

A New Scarabaeid Species of the Genus *Onthophagus*  
from Borneo  
(Coleoptera, Scarabaeidae)

By TERUO OCHI

**Abstract** *Onthophagus (Indachorius) masaoi* sp. nov. is described from Borneo. A key to the species of *Indachorius* from the Sunda Islands is given.

The subgenus *Indachorius* BALTHASAR, 1941 is a relatively small one including 14 species in the world. This subgenus is widely distributed in the Oriental Region and two species have so far been known from the Sunda Islands. *Indachorius* is characterized among the subgenera of the genus *Onthophagus* in having the protibiae usually with three external teeth, the prothorax with front angles excavated beneath, the dorsal and ventral surfaces sometimes clothed with conspicuously long erect hairs and so on.

Last year, I made a collecting trip to Borneo, and collected many dung beetles in the virgin forest, at Keningau, Sabah State. I found a very interesting specimen, apparently belonging to the genus *Onthophagus* in my Keningau collection. After careful examination, it was apparent that it should be classified into an undescribed species belonging to the subgenus *Indachorius*.

*Onthophagus (Indachorius) masaoi* sp. nov. (Figs. 1-5)

Body moderate-sized, oblong oval, well convex and distinctly constricted at the waist; dorsal surface shining and rather densely clothed with conspicuously long and erect yellowish hairs except subopaque head, where the hairs are shorter and sparser; ventral surface shining, and also clothed with similarly long hairs. Color blackish brown; head and pronotum tinged with cupreous reflection; mouth parts, palpi, an-

tennae, protibiae and tarsi reddish brown; elytra black, each with three orange bands, the basal one extending from the 2nd interval to lateral margin and constricted on the 5th and 8th, the outer small one extending from the 7th to lateral margin, the apical one extending from the 1st to 3rd.

Head slightly broader than long (1.3 : 1.2), with a pair of traces of obsolete elevation on vertex; clypeus strongly and parabolically produced anteriorly, with margin feebly reflexed and evenly rounded anteriorly; clypeo-frontal suture distinctly carinate and weakly procurved; genal sutures also carinate before the each junction of clypeo-frontal suture and genal one, and the posterior part of genal suture not distinctly carinate; genae weakly produced laterally, with margin broadly rounded; eyes small, the interspace between them more than five times as long as the width of one eye; surface weakly microgranulose, sparsely, coarsely punctate on frons, genae, and the posterior part of vertex, almost impunctate on the anterior part of vertex, and also almost impunctate and

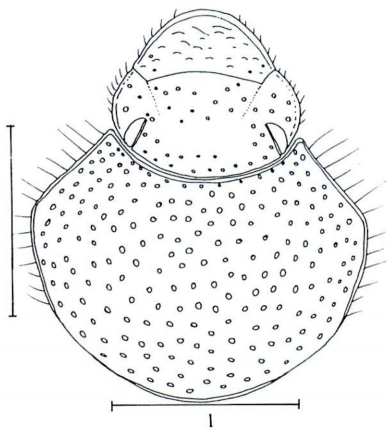


Fig. 1. Head and pronotum of *Onthophagus masaoi* sp. nov., male. (Vertical and horizontal scales = 2 mm)

sparsely, weakly wrinkled on clypeus.

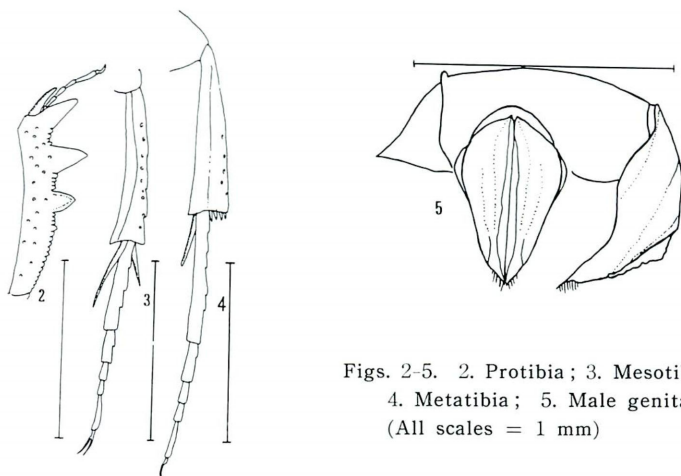
Pronotum not strongly convex, broader than long (2.3 : 1.5); anterior margin emarginate; lateral margins almost straight anteriorly, feebly sinuate posteriorly; basal margin widely and evenly rounded, finely but distinctly bordered medially, indistinctly so laterally; anterior angles sharply produced forwardly; posterior angles obtuse; surface somewhat sparsely, evenly covered with strong punctures, the interspace between punctures almost smooth and shining.

Elytra wider than long (2.5 : 2.0); striae distinctly impressed, with strial punctures relatively strong, crenulating the inner margins of intervals and separated from each other by four to five times their diameter; the 7th striae clearly curved; intervals gently convex, shining and weakly rugose, with the sutural interval bearing single, regularly arranged and longitudinal row of small punctures, the 2nd to 7th intervals bearing double similarly longitudinal rows of small punctures, the 8th bearing three or four irregularly arranged and longitudinal rows



of small punctures.

Prothorax with front angles shallowly and internally excavated beneath, the upper edge of the excavation strongly carinate. Metasternum sparsely, strongly punctate in middle, more densely and ocellately so at sides. Abdominal sternites shining, each with one or two rows of ocellate punctures along basal margin. Pygidium strongly convex, carinate at base, densely and strongly punctate. Protibiae rather elongate, slightly incurved near each apex, with three acute external teeth; the 1st tooth slightly longer than the 2nd, the 3rd small; the rest of outer margin finely denticulate. Mesotibiae short, incurved at the middle. Metatibiae straight; metatarsus with basal segment about 3.5 times as long as the length of the 2nd.



Figs. 2-5. 2. Protibia; 3. Mesotibia;  
4. Metatibia; 5. Male genitalia.  
(All scales = 1 mm)

Aedeagus very large; parameres elongate, gradually tapering apically in lateral aspect, with apices bearing some short hairs.

Length: 4.7 mm; width: 2.5 mm.

Holotype: ♂, Crocker Range, 10 miles from Keningau, Sabah State, 29 March 1991, T. OCHI leg. The holotype is deposited in the Osaka Museum of Natural History, Japan.

Distribution: Borneo.

The specific name is given after Dr. MASAO HAYASHI, for his contribution to the Japan Coleopterological Society.

Notes. The present new species is distinguished from the other ones of the subgenus *Indachorius* occurring in the Sunda Islands by the following key.

Key to the species of the subgenus *Indachorius*  
occurring in the Sunda Islands

1. Dorsal and ventral surfaces clothed with conspicuously long and erect hairs. Pronotum with basal margin bordered medially, indistinctly so laterally. Clypeo-frontal suture long, distinctly carinate..... 2
- Dorsal surface clothed with short hairs. Pronotum with basal margin not bordered throughout. Clypeo-frontal carina absent in ♂, short one present in ♀... 3
2. ♂, ♀. Head with a pair of small tubercles on vertex; clypeus subtrapezoid in outline, with anterior margin truncate or shallowly emarginate at the middle; surface almost microgranulose, densely, strongly wrinkled and sparsely, coarsely punctate on clypeus. Pronotum strongly convex, rather densely covered with strong punctures. Elytra with the 7th striae slightly curved. 4-5 mm. Philippines, Borneo, Malay Peninsula, Indochina..... *O. (I.) aereopictus* BOUCOMONT
- ♂. Head without any tubercle on vertex; clypeus parabolic in outline, with anterior margin evenly rounded; surface microgranulose, sparsely, weakly wrinkled and almost impunctate on clypeus. Pronotum not strongly convex, rather sparsely punctate with large strong punctures. Elytra with the 7th striae distinctly curved. 4.7 mm. Borneo..... *O. (I.) masaoi* sp. nov.
3. Head with a horned lamina or tubercle on vertex in ♂, without any tubercle or carina on vertex in ♀; clypeus with anterior margin evenly rounded in ♂, truncate in ♀. Head and pronotum black, tinged with metallic green luster. 4.5-5.5 mm. Java..... *O. (I.) spathatus* BOUCOMONT

Acknowledgements

I wish to express my cordial thanks to Mr. ZEN NOMURA for his kind assistance in the present study.

References

- BALTHASAR, V., 1963. Monographie der Scarabaeidae und Aphodiidae der palaearktischen und orientalischen Region, 2. 627 pp. Prag.
- BOUCOMONT, A., 1914. Les coprophages de l'Archipel Malais. *Annls. Soc. ent. Fr.*, 83: 238-350.
- 1924. Lamellicornes coprophages d'Indochine. *Bull. Soc. ent. Fr.*, 29: 210-214.
- MASUMOTO, K., 1989. Coprophagid-beetles from Northwest Thailand, III. *Ent. Rev. Japan, Osaka*, 44: 31-43.
- OCHI, T., 1984. Two new species of the genus *Onthophagus* LATREILLE from Taiwan and the Ryukyu Archipelago. *Ibid.*, 39: 63-67.
- PAULIAN, R., 1945. Coléoptères scarabéides de l'Indochine. *Fn. Emp. fr.*, 3: i+1-225. Larose, Paris.

Two New Elaterid-species from Taiwan  
Collected by Mr. M. YAGI  
(Coleoptera)

by TAKASHI KISHII

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Formerly, I reported 12 Taiwanese elaterid-species in 1981 (Bull. Heian High Sch., 25: 21 & 22) and 20 ones in 1990 (Ent. Rev. Japan, 45 (1): 11-27) based on the collection by Mr. MASAMICHI YAGI. Since 1986, fortunately I have got an opportunity to examine many materials of Taiwanese elaterid-species through the courtesy of Dr. KINTARŌ BABA. As the result, I found the misidentification on two species in my reports stated above. According to the latest examination, both the species are new taxa without doubt, and described newly as follows.

Before going further I wish to express my hearty gratitude to Mr. M. YAGI and Dr. K. BABA for their kind offering me an opportunity to study. The holotype specimens of the new taxa are deposited in my private collection.

*Vuilletus yagii* KISHII, sp. nov.

(Elaterinae, Elaterini)

(Figs. 1, 3 & 4)

*Vuilletus mushanus* (MIWA, 1928): KISHII, 1981, Bull. Heian High School, 25: 22, fig. 20 (Nanshanchi in Taiwan).

Male, 5.70-6.65 × 1.40-1.65 mm; female, 7.35-7.70 × 1.85-1.90 mm. Stout, elongate, subfusiformed, rather cylindrical, well convex longitudinally above as well as beneath, and conspicuously shining with metallic luster wholly. Metallic green all over with some cupreous tint with fuscous antennae except of three basal segments entirely yellowish orange, and with legs entirely orange. Pubescence recumbent, not so tender, rather sparse, long and yellowish with distinct luster.

Head not so broad, prognathous forwards with mandibles plainly robust; vertex weakly convex above evenly and simply; relative extent across eyes and each eye breadth in upper views as 38:6 (ca. 6.3 times). Frons flattened, feebly declivous antero-inferiorly; lateral edge upon each antennal sulcus well-limited; anterior border of frons smooth and



plane without frontal groove, and perfectly touching with rear edge of labrum. Vertical surface glabrous with punctures large, rather dense, uneven in scale and density; average distance among punctures narrower than puncture diameter generally.

Antennae plainly short, stout, and hardly exceeding bases of posterior angles of pronotum (male) or scarcely exceeding middle of pronotal length (female); relative lengths and widths from basal joint to 7th as 12/5, 7/4.8, 8.5/4, 11/7, 10/7, 10/8 and 9.5/7.8 (length/width) (male, isotype, fig. 1-A), and as 13/5.5, 6/4.5, 9.5/4.2, 9/7, 7.5/7.2, 7.2/7.8 and 7/8 (female, paratype) respectively; basal joint cylindrical, 2nd subbarrel-formed, 3rd clavate, 4th to 10th serrated clearly.

Pronotum elongate, subtrapezoid, narrowest at anterior angles, widest at apices of hind angles, and rather substraightly narrowing ahead from bases of posterior angles; relative length and width in median measurement as 95:76 (male) and 102:90 (female); well convex above roundly and simply, without median line nor channel, but visible a faint medio-longitudinal furrow on basal slope only. Hind angles divergently developed postero-laterally, each with an acute carina extending straightly from inner edge of angle before apex to beyond base; surface of angle smooth entirely with a shallow impression at anterior border. Discal punctures single, circular, deep, a little sparser and smaller than those on head vertex, more or less even in density and size at summit, then becoming progressively larger and denser to anterior border as well as to lateral sides, and sparser and smaller on posterior slope; average extent among punctures at median area exceedingly broader than puncture diameter; general surface entirely glabrous.

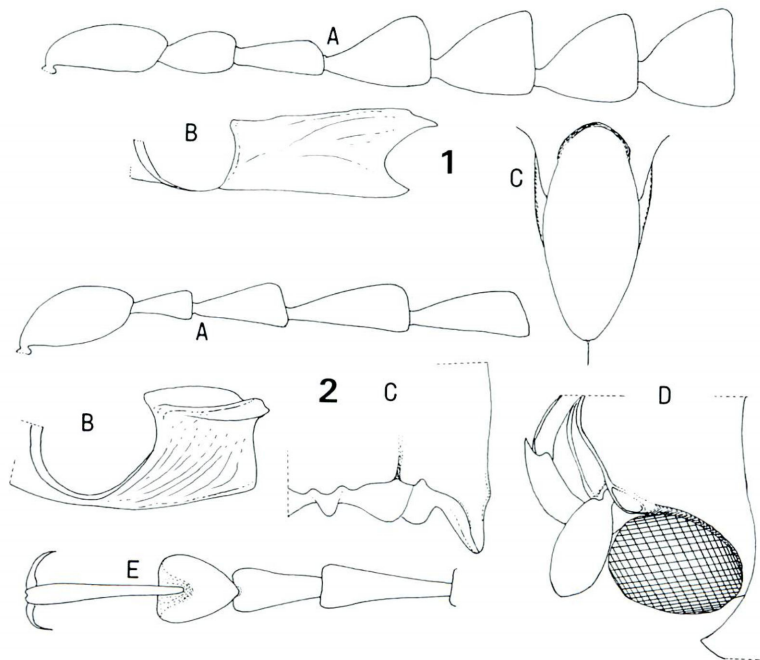
Scutellum (fig. 1-C) elongate, clearly declivous antero-inferiorly, wholly flattened, without any median elevation, widest behind middle, feebly constricted behind anterior angles; anterior edge roundly expanded ahead at middle; posterior end rounded; surface wholly smooth with punctures distinctly sparse and even in density and scale.

Elytra obviously convex above medio-longitudinally, subperpendicularly declined antero-inferiorly at base, widest behind humeri, then tapering substraightly to hind ends; sutural apices behind scutellum slightly elevated and posterior ends of elytra ill-truncated. Striae distinct, clearly grooved with deep round and large punctures continuingly; strial interstices generally elevated weakly, with punctures shallow, small, rather dense and uneven; general surface on strial intervals lustrous with minute irregular and coarse creases in high magnification.

Prosternum not so broad, narrowest behind middle, feebly convex below medio-longitudinally; anterior rim small, narrow, clearly concave transversely, with frontal line transverse and margined narrowly; surface

smooth with punctures large, subumbilicate, rather dense and a little uneven in density and size. Prosternal process obviously narrowed behind procoxal cavities in ventral aspects; in profile (fig. 1-B) rather thick, nearly parallel-sided with a clear emargination at apex; both extremities of apical and subapical ends acutely pointed and not divergent mutually. Prosterno-pleural sutures substraight, gently widening forwards, closed at anterior ends, with inner edge of each propleuron broadly margined glabrously. Propleural punctures larger and a little sparser than those of prosternum. Metasternal groove elongate, rhombic and concave medially. Metasternal punctures slightly smaller and denser than prosternal ones. Legs moderate. Male genitalia as figured (fig. 4).

Holotype, ♂, Nanshanchi in Nan-tou Hsien, M. Taiwan, February 19, 1980, M. YAGI leg. Isotypes, 3♂♂, 1♀, same data as holotype. Paratypes, 1♂, 1♀, ditto,



Figs. 1, 2.

1. *Vuilletus yagii* KISHII, sp. nov.

A. Right antennal joints 1st to 7th; B. Prosternal process in profile;  
C. Scutellum.

2. *Cardiotarsus yagii* KISHII, sp. nov.

A. Right antennal joints 1st to 5th; B. Prosternal process in profile;  
C. Latero-posterior angle of pronotum; D. Head; E. Apical 4 joints of  
metatarsus.

March 16, 1980, M. YAGI leg.; 1 ♂, ditto, March 19, 1980, M. YAGI leg.; 1 ♂, ditto, March 20, 1980, M. YAGI leg.; 1 ♂, 2 ♀ ♀, ditto, March 21, 1980, M. YAGI leg.

Remarks. In the appearance this new *Vuilletus*-species is closely allied to *V. mushanus* (MIWA, 1928) and *V. babai* KISHII, 1991 from Taiwan, though in *mushanus*: body smaller (5.5 mm), head and pronotum with a medio-longitudinal impression respectively and scutellum ridged medianly; and in *babai*: body larger (8.0 mm), prothorax rather quadrate and not elongate, scutellum parallel-sided, and prosternal punctures larger and denser.

*Cardiotarsus yagii* KISHII, sp. nov.

(Cardiophorinae, Cardiophorini)

(Figs. 2 & 5-8)

*Cardiotarsus rarus* MIWA, 1927: KISHII, 1990, Ent. Rev. Japan, 45 (1) : 25, figs. 20 & 27 (Mt. Kuangtou-shan in Taiwan).

Male, 9.00-10.10 × 2.80-3.10 mm. Rather robust, elongate, plainly massive, subparallel-sided and subshining with pronotum more or less opaque by dense punctures. Bright yellowish brown with head and pronotum a little darker excepting anterior and posterior borders of pronotum pale, and scutellar margin a little infusate. Pubescence distinctly long, tender, generally recumbent and yellowish white with plain luster.

Head narrow, slightly convex above simply at middle; relative width across eyes and each eye breadth in upper views as 47:23 (ca. twice); frons widely impressed transversely along anterior edge; frontal margin well-definedly and thickly carinated and roundly projected ahead, with bases before eyes obtusely bifurcated and clearly grooved narrowly along eyes (fig. 2-D). Vertical punctures small, single, distinctly dense, and uneven in density; surface among punctures smooth entirely. Frontal groove broad, plainly excavated and faced ahead obliquely, with minute and obscure granules on surface all over. Antennal sulci circular, shallow and large. Labrum narrow, transversely spindle-formed, with a distinct transverse elevated carina-like ridge along hind margin; surface rugosely granulated and rugged wholly. Eyes obviously large, spherically prominent antero-laterally.

Antennae slender, conspicuously exceeding apices of prothoracic hind angles by apical three joints or more; relative joint lengths and widths from 1st to 5th as 26/14, 14/7.5, 23.5/11, 30/11 and 29/11 respectively (length/width) (holotype, fig. 2-A); basal joint voluminous and subbarrel-formed, 2nd obconic, 3rd to 10th ill-serrated, 3rd triangular, 4th to 10th elongate triangular and slender, and 11th narrow and a little longer than the preceding.

Pronotum quadrate, simply and roundly convex above medianly, without any median line nor channel including posterior slope, widest



at middle, then gently and roundly narrowing ahead as well as back; relative median length and width as 94:100; anterior edge obviously projected ahead at angles, but not covered eyes, with median margin weakly expanded forwards; medio-posterior margin feebly and obtusely tridentate. Hind angles (fig. 2-C) short, parallel each other, not divergent outwards, slightly expanded above at lateral sides near apices, without carination; basal furrows distinct, short, a little divergent ahead mutually, with a small round notch at outside of each furrow. Lateral margins entirely absent exclusive of posterior angles. Discal punctures generally similar to those of vertex, but a little smaller and even.

Scutellum heart-shaped, generally flattened, with a medio-anterior channel shallow and rather obscure, widest at middle, then suddenly narrowing anteriorly, and gradually and straightly converging posteriorly; anterior edge slightly excavated at middle; rear end rather acutely pointed; surface glabrous, with minute sparse punctures.

Elytra well convex above longitudinally, parallel-sided medianly, then gradually and roundly converging posteriorly, feebly expanded outwards behind humeri; humeral parts well developed antero-laterally; striae grooved narrowly, with punctures circular and rather discontinual; interstices among striae rather flattened, smooth, at a glance having no punctures, though in high magnification clothing exceedingly minute dense and uneven punctures; elytral and sutural ends moderate.

Prosternum not so broad, narrowest at posterior bases before procoxae, then straightly and gently divergent ahead, weakly convex below near rear area, more or less flattened behind anterior lobe, which is narrow transversely and obliquely bent antero-inferiorly, with a transverse depression at base and anterior edge well-carinated; punctures shallow, dense and uneven in density and scale. Prosternal process in profile (fig. 2-B) clearly thick and short, feebly bent postero-inferiorly; hind end truncated rectangularly, with posterior edge slightly excavated. Prosterno-pleural sutures straight, single, and entirely closed at anterior ends. Propleural punctures distinctly dense and partly reticulated each other. Rear margin of each propleuron with a conspicuous triangular emargination near postero-lateral corner. Mesosternal groove broad and perpendicularly bent medianly. Metasternal punctures plainly small, dense and rather even in density. Legs not so slender, with 4th tarsal joints expanded apically and a little bilobed (fig. 2-E). Aedeagus as figured (figs. 7 & 8); apex of median lobe rounded and not so narrowed; apices of lateral lobes with small triangular expansion.

Female, 8.90-10.50 × 2.70-3.35 mm. Fuscous with antennae, anterior angles of prothorax, median area of scutellum, sutural line of elytron, elytral apices obscurely, lateral area of abdominal segments and legs

more or less reddish brown. Antennae a little shorter than in male. Sclerotic plates in bursa copulatrix as figured (fig. 6).

Holotype, ♂, Mt. Kuangtoshan, Nan-tou Hsien, M. Taiwan, May 25, 1985, M. YAGI leg. Isotypes, 2♂♂, 2♀♀, same data as holotype. Paratypes, 2♀♀, ditto, May 23, 1985, M. YAGI leg.

Remarks. According to the literature, this species has some resemblance of *Cardiotarsus rarus* MIWA, 1927 from Musha in Taiwan, though in the original description of the latter, MIWA stated as "prothorax with a feeble median channel longitudinally, ..... hind angles scarcely turned outwardly. .... Antennae, basal joint darker, ..... 11 1/2 mm." Thereafter, he reported *rarus* from many localities in Taiwan (1930 & 1934), and in 1934 redescribed it in much the same substance. In the present new *Cardiotarsus*-species these diagnoses differ entirely as is mentioned above in the description.

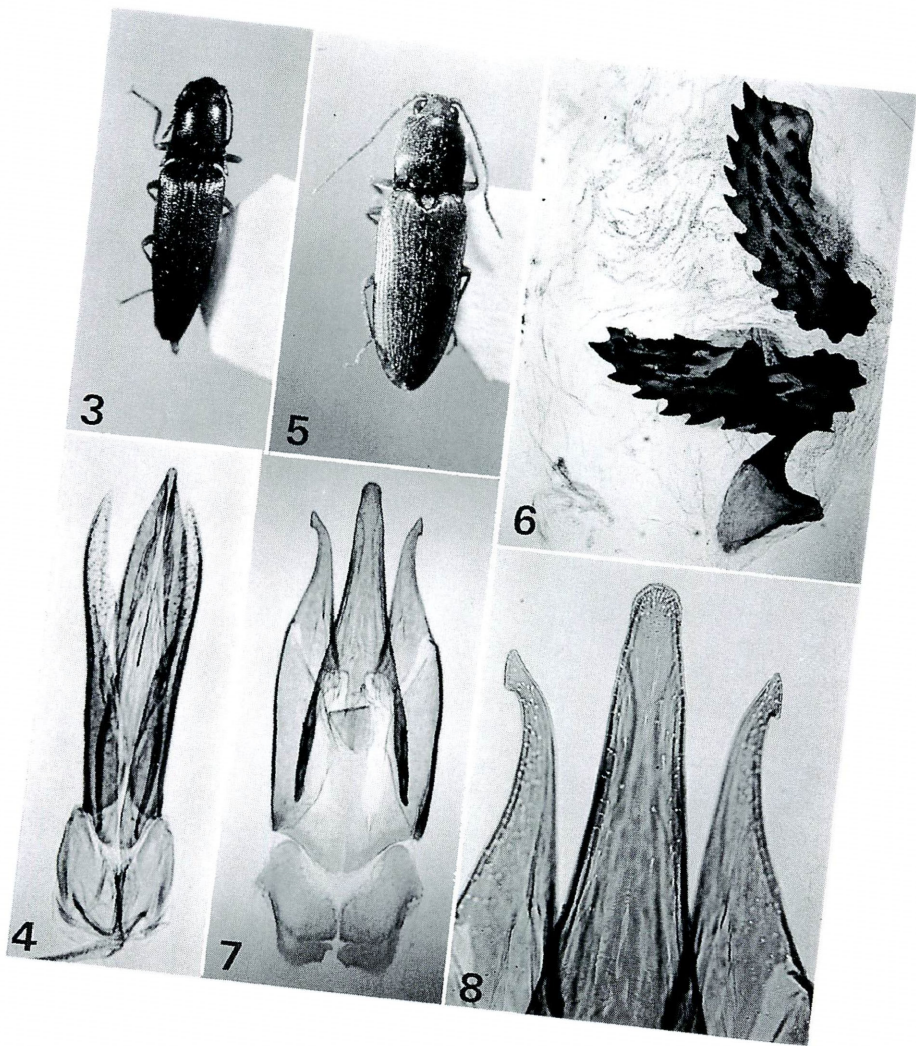
In 1966, 1970 and 1972, ÔHIRA published *rarus* from some localities in Taiwan, and illustrated the male genitalia in 1966. The outline of apico-lateral expansion of each paramere and of median lobe, however, are plainly differentiated from *yagii*.

#### References

- KISHII, T., 1991. Elateridae from Taiwan, with descriptions of some new taxa (6) (Coleoptera). A study of the materials collected by Dr. KINTARÔ BABA from 1986 to 1989. Trans. Essa ent. Soc., Niigata, (72): 19 & 25-28, figs. 1 & 53.
- MIWA, Y., 1930. Elateridae of Formosa (III). Trans. nat. hist. Soc. Formosa, 20 (106): 5.
- 1934. The fauna of Elateridae in the Japanese Empire. Rep. Dept. Agr. Govt res. Inst. Formosa, 65: 213.
- ÔHIRA, H., 1966. Notes on some Elateridae-beetles from Formosa, III. Kontyû, 34 (4): 338, fig. 67.

#### Explanation of Plate 1

- Pl. 1, fig. 3. *Vuilletus yagii* KISHII, sp. nov., isotype, ♂, 6.60 mm.
4. Ditto, male genitalia.
5. *Cardiotarsus yagii* KISHII, holotype, ♂, 9.10 mm.
6. Ditto, ♀, sclerotic plates in bursa copulatrix.
7. Ditto, male genitalia.
8. Ditto, apical part of male genitalia.







# Notes on Staphylinidae from Taiwan. VII.

By YASUHIKO HAYASHI

*Quedius (Microsaurus) sungkangensis* sp. nov. (Figs. 1-7)

The present species is similar in general appearance to a small species of *Velleius*.

Body thick, stout, subparallel-sided and moderately shiny, pronotum weakly sericeous and abdomen strongly iridescent; black, base of 2nd antennal segment reddish, palpi pitchy with each terminal segment paler, legs blackish brown, 8th segment of abdomen and genital segments reddish, with apical half of their pleurites ( $\delta$ ) or styletes ( $\text{♀}$ ) black. Length: 10.5-12.5 mm.

Head suborbicular, considerably wider than long (29:22), narrower and shorter than pronotum (29:36 and 22:31), gently convex above but frons sometimes vaguely depressed in the middle, front margin and basal one shallowly emarginate, postgenae gently arcuate; upper surface glabrous except original setae, microscopically and very sparsely punctured, and covered with very fine, transversely linear microsculpture; postgena with several setiferous coarse punctures behind postgenal original seta, and with smaller and more abundant punctures below; infraorbital crest weakly expanded laterad, then gently sinuate posteriad. Labrum (fig. 2) deeply emarginate in middle; the other mouth organs similarly structured to the authorised generic manner; gular plate in hind half subparallel-sided and



Fig. 1. *Quedius (Microsaurus) sungkangensis* sp. nov.

usually very narrow. Eye large, gently prominent, nearly twice as long as postgena. Antennae rather thick, moderately long and reaching a little behind middle of pronotum, and somewhat thickened distally from 3rd segment; basal 3 segments polished, in ♂ basal 5 and 11th segments more or less longer than wide, 6th as long as wide, 7th to 10th slightly wider than long (10th 0.9 times as long as wide), and each segment with the following relative length: 13.0-6.0-10.0-5.0-5.0-5.0-4.5-4.5-4.5-4.5-9.0; in ♀ 6th to 10th segments each slightly wider than long, and 10th somewhat longer than 9th.

Pronotum (fig. 3) semicircular, truncate at apex, convergent in front, a little wider than long (36:31), slightly narrower (36:38) and as long as elytra (elytral length measured from prescutoscutellary suture <in sense BLACKWELDER 1932> to end of elytral suture); front margin gently arcuate, front angles rounded and a little protrusive, hind angles somewhat subangulate, all margins completely visible from above; disc well convex in middle, weakly explanate laterally, almost glabrous except original, serial and marginal setae, microscopically and very sparsely punctured and covered with very fine linear microsculpture as on head; paired median rows of 3 large punctures on front area, in which the hind two punctures approaching each other, another row of 2 large punctures more lateral and oblique to the median ones, and the punctures widely separated from each other; marginal areas clothed with sparse small punctures except front median area.

Prosternal process reflexed at apex and the tip acute.

Scutellum (fig. 4) not punctured; basal half shallowly depressed, rough, transversely, and irregularly rugose, marginal areas and hind half smooth and covered with very fine linear microsculpture as on pronotum (in the specimens from Mt. Ali, the scutellum sometimes not depressed and without rugose sculpture).

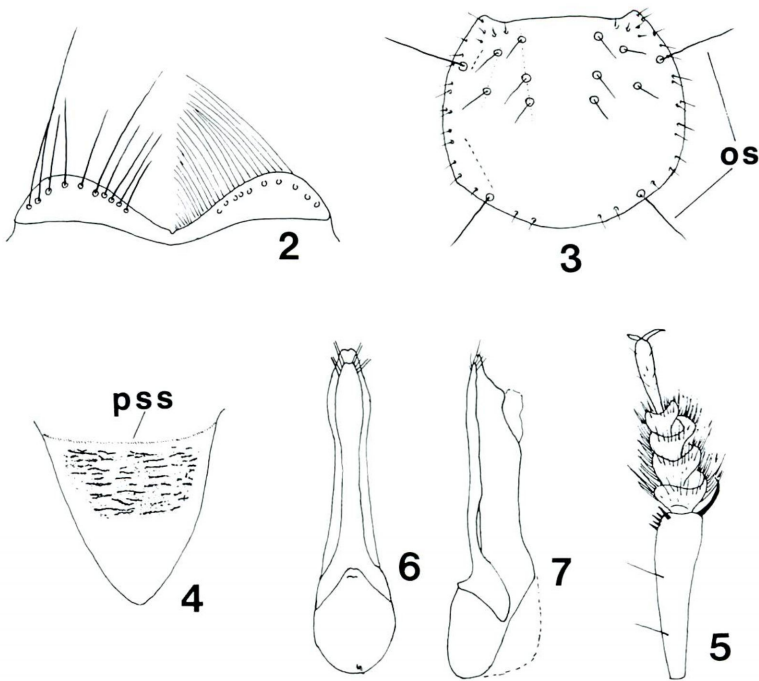
Elytra subquadrate, parallel-sided, considerably wider than long (38:31, but subequal in width to the maximum length); latero-apical angles widely rounded, each apical margin weakly arcuate; disc weakly convex, almost smooth, without microsculpture, and with coarse, sparse and dark setiferous punctures.

Hind wings well developed, functional.

Mesosternum flat in basal area, mesosternal process considerably convex only basally and bluntly ridged medianly.

Abdomen distinctly narrower at base than elytra, gradually narrowed behind, with blackish setae as those on elytra, and elsewhere with fine, not dense and sparing punctures, the punctures and the setae on sternites a little sparser than those on tergites, and setae on 8th segment much smaller, sparser and somewhat paler than on any segments; 3rd





Figs. 2-7. *Quedius (Microsaurus) sungkangensis* sp. nov.

2, Labrum (in left half fine setae removed, and in right half large setae removed); 3, Pronotum (os: original seta); 4, Scutellum (pss: prescuto-scutellary suture); 5, Protibia (fine setae removed) and protarsus; 6, Male genitalia, ventral view; 7, Ditto, lateral view.

tergite widely impunctate and smooth in middle, 3rd to 5th tergites shallowly and transversely depressed at each base; 8th sternite widely and moderately deeply emarginate at apex and subtriangularly depressed along the emargination; apex of 9th sternite shallowly, somewhat asymmetrically, subtriangularly emarginate.

Protibia long, gently thickened apicad, spinous only at apex and on underside; protarsus (fig. 5) distinctly wider at base than apex of the tibia and strongly dilated in basal 4 segments of both sexes.

Male genitalia (figs. 6, 7) symmetrical, narrow in ventral view; penis gradually narrowed apicad from base and a little tumid in apical fifth, apex subtruncate and shallowly notched at the middle; parameres long, reaching near apex, slender, much narrower than penis, apex subtruncate, shallowly emarginate at tip and with 2 pairs of long and fine setae on

either side (rarely with an additional seta between the right pairs).

Holotype: ♂, Sungkang, Nantou Hsien, 22. VIII 1973, Y. KIYOYAMA leg. (in coll. T. SHIBATA). Allotype: ♀, same data as the holotype. Paratypes: 5♂♂, 1♀, same locality as the holotype, 20. IV. 1973, 30. IV. 1971, 29. VIII. 1974, 18. IX. 1970, Y. KIYOYAMA leg., 2. VII. 1971, Y. MAEDA leg., 6. VIII. 1969, T. KOBAYASHI leg.; 6♂♂, 4♀♀, Fungchiifo, Chiai Hsien, 29. IV. 1971, Y. HAYASHI leg., 29 and 30. VI. 1980, Y. YAMAMOTO leg., 27. IV. 1983, 9. V. 1982, F. KIMURA leg.; 1♀, Musha, Nantou Hsien, 7. VIII. 1969, Y. MAEDA leg.; 2♂♂, 1♀, Mt. Lishan, Nantou Hsien, 4. IV. 1974, 16. VIII. 1974, Y. KIYOYAMA leg.; 4♂♂, 5♀♀, Mt. Ali, Chiai Hsien, 17. V. 1981, N. ITO leg., 18. V. 1981, F. KIMURA leg., 3. V. 1983, T. ITO leg.

The new species is closely allied to *Quedius (Microsaurus) beesoni* CAMERON from Chakrata district and Darjeeling dist., India, because of the presence of peculiar sculpture on the scutellum, and it is quite similar in general appearance to *Q. (Microsaurus) mineticus* CAMERON from Darjeeling, but in both the latter species the eyes are only slightly longer than the postgenae, the elytra are a little narrower than the pronotum, and the body is a little larger. The present species also well resembles *Q. (Microsaurus) insulanus* CAMERON from Mt. Ali, Taiwan, but in the latter species the body is entirely black and a little smaller (9 mm). The new species is rather similar in the shape of male genitalia to that of *Q. (Microsaurus) fulgidus* FABRICIUS.

*Quedius (Microsaurus) flavocaudatus* sp. nov. (Figs. 8-11)

The present new species is quite similar in general appearance to *Q. sungkangensis*.

Male: Body blackish brown, pronotum, scutellum dark piceous with strong silky reflection, mouth organs, antennae, all tibiae and tarsi brown but hind tibiae darker in dorsal side; abdomen strongly iridescent, tergites violaceously tinged, apical fifth of 7th segment, 8th and the following genital segments light yellowish red. Length: 9.8 mm.

Head considerably wider than long (31:24), narrower and longer than pronotum (31:40 and 24:32); frons shallowly depressed in the middle; postgenae rather sparsely punctate, substraightly convergent behind, then rounded to neck-constriction, therefore eyes distinctly prominent and much longer than postgenae (13:7). Antennae elongate, almost reaching hind angles of pronotum; all the segments distinctly longer than wide, 10th segment the shortest and a little longer than wide (6:5), and each segment with the following relative length: 14.0-7.5-11.0-7.0-7.0-6.5-6.5-6.5-6.5-6.0-9.0. Infraorbital crest not expanded, only weakly arcuate.

Pronotum (fig. 9) large, considerably wider than long (40:32), wider and longer than elytra (40:34 and 32:24) and rather explanate laterally; one puncture placed rather near median row, of course not making a row, marginal punctures sparser.

Scutellum not depressed, more widely rugose except marginal areas.

Elytra short, much wider than long (34:24 and also distinctly wider than the maximum length); surface weakly vermiculate, rather finely and more sparsely asperate-punctate than in *sungkangensis*, covered with microsculpture vestigial, finely strigous, irregularly arranged, and with strongly recumbent setae. Hind wings well developed.

Abdomen nearly as wide at base as elytra, rather sparsely asperate-punctate, setae on 8th segment not small; transverse depression on 3rd to 5th tergites shallow, rather indistinct.

Male genitalia (figs. 10, 11) very different from *Q. sungkangensis*, thicker and subclavate; penis in ventral view somewhat inclined to left, weakly narrowed in intermediate portion of sides, rounded at apex and subangulate at the tip; parameres in ventral view very

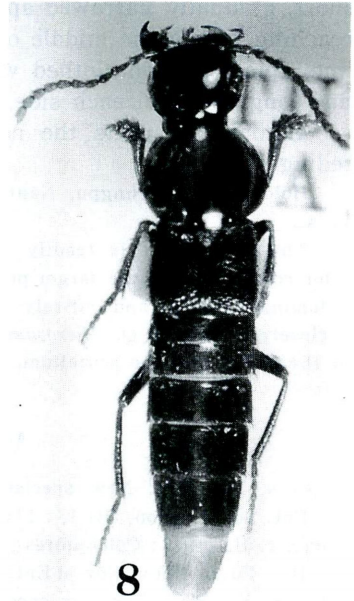
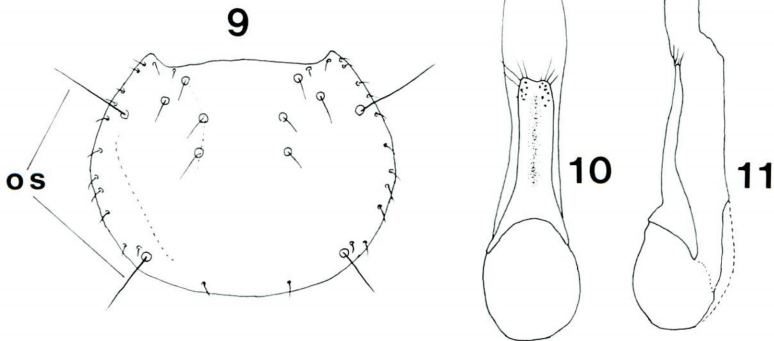


Fig. 8. *Quedius (Microsaurus) flavocaudatus* sp. nov.



Figs. 9-11. *Quedius (Microsaurus) flavocaudatus* sp. nov.

9 Pronotum (os: original seta); 10, Male genitalia, ventral view; 11, Ditto, lateral view.



short, gradually narrowed apicad, but wider even at apex than as usual, reaching barely the middle of penis and shallowly sulcate along median line, apical portion clothed with several fine punctures and separated 4 fine long setae on each side, apical margin shallowly emarginate.

In other respects the new species resembles very closely the preceding species.

Holotype: ♂, Tungpu, Nantou Hsien, 7. VII. 1980, N. Iro leg. (in coll. T. SHIBATA).

The new species is readily distinguishable from *Quedius sungkangensis* by the paler color of body, the larger pronotum, the shorter elytra, the reddish apex of 7th abdominal segment and entirely reddish genital one. The present species perhaps is closely related to *Q. (Microsaurus) birmanus* CAMERON from Burma by the sculpture on the elytra and the scutellum.

#### Additional references

- CAMERON, M., 1949; New species of Staphylinidae (Col.) from Taiwan. Proc. R. Ent. Soc. London, (B) 18: 175-176.
- COIFFAIT, H., 1978; Coléoptères staphylinides de la Région paléartique occidentale III. Pubb. Nouv. Rev. d'Ent., 6: 7-364.
- SHIBATA, Y., 1986; Two new species of the genus *Quedius* (Col., Staphylinidae) from Taiwan. Ent. Pap. pres. KUROSAWA, Tokyo: 170-176.

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

On the genus *Tetraphyllus* LAPORTE DE CASTELNAU et BRULLÉ (III)

By KIYOSHI ANDO

**Abstract** Description of seven new species and one subspecies of the genus *Tetraphyllus* (Tenebrionidae), and some records of known species of the genus. (The names of new species: *T. naotaro* sp. nov., *T. crucifer* sp. nov., *T. katsuae* sp. nov., *T. pulchellus* sp. nov., *T. mucronatus* sp. nov., *T. cinctulus* sp. nov., *T. nomurai* sp. nov. and *T. rutilans minutus* subsp. nov.).

IV. *laevicollis* group

*Tetraphyllus laevicollis* (FAIRMAIRE, 1893)

(Figs. 1-2)

Specimens examined: [Malay Peninsula] 1 ex., Cameron Hi. (14 mi.), Malaysia, 29. XII. 1975, Y. KIYOYAMA leg.; 2 exs., Tapah, 17. II. 1974 & 30. III. 1974, Y. KIYOYAMA leg.; 1 ex., Gua Musang, 25. IV. 1975, Y. KIYOYAMA leg.; 1 ex., Bentong, 17. III. 1975, Y. KIYOYAMA leg.; 3 exs., Cameron Highlands (17-18 miles), Pahang, 8, 11 & 20. III. 1976, K. SAKAI leg.; 1 ex., Botanic Garden, Singapore, 17. III. 1974, Y. KIYOYAMA leg.; [Borneo Is.] 1 ex., Sepilok, Sabah, 5-11. VIII. 1983, N. OHBAYASHI leg.

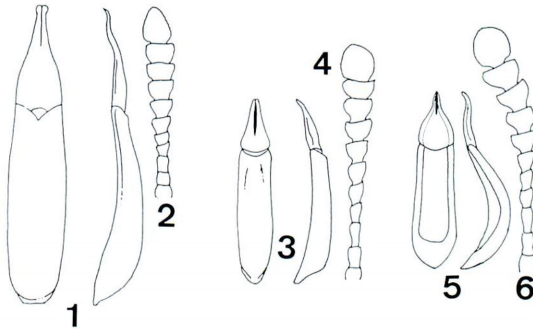
Notes: The head of my examined some specimens is finely punctate.

*Tetraphyllus lunuliger lunuliger* (MARSEUL, 1876)

(Figs. 3-4)

Specimens examined: [Japan] 2 exs., Atarashi, Kii, 15. VII. 1965, K. KUZUGAMI leg.; 2 exs., Nose, Osaka, 15. VII. 1984, K. ANDO leg.; 2 exs., ditto, 18. VI. 1984, K. ANDO leg.; 3 exs., Kasuga, Nara, 4. VII. 1976, K. ANDO leg.; 1 ex., ditto, 22. V. 1983, K. ANDO leg.; 2 exs., Sasari Pass, Kyoto, 30. VI. 1985, K. ANDO leg.; 1 ex., Ashu, Kyoto, 27. VI. 1976, K. ANDO leg.; 1 ex., Kisofukushima, Nagano, 16. VI. 1985, K. ANDO leg.; 1 ex., Akuwa, Yokohama, 2. VIII. 1982, K. WADA leg.; 1 ex., Ohdaigahara, Nara, 24. VI. 1984, K. ANDO leg.; 1 ex., ditto, 5. VIII. 1988, M. HIRANO leg.; 1 ex., ditto, 23. VII. 1953, H. ISHIDA leg.; 2 exs., Mizuho, Kyoto, 18. VI. 1986, Y. HAYASHI

leg.; 2 exs., ditto, 15. VII. 1989 & 8. VII. 1975, Y. HAYASHI leg.; 1 ex., Kawanishi, Hyogo, 15. VII. 1985, Y. HAYASHI leg.; 1 ex., Yudomari, Yakushima Is., 1. I. 1960, M. YOSHIKAWA leg.; 5 exs., Mikura Is., Izu, 19-21. V. 1988, K. KUZUGAMI leg.; 2 exs., Mt. Daisen, Tottori, 7. VII. 1991, K. & M. ANDO leg.



Figs. 1-6. 1, 2. *Tetraphyllus laevicollis* (FAIRMAIRE); 3, 4. *Tetraphyllus lunuliger lunuliger* (MARSEUL); 5, 6. *Tetraphyllus latreillei* CAST. et BRILL.

1, 3, 5. Male genitalia (left: dorsal view; right: lateral view); 2, 4, 6. Antenna.

*Tetraphyllus lunuliger laevis* M. T. CHÛJÔ, 1977

Specimens examined: [Japan] 8 exs., Hatsuno, Amami Is., 2. IV. 1967, H. NOMURA leg.; 1 ex., ditto, K. KUZUGAMI leg.; 3 exs., Okumata, Amami Is., 5. VIII. 1961, K. YAMADA leg.

*Tetraphyllus latreillei* CAST. et BRILL., 1831

(Fig. 5-6)

Specimens examined: 2 exs., Romblon, Sibuyan Is., Philippines, 1980, native collector; 2 exs., Bicol Nat. Park, Luzon, 6. II. 1985, A. KATO leg.

*Tetraphyllus corruscus* (FAIRMAIRE, 1882)

(Figs. 7-8)

Specimens examined: [Malay Peninsula] 1 ex., Cameron Hi., 7 mi., 1. III. 1974, Y. KIYOYAMA leg.; [Sumatra] 1 ex., Benakat (Nursery site), South Sumatra, 6. II. 1983, H. MAKIHARA leg.

Notes: Regarding the colour of body, the examined specimens do not agree well with the original description and KASZAB's (1944) redescription as follows: Head violet or bluish green, pronotum divided into three parts, narrowly violet in the

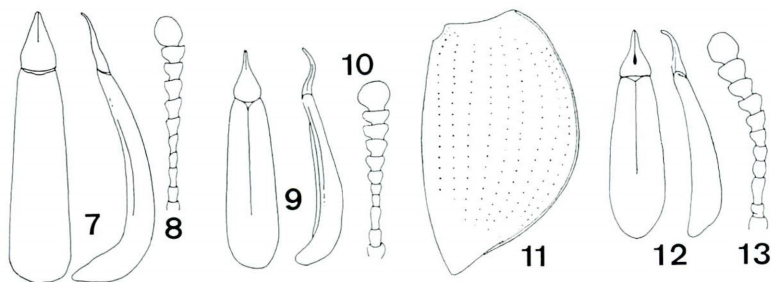


middle, and widely blue-green laterally, the colour of blue-green sometimes with violet tint, elytra with a purple or dark golden transverse band in middle, the band bordered by golden-blue or blue-violet reflexion, humeral patch of each elytron metallic-green or dark green, surrounded by purple and golden tinge (the shape of the patch more or less quadrate).

*Tetraphyllus rutilans rutilans* (FAIRMAIRE, 1893)

(Figs. 9-10)

Specimens examined: [Borneo Is.] 1 ex., Keningau, Sabah, 15. III. 1989, M. ITOH leg.; 2 exs., ditto, 23. IV. 1989, M. ITOH leg.; 1 ex., ditto, 27. V. 1989, M. ITOH leg.; 1 ♂, Mesapoe, Sabah, 26. XII. 1968, S. KOKAWA leg.; 1 ex., Gnung Serapikanpong, Metang near Kuching, Sarawak, 15-23. V. 1983, M. TAO leg.



Figs. 7-13. 7, 8. *Tetraphyllus corruscus* (FAIRMAIRE); 9, 10. *Tetraphyllus rutilans rutilans* (FAIRMAIRE); 11-13. *Tetraphyllus rutilans minutus* subsp. nov. 7, 9, 12. Male genitalia (left: dorsal view; right: lateral view); 8, 10, 13. Antenna; 11. Right elytron.

*Tetraphyllus rutilans minutus* subsp. nov.

(Figs. 11-13)

The new subspecies differs from the original subspecies in the following points: Body more short-oval and smaller, more convex above, elytra with the golden-tinged portions much expanded, almost circular and situated on greater part of disc, the reflexion of purple lustre stronger, the rest (including lateral margins) green to blue, the colour encircle the golden tinge and fading gradually towards centre of elytra (in the case of the original ssp., elytra purple-gold, humeral portions and elytral apices widely green-tinged, suture and lateral margins green to bluish green), the punctures on clypeus and frons much denser, the lateral borders of pronotum a little wider and much thicker, the pronotal punctures denser and rather fine, the punctures in rows of elytra

somewhat finer, however, not enlarged laterad in size (the punctures in the original ssp. less fine, gradually enlarged towards sides), the prosternum distinctly and vertically bisulcate between procoxae instead of being scarcely sulcate.

Length: 4.9–5.5 mm.; width: 4.0–4.5 mm.

Holotype: ♂, Cameron Hi. (14 mi.), Malaysia, 26. III. 1978, Y. KIYOYAMA leg. (in SC). Paratypes: 1 ex., Maxwell's Hill, Malaysia, 18. VI. 1975, Y. KIYOYAMA leg. (SC); 1 ex., Gap, Malaysia, 13. I. 1976, Y. KIYOYAMA leg. (SC).

*Tetraphyllus cyaneicollis cyaneicollis* (FAIRMAIRE, 1893)

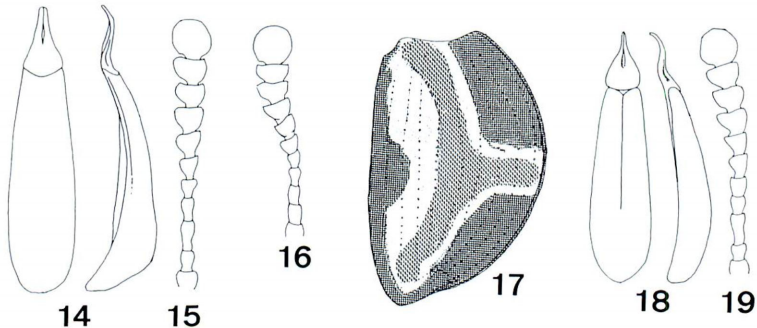
(Figs. 14–15)

Specimen examined: 1 ex., Benakat (Nursery site), South Sumatra, Indonesia, 21. II. 1983, H. MAKIHARA leg.

*Tetraphyllus cyaneicollis discoidalis* KASZAB, 1944

(Fig. 16)

Specimens examined: 1 ♀, Sepilok, N. Borneo, 13. V. 1981, M. YAMAMOTO leg.; 1 ♀, Keningau, Sabah, N. Borneo, 10–20. X. 1988, M. ITOH leg.



Figs. 14–19. 14, 15. *Tetraphyllus cyaneicollis cyaneicollis* (FAIRMAIRE); 16. *Tetraphyllus cyaneicollis discoidalis* KASZAB; 17–19. *Tetraphyllus naotaroii* sp. nov.

14, 18. Male genitalia (left: dorsal view; right: lateral view); 15, 16, 19. Antenna; 17. Right elytron.

*Tetraphyllus naotaroii* sp. nov.

(Figs. 17–19)

Hemispherical, strongly convex above, head and pronotum shiny blue, elytra deep blue or violet, bi-vittate; the vitta (Fig. 17) of each

elytron C-shaped and with a lateral branch, both brilliant and purplish golden-tinged, and bordered by greenish golden-tinge, the vitta occupying from sutural to 4th intervals basally, from 3rd to 4th intervals medianly, and ending ante-apically from 2nd to 4th intervals; the lateral branch reaching lateral margin, but not invade it; ventral surface, antennae and legs reddish brown (in only one specimen, the head and pronotum shiny green-blue, the elytral vittae very obscure).

Head vertical in natural condition, transversely pentagonal, densely and roughly punctate; clypeus gently convex, slightly arcuate at apex, clypeal suture distinctly and narrowly impressed; genae a little produced laterad just before eyes, their outer margins linearly and strongly narrowed thence to apices; frons strongly or slightly convex, interocular space nearly as wide as clypeal median length (15:14 or 1:1); eyes elongate and a little convex above, inner ocular sulci distinct; antennae (Fig. 19) robust, passing clearly base of pronotum, five distal segments forming a loosely articulate club, 11th fairly oval, relative length of 2nd to 11th segments as follows:—3.6:7.5:3.5:4.5:4.0:4.5:4.6:4.8:4.5:7.8; mentum transversely rounded, unevenly costate at middle and deeply and entirely sulcate around the costa, in the female gently convex and pubescent.

Pronotum strongly transverse, strongly narrowed forwards and minutely punctate, the punctures much minuter and sparser than on head; apical margin gently emarginate, weakly bordered except median fourth; base distinctly trisinuous; apical angles obtuse and their corners much rounded; lateral margins moderately arcuate, strongly and narrowly bordered, distinctly sulcate inside the borders.

Elytra strongly convex, entirely rounded, narrowly bordered and a little reflexed at sides, shallowly and weakly striate, punctures of the striae rather sparse and irregular in arrangement, not becoming minuter in apical declivous area, 9th stria apart from lateral margin behind base; intervals almost flat and smooth, scarcely and microscopically punctate, 9th interval subvertically inclined to lateral margin, much wider than 8th, with an accessory row of punctures in basal half of each elytron, space between 9th interval and lateral margin nearly as wide as 8th interval just behind base; epipleuron deeply excavate.

Prosternum longitudinally bisulcate between procoxae (flat in a specimen), gently and gradually bent inward back; mesosternum with a Y-shaped ridge at middle of anterior margin; metasternum sparsely and minutely punctate; abdominal segments convex in middle, strongly abbreviate in three apical segments, abdominal punctures sparse and minute, though rather dense on intercoxal space of 1st segment and anal segment, 1st segment distinctly bordered at base. Male genitalia



as fig. 18.

Legs stout, moderate in length; tibiae gently dilated towards apices, fore tibia flattened and bi-edged at outer margin, middle and hind ones convex downwards, carinate along outer margins; tarsi simple, densely pubescent below but terminal segments sparsely so, fore and middle tarsi slightly dilated (those in the female scarcely dilated); claw-segments of fore tarsi nearly as long as the preceding together, relative length of hind tarsal segments as follows:— 15:5:3.5:18.

Length: 4.5–5.5 mm.; width: 4.0–5.0 mm.

Holotype: ♂, Ma Mut (Mt. Kinabalu), N. Borneo, 7. VII. 1971, K. ANDO leg. (in SC). Paratypes: 1 ex., same locality and data as for holotype (SC); 3 exs., Poring, N. Borneo, 26. VII. 1971, K. ANDO leg. (SC); 1 ex., Kiau, N. Borneo, 21. VI. 1971, K. ANDO leg. (SC); 1 ex., Ma Mut, Borneo, 12. II. 1969, S. KOKAWA leg. (OMNH); 2 exs., Headquarters (Mt. Kinabalu), N. Borneo, 3. V. 1980, M. & A. SAKAI leg. (in coll. Ehime Univ.); 1 ex., ditto, 4. V. 1980, M. & A. SAKAI leg. (in coll. Ehime Univ.).

The new species is closely allied to *Tetraphyllus auronitens* KASZAB, but is easily distinguished from the latter by the head densely punctate, the border of pronotal apical margin very narrowly interrupted at middle, the elytra weakly striate, the strial punctures strong rather than fine, the upper surface otherwise coloured, also it is allied to *T. rutilans* (FAIRMAIRE), but is easily identified from the latter in having the frons is equal in width to the distance of clypeal median length, the prosternum bisulcate, the pronotum not thickly bordered laterally, the strial punctures of elytra not becoming larger laterally.

*Tetraphyllus crucifer* sp. nov.

(Figs. 20–22)

Male: Short-oval, moderately convex, more or less sharply narrowed posteriorly; head and pronotum blue or olive-green, elytra with a crux-mark and elytral circumference blue to greenish blue or sometimes violet (the crux-mark more or less widened laterally, interrupted about at 2nd intervals in a few specimens), four large interspaces of the crux-mark forming purple patches, the patches sometimes changing into dark green tinge on each centre and bordered by narrow golden tinge; the anterior patch of each elytron quadrate, situated between 1st stria and inner half of 9th interval in basal two-fifths; the posterior patch subtriangular, occupying apical two-fifths, reaching nearly lateral margin and 1st stria; antennae black, ventral surface and legs blackish brown.

Head quadrate, almost vertical in natural condition, rather densely and roughly punctate; clypeus slightly convex or depressed on median portion, slightly arcuate at apex, longitudinally carinate along middle, clypeal suture very narrow and distinct; genae scarcely expanded laterally, subparallel-sided before base, gently rounded thence to apex

and slightly reflexed; frons strongly convex, interocular space nearly as wide as clypeal median length (16:17); eyes strongly convex, ocular sulci very narrow and obscure; antennae (Fig. 22) moderate in length, just reaching base of pronotum, five basal segments very slender, five distal segments forming a loose club, 11th large and short-oval, relative length of 2nd to 11th segments as follows:— 4.0:6.0:5.0:5.0:5.5:5.0:5.0:5.0:5.5:9.0; mentum subcordate, uneven, strongly ridged apically.

Pronotum regularly and widely U-form, more than twice as wide as long (71:30), not strongly convex, rather steeply inclined latero-apicad, strongly produced apicad in lateral portions; apical margin deeply and roundly emarginate, narrowly bordered laterally; base shallowly bisinuous at each side; apical angles obtuse and their corners rounded; lateral margins slightly arcuate in basal two-thirds and substraight in the rest, narrowly bordered and shallowly, weakly sulcate inside the borders; disc steeply fallen into lateral sulci at lateralmost areas, moderately or rather sparsely and distinctly punctate, the punctures becoming minuter and somewhat obscurer towards lateral portions.

Elytra moderately convex, strongly angulate at basal corners (more acuminate than those in the female), very weakly striato-punctate, the punctures moderate in size except minute on 1st rows, irregular in density and gradually becoming minuter or vestigial towards apex, 9th row a little detached from lateral margin behind base; intervals flat, minutely and scarcely punctate, 9th obliquely declined downwards, almost twice as wide as 8th basally; epipleuron deeply concave.

Prosternum longitudinally tricostrate between procoxae, and bisulcate among the costae, the middle costa sometimes reaching apical margin, prosternal process obviously widened, strongly bent inward posteriorly; mesosternum with V-shaped ridge weak, lower than mesocoxae, sharply and shallowly notched in front; abdominal segments strongly and longitudinally convex along median third, irregularly depressed on sides, sparsely and minutely punctate, 1st to 2nd and basal half of 3rd segments slightly and longitudinally rugose, 1st segment distinctly bordered on base. Male genitalia as fig. 21.

Legs short; femora similar in appearance to *T. cyaneicollis*; tibiae short, fore and middle ones in the male weakly carinate along outer margins (but in the female carinate only middle tibiae), middle and hind tibiae flattened above and convex below; tarsi densely pubescent ventrally, claw-segments of fore tarsi nearly as long as the preceding segments together, relative length of hind tarsal segments as follows:— 21:5.5:4.5:19.

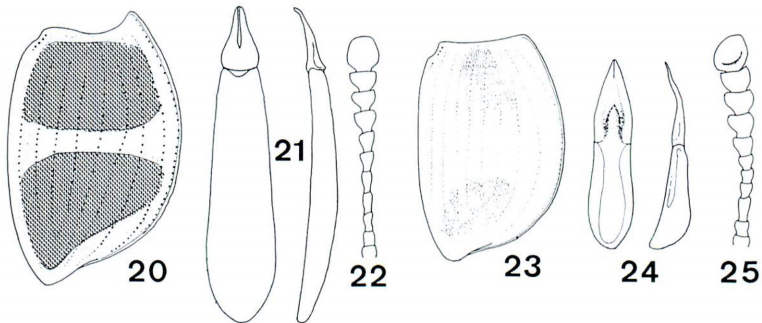
Female: Body almost hemispherical; head scarcely carinate; frons slightly convex, interocular space a little narrower than clypeal median

length (17:22); eyes weakly convex; elytra hemispherical and more strongly convex than in the male, 9th interval vertical; abdominal segments abbreviate, not strongly convex along middle; fore tibiae ecarinate, relative length of hind tarsal segments as follows:—21:5:4:19.5.

Length: 5.5–7.3 mm.; width: 4.5–5.5 mm.

Holotype: ♂, Keningau, Sabah, N. Borneo, 28. V. 1989, M. ИтоH leg. (in SC). Paratypes: 1 ♂ & 3 ♀♀, same collecting data as for the holotype (SC); 1 ♂ & 1 ♀, same locality, 30. V. 1989, M. ИтоH leg. (SC); 1 ♀, same locality, 29. V. 1989, M. ИтоH leg. (SC); 1 ♀, same locality, 10–20. X. 1988, M. ИтоH leg. (SC); 1 ex., same locality, 27. VI. 1989, M. ИтоH leg. (SC); 2 exs., same locality, 8. V. 1987, native collector (SC & MC).

The new species is closely allied to *Tetraphyllus cyaneicollis* (FAIRMAIRE), but is easily distinguished from the latter by the following points: The dorsal colour quite different, the frons as wide as or a little narrower than the clypeal median length, the clypeus not emarginate at apex, the head rather densely and distinctly punctate, the pronotum more than twice as wide as long instead of three times, the lateral margins of pronotum narrowly bordered, shallowly and obscurely sulcate along inner sides of the borders, the 9th row of punctures on each elytron scarcely far apart from lateral margin near base, the rows of elytral punctures vestigial on apical portion.



Figs. 20–25. 20–22. *Tetraphyllus crucifer* sp. nov.; 23–25. *Tetraphyllus katsuae* sp. nov.

20, 23. Right elytron; 21, 24. Male genitalia (left: dorsal view; right: lateral view); 22, 25. Antenna.

*Tetraphyllus katsuae* sp. nov.

(Figs. 23–25)

Coccinellid-form or recalled the genus *Leiochrinus* in shape, strongly convex above; dorsal and ventral surface, antennae and legs reddish brown or light brown, each elytron more or less darkened, with two,



subbasal and subapical, patches (Fig. 23), all of them ivory-yellow (in natural condition) and indefinitely margined, but some of them light yellowish brown and apparently semitransparent; the subbasal patch pear-shaped or obscurely rounded, variable in situation, but constantly developed outward from 3rd row of punctures behind base; the subapical patch indefinite and rounded, much varied in size and in some specimens narrowly prolonged towards suture.

Head quadrate, nearly vertical in natural condition and concealed basally by apical portion of pronotum; clypeus slightly arcuate at apex, a little convex backwards and flattened forwards, sparsely and minutely punctate, clypeal suture very narrow and distinct; genae subparallel at sides in basal two-thirds, thence gently narrowed frontad; frons slightly convex, interocular space wider than clypeal median length (21:15), with punctures similar but scarce to those on clypeus; eyes convex above, narrowly and finely sulcate along inner margins, but in two specimens the sulci entirely absent; antennae (Fig. 25) long, passing clearly base of pronotum, five distal segments forming a loose club and each dilated apically, each of 7th to 10th more strongly produced inward than outward, 11th oval, relative length of 2nd to 11th segments as follows:— 3.0:5.5:3.5:3.5:5.0:6.0:6.0:5.3:5.3:9.5; mentum oval, depressed, longitudinally costate along middle, strongly bordered, the border elevated, as high as the middle costa and interrupted partially at middle of lateral margins.

Pronotum transverse, nearly three times as wide as long, gently convex medianly and gradually descendant laterad, minutely and sparsely punctate, somewhat rugulose along lateral margins; apical margin deeply emarginate and finely bordered, the border narrowly interrupted in middle; base nearly straight at each side; apical angles obtuse, strongly produced forwards and rounded at the tips; lateral margins gently arcuate and narrowed towards apex, bordered moderately and not thickly in width.

Elytra short-oval, strongly convex, weakly margined at sides, punctato-striate, the striae obscure and vestigial, only 8th one distinctly impressed, sometimes interrupted in places, the punctures minute, becoming much minuter or more vestigial towards apex, dense in 1st and 2nd striae, rather sparse on the rest, 9th one obviously far distant from lateral margin; intervals subflat and almost smooth but microscopically punctate; epipleuron deeply concave beneath humeri and shallowly so at the rest.

Underside basically similar in sculpture to that of *T. rufoplagiatus* KASZAB except abdomen. Abdominal segments scarcely punctate, 1st to 2nd segments and basal half of 3rd densely rugulose, 1st segment distinctly bordered at base, the border not produced towards proximate

area of apical margin, 3rd segment much abbreviate. Male genitalia as fig. 24.

Legs short; tibiae nearly two-thirds length of corresponding femora, not curved except slightly incurved fore ones, scarcely edged along outer margins; fore and hind tarsi in the male not widened, 1st segments of hind tarsi shorter than claw-segments.

Length: 4.0–5.3 mm.; width: 3.2–4.0 mm.

Holotype: ♂, Tanah Rata, Malaysia, 26. XII. 1975, Y. KIYOYAMA leg. (in SC). Paratypes: 2 ♂♂ & 3 ♀♀, same locality and same collector as for holotype, 31. V. 1975, 20. I. 1976, 28. V. 1975 & 28. III. 1978 (SC); 1 ♀, 17–18 miles, Cameron Highlands, Pahang, Malaysia, 11. III. 1976, K. SAKAI leg. (MC).

This new species is very similar to *Tetraphyllus rufoplagiatus* KASZAB, but is distinctly different from the latter in having the genae subparallel-sided in basal two-thirds, the border of the 1st abdominal segment not reaching near apical margin of the segment, the outer sides of all tibiae scarcely edged, the fore and middle tarsi in both sexes being not widened, and the quite dissimilar colour of the body.

This new species is dedicated to the late Mrs. KATSU SHIBATA, who had been giving me warm encouragement.

*Tetraphyllus pulchellus* sp. nov.

(Figs. 26–28)

Small, fairly hemispherical, strongly convex above; head, pronotum and elytra brilliant green-blue, elytral suture violet-blue, each elytron with two, basal and subapical, large and purple patches (Fig. 26), which are rounded, bordered by golden tinge; the basal patch reaching base and situated basal third (occupying between 2nd interval and 7th row of punctures); the subapical patch quite free, occupying 1st to 6th rows of punctures; antennae fuscous, ventral surface and legs dark reddish brown.

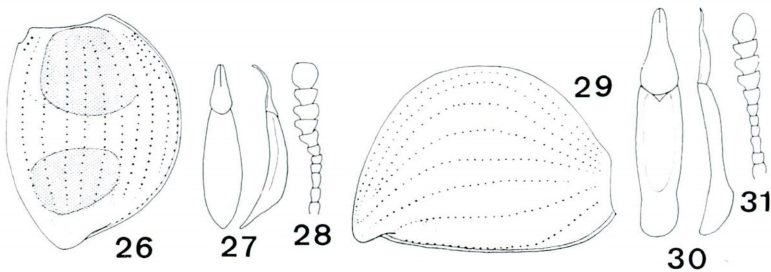
Head transverse, vertical in natural condition; clypeus widened, slightly convex above, slightly arcuate at apex, rather sparsely punctate, the punctures moderate in size and irregular in density, clypeal suture very narrowly impressed; genae rounded, depressed in front of eyes, strongly and roundly produced laterally beyond eyes and weakly reflexed; frons slightly convex, space between eyes nearly twice as wide as clypeal median length (26:13), more sparsely punctate than on clypeus; eyes weakly convex and less transverse than usual, inner ocular sulci narrow; antennae (Fig. 28) robust, moderate in length, just reaching base of pronotum, five distal segments forming a distinct but rather loose club, each strongly dilated apically, 11th quadrate-oval, relative length of 2nd to 11th segments as follows:—3.0:4.0:2.5:2.0:3.0:3.3:4.0:

3.8:4.0:7.0; mentum subcordate, unevenly depressed, distinctly ridged at apical angles and longitudinally carinate along middle.

Pronotum trapezoidal, much wider than long (45:19) and strongly convergent laterad (relative length of median area and lateral margin: — 21:12), strongly convex, steeply inclined laterad and apicad from median third, minutely, sparsely and somewhat obscurely punctate, space among the punctures microscopically punctate; apical margin deeply emarginate, a little produced apicad in median third, narrowly and entirely bordered; apical angles obtuse, their corners rounded and scarcely produced; lateral margins gently arcuate and narrowly bordered, finely sulcate along the borders.

Elytra short-oval, very strongly convex, finely bordered at sides, with regular rows of punctures, the punctures minute and rather sparse, somewhat irregular in size and arrangement, gradually becoming larger laterad and minuter basally and apically, almost vestigial on apical declivity, 9th row almost reaching lateral margin in basal half; intervals flat, minutely and sparsely punctate, 9th interval subvertically inclined and very wide, twice as wide as 8th basally, with an accessory row of punctures in basal half; epipleuron deeply excavate.

Prosternum longitudinally carinate along middle, and thickly bordered at sides between procoxae, prosternal process widened and bent inward near the apex; mesosternal V-shaped ridge shallowly notched in front; metasternum sparsely and minutely punctate; abdominal segments abbreviate except 2nd segment, sparsely and minutely punctate, the punctures rather dense on anal segment, two basal segments scarcely rugose, of the 1st one distinctly bordered at base. Male genitalia as fig. 27.



Figs. 26-31. 26-28. *Tetraphyllus pulchellus* sp. nov.; 29-31. *Tetraphyllus mucronatus* sp. nov.

26, 29. Right elytron; 27, 30. Male genitalia (left: dorsal view; right: lateral view); 28, 31. Antenna.



Legs short; tibiae without any carinae, fore tibiae nearly flattened on outer sides; tarsi rather elongate, claw-segments of fore tarsi nearly as long as the preceding segments together, relative length of hind tarsal segments as follows:—9:3.5:2:14.

Female unknown.

Length: 4.0 mm.; width: 3.5 mm.

Holotype: ♂, Keningau, Sabah, N. Borneo, 28. V. 1989, M. ITOH leg. (in SC)

The new species is closely allied to *Tetraphyllus cyaneicollis* FAIRMAIRE and *T. crucifer* sp. nov., but is distinguishable from the latter in having the much smaller body and the much widened frons, the ecarinate tibiae, and the presence of the accessory punctures between the 8th and the 9th rows of punctures on each elytron.

*Tetraphyllus mucronatus* sp. nov.

(Figs. 29-31)

Small, hemispherical, extremely strongly convex above, head and pronotum green, with somewhat golden reflexion, pronotum with a golden spot at each side, the spot rounded but indefinitely margined, elytra purple excepting that lateral intervals together with lateral margins and apical patch of each elytron shiny green; the apical patch oblong, situated at apical two-fifths and touching lateral margin; antennae fuscous distally, their basal segments, venter and legs reddish brown.

Head transverse, fairly vertical in natural condition, apical margin arcuate slightly at clypeal area and gently at genal area; clypeus and genae abbreviate, strongly depressed dorsally, sparsely and distinctly punctate, not edged anywhere on genae, clypeal suture distinctly and shallowly impressed, but interrupted partially; frons gently convex, interocular space nearly twice as wide as clypeal median length (18:10), sparsely and minutely punctate; eyes strongly convex, inner ocular sulci short and distinct; antennae (Fig. 31) moderate-sized, just reaching base of pronotum, five distal segments forming a moderately loose club, 11th oval and very large, relative length of 2nd to 11th segments as follows:—2.5:4.5:2.5:2.6:3.0:3.5:4.0:4.0:4.0:8.0; mentum quadrate, strongly costate, rather weakly and longitudinally carinate along middle, shallowly and roundly excavate on each side of the carina, apex as wide as median length and twice as wide as base.

Pronotum trapezoidal, much wider than long (65:29), steeply declivous apicad and laterad, sparsely and rather minutely punctate; apical margin strongly emarginate, very slightly produced apically in middle, distinctly and entirely bordered; apical angles very obtuse; lateral margins gently rounded and narrowed towards apex, narrowly

and distinctly bordered, deeply depressed but not sulcate along the borders.

Elytra strongly convex, fairly hemispherical, finely margined and more or less reflexed on lateral margins, with regular rows of punctures, the punctures minute, irregular in density, and denser laterally, somewhat becoming minuter towards apex and not discriminate from the punctures of intervals on apical portion, 9th row entirely free from lateral margin; intervals scarcely convex, minutely and not densely punctate, but on apical portion rather densely, 9th interval completely vertical, space between 9th row and lateral margin wide and not vertical, as wide as 9th or 8th near the base; epipleuron deeply excavate.

Prosternum between procoxae distinctly costate along sides, the costae gradually tapering posteriorly and prolonged anteriorly just behind apex, thence curved outward a little along apical margin, surface between costae smoothly depressed, prosternal process short, obliquely bent inward; mesosternal V-shaped ridge not sharp, reflexed at inner frontal half; metasternum sparsely punctate, the punctures somewhat transverse, and roughened on middle area; abdominal segments rather flat, scarcely punctate, three basal segments slightly and longitudinally rugose laterally, 1st segment abbreviate, distinctly bordered at base, basal margin behind metacoxae approaching in a curve near apical margin. Male genitalia as fig. 30.

Legs short and robust; tibiae thickened apically, irregularly mucronate along outer margins, middle and hind tibiae clearly bi-edged at outer margins, hind ones sparsely pubescent on upper sides; tarsi rather robust, densely pubescent ventrally except each terminal segment, fore and middle tarsi dilated, claw-segments of fore tarsi distinctly shorter than the preceding segments together, relative length of hind tarsal segments from base to apex:—12.0:4.5:3.5:15.5.

Female unknown.

Length: 4.0 mm.; width: 3.3 mm.

Holotype: ♂, Gap, Malaysia, 13. II. 1974, Y. KIYOYAMA leg. (in SC).

The new species is distinctly identified from any other known *Tetraphyllus*-species in having the mucrones on outer margins of all tibiae, the unique structures of the elytral 9th rows and the most lateral intervals, and of the prosternum, the strongly convex body, the abbreviate fore head and different colour of the body above.

*Tetraphyllus cinctulus* sp. nov.

(Figs. 32-34)

Short-oval; dark brown, clypeus blue-green centrally and violet laterally, frons blue-green or purple, pronotum dark gold, with a pair

of lateral spots, the spot green or blue, rounded and rather large inclusive lateral margin, bordered internally by purple tinge, elytra black, covered with dark golden tinge, their lateral margins purple, each elytron with a pair of patches (Fig. 32), quadrate basally and fasciate apically, the apical patches common on elytra except the apicalmost fascia; the basal patch golden-green, occupying basal two-sevenths between 3rd and 9th striae and touching base, bordered by blue internally and purple externally; the apical patch oblong, consists of arcuate, quinquecoloured fasciae on apical declivity, the fasciae irregularly undulate anteriorly in each colour (except the apicalmost one), the quinquecolours changing forwards from elytral apex as follows (five times): the apicalmost fascia dark green, the 2nd wide and purple, the 3rd wide and gold, 4th narrow and metallic blue, and 5th narrowly purple; antennae and legs dark reddish brown.

Head transverse, distinctly, moderately and somewhat coarsely punctate; clypeus transversely convex, gently or slightly rounded and not reflexed at apex, clypeal suture indistinct or finely impressed; genae depressed, distinctly and roundly divergent towards apex at sides; frons gently or slightly convex, interocular space clearly wider than clypeal median length (20:13 in the male or 20:16 in the female); eyes oblong, rather strongly convex, without any ocular sulci; antennae (Fig. 34) rather short, reaching scarcely base of pronotum, five distal segments forming a weak and loose club, 11th subtriangularly oval, relative length of 2nd to 11th segments as follows:—2.7:5.0:3.0:2.5:4.0:4.0:4.8:4.8:4.5:7.5; mentum subquadrate, a little longer than wide, semicircularly and strongly elevated in apical half, distinctly and longitudinally carinate along middle, apical margin thickly bordered.

Pronotum transverse, widely U-shaped, more than 2.5 times as wide as long (51:20), strongly convex, steeply inclined frontad and laterad, minutely and somewhat obscurely punctate, the punctures varied in thickness but not dense; apical margin strongly and arcuately emarginate, apical border narrow, indefinitely interrupted in middle; apical angles rounded, a little obtuse; base trisinuous; lateral margins slightly arcuate and narrowed towards apex, strongly and rather widely bordered, deeply depressed and not sulcate along the borders; in the female, the borders of lateral margins weaker and wider than those of the male, also the depressions shallower along the borders.

Elytra strongly convex, widest and highest at middle, with regular rows of punctures, the punctures deep, sparse and rather large, becoming minuter towards both of base and apex, very sparse in 8th row, 9th row distinctly apart from lateral margin near base, with a row of a few punctures, which branching off from 9th row just behind base



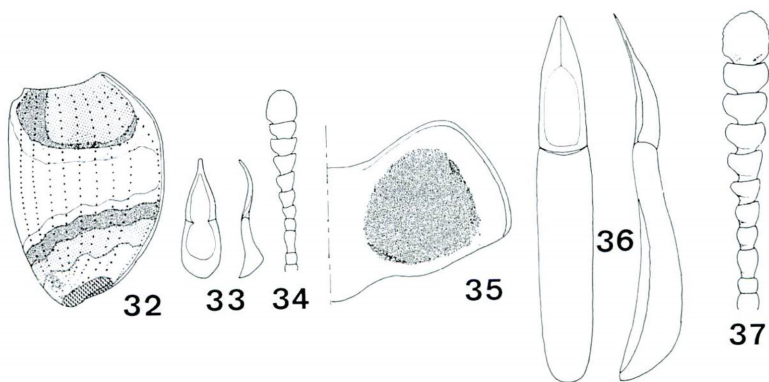
between lateral margin and 9th row; intervals nearly flat, minutely and not densely punctate, 9th interval vertically inclined, almost as wide as 8th near base, space between lateral margin and 9th row subvertical, more than twice as wide as 9th interval basally, sparsely and minutely punctate; epipleuron excavate throughout.

Prosternum subparallel-sided between procoxae, longitudinally and strongly bisulcate, distinctly costate throughout along middle between the sulci; mesosternal V-shaped ridge small, shallowly emarginate anteriorly; metasternum scarcely punctate; abdominal segments minutely and scarcely punctate except for anal one moderately so, three basal segments slightly rugose laterally, 1st distinctly bordered at base. Male genitalia as fig. 33.

Legs short; tibiae robust, fore tibiae weakly carinate along outer margins, convex above and flattened below, middle tibiae bi-edged on outer margins and smoothly depressed between the edges, hind tibiae clavate; tarsi shortened, scarcely dilated, claw-segments of fore tarsi a little longer than the preceding segments together, relative length of hind tarsi from base to apex as follows:—9:4:3:13.

Length: 4.1–4.8 mm.; width: 2.7–3.5 mm.

Holotype: ♂, Lenggong, Malaysia, 26. V. 1975, Y. KIYOYAMA leg. (in SC). Paratypes: 1 ♂, Gap, Malaysia, 4. IV. 1975, Y. KIYOYAMA leg. (SC); 1 ♀, ditto, 2. IV. 1975, Y. KIYOYAMA leg. (SC); 1 ♀, Sepilok, N. Borneo, 11. V. 1981, M. YAMAMOTO leg. (SC).



Figs. 32–37. 32–34. *Tetraphyllus cinctulus* sp. nov.; 35–37. *Tetraphyllus nomurai* sp. nov.  
32. Right elytron; 33, 36. Male genitalia (left: dorsal view; right: lateral view); 34, 37. Antenna; 35. Right half of pronotum.

The new species is very near to *Tetraphyllus laevicollis* (FAIRMAIRE), but is easily distinguished from the latter by the following points: The 9th intervals of the elytra without any accessory punctures, a few accessory punctures on each elytron situated interspace between the lateral margin and the 9th row of punctures, the tibiae not crenulate, the head not reflexed at apex, the clypeus convex, the frons wider than the clypeal median length, the elytral intervals not smooth, the prosternal process subparallel-sided and also similar to *T. malaccanus* (PIC) and *T. sumatranus* KASZAB, but differs from the latter in having the distinctly punctate head, the tibiae ecarinate except weakly carinate fore tibiae, the bisulcate prosternum, additionally the rows of punctures on the elytra gradually becoming minuter apicad.

*Tetraphyllus nomurai* sp. nov.

(Figs. 35-37)

Body large, oval, strongly convex above, elytra in the male more or less tapering sharply from behind middle to apex; head black, with a slight olivaceous tinge, pronotum olivaceous with lateral margins bordered by metallic blue tinge and with an unbordered spot on each side (Fig. 35), the spot large, rounded and purple, elytra also olivaceous, suture and the rows of punctures purple, lateral margins and narrow humeral corners metallic blue; antennae and ventral surface blackish brown, mouth parts and legs dark reddish brown.

Head trapezoidal; clypeus slightly convex, a little produced apicad and slightly emarginate at apex, moderately, shallowly and minutely punctate, clypeal suture fine and weak; genae sparsely and obscurely punctate, roundly expanded laterally in basal half and sublinearly narrowed apicad in the other half, a little convex upon antennal insertions; frons convex, steeply inclined forwards, space between eyes a little wider than clypeal median length (24:20), sparsely and minutely punctate; ocular sulci absent; antennae (Fig. 37) not reaching base of pronotum, five distal segments short, forming a loose club, 11th short-oval, relative length of 2nd to 11th segments from base to apex as follows:— 4.8:7.0:5.5:6.0:7.0:7.0:6.5:7.5:8.0:12.5; mentum fairly cordate, a little wider than long, shallowly depressed laterally, thickened at apex and in apical half of lateral margins.

Pronotum much more than twice as wide as long (86:35), rather steeply inclined towards apex and sides, minutely and sparsely punctate, the punctures becoming much minuter and sparser laterad, almost vestigial in the most lateral portions; apical margin moderately emarginate, nearly straight in median third, apical border weak and rather widely interrupted in middle; apical angles scarcely produced apically, obtusely rounded; base very slightly trisinuous; lateral margins

gently arcuate throughout, distinctly and narrowly bordered, with a very narrow sulcus along each border.

Elytra oval, strongly convex, distinctly sulcate upon humeral corners, narrowly but clearly bordered along lateral margins, striolate only near base, with rows of punctures, the punctures distinctly impressed, rather dense but irregular in density, gradually becoming minuter towards apex, 9th row not reaching lateral margin near base; intervals nearly flat and smooth, 9th interval almost as wide as 8th, space between 9th row and lateral margin strongly convex; epipleuron moderately excavate except for underside of humeri strongly so.

Prosternum distinctly rimmed at apex, gradually sloping inward towards tip of its process, shallowly and longitudinally bisulcate between procoxae; mesosternal V-shaped ridge deeply emarginate, roughly hooked inward at each anterior tip of V; metasternum coriaceous, minutely, sparsely and obscurely punctate; abdominal segments slightly convex in median third, minutely and obscurely punctate, three basal segments longitudinally and moderately rugose on each lateral third and basal half of median third, 1st segment weakly bordered at base, anal one gently rounded at apex, scarcely depressed. Male genitalia as fig. 36.

Legs not elongate; tibiae strongly bi-edged along each outer margin, distinctly sulcate and smooth between the edges, middle and hind tibiae flattened above; fore and middle tarsi weakly dilated, claw-segments of fore tarsi clearly shorter than the preceding segments together, relative length of hind tarsal segments from base to apex as follows:—21 : 9 : 8 : 26.

In the female, body fairly oval, its outline more arcuate, and less sharply tapering towards apex than that in the male; antennae less transverse than those in the male; mentum with a pair of deep foveae before base; abdominal segments distinctly convex in median third.

Length : 8.0–8.2 mm. ; width : 5.2–6.0 mm.

Holotype : ♂, Gap, Malaysia, 30. III. 1975, Y. KIYOYAMA leg. (in SC). Paratype : 1 ♀, Cameron Hi. (7 mi.), 1. III. 1974, Y. KIYOYAMA leg. (SC).

The new species is distinctly identified from the other known *Tetraphyllus*-species by the bi-edged and distinctly sulcate outer margin of every tibia.

#### References

- BLAIR, K. G., 1922. The fauna of an island in the Chilka Lake. Part II. The Heteromera of Barkuda Island. Rec. Ind. Mus., Calcutta, 24 (3): 294.  
 — 1929. Spolia Mentawiensia, Tenebrionidae. Bull. Raffles. Mus. Singapore, 2: 81.  
 — 1931. Some new species of Indian Heteromera (Col.) (2). Ent. month. Mag., 67: 199.  
 CASTELNAU L. et BRULLÉ, A., 1831. Monographie du genre *Diaperis*. Ann. Sci. Nat., 23 : 325–410.



- CHŪJŌ, M. T., 1966. Taxonomic study of the Tenebrionidae (Col.) of the Ryukyu Islands. Journ. Facul. Agr. Kyushu Univ., 14 (1): 15-22.
- 1967. A check list of Formosan Tenebrionidae (Col.) I. Kontyû, 35 (4): 376-377.
- 1977. Tenebrionidae of the Nansei Islands, II. Esakia, Fukuoka, 10: 11.
- FAIRMAIRE, L., 1882. Coléoptères hétéromères de Sumatra. Notes Leyd. Mus., 4: 237-243.
- 1893. Coléoptères nouveaux des Indes Orientales, de la famille des Scarabaeidae, Rhipidoceridae, Tenebrionidae et Oedemeridae. Ibid., 15: 29-33.
- GEBIEN, H., 1927. Fauna sumatrensis (Nr. 31) Tenebrionidae (Col.). Suppl. ent., 15: 39-40.
- 1935. Tenebrionidae. Voy. Prince Leopold Belg., 4 (11): 64-68.
- 1941. Katalog der Tenebrioniden (Col., Heteromera). Mitt. münchn. ent. Ges., 31: 1137-1142.
- HAROLD, E., 1878. Beiträge zur Käferfauna von Japan. Dtsch. ent. Z., 22: 5-88.
- KASZAB, Z., 1941. Tenebrioniden aus Formosa (Col.). Stett. ent. Zeit., 102: 60-61.
- 1944. Über die Arten der Gattung *Tetraphyllus* LAP. & BRILL. (Coleopt.). Ann. Hist.-nat. Mus. Hung., 37: 25-68.
- 1964. Über die Tenebrioniden einiger japanischen Inseln, (II). (Col.). Ent. Rev. Japan, 17 (1): 2-3.
- 1977. Neue Tenebrioniden (Coleoptera) von den Galapagos und Antillen, sowie aus Südamerika und Ostasien. Ann. Hist.-nat. Mus. Hung., 69: 126-129.
- 1980. Neue Tenebrioniden (Coleoptera) aus Sri Lanka, II. Acta Zool. Ac. Sci. Hung., 26 (4): 285-286.
- LEWIS, G., 1894. On the Tenebrionidae of Japan. Annls. Mag. nat. Hist., (6) 13: 465-475.
- MARSEUL, S.-A., 1876. Coléoptères du Japon recueillis par M. GEORGES LEWIS, 2<sup>e</sup> Mémoire (1), Énumération des Hétéromères avec la description des espèces nouvelles, 1<sup>re</sup> partie. Annls. Soc. ent. Fr., 5 (6): 129-130.
- MASUMOTO, K., 1982. Tenebrionidae of Formosa (4). Elytra, 10 (1): 22-23.
- 1983. Notes and descriptions of Japanese Tenebrionidae (II). Ent. Rev. Japan, 38 (1): 91-92.
- 1986. Tenebrionidae of East Asia, (III). A new genus and three new species from Taiwan. Elytra, 14 (2): 66-67.
- MASUMOTO, K. & KONDO, S., 1984. Check-list of Formosan Tenebrionidae (Col.). Spec. Bull. Jap. Soc. Coleopt., Tokyo, (1): 19.
- NAKAKITA, T., 1987. Two new species of the genus *Addia* from Taiwan. Ent. Rev. Japan, 42 (Suppl.): 61-64.
- NAKANE, T., 1963. New or little-known Coleoptera from Japan and its adjacent regions, 19. Fragm. Coleopt., (7): 27.
- PIC, M., 1924. Nouveaux Coléoptères Asiatiques. Bull. Soc. zool. Fr., 49: 90.
- 1924. Nouveautés diverses. Mém. exot.-ent., (41): 24.
- 1927. Nouveautés diverses. Ibid., (48): 14-15.
- 1935. Nouveautés diverses. Ibid., (65): 20-21.
- 1948. Les Hétéromères coccinelliformes. Diversités ent., 4: 4-12.

Coprophagid-beetles from Northwest Thailand (VII)  
(Coleoptera, Scarabaeidae)

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This is the seventh part of the series dealing with the coprophagid-beetles from Northwest Thailand. Five new species belonging to the genus *Onthophagus* are described: *Onthophagus (Onthophagiellus) thanwaakhomus* sp. nov., *O.* (s. str.) *phrutsaphaakhomus* sp. nov., *O.* (s. str.) *krakadaakhomus* sp. nov., *O.* (s. str.) *singhaakhomus* sp. nov., *O.* (s. str.) *kanyaayonus* sp. nov. (Onthophagini).

*Onthophagus (Onthophagiellus) thanwaakhomus* sp. nov.

(Fig. 1)

Brownish black, with antennae, mouth parts, tarsi, etc., lighter in colour; dorsal surface almost black, strongly and somewhat vitreously shining, ventral surface moderately shining, hairs on surfaces pale yellow. Ovate and moderately convex above though gently flattened posteriorly.

Male: Head gently raised posteriorly, rather closely punctate, the punctures varied in size; clypeus moderately produced forwards, rugoso-punctate apically, with outer margin gently reflexed, straight in front; genae moderately arcuate laterad; frons gently inclined, with frontoclypeal border indistinct; vertex simple in shape.

Pronotum fairly strongly punctate, each puncture with a short hair, though the hairs become distinctly long along postero-lateral margins; apical margin almost straight widely in middle, strongly curved forwards on each lateral portion; base widely produced posteriad; lateral margins fairly remarkably arcuate though oblique and very feebly sinuous in posterior  $\frac{2}{5}$ ; front angles rather acute and pointed forwards; hind angles indistinct; disc moderately convex and no remarkable characteristics.

Elytra shallowly punctato-striate, the punctures in striae feebly notching intervals; intervals gently raised and slightly corrugated, each

with two rows of small punctures.

Pygidium moderately convex, scattered with rather large punctures, each with a hair; basal border ridged.

Protibia gently prolonged and incurvate, with 4 outer teeth, of which the basal one is rather indistinct; terminal spur remarkable and curved downwards. First segment of metatarsus long and about 0.8 times the length of metatibia, more than 1.33 times that of 4 following segments combined, a little more than 1.3 times the length of terminal spur of metatibia.

Female: Clypeus more distinctly rugoso-punctate than in male; fronto-clypeal border arcuate and ridged.

Body length: 5.3-5.5 mm.

Holotype: ♂, Doi Suthep - Doi Pui, Chiang Mai Prov., 11. XII. 1989, MANIT Y. leg. Paratypes: 4 exs., same data as for the holotype; 2 exs., 1. XII. 1989, same locality and collector as for the holotype; 1 ex., Doi Suthep, 16. IX. 1988, K. MASUMOTO leg.

Notes. This new species is obviously a member of the subgenus *Onthophagiellus* in having the first metatarsal segment remarkably long. From Northwest Thailand *Onthophagus crassicollis* BOUCOMONT, 1913, belonging to the same subgenus is collected. The new species can be easily distinguished from *O. crassicollis* by the dorsal body not bearing coppery or greenish lustre and the male head without a ridge between the eyes.

*Onthophagus* (s. str.) *phrutsaphaakhomus* sp. nov.  
(Fig. 2)

Brownish black, with anterior portion of head, antennae, mouth parts, etc., reddish brown, hairs on surfaces brownish yellow; ventral surface moderately shining, feebly bearing dark coppery lustre, fore body above moderately shining and rather strongly bearing light coppery lustre, elytra black and gently shining, becoming lighter in colour in apical portions, each elytron with yellow patches as follows: an irregular spot on 2nd and 3rd intervals near base, a larger spot across 1st stria behind the middle, a short longitudinal stripe on 4th interval near base, a spot across 6th stria near base.

Male: Head slightly raised posteriorly, feebly micro-shagreened, scattered with small punctures; clypeus gently reflexed along outer margin; genae obtusely produced laterad; frons very feebly concave, with fronto-clypeal border raised; vertex not horned.

Pronotum fairly closely and strongly punctate, each puncture with a hair, the hairs become long and distinct in postero-lateral portions; apical margin gently arcuate forwards, curved on each lateral portion; base widely rounded; lateral margins arcuate in anterior  $\frac{3}{5}$ , oblique and



feebly sinuous in posterior  $\frac{2}{5}$ ; front angles subrectangular; hind angles obtuse; disc strongly convex, somewhat triangularly declivous in front, with a shallow longitudinal groove in middle, which reaches to the base.

Elytra shallowly but clearly punctato-striate, the punctures in striae somewhat transverse and notching intervals; intervals almost flat or very feebly raised, micro-shagreened, with rows of small punctures, which are irregularly arranged, each puncture with a short hair.

Pygidium gently convex, fairly closely punctate and densely haired, with basal border finely margined.

Protibia with 4 bold teeth. First segment of metatarsus about 0.7 times the length of metatibia, 1.3 times that of 4 following segments combined, 1.37 times the length of terminal spur of metatibia.

Female: As compared with male, body less thickened; clypeus noticeably rugoso-punctate; fronto-clypeal border wide-triangularly ridged; posterior portion of frons with a shorter transverse ridge.

Body length: 7.2-8.7 mm.

Holotype: ♂, Doi Angkhang, Fang, Chiang Mai Prov., 23. V. 1989. K. MASUMOTO leg. Paratypes: 4 exs., same data as for the holotype; 1 ex., 29. V. 1990, same locality and collector as for the holotype.

Notes. This new species resembles *Onthophagus* (s. str.) *sobrius* BALTHASAR, 1960, originally described from Fukien, China, but can be easily distinguished from the latter by the male head without a process.

*Onthophagus* (s. str.) *krakadaakhomus* sp. nov.

(Figs. 3-4)

Brownish black, with antennae, mouth parts, gula, tarsi, etc., reddish brown, hairs on surfaces brownish yellow, fore body above almost black and strongly shining, bearing dark greenish lustre, elytra yellow and gently shining, with black irregular bar a little behind the middle, ventral surface strongly, rather vitreously shining. Ovoid, fairly strongly thickened, gently flattened posteriorly, weakly constricted between pronotum and elytra.

Male: Head subrhombic, sparsely scattered with small punctures; clypeus produced forwards with outer margin reflexed above, distinct in apical portion; genae obtusely produced laterad; frons gently inclined forwards, with fronto-clypeal border not sulcate but arcuately raised; vertex with a triangular recurved lamella, which becomes a slender and almost upright horn in the middle.

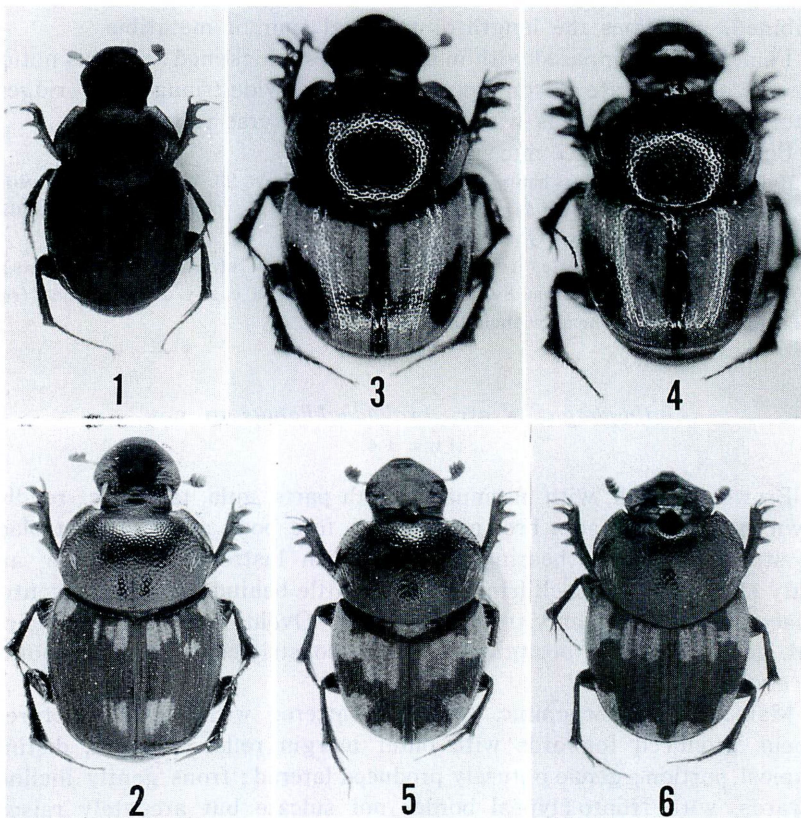
Pronotum rather closely punctate, each puncture with a fairly distinct hair; apical margin feebly arcuate forwards widely in middle, curved forwards on each lateral portion; base rounded; lateral margins

arcuate though oblique and very slightly sinuous in posterior  $\frac{2}{5}$ ; front angles subrectangular; hind angles obtuse; disc broadly convex, steeply declivous in front, upper side of the declivity with a tubercle on each side.

Elytra shallowly punctato-striate, the punctures in striae moderately notching intervals; intervals very slightly elevated, mostly with 3 rows of small punctures, each with a rather long fine hair.

Pygidium gently convex, fairly closely punctate, each puncture with a rather long fine hair.

Protibia stout, with 4 outer teeth. First segment of metatarsus about



Figs. 1-6. 1. *Onthophagus* (*Onthophagiellus*) *thanwaakhomus* sp. nov., ♂, holotype; 2. *O.* (s. str.) *phrutsaphaakhomus* sp. nov., ♂, holotype; 3. *O.* (s. str.) *krakadaakhomus* sp. nov., ♂, holotype; 4. Ditto, ♀, paratype; 5. *O.* (s. str.) *singhaakhomus* sp. nov., ♂, holotype; 6. *O.* (s. str.) *kanyaayonus* sp. nov., ♂, holotype.



0.57 times the length of metatibia, nearly same length of 4 following segments combined, about 1.2 times the length of terminal spur of metatibia.

Female: As compared with male, head less produced forwards; clypeus distinctly rugoso-punctate; fronto-clypeal border ridged; vertex armed with a noticeable transverse ridge between eyes; pronotum gently declivous in front, midst of the declivity with a tubercle on each side, lower portion of the declivity also with a process, whose summit is lamellate, arcuate forwards and feebly biforked.

Body length: 6.5-8.9 mm.

Holotype: ♂, Doi Angkhang, Fang, Chiang Mai Prov., 23. V. 1989, K. MASUMOTO leg. Paratypes: 13 exs., Maesa Vill., Chiang Mai Prov., 26. VII. 1987, K. MASUMOTO leg.; 3 exs., 26. VII. - 1. VIII. 1987, 6 exs., 30. VII. - 5. VIII. 1988, Doi Suthep / Pui, K. MASUMOTO leg.; 4 exs., Phrao, Chiang Mai Prov., 15. VI. 1988, MANIT Y. leg.; 5 exs., Doi Suthep, Chiang Mai Prov., 12-18. IX. 1990, K. MASUMOTO leg.; 2 exs., Phrao-Chiang Dao, Chiang Mai Prov., 14-16. IX. 1988, K. MASUMOTO leg.; 2 exs., Maesa Vill., 7. VII. 1989, K. MASUMOTO leg.; 7 exs., Maesa Vill., 30. VIII. 1987, MANIT Y. leg.; 3 exs., Phrao, 15. VIII. 1987, MANIT Y. leg.; 2 exs., Phrao, 10. VIII. 1987, MANIT Y. leg.; 1 ex., 22. XI. 1988, 1 ex., 24. XI. 1988, 1 ex., 13. XI, 1990, Chiang Dao, K. MASUMOTO leg.; 1 ex., Doi Saket, Chiang Mai Prov., 8. V. 1989, MANIT Y. leg.; 1 ex., Doi Saket, 24. IX. 1990, K. MASUMOTO leg.; 2 exs., Maesa Vill., 4. V. 1990, MANIT Y. leg.; 1 ex., Doi Suthep, 27. XI. 1988, MANIT Y. leg.; 1 ex., Mae Taeng, 10-20. IX. 1987, MANIT Y. leg.; 1 ex., Mae Rim Vill., 21. IX. 1990, K. MASUMOTO leg.; 1 ex., Doi Suthep, VII. 1985, N. KOYAMA leg.

Notes. This new species somewhat resembles *Onthophagus* (s. str.) *pseudojavanus* PAULIAN, 1931, originally described from North Vietnam, but is easily distinguishable from the latter by coloration and shape of elytral patches being different, the front angles of pronotum not sharpened, and the upper side of pronotal declivity with a pair of tubercles in male and also with a median process before the tubercles in female.

*Onthophagus* (s. str.) *singhaakhomus* sp. nov.

(Fig. 5)

Brownish black, with antennae, mouth parts, gula, fore tibiae, tarsi, etc., reddish brown, hairs on surfaces pale yellow, ventral surface strongly shining and bearing dark bluish or greenish lustre, head fairly strongly metallicly shining, bearing dark greenish lustre, partly bearing violet lustre under a certain light, pronotum bearing dark greenish and gently sericeous lustre, each elytron yellow with black patches as follows: stripe along 1st interval, line along basal margin, small patch at base of 5th interval, irregular transverse bar from suture to lateral margin in middle, small spot at 5th interval near apex (the spot is usually connected with the transverse bar). Ovale, fairly strongly thickened, though gently flat-



tened posteriorly, moderately constricted between fore and hind bodies.

Male: Head subparabolic, sparsely scattered with punctures, though almost impunctate in middle, where gently raised; clypeus produced forwards, with outer margin reflexed and truncate at apex; genae moderately arcuate laterad; frons gently inclined forwards, with fronto-clypeal border indistinct; vertex produced to a rather thin and curved upwards point in the middle.

Pronotum rather transverse, fairly strongly and closely punctate, each puncture with a rather remarkable hair; apical margin feebly arcuate forwards widely in middle, curved forwards in each lateral portion; base rounded; lateral margins produced laterad though oblique and very slightly sinuous in posterior  $\frac{2}{5}$ ; front angles a little acute; hind angles indistinct; disc strongly convex, abruptly inclined in front, with an impunctate shallow excavation behind the point on vertex.

Elytra shallowly punctato-striate, the punctures in striae feebly notching intervals; intervals slightly elevated, mostly with 2 rows of small granulo-punctures, each puncture with a hair.

Pygidium gently convex, rather closely punctate, each puncture with a hair, with basal border ridged.

Protibia gently prolonged and slightly incurvate, acuminate at apex of inner margin, with 4 outer teeth, of which the basal one is small. First segment of metatarsus about 0.6 times the length of metatibia, 1.2 times the length of 4 following segments combined, a little more than 1.3 times that of terminal spur of metatibia.

Female: As compared with male, head less produced forwards; clypeus rugoso-punctate anteriorly, with apex bilobed; frons with an arcuate ridge on fronto-clypeal border and also with a nearly straight ridge on border of vertex; legs shorter than in male, with apex of probibial inner margin not acuminate.

Body length: 4.3-6.1 mm.

Holotype: ♂, Maesa Vill., Chiang Mai Prov., 26. VII. - 1. VIII. 1987, K. MASUMOTO leg. Paratypes: 21 exs., same data as for the holotype; 1 ex., 30. VIII. 1987, 1 ex., 28. VI. 1990, Maesa Vill., MANIT Y. leg.; 2 exs., Doi Inthanon, Chiang Mai Prov., 31. VII. 1987, K. MASUMOTO leg.; 1 ex., Chiang Dao, Chiang Mai Prov., 27-31. VII. 1987, K. MASUMOTO leg.

Notes. This new species somewhat resembles *Onthophagus* (s. str.) *sauteri* GILLET, 1924, originally described from Taiwan. As compared with each male, the new one can be distinguished from the named species by the punctures on head sparser, the clypeus less strongly produced forwards with the apex scarcely bilobed, and the point on the vertex narrower at the base.

*Onthophagus* (s. str.) *kanyaayonus* sp. nov.

(Fig. 6)

This new species resembles the precedent new species, but can be distinguished from the latter by the following characteristics.

Male: Pronotum bearing not greenish but coppery lustre, elytra paler though more largely covered with black transverse bar, hairs on each surface slightly shorter.

Head more remarkably produced forwards and convergent anteriorly, strongly reflexed and truncate at apex, with outer margin feebly angulate at clypeo-genal border; process of vertex obviously wider and more distinctly lamellate.

Pronotum more transverse; lateral margins more strongly arcuate; front angles acuter; disc more strongly convex.

Elytra with punctures in striae clearer; intervals a little more convex.

Pygidium micro-shagreened, slightly less convex, more closely punctate, more strongly arcuate along apical margin.

Protibia more distinctly prolonged. First segment of metatarsus about 0.58 times the length of metatibia, 1.1 times that of 4 following segments combined, 1.28 times the length of terminal spur of metatibia.

Body length: 5.2 mm.

Holotype: ♂, Doi Mae Salong, Chiang Rai Prov., 22-23. IX. 1990, K. MASUMOTO leg.

Notes. This new species is also a member of *Onthophagus* (s. str.) *sauteri*, from which it can be discriminated by the head more strongly produced forwards with the clypeus more noticeably reflexed and the pronotum remarkably arcuate laterad with the front angles acuter.

## 国際動物命名委員会からのお願い (6)

The following Applications were published on September 30, 1991 in Vol. 48, Part 3 of the Bulletin of Zoological Nomenclature. 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.

- 2671 J. C. MEGERLE'S (1801-1805) auction catalogues of insects: proposed suppression, with conservation of the specific names of *Saperda alboguttata* MEGERLE, 1803 (now in *Apomecyna*) (Coleoptera) and *Hippobosca variegata* MEGERLE, 1803 (Diptera).
- 2751 *Paolia vetusta* SMITH, 1871 (Protorthoptera): proposed replacement of neotype by rediscovered holotype.
- 2755 *Eurymeloides* ASHMEAD, 1889 (Homoptera): proposed confirmation of *Eurymela bicincta* ERICHSON, 1842 as the type species, and designation of a neotype for *E. bicincta*.
- 2754 *Scoparipes* SIGNORET, 1880 (Heteroptera): proposed confirmation of *Cydnus latipes* WESTWOOD, 1837 as the type species.
- 2756 *Proagoderus* LANSBERGE, 1883 (Coleoptera): proposed conservation.  
Abstract. The purpose of this application is the conservation of the currently used subgeneric name of the dung beetle *Proagoderus* LANSBERGE, 1883 (Scarabaeoidea, Genus *Onthophagus* LATREILLE, 1802) by the suppression of the unused senior subjective synonym *Onthotrogus* MOTSCHULSKY, 1859.
- 1707 *Diabrotica undecimpunctata* MANNERHEIM, 1843 (Coleoptera): proposed conservation of the specific name, and of the subspecific name *howardi* BARBER, 1947.  
Abstract. The purpose of this application is the conservation of the specific name of the North American leaf beetle *Diabrotica undecimpunctata* MANNERHEIM, 1843, which is an important agricultural pest. The unused *Crioceris sexpunctata* FABRICIUS, 1792 is a senior subjective synonym of the subspecies *howardi* BARBER, 1947 of *D. undecimpunctata*, and the proposed suppression of *sexpunctata* FABRICIUS conserves both *undecimpunctata* MANNERHEIM and *howardi* BARBER.
- 2767 *Drosophila hydei* STURTEVANT, 1921 (Diptera): proposed conservation of the specific name.
- 2761 *Chrysops atlanticus* PECHUMAN, 1949 (Diptera): proposed conservation of the specific name.
- 2535 Proposed precedence of some bee family-group names (Hymenoptera): names based on *Colletes* LATREILLE, 1802, on *Paracolletes* SMITH, 1853, on *Halictus* LATREILLE, 1804, on *Anthidium* FABRICIUS, 1804 and on *Anthphora* LATREILLE, 1803 to have precedence over some senior names.  
Abstract. The purpose of this application is to conserve the usage of some well known bee family-group names by giving them precedence over little used but senior names. It is proposed that Colletidae LEPELETIER, 1841 be given precedence over names based on *Prosopis* or *Hylaeus*; Paracolletini  
(continued to p. 58)



# Study on Asian Carabidae, IV (Coleoptera)

By NOBORU ITO

*Rhysoptus klynstrai* ANDREWES

(Text figs. 1-3)

ANDREWES, 1929, Ann. Mag. Nat. Hist., (10) 4: 359.

Body robust, oblong, pitchy black, shiny, with a weak iridescent lustre on elytra, palpi, antennae, and legs light reddish brown.

Head reminds that of a *Trichotichnus*-species due to deep frontal impressions extending eyes, well convex, smooth and not punctate, wide, about seven-tenths times as wide as pronotum, labrum shallowly, widely notched at apex, apical angles quite rounded, clypeus gently convex but clearly depressed near both oblique sides and subvertically inclined to frons, forming a distinct clypeal suture, frons evenly and fairly convex, eyes well prominent but not long in longitudinal diameter, tempora developed and somewhat swollen, forming obtuse and not blunt angle with neck-constriction, antennae short and not reaching pronotal base, 3rd joint a little longer than 4th and twice as long as 2nd, mandibles robust and short, acute at tip of only right segment, genuine ventral margin of eye widely removing from buccal fissure, ligula fully widened forward and bent outward at sides, apex slightly bisinuate and forming an acute angle with each side, paraglossae narrow and not prolonged in front from ligular apex, fairly curved inward in apical third areas, which are free from ligula, mentum not wide and deeply emarginate at apex, apex hardly protuberant in middle, suture between mentum and submentum incomplete and reduced near both inner setae, genae and gula not punctate nor ciliate anywhere; microsculpture more or less clear and lacking here and there, somewhat clearer in ♀ than in ♂, observed in a fine isodiametric mesh.

Pronotum transversely oblong and arcuate lengthwise at sides, similar in form to those of species belonging to genus *Pseudognathaphanus*, about three-fifths wider than long, fairly convex, the convexity large and approaching near brinks of lateral borders, so lateral furrows rather

narrow and little widened even near base, sides a little stronger in roundness forward than backward from the widest point at apical third, apex shallowly emarginate and straight in middle, where apical border is obscure, base hardly wider than apex, substraight and unbordered in middle, apical angles widely rounded, basal angles obtuse and narrowly rounded, basal foveae isolated from lateral furrows by slight convexities, short and shallowly grooved in a V-shaped valley, strongly coarsened along the bottoms, disc coarsely, compactly punctate on basal area and lateral furrows, and finely, sparsely punctate on space between lateral furrows and central narrow smooth area; microsculpture consisting of mixtures with isodiametric and transverse meshes and transverse lines, obscure and partly absent in ♂, and a little clearer in ♀.

Fully winged. Elytra elongate-subquadrate, one-third longer than wide and one and one-fifth times as wide as pronotum, subparallel-sided, squarish and quite rounded at humeri, sparsely punctate throughout, apex not produced behind and separately, narrowly rounded, basal border shallowly bisinuate, striae deep and wide, intervals fairly convex, gradually increasing in convexity toward sides and apex, especially subcarinate near apex, 3rd interval with a setiferous pore at apical third, scutellary striae fully long, marginal series subinterrupted in middle, composed of (10-12) + (12-14) umbilicate pores; microsculpture very obscurely impressed in a transverse line.

Underside almost smooth, very obscurely, sparsely punctate on pre-pisterna and somewhat coarsely on mese- and metepisterna and lateral areas of 1st and 2nd abdominal segments, abdomen sparsely ciliate only in middle of 3rd segment and quite glabrous on the other segments, metepisterna a half longer than wide, 6th abdominal segment bisetose in both sexes on each marginal side, the margin in ♂ truncate or hardly emarginate and in ♀ widely, weakly arcuate.

Mid coxae bearing several setae, hind femora unisetose on back margin, tibiae rather strongly widened forward and seriatly setose along indistinct sulci which lay in front from apical two-fifths, terminal spur sharply protuberant at both margins, tarsi bearing very short and sparse ciliae on dorsal side, fore tarsi distinctly dilated in 2nd to 4th joints and each joint a half wider than 1st, mid tarsi not so wide as fore tarsi but fairly dilated, and equal in proportion to those, 1st compactly adhesive-haired as well as 2nd to 4th but the haired area not so

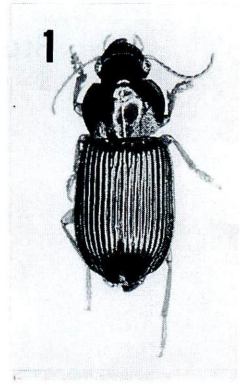
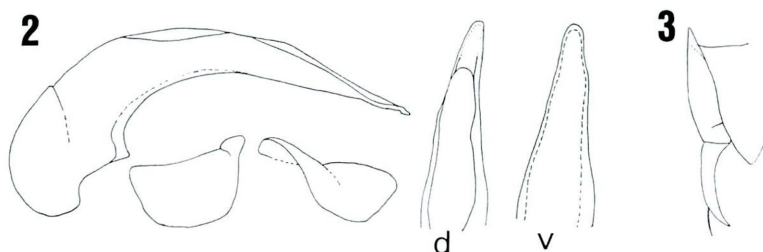


Fig. 1. *Rhysoptus klynstrai*  
ANDREWES.

wide as those of other joints, hind tarsi one-fifth in ♂ and one-fourth in ♀ shorter than width of head inclusive of eyes, 1st about a half longer than 2nd and twice as long as 3rd, claw joint quadrisetose along each ventral margin.



Figs. 2, 3. Genitalia of *Rhysoptus klynstrai* ANDREWES.

2, Male, d: dorsal side, v: ventral side; 3, Female.

Aedeagus (Fig. 2) thin and wide, in lateral view substraightly prolonged distally and weakly sinuate before apex, apex rounded and thickened beneath, apical lamella subtriangular and rounded at apex, seven-tenths times as long as wide, weakly swollen along apical margin, apical orifice large and widely open, equal in width to aedeagus; styluses (Fig. 3) slender, fairly curved outward, and acute at apex, two long setae situated at apical fifth.

Length: 11.5 mm. Width: 4.5 mm.

Examined specimens: 2 ♂♂, 2 ♀♀, Abang, Bali Is., Indonesia., III. 1990, native collector.

*Anisodactylus (Anisodactylus) karennius* (BATES)

(Text figs. 4 & 5, Pl. 3, fig. 16)

BATES, 1892, Ann. Mus. Stor. Nat. Genova, (2) 12 (32): 77-78 (*Harpalus*).

Body elongate-oval, black, shiny but rather opaque in ♀ alike *Anisodactylus signatus* (PANZER), palpi, antennae, and outer margin of labrum reddish brown, tarsi dark brown.

Head convex, flattened on vertex, very sparsely and minutely punctate over all, labrum transversely quadrate and shallowly, dully notched at apex, with quite rounded apical corners, clypeus depressed along emarginate apex and transversely raised behind, its sides obliquely declivous to mandibles, clypeal suture deeply impressed and slant at clypeal side, equal in depth throughout, frontal impressions arcuately divergent behind, near the junction as deep as clypeal suture, but becoming gradually shallow behind and rudimental just before eyes, eyes not large but



relatively well convex, one-third times as wide as interocular space, tempora short and at most not more than one-sixth times the eye's longitudinal diameter, antennae not extending beyond basal fifth of pronotum, 3rd joint equal in length to 4th and a little less than twice as long as 2nd, mandibles short and robust, subtriangular and weakly curved inward, blunt apically even at right segment, genuine ventral margin of eye fully distant from buccal fissure, ligula weakly widened forward and straight at sides, with two setae a little behind truncate apex, paraglossae knife-shaped, produced in front a little beyond ligula and separated from ligula in apical fifth part by apical notches, mentum incompletely sutured with submentum and fused near both sides; microsculpture partly absent and observed in a fine and obscure isodiametric mesh.

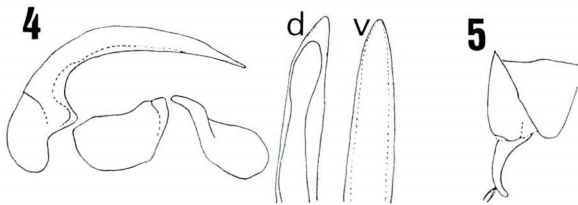
Pronotum rather well convex but flattened near median line, clearly arcuate lengthwise at sides, apex deeply emarginate and not straight in middle where border is interrupted, base a little wider than apex, very weakly bisinuate and finely bordered, basal angles obtuse and angularly rounded, edentate at tips, lateral furrows very fine and running in a line along margins, hardly widened behind and isolated distantly from basal foveae by slight convexities, basal foveae narrowly oblong and distinctly shallow, dorsal punctures absent on central area and on middle of base, sparse and fine near apex, and moderate in both density and roughness on lateral and basal areas except for basal foveae coarsened; microsculpture visible but less clear than the other Japanese species, composed of mixture of isodiametric and transverse meshes.

Wings half reduced. Elytra oblong, fairly convex, and sparsely, obscurely punctate, the punctures sparser in ♀ than in ♂, sides subarcuate in front from near apical third and becoming gradually strong in arch behind, and shallowly sinuate before apex, apex more or less produced behind and narrowly, separately [rounded, sutural angles quite blunt, humeral angles weakly prominent, obtuse and not rounded, edentate at tips, striae moderate in depth and width, intervals weakly convex on disc in ♂ and almost flat in ♀, a little more convex apically and basally, 3rd interval with a setiferous pore at apical third, scutellary striae moderate in length, marginal series subinterrupted in middle, composed of (9-10) + (11-12) umbilicate pores; surface clearly microsculptured, and more evidently in ♀ than in ♂, meshed transversely on the most part and isodiametrically here and there.

Underside rather coarsely and moderately densely punctate on metepisterna and lateral areas of metasternum and obscurely, sparsely on mesepisterna, the other part not punctate, prosternum and middle areas of 2nd and 3rd abdominal segments very sparsely ciliate, metepisterna not long, at least not more than one and one-fifth times as long as

wide, outer margin of 6th ventral segment quadrisetose in both sexes, truncate in ♂ and gently arcuate in ♀ at apex.

Fore tibiae indistinctly sulcate dorsally, the sulcus extending only to middle from apex and bearing several seriate setae along itself, terminal spur sharply bidentate at both margins alike *Anisodactylus tricuspoidatus* MORAWITZ, tarsi bearing very sparse and short ciliae on dorsal sides, fore tarsi of ♂ more or less dilated in 2nd and 3rd joints but not so wide as in *A. tricuspoidatus*, both the two joints a half wider in each than 1st, 2nd one-third wider and 3rd a half wider than long, mid tarsi not wide even in ♂ and similar to those of Trichotichnine species, ventral side bearing compact adhesive hairs only on 2nd and 3rd joints, hind tarsi rather short, in both sexes equal in length and one-fourth shorter than the width of head, 1st joint two-thirds longer than 2nd and a little more than twice as long as 3rd, claw joint quadrisetose along each ventral margin.



Figs. 4, 5. Genitalia of *Anisodactylus (Anisodactylus) karennius* (BATES).  
4, Male; 5, Female.

Aedeagus (Fig. 4) thin and evenly arcuate, apex simple and not thickened, apical lamella subtriangular, symmetrical and weakly arcuate at sides, apical orifice very large and occupying most part of dorsal side, ventral side weakly raised longitudinally and unbordered at sides; styluses (Fig. 5) more or less robust and blunt at tips, substraightly prolonged apically, two setae situated just before apex.

Length: 9.5 mm. Width: 3.5 mm.

Examined specimens: 1 ♂, Doi Sang, Chiang Mai Prov., Thailand, 26. V. 1990, M. ITOH leg. (through Mr. S. MORITA); 1 ♀, Doi Saket, Chiang Mai Prov., Thailand, 3-6. V. 1990, M. ITOH leg.

I heartily thank Mr. SEIJI MORITA for his kind support.

*Anisodactylus (Anisodactylus) formosanus* sp. nov.

(Pl. 2, figs. 11, 12 & 15a, Pl. 3, fig. 17)

Body rather robust, oblong, black, shiny, palpi, antennae, outer margin of labrum, and tarsi brown.



Head fairly convex on vertex, wide on interocular space, the space a little more than seven-tenths times the width inclusive of eyes, a little more densely punctate than in *A. tricuspидatus* MORAWITZ, labrum transverse and widely, deeply notched at apex, with rounded apical corners, clypeus not convex and inclined forward, its apex bordered and so deeply emarginate as to expose membranous part of labrum, clypeal suture fine and clear, moderately, evenly deep over the total length, frontal impressions arcuately divergent behind and moderately deep, becoming gradually shallow behind and reduced near eyes, eyes relatively small and gently convex, tempora somewhat long and one-fourth times as long as eye's diameter, gently convergent behind and drawing in a clear arch at junction with neck-constriction, antennae just reaching pronotal base, 3rd joint pubescent in apical half, less than twice as long as 2nd and subequal in length to 4th, mandibles short and robust, gently curved inward, apically sharpened only in right segment, distance between buccal fissure and genuine ventral margin of eye fairly wide, ligula widely bugle-shaped and acute at apical corners, fused with paraglossae to apical fifth from base, paraglossae not wide, subparallel at outer sides, and rounded at apices, a little prolonged forward beyond ligular apex, mentum deeply emarginate at apical margin and straight in the middle, bearing an obscure suture obliterated near lateral margin, genae very sparsely ciliate near eye and coarsely punctate only behind buccal fissure; microsculpture composed of obscure transverse lines.

Pronotum gently convex, subsquare and clearly rounded at sides, surface densely, rather coarsely punctate on basal area except near fine median line, finely and rather sparsely on apical and lateral areas and near median line on basal area, these punctures spread over near centre and becoming gradually sparser and finer, apex gently emarginate, base a little wider than apex, substraight and slightly oblique at sides, borders of both margins complete though obscure in middle, apical angles widely rounded, basal angles obtusely angulate and slightly, dully toothed at tips, lateral furrows running throughout along lateral borders in a fine line and isolated from basal foveae (or a little widened behind), basal foveae oblong and very shallow, indistinguishable in a case, both front and hind transverse impressions vague or obsolete; microsculpture obscurely and brokenly impressed and consisting of transverse lines.

Winged. Elytra fairly convex, oblong, subparallel-sided, quite glabrous, and rather densely punctate, the punctures irregular in size, apex not produced behind and separately rounded, obtusely angulate at sutural angles, basal border shallowly bisinuate, humeral angles obtusely angulate and quite edentate, striae wide and deep, finely crenulate, intervals rather well convex and a little more convex apically, the convexity not



uniform and aslant declivous near stria, scutellary striae fairly long, marginal series divided into two groups, the fore group having 9-10 umbilicate pores, and the hind one 11-14 pores; surface very obscurely microsculptured in both sexes and transversely lined.

Underside rather densely and coarsely punctate except smooth middle area of metasternum and finely, sparsely punctate 2nd to 6th abdominal segments, metepisterna not elongate and less than one and one-fourth times as long as wide, abdomen sparsely ciliate mostly on 2nd to 6th, 6th quadrisetose in both sexes along outer margin, which is simply, widely arcuate and not truncate even in ♂.

Fore tibiae seriatly setose along obscure sulcus, terminal spur distinctly toothed on both sides as *A. tricuspидatus*, fore tarsi of ♂ (Fig. 15a) more or less dilated but less than in *A. tricuspидatus*, 2nd joint less than one and a half times as wide as 1st (about twice in *A. tricuspидatus*), the proportion of 3rd equal to 2nd, mid tarsi (Fig. 15a) not so wide as in *A. tricuspидatus*, 2nd one and one-fifth times as wide as 1st (more than one and three-fifths times the width of 1st in *A. tricuspидatus*), both tarsi very scarcely pubescent dorsally, hind tarsi a little longer than the width of head in ♂, and one-fifth shorter than the width in ♀, claw joint trisetose along each ventral side.

Aedeagus (Fig. 11) similar in form to that of *A. tricuspидatus*, slender and thin at apex, in lateral view clearly curved behind basal bulb, then weakly arcuately produced distally and not sinuate at apex, apical lamella subtriangular, weakly arcuate at sides and blunt at tip, apical orifice large, occupying most area from a little before apex to near the suture of basal and apical parts; left paramere subquadrate and rounded at each corner, right paramere large and a little longer than the left; styluses (Fig. 12) short and thick, weakly arcuate outward and dull at apex.

Length: 10-11 mm. Width: 3.5-4.0 mm.

Holotype: ♂, Wushe, Nantou Hsien, Taiwan, 6. VII. 1970, A. RIN leg. (in T. SHIBATA's coll.). Paratypes: 1 ♂, same data as the holotype; 1 ♀, Tungpu spa, Nantou Hsien, Taiwan, 11. VI. 1980, N. ITO leg.

The new species resembles *Anisodactylus tricuspидatus* MORAWITZ, but is distinguished from the latter except the points mentioned above by the body smaller, the fore and mid tarsi more scarcely pubescent on dorsal side, and the aedeagus not straight distally.

*Anisodactylus (Anisodactylus) tricuspидatus nomurai* ssp. nov.

(Pl. 2, figs. 13, 14 & 15b, Pl. 3, fig. 18)

The subspecies differs from *A. tricuspидatus tricuspидatus* MORAWITZ in having the body smaller in size (10-11 mm.), the elytral intervals a

little more convex, and the mid tarsi (Fig. 15b) narrower and rather similar to the previous new species than to the original subspecies. The aedeagus (Fig. 13) resembles that of the original subspecies in the form.

Holotype: ♂, Shimmura, Amami Is., Kagoshima Pref., Japan, 28. III. 1969, H. NOMURA leg. (in T. SHIBATA's coll.). Paratype: 1 ♀, same data as the holotype.

*Chydaeus doiinthanonensis* sp. nov.

(Text figs. 6 & 7, Pl. 3, fig. 19)

Body thick, black, shiny but elytra in ♀ more or less opaque because of clear microsculpture, not iridescent at all, palpi, antennae, and tarsi dark reddish brown.

Head quadrate, fairly convex, wide, seven-tenths times as wide as pronotum, microscopically and very sparsely punctate over all, labrum subquadrate, widely and dully notched at apex, clypeus so deeply emarginate at apex that membranous part of labrum exposed, transversely raised on basal half, therefore depth of clypeal suture emphasized, frontal impressions short and subparallel, deepened only near junction with clypeal suture, rapidly shallowed behind, thence reduced far apart from eyes, eyes small and not prominent, less than one-third times as wide as interocular space, tempora rather well developed and long, two-thirds times the length of eye, antennae short and not reaching pronotal base, 2nd relatively long, two-thirds times as long as 3rd and only one-fifth shorter than 4th, genuine ventral margin of eye widely removing from buccal fissure, mandibles robust and short, clearly curved inward and dull at both tips, ligula shallowly bisinuate at sides and weakly widened in front from behind apex, apex gently arcuate and forming a sharp angle with each side, paraglossae slim and deeply incised inside to their middle, mentum wide and bearing long lateral lobes, almost completely fused with submentum and vaguely sutured only in middle, median tooth large and narrowly triangular, blunt at tip; microsculpture clear and wholly composed of fine isodiametric meshes.

Pronotum well convex, large and subquadrate, two-fifths wider than long, smooth on large area, very sparsely and finely punctate on lateral furrows and on basal area (except for basal foveae rather coarsely punctate), sides arcuately narrowed in front and substraightly behind from apical third, apex shallowly emarginate, its border very fine and reduced in middle, base slightly wider than apex, very weakly bisinuate and clearly, entirely bordered, apical angles narrowly rounded, basal angles obtusely angulate, slightly produced laterally and dull at tips, lateral furrows very narrow because the discal convexity approaching lateral margins, and slightly widened behind, ending for a distance from

basal foveae, basal foveae shallowly impressed, small and oblong, situated far apart from each other, front transverse impression clearer than hind one, but shallow and obscure (invisible with individuals), median line finely marked, reduced near both transverse impressions; microsculpture clearly impressed, more distinct in ♀ than in ♂, composed chiefly of isodiametric meshes and partly of transverse meshes.

Wings almost vestigial. Elytra oval and wide, more than two-thirds times as wide as long and three-sevenths wider than pronotum, without any punctures and lacking dorsal pore on 3rd interval, sides clearly arcuate and shallowly sinuate before apex, apex not separated and drawing in a wide and uniform arc, sutural angles sharply angulate, basal border shallowly emarginate and forming an obtuse angle with each lateral margin at shoulder, striae fine and shallow, little deepened even near apex and base, finely crenulate, intervals weakly convex, scutellary striae relatively short, marginal series subinterrupted in middle, composed of (9-12) + (11-16) umbilicate pores; microsculpture clearly impressed in a transverse mesh.

Underside quite smooth and almost glabrous, only sparsely ciliate beside middle of 3rd abdominal segment and coarsely, sparsely punctate on metepisterna which is somewhat longer than wide, margin of 6th abdominal segment quadrisetose in both sexes and in ♂ narrowly and in ♀ widely arcuate apically.

Tibiae not sulcate, sparsely and anti-triangularly setose along middle on apical third area of dorsal side, terminal spur simple and rather strongly dilated, tarsi quite glabrous on dorsal side except ordinary setae, 2nd and 3rd joints of fore tarsi in ♂ distinctly dilated, two-fifths and three-fifths respectively wider than long and about one and a half times as wide as 1st, mid tarsi of ♂ also dilated, 2nd and 3rd two-fifths wider than 1st and compactly, adhesively haired ventrally, the hairs on 4th scarce, hind tarsi in ♂ about four-fifths times as long as the width of head and in ♀ a little shorter than in ♂.

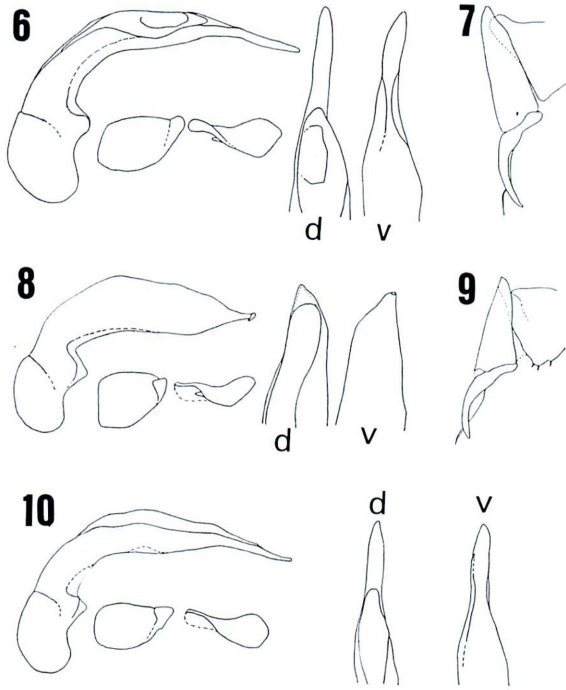
Aedeagus (Fig. 6) long and clearly arcuate, twisted to right, gradually tapering toward acute apex, apical orifice open apart from apex, wide but not large in dimension, apical lamella sword-shaped, thin, and sharpened at apex, straight at right side and weakly curved at left one; styluses (Fig. 7) relatively flattened and gently curved outward, with a short seta at apical fourth, basal segment narrowly triangular.

Length: 10.0-12.0 mm. Width: 4.0-4.5 mm.

Holotype: ♂, Doi Inthanon, Chiang Mai Prov., Thailand, 4. V. 1990, N. ITO leg. (in T. SHIBATA's coll.). Paratypes: 2 ♂ ♂, 2 ♀ ♀, same data as the holotype; 1 ♂, 1 ♀, same locality as the holotype, 2. V. 1990, N. ITO leg.; 3 ♂ ♂, ditto, T. ITO leg.

The new species is similar to *Chydaeus miwai* JEDLIČKA, but is distinguished





Figs. 6-10. Genitalia of *Chydaeus* spp. 6, 8, 10, Male; 7, 9, Female.  
 6, 7, *C. dointhanonensis* sp. nov.; 8, 9, *C. taichii* sp. nov.;  
 10, *C. kumei* sp. nov.

from the latter by the dorsal side much smoother instead of clearly punctate, the metepisterna shorter, the basal angles of pronotum not rounded, and the fore and mid tarsi more dilated.

*Chydaeus kumei* sp. nov.  
 (Text fig. 10, Pl. 3, fig. 20)

Body oblong, pitchy black, shiny, without any iridescent lustre, palpi, antennae, and tarsi reddish brown.

Head wide and fairly convex, very finely and sparsely punctate, labrum subtrapezoidal and fairly produced in front at rounded apical corners, clypeus gently convex and falling into clypeal suture, coarsened finely by microsculpture along apical margin and not observed any rugosities, shallowly emarginate at apex and not exposing membranous part of labrum, clypeal suture clear and moderately deep, not shallowed medianly, frontal impressions divergent behind and almost equal in

depth to the suture near its lateral sides, but rapidly becoming shallow behind and vague from apical third to eyes, eyes large and fairly prominent, two-thirds times as wide as interocular space, tempora short, following prolongation of eye's arc, and immediately countered with neck-constriction, antennae slender, relatively long and slightly passing pronotal base, 3rd densely pubescent apically from basal third, mandibles robust and short, acute at tip of right segment, distance between buccal fissure and genuine ventral margin of eye fully wide, labial palpi comparatively slender, 3rd joint as long as 2nd, ligula wide, parallel-sided, and bearing two long setae a little behind apex, paraglossae slim, free from ligula in front half, not prolonged forward beyond ligular apex, gently arcuate at free parts, mentum large, vaguely sutured with submentum, and fusing laterally from both internal setae, median tooth narrowly equilateral-triangular and sharpened at apex; microsculpture obscure and observed partly, consisting of mixtures with both isodiametric and transverse meshes.

Pronotum cordiform and fairly convex, two-fifths wider than long, with lateral borders rather well reflected, side sinus before base short but clear, apex shallowly emarginate and unbordered in middle, base almost as wide as apex, shallowly bisinuate, and thickly bordered throughout, apical angles narrowly rounded, basal angles rectangular and triangularly protuberant at tips, lateral furrows very narrow and grooved in a V-shaped valley, running along lateral borders throughout and linked with flat space between the borders and basal foveae, basal foveae very shallow and longitudinally impressed in a wide line, front transverse impression relatively deep, from middle of which clear median line extends up to base beyond obscure hind transverse one, dorsal punctures dense and coarse on basal area and along lateral furrows, especially coarse and confluent on basal foveae, on the other part fine and sparse (almost not observed on central area); microsculpture very obscure and partly absent, consisting of mixtures with fine isodiametric and transverse meshes.

Fully winged. Elytra well convex and oblong-oval, quite smooth and not punctate, two-fifths longer than wide, sides subarcuate from humeri to apical third, then gradually increased in curvature toward apex, and very shallowly sinuate ante-apically, apex not produced behind and separately rounded, sutural angles not angulate, humeral angles weakly prominent, obtuse and not rounded, striae wide and deep, finely crenulate, intervals weakly convex, the convexity almost equal in degree even near apex, 3rd interval lacking dorsal pore, scutellary striae moderately long, marginal series subinterrupted in middle, composed of (9-10) + (11-12) umbilicate pores; microsculpture obscure, consisting of

fine transverse lines, and absent here and there.

Underside very sparsely punctate on prepisterna and on lateral areas of metasternum, the other parts smooth, metepisterna short and not more than one and one-third times as long as wide, abdomen sparsely ciliate on lateral areas of 2nd and 3rd segments, outer margin of 6th quadrisetose and widely arcuate.

Fore tibiae not sulcate on dorsal side, terminal spur simple, all tarsi glabrous on dorsal side, fore tarsi of ♂ fairly dilated on 2nd and 3rd joints, each joint about a half wider than 1st, 2nd and 3rd joints of mid tarsi in ♂ more or less dilated and comparatively wider at least than *Chydaeus miwai*, three-tenths wider in each than 1st, furnished ventrally with compact adhesive hairs, the residual joints without any adhesive hairs, hind tarsi three-fourths times as long as the width of head, 1st joint equal in length to 2nd and a half longer than 3rd, 5th quadrisetose on each ventral margin.

Aedeagus (Fig. 10) more or less robust and sharpened apically, gently swollen ventrally in middle, apical orifice long and occupying from apical third to a little before basal part, apical lamella slender and long, symmetrical at sides, which are subparallel and abruptly curved just before apex, and dull at tip, ventral side clearly bordered in a ridge and vertically slant at sides; left paramere small and subquadrate, rounded at each corner, right paramere also small and a little longer than the left one.

Length: 10.5 mm. Width: 4.0 mm.

Holotype: ♂, Sapa, North Vietnam, 20-27. VI. 1991, M. ITOH leg. (in T. SHIBATA's coll.).

The new species is similar to *Chydaeus andreweisi* SCHAUBERGER judging from the original description, but differs from the latter in having the frontal impressions distinctly obscurer, the basal angles of pronotum more strongly prominent laterally at the tips, and the metepisterna shorter. Also the species resembles *Chydaeus salvasae* SCHAUBERGER, but is distinguished from the latter by the pronotum more convex, clearly sinuate and not straight before base at sides, and with the basal angles not obtuse and protuberant at the tips, the lateral furrows not wide, and the metepisterna shorter.

*Chydaeus taichii* sp. nov.  
(Text figs. 8 & 9, Pl. 3, fig. 21)

Body elongate, pitchy black, shiny, lacking iridescent lustre, tibiae slightly brownish, antennae and palpi reddish brown.

Head wide, about three-fourths times as wide as pronotum, well convex but flattened on frons, sparsely punctulate throughout, labrum transverse-quadrate and deeply emarginate at apex, clypeus substraight



at apex, which is obliquely slant, transversely depressed as shallow groove between a pair of setae at apical corners, clypeal suture shallow and obscure, constant in depth even near junctions with frontal impressions, frontal impressions not deep and short, distant a little from eyes and appearing to be longitudinal foveae, eyes small and gently convex (but a little more prominent than in *Chydaeus miwai*), tempora short and one-sixth times eye's length, not swollen and linearly, gently sloped to neck-constriction, antennae short and extending only a little before pronotal base, 3rd joint densely pubescent on apical half, one-fifth longer than 4th, and a little less than twice as long as 2nd, mandibles thick and rather long, dull at both tips, genuine ventral margin of eye fully removing from buccal fissure, labial palpi relatively tumid, 3rd joint subequal in length to 2nd, ligula weakly expanded laterally in middle and again at apex, and sharply angulate at apical corners, apex shallowly bisinuate and emarginate in middle, two setae situated behind apex, paraglossae not produced forward beyond ligular apex and fused with ligula to middle from base, mentum shallowly emarginate at apex, with narrow epilobes, median tooth distinctly produced in front and blunt at tip, suture of mentum with submentum very obscure and reduced near a pair of setae situated at each side; microsculpture almost invisible and partly visible as very faint transverse lines and meshes.

Pronotum subcordiform and fairly convex, about a half wider than long, sides regularly rounded in front and linearly contracted behind from the widest point at apical two-fifths, and slightly sinuate before base, apex moderately emarginate and unbordered in middle, base a little wider than apex and weakly bisinuate or almost straight, its border wide and complete, apical angles narrowly rounded, basal angles a little wider than rectangular, with small triangular tooth at each tip, lateral furrows very narrow, running in a fine line from apex to base, and separated from basal foveae by weak convexities, basal foveae small and elongate, rather deep and coarsened at their bottoms, both front and hind transverse impressions very vague and appearing to be almost even, median line fine and shallow, reduced near apex and base, dorsal punctures relatively coarse and moderate in density on lateral furrows and basal area (baso-median punctures fine and coarse), gradually becoming fine and sparse toward centre, and especially much lessen inside as if microscopically engraved; microsculpture more clearly impressed in ♀ than in ♂, in ♀ consisting of fine isodiametric meshes on basal area and of transverse meshes on the residual area, in ♂ partly observed as transverse lines.

Wings rudimental. Elytra well convex, elongate-oval, two-fifths longer than wide, very sparsely and finely punctate, sides gently curved,

with shallow sinus ante-apically, apex not prominent behind and widely, separately rounded, the separation not deep, humeral angles not protrudent and obtusely angulate, each with a small tooth at tip, striae fine and appearing to be deep because of relatively convex intervals, the convexity not changing throughout and less distinct in ♀ than in ♂, scutellary striae short, marginal series interrupted in middle, composed of (6-11) + (8-12) umbilicate pores; microsculpture of ♂ invisible in 80 magnification, that of ♀ clearly carved in an isodiametric mesh.

Underside almost smooth, obscurely and sparsely punctate only on lateral areas of metasternum, metepisterna not long, less than one and one-fourth times as long as wide, abdomen very sparsely ciliate medio-laterally on 2nd and 3rd segments, 6th bisetose in both sexes on each side of outer margin, the margin in ♂ widely arcuate, and in ♀ more or less produced behind and narrowly arcuate.

Fore tarsi comparatively dilated toward apex and not sulcate dorsally, with several setae behind apex, tarsi glabrous on dorsal side exclusive of ordinary setae, in ♂ 2nd and 3rd joints of fore tarsi distinctly dilated and three-fifths wider than 1st, mid tarsi not so wide as fore tarsi but relatively wider than usual, 2nd and 3rd at least two-fifths wider than 1st, 1st compactly squamous ventrally as well as 2nd to 4th, hind tarsi almost equal in length in both sexes and three-fourths times as long as the width of head, in ♂ 1st as long as 2nd and two-fifths longer than 3rd, in ♀ hind tarsal joints varying in proportion, 1st one-fourth longer than 2nd and twice as long as 3rd, 5th trisetose on each ventral margin.

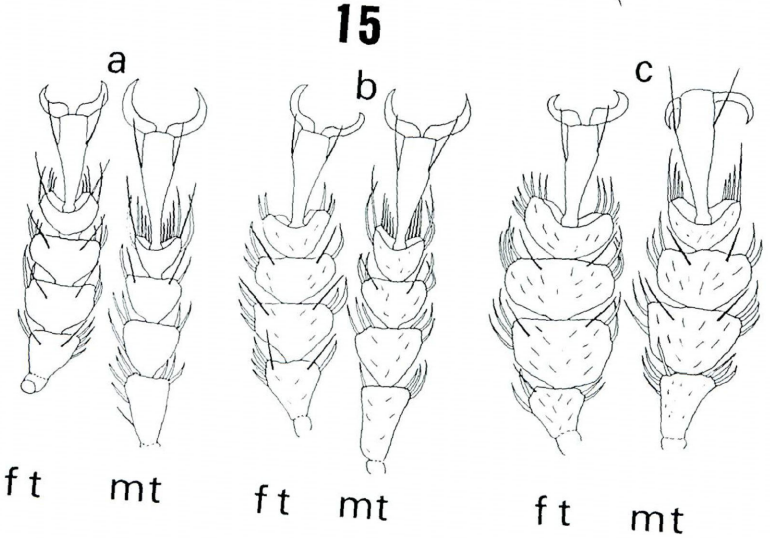
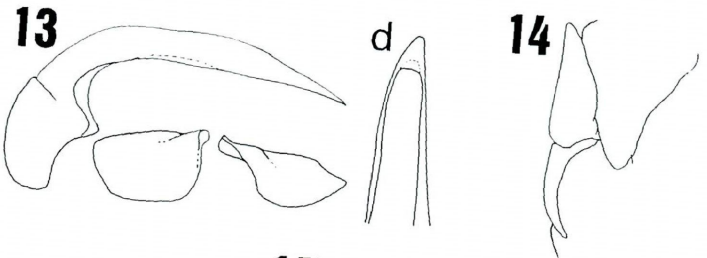
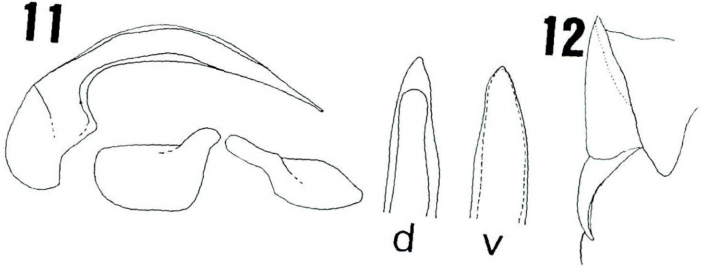
Aedeagus (Fig. 8) distinctly robust in comparison with the other species belonging to this genus, largely thick and steeply contracted near apex, apex knob-shaped, directed obliquely against apical part and sharply hooked ventrally, apical lamella equilateral-triangular and rounded at tip, apical orifice not wide and long, open almost over the total length of apical part; styluses (Fig. 9) clearly arcuate and acute at tips, with a short seta before apex, under margin of outside expanded outward and the expansion looked over the upper margin.

Length: 9.0-10.0 mm. Width: 3.5-3.8 mm.

Holotype: ♂, Laujung (alt. 2,560 m), Nepal, 11. V. 1983, Y. HAMA leg. (in T. SHIBATA's coll.). Paratype: 1 ♀, Deorali (alt. 2,300m), Nepal, 15. V. 1983, Y. HAMA leg.

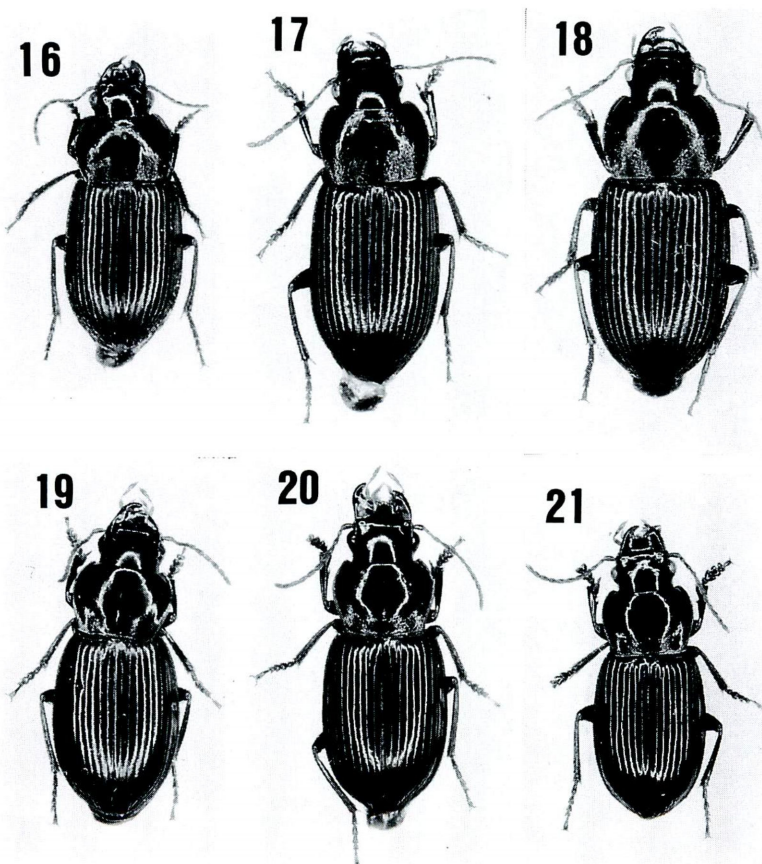
The new species is similar to the previous new species (*C. kumei*) in the form and lustre, but the eyes are smaller and less prominent, the sides of pronotum are more weakly reflected and not sinuate before base, the mid tarsi of ♂ are more dilated, and the aedeagus is not slender and has the much shorter apical lamella.

Also the species is allied to *Chydaeus obscurus* CHAUDOIR judging from the original description, but differs from the latter in having the head not smooth and sparse-













ly punctulate, the elytra very sparsely and finely punctate on intervals instead of smooth, with the apex separated and not crossed to each other, and the humeral angles considerably wider than rectangular.

#### References

- CHAUDOIR, M., 1854; Mémoire sur la famille des Carabiques. 4<sup>e</sup> partie. Bull. Soc. Nat. Mosc., 27 (2): 344-355.
- HABU, A., 1975; Notes and description of Formosan Carabidae taken by Dr. S.-I. UÉNO in 1961, V. Tribe Harpalini. Trans. Shikoku Ent. Soc., 12 (3/4): 82.
- JEDLIČKA, A., 1946; Description des Carabides nouveaux des l'Asie orient: 8.
- MORAWITZ, A., 1863; Beitrag zur Käferfauna der Insel Jesso, I. Mém. Acad. Imp. Sci. St.-Pétersb., (7) 6 (3): 66-67.
- SCHAUBERGER, E., 1932; Zur Kenntnis der paläarktischen Harpalinen. Kol. Rundsch., 18 (1/2): 50, 52-53.
- 1934; Zur Kenntnis der indo-orientalischen Harpalinen. Ent. Anz., 14: 9-10, 70-71.
- TANAKA, K., 1958; Anisodactylini of Japan, with description of a new Formosan *Chydaeus*. Mushi, 32: 90-91.
- TSCHITSCHÉRINE, T., 1898; Carabiques nouveaux de Darjeeling rapportés par M. le capitaine B. NOWITZKY. Horae Soc. Ent. Ross., 32: 660-662.

#### Explanations of Plates 2-3

- Pl. 2, figs. 11-14. Genitalia of *Anisodactylus* spp., 11, 13, Male; 12, 14, Female.
- 11, 12. *Anisodactylus* (*Anisodactylus*) *formosanus* sp. nov.
- 13, 14. *A.* (*A.*) *tricuspidatus nomurai* ssp. nov.
15. Male tarsi of *Anisodactylus* spp. ft: fore tarsi; mt: mid tarsi.
- 15a. *A.* (*A.*) *formosanus* sp. nov.
- 15b. *A.* (*A.*) *tricuspidatus nomurai* ssp. nov.
- 15c. *A.* (*A.*) *tricuspidatus tricuspidatus* MORAWITZ
- Pl. 3, fig. 16. *Anisodactylus* (*Anisodactylus*) *karennius* (BATES).
17. *A.* (*A.*) *formosanus* sp. nov.
18. *A.* (*A.*) *tricuspidatus nomurai* ssp. nov.
19. *Chydaeus doiinthanonensis* sp. nov.
20. *C. kumei* sp. nov.
21. *C. taichii* sp. nov.

(from p. 42)

COCKERELL, 1934 over names based on Neopasiphae; Halictidae THOMSON, 1869 over names based on *Rophites* or *Sphecodes*; Anthidiini ASHMEAD, 1899 over names based on *Stelis*; and Anthophoridae DAHLBOM, 1835 over names based on *Eucera*, *Xylocopa*, *Ceratina* or *Nomada*.

The following opinions were published on September 30, 1991 in Vol. 48, Part 3 of the Bulletin of Zoological Nomenclature.

Opinion No.

- 1650 Cymatiinae IREDALE, 1913 (1854) (Mollusca, Gastropoda) and Cymatiinae WALTON in HUTCHINSON, 1940 (Insecta, Heteroptera): homonymy removed.
- 1654 *Fonscolombia* LICHTENSTEIN, 1877 (Homoptera); *Fonscolombia graminis* LICHTENSTEIN, 1877 fixed as the type species.
- 1655 *Curculio viridicollis* FABRICIUS, 1792 (currently *Phyllobius viridicollis*; Coleoptera): specific name conserved, and *Rhyncolus* GERMAR, 1817: *Curculio ater* LINNAEUS, 1758 designated as the type species.
- 1656 *Longitarsus symphyti* HEIKERTINGER, 1912 (Coleoptera): specific name conserved.
- 1657 *Colias alfacariensis* RIBBE, 1905, *Colias australis* VERITY, 1911 and *Colias calida* VERITY, 1916 (Lepidoptera): availability of specific names confirmed.

# Notes on the Species of Staphylinidae from Japan, I (Coleoptera)

By TATEO ITO

I am going to describe the new or little known species of Staphylinidae mainly from Japan in this series.

I wish to express my deep gratitude first of all to Mr. T. SHIBATA for his constant guidance and encouragement in my study on Staphylinidae. Special thanks are due to Dr. K. SAWADA for his valuable advice, to Dr. Y. WATANABE, Mr. Y. SHIBATA and Dr. S. NAOMI for their hearty support in my study. In addition I am indebted to the members of the Osaka Coleopterological Society and to the following gentlemen, Messrs. K. HOSODA, Dr. Y. KUSUI, K. MIZUNO, M. SAWAI, Dr. S. TAKAHASHI and Dr. M. YASUI for their kind offers of materials.

In the present paper two new species from Yakushima Is. are described under the name of *Stilicopsis insulicola* sp. nov. and *Achenomorpha yakushmanus* sp. nov., and the 20 species of Staphylinidae inclusive of the two new species are added to the fauna of this island.

## *Stilicopsis insulicola* sp. nov.

Body elongate, medium-sized, little shiny, reddish brown, elytra pale reddish brown, antennae, mouth parts and legs yellowish brown. Length: 3.2-3.8 mm.

Head subtrapezoidal, as long as wide, closely covered with distinctly umbilicate and compactly coarse punctures, spaces among them forming a little irregular reticulation, labrum slightly depressed in middle near base, apical margin of labrum weakly reflex and clearly bidentate, frons and vertex evenly convex, eyes large and prominent but longitudinal diameter a little shorter than postgenae, whose sides slightly narrowed behind and then clearly rounded to neck, antennae slightly thickened distally, 1st segment robust and long, more than the following three segments together, 3rd slender, longer and narrower than 2nd, and to 7th longer than wide, 8th to 9th as long as wide, 10th slightly transverse, 11th very thick, wider and more than twice as long as the preceding segment. Ventral side of head with coarse, somewhat deep punctures and a fine isodiametric microsculpture, mentum smooth, distinctly



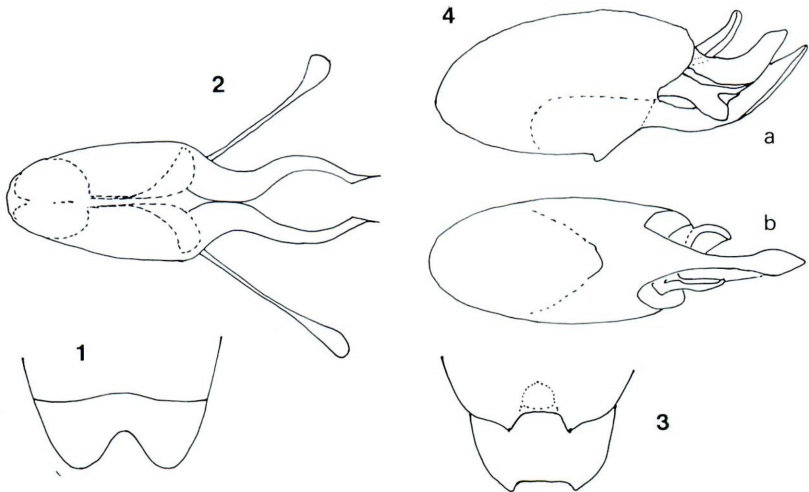
transverse, more than twice as wide as long, submentum finely punctate.

Pronotum subpentagonal or apparently ovate, longer than wide (1.12 : 1), a little shorter (1 : 1.05) and narrower (1 : 1.18) than head, widest at apical fourth, thence sides obliquely truncate apically and sublinearly convergent to obtuse basal angles, and each with four or five erect long black setae, apical and basal margins nearly straight, discal umbilicate sculpture finer than on head, median line scarcely visible from base to apex but not sulcate along middle.

Elytra quadrate, as long as wide, slightly widened apically, scarcely wider and shorter than head, surface coarsely, rather closely and not reticulately punctate, each lateral side bearing four erect long black setae.

Abdomen expanded laterally, very finely punctate and weakly micro-sculptured throughout. In ♂ 7th sternite (Fig. 1) shallowly and widely sinuate, 8th segment deeply and widely excised in middle of apical margin, the depth of excision subequal to its width. in ♀ 8th sternite clearly rounded at apical margin as usual.

Aedeagus (Fig. 2) peculiar and slim in shape, constricted at apical third, with a pair of lateral appendices very thin, slender and clavate at apex, the style just like antennae of the butterflies, apical part well-chitinous before constriction and forked (the profile remains a head of the stag-beetle), the apices of fork very sharply pointed.



Figs. 1-4. 1, 2. *Stilicopsis insulicola* sp. nov.; 3, 4. *Stilicopsis setigera* (SHARP).  
1, 3. The outlines of 7th and 8th sternites in ♂; 2, 4. Aedeagus.  
a: in lateral view; b: in ventral view.

Holotype: ♂, Kametsu, Tokunoshima Is., Kagoshima Pref., 29. III. 1966, T. ITO leg. (T. SHIBATA coll.). Paratypes: 6♂♂, 10♀♀, same data as the holotype; 2♂♂, 2♀♀, same locality as the holotype, 27. III. 1966, T. ITO leg.; 2♂♂, 3♀♀, Nagata, Yakushima Is., Kagoshima Pref., 7. IV. 1965, M. YASUI leg.; 1♂, Miyanoura, Yakushima Is., Kagoshima Pref., 29. IV. 1984, T. ITO leg.

Specimens examined: 1♂, 2♀♀, Kametsu, Tokunoshima Is., Kagoshima Pref., 27 & 29. III. 1966, T. ITO leg.

Distinguished from *S. setigera* (SHARP) by the aedeagus extremely different in configuration as figured (Figs. 2, 4), the sinuation of the male 7th abdominal sternite shallower, the excision of the male 8th sternite deeper and the apical margin of the female 8th sternite normally arched. In *S. setigera* the male 7th sternite (Fig. 3) more deeply sinuate and circularly depressed in middle, each beginning of the sinuation with a black mucro, the male 8th sternite more shallowly excised, the excision very wide and flat, each end of which slightly produced, the female 8th sternite finely and distinctly excised in middle of apical margin, the head wider and pronotum also wider, the former transverse, the latter as long as wide, the eyes larger, the longitudinal diameter moderately longer than postgenae, the sculptures on head and pronotum coarser, the setae on pronotum and elytra longer and more prominent, the body smaller (*S. setigera*: 2.5-3.2 mm).

The new species is related in the coloration to the undermentioned several species, however, it is separable from the latter by the following points, from *S. unicolor* CAMERON (New Guinea) by the body larger in size, the elytra shorter and not transversely rugulose, from *S. subdepressa* BERNHAUER (Philippines) by the elytra not shorter than pronotum, the male 7th sternite with median weak sinuation, from *S. setigera macroptera* CAMERON (Philippines) by the elytra unparallelled at sides and narrowed at base, from *S. indica* CAMERON (India) by the penultimate segment of antennae transverse, the sculpture of pronotum finer than that of head, from *S. crenipennis* CAMERON (Philippines) by the pronotum longer, not so long as wide, the elytra longer than pronotum and from *S. nepalensis* COIFFAIT (Nepal) by the antennal 3rd segment less slender, the body larger and the aedeagus quite differently shaped.

### *Achenomorplus yakushmanus* sp. nov.

Body moderately sized, robust, dull, reddish brown, with elytra and abdomen slightly darkened, apical some segments of antennae, mouth parts and legs smudgy yellow. Pubescence of body close and yellowish to reddish brown. Length: 3.3-4.0 mm.

Head quadrate, slightly transverse (10 : 9), wholly with extremely fine, rather sparse punctures and a close isodiametric microsculpture, submarginal sides with short, black setae (irregular in length), labrum fairly bilobed, distinctly denticulate on each end of median excision, frons generally flat, clypeo-apical margin slightly arcuate, vertex very weakly and evenly convex, eyes large and prominent, postgenae well expanded postero-laterally and subequal in length to longitudinal dia-

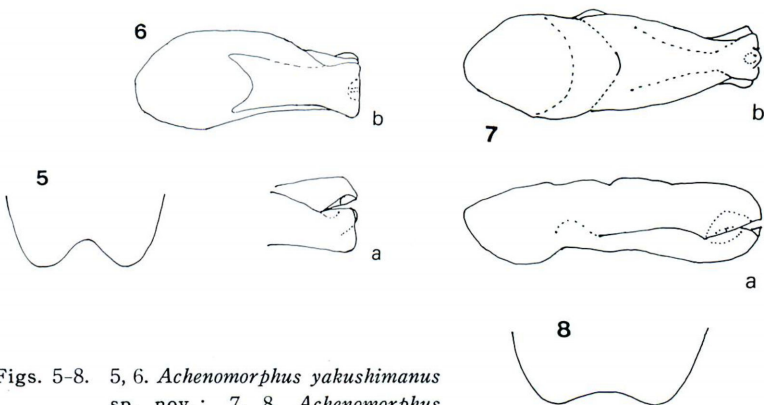
meters of eyes, neck narrow, about one-sixth as wide as head, antennae short and robust, slightly thickened distally, passing middle of pronotum, 1st segment long, three times as long as wide, 2nd to 6th distinctly, 7th scarcely longer than wide, 8th to 10th about as long as wide, 11th subequal in thickness to 10th. Ventral side of head with obscure and regular microsculpture, gular sutures clearly separated and slightly close near neck, mentum transverse (10 : 3), well-chitinous, bisetose on each side of apical margin, last segments of maxillary and labial palpi very thin, subulate and subequal in length to each other.

Pronotum approximately pentagonal, about as long as wide and also as long as head, but narrower than head, widest at apical third, from there sides narrowed rapidly forward but gradually backward, and bearing a long, erect, conspicuous, black seta at each the widest point and basal angles, sculpture and pubescence similar to those on head, median line gently elevated from base to near apex.

Elytra longer and wider than pronotum, slightly enlarged apically, coarsely closely and somewhat asperately punctate. Prosternum distinctly carinate along middle, the carina weakened apically.

Abdomen slightly widened laterally, narrower than elytra, finely and more or less closely punctate, each segment bearing several black stiff setae on sides, in the male 8th sternite (Fig. 5) fairly and deeply excised in the middle of apical margin.

Legs robust, tibiae slightly dilated apically, hind tibiae clearly pectinate at apices, tarsi rather slender, 1st segment of hind tarsi about as long as the succeeding two segments together, 5th one longer than the



Figs. 5-8. 5, 6. *Achenomorphus yakushimanus* sp. nov.; 7, 8. *Achenomorphus lithocharoides* (SHARP).

5, 8. The outline of 8th sternite in ♂; 6, 7. Aedeagus.  
a: in lateral view; b: in ventral view.



preceding two together.

Aedeagus (Fig. 6) with median lobe narrowed at apical sixth, lateral lobe robuster, wider and more clearly truncate at apex than that of *A. lithocharoides* (SHARP) (Fig. 7), and much more swollen ventrally in lateral view, rather expanded apico-ventrally.

Holotype: ♂, Miyanoura, Yakushima Is., Kagoshima Pref., 1. V. 1984, T. ITO leg. (T. SHIBATA coll.). Paratypes: 2 ♂♂, 3 ♀♀, same locality as the holotype, 29. IV. - 1. V. 1984, T. ITO leg.

Specimen examined: 1 ♂, same locality as the holotype, 30. IV. 1984, T. ITO leg.

Though the new species is closely allied to *A. lithocharoides* (SHARP), it is distinguished from the latter by the following separable points: The male 8th sternite of abdomen more deeply and rather triangularly excised in the middle of apical margin, the lateral lobe of aedeagus robuster and more strongly swollen ventrally, the head wider and transverse, the median carina on prosternum almost visible to apex, the body paler in color, the pronotal characterized setae longer and more conspicuous, whereas in *A. lithocharoides*, the male 8th sternite (Fig. 8) only weakly sinuate at apical margin, the aedeagal lateral lobe (Fig. 7) less robust and slightly curved dorsally in lateral view, the head narrower, as wide as long, the prosternum more weakly carinate near apex, the body darker in color, the pronotum less conspicuously setose.

#### New records of staphylinid species from Yakushima Is.

1. *Anotylus latiusculus* (KRAATZ)  
1 ex., Kurio, 3. V. 1984, T. ITO leg.
2. *Anotylus laticornis* (SHARP)  
30 exs., Miyanoura, 29. IV. - 5. V. 1984, T. ITO leg.; 2 exs., Kurio, 3. V. 1984, T. ITO leg.
3. *Carpelimus exiguus* (ERICHSON)  
1 ex., Yudomari, 2. V. 1984, T. ITO leg.
4. *Stenus mikado* HROMÁDKA  
1 ex., Miyanoura, 29. IV. 1984, M. YASUI leg.
5. *Stenus currax* SHARP  
1 ex., Kosugidani, 17. V. 1960, Y. KIMURA leg.
6. *Stenus hirtellus* SHARP  
3 exs., Nagata, 7. IV. 1965, M. YASUI leg.
7. *Edaphus carinicollis* BERNHAUER  
1 ex., Yudomari, 2. V. 1984, T. ITO leg.
8. *Paraminus japonicus* CAMERON  
1 ex., Kosugidani, 20. VII. 1968, Y. MAEDA leg.; 1 ex., Yudomari, 4. V. 1984, T. ITO leg.
9. *Astenus latifrons* (SHARP)  
1 ex., Kosugidani, 3. IV. 1965, M. YASUI leg.
10. *Stilicopsis setigera* (SHARP)  
1 ex., Nagata, 7. IV. 1965, M. YASUI leg.; 1 ex., Yudomari, 2. V. 1984, T. ITO leg.;  
1 ex., Miyanoura, 4. V. 1984, T. ITO leg.

11. *Stilicopsis insulicola* sp. nov.
12. *Medon confertus* SHARP  
1 ex., Arakawa, 9. IV. 1984, K. HOSOKAWA leg.; 1 ex., Shiratani, 11. IV. 1984, K. HOSOKAWA leg.
13. *Achenomorphus yakushimanus* sp. nov.
14. *Thinocharis basicornis* SHARP  
2 exs., Nagata, 6. IV. 1965, M. YASUI leg.; 1 ex., Miyanoura, 1. V. 1984, T. ITO leg.
15. *Ochthephilum pectorale* (SHARP)  
2 exs., Yudomari, 4. V. 1984, T. ITO leg.
16. *Gabrius ophion* SMETANA  
7 exs., Miyanoura, 29 & 30. IV. 1984, T. ITO leg.
17. *Gabronthus maritimus* (MOTSCHULSKY)  
1 ex., Yudomari, 1. V. 1984, T. ITO leg.
18. *Mycetoporus convexus* SHARP  
1 ex., Yudomari, 3. V. 1984, T. ITO leg.
19. *Bolitobius princeps* (SHARP)  
1 ex., Miyanoura, 30. IV. 1984, T. ITO leg.
20. *Tachyporus celatus* SHARP  
14 exs., Yudomari, 2-4. V. 1984, T. ITO leg.

#### References

- ADACHI, T., 1957; The staphylinid fauna of Japan. Jour. Toyo Univ., (11): 166-200.
- BERNHAEUER, M., 1916; Neue Staphylininen des indo-malaiischen Faunengebietes, besonders der Philippinen. Verh. zool.-bot. Ges. Wien., 66: 418-431.
- BERNHAEUER, M. et K. SCHUBERT, 1912; Coleopt. Cat. Pars 40, Staphylinidae III: 191-288.
- BLACKWELDER, R. E., 1943; Monograph of the West Indian beetles of the family Staphylinidae, Washington: 1-658.
- CAMERON, M., 1913; Descriptions of the new species of Staphylinidae from the West Indies. Ann. Mag. n. H., (8) 12: 321-351.
- 1918; New species of Staphylinidae from Singapore, Part I. Trans. ent. Soc. Lond.: 58-90.
- 1920 (1921); New species of Staphylinidae from Singapore, Part IV. Ibid.: 347-413.
- 1923; Descriptions of new species of Staphylinidae from the West Indies, Part II. Ann. Mag. n. H., (9) 11: 363-400.
- 1924; New species of Staphylinidae from India. Trans. ent. Soc. Lond.: 160-198.
- 1930; New species of Staphylinidae from Japan. Ent. mon. Mag., 64: 205-208.
- 1931; Fn. Brit. India, Col. Staph. II: 1-257.
- 1937; Staphylinidae collected by Miss L. E. CHEESMAN in Eastern New Guinea. Nova Guinea, 1 (2): 83-111.
- 1939; New Staphylinidae from New Guinea. Ann. Mag. n. H., (11) 3: 139-152.

- 1941; New species of Staphylinidae from the Philippines. *Ibid.*, (11) 7: 430-447.
- 1950a; New species of Staphylinidae from the Malay Peninsula. *Ibid.*, (12) 3: 1-40.
- 1950b; New species of Staphylinidae from Angola. *Publcoes cult. Co. Diam. Angola*, 7: 111-121.
- CASEY, T. L., 1910; Synonymic and descriptive notes on the Paederini and Pinophilini. *Memoires on the Coleoptera*, 1: 184-205.
- COIFFAIT, H., 1975; Récoltés au Népal par le Professeur FRANZ. *Nouv. Rev. Ent.*, 5 (2): 153-186.
- FAUVEL, A., 1895; Staphylinides nouveaux de l'Inde et de la Malaisia. *Rev. d'Ent.*, 14: 180-286.
- 1898; Catalogue des Staphylinides de la Barbarie et des Iles Açores, Madères, Salvages et Canaries. *Supplément; Description des espèces nouvelles. Ibid.*, 17: 93-113.
- 1905; Staphylinides exotiques nouveaux, Pt. 3. *Ibid.*, 24: 113-147.
- JARRIGE, J., 1971; Les *Stilicopsis* malgaches (Col., Staphylinidae). *Bull. Soc. ent. Fr.*, 76 (1/2): 25-27.
- KRAATZ, G., 1859; Die Staphylininen Fauna von Ostindien insbesondere der Inseln Ceylan. *Arch. Naturg.*, 25: 1-196.
- LAST, H. R., 1980; Records of New Guinea Staphylinidae in the Hungarian Natural History Museum. *Ann. hist.-nat. Mus. natn. hung.*, 72: 139-161.
- 1984; Records and new species of Coleoptera in Papua New Guinea. *Folia ent. Hung.*, 45 (2): 109-125.
- MOTSCHULSKY, T. V., 1858; Enumération des nouvelles espèces de Coléoptères rapportés de ses voyages, 2 partie. *Bull. Soc. Nat. Moscou*, 31 (2): 634-670.
- NAKANE, T. et K. SAWADA, 1960; The Coleoptera of Yakushima Island, Staphylinidae. *Sci. Rep. Kyoto Pref. Univ.*, 3 (2): 121-126.
- SACHSE, C. T., 1852; Neue Käfer. *Stett. ent. Zeit.*, 13: 115-127 et 142-149.
- SCHEERPELTZ, O., 1933; Coleopt. Cat. Pars 129, Staphylinidae VII, Supplementum I: 989-1500.
- SHARP, D., 1874; The Staphylinidae of Japan. *Trans. ent. Soc. Lond.*: 1-103.
- 1889; The Staphylinidae of Japan. *Ann. Mag. n. H.*, (6) 3: 249-267 et 319-334.
- SHIBATA, Y., 1977; Provisional check list of the family Staphylinidae of Japan, II. *Ann. Bull. Nichidai Sanko*, (20): 16-83.
- WATANABE, Y., 1961; The staphylinid-fauna of the middle and southern Izu Islands. *Jour. Agr. Sci. Tokyo Nogyo Daigaku*, 6 (4): 343-356.
- WATANABE, Y. et Y. SHIBATA, 1972; The staphylinid-fauna of Yaku-shima Island, Japan, with description of a new genus and new species. *Ibid.*, 17 (1): 59-72.



## 国際動物命名委員会からのお願い (7)

The following Applications were published on December 19, 1991 in Vol. 48, Part 4 of the Bulletin of Zoological Nomenclature. 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.

- 2731 *Planoplatyscelis* KASZAB, 1940 (Coleoptera): proposed designation of *Platyscelis margelanica* KRAATZ, 1882 as the type species of *Planoplatyscelis* KASZAB, 1940 (a subgenus of *Bioramix* BATES, 1879) in accordance with accepted understanding and usage. At present this tenebrionid subgenus has a misidentified type species.
- 2780 *Platyscelis* LATREILLE, 1818 (Coleoptera): proposed designation of *Tenebrio hypolithus* PALLAS, 1781 as the type species, so conserving *Oodescelis* MOTSCHULSKY, 1845.
- 2773 *Schizopus* LECONTE, 1858 (Coleoptera): proposed conservation for a buprestid beetle genus. It is threatened by the homonym *Schizopus* CLAPARÈDE & LACHMANN, 1858, unused name for a genus of hypotrichous ciliate protozoan.
- 2749 *Eristalis* LATREILLE, 1804, *Helophilus* FABRICIUS, 1805, *Xylota* MEIGEN, 1822 and *Eumerus* MEIGEN, 1822 (Diptera): proposed conservation.
- 2730 *Cheilisia* MEIGEN, 1822 and *Pyrophaena* SCHINER, 1860 (Diptera): proposed conservation.

A New Species of the Genus *Dacne* from  
the Kii Peninsula, Central Japan  
(Coleoptera, Erotylidae)

By NOBUYUKI NARUKAWA

2399, Kida-chô, Suzuka-shi, Mie Pref., 513 Japan

Recently I had an opportunity to examine unknown erotylid specimens from Mie Pref., Japan. After close examination, I concluded that it should be new to science. In this paper, I will describe it as a new species.

Before going further, I wish to express my hearty thanks to Mr. KATSUMI AKITA for his kind offer of this valuable material, also to Dr. MICHIO CHÛJÔ and Mr. HAJIMU ICHIHASHI for their useful advice on literatures.

*Dacne akitai* sp. nov.

(Figs. 1, 2)

Body elongate-ovate, convex, and lustrous, about 2.2 times as long as wide. Dorsum, antennae, mouth parts, legs and underside of body reddish brown. Pronotum reddish brown with blackish brown posterior margin. Elytra blackish brown with reddish brown marking as follows: Anterior marking occupying basal  $\frac{1}{4}$  or  $\frac{1}{5}$  and the edge part of elytra (Fig. 2-A). The borders between blackish brown markings are very indistinct.

Head sparsely with large and rough punctures; clypeal suture fine, joined with lateral carinae in front of eyes. Anterior margin of clypeus slightly arcuate; compound eyes moderate in size; interocular distance about twice as wide as the transverse diameter of eye.

Antennae (Fig. 2-B) eleven segmented; 1st cylindrical, longer than wide; 2nd as long as wide; 3rd 2.0 times as long as 2nd, about 2.5 times as long as wide; each of 4th to 6th longer than wide; 7th and 8th as long as wide; terminal three form-

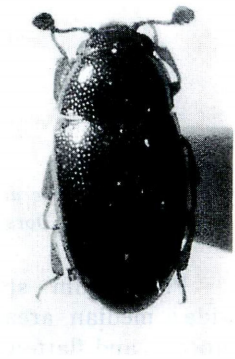


Fig. 1. *Dacne akitai*  
sp. nov.

ing a club; 9th about twice as wide as long; 10th about 3 times as wide as long; 11th about 2.7 times as wide as long, slightly projecting outwards. Maxillary palpi spindle-shaped.

Pronotum about 1.76 times as wide as long, widest at base, gradually narrowed in basal half, strongly narrowed in apical half; pronotal disc sparsely with large and rough punctures as well as head; lateral and posterior margins clearly grooved. Anterior angles roundly projected anteriorly; posterior angles slightly angulated. Scutellum compressed pentagonally.

Elytra 1.64 times as long as wide, base slightly wider than pronotal one; stria composed of a single row punctures smaller than those in pronotum, relatively sparser at base; intervals without punctures; basal area clearly grooved; sides gradually arcuate, widest near one-fourth from base of elytra.

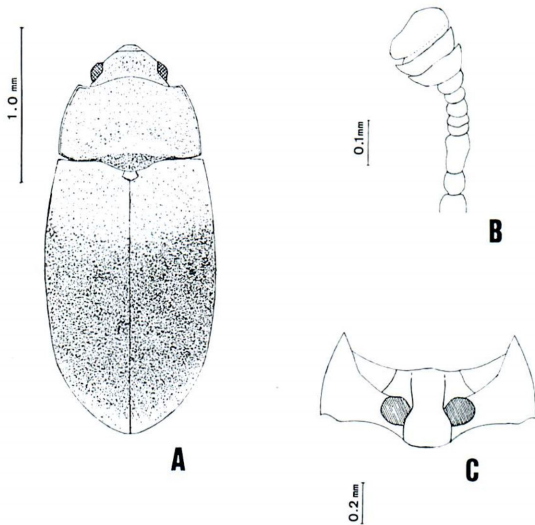


Fig. 2. *Dacne akittai* sp. nov.

A: Dorsal habitus; B: Antenna; C: Prothorax, ventral aspect.

Prosternum sparsely punctured; prosternal process longer than wide; median area (Fig. 2-C) elevated together with the prosternal process and flattened on its surface; prosternal process slightly arcuate posteriorly.

Metasternum with large and rough punctures, sparsely bearing short hairs; metacoxal line entire in whole length, longitudinal carinae extending near posterior margin of first abdominal segment.



Body length: 2.50–2.55 mm; width: 1.20–1.25 mm.

Distribution: Japan (Honsu).

Holotype: ♂, Hirakura Mie Univ. Forest, Misugi-mura, Ichishi-gun, Mie Pref., 10. VII. 1988, K. AKITA leg. (preserved in the Collection of the Osaka Museum of Natural History, Type No. OMNH TI 35). Paratypes: 1 ♀, the same locality as the holotype, 21. VII. 1987, K. AKITA leg.; 1 ♀, the same locality as the holotype, 5. VIII. 1989, H. KAWASE leg.; 4 exs., the same locality as the holotype, 15. VII. 1989, K. AKITA leg.

Remarks. Up to the present, 6 species of the genus *Dacne* have hitherto been known from Japan.

The present new species can be easily distinguished from all the known *Dacne*-species of Japan by the combination of the following characteristics: 1) body smaller; 2) elytra not spotted; 3) prosternum rectangular. This species is similar to *D. fungorum* LEWIS in the form of prosternum, but it is separable from the latter by the smaller body, and more strongly narrowed pronotum.

#### References

- CHÛJÔ, M., 1969. Fauna Japonica, Erotylidae. 316 pp., 23 pls.
- CHÛJÔ, M. and CHÛJÔ, M. T., 1988. A catalog of the Erotylidae (Insecta, Coleoptera) from the Old World (excl. the Ethiopian region). *Esakia*, 26: 139–185.
- IABLOKOFF-KHNZORIAN, S. M., 1975. Etude sur les Erotylidae (Coleoptera) paléarctiques. *Acta zool.*, Cracov., 20: 201–249, pls. 13–20.
- NAKANE, T., 1981. New or little-known Coleoptera from Japan and its adjacent regions, XXXII. *Rep. Fac. Sci., Kagoshima Univ. (Earth Sci. & Biol.)*, (13): 127–130.
- REITTER, E., 1897. Fünfzehnter Beitrag zur Coleopteren-Fauna des russischen Reiches. *Wiener Ent. Zeit.*, 16 (4): 121–127.

## 国際動物命名委員会からのお願い (8)

The following Applications were published on March 26, 1992 in Vol. 49, Part 1 of the Bulletin of Zoological Nomenclature. 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.

- 2798 *Lincus* STÅL, 1867 (Heteroptera): proposed conservation, and *L. croupius* ROLSTON, 1983: proposed conservation of the specific name.
- 2764 *Acrolocha* THOMSON, 1858 (Coleoptera): proposed conservation, and *Coprophilus* LATREILLE, 1829: proposed designation of *Staphylinus striatulus* FABRICIUS, 1792 as the type species.
- 2782 *Carabus mollis* MARSHAM, 1802 (currently *Calathus mollis*; Coleoptera): proposed conservation of the specific name.
- 2796 *Helophorus* FABRICIUS, 1775 (Coleoptera): proposed conservation as the correct original spelling.
- 2776 *Meladema* LAPORTE, 1835 (Coleoptera): proposed conservation.
- 2733 *Mycetoporus* MANNERHEIM, 1831 (Coleoptera): proposed designation of *Tachinus punctatus* GRAVENHORST, 1806 as the type species; proposed conservation of *Ischnosoma* STEPHENS, 1829; and proposed precedence of *Mycetoporus* over *Ischnosoma*.

The following opinions were published on March 26, 1992 in the above noted publication.

## Opinions No.

- 1669 *Dalla* MABILLE, 1904 (Lepidoptera): conserved.
- 1670 *Calliphora vicina* ROBINEAU-DESVOIDY, 1830 (Diptera): specific name conserved.

# ツシマ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 *Fleutiauxellus curatus tsushimensis* (Coleoptera: Elateridae) from Tsushima Is., Japan

By HITOO ÔHIRA

筆者は1991年7月25日に対馬に滞在、上島の峰町大星山(標高347m)の林道で夜間採集を行ったが、その際黒色をした小形のミズギワコメツキが飛来した。これはその後の調査で上記種であることが判明し、詳しい形態についても調査することができたのでここに報告する。

### 1. 種 の 概 要

本種は対馬から KISHII (1961) が内山と経塚(いずれも下島の厳原町内の地名)において1957年5月に馬場金太郎博士が採集された標本を *Negastrius curatus* として記録されたのが最初である。この報告の地名の京塚は、経塚のことと思われる。その後、KISHII (1976) はこの対馬産の種に *Migiwa curatus tsushimensis* という新亜種名を付して記載、前記の内山、経塚産の一部と上対馬町の大増で採集した2頭の標本を加えてタイプに指定している。

本州の各地に広く分布する原名亜種は普通種で個体数も多いが、対馬産の上記亜種は個体数が少ないようで、その後の記録は見当らないようである。

本亜種の原因記載はきわめて簡略で、亜種としての特徴がよく示されていない。対馬産のものは雄触角の第2節の長さは幅の1.3倍であるのに比して、原名亜種では長さは幅の1.4倍であるとされており、体長4.5mmの雄個体と雄交尾器が示されている。

### 2. 対馬産の一般形態

雄の体長は4.5mm内外。体はやや扁平状、黒色で鈍鉛色の光沢を有する。触角の第2節、肢の転節、腿節の両端部(中央部は黒褐色)、脛節と跗節(後肢跗節の第3-5節あたりはやや暗色)などは淡黄色～黄褐色である。体毛は淡黄色～淡黄褐色、上翅には短毛を一様に生ずる。



頭部の前頭部の正中部はやや扁平状 (Pl. 4, E の↑印). 前頭横隆線は顕著に縁取られ, 前縁中央部は弱く内方へ湾曲する (Pl. 4, E), また基部の目の前は幅広く2又する (Pl. 4, E の↑印).

触角は短く, 末端は前胸背板の後角よりやや長い程度, 第2節は円筒形状で, 第3節は弱い三角形状, 第2節の約1.5倍の長さ, 第4節は第3節の約1.3倍の長さ, 第3節から鋸歯状を呈する (Pl. 4, J).

前胸背板は矩形状, 後角部を含めても長さより幅広い. 背面は弱く膨隆し, 両側は中央部において最も幅広く, 後角やや前でやや顕著に内方へ湾曲する (Pl. 4, C, F). 正中部には平滑隆線を有するが顕著ではない. 前胸腹突起は前肢基節腔を越えて内方へ湾曲, 末端は細まって尖る (Pl. 4, B).

上翅はやや扁平状, 條線は深く印し, 間室部は弱く膨隆し, 不規則なしわ状を呈するが, しわは弱い.

交尾器の背面からみた外形は図示したようである (Pl. 4, H). 中央突起は細長く, 末端に漸次細まる (図は末端が破損している). 側突起も細長く, 末端に漸次細まり尖る (Pl. 4, I). 雌は標本が得られなく, 不明である.

### 3. 調査標本

4雄, 対馬 (峰町大星山), 25. VII. 1991, 大平採集.

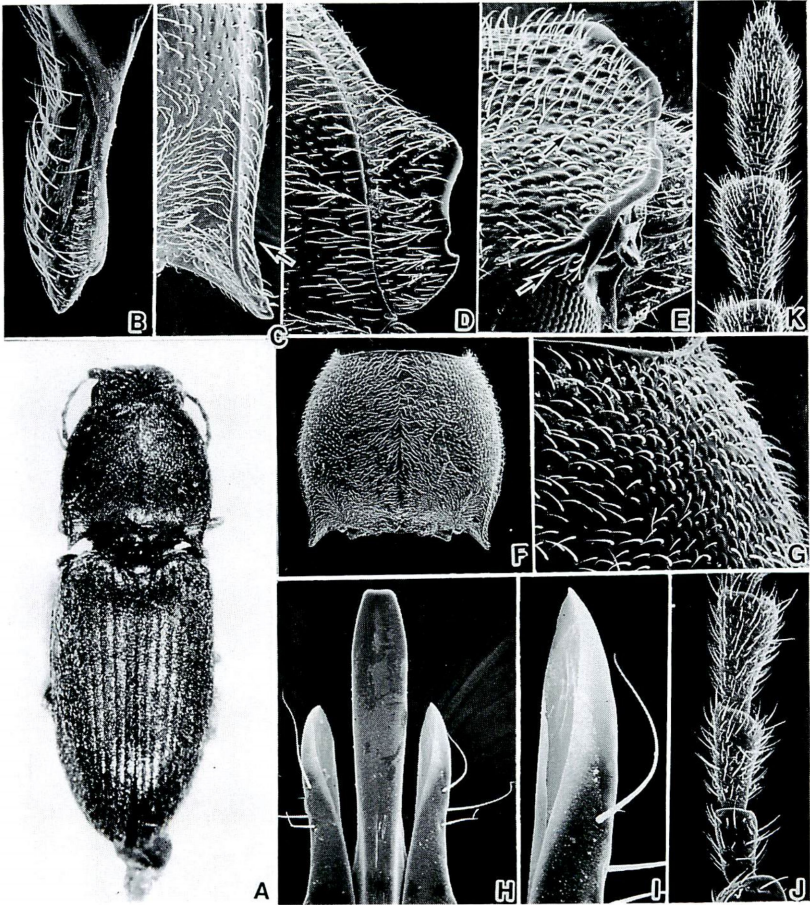
### 4. その他

本種は調査個体数が少なく, 雌個体が未調査であるので, 本種の正確な位置などは今後の研究に待たねばならない. しかし, 今度の標本から調査した限りでは, 本州に分布する原名亜種に比して, 次のような明らかな差が見出された.

対馬産の個体は, 頭部の前頭横隆線の前縁中央部は弱く内方へ湾曲する. また, 一般に前頭部の正中部は縦に弱く凹状を呈する. 触角の第3節は第4節より明らかに短い. 前胸背板は幅広く, 後角は短小で, 基部近くでやや強く内方へ湾曲する. 雄交尾器は細長く, 側突起の末端は鋭く尖る. 筆者は本種は本州産の亜種ではなく, 独立種の可能性が強いと考える次第である. 今後雌個体を得てさらに詳しく検討する予定である.

### 引用文献

- KISHII, T. (1961) Elateridae of Is. Tsushima. The snappers of island (I). Bull. Heian High School, Kyoto, (5): 1-56, 11 pls.  
 — (1976) New Negastrinae with some notes. Some new forms of Elateridae in Japan (X). Ibid., (20): 17-45, 6 pls.







## Summary

*Fleutiauxellus curatus tsushimensis* was originally described by Dr. KISHII (1976) from Tsushima Is., under the generic name of *Migiwa*.

The present study, I have an opportunity to examine some structures of the male specimens of this subspecies, which were captured from Mt. Ôboshi-yama in Tsushima Is. on 25th July 1991. Some morphological characters of this subspecies are indicated in SEM-images for facilitating recognition of this subspecies in the nominate subspecies from Honshu, Japan.

### Explanation of Plate 4

Pl. 4. *Fleutiauxellus curatus tsushimensis*, male, Mt. Ôboshi-yama, Tsushima Is.

A, Adult, length 4.5 mm ; B, Prosternal process, lateral aspect ; C, Right hind angle of pronotum ; D, Basal plate ; E, Fronto-clypeal area of head, latero-dorsal aspect ; F, Pronotum, dorsal aspect ; G, A portion of right anterior angle of pronotum ; H, Aedeagus, dorsal aspect ; I, Lateral lobe of aedeagus ; J, 2nd to 4th basal segments of antenna ; K, 10th and apicalmost segments of antenna.

## 第43回(平成3年度)大会記録

平成3年度の第43回大会は、同年12月8日午前10時30分から大阪市立自然史博物館において開催された。午前中は恒例の自由懇談及び甲虫の同定が各グループごとに行われ、随所に虫談の花が咲いた。

午後1時から岸井幹事の司会により、大倉幹事から会務会計報告が行われた。なお、今後の当会運営の充実を計るため、若手の幹事として安藤清志・野村英也両氏にお願いしたい旨の提案があり、出席全員の拍手でもって承認された。また、日本昆虫学会大会当日に種々の小集会が開催されているが、来年度の大会から甲虫に関する小集会に日本鞘翅学会と共催で当会も参加することになっており、追って“ねじればね”で予告通知をするので、昆虫学会大会に出席される会員はこの小集会にもご出席願いたい旨の報告があった。引き続き林幹事から、今まで城南女子短大で保管していた当会の蔵書について、今回同短大を退職するに当り他に移す必要があり、とりえず林靖彦会員の勤務先である瑞徳病院の近くで保管して貰っていること、並びに当会会報の第47巻第2号を永年当会の運営に尽力された大倉幹事の喜壽の記念号にしたい旨の報告及び提案があって、全員の賛成があった。

会務報告のあと記念講演に移り、先ず林匡夫氏から“アジア産キヌツヤハナカミキリ族について”の話があった。この族は5属に分けられ、その中の2属はオーストラリア特産の属で、残り3属がアジアに産し7種が知られていたが、新たにタイから1種が追加され、計8種が産することになった旨、標本の回覧とともに各属の特徴について詳細な説明があった。次に越智輝雄氏から“マンマルコガネ科について”の話が行われ、この科は大阪大学生物研究会在トカラ列島中之島から初めて生態を報告し、同氏外2名の共著で新種として報告された我国では全く新しい科の甲虫である。更に石垣・西表の両島から1新種が発見され、現在我国では1属2種が知られているが、全世界には32属246種が、その中東洋区には6属50種が分布している。この科の成虫は刺激を受けるとマルムシのように体を丸め球状にする習性を持つ特異な甲虫である。幼虫はシロアリの巣から見付かっており好シロアリ性かも知れない。また、石垣島では朽木の中から発見されている。何れにしても我国では最近発見された甲虫であり、今後の研究に待ちたいとのことであった。最後に松田潔氏から“ベニボタル科の甲虫について”の講演があったが、この科はホタル上科に属し、現在全世界からは約3,600種が知られており、我国では91種が報告されている。本科は前胸背板の形状が重要であり、テキスト図及び回覧標本により説明が行われた。

午後4時30分すぎに記念講演を終わり、有志による懇親会を開催して終了した。

なお、当日の出席者(敬称略・\*は懇親会出席者)は下記のとおりである。

有本久之、安藤清志、藤野直也、林 匡夫、\*林 靖彦、平田信夫、\*徳積俊文、生谷義一、岸井 尚、北山 昭、黒田祐一、\*的場 績、松田 潔、\*奈良 一、生川展行、野村英也、野村 全、\*越智輝雄、\*大石久志、\*大川親雄、\*大倉正文、奥田則雄、田花雅一、\*高羽正治、田村 保、\*田中昭太郎、谷角素彦、豊嶋亮司、渡辺昭彦、\*八木正道、山地 治、\*吉田元重。(大倉)

# 馬毛島（鹿児島県）のコガネムシ主科の分布記録

楠 井 善 久

## Notes on Some Scarabaeoidea from Magejima Island, Kagoshima Prefecture.

by YOSHIHISA KUSUI

馬毛島は鹿児島県熊毛諸島に属する島で、種子島の西約 12 km の海上に浮かぶ面積 8.56 km<sup>2</sup>、周囲 12 km、標高は 71.1 m の平坦な島である。現在は無人島であるが、かつては集落があり牛馬の放牧をしていたためか、島の大部分は草原化が進んでいる。樹林は島の東側の住居地跡周辺に残っている。古くからマゲジカと呼ばれる野生の鹿が生息しているが、放牧の衰退とともに個体数が増加して島の植生への影響もみられるようである。

近年この草原に飛蝗の大発生がみられ注目されたが、昆虫に関する報告はわずかしかみられない。コガネムシ類に関するものは、鹿の調査の際に採集された糞虫2種が塚本(1991)により報告されているのみである。夏季の調査で、春季に出現する種を欠いている可能性があるが、この島で調査する機会を持ったので、採集目録と幾つかの知見を報告する。

採集日は1990年7月13日と1991年8月2日、3日で、そのうち8月2日はライトトラップを用いた。

報告に際し、文献をご教示いただいた塚本圭一氏、糞虫の情報をいただいた立澤史郎氏に厚くお礼申し上げる。

### 採 集 目 録

#### Lucanidae

##### 1. *Macrodercas rectus rectus* (MOTSCHULSKY) コクワガタ

検視個体：2♂♂, 1♀, 3幼虫, 13. VII. 1990; 1♂, 2. VIII. 1991; 13♂♂, 10♀♀, 3. VIII. 1991.

♂♀とも赤色が強い。♂の大脛は細長く、内側への湾曲が弱い。♂の中脛節の外棘は微弱で、時にはこれを欠き、後脛節はこれを欠く。♀の後脛節は外棘を欠き、あっても痕跡的。これらの形質から、かなり特異な個体群であるが、種子島産の個体にもやや似た傾向を持つものがみられ、亜種を異にすることはない。



1990年の採集はガジュマル *Ficus retusa* L. の朽木で成虫と幼虫を同時に採集した。なお、この島のガジュマルは沖縄から移入したものとされている。

2. *Aegus laevicollis* E. SAUNDERS ネプトクワガタ

検視個体：1♀, 3. VIII. 1991.

亜種名は subsp. *subnitidus* WATERHOUSE と思われるが、前胸背板中央の縦溝は弱く、後方でわずかに窪む。中脛節の外棘は明瞭な1本である等、やや異なる特徴がみられる。

**Scarabaeidae**

3. *Onthophagus lenzii* HAROLD カドマルエンマコガネ

検視個体：5♂♂, 4♀♀, 2. VIII. 1991; 3♂♂, 1♀, 3. VIII. 1991.

ライトトラップと人糞で採集した。立澤史郎氏(私信)によると、鹿の糞にいるとのことであるが、筆者は確認できなかった。

4. *Holotrichia parallela* (MOTSCHULSKY) オオクロコガネ

検視個体：3♂♂, 2. VIII. 1991.

個体変異の多い種であるが、採集した個体は黒色の通常よく見られるタイプのものである。また、これは種子島産(未記録)とも同じである。ライトトラップで採集した。

5. *Melolontha frater* ARROW オオコフキコガネ

検視個体：1♂, 3. VIII. 1991.

破損した死体を路上で拾った。

6. *Allomyrina dichotoma septentrionalis* (KÔNO) カブトムシ

検視個体：6♂♂, 13. VII. 1990; 1♂, 2. VIII. 1991.

得られた個体は少ないが、種子島産のものにみられる矮小化傾向(楠井, 未発表)がみられず、いずれも中～大型の個体である。

♂個体ばかりを、日中に海岸近くの不特定な草木の細い枝に静止しているのを採集した。また、採集地周辺には、この大型の種の食性を提供できるような植物や環境が、成虫、幼虫のいずれに対しても見当らなかった。このような植生の単純な小島での生態は、他の地域とはかなり異なるようである。

7. *Anomala albopilosa albopilosa* HOPE アオドウガネ

検視個体：13♂♂, 28♀♀, 13. VII. 1990; 4♂♂, 13♀♀, 2. VIII. 1991; 16♂♂, 9♀♀, 3. VIII. 1991.

緑色の強い個体が多いが、時には赤色を帯び、2♂♂はかなり赤色の強い個体であった。1990年は日中に各種の葉上で採集し、1991年はライトトラップで得たものである。

8. *Protaetia pryeri esakii* NAKANE リュウキュウツヤハナムグリ

検視個体：30♂♂, 33♀♀, 13. VII. 1990; 2♂♂, 1♀, 2. VIII. 1991; 5♂♂, 5♀♀, 3. VIII. 1991.

本種の中では最北に分布する亜種で、九州(佐多岬)、トカラ列島(宝島、横当島)から報告されているが、その間に位置する屋久島と種子島からの記録がなく、これらの島より小さな馬毛島に分布することは注目される。

7月の採集では海浜のアザミの1種 *Cirsium* sp. の花上で、8月にはイヌビワ *Ficus erecta* THUNBERG の果実に来集したのを、次種とともに多数目撃した。形態、生態的に類似する2種が棲み分けと言う形をとらず、常に同所的に同じような個体数で混生しているのは興味深い現象である。また、2種ともに他の地域の同種に比べてやや小型であることも共通している。

9. *Protaetia orientalis submarmorea* (BURMEISTER) シロテンハナムグリ

検視個体：19♂♂, 22♀♀, 13. VII. 1990; 1♂, 10♀♀, 2. VIII. 1991; 7♂♂, 7♀♀, 3. VIII. 1991.

やや小型で唐金色、わずかに緑色光沢を帯びる個体もみられるが、本亜種にみられる多彩な色彩の変異はない。このような特徴は種子島産のものにはみられず、また、トカラ列島(口之島、中之島)に分布する subsp. *tokarana* NOMURA と異なるものである。近年海外から侵入したとされる沖縄諸島や八重山諸島に分布する個体群にも似るが、唐金色が明るく、白斑にも差があり、別の系統のものである。

10. *Gametis forticula forticula* (JANSON) アオヒメハナムグリ

検視個体：7♂♂, 3♀♀, 2. VIII. 1991; 5♂♂, 3♀♀, 3. VIII. 1991.

やや小型で、緑色の強い個体が多い。上記の2種とともにイヌビワの果実で採集した。

## 要 約

1) 馬毛島から2科10種を記録した。このうち、カドマルエンマコガネ以外の9種はすべて新記録である。なお、塚本により、筆者の採集できなかった *Aphodius atratus* WATERHOUSE クロツヤマグソコガネが報告されている。これを含めてコガネムシ主科は2科11種が分布することになる。

2) 記録した種はいずれも九州本島に分布する種である。また、近隣の種子島には4科34種(筆者、未発表種を含む)が分布し、馬毛島はこの32.4%が分布することになる。逆に馬毛島に分布していて、種子島から記録のない種はクロツヤマグソコガネとリュウキュウツヤハナムグリの2種である。この2種は屋久島からも記録がない。

3) 固有種、固有亜種はみられないが、クワガタムシ科1種、コガネムシ科1種に遺伝子の偏在が推定された。

## 文 献

石田正明・藤岡昌介, 1988; 日本産コガネムシ主科目録(第1版補訂版). *Lamellicornia* 別刷: 1-62.

塚本圭一, 1991; 馬毛島のフン虫. 昆虫と自然, 26(14): 24.

初見祐一, 1980; 馬毛島の地形・地質, 馬毛島埋葬址. 西之表市教育委員会: 2-7.

## コイチャコガネ沖縄本島に分布

楠 井 善 久

コイチャコガネ *Adoretus (Lepadoretus) tenuimaculatus* WATERHOUSE は北海道, 本州, 四国, 九州, 佐渡, 三宅島, 五島列島, 奄岐, 甌島, 屋久島, 台湾, 朝鮮半島, 濟州島, 中国に広く分布するが, 琉球列島からは記録がなかった. 筆者は沖縄本島で採集された下記の標本を所有するので報告する.

1 匹, 沖縄県島尻郡豊見城村宜保, 11 VII 1987, 佐久本微笑採集.

*Adoretus* 属は沖縄県内では八重山諸島に3種分布しているが, 沖縄本島からは全く記録がなかった. 今回採集されたのは那覇市の市街地に隣接するアパート群の植え込みからである. 今まで採集されていなかった本種が, 人工的な環境で採集されたことは, 近年幾例か報告されているような人為的な移入の可能性も考えられる.

本種を採集し, 発表の機会を与えられた鹿児島検疫所の佐久本微笑氏に厚くお礼申し上げる.



# GEORGE LEWIS 覚え書き (1)

野村 全<sup>1)</sup>・藤野直也<sup>2)</sup>

## Miscellanea on GEORGE LEWIS

By ZEN NOMURA and NAOYA FUJINO

### 1. 緒 言

#### Foreword

我が国甲虫研究の大先達のお一人である三輪勇四郎先生が初めてホソエンマムシ類の総説を発表された論文(1934)で、「此の科に含まるゝ昆虫の最初の報道は彼の GEORGE LEWIS に依って為されたので……」(傍点筆者)(昆虫界, 2 (11): 477)と記されているように、英国人 GEORGE LEWIS が果たした日本甲虫相解明への最大の貢献に対する崇敬の念は、日本人による研究が軌道に乗ったところからの甲虫研究者の誰も心を深く領していたといっても過言ではないであろう。

彼はその研究生活の前半を日本の甲虫相の研究に努めたが、後半はエンマムシの分類に専念して世界的な権威となった輝しい経歴の持ち主であったにもかかわらず、G. J. ARROW のいうように、その謙譲な人となりによるのもあろうが、生涯についての知見は英本国においてもほとんど知られていないようだし、肖像すら公にされたことはないようである。

筆者等はできるだけ早い機会に、彼の生涯を探索しその業績を顕彰することが、学恩を蒙ったものが何とかせねばならないことと考えていた。しかし、アマチュアに過ぎないため作業は一向に進まずにいたが、1989年になって藤野が



Fig. 1.

1) 兵庫県西宮市下大市東町12-9

2) 大阪府三島郡島本町水無瀬1丁目5-7

[昆虫学評論, 第47巻, 第2号, 79-84頁, 6月, 1992年]

ロンドンの The Natural History Museum に照会状を出したのが契機となり、日本に G. LEWIS に心を寄せるものがあることを知られた同博物館の Deputy Head of Library Service の Ms. PAMELA GILBERT からご多忙な日常にもかかわらず心のこもったご援助・ご協力を頂戴できることとなった。この雑録を始めるにあたり、特に記して謝意を表わしておきたい。

筆者等はできる限りの努力を今後とも尽したい所存であるが、多くの方々のご協力を得られればより早く目的に近づくことができると思うので、LEWIS について情報をお持ちの方はご教示をいただければ幸甚と思う。



Fig. 2.

Fig. 1 に示す LEWIS の肖像は初めて公表されるものであるが、藤野はこれによってブロンズのレリーフ (Fig. 2) を完成したので、顕彰事業の一つとして 1992 年秋開館予定の兵庫県立「人と自然の博物館」に展示される予定であることを付記しておきたい。

## 2. GEORGE LEWIS の生涯の概要

### The preliminary record of the life of GEORGE LEWIS

現在 GEORGE LEWIS の生涯を知る緒としては、彼の没後公表された追悼記録による他はない。これらに述べられた事実を総合して略史を作り、夫々の部分毎に予測し得る限りの資料を探し求めてこれを補足し、一方彼の業績を綿密に分析して補填を充実してゆく他ないと思われる。

彼の obituaries としては、W. HORN et S. SCHENKLING (1928): *Index Litteraturae Entomologicae*, Serie I, Bd. 3, Berlin (ref. p. 174) の追加である R. GAEDIKE et O. SMETANA (1984): *Ergänzungen und Berichtigungen*, *Beitr. Ent.*, 34 (1) (ref. p. 174); — W. DERSKEN et U. SCHEIDING-GÖLLNER (1965): *Index Litteraturae Entomologicae*, Serie II, Berlin (ref. pp. 621-623); — P. GILBERT (1977): *A compendium of the biographical literature on deceased entomologists*, *Brit. Mus. (N. H.)*, London (ref. p. 225) に示された次の5つがある。

- (1) G. J. ARROW (1926): *Entom. Monthly Mag.*, 62 : 242, 270.
- (2) Anonym (1926): *Entom. Rec.*, 38 : 144.
- (3) E. B. POULTON (1926): *Proc. Ent. Soc. London*, 1 : 75. (未入手)
- (4) S. EDWARDS (1927): *Proc. Linn. Soc. London*, 1926-27 : 89-90.
- (5) Anonym (1927): *Ent. News*, 38 : 96. (Index Litt. の方には G. J. ARROW の執筆と記されている)

英国の伝記大辞典である *Dictionary of National Biography* には同名の人は数人あるが、

本人は載っていないようだ。これらの記述内容にも詳しく見れば多少の不一致がみられるが、我々はこのうち (1) の G. J. ARROW と (4) の G. EDWARDS によって彼の生涯のごく概略を、若干の調査結果を加えて辿り、将来のより正確な伝記への叩き台としたいと思う。筆者等の基礎的な理解や資料不足のため誤りも多々あることと思うが、ご叱正をいただければ幸甚である。ついでながら我が国での G. LEWIS の追悼記録で現在手許にあるものは

- (6) 佐々木忠次郎 (1927): 英国の昆虫学者レウキス氏。昆虫, 2 (2): 107-108.
- (7) 岩川友太郎 (1927): 甲虫学者ルイス氏を偲びて。昆虫, 2 (2): 109-111.
- (8) 湯浅啓温 (1927): 我が甲虫学界の恩人 GEORGE LEWIS 逝く。昆虫, 2 (2): 112-113.

で、この内 (8) は (1) によって LEWIS の全生涯を述べていて(生誕の地が Blackhead と誤記されてはいるが)、これが我が国での唯一の生涯の記録であろう。部分的な日本に関する旅程等の紹介については、H. W. BATES や江崎梯三博士、草間慶一博士の紹介があるが、これ等は夫々その部分で取り扱いたい。

GEORGE LEWIS は英国の首都ロンドン (現在 Greater London とされる地域) の西南地区で The City に近い、テムズ河の Blackwell Beach 湾曲部の南端 Greenwich 地区の Blackheath で、1839 (天保10年) 8月15日に呱呱の声をあげた。父は St. John 教区の第一教区牧師 (the first vicar) であった Rev. R. G. LEWIS で、その第2男子である。長じて Blackheath Proprietary School に学んだ。彼は若いころから昆虫に興味を持つ熱心な蒐集家であった。この時代はアマチュア昆虫研究家が多く、それらは丁寧にそれぞれ所属の学会等によって啓蒙指導されるので、後日発揮した彼の昆虫の同定能力、採集技術などはこのころに培われたものと思われる。1857年、彼は Entomological Society of London の Fellow となり、1862年に及んだ。1862年になって彼は茶の取引をする商会の代表者 (representative) となり、23才で中国に渡った。追悼録 (4) (5) によると、彼の本国への帰国はその後10年たつてであり、そのうち1867年から1872年まで日本に滞在したように述べられている。これが前期の日本滞在和と呼ばれているものであるが、中国から長崎に渡来し、その付近から神戸、横浜に汽船で足をのばし、商用のかたわら昆虫を採集したものと思われる。英国人が来朝した時は、本人が申告したり友人が通知したりした以外は、英国領事館に記録はされず、その記録も本人離日後は破棄される由で、また当時の領事館は下関にあったが、これも太平洋戦争で閉鎖されたので、恐らく当時の来朝英人の滞日記録はないだろうと、大阪の英国総領事館では筆者に話してくれた。彼は1863年に初めての報文を Zoologist 誌に発表し、1864年長崎及び九江 (中国揚子江中流) から、翌1865年には長崎から、Zoologist 誌及び Entom. Monthly Magazine に7つの報文を発表した。EDWARDS (4) によると多分この年、一度帰国したのであろうか、1867年ロンドンの Wimbledon Common の Inner Park Road に居住していた JULIA HUNTER 嬢と結婚し、すぐまた日本に戻り、1872年まで日本に滞在して、1867年に長崎から、1869年にも長崎から、それぞれ報告を寄せ、1872年には恐らく Ceylon にも寄って帰国し、その年 Kent 州 Folkestone から報文を寄稿している。彼が本国にもたらした標本によって、1873年から1876年にわたり英国及び大陸の諸学者——BATES, SHARP,



MARSEUL, WATERHOUSE, SAUNDERS, CANDÈZE, KIESENWETTER, REITTER, GORHAM, BALLY, ROELOFS や SMITH, DISTANT など——により、また彼自身によっても日本の昆虫相についての研究が公表された。

彼は日本の甲虫に抱いていた興味を更に深めて、当時までに発表された上記の諸学者の諸論文を中心として、その他のモノグラフ類(例えば大野正男(1981): 甲虫ニュース, (54): 4, fig.) 等から日本産の甲虫を抜きだし、1879年、862属 2,227種の “A catalogue of Coleoptera from the Japanese Archipelago” (31 pp.) をロンドンの Taylor & Francis から出版し、同年には Ann. Mag. Nat. Hist. に1文、Entom. Monthly Mag. に10編の論文を発表した。これに先立ち1867年 Entomological Society の Fellow に復帰し、1878年には Council に推されている。

1880年、「大英博物館からの派遣だった」といわれているが、彼は妻 JULIA を伴って2月17日横浜に渡来した。途中セイロンから Entom. Monthly Mag. にハンミョウの捕獲法の一文を寄せている。彼はそれから翌年11月まで日本各地を採集して、多数の甲虫類を蒐集した。そのコレクションには他に類をみないほど多くの日本産甲虫の模式標本が含まれている。この後期の日本滞在の間に佐々木忠次郎、石川千代松、岩川友太郎等の諸先達が彼から甲虫採集法を教わり、標本の同定を受け、また共に採集をして、以後の我が国の甲虫研究に多大の影響を与えたことは、追悼記録(6)(7)に明かにされている。この旅行については既にその旅程と地図が H. W. BATES の日本の歩行虫類の追加論文(1883) (Trans. Ent. Soc. London) に示され、江崎悌三博士の九州地方の部分についての詳しい記録や、草間慶一博士の LEWIS の足跡の解説、特にカミキリムシ関係を詳説した報文があるので、ここでは説明を避けるが、今後更にくわしい調査を行いたいと考えている。

彼はこの旅行での自ら及び採集人を使つての収獲のほか、対馬、天草、種子島、奄美大島、釜山、千島ケトイ島等からも若干の標本を得ているようである。

1882年、彼は日本を立ち、途中セイロンに6カ月滞在して約1,200種(または1,500種ともいう)の甲虫を得て(この旅程は H. W. BATES (1882): Trans. Ent. Soc. London に発表されている<sup>3)</sup>)、更にアルゼリアでも採集し、帰国した。

帰国後、彼は1890年まではロンドンの Wimbledon 近傍、1891年以降は主として Folkstone に住んで19世紀末までには日本産甲虫の研究をほぼ終えた。前期同様この間に英国や大陸の諸専門学者の研究も数多く併行して行われ公表されている。この間に彼は1883年に Linnean Society of London の Fellow となり、1884年再び Entomological Society of London の Council に任ぜられている。また、1886年には彼の英国産甲虫の蒐集品は J. C. STEVENS の手で競売に付されたという (W. HORN et al. (1990): Collectiones entomologicae, Tl. II: 235, Berlin). 1888年には Biologia Centrali-Americana, 2 (1): 182-244, pls. の Histeridae を執筆したことが目立っている。

1884年に彼は日本のエンマムシ科の最初の報文を発表したが(それ以前に1879年に2編のエンマムシに関する論文がある)、この比較的種数の少い科でも他地域のものの研究が必須で

<sup>3)</sup> S. EDWARDS の追悼録(4)には LEWIS 自身によって発表された旨、述べられている。



あること、またそれらの研究が不十分であることを悟り、1915年までの期間をこの科の標本の蒐集と分類に専念した。そして合計60属750種以上の新知見を加え、その中間期の1905年に *A systematic catalogue of Histeridae*, vi + 81 pp., London を刊行した。このカタログでは1868年の Munich Catalogue の1,151種はシノニム等で1,050種に減じ、新たに1,256種が加えられ計2,306種のエンマムシが掲載されている。

彼の採集した標本は彼自身によりマウントされ、保存状態も良好で、分類整理もほぼ完全であったようである。この中、Endomychidae は1891年に H. S. GORHAM の手を経て、また他の甲虫類(1862-64の中国, 1867-72の日本・セイロン, 1880-81の日本, 1881-82のセイロンからのコレクション)は、1910年「他国に搬出しない事を条件に British Museum に買取られた」(湯浅啓温: 追悼録(8))し、更にその後の研究対象となったエンマムシの標本もまた British Museum によって獲得されている。G. J. ARROW はこれ等の標本が“bequeathed された”(“寄贈された”)としているが、そのいずれかは今後の調査が必要である。中国、日本、セイロンの標本は数万点に及ぶといわれている。

1915年に最後の論文を公表後、彼はドーヴァー海峡に面した The garden of England と呼ばれる美しい町(現在は市となり、フランスやベルギーへフェリーが出ていて、ユーロトンネルのイギリス側の起点となるリゾート地)で引続き晩年を過し、1926年9月5日 Shorncliffe Road, 30 (Fig. 3) で斯界への貢献豊かだった生涯を閉じた。享年87才であった。



Fig. 3.

G. J. ARROW によるとGEORGE

LEWIS は a man of fine physique (立派な体格の人)<sup>4)</sup> で、洗練された温厚な魅力的な人柄でありながら、極端なほど遠慮深い性質であったため、学問的には高名な割には比較的狭い範囲の人々にしか知られていなかったという。しかもどの追悼記録にも、子供のあったことが記されていないので、子孫がない可能性がある。Ms. P. GILBERT もディリー・テレグラフ紙に縁者を求める広告をして下さったが、何の応答もなかったらしい。

LEWIS の蔵書は遺言によって Linnean Society に1926年のうちに寄贈された<sup>5)</sup>。また妻 JULIA は絵が上手で残された作品(水彩画)や日本人画家に描かせたスズメガの色彩図のコピーは藤野が保管しており、晩年の彼にきた書状のコピーや蔵書寄贈の経緯を示す文書のコピー

4) 岩川友太郎: 追悼記録(7)には「容貌・風采の如きも詳しく記憶せず。唯体格の割合に矮小にして瘠せぎすな人であった位を記憶するに止まる」と記されている。

5) この蔵書の流出については前述の大野正男氏の甲虫ニュースへの寄稿がある。

一も野村が保管しているので、これらは後の機会に表題の続きの部に加えたいと思っている。

### 図の説明

#### Explanation of figures

Fig. 1. G. LEWIS の肖像写真. 1989年 Ms. P. GILBERT が古い写真から何度も引延して下さったもの. LEWIS の肖像として女史が今まで見出された唯一のものという. 撮影の年月や年齢は不明.

Fig. 2. Fig. 1 をもとに藤野が製作したブロンズのレリーフ. 直径 60 cm, 重さ 13 kg. 1992年10月開館の兵庫県立「人と自然の博物館」に展示される予定.

Fig. 3. 英国 Kent 州 Folkestone 市 Shorncliffe Road, 30 の LEWIS 終焉の家. 野村の知人の川崎義之夫妻 (Folkestone に本部を置く Living Language Centre の理事長) に依頼して撮影していただいた写真. 内部は改造され他人が住んでいるが, 外観は1926年のままだという. 建物の左端, 広い門のつきあたりの3階建の一割が LEWIS の住んだ部分である. 川崎夫妻に心からの感謝を捧げる.

### Summary

The present paper is the first step of our trials to pursue the life and works of GEORGE LEWIS (1839-1926), an English coleopterist and specialist of the study on histerid beetles who made the greatest contribution to clarify the coleopterous fauna of Japan. The preliminary outline of his life according to his obituaries is given, and his firstly published portrait, the photos of the house where he closed his life and of his bronze figure in relief sculptured by N. FUJINO are shown.

LEWIS' portrait is through the courtesy of Ms. PAMELA GILBERT at the British Museum (N. H.), the photo of the house is taken by Mr. and Mrs. YOSHIYUKI KAWASAKI, the manager of Living Language Centre in Folkestone. (Both are the authors' originals).

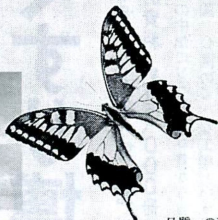
### (追記)

1. 本文中のロンドン昆虫学会の Fellow の期間, Council への任命は A. NEAVE (1933): The History of the Entomological Society of London, 1833-1933 によった.

2. LEWIS の所蔵標本の B. M. N. H. への移譲についての詳細が, 校正期間中に Ms. GILBERT から藤野への私信で教示されたが, これについては改めて報告したい.

# メッセージ、最先端。

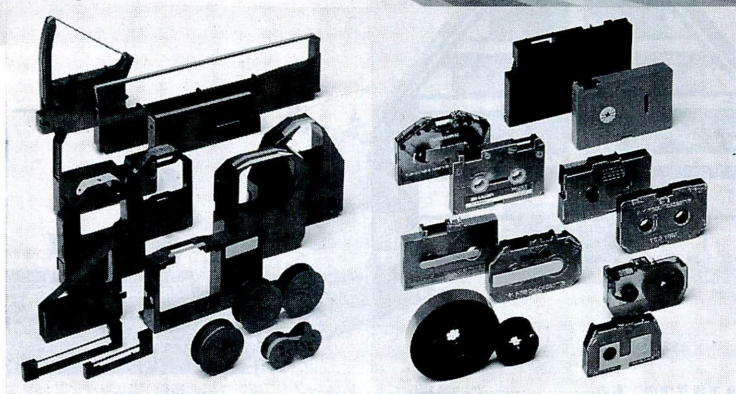
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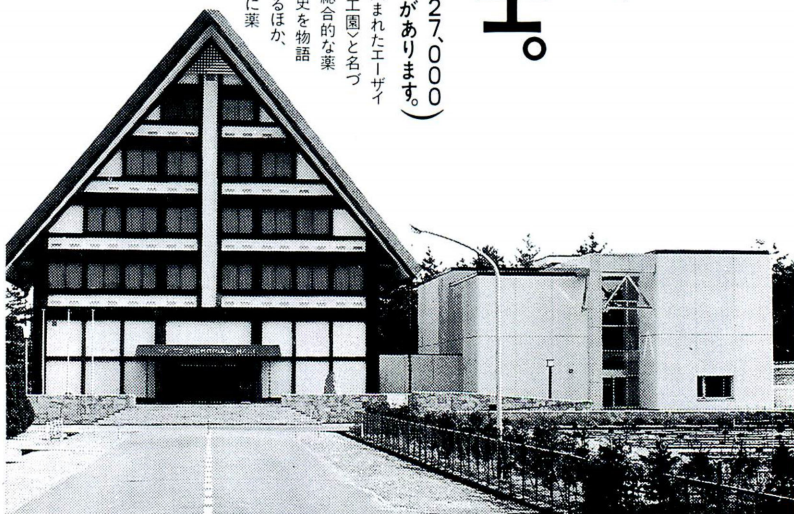


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