昆 蟲 学 評 論

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A New Melanotine-species from Taiwan (Coleoptera, Elateridae)

By Takashi Kishii¹⁾ et Giuseppe Platia²⁾

In this paper, we would like to describe a new *Melanotus* species from Taiwan upon the fact stating continuously. Up to the present, about this remarkable species with unique structures, some records have been reported from several localities in Taiwan by three authors as cited at the outset of the following description. They treated all alike this elaterid that is regarded as identical with *Melanotus telum* Candèze, 1893, collected originally from Darjeeling in India, and afterwards the generic combination was revised under the genus *Cremnostethus* by Schwarz in 1901 as an isogeneric member of the new genus described by himself.

In 1927, Dr. Yûshirô Miwa had recorded firstly *Cremnostethus telum* (Candèze, 1893) from Rônô in Taiwan. On this specimen we could not examine the characteristics, though as a result of judging by his brief comment in the key (1934), it may be conformable with the present new species in all probability.

Dr. Hitoo Ôhira (1970) had reported this species as *Cremnostethus telum* (Candèze, 1893) based on a female specimen collected from Taiwan by Dr. H. Sauter in 1909, of which example is deposited at the Zoological Department of the Histrico-Naturales Musei Nationalis Hungarici. The specimen, however, has a following inscription label by Ôhira: "*Cremnostethus telum* (?). Det H Ohira 1971" (!) (fig. 11). And in his paper (1970), it was listed without the note of interrogation.

In 1989, Kishii, one of the authors, had reported this species as *Cremnostethus telum* (Candèze, 1893) (?) based on a male specimen collected by Dr. K. Baba from South Taiwan. Although in early 1990, Platia, another of the authors, had brought an important opinion to Kishii, as a result of his researching the type-specimens of *Cremnostethus nigricollis* Schwarz (holotype, \mathcal{P} , Assam, coll. Schwarz, Mus. Ebers-

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walde, Berlin) (unique specimen) (type-species of *Cremnostethus*) and *Melanotus telum* Candèze (lectotype, &, Darjeeling, coll. Fleutiaux, Mus. Paris, des. G. Platia, 1989) (unique specimen), the Taiwanese species is undoubtedly a distinct and undescribed species, and is a good *Spheniscosomus*-species.

More, Platia had found a specimen of this species in the collection of the Museum für Naturkunde an der Humboldt-Universität, with the following inscriptions on four labels: "Formosa Akau Sauter S. V." (Akau with a erased line); "Zool. Mus. Berlin; Schwarziellus nov. gen. Quelle.; cuneatus nov. spec. Q." (fig. 12). According to the investigation of Platia, Mrs. Quelle's labels on the name of species in the generic and specific status are not justified to establish a new genus, eventually the specific name. On the generic diagnosis of this insect corresponds with Spheniscosomus Schwarz, 1892, and the specific name had preoccupied previously for an American Melanotus-species: Cratonychus cuneatus LeConte, 1853, Trans. Am. phil. Soc., (n. ser.) 10: 473 (North America), rev. to Melanotus by Candeze, 1860. And Quelle had not published at last the name of the species based on her inscriptions on two labels.

We wish to express our sincere gratitude to Dr. Kintarô Baba, honorary member of the Entomological Society of Japan and the director of Kurokawa Hospital, Niigata, for his kindness in sending the only fresh male specimen of this unique and rare species, and for his encouragement throughout the study on the Taiwanese elaterid-fauna, to Dr. F. Hieke of the Museum für Naturkunde an der Humboldt-Universität, Berlin, to Dr. O. Merkl of the Zoological Department, Histrico-Naturales Musei Nationalis Hungarici, Budapest, for loaning the valuable female specimen collected by Dr. H. Sauter, to Dr. L. Zerche, Mus. Eberswalde, Berlin for the Schwarz collection, and to Dr. C. Girard, Mus. National Histoire Naturelle, Paris for the collection of Fleutiaux.

Melanotus (Spheniscosomus) atayal KISHII et PLATIA, sp. nov. (Melanotinae)

(Text figs. 1 & 2, Pl. 1, figs. 3-8, Pl. 2, figs. 9-12)

Cremnostethus telum Candèze: Miwa, 1927, Ins. Mats., 2 (2): 113 (Rônô), in coll. Gov. Res. Inst. Taihoku, Taiwan, nec Melanotus telum Candèze, 1893, Elat. nouv., V: 49 (Darjeeling).

Cremnostethus telum Candeze: Miwa, 1934, Rep. Dept. Agr. Govt. Res. Inst. Formosa, 65: 221, nec Melanotus telum Candeze, 1893.

Cremnostethus telum Candèze: Ôhira, 1970, Annls hist.-nat. Mus. natn. hung., 62: 214, pl. 2, fig. A (Fuhosho), nec Melanotus telum Candèze, 1893. (Pl. 2, fig. 11).

Cremnostethus telum Candèze (?): Kishii, 1989, Trans. Essa ent. Soc., Niigata, (68): 29, figs. 3, 20 & 41 (Sha-ping near Liu-kuei), nec *Melanotus telum* Candèze, 1893. (Pl. 2, fig. 12).

Male, 14.90×3.90 mm (holotype, pl. 2, fig. 9). Female, 15.50×4.15 mm (in coll. Platia, pl. 2, fig. 10a), 16.00×4.20 mm (in coll. Mus. Nat. Humboldt-Univ., pl. 2, fig. 12a), and 16.85×4.45 mm (in coll. Hung. Nat. Hist. Mus., pl. 2, fig. 11a).

Robust, elongate fusiform, a little elevated medio-longitudinally, as

well as underside plainly, widest at elytral humeri, then substraightly narrowing posteriorly and rather subroundly convergent ahead, and subshining all over. Reddish brown entirely, though always basal area of elytra transversely and legs more or less paler, and pronotal disc medio-longitudinally and elytral sutures somewhat darker. Pubescence long, dense, thick, recumbent and fulvous wholly.

Head at a glance not so broad in male and rather large in female, though ratio of distance across eyes to each eye breadth in dorsal views ca. 3.6 times in both sexes alike, namely in relative proportion as 69: 19 in male and as 87: 24 in female; frons feebly declivous antero-inferiorly, with a pair of broad shallow depressions behind frontal edge transversely; fore margin of frons rounded ahead and thickly carinated; frontal groove broad, faced antero-inferiorly, rather deep, not narrowed medianly, with surface minutely rugose by shagreen-like sculptures wholly, and without punctures entirely. Mouth-parts prognathous below, with labrum small, semicircular, a little convex and rugose on surface. Vertex finely shagreened in high magnification, with punctures rather large, not so dense, subocellated, but clearly uneven in density and size; average extent among punctures slightly wider than each puncture diameter.

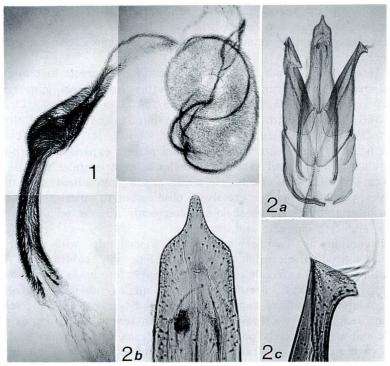
Antennae short, not attaining to bases of prothoracic hind angles in both sexes; relative joint lengths and widths from basal joint respectively as 26/14, 9/9, 15/9, 24/14, 24/15, 25/15, 24/14, 24/13.5, 23/13, 23/13 and 34/11 (length/width) (male, holotype, fig. 3a) and as 32/14, 10/10.5, 16/12, 26/20, 24/20, 24/19, 24.5/18.5, 25/18, 24/16.5, 24/15 and 35/14.5 (female, fig. 3b); basal joint voluminous and plainly expanded antero-medianly, 2nd globular, 3rd subclavate (male) or subtriangular (female), 4th to 10th serrated, with an obscure weak medio-longitudinal elevation in female, which becomes progressively obsolescent to apical segment, and with anterior border of these joints shagreenly rugose wholly in both sexes, and 11th elongate and oval.

Pronotum (fig. 4) simply convex above medianly, with an obscure medio-longitudinal elevation on posterior slope only, subtrapezoid (male) or rather quadrate (female), subparallel-sided before bases of hind angles, roundly convergingly narrowed at fore angles, obviously divergent postero-laterally at hind angles (male) or ill-divergent (female); relative median length and width as 100:88 in both sexes. Hind angles short, thick and rather acutely pointed at apices, each with a short and distinct carina extending straightly and a little converged anteriorly each other. Basal furrows rather short, not so distinct, a little obliquely extending antero-interiorly, shallowly furrowed, each with a conspicuous incision at base. Disc rather glabrous entirely, with punctures single,

smaller and sparser than those on vertex at median area, but gently becoming ocellate, denser and larger laterally, and explicitly large, dense and reticulate at antero-lateral borders.

Scutellum (fig. 5) subquadrate, a little risen above elytral bases, somewhat declining antero-inferiorly, generally flattened with a shallow medio-longitudinal impression, subparallel-sided at posterior half, weakly narrowed behind anterior angles; relative median length and basal width as 33:25 (male) and as 42:32 (female); anterior edge feebly rounded and broadly margined; hind edge subtransverse or sometimes briefly emarginated; punctures fine and sparse.

Elytra moderately elevated medio-longitudinally, widest at humeri, then progressively tapering posteriorly; relative sutural length including scutellum and humeral width as 105: 40 in both sexes; humeri well developed, each with a plain elevation at base of seventh strial interstice. Striae obsolescent, very shallowly impressed, with punctures small



Figs. 1, 2. Melanotus (Spheniscosomus) atayal Kishii et Platia, sp. nov. 1, sclerotic formation of female bursa copulatrix; 2, male genitalia. a: dorsal appearance, b: apex of median lobe, c: apex of left paramere.

and discontinuous; strial interstices rather plane and glabrous, with punctures single, smaller and denser than those of pronotal summit. Sutural ends normal-formed. Elytral ends ill-truncated.

Prosternum narrow, subtrapezoid, plainly elevated medio-longitudinally, but on the other hand clearly concave medianly; anterior lobe broadly rounded ahead and bent antero-inferiorly; surface glabrous entirely with punctures subocellated, larger and a little sparser than those of pronotal disc, though not punctated wholly at medio-longitudinal Prosternal process well-definedly carinate at lateral sides, with ventral surface exceedingly furrowed narrowly along sides, and acutely pointed at hind end; in profile (fig. 7) conspicuously thick and rather short, broadened posteriorly, with a large round emargination at end, and rather obtusely pointed at apico-interior end. Prosterno-pleural sutures substraightened, slightly widened forwards, broadly and glabrously marginate at pleural sutures, of which anterior ends weakly furrowed. Propleural punctures a little elliptical longitudinally, dense, smaller and evener than those of sternum. Postero-lateral apex of each propleuron broad and short, with basal edge right-angledly excavated. Mesosternal cavity (fig. 6) large, fusiform, rather horizontal at anterior half as well as posterior end, but distinctly bent perpendicularly at middle. Metasternal punctures circular, single, smaller and denser than proster-Apical segment of abdomen (7th sternite) rather rounded in male, but more or less emarginated at apex in female (fig. 8). Legs moderate; claws with 7 conspicuous teeth. Male genitalia (fig. 2); apicolateral expansion of each paramere small and projected acutely at apical end as well as latero-interior projection; apex of median lobe well pointed narrowly. Sclerotic formation of female bursa copulatrix (fig. 1), elongate and rather primitive in general diagnosis as compared with other Melanotine-species.

Holotype, &, Sha-ping near Liu-kuei, Kao-hsiung Hsien, S. Taiwan, April 10, 1986, K. Baba leg., deposited in coll. Kishii (fig. 9). Paratypes: 1 $\,^\circ$, Taihorinsho, Formosa, September 7, H. Sauter leg., in coll. Platia (fig. 10); 1 $\,^\circ$, Fuhosho, Formosa, April 1909, H. Sauter leg., with the determined label by Dr. H. Ôhira in 1971 as *Cremnostethus telum* (?), in coll. Zool. Dep. Historico-Naturales Musei Nationalis Hungarici (fig. 11); 1 $\,^\circ$, Formosa, Sauter leg., with the determined labels by Dr. F. Quelle as *Schwarziellus* nov. gen. and *cuneatus* nov. spec., in coll. Museum für Naturkunde an der Humboldt-Universität (fig. 12).

Remarks. No other species, of which prosternal process has a large round emargination at the apical end such profile as *Neodiploconus sanguinicollis* MIWA, 1930, are known up to date in this genus from Taiwan. But similar prosternal process is known till now in *Melanotus* (*Spheniscosomus*) *sulcatus* (Candeze, 1860) from N. India and in an inedit species from Thailand. And the coloration and outline of the body and a small apical excavation of the 7th sternite in female in this species are clearly

remarkable from the other known Southeast Asian Melanotus.

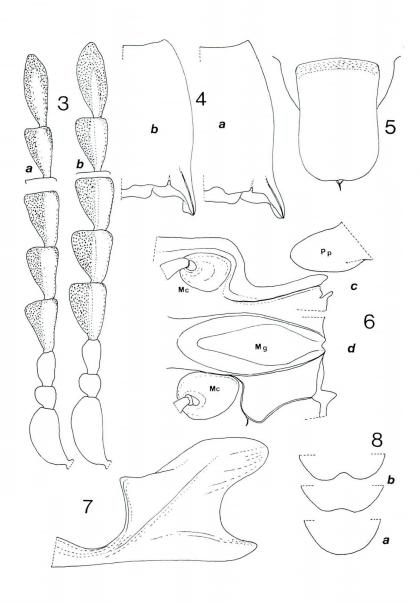
New specific name is based on one of the aborigines in Taiwan.

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Explanation of Plates 1-2

- Pl. 1, figs. 3-8. *Melanotus (Spheniscosomus) atayal* KISHII et PLATIA, sp. nov. a, male; b, female; c, lateral outline; d, ventral outline; Pp, prosternal process; Mc, mesocoxa; Mg, mesosternal groove.
 - 3. right antennae with 6 basal and 2 apical joints.
 - 4. right half outlines of pronotum.
 - 5. scutellum.
 - 6. outline of mesosternal groove.
 - 7. prosternal process in profile.
 - 8. apical outlines of 7th sternite (b, upper side: coll. Zool. Dep. Hist.-Nat. Mus. Natn. Hung.; underside: coll. Platia)
- Pl. 2, figs. 9-12. Melanotus (Spheniscosomus) atayal KISHII et PLATIA, sp. nov.
 - 9. holotype, 14.90 mm.
 - 10. a: paratype, ♀, 15.50 mm; b: ditto, labels.
 - 11. a: paratype, ♀, 16.85 mm; b: ditto, labels.
 - 12. a: paratype, 9, 16.00 mm; b & c: ditto, labels.



(T. Kishii del.)

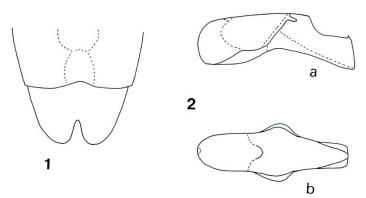


Notes on the Species of *Nazeris* from Japan, IV (Coleoptera, Staphylinidae)

By TATEO ITO

Nazeris hikosanus sp. nov. (Figs. 1-2)

The present species has a close relationship with *N. pacificus* T. Ito in the similarly reduced aedeagal apophyses, to say nothing of general appearance, but differs in the following respects: The body less shiny due to clearer and distincter microsculpture, and a little larger in size (4.5–5.0 mm), the head slightly narrower and scarcely longer than wide instead of being as long as wide, the inner two teeth of labrum less prominent and much more shortened, the eyes larger and the longitudinal diameter subequal to a half length of postgena, the male 7th abdominal sternite with two different median depressions, one of which is situated basally, semicircular, wide and shallow, the other apical one shaped in a half ellipse, deep and flat (while in *N. pacificus* the male 7th sternite only with a large depression along middle from near base to apex and gradually descendent toward apex), the apical margin of



Figs. 1, 2. Nazeris hikosanus sp. nov. 1, The outlines of 7th and 8th sternites in 3; 2, Aedeagus, a: in lateral view, b: in ventral view.

the male 7th sternite more shallowly emarginate (Fig. 1), with a pair of tufts composed of shorter hairs and not touching each other, the male 8th sternite without narrow impunctate depression, the aedeagi very dissimilar in structure except vestigial apophyses, in ventral view the median lobe widest near middle, and obliquely carinate on lateral sides near the widest point, the subtruncate apex armed with a pair of incurved hooks (Fig. 2).

Holotype: \circlearrowleft , Mt. Hikosan, Fukuoka Pref., 18. V. 1986, T. Ito leg. (T. Shibata coll.). Paratypes: $4 \circlearrowleft \circlearrowleft$, $5 \Leftrightarrow \Leftrightarrow$, ditto, 18 & 19. V. 1986, T. Ito leg.; $1 \circlearrowleft$, $8 \Leftrightarrow \Leftrightarrow$, ditto, 1, 2 & 3. VI. 1987, T. Ito leg.

The present species is near to the under-mentioned three species in the secondary sexual features, however, distinguished from N. optatus (Sharp) and N. watanabei T. Ito by the apophyses of aedeagus reduced and extremely smaller, the male 7th sternite of abdomen much more strongly depressed, the male 8th sternite much less deeply excised at middle of apical margin, the inner teeth of labrum more distinctly truncate, the pronotum relatively shorter and the body robuster, from N. shibatai T. Ito by the aedeagus quite differently shaped, the depression of the male 7th sternite without characteristic pubescence, both the sides of head and abdomen clearly microsculptured and less shiny, the labral inner two teeth much less prominent and the lateral sides of the male 7th sternite not sinuate and simple.

Nazeris hisamatsui sp. nov. (Figs. 3-4)

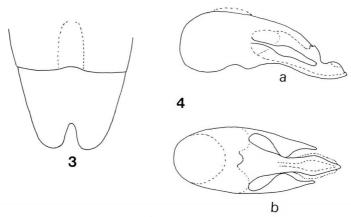
Body robust, little shiny, black, basal two segments of antennae and mouth parts reddish brown, the remaining segments of antennae and legs pale yellow; pubescence of body brownish to greyish black, which of mouth parts, antennae and legs yellowish brown. Length: 4.5-5.0 mm.

Head subquadrate, as long as wide, coarsely, closely and rather regularly punctate, distinctly and isodiametrically microsculptured except smooth marginal area of frons, inner two teeth of labrum thick, pointed and slightly longer than the outer two, frons shallowly depressed, vertex evenly convex and weakly impressed in an irregular V-shape, the ends of the impression terminating in antennal prominences, longitudinal diameters of eyes about a half length of postgenae which are nearly parallel-sided and constricted toward neck by a subrectangular angle, antennae reaching middle of pronotum, with 1st segment as long as the following two segments together, 3rd twice as long as 2nd. Under side of head with punctures like those on the upper side, but microsculpture aciculate rather than reticulate, mentum smooth, submentum somewhat strongly and not finely scabrous.

Pronotum short-oval, a little longer than wide (1.09:1), a little shorter (1:1.07) and narrower (1:1.14) than head, widest at apical third,

from there sides wholly rounded apically and gradually rounded basally, disc more coarsely, less closely and less regularly punctate than on head, median line narrow, long, beyond middle from base, distinctly depressed on each side, three long erect setae submarginally and separately placed near the widest point. Elytra subtriangular, scarcely narrower than pronotum, surface weakly and rugosely undulate, more coarsely punctate than on head and less than on pronotum. Prosternal carina mostly distinct but weakened at subapex.

Abdomen slightly expanded laterally, 6th segment wider than the other segments, punctures on basal tergites coarse, close, becoming finer and sparser toward apical tergites, punctures on each sternite coarser and deeper than those on the corresponding tergite, microsculpture wholly and clearly visible. In the male, 7th sternite shallowly but rather definitely depressed from near base to apex, apical margin widely emarginate in middle (Fig. 3), and tufted at apical angles of the emargination, the tufts consisting of very short, sparse and substiff hairs, 8th sternite narrowly and triangularly excised at middle of apical margin, the depth of the excision about 1.5 times as deep as its width.



Figs. 3, 4. Nazeris hisamatsui sp. nov. 3, The outlines of 7th and 8th sternites in \varnothing ; 4, Aedeagus, a: in lateral view, b: in ventral view.

Aedeagus (Fig. 4) robust, median lobe constricted before apical part, which is like spearhead, curved dorsally in lateral view and distinctly rimmed on dorso-lateral sides, apophyses well-developed, internally and semicircularly convex in middle, but not reaching the apex of the median lobe.

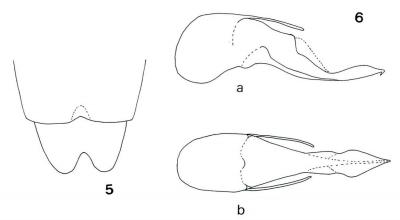
Holotype: \eth , Omogo-Kei, Ehime Pref., 30. IV. 1989, T. Ito leg. (T. Shibata coll.). Paratypes: $4 \subsetneq \varphi$, same data as holotype; $1 \eth$, Mt. Saragamine, Ehime Pref., 5. V.

1954, K. Morikawa leg.; 1 \eth , ditto, 3-5. V. 1971, S. Kinoshita leg.; 1 \updownarrow , ditto, 23. VI. 1968, T. Watanabe leg.

The present species is similar in size, color and pubescence to *N. wollastoni* (Sharp), but it can be easily distinguished from the latter by the pronotum provided with the long erect setae near the widest point, the head distinctly microsculptured, the male 7th abdominal sternite medianly emarginate and simply tufted at outsides of the emargination. And it is also concerned with the species allied to *N. optatus* in having the erect long setae on pronotum, the emargination and tufts on the male 7th sternite, but can be immediately separated from the following species, *N. optatus*, *N. watanabei*, *N. shibatai*, *N. pacificus* and *N. hikosanus*, by the body darker in color, the prosternal carina weakened subapically and the emargination of the male 7th sternite much shallower.

Nazeris omogonis sp. nov. (Figs. 5-6)

The present species is closely related to the preceding species, but is separable from the latter as follows: The body robuster and larger (4.75-5.5 mm), the head relatively narrower, slightly longer than wide (1.08:1), with weaker microsculpture, which on frons and vertex not or scarcely visible, the inner two teeth of labrum shorter, as long as the outer ones, the pronotum proportionally longer (ratio of length to width =1.16/1), the prosternal carina not weakened at apex, the abdominal microsculpture on basal three segments scarcely visible, the male 7th sternite more narrowly emarginate and slightly depressed only near apical margin, the male 8th sternite more widely excised in middle of apical margin (Fig. 5), the depth of the excision as deep as its width,



Figs. 5, 6. Nazeris omogonis sp. nov. 5, The outlines of 7th and 8th sternites in \emptyset ; 6, Aedeagus, a: in lateral view, b: in ventral view.

while in the preceding species the body length 4.5–5.0 mm, the head as long as wide and clearly microsculptured even on frons and vertex, the labral inner teeth longer than the outer ones, the ratio of pronotal length to its width (1.09:1), the prosternal carina weakened subapically, the microsculpture of abdomen wholly and distinctly visible, the male 7th sternite depressed from near base to apex, the depth of the excision on the male 8th sternite 1.5 times as deep as its width; the aedeagus (Fig. 6) differently shaped, the median lobe much slenderer and longer, the apical part spearhead-like and curved dorsally as well as that in the preceding species, but distinctly and ventrally hooked at tip, and not rimmed on dorso-lateral sides, the apophyses simply filiform, without any convexities in ventral and lateral views.

Holotype: \eth , Omogo-Kei, Ehime Pref., 1. V. 1989, T. Ito leg. (T. Shibata coll.). Paratypes: $4 \eth \eth$, $3 \Leftrightarrow \Leftrightarrow$, ditto, 29. IV., 30. IV. & 1. V. 1989, T. Ito leg.; $1 \Leftrightarrow$, ditto, 15. VI. 1956, M. Miyatake leg.; $1 \Leftrightarrow$, ditto, 18-19. V. 1968, K. Hatta leg.

New Records of Japanese Staphylinid Beetles, I (Coleoptera)

Ву Татео Іто

Pinophilus formosae Bernhauer

Pinophilus formosae Bernhauer, 1935, Kol. Rundschau, 21:42.

Specimens examined: $1 \, \updownarrow$, Liukuei, Kaohsiung Hsien, Taiwan, 20. VI. 1980, M. Yamamoto leg.; $1 \, \eth$, $1 \, \updownarrow$, Irabu Is., Okinawa Pref., 1. V. 1978 and 31. VIII. 1979, Y. Kusui leg.; $4 \, \eth \, \eth$, $2 \, \updownarrow \, \diamondsuit$, Tarama Is., Okinawa Pref., 27-29. VIII. 1979, Y. Kusui leg.

Distribution: Japan* (Irabu Is.*, Tarama Is.*), Taiwan.

Remarks: *Pinophilus formosae* Bernhauer is first recorded from Japan, and it is different from *P. rufipennis* Sharp by the following key:

- a) Head and pronotum mat and shagreened, each elytron with basal half black \cdots P. formosae

Pachycorynus dimidiatus Motschulsky

Pachycorynus dimidiatus Motschulsky, 1858, Bull. Mosc., 31 (3): 205.

Pachycorynus dimidiatus: Cameron, 1932, Faun. Brit. Ind., Col. Staph., III: 15; Shibata, 1973, Trans. Shikoku Ent. Soc., 11 (4): 122.

Specimens examined: $7 \circlearrowleft \circlearrowleft 1 \hookrightarrow$, Hateruma Is., Okinawa Pref., 27. VII. 1964, T. Ito leg.; $1 \circlearrowleft$, Iriomote Is., Okinawa Pref., 27. VII. 1962, H. Nomura leg.

Distribution: Japan* (Hateruma Is.*, Iriomote Is.*), Oriental Region, New Guinea. Remarks: The present species is first reported from Japan. Specimens from Hateruma Is. were found together with many specimens of *Medon* sp. and *Lispinus* sp. under barks of standing dead trees.

^{*} Newly recorded.

Descriptions of a New Genus and Six New Species of Chrysomelidae (Coleoptera) Collected by Dr. KINTARO BABA in Taiwan, China.

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A good number of chrysomelid beetles were collected by Dr. KINTARO BABA, on the occasion of his entomological survey in Taiwan, China. In this paper, one new genus and six new species of Chrysomelidae are described as new to science. A material collected by some other colleagues in Taiwan is also treated. This paper should refer to KIMOTO (1989a, 1989b, 1991).

I wish to express my hearty thanks to Dr. KINTARO BABA, for giving me the opportunity to work this interesting material.

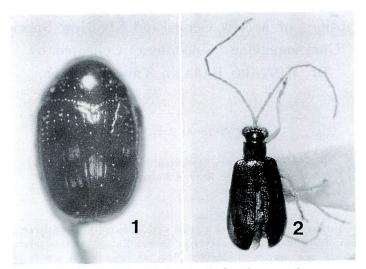
Subfamily Cryptocephalinae

Coenobius babai n. sp. (Fig. 1)

Oval. Generally shining black, head with clypeus reddish brown; antenna reddish brown with four or five apical segments pitchy black; legs dark reddish brown to pitchy black.

Head with eyes very large and touching above, frons convex, finely granulate, and with a pair of oblique ridges laterally; antenna robust, nearly $\frac{2}{3}$ as long as body length; first segment large, robust, somewhat club-shaped; second robust, nearly $\frac{2}{3}$ as long as first; third narrower and slightly shorter than second; fourth slightly shorter than third; fifth subequal to fourth in length and shape; sixth robust, nearly twice as long as fifth; seventh to tenth subequal to sixth in length and shape; eleventh slightly longer than tenth and its apex pointed. Pronotum transverse, nearly $1\frac{2}{3}$ times as wide as long, lateral margin rounded, strongly narrowed anteriorly, surface convex, smooth, shining, impressed by strong punctures mainly on lateral area and with a row of deep punctures along basal margin. Scutellum extremely narrow, emarginate

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Figs. 1, 2. 1, Coenobius babai n. sp.; 2, Stenoluperus taiwanus n. sp.

basally. Elytron with lateral margin rounded, surface impressed by regularly arranged eleven longitudinal rows of punctures, and interstices of rows of punctures very slightly convex and very sparsely impressed by minute punctures.

Length: 1.8 mm.

Holotype: Tsai Tie Ku, near Liu Kui, Kao Hsiung Hsien, 4. vi. 1989, K. BABA.

Paratype: 1 ex., same locality as the holotype, but 2. vi. 1986, K. BABA.

This new species closely resembles *Coenobius obscuripennis* Chûjô but differs in having the legs generally darker and the punctures of pronotum finer and sparser.

Subfamily Galerucinae

Stenoluperus taiwanus n. sp. (Fig. 2)

Oblong-oval. General color bluish black, ventral surfaces generally blackish; antenna pitchy black, with four or five basal segments reddish brown; legs generally yellowish to reddish brown.

Head with vertex nearly smooth, shining, sparsely impressed by distinct punctures; frontal tubercles distinct, convex, transverse, contiguous, wider medianly, surface smooth, shining, well separated from behind. Antenna slender, as long as body length; first segment long, robust, somewhat club-shaped; second shortest, nearly half as long as first and 1¾ times as long as wide; third slender, nearly twice as long as second; fourth nearly twice as long as second; fifth slightly shorter

than fourth; sixth slightly shorter than fifth; seventh slightly longer than sixth and subequal to fifth in length and shape; eighth and ninth subequal to seventh in length and shape; tenth slightly shorter than ninth; eleventh longer than tenth and subequal to ninth in length and its apex pointed. Pronotum transverse, nearly 1½ times as wide as long, anterior margin nearly straight, lateral margin slightly rounded and narrowed posteriorly, basal margin sinuate, rounded posteriorly at lateral portion and rounded anteriorly at middle; anterior and posterior corners thickened, each with a setigerous pore; surface with a subbasal and a pair of lateral depressions, distinctly and rather closely punctate. Scutellum subtriangular, smooth, shining, impunctate. Elytron generally subparallel-sided, rounded at apex, broader at base than prothorax, slightly widened towards humerus, surface closely and strongly punctate, elytral epipleuron narrow.

Length: 3.7-4.0 mm.

Holotype: Mt. Wu Kon Shan, near Liu Kui, Kao Hsiung Hsien, 3. vi. 1989, K. Baba.

Paratopotype: 1 ex., same data as the holotype.

Paratype: Yuan Feng, $2,800~\mathrm{m}$ - Kunyang, $3,100~\mathrm{m}$, Nan Tou Hsien, $1~\mathrm{ex.},~1.$ vii. 1965, T. Nakane leg.

This new species somewhat resembles *Stenoluperus tibialis* CHEN, but differs in having the legs entirely yellowish brown and the fourth antennal segment distinctly longer than the length of the second and the third segments combined.

Genus Lanolepta n. gen.

Antennal insertions distinctly separated by frons; labrum with anterior margin emarginate, frontal tubercles contiguous; gena $\frac{1}{6}$ as deep as ocular; third antennal segment subequal to second in length; pronotum with anterior margin not marginate, and lateral and basal margins entirely marginate, dorsal surface convex with a pair of feeble depressions laterally; elytron with punctures irregularly impressed, with a feebly impressed transverse furrow subbasally, epipleuron wide at base and gradually narrowed posteriorly; prosternal process not elevated between anterior coxae, anterior coxal cavity opened posteriorly; middle and posterior tibiae each with a short but distinct spine apically; tarsal claws appendiculate and first tarsal segment of posterior leg distinctly longer than length of second and third segments combined.

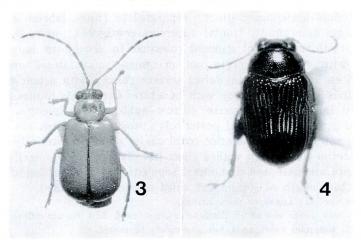
Type species: Lanolepta fulva Кімото.

This new genus resembles *Sinoluperus* Gressitt & Kimoto, but differs in having the frontal tubercles contiguous, but not widely separated.

Lanolepta fulva n. sp. (Fig. 3)

Generally yellowish brown, elytron yellowish brown with apex pitchy black, antenna yellowish brown with four or five apical segments more or less infuscate.

Head with vertex finely granulate, nearly impunctate, interocular space distinctly wider than transverse diameter of single ocular; frontal tubercle feebly raised, subtriangular, its anterior angle inserted between antennal insertions and its posterior margin not well separated from behind by deep furrow. Antenna slender, nearly 3/4 as long as body length; first segment long, robust, somewhat club-shaped; second shortest, nearly \(\frac{1}{3} \) as long as first; third subequal to second in length; fourth nearly three times as long as third; fifth subequal to fourth in length and shape; sixth slightly shorter than fifth; seventh subequal to sixth in length and shape; eighth slightly shorter than seventh and nearly \(\frac{4}{5} \) as long as fifth; ninth and tenth subequal to eighth in length and shape; eleventh slightly longer than tenth and its apex pointed. Pronotum transverse, 1½ times as broad as long, anterior margin slightly rounded posteriorly; lateral margin sparsely impressed by fine hairs, slightly rounded, widest slightly before middle, slightly narrowed anteriorly and more strongly so posteriorly; basal margin strongly rounded posteriorly; dorsal surface convex side to side, with a pair of shallow depressions laterally, sparsely impressed by distinct punctures, and interstices of punctures somewhat granulate. Elytron subparallel-sided, apex



Figs. 3, 4. 3, Lanolepta fulva n. sp.; 4, Chaetocnema (Tlanoma) babai n. sp.

rounded, surface more strongly and rather closely punctate than pronotum and interstices of punctures granulate.

Length: 4.8-5.3 mm.

Holotype: Is. Lan Yu, 24. iv. 1971, Y. HAYASHI. Paratopotypes: 2 exs., same data as the holotype.

Paratypes: Is. Lan Yu, 1 ex., 3. iv. 1987, K. Baba, 1 ex., 27. iii. 1971, H. Nomura. Kotosho, 2 exs., 17. iv. - 15. v. 1932, Yoshio Yano, 2 exs., v. 1939, Arakawa.

Subfamily Alticinae

Chaetocnema (Tlanoma) babai n. sp. (Fig. 4)

Oval. Generally shining black; antenna reddish brown with apical segment more or less darkened; legs reddish brown with entire posterior femur and most part of anterior and posterior femora blackish, and in dark colored specimen apical part of posterior tibia darkened.

Head very finely granulate; vertex almost impunctate, except three or four large punctures which are placed on each side close to eye; inter-antennal space distinct, large, feebly raised, but not distinctly separated from frons. Antenna filiform; first segment longest, robust, clubshaped; second short, nearly 3/5 as long as first; third slightly longer than second and slenderer; fourth and fifth subequal to third in length and shape; sixth slightly shorter than fifth and slightly robuster; seventh and eighth subequal to sixth in length and shape; ninth slightly longer than eighth; ninth and tenth subequal to eighth in length and shape; eleventh 11/5 times as long as tenth and its apex pointed; in preapical segment nearly 11/3 times as long as wide. Pronotum transverse, nearly 134 times as wide as long; anterior margin nearly straight, anterior and posterior corners each with a setigerous puncture; lateral margin distinctly marginate, slighty rounded, widest slightly before basal margin and gradually narrowed anteriorly; posterior margin rounded posteriorly; dorsal surface rather closely and distinctly punctate and their interstices smooth, shining, and with a row of deep punctures along basal margin. Scutellum hemispheric and its surface finely granulate. Elytron convex, with regularly arranged eleven longitudinal rows of deep punctures, including a short scutellar row of punctures; interstices of rows of punctures distinctly raised and costate, sparsely impressed by minute punctures; elytral epipleuron smooth, shining, with a regularly arranged longitudinal row of punctures, along its interior margin.

Length: 2.2-2.3 mm.

Holotype: Lin Kuo, Tai Pei Hsien, 16. viii. 1987, K. BABA.

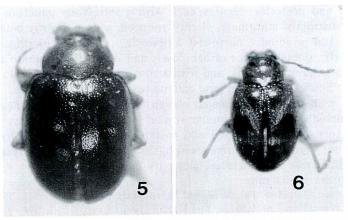
Paratype: Tien Chi, 2,200 m, Kao Hsiung Hsien, 1 ex., 7. viii. 1986, K. Baba. This new species somewhat resembles *Chaetocnema basalis* Baly, in having

pronotum with a row of deep punctures along basal margin, but differs in being the body length longer, and having the interstices of rows of elytral punctures distinctly costate and the punctures of pronotum more distinctly impressed.

Euphitrea taiwana n. sp. (Fig. 5)

Oval Head, pronotum and legs reddish brown, elytron cupreous black, antenna pitchy black with four basal segments reddish brown, ventral surfaces black.

Head with vertex convex, surface slightly wrinkled, sparsely impressed by minute punctures, and with a pair of slight excavations situated inside of eyes; frontal tubercles very narrow, indistinct; interantennal space wide, convex. Antenna nearly 2/3 as long as body length; first segment longest, robust, club-shaped; second nearly 2/3 as long as first; third subequal to second in length and much slenderer; fourth slightly shorter than third; fifth slightly longer than fourth and subequal to third in length; sixth slightly longer than fifth and robuster; seventh to tenth subequal to sixth in length and shape; eleventh $1\frac{1}{3}$ times as long as tenth and its apex pointed; in preapical segment nearly 21/2 times as long as wide. Pronotum convex, 1% times as broad as long; lateral margin distinctly rounded, widest almost at middle, strongly narrowed anteriorly and less strongly so posteriorly; anterior margin nearly straight; posterior margin widely rounded posteriorly and slightly produced at middle; anterior and posterior corners each with a setigerous puncture; surface distinctly and rather closely punctate, interstices of punctures smooth, shining, and with a pair of short longitudinal furrows basally. Scutellum small, semicircular, surface smooth, shining,



Figs. 5, 6. 5, Euphitrea taiwana n. sp.; 6, Manobia bimaculata n. sp.

impunctate. Elytron convex, without any distinct depression subbasally, surface rather closely and confusedly impressed by strong punctures, and their interstices smooth and shining.

Length: 2.8-3.3 mm.

Holotype: Pa Lon, Tao Yuen Hsien, 28. v. 1989, K. BABA.

Paratopotypes: 4 exs., same data as the holotype.

Paratypes: Mei Fon, 2,350 m, near Ho Huan Shan, 2 exs., 10. vi. 1986, K. Baba. This new species resembles *Euphitrea flavicornis* (CHEN), but differs in being the body length longer, and having pronotum generally reddish brown and more strongly punctate. Also, from *Euphitrea nisotroides* (CHEN), this new species is separable in having the sides of vertex less strongly excavated.

Manobia bimaculata n. sp. (Fig. 6)

Oval. Generally reddish brown, elytron with a large median blackish marking, and its apical half or apical ½ of sutural margin widely blackish, ventral surfaces pitchy black; in pale colored specimen ventral surfaces mostly brownish.

Head with vertex nearly impunctate, and with a pair of short, lateral longitudinal furrows at anterior margin; frontal tubercle distinct, subtriangular, smooth, shining, distinctly delimited from behind by a distinct transverse furrow. Antenna nearly $\frac{2}{3}$ as long as body length; first segment robust, club-shaped, longest; second nearly half as long as first in length; third subequal to second in length but slenderer; fourth slightly longer than third; fifth slightly longer than fourth in length; sixth subequal to fifth in length and shape; seventh subequal to sixth in length but robuster; eighth to tenth subequal to seventh in length and shape; eleventh nearly 1½ times as long as tenth and its apex pointed; in preapical segment nearly twice as long as wide. Pronotum nearly 11/4 times as broad as long, anterior margin slightly rounded anteriorly, lateral margin gradually widened anteriorly, and anterior angle obliquely truncate, basal margin rounded posteriorly and slightly produced posteriorly at middle; dorsal surface convex, smooth and shining, distinctly impressed by fine punctures which are stronger and closer especially on area behind ante-basal transverse impression. Scutellum small, semicircular, surface smooth, shining, impunctate. Elytron convex, with a shallow depression slightly behind subbasal area, and with regularly arranged eleven longitudinal rows of punctures, including a short scutellar row of punctures, and their interstices smooth, shining, nearly impunctate.

Length: 1.8-2.0 mm.

Holotype: Liu Kui, Kao Hsiung Hsien, 10. iii. 1989, K. BABA.

Paratopotype: 1 ex., same data as the holotype.

Paratypes: Shyk Shan, near Liu Kui, Kao Hsiung Hsien, 1 ex., 25. iv. 1986, K. Baba. Meifeng-Tao Tsua, Nan Tou Hsien, 1 ex., 27. vi. 1971, Y. I. Chu.

This new species somewhat resembles *Manobia lewisi* Jacoby, but differs in having elytron with a large median marking blackish and elytral punctures on the subbasal area finer. Also, from *Manobia gressitti* Nakane et Kimoto, from the Ryukyu Is., this new species is separable in having antenna almost entirely reddish brown and elytron with a large blackish median marking.

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Study on Asian Carabidae, II. (Coleoptera)

By Noboru Ito

Coleolissus (Tenuistylus) nitidus sp. nov.

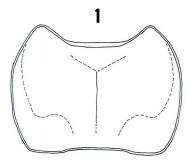
Body oblong-oval, strongly shiny, pitchy black, mandibles, narrow lateral margins of pronotum, tibiae, and tarsi brownish black, femora light yellowish brown, elytra distinctly and abdomen slightly iridescent.

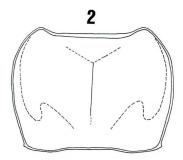
Head small, at most three-fifths times as wide as pronotum, gently convex but depressed on triangular area from vertex to clypeus, surface very sparsely punctulate uniformly over all, labrum subsquare and emarginate at apex, clypeal suture shallow, fine, and not obsolete even at middle, frontal impressions divergent behind and reaching eyes, moderately deep but becoming shallower toward eyes (so space between the impression and eye seems to be indistinctly convex), eyes not so convex as to be hemispherical, postgenae one-third time as long as eye and gently contracted behind, antennae passing a little beyond pronotal base, 3rd joint somewhat thick and short, equal in length to 4th and not more than twice as long as 2nd, mandibles rather robust and long, gently curved inward and sharpened apically, genuine ventral margin of eye a little removing from buccal fissure, ligula gradually widened forward, emarginate at apex, and free from paraglossae in front from apical fifth, paraglossae fairly prolonged forward beyond ligula and obliquely truncate at apex, mentum large, with narrow triangular epilobes, median tooth transverse-triangular, fairly produced but not acute at apex; microsculpture clear, consisting of isodiametric or transverse meshes on apical area of clypeus and of faint transverse lines on frons, and on the other part invisible.

Pronotum (Fig. 1) transverse-square, moderately convex, widest at middle, and a half wider than long, sides gently rounded, more contracted in front than behind, apex rather deeply emarginate and straight in middle, base one-third wider than apex, shallowly but clearly bisinuate, and slightly arcuate at both sides, apical angles not obtuse and narrowly rounded, basal angles obtusely rounded, front transverse im-

pression shallow and vague, hind transverse one obsolete, median line rather deep but reduced before both apex and base, basal foveae large and widely oblong, surface wholly covered with punctures except narrow areas on both sides of median line, the punctures on lateral and basal areas coarse and dense, especially on basal foveae partly confluent like short rugosity, and those on the front impression and apical area fine and dense; microsculpture invisible in 80 magnification.

Winged. Elytra oblong-ovate, a half longer than wide, weakly convex, very sparsely punctulate, sides subarcuately widened from humeri to apical two-fifths, then gradually strongly narrowed behind, and slightly sinuate before apex, apex not protrudent behind and narrowly rounded, basal border deeply bisinuate, humeral angles relatively protrudent and sharply angulate, striae deep and finely crenulate, intervals more or less convex even on disc and well convex on lateral and apical areas where these appear to be carinate, 3rd interval seriately setiferous-punctate, scutellary





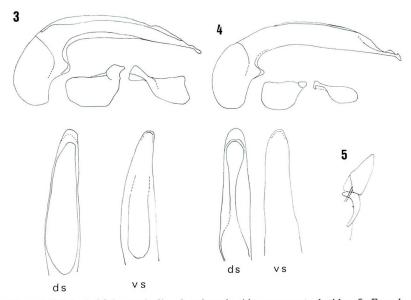
Figs. 1, 2 Pronota of Coleolissus (Tenuistylus) spp.
1. C. nitidus sp. nov.
2. C. masumotoi sp. nov.

seriately setiferous-punctate, scutellary strioles fairly long, marginal series subinterrupted in middle, composed of 11+(11-13) umbilicate pores; microsculpture invisible in 80 magnification.

Underside sparsely punctate on mese- and metepisterna and on sides of 2nd and 3rd abdominal segments, metepisterna one-third longer than wide, abdomen very sparsely ciliate along middle throughout and outer margin of 6th segment, in 3 widely arcuate, almost even and notched at apex, and bisetose on each side.

Fore tibiae clearly sulcate dorsally, with several setae along the sulcus, mid tarsi biseriately squamulose fully even on 1st joint, hind tarsi of δ a little longer than the width of head inclusive of eyes (1.1 times), claw-joint bisetose on each ventral side.

Aedeagus (Fig. 3) relatively slender and gently curved, with a fairly large basal part, apex slightly thickened at tip and shallowly sinuate in front of tip, dorsal side weakly convergent behind, apical orifice occupy-



Figs. 3-5. 3, 4. Male genitalia, ds: dorsal side, vs: ventral side; 5. Female genitalia.
3, Coleolissus (Tenuistylus) nitidus sp. nov.; 4, 5, C. (T.) masumotoi sp. nov.

ing large part of dorsal side, apical lamella as long as wide, weakly ridged along rounded apex, ventral side bordered at sides, longitudinally convex along middle and depressed near apex; left paramere subtrapezoidal and rounded at each corner, right paramere wide and long, a little longer than the left.

♀ unknown.

Length: 10 mm. Width: 3.5 mm.

Holotype: ${\it \circlearrowleft}$, Huai Nam Dang, Chiang Mai Prov., Thailand, 6. V. 1990, N. Іто leg. (in T. Shibata's coll.).

This new species is rather similar to *Calathomimus shibatai* N. Ito in spite of the different genus, but is easily distinguished from the latter except generic characters by the body larger in size, the median tooth of mentum more prominent, the lateral margins of pronotum, those of and the sutural intervals of elytra much darker, the iridescent luster on elytra distinctly stronger, and the aedeagus robuster.

Coleolissus (Tenuistylus) masumotoi sp. nov.

This new species is closely allied to the previous new species in form, the color of body, and the clear iridescent reflection on elytra, but differs from the latter in the following points: 1) the genuine ventral

margin of eye quite adjoining the buccal fissure; 2) the pronotum (Fig. 2) more shallowly emarginate at the apex and the basal angles obtusely angulate instead of rounded; 3) the tibiae light brownish yellow, never black; 4) the aedeagus (Fig. 4) a little robuster, the apex knob-shaped (not simply thickened), and the apical lamella is distinctly bordered on the apical orifice, therefore the border appears to be a small protuberance in profile.

In the female, basal segment of styluses (Fig. 5) narrowly triangular and truncate at apical corner, in front of which two setae are situated, apical segment gently curved, gradually tapering distally but blunt at tip, with a long seta before apex on inner side.

Holotype: \eth , Huai Nam Dang, Chiang Mai Prov., Thailand, 6. V. 1990, N. Ito leg. (in T. Shibata's coll.). Paratypes: $2 \circ \circ$, ditto; $1 \circ \circ$, same locality, 7. V. 1990.

Coleolissus (Tenuistylus) elongatus sp. nov.

Body elongate, shiny, brownish black, mandibles and sutural intervals of elytra reddish brown, legs and lateral margins of pronotum and of elytra light brown, elytra with a clear iridescent lustre.

Head comparatively wide because the body seems to be slim, about three-fourths times as wide as pronotum, more or less and uniformly convex, almost smooth, only with a few coarse punctures near frontal impressions, clypeus transversely convex on basal half and depressed on apical half, the depression bearing a median weak ridge, in front of which it is coarsened, clypeal suture fine and shallow, but apparently clear and accented by the clypeal convexity, frontal impression running obliquely from each end of the suture to eye, moderate in depth, becoming shallower behind, and almost vanished just before eye, eyes large and almost hemispherically prominent, postgenae short, abruptly contracted behind, and not angulate at the junction with neck-constriction, mandibles slender and long, fairly curved inward and pointed at tips, antennae relatively long and passing a little beyond basal fifth of elytra, genuine ventral margin of eye contacted with buccal fissure, paraglossae fully long and narrowly rounded at apex, entirely adnate to ligula up to its apex, median tooth of mentum only slightly prominent, transversely triangular, and rounded at apex, epilobes relatively large; microsculpture clearly impressed, especially on vertex, consisting of transverse meshes and of isodiametric meshes in part.

Pronotum transverse, a half wider than long, and widely reflected at lateral margins (narrowly near base), sides arcuately narrowed in front from the widest point at apical third and straightly behind, apex shallowly emarginate and clearly bordered, base as wide as apex and substraight, apical angles widely rounded, basal angles obtusely angulate, hardly protuberant laterally at tips, front transverse impression obscure but a little deeper than the hind one, median line fine and reduced before both apex and base, basal foveae oblong and ill-defined, disc impunctate, punctures on basal foveae somewhat coarse and moderate in density, those on middle of basal area and lateral furrows sparser, and on apical area and near discal smooth area sparser and much finer; microsculpture consisting of transverse lines on the most part and of transverse meshes here and there.

Winged. Elytra elongate, subparallel at sides, two-thirds longer than wide, and one and two-fifths times as wide as pronotum, basal border very shallowly bisinuate, humeral angles widely rounded, apex not produced behind, sharply angulate but unarmed, striae shallowly, narrowly impressed and finely crenulate, intervals almost flat, only a little convex even laterally and apically, and sparsely, finely punctate throughout, 3rd with a series of 7 setiferous pores along 2nd stria, scutellary strioles fairly long, marginal series subinterrupted in middle, composed of 10+(12-13) umbilicate pores; microsculpture hardly visible, consisting of very faint transverse lines.

Underside almost impunctate, only on meso- and metasterna with very sparse punctures, metepisterna a half longer than wide, 3rd to 6th abdominal segments very sparsely ciliate along middle, 6th of 3 widely arcuate and quadrisetose at outer margin.

Fore tibiae clearly sulcate dorsally and bearing several short setae along the sulcus, hind tarsi of \Im a little longer than the width of head inclusive of eyes (1.1 times), claw-joint bisetose ventrally on each side.

Aedeagus (Fig. 6) more or less robust and gently arcuate, steeply contracted before apex, apex shaped in a knob and directed vertically against aedeagus, apical orifice open to just before apex, so apical lamella very small, ventral side longitudinally depressed along middle, espe-

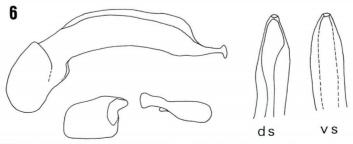


Fig. 6. Male genitalia of Coleolissus (Tenuistylus) elongatus sp. nov. ds, vs : ditto.

cially deepened near apex, lateral bank of the depression not clear and appearing to be in a blunt and short ridge, basal part moderate in size; left paramere subquadrate and rounded at each corner, right paramere slim and a little longer than the left.

♀ unknown.

Length: 8.5 mm. Width: 2.3 mm.

Holotype: &, Doi Suthep, Chiang Mai Prov., Thailand, 30. IV. 1990, N. Ito leg. (in T. Shibata's coll.).

This new species is allied to *Coleolissus* (*Tenuistylus*) teradai HABU, but differs from the latter by the body more elongate, the basal angles of pronotum not rounded, the humeral angles of elytra quite rounded instead of angularly rounded, the elytral apex sharply angulate but not rounded, and the apex of aedeagus not simply thickened and knob-shaped.

Acknowledgement

I wish to express my hearty thanks to Mr. Kimio Masumoto, Laboratory of Entomology, Tokyo University of Agriculture, for his kind support to collect the materials for the purpose of my studying on the Asian Carabidae, especially on the species of Thailand.

Coprophagid-beetles from Northwest Thailand (VI)

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Abstract This is the 6th part of a series of papers concerning research on coprophagid-beetles from Northwest Thailand, and deals with the following new taxa: Subgenus Thaiaphodius subgen. nov., Aphodius (Thaiaphodius) doiangkhangensis sp. nov.; Subgenus Siamaphodius subgen. nov., Aphodius (Siamaphodius) naafon sp. nov.; Aphodius (Balthasarianus) ruupbai sp. nov., Aphodius (Balthasarianus) yaaunitnoi sp. nov.; Oxyomus thailandicus sp. nov., Oxyomus kiuchii sp. nov.; Renaudius thailandicus sp. nov. Photographs illustrating facies and epipharynxes of all the insects, in addition to line drawings representing male genitalia are provided. A diagnostic key to the Thai Oxyomus is also given.

Subgenus Thaiaphodius subgen. nov.

Type species: Aphodius (Thaiaphodius) doiangkhangensis sp. nov.

Body medium-sized in this genus, elongate and feebly widened posteriorly, with elytra more or less narrower than base of pronotum; dorsum strongly convex longitudinally. Coloration probably monocromatical and varying from reddish brown to blackish brown.

Head gently convex above, without tubercles; clypeus gradually declined to apex, which is finely rimmed, not distinctly emarginate in front; genae obtusely produced laterad; eyes rather large, moderately convex laterad and gently overwhelmed by genae.

Pronotum somewhat hemispherically convex above, scattered with fine punctures; apex more or less arcuate forwards; base gently produced posteriad, finely bordered; sides rounded and finely rimmed; front angles obtuse; hind angles neither angulate nor obliquely truncate, only rounded. Scutellum normal in size and triangular.

Elytra widened posteriorly; dorsum strongly convex, gently umbonate postero-laterally; disc finely punctato-striate, the striae shallowly grooved; 1st stria and also 10th reaching apex of elytron, some others being conjoined near apex; intervals rather wide, more or less convex,

[[]Ent. Rev. Japan, Vol. XLVI, No. 1, pp. 27-37, pls. 3-5, June, 1991]

scattered with fine punctures, each with a short hair; humeri denticulate; sides steeply declined to explanate lateral margins, which are rimmed and visible from above.

Protibia tridentate and gently bent downwards, with terminal spur more or less modified in male; end thorns of meso- and metatibiae fine and unequal in length; inner (lower) terminal spur of mesotibia short, truncate and hooked at apex in male; outer (upper) terminal spur of metatibia slender but more or less modified in male; tarsi rather slender; claws rather fine.

Distribution. Northwest Thailand.

Notes. This subgenus is so unique that I do not find any relatives in the genus *Aphodius* from the Palaearctic and Oriental Regions.

Aphodius (Thaiaphodius) doiangkhangensis sp. nov. (Figs. 1, 2, 9, 16)

Dark reddish brown, with outer margin of head, mouth parts, lateral margins of pronotum, scutellum, ventral surface of legs, etc., lighter in colour, antennal clubs and abdomen rather yellowish brown; hairs on surfaces pale yellow; dorsal surface gently shining and ventral one dully so. Body elongate and feebly widened posteriorly, with elytra narrower than pronotum at bases; dorsum strongly convex longitudinally.

Head rather transverse, gently convex above, feebly micro-shagreened and fairly closely punctate, rather rugose anteriorly; clypeus gently convex in middle, with apical margin finely rimmed, nearly straight in front; genae obtusely produced laterad; fronto-clypeal suture finely, widely V-shaped and feebly sinuous on each side; frons very slightly depressed; diatone 3.5 times width of diameter of an eye; eyes rather large, moderately convex laterad, gently overwhelmed by genae.

Pronotum a little transverse though somewhat hemispherically convex above, feebly micro-shagreened, scattered with fine punctures, which are sparsely intermixed with larger ones, each puncture with a microscopic hair; apex feebly arcuate forwards; base gently produced posteriad and finely bordered, rounded in medial ½; sides rounded, finely rimmed; front angles obtuse; hind angles not angulate but only widely rounded. Scutellum triangular, micro-shagreened, sparsely and finely punctate.

Elytra about 1.4 times as long as wide, 2.3 times length and a little more than 1.2 times width of pronotum, widest at apical $\frac{3}{7}$; dorsum rather distinctly convex, thickest at apical $\frac{1}{4}$; each elytron gently umbonate postero-laterally (see Fig. 2); disc punctato-striate, the striae shallowly grooved and the punctures rather closely set; 1st stria reaching apex of elytron, 2nd and 9th, 3rd and 8th, 4th and 5th, and 6th and

7th conjoined near apex; intervals fairly wide and gently convex, microshagreened, irregularly scattered with fine punctures, each with a hair which becomes more noticeable in the latero-posterior portions; humeri slightly swollen, each with a denticle; sides steeply declined to lateral margins, which are narrowly explanate, finely rimmed and visible from above in the apical $\frac{2}{3}$.

Metasternum coriaceous, sparsely haired. Abdomen micro-shagreened, scattered with fine punctures and sparsely haired; apical margin of 4th sternite finely bordered by a punctate-groove; anal sternite coriaceous.

Protibia gently bent downwards, rather sharply tridentate, with terminal spur fairly bold, bent downwards and truncate at apex in male; end thorns of meso- and metatibiae rather fine and unequal in length; inner (lower) terminal spur of mesotibia short, truncate and hooked at apex; terminal spur of metatibia with a slightly hooked apex in male; tarsi rather slender, ratios of the length of metatarsomeres and of outer (upper) terminal spur of metatibia as follows: 1.24, 0.61, 0.52, 0.37, 0.78; 0.81.

Body length: 7.3-9.7 mm.

Holotype: &, Doi Angkhang, Ampoe Fang, Chiang Mai Prov., Northwest Thailand, 25. XI. 1988, K. Маѕимото leg. Paratypes: 4 exs., same data as the holotype; 1 ex., Chiang Dao, Chiang Mai Prov., 24. XI. 1988, K. Маѕимото leg.; 3 exs., Doi Angkhang, 13. XI. 1990, Manit Y. leg.; 1 ex., Doi Angkhang, 16. XI. 1990, K. Маѕимото leg.

Subgenus Siamaphodius subgen. nov.

Type species: Aphodius (Siamaphodius) naafon sp. nov.

Body rather small and robust, oblong oval and strongly convex above. Brownish and partly lighter in colour; each surface strongly shining and almost glabrous.

Head gently convex above, without remarkable tubercles; clypeus gradually declined towards apex, which is rounded on each side; genae obtusely produced laterad; eyes not so large and evidently overwhelmed by genae.

Pronotum transverse, more or less punctate; apex gently arcuate forwards; base bordered; sides moderately narrowed towards apex and strongly so towards base, with lateral margins bordered; front angles rounded; hind angles obtuse. Scutellum normal in size and triangular.

Elytra gradually narrowed towards bases and apices; dorsum strongly convex; disc punctato-striate, the striae mostly reaching apex of elytron but some are shortened and conjoined in the apical portion; intervals wide and feebly convex, scattered with minute punctures; hu-

meri denticulate; sides steeply declined to finely bordered lateral margins.

Protibia not bent downwards, distinctly tridentate, with terminal spur noticeably slender; end thorns of meso- and metatibiae rather short but unequal in length; tarsi medium-sized; claws fine.

Distribution. Northwest Thailand.

Notes. This new subgenus, implementing Balthasar's key (1963), may be placed near the subgenus *Phaeaphodius* Reitter, 1892, but is evidently different from the latter by the head lacking tubercles, and the pronotum not fringed with hairs along the lateral margins. Among the known subgenus, this new one somewhat resembles the subgenus *Paulianellus* Balthasar, 1938, in outline, but can be easily discriminated from it by the pronotum clearly bordered along the basal margin, the humeri denticulate, and the end thorns of meso- and metatibiae rather short but unequal in length.

Aphodius (Siamaphodius) naafon sp. nov. (Figs. 2, 10, 17)

Light brown, with posterior portion of head, discs of pronotum and elytra broadly darker in colour, antennae and mouth parts pale yellowish brown; each surface strongly shining and almost glabrous. Oblong oval and strongly convex above.

Head wide, gently convex above posteriorly, feebly micro-shagreened, rather closely, minutely punctate; clypeus slightly convex in middle, with apical margin finely rimmed, feebly reflexed and very slightly rounded on each side; genae gently, obtusely produced laterad; fronto-clypeal suture fine and arcuate posteriad; eyes not so large and slightly convex laterad, evidently overwhelmed by genae, with diatone about 7 times width of transverse diameter of an eye.

Pronotum transverse, very feebly micro-shagreened, rather closely, minutely punctate, the punctures intermixed with larger ones in posterior and lateral portions, with a longitudinal impunctate portion medially; apex gently arcuate forwards; base extremely widely triangular and slightly sinuous on each side, clearly bordered; sides subparallel-sided in medial ½, roundly narrowed towards apex in anterior ½, strongly narrowed towards base and very slightly sinuous in posterior ½, with lateral margins bordered and finely rimmed; front angles narrowly rounded; hind angles obtuse. Scutellum triangular with feebly rounded sides, scattered with minute punctures, which are much smaller than those on pronotum.

Elytra a little more than 1.3 times as long as wide, about twice length and 1.2 times width of pronotum, widest at the middle, roundly narrowed towards bases and apices; dorsum strongly, rather longitudinally convex above, thickest at a little before the middle; disc shallowly,

finely punctato-striate, the punctures gently notching intervals and set 1–2.5 times their own diameter apart; 1st to 4th, and also 9th and 10th striae reaching apex of elytron, 5th to 8th more or less shortened, 6th and 7th, and further 8th, and 5th and also 6th and 7th conjoined, respectively, in apical portion, 8th stria distinctly shortened also in basal portion; intervals wide, slightly convex, feebly micro-shagreened, rather sparsely scattered with minute punctures, which are about ½ to ½ times size of pronotal ones; humeri denticulate; sides steeply declined to lateral margins, which are finely bordered and rimmed.

Metasternum convex medially with a longitudinally subrhombically flattened area, scattered with minute punctures, haired in antero-lateral portions. Abdomen micro-shagreened, finely punctate and haired.

Protibia not bent downwards, rather strongly tridentate, with terminal spur slender, nearly same length as 1st segment of protarsus; end thorns of meso- and metatibiae rather short but unequal in length; tarsi medium-sized, ratios of the length of metatarsomeres and of outer (upper) terminal spur of metatibia as follows: 0.55, 0.31, 0.23, 0.18, 0.27; 0.49.

Body length: 3.6-4.3 mm.

Holotype: ♂, Doi Inthanon, Chiang Mai Prov., Northwest Thailand, 15. IX. 1988, K. Маѕимото leg. Paratypes: 16 exs., same data as the holotype; 3 exs., Doi Inthanon, 31. VII. 1987, K. Маѕимото leg.; 1 ex., Doi Inthanon, 29. VII. 1990, Manit Y. leg.; 2 exs., Doi Inthanon, 30. IX. 1990, Manit Y. leg.; 1 ex., Doi Pui, Chiang Mai Prov., 13. XI. 1990, K. Маѕимото leg.

Aphodius (Balthasarianus) ruupbai sp. nov. (Figs. 3, 11, 18)

Yellowish brown, with dorsal surface reddish brown and part!y darker in colour, hairs on surfaces pale yellowish brown; dorsal surface moderately shining and fairly distinctly clothed with rather long hairs, ventral surface gently shining and clothed with hairs but less distinctly so than the dorsal. Rather oblong oval and strongly convex above.

Head rather transverse, gently convex above posteriorly, rather closely and finely punctate, each puncture with a fine bent hair; clypeus broad, with apical margin finely rimmed, almost straight and feebly reflexed in front; genae rounded; fronto-clypeal suture fine and slightly bisinuous; eyes rather large, fairly widely inlaid in head but not so strongly produced laterad.

Pronotum transverse, moderately convex above, rather closely punctate and haired, the punctures a little larger and the hairs longer than those on head, respectively; apex almost straight; base widely triangular, finely bordered; sides roundly narrowed towards apex in anterior $\frac{2}{3}$,

obliquely narrowed and fairly distinctly sinuous in posterior ½, with lateral margins finely margined. Scutellum triangular with feebly rounded sides, scattered with small punctures and sparsely haired.

Elytra about 1.3 times as long as wide, 2.2 times length and 1.1 times width of pronotum, widest at basal $\frac{2}{5}$, roundly narrowed towards bases and apices; dorsum strongly convex, thickest at the middle; disc finely punctato-striate, the punctures notching intervals, the striae not conjoined in apical portion of elytron; intervals fairly wide and gently convex, each with 2 or 3 rows of punctures bearing rather long hairs; sides steeply declined to lateral margins, which are narrowly explanate and finely rimmed, visible from above; humeri denticulate.

Metasternum sparsely punctate, each puncture with a hair. Abdomen micro-shagreened and rather closely punctate, each puncture with a hair, posterior margin of each sternite finely margined.

Profemur gently bent downwards, moderately tridentate, with apical spur bold and noticeably bent downwards, obliquely truncate at apex in male; tarsi slender, ratios of the length of metatarsomeres and of outer (upper) terminal spur of metatibia as follows: 1.37, 0.58, 0.38, 0.28, 0.67; 1.38.

Body length: 5.3-5.5 mm.

Holotype: ♂, Meo Vill. - Doi Suthep, Chiang Mai Prov., Northwest Thailand, 2. V. 1985, K. Masumoto leg. Paratypes: 5 exs., same data as the holotype.

Notes. This new species is quite unique in having the shortened body (about 2.1 times as long as wide) in the subgenus.

Aphodius (Balthasarianus) yaaunitnoi sp. nov. (Figs. 4. 12, 19)

Dark blackish brown, with apical margin of head, mouth parts, antennae, ventral surface of pronotum, abdomen, protibiae, tarsi, etc., lighter in colour, hairs on surfaces pale yellowish brown; dorsal surface rather strongly shining and distinctly clothed with fairly fine long hairs, ventral surface gently shining except for abdomen, which is rather mat. Rather elongate and fairly strongly convex above.

Head rather transverse, gently convex above posteriorly, rather closely, finely punctate, each puncture with a hair; clypeus gently convex in middle, with apical margin finely rimmed and slightly reflexed, not emarginate but briefly straight in front; genae rounded; frontoclypeal suture bisinuous but mostly indistinct; eyes rather large, fairly widely inlaid in head, gently produced laterad, hence evidently overwhelmed by genae.

Pronotum transverse, moderately convex above, fairly closely punc-

tate and haired, the punctures larger and closer than those on head; apex very feebly arcuate forwards; base widely triangular, finely bordered by a punctate groove; sides rounded in anterior ¾, strongly narrowed towards base and distinctly sinuous in posterior ¼, with lateral margins rather remarkably rimmed. Scutellum triangular, sparsely scattered with fine punctures.

Elytra about 1.3 times as long as wide, 2.5 times length and 1.1 times width of pronotum, widest at basal $\frac{2}{5}$, roundly narrowed towards bases and apices; dorsum strongly convex, thickest at the middle; disc finely punctato-striate, the punctures gently notching intervals; the striae not conjoined in apical portion; intervals rather wide, each with 2 or 3 rows of fine punctures bearing hairs; sides fairly steeply declined to lateral margins, which are narrowly explanate and finely rimmed, visible from above; humeri denticulate.

Metasternum rather vitreous, sparsely scattered with fine punctures bearing bent hairs. Abdomen feebly micro-shagreened, finely punctate and haired.

Protibia feebly bent downwards, rather strongly tridentate, with apical spur noticeably bent downwards and truncate at apex; tarsi slender, ratios of the length of metatarsomeres and of outer (upper) terminal spur of metatibia as follows: 1.45, 0.49, 0.38, 0.32, 0.6; 1.41.

Body length: 6.3-7.2 mm.

Holotype: &, Muang Pan, Lampang Prov., Northwest Thailand, 8. X. 1989, K. Masumoto leg. Paratypes: 2 exs., same data as the holotype; 1 ex., Doi Inthanon, Chiang Mai Prov., 15. IX. 1989, K. Masumoto leg.; 1 ex., Meo Vill. - Doi Suthep, Chiang Mai Prov., 2. V. 1985, K. Masumoto leg.; 1 ex., Doi Sam Meug, Mae Taeng, Chiang Mai Prov., 26. V. 1989, K. Masumoto leg.; 1 ex., Doi Saket, Chiang Mai Prov., 24. IX. 1990, K. Masumoto leg.

Notes. This new species somewhat resembles *Aphodius* (*Balthasarianus*) *pilifer* Paulian, originally described from North Vietnam, but can be distinguished from the latter by the elytral striae not conjoined in the apical portions and the humeri denticulate.

Oxyomus thailandicus sp. nov. (Figs. 6, 13, 20)

Dark reddish brown, with antennae, mouth parts, tarsi, etc., lighter in colour, hairs on surfaces pale yellowish brown; each surface dully shining. Rather elongate and strongly convex above.

Head rather strongly convex above, micro-shagreened and finely haired, rather closely punctate, the punctures somewhat transverse; clypeus feebly convex above in postero-medial portion, with apical margin finely rimmed and gently emarginate medially; genae obtusely produced

laterad; fronto-clypeal suture indistinct.

Pronotum micro-shagreened and rather closely punctate, more noticeably clothed with fine hairs than head; sides gently rounded in anterior $\frac{3}{5}$, rather strongly narrowed and being sinuous in posterior $\frac{2}{5}$, with lateral margins finely rimmed; base gently produced posteriad, weakly sinuous on each side, very finely bordered. Scutellum somewhat elongate cordate, micro-shagreened, with a low longitudinal ridge medially.

Elytra subparallel-sided in basal halves and roundly narrowed towards apices in the remainings; each elytron 10-costate, the costae narrow and sparsely punctate, the punctures with fine hairs; 1st, 2nd, 3rd, 7th and often 9th costae reaching apex of elytron, 4th, 5th, 6th, 8th and 10th shortened, especially 8th vanishing a little behind the middle and 10th being almost indistinct; grooves fairly broad and feebly micro-shagreened, 1st to 8th with 2 rows of rather large, distant, alternately situated punctures and the remaining two with a single row of punctures, respectively; humeri denticulate.

Metasternum feebly shagreened and coarsely punctate, flattened in middle, with a distinct median impression. Abdomen shagreened, each sternite (except for anal one) bordered by a row of punctures.

Protibia rather strongly tridentate, with terminal spur gently bent latero-inferior; ratios of the length of metatarsomeres and of outer (upper) terminal spur of metatibia as follows: 0.58, 0.21, 0.17, 0.18, 0.24; 0.38.

Body length: 2.7-3.2 mm.

Holotype: &, Muang Pan, Lampang Prov., Northwest Thailand, 8. X. 1989, K. Masumoto leg. Paratypes: 2 exs., same data as the holotype; 2 exs., Doi Inthanon, Chiang Mai Prov., 1. V. 1985, K. Masumoto leg.; 2 exs., Meo Vill. - Doi Suthep, Chiang Mai Prov., 2. V. 1985, K. Masumoto leg.; 1 ex., Doi Angkhang, Chiang Mai Prov., 28. V. 1990, K. Masumoto leg.; 1 ex., Doi Mae Salong, Chiang Rai Prov., 22/23. IX. 1990, K. Masumoto leg.

Notes. This new species somewhat resembles Oxyomus bremeri STEBNICKA, originally described from Northeast Thailand, but can be easily distinguished from the latter by the pronotum lacking a median impression, and the elytra with humeral denticles and differently arranged rows of punctures in the grooves.

Oxyomus kiuchii sp. nov. (Figs. 7, 14, 21)

Yellowish brown, with dorsal surface and metasternum darker in colour, hairs on surfaces pale yellowish brown; each surface moderately shining with feeble sericeous lustre. Rather oblong oval and strongly convex above.

Head gently convex above, micro-shagreened, fairly closely rugosopunctate, finely haired laterally; clypeus roundly convex in middle, with apical margin almost straight and finely rimmed; genae roundly produced laterad; fronto-clypeal suture indistinct.

Pronotum rather closely punctate, the punctures shallow but distinct and being larger than those on head, rather noticeably clothed with hairs laterally, which are longer than those on head; sides subparallel-sided in medial ½, gradually narrowed towards apex in anterior ½, rather distinctly so towards base and feebly sinuous in posterior ½, with lateral margins narrowly explanate, finely rimmed and very slightly serrate; base gently produced posteriad, very slightly sinuous on each side. Scutellum elongate triangular with sides gently rounded, microshagreened, with a longitudinal ridge medially.

Elytra subparallel-sided in basal $\frac{3}{5}$, roundly narrowed towards apices in apical $\frac{3}{5}$; each elytron 10-costate, the costae not fine and with 2 rows of minute punctures bearing fine hairs; 1st, 2nd, 3rd, 5th, 7th and 9th costae reaching apical portion, 2nd, 5th, 7th and 9th conjoined, 4th, 6th, 8th and 10th shortened, 10th extremely short and vanishing in both basal $\frac{1}{5}$ and apical $\frac{2}{5}$; grooves distinctly micro-shagreened, each groove with rows of granules, and also with an obsolete and longitudinal ridge medially in 4 (or 5) inner grooves; humeri denticulate.

Metasternum feebly micro-shagreened, rather closely and coarsely punctate, each puncture with a hair, gently depressed in middle, with a remarkable median impression. Abdomen micro-shagreened, with apical margin of each sternite finely shining.

Protibia very strongly tridentate, with terminal spur rather bold and gently bent latero-inferior; ratios of the length of metatarsomeres and of upper (outer) terminal spur of metatibia as follows: 0.62, 0.3, 0.25, 0.31; 0.5.

Body length: 3.6-4.2 mm.

Holotype: ♂, Doi Suthep/Pui, Chiang Mai Prov., 30. VII-8. VIII. 1988, К. Masuмото leg. Paratypes: 4 exs., Ban Maelana, Mae Hongson Prov., 8. X. 1989, К. Masuмото leg.; 14 exs., Doi Pui, Chiang Mai Prov., 28. IX. 1990, К. Masu-moto leg.; 41 exs., Doi Mae Salong, Chiang Rai Prov., 22/23. IX. 1990, К. Masu-moto leg.

Notes. This new species is quite unique among the member of the genus Oxyomus in that each groove on the disc of elytra has 2 rows of granules and also an obsolete ridge.

Key to the species of the genus Oxyomus from Thailand.

- 2 (1) Humeri denticulate.

Renaudius thailandicus sp. nov. (Figs. 8, 15, 22)

Blackish brown, with apical margin and underside of head, mouth parts, antennae, apical and lateral margins of pronotum, etc., lighter in colour, hairs on each surface pale yellow; dorsal surface feebly, sericeously shining and ventral one rather mat though legs beneath gently shining. Rather elongate and fairly strongly convex above.

Head feebly convex above, wholly micro-shagreened, indistinctly punctate; clypeus slightly convex above in middle, with apical margin finely rimmed, almost straight in front and slightly reflexed on each side; genae obtusely produced laterad; fronto-clypeal suture indistinct; eyes not so large, gently convex laterad and evidently overwhelmed by genae, with diatone about 7 times width of transverse diameter of an eye.

Pronotum micro-shagreened, closely and somewhat longitudinally rugoso-punctate, the punctures shallow, sparsely and finely haired laterally; sides rounded in anterior $\frac{4}{5}$, strongly narrowed towards base and feebly sinuous in posterior $\frac{1}{5}$, with lateral margins narrowly explanate; base widely triangular, feebly sinuous on each side, with margin bordered and fringed. Scutellum elongate triangular with feebly rounded sides, micro-shagreened, without a longitudinal median ridge.

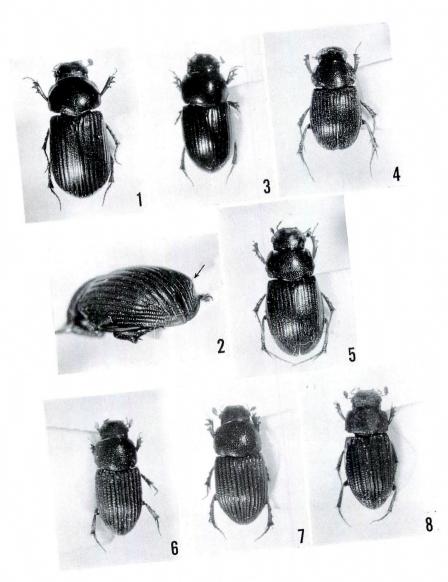
Elytron weakly micro-shagreened and 10-costate; the costae fine, the odd ones being stronger than the evens, 1st, 2nd, 3rd, 9th and 10th reaching apex, 4th to 6th and 8th shortened in apical portion, 1st and 9th, 2nd and 3rd (and often also 7th) conjoined in apical portion, 8th and 10th shortened in basal portion; each elytral groove with rows of punctures, which are not so large but deep, and sparsely set; sides steeply declined to lateral margin, which is subcostate and gently arcuate laterad; humeri denticulate.

Metasternum subrhombically flattened medially, micro-shagreened in middle and lateral portions, scattered with punctures on each side of a remarkable median impression. Abdomen micro-shagreened, with anal sternite fairly distinctly though sparsely pubescent.

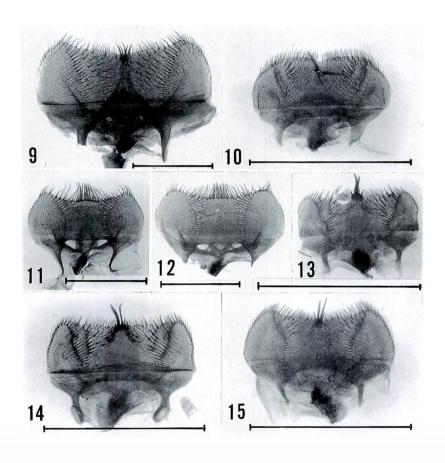
Protibia rather sharply tridentate, with terminal spur fairly strongly bent inner-downwards; ratios of the length of metatarsomeres and outer (upper) terminal spur of metatibia as follows: 0.8, 0.22, 0.2, 0.17, 0.3; 0.52.

Body length: 3.4-3.9 mm.

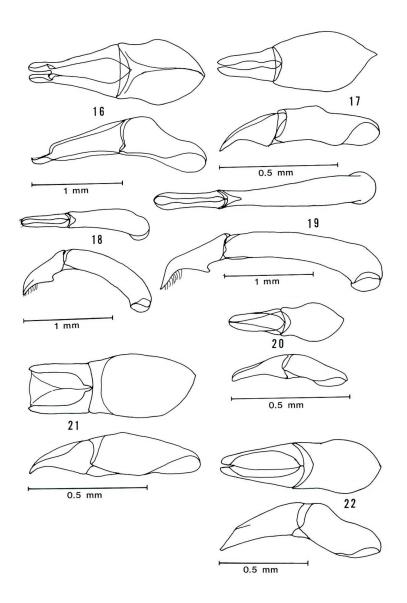
Holotype: &, Doi Inthanon, Chiang Mai Prov., Northwest Thailand, 15. IX. 1988,



(M. KIUCHI photo.)







(M. KIUCHI del.)

K. Masumoto leg. Paratypes: 13 exs., same data as the holotype; 1 ex., Doi Angkhang, Chiang Mai Prov., 23. V. 1989, K. Masumoto leg.; 1 ex., Doi Suthep, Chiang Mai Prov., 13. XI. 1990. K. Masumoto leg.

Notes. This new species is the second member of the genus and can be discriminated from the known species, *Renaudius tesari* (Paulian, 1942), originally described from Sichuan, West China, by the lacking in a supplementary costa between 9th and 10th.

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- STEBNICKA, Z., 1982. New species of Aphodiinae (Coleoptera, Scarabaeidae) from Thailand. Bull. Acad. Pol. Sci., II, [for 1981] 29: 327-331.

Explanation of Plates 3-5

- Pl. 3, fig. 1. Aphodius (Thaiaphodius) doiangkhangensis sp. nov., 3, holotype.
 - 2. ditto, postero-lateral view.
 - 3. A. (Siamaphodius) naafon sp. nov., ♂, holotype.
 - 4. A. (Balthasarianus) ruupbai sp. nov., ♂, holotype.
 - 5. A. (B.) yaaunitnoi sp. nov., δ , holotype.
 - 6. Oxyomus thailandicus sp. nov., 3, holotype.
 - 7. O. kiuchii sp. nov., ♂, holotype.
 - 8. Renaudius thailandicus sp. nov., 3, holotype.
- Pl. 4, figs. 9-15. Male epipharynxes. (each scale: 0.5 mm).
 - 9. Aphodius (Thaiaphodius) doiangkhangensis sp. nov.
 - 10. A. (Siamaphodius) naafon sp. nov.
 - 11. A. (Balthasarianus) ruupbai sp. nov.
 - 12. A. (B.) yaaunitnoi sp. nov.
 - 13. Oxyomus thailandicus sp. nov.
 - 14. O. kiuchii sp. nov.
 - 15. Renaudius thailandicus sp. nov.
- Pl. 5, figs. 16-22. Male genitalia (above: dorsal view; below: lateral view).
 - 16. Aphodius (Thaiaphodius) doiangkhangensis sp. nov.
 - 17. A. (Siamaphodius) naafon sp. nov.
 - 18. A. (Balthasarianus) ruupbai sp. nov.
 - 19. A. (B.) yaaunitnoi sp. nov.
 - 20. Oxyomus thailandicus sp. nov.
 - 21. O. kiuchii sp. nov.
 - 22. Renaudius thailandicus sp. nov.

国際動物命名委員会からのお願い (1)

Applications published in the Bulletin of Zoological Nomenclature on September 29, 1989 in Vol. 46, Part 3. Comment or advice on these applications is invited for publication in the Bulletin and should be sent to the Executive Secretary, I. C. Z. N., British Museum (Natural History), Cromwell Road, London SW7 5BD, United Kingdom. Case No.

- 2652 Choristidae Verrill, 1882 (Mollusca, Gastropoda) and Choristidae Esben-Petersen, 1915 (Insecta, Mecoptera): a proposal to remove the homonymy, by the emendation of the former family to Choristeidae Verrill, 1882.
- 2672 Castiarina Gory & Laporte, 1837 (Coleoptera): proposed conservation, by the suppression of the unused senior subjunctive synonym Polychroma Dejean, 1836.
- 2690 Helophorus brevipalpis Bedel, 1881 (Coleoptera): proposed precedence over Helophorus creticus Kiesenwetter, 1853.
- 2689 Helophorus obscurellus Poppius, 1907 (Coleoptera): proposed precedence over Helophorus fausti Kuwert, 1887.
- 2716 Ceratopogon puncticollis Becker, 1903 (currently Culicoides puncticollis; Diptera): proposed precedence over Ceratopogon algeriensis Strobl, 1900.

Opinion published in the Bulletin of Zoological Nomenclature on September 29, 1989 in Vol. 46, Part 3.

Opinion No.

- 1549 Euglenidae Stein, 1878 (Protista, Flagellata) and Euglenidae Seidlitz, 1875 (Insecta, Coleoptera): homonymy removed, and Aderidae Winkler, 1927 (Insecta, Coleoptera): given precedence over Euglenesidae Seidlitz, 1875.
- 1555 Parasigara Poisson, 1957 (Heteroptera): Corisa transversa Fieber, 1848 confirmed as the type species.
- 1556 Dytiscus ater DeGeer, 1774 (currently *Ilybius ater*) and Dytiscus planus Fabricius, 1781 (currently *Hydroporus planus*; Coleoptera): specific name conserved.
- 1557 Elachista Treitschke, 1833 (Lepidoptera): conserved, and E. bifasciella Treitschke, 1833 confirmed as the type species.
- 1558 Dacus parallelus Wiedemann, 1830 (currently Anastrepha parallela; Diptera): lectotype replaced.
- 1559 Ludita Nagy, 1967 (Hymenoptera): Tiphia villosa Fabricius, 1793 designated as the type species.

The Genus *Lilioceris* REITTER from Peninsular Malaysia (Coleoptera: Chrysomelidae, Criocerinae)

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Abstract Leaf beetles of the genus *Lilioceris* are represented in Peninsular Malaysia by five species: *L. binotata* (Baly), new record; *L. impressa* (Fabricius); *L. kimotoi* Mohamedsaid, n. sp.; *L. quadripustulata* (Fabricius), and *L. semipunctata* (Fabricius). A key to the species and illustrations of the male genitalia are provided.

Introduction

Leaf beetles of the subfamily Criocerinae from Peninsular Malaysia are represented by two genera: *Lema* Fabricius and *Lilioceris* Reitter. *Lilioceris* can be distinguished from *Lema* in having the tarsal claws free, not fused at the base. The key by Kimoto & Gressitt (1979) separates these two genera from other genera of criocerine beetles. Species of *Lema* from Peninsular Malaysia were reviewed by Mohamedsaid (1989).

The genus *Lilioceris* from Peninsular Malaysia is represented by five species, including one new species. Compared with the fauna of Indochina, which has 21 species (KIMOTO & GRESSITT, 1979), that of Peninsular Malaysia is poor in species.

Abbreviations

Materials for this study are from the institutions abbreviated and listed below:

DOA Department of Agriculture, Kuala Lumpur.

KIMOTO S. KIMOTO Collection, Kurume University, Japan.

NHM Natural History Museum, London.

UKM Universiti Kebangsaan Malaysia, Bangi.

UM Universiti Malaya, Kuala Lumpur.

Systematics

Key to Peninsular Malaysian species of Lilioceris.

1. Scutellum glabrous, or with few pubescence on the baso-lateral area..... 2

[Ent. Rev. Japan, Vol. XLVI, No. 1, pp. 39-44, June, 1991]

- Pronotum reddish brown. Elytra reddish brown, with black patch in the apical half. Antennae with preapical segments longer than broad. Ventral surfaces with pro- and mesothorax brown, metathorax and abdomen black. Aedeagus as in Fig. 5. Body length 9-10 mm...... kimotoi Mohamedsaid, n. sp. Elytra black with yellow humeral and subapical spots. Antennae with preapical segments longer than broad. Aedeagus (Fig. 3) with the apical half very broad in lateral view. Body length 10-12 mm quadripustulata (Fabricius) Elytra entirely yellowish brown. Antennae with preapical segments broader than long. Aedeagus (Fig. 2) with the apical half slightly broadened in lateral view. Body length 9-10 mm impressa (Fabricius) 4. Elytra brown, with black bands in middle, sometimes reduced to a spot on each elytron. Antennae with preapical segments longer than broad. Aedeagus (Fig. 1) with the apex pointed and slightly curved. Larger species, 10-12 mm...binotata (BALY) Elytra entirely brown. Antennae with preapical segments broader than long. Aedeagus (Fig 4) with the apex pointed and strongly curved. Smaller species, 8-9 mm semipunctata (FABRICIUS)

Lilioceris binotata (BALY) (Fig. 1)

Crioceris binotata BALY, 1865, Trans. Entomol. Soc. London, ser. 3, 4 (1): 29 (Borneo). Type examined, NHM.

Crioceris binotata ab. tetraspila Weise, 1926, Treubia, 8: 241 (Sumatra).

Crioceris borneoensis Pic, 1916, Mél. Exot. Ent., 20: 17 (Borneo: Pontianak).

Lilioceris binotata: Кімото, 1984, Kurume Univ. J., 33 (1): 54 (Воглео, Sumatra). Remarks: This is a new record for Peninsular Malaysia.

Specimens examined: SELANGOR: 1, Bangi, Universiti Kebangsaan Malaysia, 16. xi. 1975 (SETINOR) (UKM). 2, Bukit Kutu, 3,330 ft (1,006 m), 14 & 28. ix. 1932 (H. M. PENDLEBURY) (NHM); 1, 3,500 ft (1,067 m), 21. iii. 1921 (H. M. PENDLEBURY) (NHM); 1, 3,500 ft (1,067 m), 18. iv. 1926 (H. M. PENDLEBURY) (NHM). 1, The Gap (Selangor), iii. 1921 (NHM). KELANTAN: 1, Kg. Tameng, Ulu Kelantan, 2. viii. 1963 (UM). PULAU PINANG: 1, Penang (H. M. RIDLEY) (NHM).

Lilioceris impressa (Fabricius) (Fig. 2)

Crioceris impressa Fabricius, 1787, Mant. Ins., 1:88 (Siam); Baly, 1865, Trans. Entomol. Soc. London, ser. 3, 4 (1): 32 (Borneo, Singapore, Java, Amboina, Manila).

Lilioceris impressa: Chûjô, 1951, Tech. Bull. Kagawa Agric. Coll., 2: 83, 89 (Formosa).

Specimens examined: SELANGOR: 1, Bangi, Universiti Kebangsaan, 26. i. 1990 (ERNEST, J.) (UKM); 1, 17. ii. 1990 (OSMAN) (UKM). 1, Bandar Baru Bangi, 21. i. 1990 (JUNAIDI) (UKM). 2, Kuala Sleh, 19. i. 1947 (DOA). 3, Serdang, 24. vi. 1924 (CORBETT & GATER) (DOA). 1, Templer Park, 11. i. 1981 (RAZAK) (UKM). PAHANG: 1, Kuala Lompat, 21-22. iii. 1990 (SALLEH, ISMAIL, ZAIDI & RUSLAN) (UKM). 1, Temerloh, Kam-

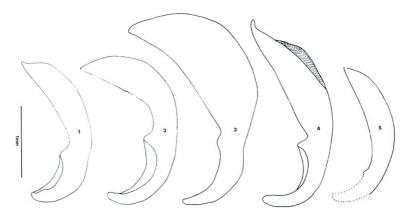
pong Paya Kechil, 14. ii. 1983 (RUSLINA OMAR) (UKM). TERENGGANU: 1, Kuala Besut, 17. ii. 1979 (NOORAINI) (UKM). JOHOR: 5, Paloh, 5. i. 1929 (DOA). PULAU PINANG: 2, Penang (BOWRING) (NHM); 2, PASCOE coll. (NHM).

Lilioceris kimotoi Mohamedsaid, n. sp. (Fig. 5)

Male. Black. Length 8.5 mm, width 4 mm. Head and prothorax reddish brown. Elytra reddish brown, each with an elongate black patch in the apical half. Antennae yellowish brown.

Head as broad as prothorax, widest across eyes, somewhat flattened above; sides behind eyes oblique, then subparallel forming the neck; vertex impunctate, triangularly raised, delimited from orbits with very deep grooves; orbits covered with long pubescence and moderately large punctures; interantennal space depressed in centre, largely impunctate; fronto-clypeus large, moderately convex, sparsely covered with long pubescence; labrum subtruncate apically, sparsely covered with long pubescence; gena about four-fifths as deep as eye, sparsely covered with long pubescence. Eyes prominent, inner margin deeply notched, the distance between eyes nearly twice as wide as the diameter of an eye. Antennae rather stout, closely covered with very fine pubescence, extending to end of basal one-sixth of the elytra; segment 1 oval, as long as broad; 2 one-half times as long as 1; 3 & 4, slightly longer than 1; 5 strongly dilated at apex, the widest; 6-11 subequal in length.

Prothorax slightly longer than broad, broader at base than near apex, deeply constricted near middle; disc fairly smooth, with very small



Figs. 1-5. Aedeagi of Lilioceris species (lateral view).
1, Lilioceris binotata; 2, Lilioceris impressa; 3, Lilioceris quadripustulata; 4, Lilioceris semipunctata; 5, Lilioceris kimotoi, new species.

punctures, confined largely to the disc. Scutellum slightly more than twice as long as broad, narrowed posteriorly, glabrous.

Elytra 1.5 times as long as broad, subparallel, narrowed in basal one-fourth, widest in apical one-third, then evenly rounded to apex; disc with ten regular rows of moderately large punctures, excluding the scutellar row.

Ventral surfaces with pro- and mesosternum brown, metasternum and abdomen black, moderately densely covered with silvery pubescence. Legs moderately stout, the front legs pitchy, the middle and hind legs black, except the tarsi pitchy.

Female. Form similar to male.

Length: 8.5-9.5 mm.

Holotype: Male, Perak, 19 miles from Tapah, 8. iv. 1976 (M. HATA) (KIMOTO). Paratypes: 3, Perak, 19 miles from Tapah, 8. iv. 1976 (M. HATA). 1, Pahang, Kuala Lompat, 25-27. viii. 1990 (ISMAIL & ZABIDI) (UKM); 1, Pahang, Kuala Lompat, 1-3. ix. 1990 (ISMAIL & ZABIDI) (UKM).

The holotype and one of the paratype specimens will be deposited in the KI-MOTO's collection (KIMOTO), Kurume University, Japan. The other paratype specimens will be deposited in the Department of Zoology, Universiti Kebangsaan Malaysia, Bangi (UKM).

Remarks: This species is similar to *Lilioceris bicoloripennis* (Pic), described from Thailand, but can be separated by the following combination of characters: Scutellum glabrous; antennae distinctly yellowish or brownish, not reddish brown; legs, metasternum and abdomen black, not reddish brown.

Lilioceris quadripustulata (Fabricius) (Fig. 3)

Crioceris quadripustulata Fabricius, 1787, Mant. Ins., 1: 88 (Siam); Baly, 1865, Trans. Entomol. Soc. London, ser. 3, 4 (1): 28 (Java, Malacca, Penang, Siam). Lilioceris quadripustulata: Gressitt & Kimoto, 1961, Pac. Ins. Monogr., 1A: 55 (Tonkin).

Specimens examined: SELANGOR: 1, Bangi, Universiti Kebangsaan Malaysia, 16. xi. 1975 (Razali) (UKM); 1, 16. xi. 1980 (Ramli Khamis) (UKM); 1, 12. iii. 1984 (Rohaya Husin); 1, 17. ii. 1985 (A. Razak Rahman) (UKM); 1, 4. iii. 1985 (Norela Sulaiman) (UKM); 1, 15. iii. 1987 (A. Rahim Ali) (UKM); 1, 13. ii. 1988 (Salleh & Ismail) (UKM): 1, 12. i. 1990 (David) (UKM); 1, 18. i. 1990 (Patrick) (UKM); 1, 17. ii. 1990 (Riza & Osman) (UKM). 1, Bukit Kutu, 3,500 ft. (1,067 m), 9. ix. 1929 (H. M. Pendlebury) (NHM). 1, Hutan Simpan Air Hitam, 30. vi. 1987 (Salleh, Ismail & Nor) (UKM). 1, Klang Gates, 7. xii. 1975 (Md Zain) (UKM). 1, Petaling Jaya, 20. ii. 1980 (Shafee) (UKM). 1, Semenyih, Sungai Tengkala, 26. i. 1986 (Christovol) (UKM). 1, Semenyih, H. L. Sungai Lalang, 6. ii. 1990 (Jungan) (UKM). 1, Templer Park, 5. x. 1974 (Mizan) (UKM); 1, 27. vii. 1976, (Saari) (UKM). 1, Ulu Langat, 15. ix. 1974 (A. Rahman) (UKM). KUALA LUMPUR: 1, Damansara, 30. xii. 1979 (Naimah Omar) (UKM). Jalan Pantai Baru, 23. ii. 1980 (V. Perumah) (UKM). 1, Kampung Kerinci, 9. iii. 1980 (K. Hassan) (UKM); 1, 14. i. 1982 (Pauziah) (UKM). 1, Kuala

Lumpur, vi. 1921 (H. M. PENDLEBURY) (HNM); 1, xi. 1922 (H. M. PENDLEBURY) (NHM); 1, 28. ii. 1944 (R. TAKAHASHI) (UKM). PAHANG: 3, Ekspedisi Rompin-Endau, 25-27. vii. 1989 (ISMAIL & NOR) (UKM). 2, Gunung Tahan, 2,500-3,500 ft (762-1,067 m), v-vi. 1905 (H. C. Robinson) (NHM). 1, Kuala Lompat, 27. iv. 1986 (Pelajar Tahun 1, Temerloh, Rantau Panjang, 17. iv. 1986 (SALLEH & ISMAIL) (UKM). NEGERI SEMBILAN: 1, Pasoh, 24. x. 1986 (ISMAIL & NOR) (UKM). 1, Tampin, Keru, 15. iii. 1980 (HIZIR ZULKIFLEE) (UKM). 1, Ulu Bendul, 20. i. 1985 (Mohd Nor PERAK: 1, Bukit Larut, 9. ix. 1986 (SALLEH & ISMAIL) (UKM). Ipoh, 24. i. 1981 (Jaminggu Imbon) (UKM). 1, Malim Nawar, 16. ii. 1979 (Hussin RANI) (UKM). KEDAH: 1, Alor Setar, 25. xii. 1980 (HASLINA SHAARI) (UKM). Kedah Peak, 19. iii. 1928 (NHM). 1, West Coast Langkawi Island, 19. iv. 1928 (NHM). KELANTAN: 1, Kota Baharu, 29. i. 1980 (NAAIMAH) (UKM). 1, Kampong Bechah, Mulung, 19. i. 1982 (W. AISHAH) (UKM). 1, Kampung Gaung, 25. i. 1982 (S. PATIMAH) MELAKA: 1, Air Keruh, 17. vi. 1987 (SALLEH & ISMAIL) (UKM). 1, Bukit Senggeh, 11. xii. 1975 (RAZALI) (UKM). JOHOR: 1, Batu Pahat, 18. x. 1974 (FAZAH M. Noor) (UKM). 1, Mersing, H. Lipur Gunung Agung, 9. iv. 1988 (Salleh & Ismail) (UKM).

Lilioceris semipunctata (FABRICIUS) (Fig. 4)

Lema semipunctata Fabricius, 1801, Syst. Eleuth., 1: 472 (Sumatra).

Crioceris semipunctata: BALY, 1865, Trans. Entomol. Soc. London, ser. 3, 4 (1): 29, pl. 1, fig. 1 (Java, Borneo, Malacca, Sumatra, Celebes, Siam, India).

Lilioceris semipunctata: Gressitt & Kimoto, 1961, Pac. Ins. Monogr., 1A: 44, 58 (Hainan).

Remarks: Specimens collected from Kedah (Tunjang) were found feeding on *Smilax* sp. (Smilacaceae).

Specimens examined: SELANGOR: 1, Bangi, Universiti Kebangsaan Malaysia, 14. x. 1975 (WAN ZAHARI) (UKM); 1, 16. xi. 1975 (SEMPAWAN) (UKM); 1, 18. ii. 1983 (Aminah Abdullah) (UKM); 1, 19. ii. 1984 (Rohaya Husin) (UKM); 1, 3. iii. 1984 (AZIMI AMAN) (UKM); 1, 29. x. 1985 (MOHD SALLEH) (UKM); 1, 29. x. 1985 (ISMAIL SALLEH) (UKM); 1, 30. i. 1990 (NONNA) (UKM); 1, 2. ii. 1990 (DAVID) (UKM); 1, 30. i. 1990 (SARLY) (UKM). 2, Bukit Belachan, 24. ii. 1990 (JUNGAN) (UKM). 2, Serendah, 2. v. 1986 (SALLEH & ISMAIL) (UKM). 1, Templer Park, 31. viii. 1977 (YEMMI) (UKM); 2, 25. i. 1982 (LATIFAH SHAARI) (UKM). KUALA LUMPUR: 1, Jalan Pantai Baru, 5. ii. 1979 (Siti Zaleha) (UKM). 1, Kampus Universiti Malaya, 9. xi. 1975 (MD Zain) (UKM); 1, 20. i. 1979 (Puad Tahar) (UKM). 1, Kampus UKM, Kuala Lumpur, 31. x, 1975 (AHMAD ISMAIL) (UKM). 1, Kampung Kerinci, 8. x. 1978 (AHMAD JASMI) (UKM). 1, Kuala Lumpur, 6. vi. 1940 (DOA). 1, Lake Garden, 25. x. 1975 (SEMPAWAN) (UKM). PERAK: 1, Selama, i. 1983 (Annuar Kamis) (UKM); 2, Taiping, 8. ix. 1986 (Salleh & ISMAIL) (UKM); 3, (DOHERTY) FRY coll. (NHM). KEDAH: 4, Tunjang, 7. ix. 1986 (SALLEH & ISMAIL) (UKM). KELANTAN: 1, Tumpat, 29. i. 1980 (SHARIFAH) (UKM). TERENGGANU: 1, Besut, 13. ii. 1979 (HUSIN RANI) (UKM). 1, Wakaf Tapai, 14. iv. 1986 (Salleh & Ismail) (UKM). PAHANG: 2, Pekan, 6. iv. 1988 (Salleh & Ismail) (UKM). 1, Triang, 15. i. 1979 (PUAD TAHAR) (UKM). 1, Temerloh, Kg. Paya Kecil, 27. xii. 1982 (RUSLINA OMAR) (UKM). NEGERI SEMBILAN: 1, Kuala Pilah, 28. xii. 1980 (Kor Pin Tian) (UKM). 1, Port Dickson, 20. i. 1990 (S. Abin) (UKM). 1, Tampin, Keru, 15. iv. 1980 (Hizir Zulkiflee) (UKM). JOHOR: 1, Endau, 15. i. 1979 (Md Noor) (UKM). MELAKA: 1, Pekan Melaka, 28. i. 1978 (Sharifah Fatimah) (UKM).

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Notes on Staphylinidae from Taiwan, VI.

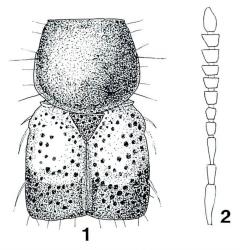
By Yasuhiko Hayashi

Cyrtothorax taiwanensis sp. nov. (Figs. 1-7)

♂: Body stout, without any dorsal microsculpture, strongly shiny with abdomen fairly iridescent; black, elytra deep red in basal three-fifths except for sutural area reddish black, mandibles pitchy, palpi pale yellow, labrum pitchy with margin pale yellow, 1st segment of antennae pale yellow, 2nd to 5th segments brown and 6th to 11th dark brown, margins of pronotum and legs sordid yellow, forelegs and all knees (except forelegs) brownish. Length: 8.1-10.0 mm.

Head transversely suboval (width: length = 5:4), slightly narrower (30:32) and a little shorter than pronotum (23:29), gently convex,

nearly glabrous except lateral sides, moderately coarsely and sparsely punctured except near front margin, the punctures irregular in size and thickness, but very sparse on median area; frons with a large, clear and Y-shaped depression, just behind it a pair of additional depressions small, oblique and Eyes very large, suboval. strongly prominent, postgenae very short, less than one-seventh as long as longitudinal diameter of eye. Antennae (fig. 2) short, reaching a little behind front angles of pronotum and gradually thickened distally from 3rd segment; basal 5 segments polished, those and 11th



Figs. 1, 2. Cyrtothorax taiwanensis sp. nov. 1, pronotum and elytra; 2. ♂ antenna.

more or less longer than wide, 6th nearly as long as wide, 7th to 10th more or less wider than long, 8th to 10th subtrapezoidal, rather asym-

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metrical, 11th slightly shorter than the preceding 2 segments together (9.5:10), each segment with the following relative length: 16.0-8.0-10.0-5.0-4.5-5.0-4.0-4.0-5.0-5.0-9.5.

Pronotum strongly convex, semicircular, slightly wider than long (32:29), a little narrower (32:39) and shorter than elytra (29:35), substraight at front margin, widest at basal third, from where sides are gently arcuate and feebly narrowed in front; all margins distinctly bordered, the border strongly thickened in basal two-thirds; surface glabrous, very minutely and sparsely punctured, but with a little larger and closer punctures on each apical corner, and rather coarse and setiferous punctures placed inside the borders, about 10 in number of the setiferous ones placed on apex, 4 or 5 on each lateral side and 4 on base.

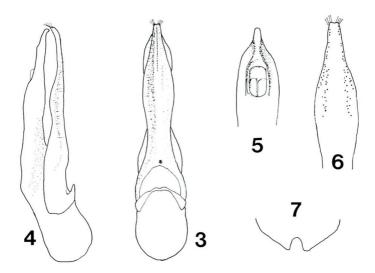
Scutellum even and with about 10 coarse and irregular punctures.

Elytra subquadrate, slightly widened behind, a little wider than long (39:35), substraight at sides, widely rounded at latero-apical angles and shallowly emarginate at apex; surface feebly convex in each basal half (reddish areas) and sutural area, coarsely, sparsely and irregularly punctured, but in apical area even and almost impunctate, the punctures much larger than those on head, more irregular and sparser on the reddish areas than the rest, the sutural convex area with a very fine sulcus on each side.

Abdomen with recumbent black and stiff pubescence, which is irregular in thickness on tergites but regular on sternites, 3rd to 5th tergites distinctly depressed at each base, moderately coarsely and closely punctured on the depression, finely and sparsely so on each lateral side but nearly impunctate on the rest, 6th tergite punctured as on the preceding ones but the punctures much smaller, 7th and 8th tergites rather uniformly, more finely and sparsely punctured than on 6th, apical margins of 3rd to 6th tergites each with several long and black setae as well as on sternites; sternites closely and subuniformly punctured, the punctures becoming smaller behind, those on 3rd to 5th sternites very coarse as on elytra, on 6th and 7th moderately coarse as on head but oblong-oval, and on 8th much smaller and sparser as on 6th tergite; apex of 7th sternite widely and very shallowly emarginate, apex of 8th shallowly and obtusely incised at the middle.

Legs moderately slender, basal 4 segments of protarsi distinctly dilated and sparsely pubescent dorsally, front side of profemur with pubescence short, close and stiff, rather irregular in length and thickness.

Male genitalia (figs. 3-6) symmetrical, elongate-fusiform; penis subparallel-sided in apical half, rapidly convergent to blunt tip from a level



Figs. 3-7. Cyrtothorax taiwanensis sp. nov.

3, σ genitalia, ventral view; 4, ditto, lateral view; 5, ditto, dorsal view of apical portion of penis; 6, ditto, apical part of inner surface of parameres with sensory tubercles; 7, φ apical part of 8th tergite.

of apical orifice, a little more thickened in basal half, feebly constricted laterally at basal fourth, minutely hooked ventrally at tip and carinate dorso-medianly in apical part, the carina bifurcate at apical orifice and surrounding apical and lateral border of the orifice, base widely rounded and subovally membranous on the dorsal side; parameres narrow, blunt at tip, dilated at apical third and then at base again, clearly emarginate laterally between the subapical and basal dilatations, narrowly ridged on apical half of ventral side, shallowly concave beside the ridge, sparsely ciliate along the ridge in apical half, with a few and rather long cilia at both side of apex.

Holotype: \Im , and allotype: \Im , Taitung, Taitung Hsien, 3. IV. 1974, S. Takeda leg. (in coll. T. Shibata). Paratypes: $2 \Im \Im$, $1 \Im \Im$, same locality as the holotype, 9. VII. 1972, Y. Maeda leg., 1. V. 1973 and 19. VI. 1972, Y. Kiyoyama leg.

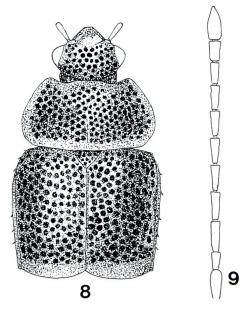
The new species is very similar in general appearance to *C. rufomaculatus* Shibata from Taiwan, but is easily separable from the latter in having the elytra very widely reddish, apical 6 segments of the antennae, knees of the mid and hind legs and foretibiae darkened in color, and the head and pronotum a little longer

in proportion, while in rufomaculatus the elytral reddish maculae are much smaller and gourd-shaped, the antennae and the legs are almost pale yellow, the head and pronotum are more transverse (head 1.4 times as wide as long, and pronotum 1.24 times as wide).

Paratachinus punctatissimus sp. nov. (Figs. 8–15)

 $\$: Body wide and stout, moderately convex and strongly shiny; fore body almost glabrous and without any microsculpture on upper surface; brown, basal 2 and 11th segments of antennae, legs and marginal area of pronotum (wide in sides but narrow on apex and base) light brown alike on apical margins of elytra and of abdominal segments, tarsi and mouth organs (except mandibles) yellowish. Length: 3.5 mm.

Head considerably rower than pronotum (19:35), flattened above but weakly convex near antennal insertions, considerably coarsely. deeply and closely punctured as in a *Nazeris*-species, the punctures a little irregular in size and thickness; clypeus not punctured and distinctly edged at apex except middle, clypeal suture only indicated by a faint bound between frons and clypeus, median line imperceptible. Eves large and strongly prominent, postgenae very short and rapidly convergent to neck. Antennae (fig. 9) very long, filiform and reaching near the middle of elytra, all the segments much longer than wide (10th segment at least 1.7 times as long as wide), slightly thick-



Figs. 8, 9. Paratachinus punctatissimus sp. nov., ♀.

8, fore body; 9, antenna.

ened distally from 2nd segment; basal 2 segments polished, 3rd nearly twice as long as wide, each segment with the following relative length: 8.0-4.5-8.0-7.0-6.5-6.5-6.2-6.0-5.5-5.0-7.4. Mentum convex along middle, sparsely, very coarsely punctured and without microsculpture as on

submentum; gular plate wide, evenly and weakly convex, weakly widened in front and strongly behind from the middle, without punctures and with fine microsculpture consisting of transverse striations.

Pronotum strongly transverse, almost twice as wide as long, nearly as wide as and three-fifths as long as elytra, widest at basal third, lateral sides strongly arcuate and much more narrowed in front than behind from the widest point, front and lateral sides distinctly margined; front margin weakly bisinuate and hind one nearly straight but faintly emarginate in the middle, front angles more widely rounded than hind ones; surface rather regularly and more coarsely punctured than on head but including some small punctures, a shallow pit placed near each side of the middle, space between the pit and lateral side weakly reflexed, median line indicated by a thin line from the middle to base and accompanied with a very fine sulcus, which is abbreviated in front and behind.

Scutellum triangulate, punctures on hind half as coarse as on pronotum.

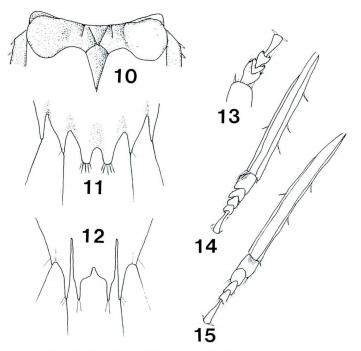
Elytra subquadrate, a little wider than long (9:8), widest point placed before the middle, whence lateral sides a little more narrowed in front than behind, mostly weakly arcuate and with several spinules, apex gently biarcuate, latero-apical angles obtuse, surface more coarsely and densely punctured than on pronotum, but the punctures more regular in size and thickness.

Mesosternum (fig. 10) longitudinally tetracarinate at base, the outer carinae short, divergent behind and ending near middle, the inner carinae longer, convergent behind, crossing each other at base of mesosternal process and continuous to both marginal carinae of the process; interspaces of the carinae (including the process) distinctly depressed.

Abdomen rapidly narrowed behind from base; tergites with microsculpture consisting of fine, sparse and transverse striations, and with pubescence distinct, fine, short and sparse, and punctures not fine but much smaller and shallower than those on elytra, regular in thickness, becoming a little smaller and shallower behind, and those on 7th much finer than on the others, 3rd and 4th tergites each with a pair of median tomentous flecks which are suboval, small and inconspicuous; sternites with microsculpture of fine, weak and irregular striations but vestigial in part except 7th sternite, and with punctures much larger than those on opposite tergites, those on 3rd sternite very coarse as on elytra, nearly oval and shallow, those on 4th to 7th elongate-oval, on 7th very fine as on opposite tergite and vestigial on hind half; 8th tergite (fig. 12) quadrilobed at apex as in *Tachinus bipustulatus* Fabri

cius from Europe, Siberia and Japan, very narrowly and deeply cleft among the outer and inner lobes, median emargination rather wide, deep, U-shaped and acutely notched at the middle of the base, the lobes rather short and slender, the inner lobes thinner, shorter, produced behind a little beyond the outer lobes and with 2 short setae at each tip, the outer lobes bearing a long bristle at each tip, and each lateral margin of 8th tergite with a short protuberance at a level of extreme base of the median emargination, the protuberances each with a long bristle at tip; 8th sternite (fig. 11) hexamerously lobed as in Tachinus masaohayashii Hayashi from Taiwan, but the lobes much shorter, the inner lobes with 5 short setae at each tip, the intermediate and the lateral lobes bearing a long bristle at each tip.

Legs (figs. 13-15) rather thin and short; tarsi short, at most a half length of tibiae, basal 4 segments short, more or less dilated and not pubescent dorsally except margins; protibiae bicarinate along outsides alike in *Tachinus*-species, meso- and metatibiae subquadrate in the



Figs. 10-15. Paratachinus punctatissimus sp. nov., ♀.

^{10,} mesosternum; 11, 8th sternite; 12, 8th tergite; 13, protarsus;

^{14,} mesotibia and tarsus; 15, metatibia and tarsus.

section, at each corner of the section longitudinally carinate in full length; spines of tibiae sparing and placed on the carinae.

Holotype: $\mbox{$\wp$}$, Mt. Yangming, Taipei Hsien, 30. IV. 1982, T. Ito leg. (in coll. T. Shibata).

The new species is easily distinguishable from the other species of the genus *Paratachinus* by very coarse and deep punctures on the head and the pronotum as on the elytra, and structure of 8th tergite as mentioned above.

The genus *Paratachinus* Cameron is able to separate distinctly from the genus *Tachinus* Gravenhorst in having the carinae on the mesosternum, meso- and metatibiae, and the basal 4 segments of all the tarsi which are short and more or less distinctly dilated.

Additional references

- Scheerpeltz, O., 1974: Studien an den Arten der Gattung Cyrtothorax Kraatz. Mit Beschreibung neuer Arten. Sowie einer Dichotomik aller bis heute bekannte gewordenen Arten dieser Gattung (Col. Staph. Staphylininae, Quediini) (14. Beitrag zur Kenntnis der orientalischen Staphyliniden, bleichzeitig 27. Beitrag zur Kenntnis der neotropischen Staphyliniden). Reichenbachia, 15 (21): 175-192.
- Shibata, Y., 1979: New or little-known Staphylinidae (Coleoptera) from Taiwan, I. Ent. Rev. Japan, $33\ (1/2)$: 19-29, 8 figs.

国際動物命名委員会からのお願い (2)

Applications published in the Bulletin of Zoological Nomenclature on March 27, 1990 in Vol. 47, Part 1. Comment or advice on these applications is invited for publication in the Bulletin and should be sent to the Executive Secretary, I. C. Z. N., The Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom.

Case No.

- 2547 Cymatiinae Iredale, 1913 (1854) (Mollusca, Gastropoda) and Cymatiinae Walton in Hutchinson, 1940 (Insecta, Heteroptera): proposal to remove the homonymy, by the reason that it is proposed that the latter be altered to Cymatiainae by changing the stem of the type genus *Cymatia* from Cymati-Cymatia.
- 2700 Carcinochelis FIEBER, 1861 (Heteroptera): proposed designation of Carcinochelis alutaceus Handlirsch, 1897 as the type species.

Opinions published in the Bulletin of Zoological Nomenclature on March 27, 1990 in Vol. 47, Part 1.

Opinion No.

- 1577 Hydrobius Leach, 1815 (Coleoptera): Dytiscus fuscipes Linnaeus, 1758 conserved as the type species, and Berosus Leach, 1817 (Coleoptera): conserved.
- 1578 Vespa triangulum FABRICIUS, 1775 (currently Philanthus triangulum; Hymenoptera): specific name conserved.

Applications published in the Bulletin of Zoological Nomenclature on June 29, 1990 in Vol. 47, Part 2.

Case No.

2687 Longitarsus symphyti Heikertinger, 1912 (Coleoptera): proposed conservation of the specific name.

Opinions published in the Bulletion of Zoological Nomenclature on June $29,\,1990$ in Vol. $47,\,\mathrm{Part}\,\,2.$

Opinion No.

- 1595 Aleuropteryx Löw, 1885 (Neuroptera): Aleuropteryx loewi Klapalak, 1894 designated as the type species.
- 1596 Semblis Fabricius, 1775 (Trichoptera): Phryganea phalaenoides Linnaeus, 1758 conserved as the type species, thus conserving Sialis Latreille, 1802 (Megaloptera).
- 1597 Coryphium angusticolle Stephens, 1834 (Coleoptera): generic and specific names conserved.
- 1598 Ophonus Dejean, 1821 and Tachys Dejean, 1821 (Coleoptera): Carabus sabulicola Panzer, 1796 and Tachys scutellaris Stephens, 1828 designated as the respective type species.
- 1599 Papilio carthami Hübner 1813 and Syrichthus serratulae major Staudinger, 1879 (currently both in Pyrgus; Lepidoptera): the specific names carthami and major conserved.
- 1600 Tachina orbata Wiedemann, 1830 (currently Peribaea orbata; Diptera): neotype designation confirmed.
- 1601 Rapport sur les Myodaires du Docteur Robineau Desvoidy (1826): suppressed for nomenclatural purposes.
- 1602 Tenthredo zonula Klug, 1817 (Hymenoptera): specific name conserved.

A Study on the Genus *Tolidostena* ERMISCH from Taiwan (Coleoptera, Mordellidae)

By Yoshimi Kiyoyama

In this paper the genus *Tolidostena* ERMISCH is divided into two subgenera, *Tolidostena* (s. str.) and *Neotolidostena* subgen. nov. with the key and descriptions for three new species, and *Mordellochroa taiwana* is transferred to the genus *Tolidostena* as the type-species of the subgenus *Neotolidostena* with the supplemental description.

I wish to express my hearty thanks to Mr. Taichi Shibata for his constant guidance in my study. I am also very thankful to Assoc. Prof. M. T. $Ch\hat{0}j\hat{0}$, Kyushu Univ., Mr. H. Arimoto and the members of the Osaka Coleopterological Society for their kind help in literature and materials.

Key to the allied genera and subgenera of Taiwanese Tolidostena

- - α . In β , apical side of the 1st joint of fore tarsi distinctly oblique and inside with a long sharp spine (in *similator* the spine very rudimental and much shorter), fore tibiae longer than the total length of the corresponding basal four tarsal joints, in which the 1st joint distinctly longer than the 2nd and 3rd joints together. Subgenus *Tolidostena* Ermisch
 - β . In δ , apical side of the 1st joint of fore tarsi substraight and unarmed inside, fore tibiae almost as long as the total length of the corresponding basal four tarsal joints, in which the 1st joint distinctly shorter than the 2nd and 3rd joints together......

.....Subgenus Neotolidostena nov. (Type-species: Mordellochroa taiwana Kiyoyama)
Notes: In ♂ two subgenera of the genus Tolidostena are well characterized as shown in the above-mentioned key, but in ♀ there is no difference between them except for the minor characters are indicated by the following two: In Tolidostena (s. str.) the 1st joint of fore tarsi is more than 1.5 times as long as the 2nd, and the anal sternite is smoothly rounded at apex, while in Tolidostena (Neotolidostena) the 1st joint of fore tarsi is less than 1.5 times as long as the 2nd, and the anal

sternite is notched at apex. On the parameres of 3 genitalia there are two types as shown in figs. 1) in correspondence with the distinction between both subgenera, Tolidostena (s. str.) and Tolidostena (Neotolidostena).

The male of the genus *Tolidostena* was easily able to distinguish from the genus *Mordellochroa* in having the 1st joint of fore tarsi as long as the succeeding three joints together and provided inside with a long sharp spine at apical side, though it is more difficult to differentiate both genera, because two present new species (*similator* and *hayashii*) and *taiwana* which have no those two characters were found. Therefore the supplemental characters are presented in the above-mentioned key.

The genus Tolidostena is firstly recorded from Taiwan.

Tolidostena (s. str.) montana sp. nov. (Figs. 1a-f)

♂. Body black, vertex (between eyes), basal area of pronotum and of pygidium, antennae (except yellowish basal three joints) and hind femora dark brown, mouth parts, frons, under surface of head, prosternum and all legs including terminal spurs of hind tibiae light yellowish brown; pubescence fulvous with a yellowish lustre, but those on scutellum and along suture basally more whitish, on elytra and abdomen (except lateral areas of basal three joints) fuscous with a violescent tinge.

Head (fig. 1a) moderately convex above, imperceptibly minutely punctate, occipital margin slightly but distinctly lobed in middle, tempora obsolete, temporal angles widely rounded, eyes finely faceted and pubescent, relatively large, short-oval, but more rounded than those of the other species of the genus, especially at dorsal margin. Antennae (fig. 1b) relatively long and almost 1.6 times as long as the width of head including eyes; 1st and 2nd joints cylindrical, 3rd strongly dilated toward apex, 4th almost 1.5 times as long as wide and longer than 3rd (1.6:1.3), but shorter than 5th (1.6:1.8), 5th nearly 1.5 times as long as wide and slightly shorter than 6th (1.8:1.9), from which to 10th equal-sized to each other, each almost 1.7 times as long as wide, last joint almost 2.3 times as long as wide and much longer than 4th (2.8:1.6), with apex feebly rounded. Terminal joint of maxillary palpi (fig. 1c) boat-shaped, the thickest point placed near the middle.

Pronotum a little wider than long (1.07: 1.0), basal side with median lobe widely and straightly truncate at apex, lateral sides straight in lateral view, apical and basal angles obtuse and rounded off, disc very finely and somewhat sparsely granulate-punctate (pubescence arising usually from every punctures). Scutellum triangular and round-

¹⁾ NAKANE; 1957, Ent. Rev. Japan, 8 (2), pl. 8, figs. 5-7. Kiyoyama; 1987, ditto, 42 (Suppl.): 36, fig. 2g, and this issue, pp. 55, 57 & 60, figs. 1f, 2i & 3g.

ed at apex. Elytra nearly 2.6 times as long as wide behind shoulders, from which very gently narrowed to separately rounded apex; surface a little more densely and distinctly granulate-punctate than on pronotum. Pygidium missing apically.

Fore trochanters and basal third of inner side of fore femora each without any bristles as usual; fore tibiae somewhat slender, slightly curved downward and longer than the succeeding basal four tarsal joints together (10:7.6); fore tarsi (fig. 1d) with 1st joint inside without a series of thin bristles and distinctly oblique at apical side, where provided inside with a long sharp spine, the spine curved and slightly longer than 2nd, also 2nd without thin bristles along inner side and almost 1.6 times as long as wide and one-fourth length of 1st, 3rd and 4th equal in length to each other, a little longer than 2nd (1.3:1.0) and straightly truncate and simple at apical side. Lateral ridges of hind legs (fig. 1e) moderately oblique, 2:2,1,0; tibial ridges situated in apical third, in which the apical ridge short and occupying one-third of the tibial width, the 2nd hardly arcuate, reaching near the median axis. Inner terminal spur of hind tibiae almost 3 times as long as outer

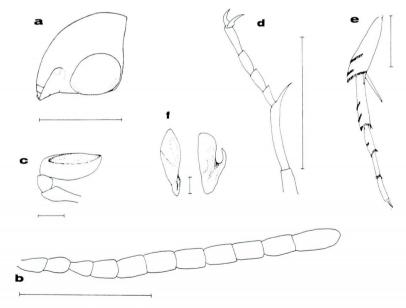


Fig. 1. Tolidostena (s. str.) montana sp. nov.

a, head, \varnothing ; b, left antenna, \varnothing ; c, left maxillary palpus, \varnothing ; d, left fore tarsus, \varnothing ; e, right hind leg, \varnothing ; f, parameres of genitalia, \varnothing . (scale: a, b, d, e=0.5 mm.; c, f=0.1 mm.).

spur and extending basal three-fifths of 1st joint of hind tarsi.

Parameres of genitalia (fig. 1f) quite similar in shape and structure to those of *T. japonica* or *T. similator* sp. nov.

♀. Unknown.

Body length: 3.1 mm.

Holotype: ♂, Sungkang, Nantou Hsien, 7. V. 1973, Y. KIYOYAMA leg. (in coll. of T. Shibata).

The new species is easily distinguishable from the hitherto known species of the subgenus by the quite dissimilar colouration, viz. in the new species the vertex, pronotum, metathorax and hind coxae are black to dark brown instead of being light yellowish brown. Concerning the pattern of colouration the new species recalls *T. hayashii* sp. nov. mentioned below, but both the species are different in the subgeneric characters.

Tolidostena (s. str.) atripennis Nakane, 1956

Tolidostena atripennis NAKANE, 1956, Bull. Osaka Mun. Mus. Nat. Hist., (9): 8-9, figs.; NOMURA, 1966, Ent. Rev. Japan, 18 (2): 52.

Mordellochroa (Tolidostena) atripennis: NAKANE, 1957, Shin-konchu, 10 (5): 54 & 10 (9): 50.

The Taiwanese specimens well agree with the original description of *T. atri*pennis, but in Taiwanese ones each elytron is basally with an ill-defined yellowish brown spot, lateral sides of pronotum are imperceptibly and arcuately emarginate in lateral view.

Specimens examined: 1 \Im , Roshan, 5. V. 1971, Y. Hayashi leg.; 1 \Im , 3 \Im \Im \Im Nanshanchi, Nantou Hsien, 2-6 & 14. V. 1971 and 11. IV. 1973, Y. Hayashi and S. Takeda leg.

Distribution: Taiwan; Japan (Tokara Is. and Okinawa Is.).

Tolidostena (s. str.) similator sp. nov. (Figs. 2a-i)

3. Body light yellowish brown, elytra and basal four sternites of abdomen, setae and ridges of hind legs black, antennae (except basal three joints) and anal sternite dark brown; pubescence fulvous with a yellowish lustre, but those on black-coloured areas fuscous.

Head (fig. 2a) moderately convex above, very finely punctate, occipital margin distinctly and arcuately lobed in middle, tempora very narrow, their angles rounded off, eyes short-oval, very weakly emarginate at dorso-apical margin, finely faceted and pubescent. Antennae (fig. 2b) moderate in length, nearly 1.4 times as long as the width of head including eyes, rather loosely articulated to each other; 1st and 2nd joints oblong and cylindrical, 3rd being the smallest in size and obconical, 4th nearly 1.6 times as long as wide and slightly longer than 5th (1.5: 1.4), from 5th to 10th equal-sized, each almost 1.4 times as

long as wide, last joint elongate-oval, almost 2.2 times as long as wide and distinctly longer than 4th (2.2:1.5). Terminal joint of maxillary pal-

pi (fig. 2d) boat-shaped and strongly expanded in thickness near outer side.

Pronotum slightly wider than long (1.04: 1.0), median lobe of basal side regularly arcuate throughout, lateral sides straight when viewed from side, apical and basal angles obtuse and widely rounded, disc very finely and somewhat sparsely granulatepunctate, the punctures not forming a file-like sculpture. Scutellum triangular and rounded at apex. Elytra nearly 2.5 times as long wide behind shoulders. subparallel-sided and separately rounded at apex; surface finely granulate-punctate on pronotum, but the punctures slightly denser and distincter. Pygidium thinly slender and straight in lateral view (apical part missing, but the remainder a little

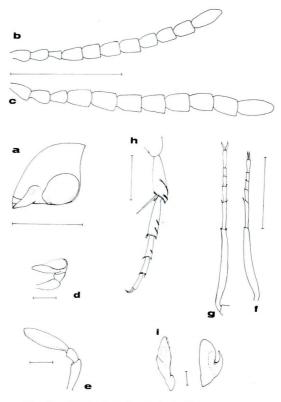


Fig. 2. Tolidostena (s. str.) similator sp. nov. a, head, \eth ; b, left antenna, \eth ; c, left antenna, \updownarrow ; d, right maxillary palpus, \eth ; e, right maxillary palpus, \diamondsuit ; f, right fore tibia and tarsus, \eth ; g, left fore tibia and tarsus, \diamondsuit ; h, left hind leg, \eth ; i, parameres of genitalia, \eth . (scale: a, b, f, h=0.5 mm.; d, e, i=0.1 mm.).

more than 5 times as long as anal sternite).

Fore trochanters and basal third of inner side of fore femora each without any bristles; fore tibiae (fig. 2f) rather slender, much less in robustness than those of T. japonica, and distinctly longer than the corresponding basal four tarsal joints together (8.1:6.4); fore tarsi (fig. 2f) of slender joints, 1st and 2nd joints inside each without a series of thin bristles, 1st distinctly oblique at apical side, its inner corner

strongly and acutely produced forward, so seemingly as a short spine, 1st being the longest and almost 2.1 times as long as 2nd, which being a little longer than 3rd or 4th (1.4:1.0), 4th straightly truncate and simple at apical side. Lateral ridges of hind legs (fig. 2h) moderately oblique, 2:2, 1, 0; 2nd ridge of tibiae somewhat strongly oblique, longer than apical one and extending near the median axis in a gentle arch, both the ridges situated in apical half. Inner terminal spur of hind tibiae almost 5 times as long as outer spur.

Parameres of genitalia (fig. 2i) similar in shape and structure to those of *T. atripennis*.

 \circ . Median part of 1st abdominal sternite and anal sternite light yellowish brown instead of being black or dark brown as in \circ . Antennae (fig. 2c) longer, wider and more serrate, and almost 1.6 times as long as the width of head including eyes, 4th joint subequal in length to 5th, while in \circ it is longer than 5th. Terminal joint of maxillary palpi (fig. 2e) elongate-fusiform. First joint of fore tarsi (fig. 2g) almost 1.9 times as long as 2nd, with apical side somewhat oblique and unarmed on its inner corner.

Body length: 2.6 mm. (3), 3.1 mm. (φ) (excl. head and pygidium). Holotype: 3, Nanshanchi, Nantou Hsien, V. 1980, Luo Jinji leg. (in coll. of T. Shibata). Paratype: 1 φ , Fenchifu, Chiai Hsien, 31. V. 1970, Y. Kiyoyama leg.

Specimen examined: 1 3, same data as paratype.

The new species is very closely related to T. (s. str.) atripennis Nakane from Japan in colour and shape, but can be distinguished from the latter by the followings: In $\mathscr T$ a spine of the 1st joint of fore tarsi is rudimental and much shorter, the 2nd joint of fore tarsi is longer than the 3rd, while in $\mathscr T$ of T. atripennis the 2nd joint is distinctly shorter than the 3rd; in both sexes the eyes are weakly emarginate at the dorso-apical margin, the inner terminal spur of hind tibiae is almost 5 times as long as the outer spur, but in T. atripennis the eyes are entire, and the inner terminal spur is almost 3 times as long as the outer one.

As regards the characters of 1st joint of fore tarsi in \eth , the new species is admitted to either of two subgenera, Tolidostena (s. str.) and Tolidostena (Neotolidostena), however, judging from the parameres of \eth genitalia, it is undoubtedly recognizable as a member of the subgenus Tolidostena (s. str.).

Tolidostena (Neotolidostena) taiwana (Kiyoyama, 1987), comb. nov.

Mordellochroa taiwana Kiyoyama, 1987, Ent. Rev. Japan, 42 (Suppl.): 34-36, fig. 2a-g.

In \eth fore tibiae subequal in length to the succeeding basal four tarsal joints together, in which 1st joint a little shorter than twice as long as 2nd, 3rd equal-sized to 2nd, but a little longer than 4th (1.1:0.8); in φ 1st joint of fore tarsi one-third longer than 2nd, from which gradually diminishing in length to 4th, the total length of four joints shorter than fore tibiae (10:7.1)

Specimens examined: Holotype and paratypes.

Distribution: Taiwan.

Tolidostena (Neotolidostena) hayashii sp. nov. (Figs. 3a-h)

&. Body dark brown, hind coxae, middle and hind femora somewhat lighter, clypeus, mouth parts, basal two joints of antennae, mesothorax, pygidium, anal sternite and legs inclusive of hind tibial spurs light yellowish brown; pubescence fuscous with a violescent tinge, but those on head, metathorax, hind coxae, pygidium, anal sternite and legs with a yellowish lustre, sometimes on apical and lateral areas of pronotum also with a yellowish one. Dorsal and ventral surfaces very similar in sculpture to those of *T. taiwana*.

Head (fig. 3a) a little more convex above than in *T. taiwana*, occipital margin slightly and arcuately protrudent backward in middle, but the protrusion less than that of *T. taiwana*, tempora imperceptibly visible, temporal angles widely rounded, eyes short-oval, entire in front, finely faceted and pubescent. Antennae (fig. 3b) rather short, nearly 1.3 times as long as the width of head including eyes; 3rd joint strongly divergent apically on sides and slightly shorter than 4th, from which to 10th somewhat closely articulated to each other, 4th slightly shorter and narrower than 5th, which being the widest, nearly 1.2 times as long as wide and subequal in length to 6th or 7th, 8th to 10th equal-sized, each almost 1.5 times as long as wide and slightly longer than 5th (1.5: 1.6), last joint elongate-oval and much longer than 4th (2.6: 1.4). Terminal joint of maxillary palpi (fig. 3d) hammer-shaped and evenly thickened.

Pronotum a little wider than long (1.1:1.0), basal side with median lobe evenly arcuate throughout, lateral sides straight in lateral view, apical and basal angles obtuse and widely rounded. Scutellum triangular, rounded at apex. Elytra nearly 2.5 times as long as wide and subparallel-sided, each elytron rounded at apex. Pygidium very long and thin, nearly 6.5 times as long as anal sternite.

Fore legs without any bristles on trochanters and on basal third of inner side of femora, fore tibiae (fig. 3f) not robust and subequal in length to the corresponding basal four tarsal joints together (8.0 : 7.8), fore tarsal joints (fig. 3f) thinly slender and parallel at sides, in which 1st and 2nd joints inside each without a series of thin bristles, 1st substraight at apical side, almost 5 times as long as wide and distinctly shorter than the succeeding two joints together (3.0 : 3.5), 2nd two-thirds as long as 1st and a little longer than 3rd (2.0 : 1.5), 4th being the shortest and straightly truncate and simple at apex. Lateral ridges

of hind legs (fig. 3h) quite alike in number and situation to those of T. taiwana, 3:2, 1, 0. Inner terminal spur of hind tibiae as long as 3 times the length of outer one and reaching apical fourth of 1st joint of hind tarsi.

Parameres of genitalia (fig. 3g) very similar in shape to those of *T. taiwana*, but right paramere with the ventral branch almost on a level with apex of dorsal branch.

 $\,^\circ$. Body a little smaller, pronotum, metathorax, hind coxae, middle and hind femora lighter or more yellowish (my examined specimen may be immature). Antennae (fig. 3c) a little longer, wider and more serrate, nearly 1.4 times as long as the width of head including eyes; each joint of 4th to 6th almost as long as wide, but from 7th to 10th a little longer than wide (1.7:1.4) and slightly narrower and longer than 6th, while in $\,^\circ$ 4th to 10th each distinctly longer than wide. Terminal joint of maxillary palpi (fig. 3e) elongate-fusiform, with gently arched outer side. Elytra almost 2.3 times as long as wide. Pygidium bent

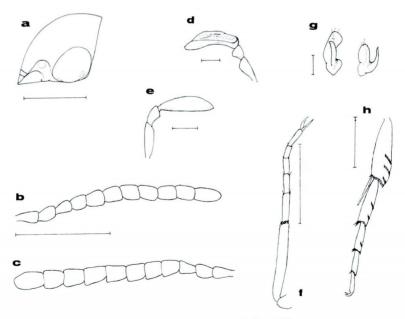


Fig. 3. Tolidostena (Neotolidostena) hayashii sp. nov. a, head, \mathcal{S} ; b, left antenna, \mathcal{S} ; c, right antenna, \mathcal{S} ; d, right maxillary palpus, \mathcal{S} ; e, left maxillary palpus, \mathcal{S} ; f, left fore tibia and tarsus, \mathcal{S} ; g, parameres of genitalia, \mathcal{S} ; h, left hind leg, \mathcal{S} . (scale: a, b, f, h= 0.5 mm.; d, e, g=0.1 mm.).

down a little in lateral view and nearly 5 times the length of anal sternite, which notched at apex as in T. taiwana. Fore tibiae distinctly longer than basal four joints of fore tarsi together (8.0:6.8).

Body length: 3.0 mm. (\eth), 2.6 mm. (\updownarrow) (excl. head and pygidium). Holotype: \eth , Roshan, Nantou Hsien, 5. V. 1971, Y. Hayashi leg. (in coll. of T. Shibata). Paratypes: 1 \eth , Nanshanchi, Nantou Hsien, V. 1980, Luo Jinji leg.; 1 \updownarrow , Funchifu, Chiai Hsien, 2. V. 1970, Y. Kiyoyama leg.

The present species is closely allied to $T.\ taiwana\ (Kiyoyama)$ from Taiwan, but differs from the latter by the followings: The body is wholly dark brown, while in $T.\ taiwana$ the head, pronotum and venter (except abdomen) are yellowish brown. In β each antennal joint is different in proportion, especially the 6th to 10th joints are oblong and almost 1.4-1.5 times as long as wide, the ventral branch of right paramere of the genitalia is long and almost on a level with the apex of dorsal branch, while in β of $T.\ taiwana$ the 5th to 10th joints of antennae are subquadrate and slightly longer than wide (1.2-1.3: 1.0), the ventral branch of right paramere is much shorter and never reaching the level of apex of dorsal branch. In β the body is smaller, the antennae are a little shorter, viz., they are nearly 1.4 times as long as the width of head including eyes, and less in serration from the 4th to 10th joints, in which the 4th to 10th, but in β of $T.\ taiwana$ the antennae are almost 1.6 times as long as the width of head including eyes, the 4th to 10th are longer than wide (1.2-1.3: 1.0), and the last joint is at least 1.7 times as long as the 10th.

国際動物命名委員会からのお願い (3)

Applications published in the Bulletin of Zcological Nomenclature on September 28, 1990 in Vol. 47, Part 3. Comment or advice on these applications is invited for publication in the Bulletin and should be sent to the Executive Secretary, I. C. Z. N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD United Kingdom. Case No.

- 2712 Calliphora vicina Robineau-Desvoidy, 1830 (Diptera): proposed conservation of the specific name, which is threatened by Musca carnivora Fabricius, 1794, a senior synonym, but unused since its proposal.
- 2720 Dalla Mabille, 1904 (Lepidoptera): proposed conservation, by suppression of the seldom used senior subjunctive synonym Eumesia Felder & Felder, [1867].

Opinions published in the Bulletin of Zoological Nomenclature on September 28, $1990\,$ in Vol. 47, Part 3.

Opinion No.

- 1616 Ptochus Schönherr, 1826 (Coleoptera): Ptochus porcellus Boheman in Schönherr, 1834 confirmed as the type species.
- 1617 Rosema Walker, 1855 (Lepidoptera): given precedence over Zelica Hübner, 1825 and Rhogalia Hübner, 1825.
- 1618 Protocalliphora Hough, 1899 (Diptera) and its type species Musca azurea Fallén, 1817: usage conserved by the designation of a replacement lectotype.
- 1619 Euribia jaceana Hering, 1935 (currently Urophora jaceana; Diptera): specific name given precedence over Euribia conyzae Hering, 1933.

Studies on the Tenebrionidae of Shibata Collection Mainly from S. E. Asia, III. (Coleoptera)

On the genus Tetraphyllus Laporte de Castelnau et Brullé (I)

By Kiyoshi Ando

Abstract Eleven new tenebrionid species and one subspecies are described from Borneo, the Malay Peninsula, Thailand and Java. The genus Addia Lewis is herein newly regarded as a synonym of the genus Tetraphyllus Laporte de Castelnau et Brullé.

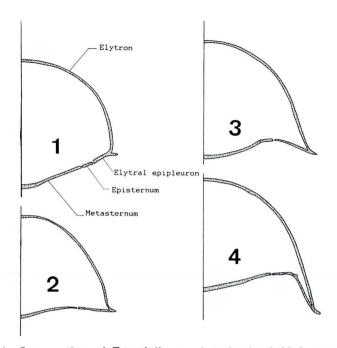
In Gebien's catalogue, the genus *Addia* is included in the tribe Diaperini, but I have doubted the treatment of its taxonomic position. Judging from the structures of head and prosternum, the genus *Addia* should not be a member of the tribe Diaperini but of the tribe Cnodalonini.

Through the courtesy of Mr. K. Masumoto, I knew the opinion of the late Dr. Z. Kaszab, the genus Addia is synonymous with the genus Tetraphyllus Castelnau et Brullé. Recently, I have had the opportunity to examine great many materials of two genera, and I have been able to confirm that two genera could not be clearly divided because it was found out by my careful observation that the existence of a few intermediate species between them.

According to Kaszab (1944), the genus *Tetraphyllus* is divided into two groups by the characteristic of elytral epipleuron, but I will try to divide the genus *Tetraphyllus* into four groups in the undermentioned key.

- 1. The elytral epipleuron nearly flat or very slightly convex excluding ventral side of humeral portion; the middle or hind femora usually produced beyond lateral margins of elytra.....(3)
- The elytral epipleuron deeply excavate or strongly depressed; every femur not yet produced beyond lateral margins of pronotum and of elytra.....(2)
- 2. The elytral epipleuron entirely and deeply excavate......laevicollis group
- 3. The body various in shape but mostly oblong-oval, never forming coccinellid-form, its lateral margins distinctly constricted between bases of pronotum and of elytra; the head strongly produced forwards; the elytral epipleuron with surface opposite to metasternum weakly convex, gradually ascendant inward; every femur constantly produced beyond lateral margins of pronotum and of elytra (in the case

[[]Ent. Rev. Japan, Vol. XLVI, No. 1, pp. 63-85, pls. 6-7, June, 1991]



Figs. 1-4. Cross sections of *Tetraphyllus* spp. (cut showing behind mesosternum). 1, *T. scatebrae* (Lewis); 2, *T. marginicollis marginicollis* (Fairmaire); 3, *T. foveolatus* Kaszab: 4, *T. laevicollis* (Fairmaire).

The body oval to coccinellid-form, the lateral margins not or very slightly constricted between bases of pronotum and of elytra; the head not strongly produced; the elytral epipleuron with surface opposite to metasternum completely flat or slightly depressed, the depression becomes slightly deep inward; the middle femora not produced beyond lateral margins of elytra......marginicollis group

Abbreviations used for the type depository are as follows: SC=Collections of Mr. T. Shibata, Osaka; NSMT=National Science Museum (Nat. Hist.), Tokyo; MC=Collections of Mr. K. Masumoto, Yokohama; OMNH=The Osaka Museum of Natural History, Osaka.

Tetraphyllus Laporte de Castelnau et Brullé, 1831

CASTELN. et Brll., 1831, Ann. Sc. Nat., 23: 404 [80] (Type of genus: latreillei CASTELN. et Brll., 1831).

= Addia Lewis, 1894, Ann. Mag., (6) 13: 465 (Type of genus: A. scatebrae Lewis, 1894). syn. nov.

I. scatebrae (Addia) group

Tetraphyllus scatebrae (Lewis, 1894), comb. nov. (Pl. 6, fig. 1 & Pl. 7, fig. 18)

Addia scatebrae Lewis, 1894, Ann. Mag., (6) 13: 466 (Type locality: Japan, Mivanoshita).

Specimens examined: [Japan] 1 ex., Mt. Goma, Kii, 5. VIII. 1957, T. Shibata leg.; 1 ex., Mt. Kooya, Kii, 8. VII. 1956, T. Shibata leg.; 1 $\,$ $\,$ $\,$ $\,$ Ebino, Satsuma, 23. VII. 1963, M. Yasui leg.; 1 ex., Mt. Kojindake, Nara Pref., 20-23. VI. 1972, T. Nakakita leg.; 1 ex., Mt. Tsurugi, Tokushima, 15. VIII. 1970, collector unknown; 1 $\,$ $\,$ $\,$ $\,$ Hirogawara, Kyoto, 9. X. 1982, M. Hirano leg.; 1 ex., Iwawaki, Osaka, 11. VI. 1961, Y. Kimura leg.; 1 $\,$ $\,$ $\,$ $\,$ $\,$ ditto, 26. V. 1985, N. Ito leg.

Tetraphyllus latior (NAKANE, 1963), comb. nov. (Pl. 6, fig. 2 & Pl. 7, fig. 19)

Addia latior NAKANE, 1963, Fragm. Coleopt., Pars 7: 27 (Type localities: Japan, Hatuno & Shinmura).

Tetraphyllus amamiensis Kaszab, 1964, Ent. Rev. Japan, 17 (1): 2 (Type locality: Japan, Amami, Hatsuno).

Specimens examined: [Japan] 1 ex., Shimmura, Amami Is., 23. VI. 1961, T. Shibata leg.; 1 ex., Ikari, Amami Is., 4. VII. 1961, T. Shibata leg.; 1 ex., Yamatoson, Amami Is., 22. VII. 1962, H. Yokoyama leg.; 1 ex., Ikari, Amami Is., 27. III. 1967, H. Nomura leg.; 1 ex., Hatsuno, Amami Is., 2. IV. 1965, H. Nomura leg.; 1 ex., Naze, Amami Is., 3. IV. 1963, H. Nomura leg.; 1 ex., Chúò-Rindò, Amami Is., 5. VII. 1987, M. Hirano leg.; 1 ex., Yona, Okinawa Is., 6. VIII. 1964, M. Yasui leg.; 1 ex., Mt. Yonaha, Okinawa Is., T. Hatayama leg.

Tetraphyllus nakanei (MASUMOTO, 1982), comb. nov. (Pl. 6, fig. 3 & Pl. 7, fig. 20)

Addia nakanei Masumoto, 1982, Elytra, 10 (1): 22 (Type locality: Formosa, Chiayi Hsien, Fenchihu).

Specimens examined: [Taiwan] 6 exs., Liukuei, 19. III. 1970, T. Kobayashi leg.; 1 ex., ditto, 21. VI. 1972, Y. Kiyoyama leg.; 1 ex., Nanshanchi, 8-9. V. 1978, K. Ando leg.; 1 ex., ditto, 3. IV. 1971, K. Matsuda leg.; 1 ex., ditto, 28. III. 1970, T. Kobayashi leg.; 11 exs., Tapan, 24. VII. 1984, F. Kimura leg.; 1 ex., ditto, 19. VII. 1984, F. Kimura leg.; 1 ex., ditto, 19. VII. 1984, F. Kimura leg.; 1 ex., ditto, 17. V. 1974, S. Takeda leg.; 1 ex., Funchiifo, 20. VII. 1970, T. Kobayashi leg.; 1 ex., Fenchifu, 26. IV. 1983, H. Miyata leg.; 1 ex., Kenting Park, 18. III. 1970, T. Kobayashi leg.; 2 exs., Mt. Sen-pei, nr. Liu Kuei, S-Taiwan, 31. V. 1989, K. Baba leg.; 1 ex., Mt. Nan Feng, nr. Liu Kuei, S-Taiwan, 6. III. 1989, K. Baba leg.; 1 ex., Mt. Fa Kou Shan, nr. Liu Kuei, S-Taiwan, 6. IX. 1986, K. Baba leg.; 1 ex., Meishan-Tinchi, Kao Hsiung Hsien, S-Taiwan, 29. VI. 1986, K. Baba leg.

Tetraphyllus tsaii (Маѕимото, 1986), comb. nov. (Pl. 6, fig. 4 & Pl. 7, fig. 21)

Addia tsaii Masumoтo, 1986, Elytra, 14 (2): 66 (Type localities: Taiwan, Taitung Hsien, Kuinashan & Malibulu).

Specimens examined: [Taiwan] 20 exs., Mailiru, 6. V. 1983, N. Ito leg.

Tetraphyllus shibatai (NAKAKITA, 1987), comb. nov. (Pl. 6, fig. 5 & Pl. 7, fig. 22)

Addia shibatai Nakakita, 1987, Ent. Rev. Japan, 42 (Suppl.): 61 (Type localities: Taiwan, Nantou Hsien, Mt. Houhuan & Mt. Yushan).

Specimens examined: [Taiwan] 1 \eth , Mt. Houhuan, Nantou Hsien, 4. V. 1982, T. Ito leg. (Holotype); 1 \eth , Mt. Yushan, Nantou Hsien, 8. VI. 1980, K. Kuzugamı leg. (Paratype).

Tetraphyllus monticolus (Nakakita, 1987), comb. nov. (Pl. 6, fig. 6 & Pl. 7, fig. 23)

Addia monticola NAKAKITA, 1987, Ent. Rev. Japan, 42 (Suppl.): 63 (Type localities: Taiwan, Nantou Hsien, Sungkang & Meifung).

Specimens examined: [Taiwan] 1 \eth , Sungkang, Nantou Hsien, 2. VII. 1971, T. MAEDA leg. (Holotype); 1 \wp , Meifung, Nantou Hsien, 4. V. 1971, Y. HAYASHI leg. (Paratype).

Tetraphyllus brunneipes Kaszab, 1941 (Pl. 6, fig. 7 & Pl. 7, fig. 24)

Specimens examined: [Taiwan] 1 \$\sigma\$, Wulai, 5. VIII. 1973, K. Masumoto leg.; 2 \$\sigma\$\sigma\$, Wushe, 21 & 22. IV. 1983, F. Kimura leg.; 1 \$\sigma\$, 1 \$\sigma\$, Lienhwachi, 17. IV. 1973, Y. Kiyoyama leg.; 1 ex., Howang Hsi, 5. IV. 1981, Y. Yamamoto leg.; 1 ex., Funchiifo, 27. VIII. 1970, A. Rin leg.; 1 ex., Liukuei, 12. VIII. 1972, Y. Maeda leg.; 1 ex., Mt. Lishan, 26. VIII. 1984, F. Kimura leg.; 1 ex., Shanping, 31. VII. 1984, F. Kimura leg.

Tetraphyllus ohkuboi sp. nov. (Pl. 6, fig. 8 & Pl. 7, fig. 25)

Oval, rather weakly convex; dark reddish brown, shiny-viridescent above, several funiculi of antennae reddish brown, head and pronotum with a vague violet tinge, elytral suture blue to violet, each elytron with a humeral patch and an apical one purple, obscure, various in size and ill-defined.

Head subtrapezoidal, scarcely oblique in natural condition, moderately produced forwards; clypeus distinctly convex, slightly arcuate at apex,

sparsely and moderately punctate, clypeal suture invisible; genae ascendant apically and arcuate at lateral margins, more sparsely and minutely punctate than on clypeus; frons slightly convex, with punctures similar to those on genae, interocular space nearly 1.5 times equal in width to clypeal median length (28:20); eyes large and convex, ocular sulci distinct along inner sides of eyes; antennae (Pl. 7, fig. 25) slender, passing enough beyond base of pronotum, 1st segment very robust, 1.5 times as wide as 2nd, 3rd fairly lengthened and twice as long as 2nd, 4th and 5th rather moniliform, equal in length to each other, 6th slightly dilated towards apex and a little longer than 5th, 7th to 10th forming a loosely articulate club and strongly dilated to each apex, 11th oblong; terminal segment of maxillary palpi securiform, strongly dilated apicad; mentum semicircular except for apex weakly notched, moderately convex, deeply sulcate along base and basal half of each lateral margin; gula coarsened, strongly and transversely rugose.

Pronotum transverse (6.7:3.0), weakly convex in middle and sloping gradually laterad, sparsely and minutely punctate, the punctures similar to those on frons; apical margin moderately emarginate and distinctly bordered, the emargination weak in median third, where the border is interrupted; base slightly bisinuous on each side; apical angles rounded, not strongly projected apically; basal angles rectangular, but obtuse at the tips; lateral margins slightly arcuate, strongly bordered, and deeply channeled along inner sides of the borders.

Elytra oval, widest just behind the middle and not strongly convex as usual in the genus, with rows of punctures, the punctures moderate in arrangement and size (except for 1st and 5th rows rather dense), becoming minuter towards apex and much minuter laterally, 9th row touching lateral margin; intervals among rows flat, minutely punctate, 9th interval slightly convex, slanting subvertically and nearly as wide as 8th, but scarcely visible from above; epipleuron strongly excavate at ventral side of humeral portion, very slightly depressed and gradually ascendant inward in the remaining surface.

Prosternum a little convex along middle and bisulcate between procoxae, prosternal process descendant near apex and rounded at its tip; mesosternal V-shaped ridge sharpened basally; metasternum almost smooth except for each side of median line irregularly coarsened by the concentric and minute punctures; abdominal segments flattened in middle (in the female convex along middle), moderately and minutely punctate, longitudinally and weakly rugose on three basal segments, 1st segment shortened, distinctly bordered at base. Male genitalia as fig. 8 (Pl. 6).

Legs long and simple; femora distinctly projecting beyond lateral

margins of pronotum and of elytra, therefore all femora clearly visible from above; tibiae dilated towards apices and slightly incurved, neither carinate nor edged and only feebly depressed along outer sides, each tibia with sparse pubescence inside in apical fourth; tarsi slender, moderately pubescent ventrally, hind tarsi nearly as long as middle tibiae, relative length of each segment as follows:—25:8:7:29.

Length: 6.2-8.5 mm.; width: 4.0-5.5 mm.

Holotype: \eth , Head-Quarters, N. Borneo, 31. VII. 1977, K. Ohkubo leg. (in SC). Paratype: 1 \wp , same locality and collector as holotype, 28. VII. 1977 (SC).

The new species resembles *Tetraphyllus szekessyi* Kaszab, but is easily distinguished from the latter by the tibiae simple, ecarinate or unedged anywhere, and the frons rather wider, 1.5 times width of clypeal median length instead of narrow in the latter.

Tetraphyllus amabilis sp. nov. (Pl. 7, fig. 26)

\$\(\). Small, oblong-oval; dark reddish brown, head dark green, antennae reddish brown, pronotum purple with somewhat greenish tinge in apical half, elytra lustrous with two purple stripes and a pair of green humeral and of apico-lateral patches, sutural intervals dark greenish-blue from base to near apex, lateral margins of elytra blackish; the purple stripe of each elytron very wide and arcuate laterad in middle, situated between 3rd and 8th intervals (when measured behind the humeral patch), then gently narrowed backwards, and occupying only sutural interval at apex, the stripe obscurely bordered by golden tinge; the humeral patch transversely quadrate, lying behind base between 4th interval and lateral margin, the apico-lateral patch narrow and oblong, placed from 7th to 9th intervals in apical third.

Head semicircular, strongly produced forwards; clypeus slightly convex, sloping gradually apicad, slightly arcuate at apex, distinctly and not densely punctate, clypeal suture indistinct, scarcely traceable laterad; genae a little produced laterally before base, from where sides are sublinearly attenuate towards apex; frons rather strongly transverse and convex, sparsely punctate, the punctures becoming minuter posteriad, space between eyes much wider than clypeal length (24:14), deeply sulcate along inner sides of eyes; antennae (Pl. 7, fig. 26) robust, not reaching base of pronotum, five distal segments forming a loose but distinct club and strongly dilated towards each apex, 11th oval, thickest behind middle, then linearly narrowed distally and subtruncate at apex, relative length of 2nd to 11th segments as follows:—3.0:4.5:2.5:3.0:3.0:3.5:3.7:4.0:4.2:8.0; mentum subhexagonal, costate at apex and along middle.

Pronotum transversely quadrate; apical margin not strongly emarginate, more than 1.5 times width of basal one, very narrowly bordered, the border widely interrupted in median half; apical angles obtusely rounded, whose corners are very narrowly bordered; lateral margins moderately rounded, somewhat sinuous just before obtuse basal angles, very thickly and not widely bordered; disc moderately convex and not steeply inclined towards sides, sparsely, obscurely and minutely punctate, the punctures vestigial on lateral portions.

Elytra oblong, weakly convex and finely punctato-striate, the strial punctures minute and moderate, somewhat irregular in arrangement, becoming larger laterad and minuter posteriad, 9th stria reaching lateral margin behind base; intervals slightly convex and almost smooth, microscopically punctate, 9th interval wider than 8th near base; epipleuron opposite to metasternum nearly flat and gradually ascendant inward.

Prosternum longitudinally costate throughout medially, and strongly widened posteriorly, the costa with surface uneven in height and distinctly bordered on each side; basal innerside of mesosternal V-shaped ridge rather widely and shallowly concave; metasternum smooth, transversely convex; abdominal segments distinctly convex medially, not abbreviate, scarcely punctate and rugulose, 1st segment strongly bordered at base, anal segment transversely depressed along base.

Legs short, only hind femora a little produced laterally beyond lateral margins of elytra, so clearly visible from above; tibiae slightly incurved, and not carinate anywhere, almost flattened on space between upper and under margins of outer sides; tarsi compact, claw-segment shorter than the preceding segments together, though that of hind tarsi a little shorter than 1st, relative length of hind tarsal segments as follows:— 11:3:2.5:9.

Length: 4.4 mm.; width: 2.2 mm.

The new species is closely allied to T.minimus (PIC), but can be distinguished from the latter in having the epipleura of elytra not concave except ventral sides of humeral portions, and the outer sides of tibiae not carinate.

Tetraphyllus abnormis sp. nov. (Pl. 6, fig. 9 & Pl. 7, fig. 27)

Oblong-oval, rather weakly convex, slightly widened behind; dorsal surface lustrous, head and pronotum dark blue, elytra green, somewhat darkened near scutellum and sutural intervals, lateral margins of pronotum and of elytra, antennae, legs and ventral surface reddish brown.

Head semicircular, strongly produced anteriorly in front half; clypeus moderately convex, sloping towards apex, gently arcuate at apex, densely and coarsely punctate, clypeal suture indistinct; genae flattened, sublinearly narrowed forwards at sides from just before eyes; frons weakly convex, a little more sparsely punctate than on clypeus, space between eyes nearly 1.5 times equal in width to clypeal length (2.3:1.6), a deep sulcus along inner side of each eye; eyes moderate-sized and convex above; antennae (Pl. 7, fig. 27) moderate in length, just reaching base of pronotum, five distal segments forming a loose club and weakly dilated towards each apex, 11th oblong-oval, relative length of antennal segments as follows:—8.0:4.7:7.5:4.0:5.0:4.6:6.5:6.5:6.0:5.5:10.3; mentum subhexagonal, strongly convex apicad and longitudinally and widely raised in middle, distinctly depressed laterally.

Pronotum subquadrate, moderately convex and sloping gently towards sides, with two kinds of punctures, one sparse and minute, the other microscopical and rather dense among the former; apical margin strongly emarginate, but nearly straight in median third, very narrowly bordered laterally, the apical border very widely interrupted medially; apical angles rectangular, rather strongly produced and rounded at tip; visible basal angles acute; lateral margins linearly narrowed apicad, narrowly bordered.

Elytra oblong, rather weakly convex, widest behind middle, punctatostriate, the striae obscurely and shallowly impressed, but the impressions much more deepened in apical third, the strial punctures very dense, irregular in size and much larger than on pronotum, 9th striae and lateral margins confluent to each other in basal third; intervals slightly convex, with punctures moderate in density and intermixed with microscopical and sparse ones, 9th intervals convex laterad; epipleuron shallowly concave at ventral side of humeral portion and gradually ascendant inward on the rest.

Prosternum unevenly depressed and moderately punctate, weakly and longitudinally costate medially in apical third, and bordered on each side between procoxae; mesosternal V-shaped ridge with a tip protuberant below at each antero-inner angle; metasternum minutely and sparsely punctate medially, obscurely so along sides; abdominal segments sparsely and minutely punctate, three basal segments longitudinally rugulose, 1st segment finely bordered at base behind metacoxae. Male genitalia as fig. 9 (Pl. 6).

Legs long; femora distinctly produced beyond lateral margins of pronotum and of elytra, therefore clearly visible from above; tibiae slender, fore and middle tibiae slightly edged and not carinate on outer sides; tarsi rather densely pubescent ventrally except terminal segments, four proximal segments of fore and middle tarsi shortened in proportion, relative length of hind tarsal segments as follows: -15:6.5:5.5:22.

Female unknown.

Length: 6.0 mm.; width: 3.0 mm.

Holotype: &, Mt. Gede, W. Java, IX, 1985, Native collector (in NSMT).

The new interesting species is easily identified from any other known species in the genus in having the unique two series of punctures on the pronotum and on the intervals of elytra, and additional characteristics of elytra being shallowly striate and oblong in shape.

II. marginicollis group

Tetraphyllus orichalceus Fairmaire, 1882 (Pl. 6, fig. 10 & Pl. 7, fig. 28)

Tetraphyllus politus Kaszab: Masumoto, 1985, Elytra, 13 (1): 15.

Specimens examined: [Malay Peninsula] 2 exs., Lubok Mandi, Bentong, 26. VI. 1975, Y. Kiyoyama leg. [Borneo Is.] 1 ex., Gunung, Bau near Kuching, Sarawak, 11-12. V. 1983, Minoru Tao leg. [Sumatra] 1 ex., Benakat (Nursery site), South Sumatra, 2. III. 1983, H. Makihara leg.

The last specimen was determined as *T. politus* Kaszab by Kaszab, but in my examined specimens the basal border of every 1st abdominal segment is clearly and entirely followed to both of inner margins and hind ones of metacoxae. Although Kaszab (1944) treated *T. orichalceus* Fairmaire as a member of the genus *Artactes*, I think that this species should belong to the genus *Tetraphyllus*.

Tetraphyllus marginicollis marginicollis (Fairmaire, 1893)

Specimen examined: [Sumatra] 1 ex., Benakat (Nursery site), South Sumatra, 6. II. 1983, H. Makihara leg.

Tetraphyllus marginicollis duplex subsp. nov. (Pl. 7, figs. 12 & 29)

The new subspecies is different from the original subspecies in the following dorsal pattern and some other charactaristics: The pronotum on each side with a metallic green and elongate-oblong patch, which is double bordered inside by lunate-purple and -golden tinges, the external golden tinge varying gradually greenish towards middle of pronotum; each elytron with a humeral rounded and metallic green reflexion, which is surrounded by a purple and eccentrical ring, the purple hue changed into narrow violet tinge between the humeral reflexion and the ring

itself; sometimes the pattern various in hue, if the humeral reflexion purple instead of metallic green, the bordered colour successively changed outward into green, violet, golden tinges; the median transverse band of each elytron metallic greenish-blue or golden-blue, while those of the original subspecies purple-violet or golden-purple; the apical reflexion of each elytron similar in the colour-variation to the humeral one, though the purple border sometimes circumscribed by the following orderly colours: blue-green, violet and purple; the punctures on head larger and a little denser than those on the original subspecies; the lateral borders of pronotum narrower; the punctures in rows of elytra constantly larger.

Length: 5.5-6.5 mm.; width: 3.9-5.5 mm.

Holotype: &, Chegar Perah, Kuala Lipis, Malaysia, 12. VI. 1975, Y. Kiyoyama leg. (in SC). Paratypes: 1 ex., Cameron Highlands, Pahang, Malaysia, 18. III. 1976, KAORU SAKAI leg. (MC); 1 ex., near K. K. Bahru, Selangor, Malaysia, 27. III. 1976, KAORU SAKAI leg. (in MC. This specimen determined as T. szekessyi by KASZAB); 1 ex., Cameron Hi., 19 mi., Malaysia, 6. IV. 1974, Y. KIYOYAMA leg. (SC); 4 exs., Gap, Malaysia, 2. IV. 1975, 21 & 22. III. 1975, 14. II. 1974, Y. KIYOYAMA leg. (SC); 1 ex., Selim, Malaysia, 24. III. 1978, Y. KIYOYAMA leg. (SC); 1 ex., Ulu Bendol, Malaysia, 22. III. 1978, Y. KIYOYAMA leg. (SC).

Tetraphyllus kinabaluensis sp. nov. (Pl. 7, figs. 13 & 30)

Oval, strongly convex; dark brown to reddish brown, dorsal surface with a slight aureate-aeneous and/or a golden-greenish tinge, head and pronotum sometimes with a greenish lustre, ventral surface, antennae and legs reddish brown.

Head transverse, slightly oblique in natural condition; clypeus distinctly convex in middle, slightly rounded at apex, distinctly and coarsely punctate, but the punctures variable in density, clypeal suture indistinct, interrupted or evanescent in parts; frons a little convex, interocular space nearly twice in width to clypeal median length (10:6), a little more sparsely punctate than on clypeus; genae widened before base, thence gently narrowed forwards, slightly reflexed along outer margins, sparsely punctate; eyes convex, ocular sulci weak; antennae (Pl. 7, fig. 30) slender, extending clearly beyond basal margin of pronotum, 3rd segment nearly twice as long as 2nd and 1.5 times as long as 4th, equal in length to each segment of 8th to 10th, 4th to 6th nearly equal in length and shape, a little shorter than 7th, 7th as long as wide and a little shorter than 8th, weakly dilated towards apex, each 8th to 10th rather strongly so and wider than long, 11th elongate-oval, nearly 1.7 times as long as 10th, four distal segments not forming a

distinct club; terminal segment of maxillary palpi securiform, strongly dilated apicad; mentum ob-trapezoidal, raised frontad, slightly depressed on each side and sloping posteriad, deeply sulcate along lateral margins, apical margin emarginate, with angles sharply pointed; gular suture scarcely visible.

Pronotum subpentagonal, nearly twice as wide as long (4.0:1.7); apical margin widely and moderately emarginate, substraight in middle, weakly bordered, the border narrowly interrupted medially; basal margin distinctly wider than elytral base, widely and slightly produced posteriorly in middle, slightly sigmoidal on each side; basal angles acute, apical angles rounded and obtuse; lateral margins narrowed linearly forwards in basal half and arcuately in apical half, narrowly but strongly bordered, and distinctly channeled inside the borders; disc convex in middle, not strongly descendant laterally, distinctly and sparsely punctate, the punctures almost as large as on clypeus, becoming minute or vestigial laterally.

Elytra oblong, strongly convex, with rows of punctures and distinct lateral borders along lateral margins, the punctures sparse, irregular in size and much larger and stronger than those on head and pronotum, gradually evanescent towards apex; the punctures of 2nd to 4th rows larger than those of the rest of inner portion, the 9th row touching lateral margin, without any accessory rows of punctures; intervals flat (except for 8th weakly convex) and microscopically punctate, 9th interval slanting vertically, nearly as wide as 8th near base; epipleuron strongly concave only on ventral side of humeral portion, entirely flat in the remaining area.

Prosternum smooth, longitudinally and weakly tricostate between procoxae, the costae not reaching apical margin of prosternum, space among them distinctly sulcate, prosternal process rather short, its apex a little obliquely directed downwards and rounded at the tip; mesosternal V-shaped ridge with a protuberant tip at each anterior end; abdominal segments convex in middle, finely punctate, longitudinally and shallowly rugose laterally, 1st segment clearly bordered at base along metacoxae, without any carinae, nearly equal in length to 2nd, 3rd shorter than 2nd, 4th gently rounded at apical margin. Male genitalia as fig. 13 (Pl. 7).

Legs rather long; fore and hind femora almost reaching lateral margins of pronotum and of elytra, so scarcely visible from above; tibiae gently depressed on both upper and under sides, outer sides of tibiae weakly edged, the edges of middle tibiae vestigial in apical fourth; terminal segments of tarsi comparatively long, of fore and hind tarsi a little shorter than each preceding segments together.

Length: 5.2-6.0 mm.; width: 3.4-3.9 mm.

Holotype: &, Head-Quarters, Mt. Kinabalu, Sabah, Borneo Is., 27. VIII. 1977, K. Ohkubo leg. (in SC). Paratypes: 6 exs., same locality as holotype, 27. VII. 1977 (2 exs.), K. Ohkubo leg. (SC), 2. VIII. 1977 (1 ex.), K. Ohkubo leg. (SC), 28. V. 1981 (1 ex.), M. Yamamoto leg. (SC), 23. VI. 1979 (1 ex.), H. Matsuda leg. (SC), 30. V. 1976 (1 ex.), R. Fujimoto leg. (MC); 6 exs., Crocker Range, 16 mi., NW. of Keningau (alt. 1,400 m), Sabah, Borneo Is., 12-19, VIII. 1983 (5 exs.), Y. Notsu leg. (MC), 2-26. VI. 1984 (1 ex.), S. Nagai leg. (MC).

The new species is very closely allied to *T. bifurcatus* Kaszab, but is different from the latter in the following points: The elytra without any fasciae or stripes, and the 9th intervals flat and not convex downwards, the prosternal costae between procoxae not reaching the anterior margin of prosternum, the pronotum narrowly bordered at sides.

Tetraphyllus kiyoyamai sp. nov. (Pl. 7, figs. 14 & 31)

Oval, strongly convex; light reddish brown, dorsal surface shiny, with a slight greenish reflexion.

Head short and transverse; clypeus scarcely convex and depressed laterally, slightly arcuate at apical margin, moderately and minutely punctate, clypeal suture fine and indistinct; genae strongly depressed, more coarsely and strongly punctate than on clypeus, slightly reflexed at outer margins, a little produced laterally just before base, then arcuately convergent frontad; frons between eyes convex, distinctly wider than clypeal length, minutely and rather sparsely punctate, with a fine ocular sulcus along inner side of each eye; eyes transverse and convex; antennae (Pl. 7, fig. 31) not passing beyond base of pronotum, 3rd segment twice as long as 2nd and 1.5 times length of 4th, four distal segments forming a loose club and well dilated towards each apex, 8th nearly equal in length to 9th and a little shorter than 10th, 11th oblongoval, 1.3 times as long as wide; terminal segment of maxillary palpi strongly dilated, shallowly emarginate at apex; mentum quadrate, longitudinally convex medially and very deeply sulcate along lateral margins, apical margin slightly emarginate, lateral margins faintly arcuate and strongly bordered, the borders costate like a kind of carina, reaching both lateral fourth of apical margin beyond apical corners; gular suture short and deep.

Pronotum subpentagonal, weakly convex and smooth, much wider than long (6.0: 2.6), obscurely, sparsely and minutely punctate, the punctures evanescent laterally; apical margin uniformly emarginate, narrowly bordered inside, the border widely interrupted in middle; base strongly and obliquely truncate laterally, the truncatures slightly

sigmoidal; apical angles rounded, obtusely produced at tips; basal angles almost rectangular; lateral margins strongly arcuate, clearly and widely bordered, finely and shallowly channeled along inner sides of the borders.

Elytra oblong, strongly convex, and narrowly bordered, with rows of distinct punctures, the punctures rather sparse and moderate in size, becoming constantly smaller posteriad from behind middle, 8th row of punctures interrupted near humeral callus, 9th clearly detached from lateral margin near base; intervals flat, very minutely punctate, 9th interval slanting vertically in basal half; epipleuron almost horizontal or very slightly depressed inward except for ventral side of humeral portion concave.

Prosternum short, longitudinally impressed in middle between procoxae, and ridged on both sides of the impression, the ridge reaching apical margin like in *T. bifurcatus*; mesosternal V-shaped ridge thickened, with surface smooth and completely flat; metasternum obscurely, sparsely and minutely punctate; abdominal segments nearly smooth or scattered with microscopical punctures, 1st segment with a pair of oblique carinae between metacoxae. Male genitalia as fig. 14 (Pl. 7).

Legs short, only hind femora reaching lateral margins of elytra, never visible from above; femora deeply sulcate ventrally; tibiae short, slightly incurved, flattened above and weakly convex below, not strongly edged at inner sides, fore and middle tibiae sharply carinate along outer margins, but the carinae of hind ones moderate; tarsal segments densely covered with yellowish pubescence ventrally except claw-segments, 1st to 4th segments of fore tarsi compact, the total length of which is almost as long as the corresponding claw-segment, hind tarsi slender, relative length of each segment as follows:— 1.3:0.5:0.45:1.8.

Length: 5.8-6.1 mm.; width: 3.8-4.1 mm.

Holotype: \eth , Gap, Malaysia, 18. III. 1975, Y. Kiyoyama leg. (in SC). Paratypes: $1 \, \circ$, Cameron Hi. (19 mi.), Malaysia, 31. V. 1975, Y. Kiyoyama leg. (SC); $1 \, \eth$, Lubok Mandi, Bentong, Malaysia, 26. VI. 1975, Y. Kiyoyama leg. (SC); $1 \, \circ$, Lenggong, Malaysia, 1. I. 1976, Y. Kiyoyama leg. (SC).

The new species is closely allied to *T. tristis* (GEBIEN), but differs from the latter in having the antennae are not passing beyond the base of pronotum, elytra with punctured rows are not fine except their apices, the prosternum between procoxae is longitudinally impressed in middle, the fore and middle tibiae are carinate along their outer margins, the body is light reddish brown with a greenish reflexion throughout.

Specific name is dedicated to Mr. Yoshimi Kiyoyama, who is one of superior collectors of the tropical Coleoptera.

Tetraphyllus viridipennis sp. nov. (Pl. 6, fig. 11 & Pl. 7, fig. 32)

Short-oval, weakly convex; moderately shining, head and pronotum green inclining to blue, elytra green, slightly darkened on sutural intervals, with 3rd intervals tinged with somewhat aeneous; antennae, venter, legs, elytral epipleura, lateral margins of pronotum and of elytra reddish brown.

Head roundly trapezoidal; clypeus convex medially, coarsely and not densely punctate, feebly arcuate at apex, clypeal suture obscure; genae depressed basally, sparsely punctate inward and smooth outward, distinctly produced laterally in front of eyes, then sublinearly narrowed forwards; frons transversely convex and widened, sparsely and coarsely punctate, interocular space much wider than clypeal length; eyes convex, with a narrow and deep sulcus along inner side of each eye; antennae (Pl. 7, fig. 32) slender, extending clearly beyond base of pronotum, six distal segments seemingly not forming a distinct club, 11th oblong, relative length of 2nd to 11th segments as follows:— 4.0:8.0:6.5:7.0:5.5:5.5:7.0:7.2:7.0:11.0; mentum transversely quadrate, widened forwards, strongly convex medianly and unevenly depressed on both sides, apical margin emarginate in middle and strongly bordered at sides, lateral margins also bordered.

Pronotum trapezoidal, weakly convex, and sloping gently laterad, coarsely punctate, the punctures on middle as like as on frons, minuter and sparser on lateral portions; apical margin weakly emarginate, parallel in middle against apical margin of clypeus, narrowly and obscurely bordered, the border interrupted in middle, the interrupted distance as wide as frons between eyes; base scarcely bisinuous at each side; apical angles almost rectangular, and rounded at tips, basal ones angulate; lateral margins a little arcuately narrowed apicad, narrowly bordered and somewhat reflexed.

Elytra oblong, widest at middle, thence lateral margins scarcely narrowed in greater part, widely and strongly bordered; surface with rows of punctures, the punctures moderate in arrangement and irregular in size, diminishing gradually in size towards both lateral and apical directions, those on 7th row minute throughout, on 8th row minute and only distinct on medial fifth, from there to base much minuter, for indistinguishable from minute and sparse punctures of the intervals, 9th row confused with lateral margin and not traceable basally; intervals flat and glabrous; epipleuron shagreened, space opposite to metasternum nearly flat and slightly depressed inward.

Prosternum with specific feauture, viz., surface longitudinally

bisulcate and costate between the sulci, the costa reaching apical margin and developed into a carina-like ridge near apical margin, prosternal process drop-shaped between procoxae, obliquely and posteriorly bent inward; V-shaped ridge of mesosternum thickened, with a small protuberant tip at each antero-inner end and a small notch at middle of each antero-inner margin; metasternum shagreened, obscurely, sparsely and minutely punctate, the punctures becoming larger laterally; abdominal segments minutely punctate, three basal segments longitudinally and weakly rugose, 1st segment clearly bordered at base along hind margins of metacoxae and not carinate anywhere. Male genitalia as fig. 11 (Pl. 6).

Tibiae elongate, bi-edged along outer sides, and weakly depressed between the edges; tarsi comparatively long, rather densely pubescent ventrally except each claw-segment, four basal segments of fore tarsi together about 1.46 times as long as their claw-segments, hind tarsi distinctly longer than fore tibiae, relative length of hind tarsal segments as follows:— 17:8:7:25.

Female unknown.

Length: 6.3 mm.; width: 4.0 mm.

Holotype: &, Tana Rata, Malaysia, 28. V. 1975, Y. KIYOYAMA leg. (in SC).

No species but the new one have unique prosternum in structure. Also the new species is somewhat allied to *T. tristis* (Gebien) from a superficial viewpoint, it can be easily distinguished from the latter by absence of median carinae of the 1st abdominal segment, and so on.

Tetraphyllus semiviolaceus sp. nov. (Pl. 7, figs. 15 & 33)

Short-oval, weakly widened behind; shiny and dark reddish brown, head and pronotum with a blue to violet blue-green tinge, elytra violet blue to dark violet blue, with a pair of humeral and of apical patches; the humeral patch of each elytron oval and purple, but the purple tinge varied in a green under a certain light, and widely bordered by a golden tinge on hind and sutural side, outside of the border somewhat light blue; the apical patch green inclining to dark blue, trebly bordered anteriorly, the inner border thin purple, then wide gold and the outer one light blue; ventral surface, antennae and legs light reddish brown.

Head transversely trapezoidal, strongly oblique downwards in natural condition; clypeus transversely convex medially and narrowly raised along apical margin, feebly arcuate at apex, coarsely, irregularly punctate and slightly rugose, the punctures becoming larger rearwards, clypeal suture narrowly and deeply impressed; genae distinctly and roundly depressed on each centre, moderately raised along outer margins and slightly produced laterally near base, then obliquely narrowed forwards,

minutely punctate, the punctures nearly as like as on fore area of clypeus; frons weakly convex, slightly depressed medially, sparsely punctate, the punctures on fore area sized subequally to those on hind area of clypeus, becoming gradually minuter backwards, interocular space much wider than clypeal length; eyes strongly convex, ocular sulci narrow and distinct along inner sides of eyes; antennae (Pl. 7, fig. 33) slender, extending a little beyond base of pronotum, five distal segments slightly dilated towards each apex, 11th oval, relative length of 1st to 11th segments as follows:— 9.0:5.0:8.0:6.0:6.5:6.0:7.2:7.8:7.8:7.0:10.0; mentum semicircular, strongly convex medially, apical margin nearly straight, raised higher than base, lateral margins carinate, distinctly furrowed inside the carinae.

Pronotum trapezoidal and rather flat; apical margin not strongly emarginate, whose border is narrow, widely interrupted in middle, but the interrupted space narrower than width of frons; base slightly bisinuous at each side; apical angles almost rectangular, strongly produced forwards and rounded at tips; basal angles subrectangular, projecting scarcely behind; lateral margins very slightly arcuate and narrowed towards apex, narrowly and distinctly bordered, deeply channeled inside the borders; disc sparsely punctate, the punctures on middle irregular in size, but constantly minuter laterally.

Elytra oval, widest at apical third, with rows of punctures, the punctures irregular in size and arrangement, becoming gradually minute towards both basal and apical directions, indistinct on apical portion by the punctures of intervals, 9th row touching lateral margin; intervals almost flat, minutely and rather densely punctate, 9th interval nearly as wide as 8th, but a little directed downwards and invisible from above; epipleuron opposite to metasternum entirely flat and horizontal.

Prosternum thickly bordered along inner sides of procoxae, feebly convex between the borders, with an upright tip at middle of apical margin, prosternal process bent inward behind the coxae; mesosternal V-shaped ridge narrow, protuberant below at antero-inner angles; metasternum strongly and not sparsely punctate medially, minutely and sparsely so laterally and obscurely along lateral margins; abdominal segments sparsely and minutely punctate, three basal segments longitudinally and weakly rugose, basal margin of 1st segment distinctly bordered, 2nd and 3rd segments not so abbreviate as in usual species of the genus. Male genitalia as fig. 15 (Pl. 7).

Legs rather lengthened; femora stout, fore and hind femora a little produced beyond lateral margins of pronotum and of elytra, therefore clearly visible from above; tibiae weakly incurved, middle tibiae with a weak edge along each outer margin; tarsi elongate, hind tarsi nearly

as long as middle ones, a little shorter than fore tibiae, relative length of hind tarsal segments from base to apex as follows:— 13:6:6:22.

Female unknown.

Length: 5.8 mm.; width: 4.2 mm.

Holotype: &, nr. Keningau, Sabah, N. Borneo, 15. IV. 1988, M. Ito leg. (in NSMT). The new species somewhat resembles T. brunneipes Kaszab, but can be easily distinguished from the latter in the following points: The body entirely different in colour, with the elytra bear colourful maculae, but in the elytra of the latter species almost unicolour, without any maculae, the head not so strongly produced forwards, the frons wider than the clypeal length (narrower in T. brunneipes), the intervals of elytra minutely and rather densely punctate, while not punctured in the latter species.

The new species has intermediate characteristics between $\it scate brae (Addia) \ group$ and $\it marginicollis \ group.$

Tetraphyllus dubius sp. nov. (Pl. 7, fig. 34)

♀. Oblong-oval, strongly convex above; lustrous, reddish brown, head with a green or purple-green tinge, pronotum with a blue-black stripe on median third, the stripe arcuately constricted in middle, and reaching both apical and basal margins, pronotum spotted laterally with metallic green, the spots arcuately bordered by purple, obscure golden and blue tinges, elytra purple inclining to gold, with a pair of humeral and of apical patches, sutural intervals of elytra dark blue-green tinged in basal two-thirds, and lateral margins green; the humeral patches purple, with four times borders behind, the 1st border (the innermost) tinged with gold, 2nd distinctly blue, 3rd narrowly violet and 4th purple, the 3rd and 4th borders never common to each other on elytra; the apical patches oblong, similarly coloured and bordered, whose inner margins are gently and obliquely truncate, joining each other only at apex of elytra, sometimes the apical patches inclusive of a green small spot at each centre, the outermost purple borders of both humeral and apical patches clearly distant from each other.

At first sight the new species is very similar to *T. marginicollis* (Fairmaire), except different colour as the up-mentioned elytral pattern, and the separable distinctions from the latter are as follows: The prosternal process bisulcate and dilated behind, not almost parallel as in *T. marginicollis*, the pronotum more distinctly punctate on middle area and more thickly bordered at apical corners, where the apical angles are more strongly produced forwards, the outer margins of genae less rounded, the frons more strongly convex, more minutely and sparsely punctate, the ocular sulci much deeper, the abdominal segments of venter scarcely rugulose and minutely punctate.

Length: 6.8-7.3 mm.; width: 4.9-5.4 mm.

Holotype: ♀, Gap, Malaysia, 4. IV. 1975, Y. KIYOYAMA leg. (in SC). Paratypes: 1 ex., same locality as holotype, 15. II. 1974, Y. KIYOYAMA leg. (SC); 1 ex., Bt. Tinggi, Malaysia, 16. III. 1975, Y. KIYOYAMA leg. (SC).

Tetraphyllus infectus sp. nov. (Pl. 7, fig. 35)

\$\phi\$. Short oblong-oval, subparallel at major sides, strongly convex; dark reddish brown, head black with a slight greenish tinge, pronotum green and mat, elytra lustrous, with a blue-black tinge except a pair of basal and of apical large patches; the basal patch of each elytron semicircular and purple, occupying basal two-thirds and apart from suture, including a small green tinged spot upon humerus, and bordered by obscure and narrow golden tinge; the apical patch subtriangular, coloured like basal ones together with similar border except for the patch tinged with oblique green along lateral margin of each elytron; ventral surface, antennae and legs reddish brown.

Head semicircular, sloping rather steeply apicad and laterad; clypeus gently arcuate at apex, strongly convex at base and then sloping steeply apicad, coarsely punctate, the punctures more or less elongate in shape, irregular in size and arrangement, clypeal suture fine; genae subparallel-sided, gently narrowed apicad, minutely and obscurely punctate; frons convex, about 1.56 times equal in width to clypeal length (2.5:1.6); eyes convex above and strongly widened laterally, gently sulcate along their inner margins; antennae (Pl. 7, fig. 35) slender and not lengthened, never reaching base of pronotum and without forming distally a distinct club, five distal segments not strongly dilated towards each apex, 11th oblong-oval, relative length of antennal segments as follows:—6.0:3.5:7.0:3.5:4.0:5.0:5.5:5.5:5.9:5.0:8.5; mentum transversely subcordate, strongly raised at apical margin, longitudinally and strongly convex in median half, and deeply depressed on each side of longitudinal convexity.

Pronotum trapezoidal, strongly convex, declined steeply towards sides, distinctly and rather densely punctate, the punctures minuter laterally and along both base and apex; apical margin weakly emarginate, widely and slightly produced apicad in middle, whose border is narrow, interrupted in median fourth; base scarcely sigmoidal at each side; apical angles obtuse, whose corners are finely bordered; basal angles almost rectangular; lateral margins sublinearly narrowed forwards in basal two-thirds and arcuately so in apical third, narrowly bordered, with a shallow channel along each inside of the borders.

Elytra strongly convex, a little narrower than pronotum at base, with rows of punctures, the punctures rather large and irregular in

density, becoming a little minuter apically, 9th rows and lateral margins confluent to each other; intervals almost flat, scarcely and microscopically punctate, 8th intervals slanting subvertically, 9th a little convex downwards, so that invisible from above; epipleuron opposite to metasternum almost horizontal.

Prosternum strongly and longitudinally ridged in middle, deeply sulcate at sides of the ridge between procoxae, the sulci parallel to each other and reaching apical margin, prosternal process not bent inward at apex, with a tip fairly rectangular; mesosternal V-shaped ridge normal, without any protuberant tips; metasternum almost smooth, with microscopical punctures scarcely visible; four basal segments of abdomen sparsely and minutely punctate, longitudinally and rather strongly rugose along their bases, anal segment minutely and moderately punctate, 1st abdominal segment strongly bordered at base between metacoxae, behind metacoxae weakly so along base.

Legs short; middle tibiae distinctly carinate along outer margins, relative length of hind tarsal segments as follows:—11.5:5.3:5.0:18.5.

Length: 6.0 mm.; width: 4.5 mm.

Holotype: ♀, Gap, Malaysia, 14. II. 1974, Y. KIYOYAMA leg. (in SC).

The new species is very similar to *T. corruscus* (FAIRMAIRE), but is entirely different from the latter in the horizontal epipleura of elytra, also externally similar to *T. punctatissimus* KASZAB, but can be distinguished from the latter by the 1st abdominal segment ecarinate between metacoxae.

Tetraphyllus masumotoi sp. nov. (Pl. 7, figs. 16 & 36)

Small, oblong-oval; head, pronotum, lateral margins of elytra, ventral surface, antennae and legs reddish brown, head and pronotum dark green with a purplish tinge, elytra dark green, with a pair of humeral and of apical patches, the patches metallic green-tinged, obscurely and narrowly bordered by purple and golden tinges; the humeral patches small and semicircular, reaching basal corners; the apical patches elongate-oblong, much more oblique along lateral margins.

Head semicircular, wholly arcuate at apex except subparallel-sided genae; clypeus transversely convex, coarsely rather densely punctate, clypeal suture distinct, deeply impressed on hind portion; genae depressed and minutely punctate; from strongly convex, sparsely and obscurely punctate, narrowly and deeply sulcate along inner sides of eyes, the sulci extending near genal bases in front of eyes, interocular space wider than clypeal length (20: 15); eyes strongly and transversely

convex; antennae (Pl. 7, fig. 36) short and slender, never reaching pronotal base, five distal segments distinctly dilated towards each apex, but forming a very loose club, 11th oblong-oval, thickest at basal third, sublinearly convergent thence to apex but roundly to base, relative length of antennal segments from base to apex as follows:—6.0:3.5:6.3:4.0:3.5:3.5:4.5:4.5:4.5:4.5:8.0; mentum transversely quadrate, obtriangularly convex, coarsely punctate, gently impressed laterally in basal two-thirds.

Pronotum subpentagonal, convex, sloping strongly to sides, moderately and a little densely punctate, the punctures diminishing in size and/or evanescent laterad; apical margin weakly emarginate, and substraight in median third, whose border is moderate, widely interrupted in middle, base obliquely truncate laterally, each truncature slightly sigmoidal; apical angles rounded and obtuse, not strongly produced forwards, thickly bordered at their corners; visible basal angles almost rectangular; lateral margins slightly arcuate, thickly and strongly bordered, without distinct channels inside the borders.

Elytra oblong-oval, with rows of punctures, the punctures comparatively large and somewhat irregular in density, 1st to 3rd rows not becoming smaller apically, 9th row touching lateral margin; intervals weakly convex, sparsely and microscopically punctate, 9th interval slanting vertically, convex downwards near humeral callus, a little wider than 8th basally; epipleuron opposite to metasternum evenly and slightly depressed.

Prosternum longitudinally tricostate medially, and bisulcate among the costae; mesosternal ridge sharply V-shaped at middle of anterior margin; metasternum glabrous, minutely and sparsely punctate; abdominal segments minutely and sparsely punctate, three basal segments longitudinally rugose laterally, 1st segment strongly bordered at base, 3rd more abbreviate than basal two. Male genitalia as fig. 16 (Pl. 7).

Legs moderately short; tibiae nearly straight, middle tibiae weakly carinate along outer margins; tarsi densely pubescent ventrally except terminal segments, relative length of hind tarsal segments as follows:—6.5:5:3:18.

Length: 5.0 mm.; width: 2.5-2.8 mm.

Holotype: \eth , Place between Fang and Chiang Dao, North Thailand, 22-23. V. 1989, K. MASUMOTO leg. (in NSMT). Paratype: $1 \, \updownarrow$, same collecting data as for the holotype (MC).

The new species resembles T. platydemoides KASZAB, but is different from the latter in having the presence of elytral patches and the tricostate prosternum, and so on.

Tetraphyllus kumei sp. nov. (Pl. 7, figs. 17 & 37)

Oval, moderately convex; reddish brown, ventral surface, antennae and legs reddish brown, head with a slight greenish purple lustre, pronotum purple, with a metallic green tinge along lateral margins, elytra with a pair of thick stripes and a pair of latero-basal and of latero-apical patches, and with an ill-defined golden line outward on blackish green suture; on each elytron the stripe consisting of three tinges—purple internally, blue medially and green tinges externally, placed on base between 2nd and 5th intervals, thence gradually curved apico-laterally, and terminating between sutural and 2nd intervals on apical declivous portion, the external green tinge itself reaching lateral margin of each elytron in median part; both of the latero-basal and latero-apical patches tinged green, narrow, situated along lateral margins, widely and arcuately bordered by purple tinge.

Head transversely trapezoidal; clypeus weakly convex, slightly emarginate at apex, sparsely and rather minutely punctate, clypeal suture finely impressed; genae flattened, minutely and concentrically punctate on each centre, gently produced laterally before eyes; frons convex and wide, sparsely and obscurely punctate, interocular space twice subequal in width to clypeal median length, deeply sulcate along inner margin of each eye; eyes convex, subquadrate in dorsal aspect; antennae (Pl. 7, fig. 37) moderate in length, reaching scarcely base of pronotum, five distal segments forming a loose club, 11th narrow and oval, relative length of 2nd to 11th segments as follows:—3.5:7.5:4.5:4.0:5.0:6.0:7.0:6.5:7.0:11.0; terminal segment of maxillary palpi slightly emarginate at apex; mentum fairly heart-shaped by clearly defined marginal ridges, surface unevenly flattened and distinctly sulcate inside lateral margins.

Pronotum transversely trapezoidal, strongly convex, moderately aslant towards sides, sparsely and very minutely punctate, strongly emarginate and narrowly bordered at apex, the emargination narrowly substraight in middle, where the border is interrupted; base scarcely bisinuous at each side; apical angles rounded and strongly produced apicad, somewhat reflexed at bordered tips; basal angles subrectangular; lateral margins narrowly bordered, arcuate weakly in basal two-fifths and rather strongly in the rest.

Elytra oval, strongly convex, with rows of punctures, the punctures strongly and distinctly impressed on middle of disc, but becoming steeply minuter basally and apically, and evanescent on apical portion, those on 1st and 2nd rows dense, 9th row widely distant from lateral margin near

humeral callus; intervals flat, scarcely but microscopically punctate, 9th gently convex laterad; epipleuron opposite to metasternum weakly depressed but horizontal, the level of horizontal position a little lower than that of usual species in the group.

Prosternum convex between procoxae, longitudinally bisulcate along middle; mesosternal ridge U-shaped between mesocoxae, sharply protuberant at both anterior tips; metasternum smooth; abdominal segments glabrous, 1st segment distinctly bordered at base, 3rd segment a little abbreviate. Male genitalia as fig. 17 (Pl. 7).

Legs robust, moderate in length; fore and hind femora projecting a little beyond lateral margins of pronotum and of elytra, inevitably almost invisible from above; tibiae short and slightly incurved, sharply carinate along outer margins, middle and hind tibiae rather strongly dilated towards apices, flattened above and convex below; fore and middle tarsi somewhat dilated, relative length of hind tarsal segments as follows:— 17:5:4:16.

Female unknown.

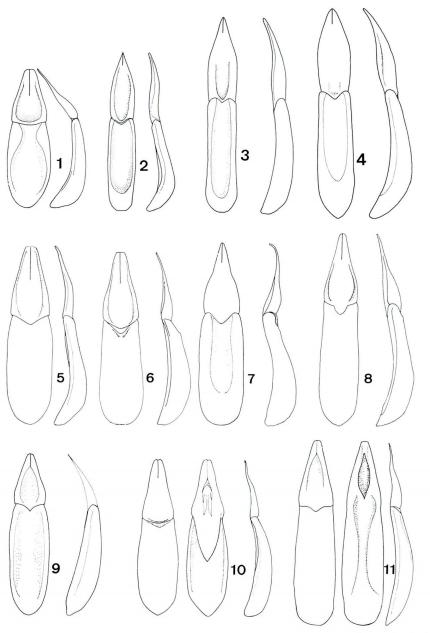
Length: 5.5 mm.; width: 3.5 mm.

Holotype: д, Tempeler Park, Malaysia, 1. IV. 1980, М. Ітон leg. (in SC).

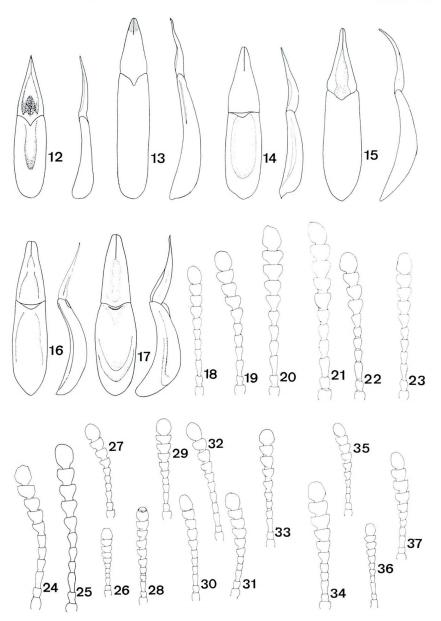
The new species is closely allied to *T. borneensis* Kaszab, but can be easily distinguished from the latter in the following points: 1) every tibia distinctly carinate along outer margin, but simple along inner margin, neither crenulate nor carinate along inner margin; 2) the epipleura of elytra with subhorizontal surface slightly depressed except ventral sides of humeral portions; 3) the elytral punctures on rows vanishing mostly towards apical portion; 4) the pronotum narrowly bordered at sides.

Explanations of Plates 6-7

- Pl. 6, figs. 1-11. Male genitalia of Tetraphyllus spp., dorsal view (left), lateral view (right) and ventral view (middle: figs. 10 & 11).
 - 1. Tetraphyllus scatebrae (Lewis)
 - 2. Tetraphyllus latior (NAKANE)
 - 3. Tetraphyllus nakanei (MASUMOTO)
 - 4. Tetraphyllus tsaii (MASUMOTO)
 - 5. Tetraphyllus shibatai (NAKAKITA)
 - 6. Tetraphyllus monticolus (NAKAKITA)
 - 7. Tetraphyllus brunneipes Kaszab
 - 8. Tetraphyllus ohkuboi sp. nov.
 - 9. Tetraphyllus abnormis sp. nov.
 - 10. Tetraphyllus orichalceus FAIRMAIRE
 - 10. Teiraphyllus orichalceus FAIRMAIRE
 - 11. Tetraphyllus viridipennis sp. nov.



(K. Ando del.)



(K. Ando del.)



- Pl. 7, figs. 12-17. Male genitalia of *Tetraphyllus* spp., dorsal view (left) and lateral view (right); 18-37. Right antennae of *Tetraphyllus* spp.
 - 12. Tetraphyllus marginicollis duplex subsp. nov.
 - 13. Tetraphyllus kinabaluensis sp. nov.
 - 14. Tetraphyllus kiyoyamai sp. nov.
 - 15. Tetraphyllus semiviolaceus sp. nov.
 - 16. Tetraphyllus masumotoi sp. nov.
 - 17. Tetraphyllus kumei sp. nov.
 - 18. Tetraphyllus scatebrae (Lewis)
 - 19. Tetraphyllus latior (NAKANE)
 - 20. Tetraphyllus nakanei (MASUMOTO)
 - 21. Tetraphyllus tsaii (MASUMOTO)
 - 22. Tetraphyllus shibatai (NAKAKITA)
 - 23. Tetraphyllus monticolus (NAKAKITA)
 - 24. Tetraphyllus brunneipes Kaszab
 - 25. Tetraphyllus ohkuboi sp. nov.
 - 26. Tetraphyllus amabilis sp. nov.
 - 27. Tetraphyllus abnormis sp. nov.
 - 28. Tetraphyllus orichalceus Fairmaire
 - 29. Tetraphyllus marginicollis duplex subsp. nov.
 - 30. Tetraphyllus kinabaluensis sp. nov.
 - 31. Tetraphyllus kiyoyamai sp. nov.
 - 32. Tetraphyllus viridipennis sp. nov.
 - 33. Tetraphyllus semiviolaceus sp. nov.
 - 34. Tetraphyllus dubius sp. nov.
 - 35. Tetraphyllus infectus sp. nov.
 - 36. Tetraphyllus masumotoi sp. nov.
 - 37. Tetraphyllus kumei sp. nov.

国際動物命名委員会からのお願い (4)

Applications published in the Bulletin of Zoological Nomenclature on March 26, 1991 in Vol. 48, Part 1. Comment or advice on these applications is invited for publication in the Bulletin and should be sent to the Executive Secretary, I. C. Z. N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD United Kingdom. Case No.

- 2742 Vatellus Aubé, 1837 (Coleoptera): proposed conservation for a genus of water diving beetle (Dytiscidae) which is threatened by Leucorea Laporte, 1835, an unused senior objective synonym of the Aubé name.
- 3763 Coccinella undecimnotata Schneider, 1792 (currently Hippodamia (Semiadalia) undecimnotata; Coleoptera): proposed conservation of the specific name which is threatened by the hitherto unrecognised senior synonym Coccinella oculata Thunberg, 1781.
- 2748 Plusia falcifera Kirby, 1837 (currently Anagrapha falcifera; Lepidoptera): proposed conservation of the specific name, which has an undoubted senior synonym, the unused name Autoprapha norma HÜBNER, 1821.
- 2799 Simulium (Nevermannia) juxtacrenobium (Diptera): a proposal that availability of the specific name be taken from the intended original description by Bass & Brockhouse, 1990.
- 2614 Vipio Latreille, 1804 (Hymenoptera): proposed designation of Agathis longicauda Вонеман, 1853 as the type species.

Opinions published in the Bulletin of Zoological Nomenclature on March 26, 1991 in Vol. 48, Part 1.

Opinions No.

- 1626 Corisa verticalis FIEBER, 1851 (currently Trichocorixa verticalis; Heteroptera): specific name conserved.
- 1627 Saissetia Deplanche, 1859 (Homoptera): Lecanium coffeae Walker, 1852 designated as the type species.
- 1628 Castiarina Gory & Laporte, 1837 (Coleoptera): conserved.
- 1629 Helophorus brevipalparis Bedel, 1881 (Coleoptera): given precedence over Helophorus creticus Kiesenwetter, 1858.
- 1630 Helophorus obscurellus Poppius, 1907 (Coleoptera): given precedence over Helophorus fausti Kuwert, 1887.
- 1631 Ochthebius Leach, 1815 (Coleoptera): Elophorus marinus Paykull, 1798 designated as the type species.
- 1632 Exoprosopa Macquart, 1840 (Diptera): Anthrax pandera Fabricius, 1805 confirmed as the type species.

A New Species of *Anotylus gibbulus* Group from Japan (Coleoptera, Staphylinidae)

By TATEO ITO

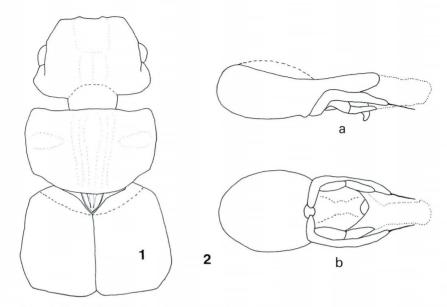
I have recently examined a lot of staphylinid beetles mainly from Mt. Houou and Gozaishi Spa on the Southern Japanese Alps in Yamanashi Prefecture. In the result of my studying on these specimens, I would like to describe a new relic species belonging to *Anotylus gibbulus* group (found in the Caucasus, Eastern Siberia, Himalayas and several localities of Africa) from Japan.

I am heartily thankful to Mr. T. Shibata for his kind advice and continuous encouragement in my study, and I am also greatly indebted to Dr. K. Sawada and the members of the Osaka Coleopterological Society for their useful support to study on Staphylinidae, to Messrs. K. Mizuno and K. Hosoda for their offering an opportunity to study the present species.

Anotylus hosodai sp. nov. (Figs. 1-2)

Body large, robust, little shiny except abdomen, black, elytra slightly blackish brown in middle, mouth parts, basal segments of antennae and legs reddish to yellowish brown but meso- and metacoxae blackish and their femora dark brown. Length: 4.5–4.8 mm.

In δ , head distinctly widened behind, transversely trapezoidal, distinctly granulate on apical half, rather coarsely and longitudinally strigose on the rest, frons subtruncate apically, slightly explanate on supra-antennal areas, widely and subquadrately depressed medianly, clypeo-apical ridge very weakly sinuate in middle and extending backward to near neck along inner side of each eye, and with a small dull tooth on each side of the sinuation, vertex ovately convex, the convexity rather deeply sulcate in middle and surrounded by a U-shaped impression, whose apical ends and the median sulcus joining the base of frontal subquadrate depression, eyes prominent, each longitudinal diameter much shorter than postgena, which convex above, distinctly and arcuately expanded laterally, and nearly truncate behind. Antennae very robust and short, strongly thickened distally, 1st segment largest, 2nd and 3rd longer than wide and subequal in length, 4th smallest and slightly wider than long, 5th to 10th distinctly transverse, a little more than twice as wide as long, 11th subconical, twice as long as and a



Figs. 1, 2. 1, *Anotylus hosodai* sp. nov. in 3; 2, Aedeagus, a: in lateral view, b: in ventral view.

little narrower than 10th. Underside of head transversely and rather obscurely strigose, last segment of maxillary palpi cylindrical, clearly narrower and a little shorter than the preceding segment, mentum subdepressed, uniformly and granulately sculptured.

Pronotum semicircular, transverse (1:1.46), a little wider than head (1.09:1), widest just before middle, from there lateral sides slightly narrowed to apical and basal obtuse angles, apical margin weakly bisinuate and substraight in middle, base arcuate, slightly but clearly emarginate on each side, disc coarsely, rather regularly and wholly strigose as like as on basal half of head, among strigae coarsely and obsoletely punctate, median line somewhat widely depressed throughout, accompanied with a thin depression on each side and additional deep transverse depression near lateral margin at the widest point. Scutellum large, elongate and subparallel at side, lateral grooves also elongate and as long as median groove. Elytra slightly narrowed basally, widest near apical third, wider than pronotum (1.20:1), dorsal sculpture coarser and more regular than on pronotum.

Abdomen parallel-sided, tergites with fine sparse punctures and without distinct microsculpture except for 2nd and 8th tergites bearing a perceptible punctulate one, sternites more sparsely punctate than on

tergites, except for each impunctate narrow area along middle, apical margin of 7th and 8th sternites truncate and simple.

Aedeagus robust, symmetrical, apical part of median lobe wide and short, its apex obtuse and strongly curved ventrally, lateral lobes slender, armed with a rather long spine on each top, and slightly produced beyond the apex of median lobe (Fig. 2).

In \circ , head smaller than in \circ , the width at the widest point of postgenae nearly as wide as the width of eyes, abdominal 8th sternite very weakly protuberant in middle of apical margin.

Holotype: \eth , Houou Lodge (alt. 2,400 m), Mt. Houou, Yamanashi Pref., 21. V. 1990, K. Hosoda leg. (T. Shibata coll.). Paratypes: $1 \, \eth$, ditto, 20. VII. 1989, K. Hosoda leg.; $1 \, \updownarrow$, ditto, 23. VII. 1988, K. Mizuno leg.

Specimen examined: $1\,\text{°C}$, Gozaishi Spa (alt. 1,400 m), Yamanashi Pref., 26. III. 1990, K. Hosoda leg.

The present species belongs to A. gibbulus group in the following characteristics: 1) the fore part of body with coarse and longitudinally strigose sculpture, 2) the head in the male modified by the secondary sexual feature, 3) the scutellum having elongate lateral grooves, 4) the abdomen smooth and shiny, according to P. M. Hammond et al. (1979), these characteristics "are found in combination only in the gibbulus Group." And the new species differs from A. gibbulus (Eppelsheim) by the postgenae in the male less prominent and not pointed, the clypeo-apical margin more widely substraight and the body larger in size, from A. megacephalus (Fauvel) by the elytra immaculate, the clypeo-apical margin not deeply bisinuate, the meso-and metacoxae darker, the scutellum narrower and more parallel-sided and the pronotum less than twice as wide as long.

The male specimen captured at the lower region (alt. 1,400 m) is smaller in size (3.5 mm), the head more strongly expanded laterally and as wide as the pronotum, the clypeo-apical margin more coarsened.

The specific name is dedicated to Mr. Kôichi Hosoda who is the manager of the Houou Lodge.

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コョツモンミズギワコメツキの形態について

大 平 仁 夫

Notes on the Morphological Structure of *Oedostethus interstinctus* (Coleoptera: Elateridae) from Japan

By HITOO ÔHIRA

本種は、G. Lewis が長野県の和田峠 (Wada-tóge) の標高約 1,500 m あたりのところで 1881年8月1日に採集した唯1頭の標本にもとづいて *Cryptohypnus interstinctus* と自身で命名、1894年 に新種として記載した体長 3 mm ほどの黒色小形の種である.

筆者はこのたび、本種の形態について調査することができたので、ここにその概要を報告 したいと思う。

1. 一般 形態

雄. 体長 3~3.5 mm. 体は細長く、両側は平行状. 黒色で光沢を有し、灰黄色毛を生ずる. 触角の第 2~3 節, 前胸背板の後角部, 肢の転節, 脛節, 跗節などは黄褐色~淡黄褐色, 上翅の肩角部には通常後方~短く伸長する黄褐色紋と, 翅端部近くにも楕円形状の 黄褐色紋を有する. しかし, この後方部の紋はときにやや不鮮明となることがある.

頭部の前頭横隆線は弧状を呈し、前縁は幅せまく縁取られる (Pl. 8, E). 触角は短く、末端は前胸背板の後角に達するか、それよりやや短い程度である。 第2節は円筒形状、第3節は弱い三角形状で第2節とほぼ等長、第4節から鋸歯状を呈し、第3節の約1.2倍の長さである (Pl. 8, F).

前胸背板は幅と長さがほぼ等しく、背面からみた両側は中央部において最も幅広い (Pl. 8, G). 背面は強く膨隆し、正中部には平滑縦線を欠き、やや粗雑な点刻をほぼ一様に分布する (Pl. 8, H). 後角部は後外方へ突出し、末端は細まってとがる。背面の隆起線は側縁に沿って 前方へ基部1/3近くまで伸長する (Pl. 8, G). 小盾板は扁平状で舌状である (Pl. 8, B). 前胸腹 板突起は細長く、前肢基節腔を越え、弱く外方へ湾曲して後方に伸長する (Pl. 8, C). 上翅の 3 條線は明瞭に印し、間室部はやや粗雑な点刻を生じ、弱く横しわ状を呈する。腰板の外形は 中央部で最も幅広くなり、それより外方へやや顕著に細まる (Pl. 8, D).

交尾器の外形は図示(腹面)したようで、中央突起は末端に漸次細まり、末端は弱くとがる (Pl. 8, I). 側突起の末端部は幅広くなり、楕円形状を呈し、外縁は半円形状に湾曲する (Pl.

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8, J), しかし, この形状は若干の個体変異があるようである。

雌. 一般外形は雄によく類似する. 触角はより短く, 末端は前胸背板の後角より明らかに短い. 上翅の黄紋については, 雌雄の差はほとんどないようである.

2. 分布について

本種は原記載以降,東北地方から中部地方にかけての山形県, 秋田県,新潟県,福島県,山梨県,石川県, 愛知県,三重県などから記録されているが, 筆者が本種の実体を明らかにした1973年以前の分布記録については, 同定の誤りと思われるものがみられるので, 一部の県の記録は,分布の再確認が必要と思われる。 いずれにしても, 本州の中部地方から東北地方の一部にかけては,本種の分布範囲にあると思われる。

G. Lewis は前述のように和田峠の頂上あたりで採集しているので、一見山地性の種のように思われるが、愛知県では山地から低地にかけて広く見出されている。生息場所は他のミズギワコメツキ類とよく似ていて、主として河原の荒地やその周辺部の雑草地であるが、その生息地には必ず Fleutiauxellus quadrillum (Candèze, 1873) ヨツモンミズギワコメツキも見出されている。これに反して、Oedostethus telluris (Lewis, 1894) クロツヤミズギワコメツキしか生息しないところではまだ本種を見出していない。観察例が少ないので、その理由についてはよくわからないが、生態的には前種により類似したものを有しているように思われる。また、どの分布地でも個体数は少なく、集団で多くの個体が同一場所に生息することはほとんどないようである。

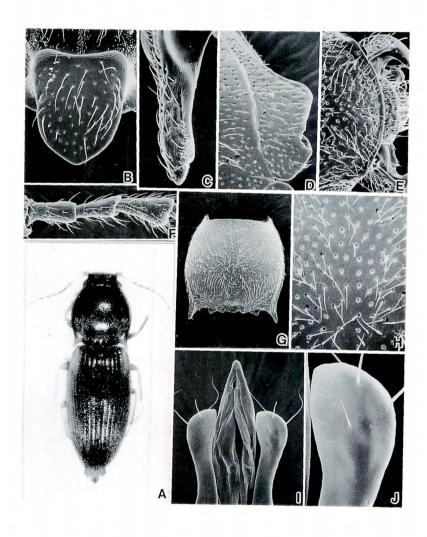
3. 分類上の位置について

本種は原記載では Cryptohypnus 属の種として記載されているが、その当時はこれらの種の大部分はこの属に所属していた。また、MIWA(1934)のモノグラフでは Hypnoidus 属の種として扱われている。これは多分 W. Junk のカタログに従ったものと思われる。KISHII(1966)は本種を Migiwa 属のものとして京都から記録したが、その後 KISHII(1976)はこれは同定の誤りであったとし、Neohypnodus 属に所属させている。これは、大平(1973)が本種は Neohypnodus 属に所属すると思われるとしたので、これに従ったものと判断される。また KISHII(1987)は本種を Migiwa 属の Neomigiwa 亜属(自身が1976年に設立した亜属)に所属させている。これは本種の所属を誤認されたもので、全く根拠のない位置づけであると判断される。

本種は前述の形態からも明らかのように、Oedostethus 属に所属するもので、日本の各地に広く分布が知られている Oedostethus telluris (Lewis, 1879) クロツヤミズギワコメツキの近くに位置させるのが、本種の正しい位置であると判断するものである.

4. 調 査 標 本

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(H. ÔHIRA photo.)

楽郡稲武町, 24-VI, 1990, 大平採集.

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Summary

Oedostethus interstinctus (Lewis, 1894) was originally described from the top of Wada-tôge in Nagano-Pref., Honshû, collected by G. Lewis in August of 1881.

In the present study, the author has examined general structures of this species by SEM-images (Plate 8), in order to facilitate its systematic position in the Negastriinae from Japan.

Explanation of Plate 8

Pl. 8. Oedostethus interstinctus, male (except for A which is female), Inabu-chô in Aichi-Pref.

A, adult, female; B, scutellum; C, prosternal process; D, basal plate; E, clypeal margin; F, 2nd to 4th basal segments of antenna; G, pronotum; H, some punctures on the disc of pronotum $(\times 250)$; I, aedeagus, ventral aspect; J, ditto, apical portion of lateral lobe.

第42回 (平成2年度)大会記録

平成2年度の第42回大会は、同年12月16日午前10時30分から大阪市立自然史博物館集会室において開催され、午前中は例年どおり自由懇談及び甲虫の同定が随所で行われた.

午後1時から大会に入り、林幹事の司会により、まず大倉幹事から会務会計報告が行われた. 引続き黒田祐一氏から "マダガスカル島を訪ねて"と題し、多数のスライドとともに同島の自然や昆虫についての話があり、次いで佐藤正孝氏から "日本のマメゲンゴロウについて"の講演があったが、ごく普通のマメゲンゴロウの中にも艶のあるものとないものがあったり、或いは ダイセツマメゲンゴロウ (A. thomsoni) もマメゲンゴロウの若い個体ではないかと思われ真の thomsoni が果して日本にいるのかどうか、更にクロマメゲンゴロウとホソクロマメゲンゴロウとの関係等々、今後くわしく調査する必要があると思われるとのことであった. 次に木元新作氏から "台湾におけるハムシ類の垂直分布"と題し、ノミハムシ・ヒゲナガハムシ・サルハムシ類の分布についての講演があり、低所ではノミハムシ類とヒゲナガハムシ類との種類数は同じぐらいであるが、高所ではノミハムシの種類が多くなりヒゲナガハムシ類は半分以下になったとのことである。ただし、今回は予備調査であり、くわしくは来年以降の調査結果に待ちたいとのことであった. 以上で予定の講演は終ったが、最後に上野俊一氏から、ここ2~3年来、台湾の今まで余り行っていない高山において昆虫の調査を行なっており、更に2年ほど続けて終りたい旨の概要について話があった.

なお,大会終了後,有志による懇親会を開催し,和気藹藹裡に解散した.

当日の出席者(敬称略・*は懇親会出席)は下記のとおり、

藤野直也・藤田國雄・*林 匡夫・*林 靖彦・平田信夫・*穂積俊文・*市橋 甫・生谷義
一・*岩崎 博・木元新作・桐山 功・北山 昭・*黒田祐一・*楠井義久・的場 績・松田
潔・水野弘造・森 和夫・*奈良 一・*生川展行・*西川嘉朗・*野村 全・越智輝雄・*大
石久志・*大川親雄・*大倉正文・奥田則雄・*佐藤正孝・田花雅一・*高羽正治・武田 滋・
*田中昭太郎・谷角素彦・*遠山雅夫・*上野俊一・渡辺昭彦・*八木正道・山地 治. (大倉)

琉球列島の小島嶼におけるコガネムシ主科分布ノート

4. 伊平屋島

楠 井 善 久

Distributional Notes of Scarabaeoidea from the Islets, Belonging to the Ryukyu Archipelago. IV. Iheyajima Is.

By Yoshihisa Kusui

伊平屋島は沖縄本島の北部,東支那海の洋上東経 127度59分,北緯27度02分の位置に浮かぶ,面積 19.3km²,周囲 32km の島で,琉球列島内帯を形作る伊平屋列島の主島である.地形は南北に細長く,最高地点 293m を中心に 200m クラスの低山地が山脈をなしていて,古くから開発された平野部を除き,植生は豊かである.近年は各所に車道が作られて乾燥化がみられ,加えて島外から持ち込まれた植物も増えている。畜産は盛んで,北部の山地帯の一部に放牧が行なわれている.

この島のコガネムシ主科に関する報告はまとまったものがなく、楠井 (1976)、MIYAKE (1986)、酒井 (1989)等により6種が報告されているのみである。筆者は1977年8月10日から12日、1978年8月2日から4日の2回採集を行ない、その10年後の1987年7月1日から2日に再び同島を訪れる機会を持った。また沖縄在住の佐藤文昭氏の観察による近年の情報も知ることができた。これらの調査からコガネムシ主科の目録を作り、また10年の経過によるファウナの変化を報告したい。

採集は1977年,1978年は筆者と星野千春氏,1987年はすべて筆者が行なった. 既知種には*印を付け,それ以外はすべてこの島からは新記録である.

採集に同行され多大なご協力をいただいた沖縄県中央家畜保健所の星野千春氏, 種々ご援助を賜わった佐藤文昭,宮里秋の両氏に厚くお礼申しあげる.

採集目録

Lucanidae

1. Serrognathus titanus okinawanus (KRIESCHE) オキナワヒラタクワガタ

1♀, 田名 (Dana), 12. VIII. 1977; 1♂, 島尻, 2. VIII. 1978; 1♀, 田名, 2. VIII. 1978; 1♂, 田名, 3. VIII. 1978; 2♂♂2♀♀, 田名, 4. VIII. 1978; 2♂♂2♀♀, 前泊, 1. VII. 1987.

[[]昆虫学評論, 第46巻, 第1号, 95-98頁, 6月, 1991年]

2. Nigidius lewisi BOILEAU ツノヒョウタンクワガタ

4 exs., 田名, 12. VIII. 1977; 15 exs., 田名, 3. VIII. 1978.

Hybosoridae

3. Phaeochrous emarginatus emarginatus Castelnau フチトリアツバコガネ 22 exs., 田名, 12. VIII. 1977; 12 exs., 田名, 2. VIII. 1978; 20 exs., 田名, 3. VIII. 1978; 2 exs., 前泊, 1. VII. 1987.

Scarabaeidae

- 4. Onthophagus viduus HAROLD マルエンマコガネ
 - 1 ♀, 我喜屋 (Gakiya), 11. VIII. 1977; 4♂♂8♀♀, 田名, 12 VIII. 1977; 1♂, 田名,
- 2. VIII. 1978; 1♂, 田名, 3. VIII. 1978.

本種と下記の Aphodius 属の4種はいずれも牛糞から採集し、 Rhyparus 属の2種はライトトラップで採集した.

- 5. Aphodius marginellus (FABRICIUS) ウスチャマグソコガネ 7 exs., 田名, 12. VIII. 1977.
- 6. A. urostigma HAROLD フチケマグソコガネ 34 exs., 田名, 12. VIII. 1977.
- A. uniformis Waterhouse エゾマグソコガネ
 7 exs., 田名, 12. VIII. 1977; 1 ex., 田名, 2. VIII. 1978.
- 8. A. uniplagiatus Waterhouse オビマグソコガネ
 - 1 ex., 田名, 12. VIII. 1977.
- 9. Rhyparus peninsularis Arrow セスジカクマグソコガネ
 - 3 exs., 田名, 3. VIII. 1978.
- 10. R. helephoroides FAIRMAIRE ヒメセスジカクマグソコガネ
 - 5 exs., 田名, 3. VIII. 1978.
- 11. Holotrichia loochooana okinawana (Nomura) オキナワクロコガネ 2♀♀, 田名, 2. VIII. 1978.
- 12. Polyphylla schoenfeldti Brenske オキナワシロスジコガネ

3 ♂ ♂ 2 ♀ ♀ , 前泊 , 10. VIII. 1977 ; 20 ♂ ♂ 15 ♀ ♀ , 田名 , 12. VIII. 1977 ; 1 ♂ 15 ♀ ♀ , 我喜 屋 , 12. VIII. 1977 ; 22 ♂ ♂ 15 ♀ ♀ , 田名 , 3. VIII. 1978 ; 10 ♂ ♂ 6 ♀ ♀ , 前泊 , 1. VIII. 1987.

- 13. Maladera oshimana okinawana Nomura リュウキュウビロウドコガネ
- 1♀, 我喜屋, 10. VIII. 1977; 1♀, 前泊, 10. VIII. 1977; 2♂♂1♀, 我喜屋, 11. VIII. 1977; 2♂♂3♀♀, 我喜屋, 12. VIII. 1977; 2♀♀, 田名, 2. VIII. 1978; 1♂, 前泊, 1. VII. 1987.
- 14. M. kusuii Y. MIYAKE イヘヤジマビロウドコガネ
 - 1♂, 我喜屋, 11. VIII, 1977.
- 15. Apogonia bicarinata okinawana Nomura フタスジカンショコガネ

17 exs., 我喜屋, 11. VIII. 1977; 5 exs., 田名, 12. VIII. 1977; 1 ex., 田名, 2. VIII. 1978; 2 exs., 前泊, 1. VII. 1987.

16. *Anomala albopilosa yashiroi SAWADA オキナワアオドウガネ

101 ♂ ♂65 ♀ ♀,我喜屋,10. VIII. 1977;2 ♂ ♂5 ♀ ♀,田名,2. VIII. 1978;1 ♂3 ♀ ♀,前泊,1. VII. 1987.

採集したのは上記の個体のみであるが、大量に発生していて 1977年の水銀灯を用いたライトトラップの採集では、次の Anomala 属 2 種を含めた 3 種が、夕刻から $2\sim3$ 時間でバケツ 一杯になった。

17. A. xanthropleura ARROW リュウキュウドウガネ

4♀♀, 我喜屋, 10. VIII. 1977; 3♂♂10♀♀, 田名, 12. VIII. 1977; 1♂1♀, 田名, 3. VIII. 1978; 1♂, 前泊, 1. VII. 1987.

アオドウガネに混じって飛来するが個体数は少なく、 飛来してくる 時間帯は本種の方がや や遅くなるようである.

18. A. edentula okinawana Nomura ムシスジコガネ

1 ♀,前泊,10. VIII. 1977;1♂,我喜屋,11. VIII. 1977;3♀♀,田名,12. VIII. 1977;14♂♂14♀♀,田名,2. VIII. 1978;6♂♂6♀♀,田名,3. VIII. 1978;2♂♂,前泊,1. VII. 1987.

19. Orycles rhinoceros (LINNÉ) サイカブトムシ

1319, 前泊, 1. VII. 1987.

灯火に飛来したものを採集したが、街路樹として植えられているヤシ類に加害がみられた. これらの樹は1978年ころは全く持ち込まれていなかったものである.

20. Eophileurus chinensis okinawanus Nomura オキナワコカブトムシ

1 ♂, 田名, 12. VIII. 1977; 1 ♂, 田名, 4. VIII. 1978; 6 ♂ ♂9 ♀ ♀, 前泊, 1. VII. 1987; 2 ♀ ♀, 田名, 1. VII. 1987.

沖縄本島産に比して小型の個体が多い。1977年、1978年の調査では個体数の少ない種と思われたが、山林へ車道が進入した結果、森林性の次種とともに目撃数が多くなっている。

21. *Protaetia exasperata iheyana K. SAKAI イヘヤアオハナムグリ (新称)

1 ♂、田名、12. VIII. 1977; 2 ♂ ♂、田名、1. VII. 1987; 1♀, 前泊, 1. VII. 1987.

22. *P. lewisi lewisi (JANSON) リュウキュウオオハナムグリ

1♂, 我喜屋, 11. VIII. 1977; 2♀♀, 島尻, 2. VIII. 1978.

23. *P. pryeri pryeri (JANSON) リュウキュウツヤハナムグリ

1 ♂6♀♀, 我喜屋, 11. VIII. 1977; 6♂♂4♀♀, 我喜屋, 12. VIII. 1977; 3♂♂2♀♀, 島尻, 2. VIII. 1978; 3♀♀, 田名, 3. VIII. 1978; 9♂♂10♀♀, 前泊, 1. VII. 1987.

全島内に普通にみられ、上記の採集個体は目撃した一部である.

24. *P. ishigakia okinawana Y. Kurosawa イシガキシロテンハナムグリ

2♀♀, 我喜屋, 11. VIII. 1977; 2♂♂4♀♀, 島尻, 2. VIII. 1978; 8♂♂1♀, 田名, 1. VII. 1987.

25. *Gametis ferticula forticula (JANSON) アオヒメハナムグリ 4♂♂1♀, 我喜屋, 11. VIII. 1977.

まとめ

- 1) 伊平屋島から3科25種を採集した. この他に, 佐藤文昭 (未発表) により *Protaetia orientalis* (Gory et Percheron) シロテンハナムグリの分布が確認されているので, この1種を加え3科26種が分布していることになる.
- 2) 伊平屋島の固有種はイヘヤジマビロウドコガネ, 固有亜種はイヘヤアオハナムグリの各1種である.
- 3) 同じ伊平屋列島に属し、似た面積を持つ伊是名島は楠井 (1981) が2科14種を報告している。伊是名島にもその後の侵入種の追加があるとしても、伊平屋島の種類数はこれに比べてはるかに多い。
- 4) 1987年の採集では、1977年、1978年に全くみられなかったサイカブトムシを採集し、シロテンハナムグリの分布も確認された。 楠井 (1988、1990) はこの2種が八重山諸島または海外から沖縄本島に侵入し、その後に近隣の離島に分散したことを報告した。 伊平屋島にも前後して侵入して来たものと思われる。

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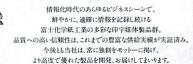
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