韓国産の個体に基づいた再記載を付した．

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# Cholevine Beetles (Coleoptera: Leiodidae) Occurring on Toku-no-shima Island, the Ryukyus, Southwest Japan

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Toku-no-shima Island (ca. 247.8 km$^2$) is the nearest large island to Amami-Ôshima Island, the northern part of the Ryukyu Islands. It has therefore been expected that the cholevine fauna of this island is similar to that of the Amamis (cf. HAYASHI, 1969). However, *Ptomaphaginus shibatai* Y. HAYASHI has only been known from the island until now (HOSHINA & SUGAYA, 2003).

We recently examined many cholevine specimens from the island and considered that there is the faunal similarity between the two islands as expected. They are reported herein.

## *Catops amamiensis* Y. HAYASHI

*Specimens examined.* 29 exs., Mt. Amagi-dake, 510 m in alt. [27°52'12.6N 128°55'32.2E], Amagi-chô, Kagoshima Pref., 3. III. 2008, T. FUKUZAWA leg. (carrion bait traps) (in MN's Collection); 88 exs., Mt. Sankyô-dake, 185 m in alt. [27°46'13.6N 128°57'18.0E], Amagi-chô: , 4. III. 2008, T. Fukuzawa leg. (carrion baited traps) (MNC); 3 exs., Tete-rindô, 200-340 m in alt. [27°52'32N 128°54'35E], Tokunoshima-chô, Kagoshima Pref., 16. III. 2009, 10 exs., Ditto., 17. III. 2009, and 13 exs., Ditto., 18. III. 2009, T. KURIHARA leg. (baited traps with chicken meat) (in YH's Collection). [New to the fauna of Toku-no-shima Is.]

## *Catops nomurai* Y. HAYASHI

*Specimens examined.* 9 exs., Mt. Sankyô-dake, 185 m in alt.:, 4. III. 2008, T. FUKUZAWA leg. (carrion baited traps) (MNC). [New to the fauna of Toku-no-shima Is.]

## *Micronemadus pusillimus* (KRAATZ)

*Specimens examined.* 1 ex., Mt. Sankyô-dake, 185 m in alt., 4. III. 2008, T. FUKUZAWA leg. (carrion bait traps) (MNC); 2 exs., Tete-rindô, 200-340 m in alt., 16. III. 2009, 2 exs., Ditto, 17. III. 2009, 14 exs., Ditto, 18. III. 2009, and 2 exs., Ditto, 19. III. 2009, T. KURIHARA leg. (bait

traps with chicken meat) (YHC). [New to the fauna of Toku-no-shima Is.]

### *Prionochaeta harmandi insulana* Y. HAYASHI

*Specimens examined.* 19 exs., Mt. Sankyô-dake, 185 m in alt., 4. III. 2008, T. FUKUZAWA leg. (carrion bait traps) (MNC); 2 exs., Tete-rindô, 200–340 m in alt., 16. III. 2009, 7 exs., Ditto, 17. III. 2009, and 18 exs., Ditto, 18. III. 2009, T. KURIHARA leg. (bait traps with chicken meat) (YHC). [New to the fauna of Toku-no-shima Is.]

### *Ptomaphaginus shibatai* Y. HAYASHI

*Specimens examined.* 1 ex., Tete-rindô, 200–340 m in alt., 17. III. 2009, and 1 ex., 18. III. 2009, T. KURIHARA leg. (bait traps with chicken meat) (YHC).

### *Ptomaphagus amamianus* NAKANE

*Specimens examined.* 9 exs., Tete-rindô, 200–340 m in alt., 16. III. 2009, 31 exs., Ditto, 17. III. 2009, and 40 exs., Ditto, 18. III. 2009, T. KURIHARA leg. (bait traps with chicken meat) (YHC). [New to the fauna of Toku-no-shima Is.]

### *Ptomaphagus kuntzeni* SOKOLOWSKY

*Specimens examined.* 3 exs., Tete-rindô, 200-340 m in alt., 16. III. 2009, 8 exs., Ditto, 17. III. 2009, and 3 exs., Ditto, 18. III. 2009, T. KURIHARA leg. (bait traps with chicken meat) (YHC). [New to the fauna of Toku-no-shima Is.]

### *Sciodrepoides dubius* Y. HAYASHI

*Specimens examined.* 1 ex., Mt. Amagi-dake, 510 m in alt., 3. III. 2008, T. FUKUZAWA leg. (carrion bait traps) (MNC); 105 exs., Mt. Sankyô-dake, 185 m in alt.:, 4. III. 2008, T. FUKUZAWA leg. (carrion bait traps) (MNC); 2 exs.,Ditto, 27. II.–4. III. 2008, T. FUKUZAWA leg. (flight intercept traps) (MNC); 5 exs., Tete-rindô, 200–340 m in alt.:, 16. III. 2009, 4 exs., Ditto, 17. III. 2009, and 11 exs., Ditto, 18. III. 2009, T. KURIHARA leg. (bait traps with chicken meat) (YHC). [New to the fauna of Toku-no-shima Is.]

We thank to Messrs. Takuya FUKUZAWA (Tokyo) and Dr. Takashi KURIHARA (Tsukuba) for giving us many specimens collected on the island.

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# A New Subgenus and Species of *Mylabris* FABRICIUS (Coleoptera: Meloidae) from China

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**Abstract** *Spinabris* subgen. nov. is proposed upon *Mylabris* (*Spinabris*) *spinungulata* sp. nov. as the types species from Xinjiang, China. The main character of the new subgenus is the claws bearing spiniform ventral blade. The morphological structures of the new species are illustrated, and adult photographs are provided. The morphology of claw of postpedes and empodia of mesopedes were observed with a Scanning Electron Microscope. Type specimens are deposited in the Hebei University Museum, Baoding, China.

**Key words.** Coleoptera, Meloidae, *Mylabris*, new subgenus, new species, China

## Introduction

*Mylabris* is a large genus of the Meloidae proposed by FABRICIUS (1775), with *Meloe variabilis* PALLAS, 1781 as the type species (by subsequent designation, see BOLOGNA, 2008). The genus is endemic in the Central and Southern Palaearctic region, and areas transitional to the Oriental region (BOLOGNA et PINTO, 2002). MARSEUL (1872) published a monograph on the Old World with 193 species. KUZIN (1953) described two new subgenera and the same author (1954) systemized and revised 16 subgenera. Pardo ALCAIDE (1948, 1950, 1954, 1969) described seven new subgenera in total. According to SELANDER (1991), 16 subgenera were included in the genus *Mylabris*. BOLOGNA (1991) believed the genus *Mylabris* to include 13 subgenera, and treated the genus *Calydus* as the subgenus *Calydabris*. Currently, BOLOGNA catalogued (2008) 13 subgenera and 198 species from the Palaearctic region.

Based on published accounts, a cumulative total of 38 species of *Mylabris* has been recorded from China and the genus is the largest mylabrine genus in this country. Among of these species, mainly distributed in Northern territory, besides three species in Jiangsu, Jiangxi, Hubei, and Xizang. During our study of blister beetles deposited in the Hebei University Museum, a new *Mylabris* species and a new subgenus belonging to this genus was recognized, and we take this opportunity to describe it herein.

## Materials and methods

All of examined material and specimens of the new species are deposited in the Hebei University Museum, Baoding, China (HBUM).

Terminology for morphological features follows GUPTA (1978) and BOLOGNA et PINTO

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(2002). Taxonomic system follows BOLOGNA (1991). Images of the adults were obtained by using a Canon Powershot S5 IS digital camera; SEM photos were taken with by Cold Field Emission Scanning Electron Microscope JSM-7500F.

## Taxonomy

### Genus *Mylabris* FABRICIUS, 1775

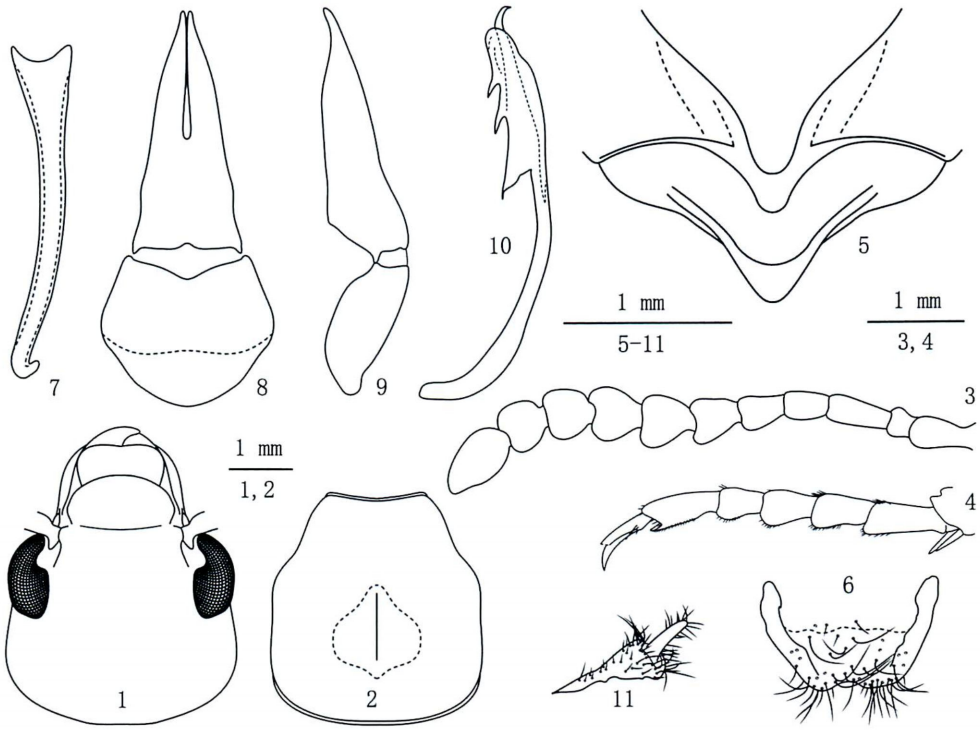
*Mylabris* FABRICIUS, 1775, Syst. Ent.: 261. Type species: *Meloe variabilis* PALLAS, 1781.
*Megabris* Des GOZIS, 1881, Bull. Soc. Ent. France: 113. Type species: *Meloe cichorii* LINNAEUS, 1758.
*Zonabris* HAROLD, 1879, Col. Hefte XVI: 134. Type species: *Meloe cichorii* LINNAEUS, 1758.

*Diagnosis.* Body black, with sheen or not, with puncture and setae; some species with blueish green metallic sheen. Antennae usually 11-segmented, variously shaped but never cylindrical apically, last five segments slightly enlarged; segment III more than 1.5 times the length of IV. Pronotum variable in shape, without a fine median line at centre of disc (a simple depression may occur in some species). Elytra yellowish red, with black spots or fascia, dorsal surface distinctly setose. Mesosternum without such a carina. Mesosternal 'scutum' present or absent. Mesepisterna without a wide and furrowed anterior border area although their anterior edge is sometimes narrowly grooved. Hind tibial spurs similar. Dorsal blade of tarsal claws with two rows of teeth or smooth along ventral margin. Spiculum gastrale Y-shaped. Male parameres usually without elongate setae apically. Aedeagus with dorsal hooks variable in shape and position.

### Key to the subgenera of *Mylabris* FABRICIUS, 1775 from China

1. Dorsal blade of tarsal claws with two rows of teeth along ventral margin ····· *M.* (*Eumylabris*) KUZIN
— Dorsal blade of tarsal claws smooth along ventral margin ····· 2
2. Claws with ventral blade reduced, spiniform ····· *M.* (*Spinabris*) subg. nov.
— Claws normal, ventral blade similar in length and width with dorsal blade ····· 3
3. Body small to tiny; ventral aedeagal spine short and rostriformed, as in Fig. 18 ··· *M.* (*Micrabris*) KUZIN
— Body small to medium; ventral aedeagal spine falciform, as in Fig. 10 ····· 4
4. Body and black colouring parts of elytra with blue-green metallic sheen ····· 5
— Body and black colouring parts of elytra without metallic sheen ····· 6
5. Aedeagus acutely curved at base, constricted apically ····· *M.* (*Chalcabris*) KUZIN
— Aedeagus slightly curved at base, not constricted apically ····· *M.* (*Chrysabris*) KUZIN
6. Antennae pallid-flavscens, at least in part ····· 7
— Antennae completely black ····· 8
7. Aedeagus constricted apically, two dorsal hooks subequal ····· *M.* (*Ammabris*) KUZIN
— Aedeagus not constricted at apex, basic dorsal hook conspicuously larger than apical one ····· *M.* (*Argabris*) KUZIN
8. Distance between two dorsal hooks of aedeagus less than the distance from apical hook to apex ····· 9
— Distance between two dorsal hooks of aedeagus evidently more than the distance from apical hook to apex ····· *M.* (*Mylabris*) FABRICIUS
9. Antennae evidently widened from segment VI to apex; male first segment of protarsi normally ····· *M.* (*Lachnabris*) KUZIN
— Antennae submoniliform, obsoletus widened at apex; male first segment of protasi enlarged ····· *M.* (*Monabris*) KUZIN

### Subgenus *Mylabris* (*Spinabris*) nov.




Figs. 1–11 *Mylabris* (*Spinabris*) *spinungulata* sp. nov. —— 1. Head, ♂. 2. Pronotum, ♂; 3. Antenna, ♂; 4. Protarsus, ♂; 5. Mesosternum, ♂; 6. Dorsal view of 9th tergite, ♂; 7. Dorsal view of spiculum gastrale, ♂; 8-9. Ventral, lateral view of tegmen, ♂; 10. Lateral view of aedeagus, ♂; 11. Ventral view of valvifer, ♀.

*Description*. Body medium in size, black, slightly shining, antennae and pronotum black, elytra yellow with black spots and bands. Pronotum longer than wide, parallel-sided from base to middle, then strongly narrowed forwards. Elytra distinctly wider than pronotum, usually covering the abdomen completely. Claws with ventral blade spiniform, not attaining the middle of the dorsal blade. Empodium claviform, with two short setae at apex, the ventral one thin, and the dorsal thick. Aedeagus in lateral view acutely curved at base, constricted apically; basal dorsal hook slightly larger than apical one, and the distance between two hooks equal to distance from apicodorsal hook to apex, and two dorsal hooks extend from the line of dorsal margin of the aedeagus.

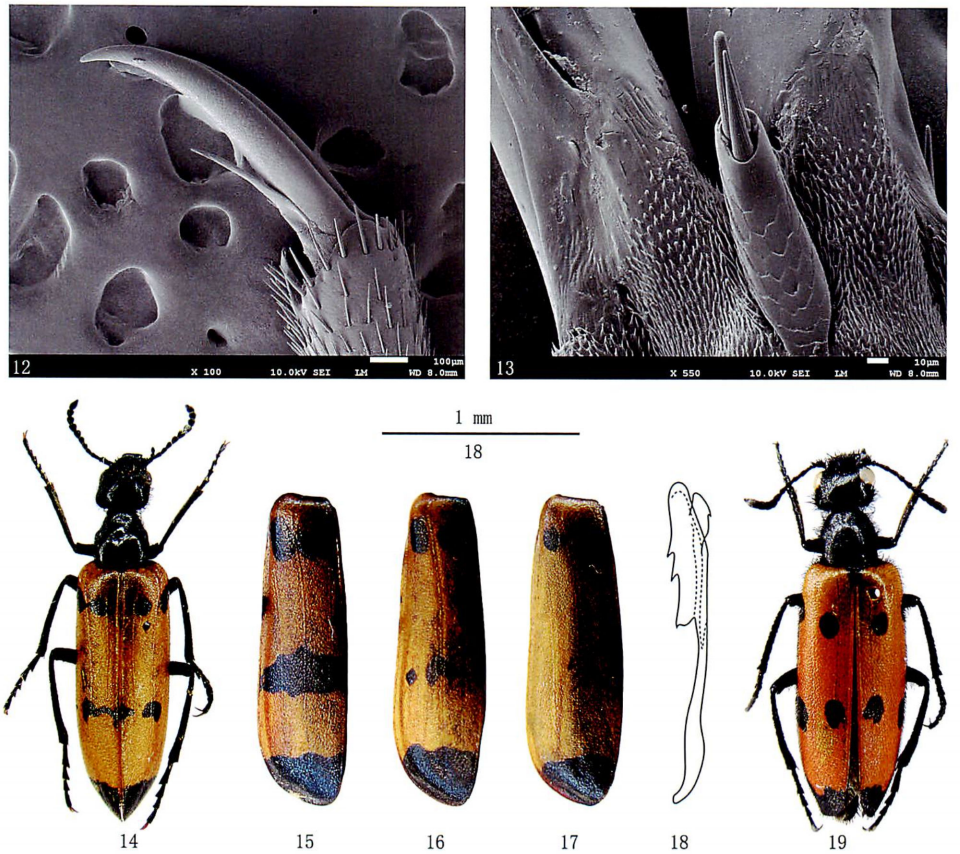
*Diagnosis*. The main character of the new subgenus is the reduced and spiniform ventral blade of tarsal claws.

Type species. *Mylabris* (*Spinabris*) *spinungulata* sp. nov.

*Distribution*. CHINA: Xinjiang.

*Etymology*. The specific name is derived from Latin prefix "spin-" and genus name "*Mylabris*", referring to the ventral blade of the claws as spiniform in shape.

## ***Mylabris* (*Spinabris*) *spinungulata*** sp. nov.




Figs. 12–19. *Mylabris* spp. —— 12–17. *Mylabris* (*Spinabris*) *spinungulata* sp. nov.: 12. Claw of postpedes, ♂; 13. Empodia of mesopedes, ♂; 14. Dorsal view of adult, ♂; 15–17. Elytra variability; 18. *M.* (*Micrabris*) *sibirica*, lateral view of aedeagus, ♂; 19. *M.* (*Mylabris*) *quadripunctata quadripunctata*, dorsal view of adult, ♂.

(Figs. 1–17)

*Description*. Body length: 19.5–28.1 mm; elytral width at widest point: 5.6–7.8 mm.

Male. Body black, slightly shining, antennae and pronotum black, elytra yellow with black spots and bands; setae black, long and dense on head, pronotum, and ventral side, shorter and sparser on elytra.

Head (Fig. 1) black, anterior margin of clypeus dark reddish, with dense, large and shallow punctures at middle and base, 1 or 2 black hairs in each puncture. Dense black hairs on frons slightly sparser than on clypeus, disc with longitudinal shallow sulcus in middle, and a round erythema on each side of the sulcus, punctures approaching but not confluent, dense, large and shallow. Black ventral hairs of equal length as dorsal hairs. Labrum deep depressed in the middle of the basis, less punctured and shorter comate than head. Mandibles elongate, slightly longer than half of the length of head: in lateral view, the ratio of mandibles length to head capsule length (from the eye fore margin to vertex) is 0.7. Anterior margin of mentum reddish. Antennae (Fig. 3) black, segments III-VI slightly dark reddish, extending to the pronotal base;

segments I-III with erect black setae, IV-XI with very short and dense rubiginose setae; segment I elongate and slightly inflated apically, segment III elongate, somewhat longer than I, segments VII-X subcordiform, segment XI subpyriform, narrower at base than segment X at apex; the relative ratio of the length of segments II-XI are: 5.7: 15.3: 11.0: 10.7: 11.2: 13.4: 12.0: 11.9: 11.0: 19.6 (n=5).

Pronotum (Fig. 2) longer than wide, the ratio of width to length is 11.0 : 10.4 (n=5), widest near posterior one-fourth and slightly wider than middle, then strongly narrowed forwards from middle; anteriorly obtusely arcuate, posteriorly straight, with a long longitudinal line in the middle and slightly subround depressions around the line; punctures large and shallow, denser in edges than in centre; with dense black hairs. Scutellum black, nearly obscalariform, with punctures small and shallow and black setae.

Elytra yellow, with short black setae and four indistinct longitudinal ridges; black patches as follows (Figs. 15-17): two round spots on basal one-sixth, lateral spots larger than interior; an irregular transverse fascia, extended to suture but not to external margin, sometimes split into varying the number of spots, or vanished; apical patch on posterior one-sixth of elytra completely black, its anterior margin irregularly undulated.

Legs with short black hairs, but long in pro-, meso-, metacoxae, and underside of all femora, underside of protibiae with short yellow setae. The relative ratio of each segment of the protarsus are: 26.2: 18.9: 17.5: 19.3: 26.1 (n=5). Claws reddish, as in Fig. 12. Empodium as in Fig. 13. Mesosternum obtusely angulate at apex (Fig. 5).

Posterior margin of penultimate visible abdominal sternite obtusely angulate; last visible

**Table 1. The main differences between *M.* (*Spinabris*) *spinungulata* sp. nov. and *M.* (*Mylabris*) *quadripunctata quadripunctata* (LINNAEUS, 1767)**

| | *M.* (*Spinabris*) *spinungulata* sp. nov. | *M.* (*Mylabris*) *quadripunctata* |
|---|---|---|
| 1. | Antennal segments VII–X subcordiform | Antennal segments VII–X not subcordiform |
| 2. | Claws with ventral blade reduced, spiniform | Claws normal,ventral blade similar in length and width with dorsal blade |
| 3. | Elytra with middle black colouring variable, anterior margin of apical fascia relatively flat (Figs. 14-17) | Elytra with two black round spots at middle, anterior margin of apical fascia arcuate (Fig. 19) |
| 4. | Male ninth tergite almost membranous, only sclerotized on the margin | Male ninth tergite largely sclerotized |
| 5. | Spiculum gastrale with at lateral arms conical, short, without process between arms | Spiculum gastrale with lateral arms long, rectangular, about half of the length of branch, with a Y-shaped process between arms |
| 6. | Parameres conically narrowed in ventral view and narrow in lateral view | Parameres nearly parallel-sided and wide in lateral view |
| 7. | Aedeagus with apical dorsal hook far from apex, more than the distance between two dorsal hooks, two dorsal hooks subequal | Aedeagus with apical dorsal hook nearly at apex, basal dorsal hook much larger than apical one |

sternite sharp angulate on posterior margin. Ninth tergite (Fig. 6) almost membranous, only sclerotized at the margin, nearly 1.6 times as wide as long, with scattered long setae, arcuate at posterior margin. Spiculum gastrale (Fig. 7) Y-shaped with lateral arms short, arcuate between the arms; phallobase in ventral view (Fig. 8) slightly shorter than width, parameres conically narrowed, 1.8 times as long as phallobase, split at distal half in the middle, obtusely angulate at posterior margin, parameres slightly narrowed at apical one-fourth (Fig. 9); aedeagus in lateral view with one falcate ventral aedeagal spine and two dorsal hooks, as in Fig. 10.

Female. Posterior margin of penultimate visible abdominal sternite slightly arcuate; last visible sternite round on posterior margin. Valvifer (Fig. 11) with dense short black setae, narrow at base; stylus conically narrowed, with stout setae at apex.

Type material. Holotype: ♂, CHINA: Qitai County, Xinjiang, 14 June 2006, Y. B. BA coll. Paratypes: 4♂♂ and 2♀♀, the same data as the holotype; 1♂, 1♀, CHINA: Paotai Town, Shihezi City, Xinjiang, 3 June 1952, D. W. HUANG coll.

Type depository. Holotype and all paratypes are deposited in the Hebei University Museum, Baoding, P. R. China.

*Etymology*. The specific name is derived from Latin prefix "spin-" and word "ungula", referring to the ventral blade of the claws as spiniform.

*Distribution*. CHINA: Xinjiang.

*Diagnosis*. The new species is similar to *M.* (*Mylabris*) *quadripunctata quadripunctata* (LINNAEUS, 1767), except for the following features as summarized in Table 1.

## Acknowledgments

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## 要　　約

潘 昭・王 新譜・任 國棟：中国産 *Mylabris* 属（ツチハンミョウ科）の一新亜属・新種．——中国・新疆地区から 得られた*Mylabris* 属に所属する種を新種と認め，且つ従来知られているどの亜属にも属さないことが判明したので新亜属を立て，記載した．

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   Blackwelder, R. E., 1936. Morphology of the coleopterous family Staphylinidae. Smithsonian miscellaneous Collections, **94** (13): 1–102

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昆虫学評論の発行は第 65 巻 2 号をもって終了いたします．年内に発行する必要がありますので，原稿締め切り日を平成 22 年 9 月 15 日とします．その後に投稿いただいた原稿がある場合は，新しい機関誌の原稿として処理いたします．

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