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A New Species and Three New Subspecies of the Genus *Coraebus* from the Ryukyu Archipelago (Coleoptera, Buprestidae)

By Kôyô Akiyama

15-10, 2-chôme, Daidô-chô, Kanazawa-ku, Yokohama 236

Abstract One new species and three new subspecies of the genus Coraebus are described under the names of Coraebus fukamachii, C. formosanus nishiyamai, C. formosanus heikichii and C. formosanus oshimensis, from the Ryukyu Archipelago.

Recently, I have had an opportunity to examine a large number of specimens of the genus *Coraebus* from Ryukyu Islands. After careful study, it becomes clear that besides the six described species occurring in the Ryukyu Islands, there are one new species and three new subspecies, and all new forms are described in this paper. The holotypes designated in this paper are deposited in the National Science Museum (Nat. Hist.), Tokyo.

I wish to express my sincere gratitude to Dr. Yoshihiko Kurosawa, former head of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo, for his constant guidance, to Prof. Gayle H. Nelson of the Department of Anatomy, College of Osteopathic Medicine of the Pacific, California, for his kindness in reading the original manuscript and offering invaluable suggestions, to Mr. Kimio Masumoto, Yokohama, for his invaluable advice on this study.

I am also indebted to Drs. Yoshiaki Komiya and Takashi Shirôzu, and Messrs. Hiroshi Fujita, Heikichi Irie, Naomi Nishikawa, Yasusuke Nishiyama and Masatoshi Takakuwa for their kind offer of the materials.

Coraebus fukamachii sp. nov. (Figs. 1a-1e)

Coraebus sp.: Fujita, 1976, Elytra, 4: 36-37.

Male. Body fairly elongate, longitudinally convex; dorsal surface

dark aeneous; elytra ornamented with undulate markings of silverwhitish pubescence; ventral surface blackish, darker than in the dorsal part, with slight aenescent tinge; antennae dark aeneous; legs blackish.

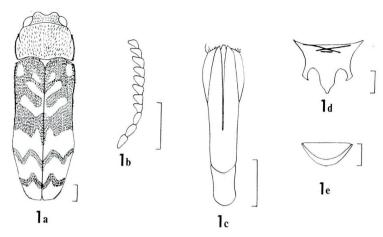
Head trapezoidal, convex forwards, with a deep median groove from vertex to middle of frons; vertex with a feeble gibbosity on each side of median groove, transversely rugoso-punctate, clothed with long goldengreyish setae; frons distinctly broader than long, clothed with long golden-greyish setae; clypeus rather transverse, about 1.2 times as wide as long (measured between antennal cavities), rugoso-punctate along clypeal suture which is straight between antennal cavities, with anterior margin arcuately emarginate; antennae rather short and compact, serrate or subpectinate from fourth segment, with first segment stout, about as long as second, similar in shape, and about as long as third, which is subequal to, or slightly longer than fourth.

Pronotum transverse, about 1.6 times as wide as long, widest in basal third, sides moderately arcuate though more strongly so apically; posterior angles obtuse; anterior margin slightly arcuate; posterior margin strongly bisinuate and broadly arcuate medially, very finely and densely crenulate; lateral margin strongly densely and rather uniformly dentate-serrate (not crenulate); disc slightly convex anteriorly, transversely depressed along base, depression extending laterally towards middle of each side; surface rather uniformly imbricate-punctate, and tuberculate in middle, clothed with golden-greyish setae. Scutellum transverse, basal portion subtrapezoidal, apical portion fairly acutely triangular with lateral margin emarginate.

Elytra about 2.3 times as long as wide, about 3.8 times as long as pronotum and widest in basal third; sides obtusely rounded at humeri, slightly sinuous to apical third, where they are broadly and arcuately rounded, then obliquely narrowed to apices, which are slightly bipartite, with the sutural angles rounded (see Fig. 1a); lateral margin finely but uniformly dentate-serrate in anterior half and near apices; disc obsoletely and broadly depressed along suture; surface coarsely imbricate-rugose, clothed with golden-greyish short setae in basal half, and ornamented with undulate markings of silver-whitish semirecumbent setae arranged on each elytron as follows: a strongly zigzag band at posterior third, and a zigzag band before apex.

Prosternum coarsely rugoso-punctate, with anterior margin feebly emarginate; prosternal process broad, subconical, slightly depressed, and sharply pointed at tip. Abdomen imbricate-punctate, clothed with short semirecumbent golden-greyish setae, with apex of anal sternite obsoletely truncate.

Legs short and normal, with apex of each posterior tibia regularly



Figs. 1a-1e. Coraebus fukamachii sp. nov. a, dorsal view; b, right antenna; c, male genitalia (dorsal view); d, prosternum; e, anal abdominal sternite. Scales: 0.5 mm.

denticulate.

Male genital apparatus long and slender.

Length: 6.1 mm; width: 2.0 mm.

Holotype: \varnothing , Mt. Omoto-dake, Ishigaki-jima Is., Okinawa Pref., 16. V. 1975, M. Fukamachi lgt.

Range. Ishigaki-jima Is.

The present species is somewhat similar to *C. iriei iriei* Y. Kurosawa, 1985, from Ishigaki-jima Is. and Iriomote-jima Is., but can be easily distinguished from the latter by the different markings on the elytra.

Coraebus formosanus nishiyamai subsp. nov. (Fig. 2b)

Coraebus formosanus: Akiyama, 1975, Coleopterists' News, (29/30): 4.

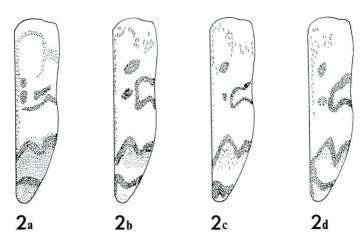
Different from the nominotypical race in the following characteristics:

Female. 1) Pronotum and elytra more brightly cupreous; 2) golden setae on elytra sparser.

Male. 1) Prehumeral carina bolder; 2) elytra with narrower undulate markings.

Length: 7.1-9.4 mm; width: 2.5-3.4 mm.

Holotype: ♀, Kabira Park, Ishigaki-jima Is., Okinawa Pref., 20. V. 1971, Y. Nishiyama Igt. Paratypes: 1♀, Mt. Omoto-dake, Ishigaki-jima Is., Okinawa Pref., 23. V. 1974, M. Takakuwa Igt.; 1♀, do., 28. V. 1974, T. Seino Igt.; 1♂, Ishigaki City, Ishigaki-jima Is., Okinawa Pref., 8. IV. 1976, N. Nishikawa Igt.; 1♂, Taketomi-jima



Figs. 2a-2d. Right elytral outline of Coraebus formosanus ssp. a, formosanus; b, nishiyamai subsp. nov.; c, heikichii subsp. nov.; d, oshimensis subsp. nov.

Is., Okinawa Pref., 28. III. 1976, K. KAWADA lgt. Range. Ishigaki-jima Is., Taketomi-jima Is.

Coraebus formosanus heikichii subsp. nov. (Fig. 2c)

Coraebus formosanus: Akiyama, 1975, Coleopterists' News, (29/30): 4.

Different from other subspecies of the species in the following characteristics: 1) elytra more brightly bluish; 2) elytra darker between zigzag band at the posterior third and sinuous one just before apices, where setae are sparser.

Length: 7.8 mm; width: 2.8 mm.

Holotype: \circ , Yona, Okinawa-hontô Is., Okinawa Pref., 24. V. 1972, H. Irie lgt.

Range. Okinawa-hontô Is.

Coraebus formosanus oshimensis subsp. nov. (Fig. 2d)

Coraebus formosanus: Akiyama, 1975, Coleopterists' News, (29/30): 4.

Elytral bands connected each other at the posterior third of sutures, while in other subspecies, they are apparently separated.

Length: 9.1 mm; width: 3.3 mm.

Holotype: 2, Nakagochi, Amami-oshima Is., Kagoshima Pref., 23. V. 1969, H. IRIE lgt.

Range. Amami-oshima Is.

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A New Pterostichine Carabid from Central Honshu, Japan (Coleoptera, Carabidae)

By SEIJI MORITA

In this paper, I am going to describe a new medium-sized pterostichine carabid beetle collected in Nagano Prefecture, Central Honshu, Japan. It resembles *P. fuji-sanus* in genitalic features, but is distinguished from the latter by having peculiar body form, more convex eyes, differently shaped anal sternite in the male, and so on. It is named after Mr. Yûji Uchiyama, a friend of mine.

The abbreviations used herein are as follows: HW-greatest width of head; PW-greatest width of pronotum; PL-length of pronotum, measured along the midline; PA-width of pronotal apex; PB-width of pronotal base; EW-greatest width of elytra; EL-greatest length of elytra; M-arithmetic mean.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi Uéno of the National Science Museum (Nat. Hist.), Tokyo, for giving me advice and for reading the manuscript of this paper. Thanks are also due to Dr. Kazuo Tanaka, to Messrs. Yûji Uchiyama and Tôru Suda for their kind help.

Pterostichus uchiyamai Morita, sp. nov. [Japanese name: Kiso-naga gomimushi]
(Figs. 1-6)

Length: 12.95-14.09 mm (from apical margin of clypeus to apices of elytra).

Body convex and elongate.

Black, shiny; most part of mandibles, labrum, palpi, antennae and legs reddish brown; in \circ , elytra fully mat; ventral surface more or less lighter than dorsum.

Head fairly large and moderately convex; surface smooth or rarely minutely punctate; frontal furrows short and shallow, diverging posteriad, and reaching the mid-eye level; clypeus rarely with microscopic punctures; clypeal suture fine; eyes larger and more convex than in *P. fujisanus*; genae less convex than in *P. fujisanus* and shorter than eyes; lateral grooves deep, straight and extending to posterior supraorbital pores which are situated at the post-eye level; the area between

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frontal furrow and lateral groove usually with longitudinal wrinkles; mandibles short and stout, hooked at apices; mentum tooth bifid; terminal segment of maxillary palpus a little longer than the penultimate; antennae subfiliform, reaching basal fourth of elytra; relative lengths of antennal segments as follows:— 1:2:3:4:5:6:11=1.00:0.59:1.05:0.99:0.97:0.99:0.95; microsculpture more clearly impressed in $\+$ than in $\+$; that of head partially visible, forming isodiametric or wide meshes.

Pronotum cordate, more or less convex, widest at about apical third; PW/HW 1.38–1.42 (M 1.39) in 10 \$\sigma\$ \$\sigma\$, 1.36–1.42 (M 1.39) in 10 \$\sigma\$ \$\sigma\$, PW/PL 1.23–1.30 (M 1.26) in 10 \$\sigma\$ \$\sigma\$, 1.24–1.32 (M 1.29) in 10 \$\sigma\$ \$\sigma\$, PW/PA 1.36–1.52 (M 1.44) in 10 \$\sigma\$ \$\sigma\$, 1.36–1.48 (M 1.41) in 10 \$\sigma\$ \$\sigma\$, PW/PB 1.42–1.53 (M 1.47) in 10 \$\sigma\$ \$\sigma\$, 1.38–1.50 (M 1.46) in 10 \$\sigma\$ \$\sigma\$; apex widely emarginate, not bordered, usually a little wider than base, PA/PB 0.94–1.06 (M 1.02) in 10 \$\sigma\$ \$\sigma\$, 0.98–1.07 (M 1.04) in 10 \$\sigma\$ \$\sigma\$; sides strongly arcuate in front, lightly sinuate before base; base almost straight, or weakly emarginate at the median part; front angles produced though widely rounded, hind ones nearly rectangular and without carina; anterior pair of marginal setae inserted a little before the widest part, posterior one a little before and inside hind angles; median line distinct, usually becoming widened near base; basal foveae very shallow; basal part densely and coarsely punctate; microsculpture formed by transverse meshes, especially on the disc.

Elytra oblong-ovate, moderately convex, shiny in &, fully mat in 우, widest at about middle; EW/PW 1.11-1.18 (M 1.15) in 10 중 중. 1.13-1.20 (M 1.16) in 10 \circ \circ , EL/EW 1.51-1.66 (M 1.58) in 10 \circ \circ , 1.51-1.61 (M 1.56) in 10 ♀♀; basal border weakly arcuate and joining scutellar striole which is short and lies on interval 1; shoulders rounded, not angulate; sides feebly divergent from behind shoulders to the widest part and slightly emarginate before apices; epipleuron gradually narrowed towards apex; inner plica slightly visible in lateral view; apices variable in form, somewhat truncate, usually separated from each other and somewhat asymmetrical; sutural angle usually obtuse, though rarely sharp or dentate; stria almost smooth throughout; basal pore situated at the base of stria 1; intervals almost flat or very weakly convex; three dorsal pores on interval 3, anterior one adjoining stria 3 and the others adjoining stria 2; marginal series composed of eighteen to twenty pores; microsculpture of elytra formed by isodiametric meshes, much more clearly impressed in \circ than in \circ .

Variation in elytral chaetotaxy. Of the 33 specimens of the type series¹⁾, 6 (4 \eth \eth , 2 \Diamond \Diamond), or 18.2%, are aberrant in the number and position of setiferous dorsal pores on the elytra. Four of them (3 \eth \eth),

 $1\ \ \circ$) have an additional pore on the second stria: two males and one female on the left elytron and one male on the right elytron. One female have an additional pore on the third stria of the left elytron. In the remaining one male, the second pore on the left elytron is lacking, while the third stria has an additional pore at about apical third.

Apical third of mesepisternum usually with coarse punctures; metepisternum, sides of metasternum and basal sternite with fine punctures; in \mathcal{O} , anal sternite deeply concave at the middle along apical margin which is deeply emarginate and has a single asymmetrical projection; each side of the emargination prominent and rather

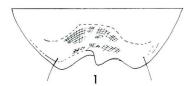
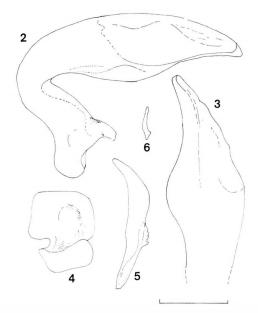


Fig. 1. Pterostichus uchiyamai Morita, sp. nov.; anal sternite in 3.



Figs. 2-6. Male genitalia of Pterostichus uchiyamai Morita, sp. nov.
2. Aedeagus, left lateral view. 3. Apical part of aedeagus, dorsal view. 4. Separated left paramere, left lateral view.
5. Separated right paramere, right lateral view. 6. Separated copulatory piece, oblique ventral view. (Scale: 1 mm)

Unfortunately, one male of the type series has damaged elytra, and I was unable to examine its dorsal pores.

widely rounded; the projection triangular and porrect, with the tip variable in form, usually blunt (sometimes blunter than in the specimen illustrated in Fig. 1); in $\,^{\circ}$, anal sternite shallowly depressed along apical margin, which is almost straight and bordered.

Aedeagus relatively stout, strongly bent at basal third; viewed dorsally, apical part curved to the right and gradually tapered towards blunt apex; each ventral edge with a concavity and a relatively large tumor at about middle, the former lying at the left and the latter at the right; inner sac armed with a copulatory piece and partially covered with sclerotized teeth or scales; copulatory piece elongate, heavily sclerotized and lying just inside the concavity; teeth or scales poorly sclerotized, though moderately sclerotized in part; left paramere wide and square; right one narrow, gently curved at apical third, with the apical part narrow and simply rounded.

Type series. Holotype: 3, allotype: 9, paratypes: 1 3, 9 9, 15-VI-1986, Y. Uchiyama leg.; 18 3 3, 10 9 9, 14-VI-1987, S. Morita, T. Suda & Y. Uchiyama leg.

The holo- and allotypes are preserved in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo. The paratypes are now preserved in the above collection and the private collections of the collectors.

Type locality. Miyatakôgen, 1,300 m alt., in Miyata-mura, Nagano Prefecture, central Honshu, Japan.

The type locality is about 95 km distant to the northwest from Mt. Fuji, on the borders between Yamanashi and Shizuoka Prefectures, central Honshu, the type locality of *P. fujisanus*.

This new species is closely allied to *P. fujisanus* Tanaka et Suga (1972, p. 5, fig. 1, pl. 2). It is, however, distinguished from it by the following points: 1) body smaller and narrower; 2) eyes more convex; 3) genae less convex; 4) pronotum more strongly arcuate at the sides; 5) elytra parallel-sided; 6) in the male, central projection of anal sternite more produced, and each side of apical emargination more prominent and rather widely rounded; 7) aedeagus smaller and stouter; 8) copulatory piece more elongate.

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Notes and Description of Japanese Tenebrionidae (V)

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In this paper, three new species of the tenebrionid-beetles from Japan, *Plesio-phthalmus kumejimensis*, *Plesiophthalmus nakamurai* and *Promethis amanoi*, will be described.

The author would like to express his sincere gratitude to Dr. Nobuo Gokan, Prof. Yasuaki Watanabe, and Dr. Shûji Okajima, of Tokyo University of Agriculture, for their kind assistance to this study. He is also indebted to Messrs. Toshihiko Nakamura in Tokyo, Taichi Shibata in Osaka City, Masatsugu Amano in Kitakyushu City, and Atsuo Izumi in Tokyo, for their contribution of specimen materials. Special thanks are due to Mr. Kaoru Sakai, for taking the fine photographs in this paper.

Holotypes of the new species are preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo, and also of Tokyo University of Agriculture.

Plesiophthalmus kumejimensis sp. nov.

Figs. 1, 4, 5 & 6.

Brownish black, with dorsal surface darker and bearing coppery lustre, antennae, mouth parts, legs, etc. lighter in colour, ventral surface rather weakly shining and clothed with fine yellowish hairs. Oblong oval and fairly strongly convex above.

Head somewhat transverse elliptic in frontal view, closely and finely punctate, punctures becoming larger in apical portion; frons steeply declined to fronto-clypeal suture, which is clearly grooved and reaching outer margin; clypeus transverse, with posterior half oblique against frons, anterior half rather strongly bent downwards, apical portion sparsely haired, subparallel-sided and truncate at apex; genae obliquely and roundly produced, raised in outer portion; eyes large and somewhat transversely comma-shaped, broadly inlaid into head, roundly produced laterad, distance between them about 0.3 times their transverse dia-

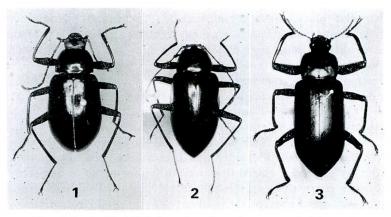
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meter. Antennae nearly filiform, slightly thickened and flattened apically, ratio of length of each segment from basal to apical: 0.7, 0.2, 1.3, 0.7, 1.2, 0.8, 0.8, 0.7, 0.6, 0.5, 0.7.

Pronotum nearly trapezoidal, 1.5 times as wide as long, widest a little behind the middle, feebly narrowed towards base and rounded apically; apical margin weakly arcuate, clearly though rather finely bordered; base feebly produced posteriad, slightly sinuous on each side, feebly emarginate opposite to scutellum; sides gradually declined to lateral margins, which are rather finely bordered and easily visible from above; front angles obtuse; hind angles obtuse-angular though more acute than front angles; disc moderately and broadly convex above, fairly closely, finely punctate, punctures becoming slightly coarser in lateral portions, often with shallow, oblique impression at basal ½ on each side. Scutellum triangular and nearly flat, scattered with small punctures, which are smaller and sparser than those on pronotum.

Elytra about 1.5 times as long as wide, 3.1 times length and 1.4 times width of pronotum, gently narrowed to base and gradually, roundly narrowed to apices; dorsum fairly strongly convex, thickest at basal $\frac{1}{3}$; disc finely punctate-striate, striae often disappeared, punctures on striae small and distance between them about 1-2 times their diameter; intervals nearly flat, feebly intricated aciculate and scattered with small punctures, which are about half as large as pronotal ones; sides gradually declined to lateral margins, which are clearly bordered and visible from above; base slightly crenulate; apices feebly, roundly produced.

Mentum subcordate, microshagreened, rather closely punctate and



Figs. 1-3. 1. Plesiophthalmus kumejimensis sp. nov., holotype, 3. 2. Plesiophthalmus nakamurai sp. nov., holotype, 3.

3. Promethis amanoi sp. nov., holotype, 3.

haired, rather noticeably raised antero-medially, finely rimmed along posterior margin; gula parabolic and weakly depressed, alutaceous posteriorly, clearly impressed along border; terminal segment of maxillary palpus securiform, with apex subrectangular at inner corner.

Prosternum short, rugosely punctate and pubescent, strongly elevated between coxal cavities and grooved medially, prosternal process fairly noticeable, roundly produced posteriad, with outer margin finely rimmed; mesosternum fairly short, rugosely punctate and haired, deeply excavated in V-shape in the middle, rather strongly raised in Y-shape posteriorly; metasternum medium-sized, rather sparsely punctate and haired, obliquely, shallowly wrinkled laterally, with a fine median impression in posterior ½.

Abdomen rather large, fairly closely and finely punctate, each puncture with a fine hair, 2 basal sternites and basal-lateral portions of 3rd alutaceous and more or less longitudinally wrinkled, anal sternite finely rimmed along outer margin on each side, clearly emarginate at apex.

Legs rather long though fairly stout; profemora spined at apical $\frac{1}{3}$; protibiae slightly curved inwards, simply, feebly thickened to apex, fairly noticeably haired on inner margin in apical $\frac{2}{5}$; tarsi fairly long, ratio of length of each segment of pro-, meso- and metatarsi from basal to apical: 0.5, 0.3, 0.3, 0.2, 1.2; 1.0, 0.5, 0.3, 0.2, 1.3; 1.7, 0.6, 0.3, 1.3, respectively; claws falciform and sharp.

Male genitalia fusiform; parameres slightly prolonged in apical half, with lateral portions noticeably serrate.

Body length: 17-19.5 mm.

Holotype: &, Mt. Oh-take, Kumejima Is., Ryukyn Iss., 5. VI. 1966, K. MIZUSAWA leg. (in TUA). Paratypes: 8 exs., same data as the holotype; 1 ex., Gushikawa, Kumejima Is., 22. V. 1983, N. Kobayashi leg.

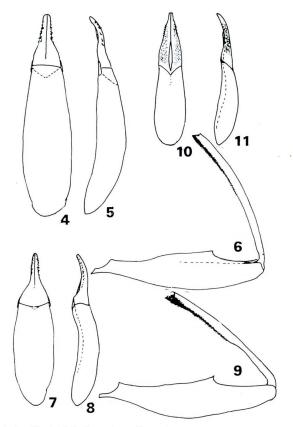
Notes. This species is quite unique in having the protibiae simply, slightly thickened to apex even in males.

Plesiophthalmus nakamurai sp. nov.

Figs. 2, 7, 8 & 9.

Brownish black, with dorsal surface blackish blue and metallically shining, apical portion of head bearing golden lustre, ventral surface bearing bluish or greenish tinges and moderately shining. Rather elongate, fairly strongly convex above.

Head rather transverse elliptic in frontal view, fairly closely and finely punctate, punctures becoming larger in apical portion; frons nearly vertical, with fronto-clypeal suture slightly arcuate and grooved; clypeus transverse, flattened and oblique against frons in basal half, rather strong-



Figs. 4-11. 4-6: Plesiophthalmus kumejimensis sp. nov. 4, male genitalia (dorsal view); 5, male genitalia (lateral view); 6, male profemur and protibia. 7-9: Plesiophthalmus nakamurai sp. nov. 7, male genitalia (dorsal view); 8, male genitalia (lateral view); 9, male profemur and protibia. 10-11: Promethis amanoi sp. nov. 10, male genitalia (dorsal view); 11, male genitalia (lateral view).

ly bent downwards and shortly subparallel-sided in remaining portion, with apex truncate; genae obtusely produced and raised, more finely and sparsely punctate than frons; eyes large, broadly inlaid into head, roundly produced laterad, distance between them about ¼ times their transverse diameter. Antennae nearly filiform, more or less thickened and flattened apically, ratio of length of each segment from basal to apical: 0.6, 0.2, 1.3, 0.7, 1.1, 0.8, 0.8, 0.6, 0.6, 0.5, 0.6.

Pronotum nearly trapezoidal, 1.6 times as wide as long, widest at base, gradually narrowed in basal ½3, rather strongly so towards apex, with basal portion slightly sinuous; apical margin widely arcuate, rimmed along margin and clearly sulcate on each side; base feebly bisinuous, slightly emarginate opposite to scutellum; sides roundly declined to lateral margins, which are rather finely though clearly bordered, easily visible from above; front angles subrectangular with each corner narrowly rounded; hind angles a little obtuse though slightly acute at corner; disc rather broadly convex above, shallowly, fairly closely and finely punctate, punctures becoming shallower in anterior and lateral portions, often with a longitudinal, shallow impression medially. Scutellum triangular with rounded sides, feebly convex and fairly sparsely scattered with microscopic punctures.

Elytra 1.7 times as long as wide, 3.6 times length and a little more than 1.3 times width of pronotum, subparallel-sided in basal \(^{5}\)9, then roundly narrowed to apices; dorsum rather strongly convex, thickest at basal \(^{2}\)9; disc finely punctate-striate, punctures on striae small, distance between them about 2.5-5 times their diameter; intervals nearly flat, feebly intricated aciculate, scattered with microscopic punctures; sides gradually declined to lateral margins, which are clearly bordered and easily visible from above; base weakly bisinuous and increnulate; apices feebly, roundly produced; epipleura entirely, finely rimmed along inner margin.

Mentum subcordate, truncate at base, scattered with microscopic punctures and sparsely pubescent, convex antero-medially; gula rather parabolic and feebly alutaceous, with lateral borders shortly though strongly impressed on each side anteriorly; terminal segment of maxillary palpus securiform with obliquely truncate apex.

Prosternum fairly short, pubescent in apical portion, elevated between coxae in fusiform, elevation nearly flat and longitudinally bisulcate, prosternal process rather linguiform at top and subcordate at bottom; mesosternum short, depressed and fairly densely pubescent in anterior portion, deeply excavated in the middle, elevated somewhat in V-shape behind the excavation, elevation with anterior apices rather prominent; metasternum medium-sized, rather smooth, sparsely scattered with microscopic punctures, shallowly, rather obliquely wrinkled in anterolateral portions, with a median groove in posterior $\frac{5}{6}$.

Abdomen rather large, finely punctate, each puncture with a microscopic hair, 3 basal sternites alutaceous and shallowly, longitudinally wrinkled, anal sternite in males neither impressed along outer margin nor emarginate at apex, only slightly truncate at apex.

Legs fairly slender; profemora spined at apical 1/3, spine fairly acute;

protibiae in males feebly curved, weakly though clearly thickened and rather sparsely haired in apical $\frac{4}{7}$ of inner side; tarsi fairly long, ratio of length of each segment from basal to apical: 0.6, 0.3, 0.2, 0.2, 1.2; 0.7, 0.4, 0.3, 0.2, 1.3; 1.3, 0.6, 0.3, 1.3, respectively; claws falciform and sharp.

Male genitalia somewhat oblong oval in dorsal view; parameres prolonged in apical $\frac{2}{3}$ with lateral portions sparsely serrate.

Body length: 15-16.5 mm.

Holotype: &, Hatsuno, Amami-Oshima Is., Ryukyu Iss., 11-18. V. 1969, T. Nakamura leg. (in NSMT). Paratypes: 1 ex., Yuwan-dake, 3. VII. 1973, K. Ishida leg.; 1 ex., Yamma, 12. VII. 1980, K. Kuzugami leg.; 1 ex., Ikari, 17. V. 1960, T. Shibata leg.; 1 ex., Hatsuno, 11. VII. 1970, S. Miyake leg.; 1 ex., Yuwan-dake, 3. VII. 1977, K. Kume leg.; 1 ex., Yuwan-dake, 30. VI. 1970, K. Mizusawa & M. Nishikawa leg.

Notes. This new species resembles *Plesiophthalmus brevipennis* Lewis, 1896 from Amami-Oshima Is., but can be distinguished from the latter by the body larger and more elongate with the dorsal surface blackish blue, the eyes larger, the pronotum more transverse, the strial punctures on elytra more sparsely set, the intervals less convex with punctures sparser and less distinct, the inter-procoxal space strongly raised and rather fusiform, the anal sternite not emarginate but slightly truncate at apex, and the differently shaped male genitalia.

Promethis amanoi sp. nov.

Figs. 3, 10 & 11.

Piceous, with yellowish (often rather brownish) hairs present on front margin of profemora, inner-apical portion of tibiae and undersurface of tarsi; fore body above feebly and sericiously shining, elytra, ventral surface and legs moderately shining. Elongate, gently convex above.

Head suboctagonal, flattened though gently raised posteriorly; unevenly punctate, punctures become closer and finer anteriorly and also laterally; fronto-clypeal suture fine, with each end bent obliquely forwards and reaching outer margin; clypeus feebly convex above, with apical margin bisinuate; genae obtusely produced laterad, depressed posteriorly (before eyes); eyes slightly transverse, roundly produced laterad, with inner margin sulcate; interocular space about twice as wide as eye transverse diameter, with longitudinal short ridge on each side; vertex sparsely and finely punctate. Antennae rather short and reaching apical $\frac{1}{3}$ of pronotum, slightly thickened and flattened apically, ratio of length of each segment from basal to apical: 0.6, 0.2, 0.8, 0.5, 0.5, 0.5, 0.5, 0.4, 0.4, 0.7.

Pronotum rather trapezoidal, about 1.4 times as wide as long, widest

at slightly behind the middle; apical margin slightly arcuate, clearly sulcate though sulcus interrupted in medial ¼; base bisinuate, noticeably margined by sulcus; sides moderately declined towards lateral margins, which are widely arcuate and rimmed; front angles rounded; hind angles rather acutely produced obliquely laterad; disc broadly and gently convex above, microshagreened, rather sparsely, finely punctate, also provided few larger punctures along median line, with spot-like impression in the middle near apical margin and also with another impression attaching basal sulcus. Scutellum subcordate, closely and finely punctate.

Elytra a little less than twice as long as wide, 3.4 times length and 1.3 times width of pronotum, widest at posterior ½3, slightly narrowed to base and roundly, then rather straightly narrowed to apices; dorsum moderately convex, feebly flattened anteriorly; disc finely punctatestriate, striae often interrupted or disappeared, punctures small and about 2-4 times their diameter apart with each other (those in inner portion more closely set); intervals nearly flat, microshagreened, sparsely microgranulate, feebly, transversely wrinkled; sides gradually declined towards finely rimmed lateral margins, which are visible from above.

Mentum subtrapezoidal (apical margin 1.5 times as wide as base), closely and finely punctate, coarser punctures intermixed with finer punctures in lateral portions, gently raised antero-medially; gula subparabolic, impressed along border; terminal segment of maxillary palpus moderately dilated.

Prosternum rather longitudinally wrinkled, apical margin not bordered, intercoxal space rather wide and gently convex, longitudinally grooved medially and impressed on each side, prosternal process weakly but widely produced posteriad; mesosternum short, granulate basally and irregularly wrinkled posteriorly, weakly depressed in V-shape in the middle; metasternum rather wide and coriaceous, with a fine medial impression in posterior 3/4. Abdomen finely punctate, 2 basal sternites and basal portion of 3rd somewhat longitudinally wrinkled, 3 basal sternites sulcate along lateral margins, 4th and 5th (anal sternite) just impressed at basal portion of each lateral margin, apical margin of 5th without any characteristics.

Legs stout; profemora with front margin noticeably haired; protibiae strongly bent in apical ½, basal ½ of inner margin noticeably spined, inner-apical portion remarkably haired; mesotibiae curved and thickened in apical half, weakly gouged and noticeably haired along inner margin of apical ½; metatibiae nearly straight though gently thickened towards apex, inner margin of apical ¼ haired; tarsi fairly long, ratio of length of each segment from basal to apical: 0.6, 0.3, 0.3, 0.3, 2.3; 1.0, 0.5, 0.3,

0.3, 2.3; 1.3, 0.5, 0.4, 2.5, respectively; claws falciform and stout.

Male genitalia fusiform; parameres with dorsal surface finely sculptured, lateral margins rasp-like near apex, apices slightly prolonged.

Body length: ca. 32 mm.

Holotype: \eth , Mt. Nanatsudake, Goto Is. (west of Kyushu), 15. XI. 1966. M. Amano leg. (in NSMT).

Notes. This new species is quite unique in having the protibiae strongly bent inwards apically with a conspicuous tooth at basal $\frac{2}{5}$ of the inner margin.

It is the largest in the Japanese species and is named after Mr. Masatsugu Amano in Kitakyushu City, who collected the type specimen.

Descriptions of Two New Species of Chrysomelidae (Coleoptera) Collected by the Nagoya University Scientific Expedition to Taiwan in 1986

By Shinsaku Kimoto

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In this paper, two new species of the Taiwanese Chrysomelidae are described. Those are taken by the Nagoya University Scientific Expedition to Taiwan, China, in 1986, organized by Prof. Syozo Osawa. I wish to express my hearty thanks to Prof. S. Osawa, for giving me the opportunity to work this interesting material.

Subfamily Cryptocephalinae

Adiscus osawai n. sp. (Fig. 1)

Body broadly ovate, strongly convex. Black; head with clypeus and labrum reddish brown; antenna pitchy black with three or four basal segments reddish brown; ventral surfaces generally pitchy black with lateral and apical areas of abdomen broadly reddish brown, in some specimen abdomen almost entirely reddish brown; pygidium reddish brown with median portion pitchy black; legs almost entirely reddish brown.

Head strongly and closely punctured, and sparsely covered with fine hairs; frons slightly depressed on middle. Antenna robust, about half as long as length of body; first segment thickened, longest; second globular, shortest, slightly longer than wide; third slender, nearly $1\frac{1}{3}$ times as long as second, fourth slightly longer than third; remainder segments more or less widened terminally; eleventh with a small and obtusely pointed appendix at apex. Pronotum transverse, about twice

[[]Ent. Rev. Japan, Vol. XLII, No. 2, pp. 95-98, Dec., 1987]

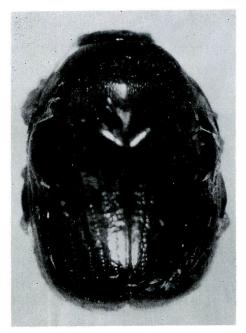


Fig. 1. Adiscus osawai n. sp.

as broad as long, sides rounded, widest at base, and narrowed anteriorly; surface strongly convex, closely impressed by two kinds of large and small punctures, and covered by confluental longitudinal striae especially on anterior and lateral portions; median portion of base strongly and triangularly produced posteriorly. Scutellum invisible from above. Elytron strongly convex, subquadrate, somewhat narrowed posteriorly, humeri distinctly raised, and lateral margin strongly and angulately produced downwardly at a little before middle; surface strongly impressed by eleven longitudinal rows of distinct punctures, and their interstices closely covered by minute punctures. Pygidium distinctly punctured and covered by fine hairs. Prosternum subquadrate, distinctly punctured, and with a distinct tubercle on anterior margin and distinctly raised ridge on each side.

Length: 4.0-4.1 mm.

Holotype: Sungkang, 2,000 m, Nantou Hsien, Taiwan, China, 25. v. 1986, Chin-Kin Yu.

Paratype: Meiyuan, Nantou Hsien, 1 ex., Native collector.

Distribution: Taiwan.

This new species resembles Adiscus issikii (CHÛJÔ) from Taiwan, in having

prosternum with a distinct prosternal tubercle and the general coloration, but differs from it in having pronotum covered by the confluental longitudinal striae.

Subfamily Alticinae

Orthocrepis nigripes n. sp. (Fig. 2)

Dorsal surfaces bluish black, head bluish black with frontal tubercle and mouth part pitchy black; antenna pitchy black with basal segments more brownish; ventral surfaces pitchy black; legs pitchy black with femora bluish black.

Head with vertex sparsely covered by fine punctures; frontal tubercle large, subquadrate, contiguous, and delimited to each other by a short

longitudinal furrow and not well delimited posteriorly, surface smooth, impunctate; inter-antennal space relatively wide, distinctly convex; clypeus and labrum rather closely covered by yellowish pubescence. Antenna nearly \(^2\)_3 as long as length of body; first segment longest, robust, club-shaped; second short, nearly half as long as first and slenderer; third nearly as long as second but slenderer; fourth subequal to third in length and shape; fifth 1 1/4 times as long as fourth; fifth to tenth subequal to each other in length but gradually widened towards terminal segments; eleventh



Fig. 2. Orthocrepis nigripes n. sp.

1½ times as long as tenth and its apex pointed. Pronotum 1½ times as broad as long, sides distinctly rounded, widest at middle and narrowed towards anteriorly and posteriorly; anterior corner obliquely truncate, and its posterior angle pointed and produced laterally; anterior margin rounded anteriorly, and basal margin produced posteriorly at middle; surface convex, closely impressed by minute punctures, ante-basal transverse impression distinct and delimited sides by a pair of distinct short longitudinal impressions. Scutellum semicircular, surface impunctate, slightly wrinkled. Elytron convex, distinctly widened posteriorly and rounded at apex, surface impressed by two kinds of large and small punctures on whole surface and their interstices smooth.

Length: 2.2-2.3 mm.

Holotype: Chihpen, Taitung Hsien, 9-12. vi. 1986, S. Osawa.

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

Distribution: Taiwan.

This new species resembles *Orthocrepis taiwanensis* KIMOTO from Taiwan, but is separable in being the body length slightly longer and having antenna and the legs bluish to pitchy black.

Studies on the Genus *Pterostichus* from Japan (VIII) (Carabidae, Coleoptera)

By Kazuo Tanaka¹⁾, Seiji Morita²⁾ & Kuniaki Suga³⁾

Pterostichus (Pterostichus) masumotoi sp. nov. (Pl. 3, figs. 1 & 2; Text fig. 1)

Length: 19-23 mm. Width: $6\frac{1}{3}-7\frac{2}{5}$ mm. Apterous.

Body flat, black, shining except for opake elytra, σ elytra usually slightly less opake than in φ ; mouthparts, legs and underside often more or less brownish.

Head (width: 3.9–4.6 mm) smooth; apical margin of clypeus a little concave; frontal furrows moderately deep, parallel in front, diverging or broadened posteriorly, reaching mid-eye level; spaces outside frontal furrows convex, supraorbital grooves straight, reaching level of hind supraorbital pores which are placed behind level of posterior eye-margin; eyes rather small, convex; tempora moderately swollen, less convex than eye, $\frac{3}{5}$ – $\frac{9}{9}$ 0 as long as eye; genae beneath eye only partially rugose. Ultimate joint of maxillary palpi compressed-cylindrical, 3.6–4.1 times as long as wide, about as long as penultimate; ultimate joint of labial palpi slightly broadened towards apex, 3.8–4.4 times as long as wide, about as long as penultimate. Antennae about half as long as body length, subfiliform, joint VI 2.6 (3) or 3.4 (4) times as long as wide, joint II unisetose.

Prothorax quadrate-cordate, widest at apical $\frac{1}{4}$ – $\frac{1}{3}$, 1.12–1.27 (av. 1.17) times as wide as long, 1.21–1.31 (av. 1.26) times as wide as head, rather convex, flattened in middle of basal area; surface with minute punctures except for median area, rugose in laterobasal area; apical margin concave, unbordered; lateral margins moderately arcuate in anterior $\frac{3}{4}$, sinuate-narrowed posteriorly, usually parallel before base; basal margin a little concave, not or vaguely bordered laterally, 0.71–0.84 (av. 0.75) as wide as widest part, about as wide as apical margin; basal angles right or somewhat acute, usually sharp at tip; apical crescent depression

¹⁾ Sagamidaidanchi 2-2-203, Sagamihara City, Kanagawa Pref., 228.

²⁾ Motoazabu 1-3-28-405, Minato-ku, Tokyo, 106.

³⁾ Okusawa 1-47-11, Setagaya-ku, Tokyo, 158.

[[]Ent. Rev. Japan, Vol. XLII, No. 2, pp. 99-102, pl. 3, Dec., 1987]

narrow and shallow; median line sharply impressed, extending from base to near apical margin; basal foveae deep, subparallel, or somewhat diverging anteriorly; front marginal pore slightly before widest part, single; hind marginal pore just before the angle, single.

Elytra oblong, 1.59-1.70 (av. 1.63) times as long as wide, widest at middle or slightly behind it, 2.27-2.69 (av. 2.43) times as long and 1.21-1.32 (av. 1.27) times as wide as prothorax; shoulders about $\frac{3}{4}$ as wide as widest part, the angles obtuse, edentate; striole short, on interstice II or I, occasionally effaced; striae distinct throughout, with vague punctures apically; interstices flat, impunctate; preapical sinuation distinct; inner plica scarcely visible; dorsal pores 1-5, most often 3, most anterior one usually adjoining stria III, others adjoining stria II,

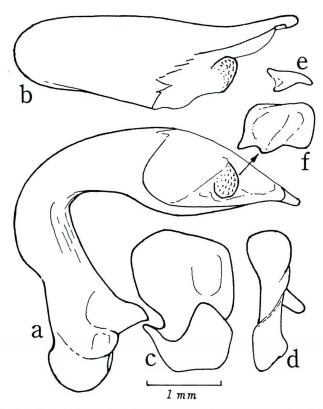


Fig. 1. Pterostichus (Pterostichus) masumotoi sp. nov., male genitalia. a, median lobe, left side; b, ditto, dorsal surface of apical part; c, left paramere; d, right paramere; e, tooth of inner sac; f, apical sclerotized piece of inner sac.

but variations often occurring.

Underside with shallow, often vague, punctures on mesepisterna, sides of metasternum, metepisterna and base of abdomen; prosternal process truncate at apex; metepisterna 1.00–1.32 (av. 1.14) times as long as wide; \varnothing apical ventral segment 2-setose, apical margin subtruncate, its median part triangularly a little produced ventroposteriorly, surface irregularly and asymmetrically excavated before apical margin; φ apical ventral segment usually 4-, occasionally 5-6-setose.

Legs moderately long, hind tibia and tarsus combined together 1.01-1.11 (av. 1.08) (3) or 1.00-1.04 (av. 1.02) (9) times as long as elytral length; basal II or III joints of meso- and metatarsi sulcate on outer side.

Microsculpture very fine, often indistinct on head and prothorax; of fine but very distinct isodiametric meshes on ∂ elytra, nearly file-like on φ elytra.

Genitalia ♂ (Fig. 1a-f): median lobe acutely curved, with ostium placed on left side, apex narrow, moderately long, almost vertical; inner sac with 2 sclerotized pieces, one (Fig. 1e) located inside, small, brownish, claw-shaped; another (Fig. 1f) partially visible *en repos*, large, strongly sclerotized, black, quadrangular, with its surface concave. Left paramere (Fig. 1c) wide, its apical margin convex; right paramere short, straight, with apex broadly rounded.

Distribution. Mt. Fuji and Akaishi Mountain Range according to the presently available data.

Type-locality. Mt. Fuji (south side, alt. 900-1,600 m), Shizuoka Prefecture, Honshû, Japan.

Type-specimens. Holotype \varnothing , bait trap, station III - alt. 1,600 m, VII. 31 - VIII. 7, 1971, K. Tanaka leg., in K. Tanaka's collection. Paratypes $32 \varnothing \varnothing$, $45 \varphi \varphi$, in total, in the collections of K. Tanaka, S. Morita and K. Suga. $1 \varnothing$, 1φ , under rock, alt. 1,600 m, VI. 27, 1971, K. Tanaka leg.; $27 \varnothing \varnothing$, $38 \varphi \varphi$, bait trap, station III - alt. 1,600 m, VII. 18 - IX. 4, 1971, K. Tanaka and K. Suga leg., $1 \varnothing$, $2 \varphi \varphi$, bait trap, station IX - alt. 1,000 m, VIII. 7-13, 1971, K. Tanaka leg., 1φ , bait trap, station XVI - alt. 900 m. VIII. 28 - IX. 4, 1971, K. Tanaka leg., $3 \varnothing \varnothing$, $3 \varphi \varphi$, bait trap, station XVII - alt. 1,000 m, VIII. 28 - IX. 4, 1971, K. Tanaka leg.

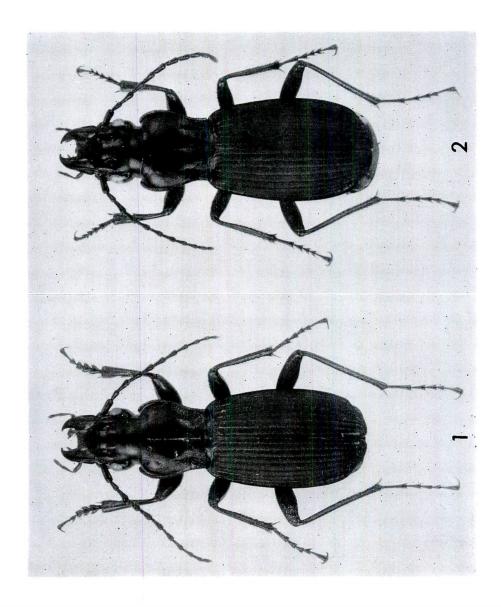
The closest congener of the present new species appears to be P.(P.) mucronatus Straneo, the distribution of which is limited to Yatsugatake Mountains and the central part of Kantō Mountain Range. The distribution ranges of these two species seem to be separated by a long valley from Suwa Lake to Kōfu Basin. P. masumotoi may be discriminated from P. mucronatus in the wider base of the prothorax, the oblong elytra with their widest part about at the middle (the widest part is located

at the posterior third and the elytra are more strongly narrowed anteriorly in *mucronatus*), and the opake elytra in both sexes (the & elytra are shining in *mucronatus*). The median lobe of the & genitalia in *masumotoi* is simple on underside, while it is distinctly swollen on underside with its left flank shallowly excavated in *mucronatus*; the apex is moderately long and almost vertical in *masumotoi*, but it is very short and nearly horizontal in *mucronatus*; the apical sclerotized piece of the inner sac is shorter and concave on the surface in *masumotoi*, while it is longer and flat in *mucronatus*.

The species name is dedicated to Mr. Kimio Masumoto who informed us the occurrence in Mt. Fuji of this interesting new species, one of the largest species among the Japanese species of the genus *Pterostichus*.

Explanation of Plate 3.

Pterostichus (Pterostichus) masumotoi sp. nov. 1, Male; 2, Female.



(K. TANAKA photo.

Study of Asian Cetoniinae (II) Notes on Taiwanese *Rhomborrhina* (s. str.) with a Description of a New Species (Scarabaeidae, Coleoptera)

By Kimio $Masumoto^{1)}$ and $Kaoru\ Sakai^{2)}$

Abstract A new species *Rhomborrhina* (s. str.) *kurosawai* is described from Taiwan. *Rhomborrhina* (s. str.) *polita taiwana* SAWADA, 1949, is raised to specific rank, while *Rhomborrhina* (s. str.) *jeanneli* RUTER, 1965, is regarded as a synonym of *Rhomborrhina* (s. str.) *taiwana*. A table to compare *R*. (s. str.) *taiwana*, *R*. (s. str.) *polita* and *R*. (s. str.) *kurosawai*, and 12 figures of the three species are presented.

Introduction

Thirteen species belonging to the genus *Rhomborrhina* (s. str.) Hope, 1837 are hitherto known from Asia, of which three species are blackish in colour: *Rhomborrhina* (s. str.) *polita* Waterhouse, 1875, *R.* (s. str.) *taiwana* Sawada, 1949 and *R.* (s. str.) *jeanneli* Ruter, 1965, the remaining species are metallic green or brown in colour.

The authors have had the opportunity of studying this group and have concluded the following:

- 1) A new species Rhomborrhina (s. str.) kurosawai occurs in Taiwan.
- 2) Rhomborrhina (s. str.) polita taiwana should be raised to specific rank.
- 3) Rhomborrhina (s. str.) jeanneli should be regarded as a synonym of R. (s. str.) taiwana.

The present authors wish to express their sincere gratitude to Dr. Yoshihiko Kurosawa, former chief of Zoology, National Science Museum (Nat. Hist.), Tokyo, for his invaluable advice to this study. Special thanks are due to Dr. Roger-Paul Dechambre, Museum National d'Histoire Naturelle, Paris, for permitting them to examine the type specimens of Ruter Collection in the Museum, and to Mr. Les Jessop, British Museum (Nat. Hist.), London, for his kind cooperation of examining allied species, and Messrs. Yoshikazu Miyake, Tama City, Kaoru Wada, Hino City, Takaharu Hattori, Yokohama City, and Hanmei Hirasawa, Matsumoto City, for their contributions of specimens.

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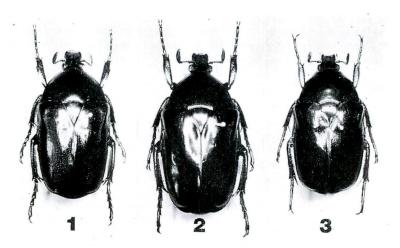
Rhomborrhina kurosawai sp. nov.

Figs. 3, 6, 9 & 12.

Black, with dorsal surface rarely slightly reddish in some individuals; dark yellowish brown hairs present on inner margin of meso- and metatibiae, lateral margins of elytra, apex of anal segment, etc.; body surface strongly and vitreously shining.

Head rather long, coriaceous and rather closely and shallowly punctate anteriorly, gently raised longitudinally in the middle; clypeus subtruncate and reflexed at apex, clearly ridged along lateral margins, whose outer portions weakly produced laterad.

Pronotum trapezoidal, about 1.5 times as wide as long; disc gently



Figs. 1-3. Dorsal view: 1, Rhomborrhina (s. str.) polita, &; 2, Rhomborrhina (s. str.) taiwana, &; 3, Rhomborrhina (s. str.) kurosawai, &, holotype.



Figs. 4-6. Head: 4, Rhomborrhina (s. str.) polita, &; 5, Rhomborrhina (s. str.) taiwana, &; 6, Rhomborrhina (s. str.) kurosawai, &, holotype.

convex, rather sparsely scattered with small punctures, which become a little more closely spaced laterally; sides moderately angulate at the middle, with lateral margins rather finely though clearly grooved, the groove not reaching hind angles; base about 2.5 times width of apex.

Scutellum elongate triangular with base rounded, almost impunctate. Elytra about 1.3 times as long as wide; disc with rows of small punctures; intervals scattered with microscopic punctures, which become closer and coarser posteriorly, rather transversely rugose apically; sutural portion ridged in posterior half; apices slightly, roundly produced.

Pygidium transversely rugose, distinctly so apically.

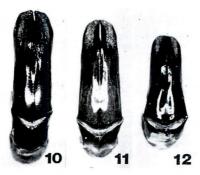


Figs. 7-9. Mesosternal process: 7, Rhomborrhina (s. str.) polita, &; 8, Rhomborrhina (s. str.) taiwana, &; 9, Rhomborrhina (s. str.) kurosawai, &, holotype.

Mesosternal process projecting forwards and slightly downwards, nearly as long as wide, with rounded apex, of which upper side is clothed with fairly long, dark yellowish brown hairs.

Metasternum sparsely clothed with fairly long hairs, with a clear medial impression.

Abdomen in males weakly impressed between base of segment II and apex of segment IV, those in females not impressed.



Figs. 10-12. Male genitalia (dorsal view): 10, Rhomborrhina (s. str.) polita; 11, Rhomborrhina (s. str.) taiwana; 12, Rhomborrhina (s. str.) kurosawai, holotype.

Comparison table of the blackish species of the genus *Rhomborrhina* (s. str.) from Japan and Taiwan

	Rhomborrhina (s. str.) polita Waterhouse, 1875	Rhomborrhina (s. str.) taiwana Sawada, 1949	Rhomborrhina (s. str.) kurosawai sp. nov.
Body shape	comparatively slender	robust	compact
Body length	28-32 mm.	30-34 mm.	22-26 mm.
Lateral portion of clypeus	noticeably produced laterad	less noticeably produced laterad	same as taiwana
Punctation of pro- notum and elytra	comparatively closely and clearly punctate	rather sparsely and weakly punctate	comparatively closely and clearly punctate
Sides of pronotum	very feebly angulate	moderately angulate	more strongly angulate
Apices of elytra	slightly projecting	clearly projecting	feebly, roundly produced
	shape as in Fig. 7	shape as in Fig. 8	shape as in Fig. 9
Mesosternal process	upper side clothed with reddish brown hairs	upper side sparsely clothed with blackish hairs	upper side clothed with dark yellowish brown hairs
	ී ී clearly armed with two outer teeth		same as taiwana
Protibiae	dorsal surface rather coriaceous and punc- tate		dorsal surface not coriaceous but only punctate
	apical spine slightly curved downwards	same as <i>polita</i>	apical spine curved not only downwards but also slightly outwards
Coloration of hairs on inner margin of meso- and metatibiae	light reddish brown	blackish (hairs very sparse)	dark yellowish brown
Distribution	Japan (Honshu, Shi- koku, Kyushu, Sado, Tanegashima, Yaku- shima, Koshikijima, Izu Is.)	Taiwan, China	Taiwan

Protibiae in males with two outer teeth, though hind one fairly obsolete (both teeth in females acute).

Male genitalia shown in Fig. 12.

Body length: 22-26 mm.

Holotype: \eth , Tsuifeng, Nantou Hsien, Taiwan, 27. VII. 1970, Y. Miyake leg. Paratypes: Tsuifeng, Nantou Hsien, \eth , 27. VII. 1970, Y. Miyake leg., $4 \eth \eth$, 8–10. VII. 1980, S. Tanaka leg.; Lishan, Taichung Hsien, \eth , 24. VII. 1974, \eth , 1. VIII. 1974, Y. Miyake leg.; Meifeng, Nantou Hsien, $8 \eth \eth 1 \updownarrow$, 10–12. VIII. 1983, K. Wada leg.; Mt. Hohuan, Nantou Hsien, \eth , 29. VII. 1972, \eth , 30. VII. 1972, \eth , 2. VIII. 1972, Lu Chinchi leg.; Tapang, Taichung Hsien, \eth , 7. VII. 1979, \updownarrow , 27. VII. 1983, T. Hattori leg.; Sungkang, Nantou Hsien, \eth , 24. VII. 1982, Lu Chinchi leg.; Tattaka (=Sungkang), Nantou Hsien, \eth , 9. VIII. 1971, H. Ohira leg., \eth , VII. 1967, no collector's name; Tzuen, Hualien Hsien, \eth , 6. VIII. 1981, K. Wada leg.; Mt. Lalashan, Taoyuan Hsien, \eth , 15. VI. 1974, L. F. Hang leg.

Holotype is deposited in the National Science Museum (Nat. Hist.), Tokyo, and some paratypes are deposited in the British Museum (Nat. Hist.), London and also in the Museum National d'Histoire Naturelle, Paris.

Rhomborrhina (s. str.) taiwana SAWADA, status nov. Figs. 2, 5, 8 & 11.

Rhomborrhina polita taiwana Sawada, 1949, Trans. Kansai ent. Soc., 14:70. Rhomborrhina aterrima: Nomura, 1970, Ent. Rev. Japan, 22:71. (nec Mikšić). Rhomborrhina jeanneli Ruter, 1965, Bull. Soc. ent. France, 70:198, fig. 2. Syn. nov.

This species was described by SAWADA (1949) as a subspecies of *Rhomborrhina* polita from Taiwan.

We have carefully examined it and concluded that the subspecies should be raised to specific rank because of the following:

Compared with R. (s. str.) polita, the body is larger (30–34 mm.); punctures of dorsal and ventral surfaces are sparser and weaker; the elytra are impunctate (except each side of the suture and the apical portion); the mesosternal process is rounded (see figs. 7 & 8); blackish hairs present on the mouth parts, ventral surface of the prothorax, and inner side of the meso- and metatibiae; metatibial hairs are very sparse; lateral portions of the clypeus are less noticeably produced; the hind outer tooth of the protibiae in males is fairly obsolete.

One of the authors (K. M.) has had the opportunity of examining the type specimen of R. (s. str.) jeanneli Ruter, 1965, preserved in the Museum National d'Histoire Naturelle, Paris. The type specimen is a female and attached a label which is written as Lou-Tse-Kiang (type locality). He has confirmed that the species is a synonym of R. (s. str.) taiwana.

Literature

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Notes on the Bembidiinae (Carabidae) of Japan I. Bembidion kaszabi Jedlička

By SEIJI MORITA

Bembidion kaszabi was described by Jedlicka in 1961 from Sakuragaoka, Riv. Tamagawa, Tokyo, Japan. Since then, its true taxonomic status has not been recognized for a long time.

Recently, through the courtesy of Dr. Ottó Merkl, Hungarien Natural History Museum, I had an opportunity to examine the allotype of this bembidiine carabid beetle. After a careful examination, it became evident that it is a synonym of B. persimile widely distributed in Siberia, China and Japan. The result of my study will be given in this paper.

Bembidion (Bracteon) persimile MORAWITZ, 1862 [Japanese name: Hanebiro-mizugiwa-gomimushi]

Bembidium (Bembidium) persimile Morawitz, 1862, Bull. Acad. Sci. St.-Petersb., 4: 225.

Bembidion (Bracteon) persimile: Netolitzky, 1942, Koleopt. Rdsch., 28: 50. — Nakane, 1963, Icon. Ins. Japon. Col. nat. ed., 2: 28, pl. 15, fig. 5; 1978, Nature & Insects, Tokyo, 13: 8. — Morita, 1985, Coleopt. Japan Col., Osaka, 2: 100, pl. 19, fig 11.

Odontium (Bracteon) persimile: S. Uéno, 1954, Shin Konchu, Tokyo, 7: 48.

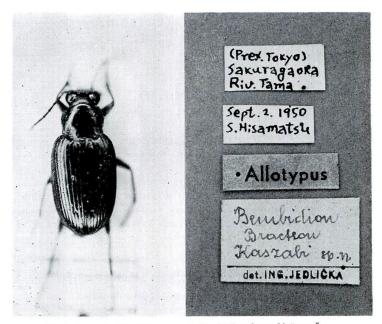
Bembidion (Bracteon) kaszabi Jedlička, 1961, Annls hist.-nat. Mus. natn. hung., 53:311; 1965, Ent. Abh. Mus. Tierk. Dresden, 32:91. [Syn. nov.] — Nakane, 1978, Nature & Insects, Tokyo, 13:8.

Specimen examined. $1\,^{\circ}$ (allotype), "(Pref. Tokyo) Sakuragaoka Riv. Tama Sept. 2. 1950 S. HISAMATSU".

In his key to the east Asian species of *Bembidion* (1965), Jedlicka separated *B. kaszabi* from *B. persimile* by the darker coloration of antennae and femora. However, my examination of numerous specimens proved that the allotype of *B. kaszabi* falls in the range of individual variation of *B. persimile*.

I wish to express my deep gratitude to Dr. Shun-Ichi Uéno of the National Science Museum (Nat. Hist.), Tokyo, for his constant guidance and reading the original manuscript of this short report. Thanks are also due to Dr. Ottó Merkl, Hungarien Natural History Museum, for his kind arrangement of the loan of the type specimen, and to Mr. Kimio Masumoto, Yokohama City, who carried the important type from Budapest to Tokyo.

[[]Ent. Rev. Japan, Vol. XLII, No. 2, pp. 109-110, Dec., 1987]



Text figs. Left: Allotype of *Bembidion kaszabi* Jedlička. Right: Labels, attached to the type specimen.

A New Species of Lepturine Genus *Pidonia* from Kii-Peninsula, Central Japan (Coleoptera, Cerambycidae)

By Kozo Mizuno

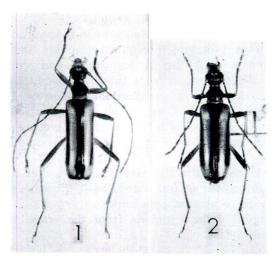
19-35, Kumakoji, Kohata, Uji-shi, Kyoto, Japan

Pidonia (s. str.) *ohminesana* sp. nov.

[Japanese name: Ohmine-hime-hana-kamikiri]

Outline. Body medium, elongate, resembles to P. kyushuensis Yamawaki and also to P. leucanthophila Kuboki in many characteristic features.

Length: 7.0-8.3 mm (\$\delta\$), 8.1-9.3 mm (\$\cap\$); breadth: 1.7-2.0 mm (\$\delta\$), 2.0-2.3 mm (\$\cap\$).



Figs. 1, 2. 1. Pidonia ohminesana sp. nov., ♂ (holotype).

[Y. Johki photo.] 2. ditto, ♀ (allotype). [ditto]

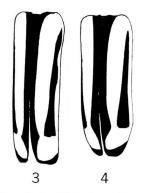
Color. Body partly varied from yellowish to black; head reddish fulvous with blackish vertex and tempora; mouthparts fulvous except for reddish brown apices of mandibles; eyes black; first and second antennal segments reddish fulvous, third to eleventh ones largely infuscated except each junction; prothorax black, broadly marginated with reddish fulvous, both lateral parts of fulvous margination hidden underneath the prominences of thorax when seen from above; legs largely infuscated except basal half of each femur; scutellum blackish brown; elytra yellowish fulvous with black markings; ventral surfaces of head, thorax and abdomen largely reddish fulvous; breast darkened in both sexes and usually nearly whole of each sternite in 3 or occasionally both latero-basal corners of each sternite in 2 darkened. Elytral black markings a little larger in \$\varphi\$ than in \$\varphi\$ but similar to each other as follows: basal band present, transversely prolonged outward toward shoulders, terminated inward at the middle point of each elytral base, sutural vitta present as a relatively wide stripe, the base of which is fused wholly to basal band including scutellum, prolonged backward straightly to the point of elytral four-fifths, where dilated transversely, and then progressively posteriorly narrowed to apex and jointed with the strongly developed apical band; humeral marking entirely lacking, three latero-basal, -median and -posterior markings related each other forming a submarginal vitta, the apex of which dilated but not combined with sutural vitta (as shown in Figs. 3 and 4).

Structure. Head subquadrate and a little broader across eyes than the basal width of prothorax; tempora relatively small, convergent, gently constricted at neck, almost impunctate and shining, furnished with comparatively long hairs; frons subvertical and transverse, bearing a fine but conspicuous median longitudinal furrow from the apex extending backward nearly to vertex; antennal tubercles raised; vertex coarsely punctured, covered with recumbent pubescence; occiput finely punctured. Eyes prominent, emarginate at the middle of internal margin.

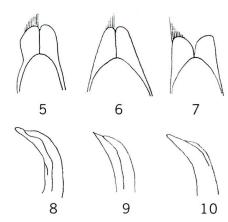
Antennae slender, distinctly exceeding the apical end of body (\eth) or stout, attaining to the elytral four-fifths (\updownarrow); scape finely punctate, thinly clothed with recumbent pubescence.

Relative lengths of the segments from the scape to the terminal one are as follows:— $\,$

Prothorax slightly longer than broad, deeply constricted twice behind



Figs. 3, 4. Elytral markings of P. ohminesana. (3. \varnothing ; 4. \diamondsuit).



Figs. 5-10. Male genitalia of the three species of genus *Pidonia* (see the table).

apex and before base, rather angularly prominent laterally just before the middle, where is broadest and a little broader than the base; apical margin obviously narrower than basal one; disc convex above but comparatively depressed, and flatter in \circ than in \circ , finely and closely punctate, sparsely clothed with fine, short and recumbent pubescence; scutellum small, tongue-shaped, longer than broad, bearing dense and short pubescence; prosternum shining, almost glabrous; meso- and metasterna densely punctate, thinly clothed with fine recumbent pubescence.

Elytra elongate, ca. 2.9 times (3) or ca. 2.5 times (4) as long as the basal width, surface coarsely punctate and recumbently, not so densely pubescent; an interspace between punctures narrower than the diameter of the punctures.

Legs relatively slender, clothed uniformly with recumbent short pubescence; femora weakly clavate; tibiae linear; tarsi beneath densely clothed with erect short hairs, first segment of hind tarsus distinctly longer than the following two combined together, third segment strongly dilated apically and deeply emarginate at the middle of apex.

Abdominal surface densely covered with extremely fine pubescence; in \eth fifth visible sternite feebly bisinuate at hind margin, last visible tergite broadly and feebly emarginate at the middle of hind margin; in \wp fifth visible sternite and last visible tergite simple.

Male genital organ resembles comparatively to that of *kyushuensis* and distinctly differs from that of *leucanthophila*, as shown in the Figs. 5-10.

Types. Holotype: 3, Mt. Misen (ca. 1,600 m in alt.), Ohmine Mountain-range, Yoshino, Nara Pref., 12. VII. 1981, K. Mizuno leg. Allotype: 4, same locality as the holotype (ca. 1,800 m in alt.), 12. VII. 1986, T. Kamigaki leg. Paratypes: 13, same locality (ca. 1,600 m in alt.), 5. VII. 1981, K. Mizuno leg.; 13, same locality (ca. 1,800 m in alt.), 26. VII. 1987, A. Kitayama leg.; 13, 24, 4, Mt. Hakkyogatake (1,850–1,900 m in alt.), Ohmine Mountain-range, Yoshino, Nara Pref., 12. VII. 1987, K. Mizuno leg. Each type is preserved in the collector's collection.

Remarks. During more than twenty times of our expeditions on *Pidonia* species in Ohmine Mountain-range, only 23 specimens of this new species have been collected

Table. Comparison of three species of genus *Pidonia*; *P. ohminesana* sp. nov., *P. kyushuensis* Yamawaki and *P. leucanthophila* Kuboki

	ohminesana sp. nov.	kyushuensis Yamawaki	leucanthophila Kuboki
Elytral pattern	Fig. 3 (♂), Fig. 4 (♀)		
Sutural vitta (S)	broad (♂, ♀)	narrow (β), narrow near scutellum then broadened (φ)	narrow (♂, ♀)
Lateral markings	related each	isolated from each	isolated from each
Latero-basal (Lb) -median (Lm)	other to form a submarginal	other $(?)$, same as above but occasion-	other (\eth , \Diamond)
-posterior (Lp)	vitta (♂, ♀)	ally related each other (♀)	
Coloration of legs			
Femora	darkened at apical halves (♂,♀)	scarcely darkened(δ), same as above but occasionally darkened a little at apical onethird (\mathfrak{P})	scarcely darkened(\varnothing), same as above but occasionally darkened a little at apical onethird (\diamondsuit)
Tibiae	wholly darkened	scarcely darkened(\eth), same as the femoral apices (\mathfrak{P})	scarcely darkened(\varnothing), same as the femoral apices ($\cite{\circ}$)
Tarsi	wholly darkened but especially strongly so at apex of each segment (3, 9)	darkened at apex of each segment($ \circlearrowleft, \ \)$	faintly darkened at apex of each segment (\eth , \updownarrow)
Male genitalia			
Lateral lobes	Fig. 5 (paratype)	Fig. 6	Fig. 7
Median lobe	Fig. 8 (paratype)	Fig. 9	Fig. 10

although many specimens could be obtained of the other congeners. All the type specimens of the present new species were captured from flowers; one from *Symplocos coreana* (Tanna-sawafutagi in Japanese) and the rest from *Magnolia Sieboldii* (Ohyamarenge in Japanese).

As mentioned above, this new species resembles to *kyushuensis* distributing in Kyushu, and also to *leucanthophila* distributing in Shikoku and Kii-Peninsula, but can be distinguished easily from them by its characteristic elytral pattern and other several features including the coloration of legs and the shape of male genitalia. Comparison of the characteristics of these three species is given in the table, as well as Figs. 5-10.

Acknowledgement

I wish to express my heartfelt thanks to Prof. Dr. Masao Hayashi (Osaka Jonan Women's Junior College) for his kind and continuous guidance in my study on *Pidonia*. I am very much indebted to Dr. T. Nakamura (Tokyo), Messrs. T. Ito (Nagoya), K. Nakayama (Kochi), Y. Matsunaga (Fukuoka), T. Ogata (Fukuoka), T. Sukenaga (Hyogo), O. Yamaji (Okayama) and Y. Yamawaki (Fukuoka) for their offering to me the valuable specimens of *P. kyushuensis* and *P. leucanthophila*. I am also grateful to Dr. Y. Johki (Kyoto University) for having prepared to me the nice photographs shown in this paper.



Pterostichini Collected by Dr. Shun-Ichi Uéno at the Foot of Mt. Fuji, Honshu, Japan, with Description of a New Species (Carabidae, Coleoptera)

By Kazuo Tanaka1)

Following enumeration of pterostichine species consists of the specimens collected by Dr. Shun-Ichi Uéno, the National Science Museum (Nat. Hist.), Tokyo, chiefly from lava caves of Mt. Fuji through the year 1969 to 1971. All those obtained from caves or pits were ordinary ground species and appear to have found accidentally there. On this occasion, a new species of the genus *Pterostichus* (subgenus *Rhagadus*) is described. The author expresses his sincere thanks to Dr. Uéno, who submitted this interesting material to the author's examination.

- 1. Lesticus (Triplogenius) magnus (Motschulsky) 1 \(\phi\), K\(\dot\)b\(\dot\)-ana Cave, Nishimura, Fujinomiya-shi, Shizuoka-ken, I. 16, 1971.
- 2. Trigonognatha cuprescens Motschulsky 2 ♂ ♂, 1 ♀, Motosu-daiichi-fûketsu Pit, Aokigahara, Yamanashi-ken, IX. 1, 1969.
- 3. Stomis prognathus BATES
 - $1 \, \varnothing$, Motosu-daiichi-fûketsu Pit, Aokigahara, Yamanashi-ken, IX. 1, 1969; $1 \, \varnothing$, Inusuzumi-daini-fûketsu Cave, Inusuzumi, Shizuoka-ken, VIII. 16, 1970; $1 \, \updownarrow$, Aokigahara, Yamanashi-ken, VIII. 23, 1971.
- Pterostichus (Lagarus) sulcitarsis Morawitz
 1 3, Uzura-ana Cave, Asagirikôgen, Shizuoka-ken, XII. 12, 1969.
- 5. P. (Eurythoracana) haptoderoides japanensis Lutshnik 13, 12, Kôbô-ana Cave, Manno, Fujinomiya-shi, Shizuoka-ken, XII. 13, 1969.
- 6. P. sp. (allied to P. yoritomus)
 - 1♀, Motosu-daini-fûketsu Pit, Ishizuka, Kamikuisshiki-mura, Yamanashi-ken, V. 22, 1971.
- P. (Eosteropus) karasawai TANAKA
 Aokigahara, Yamanashi-ken, VIII. 23, 1971.
- 8. P. (Rhagadus) brittoni Habu 1, Aokigahara, Yamanashi-ken, VIII. 23, 1971.
- P. (R.) harponifer sp. nov.
 2 ♂ ♂, Motosu-daiichi-fûketsu Pit, Aokigahara, Yamanashi-ken, XI. 1, 1969; 1 ♂, Aokigahara, Yamanashi-ken, VIII. 23, 1971.

¹⁾ Sagamidaidanchi 2-2-203, Sagamihara City, Kanagawa Pref., 228. [Ent. Rev. Japan, Vol. XLII, No. 2, pp. 117-120, Dec., 1987]

10. P. (R.) microcephalus (Motschulsky)

1 3, Kôbô-ana Cave, Nishimura, Fujinomiya-shi, Shizuoka-ken, I. 16, 1971; 1 $\stackrel{\circ}{}$, Kôbô-ana Cave, Manno, Fujinomiya-shi, Shizuoka-ken, XII. 13, 1969.

11. P. (R.) takaosanus Habu

1 ♀, Shôji-guchi 1-2 gômé, Yamanashi-ken, IX. 16, 1969.

12. P. (Pterostichus) spiculifer ikutanii Tanaka

 $1\, \vec{o},\, 1\, \hat{\varphi},\, \text{Shôji-guchi}\, 4$ gômé, Yamanashi-ken, IX. 15, 1969; $1\, \hat{\varphi},\, \text{Shôji}\, 5$ gômé, Okuniwa, Yamanashi-ken, XI. 23, 1969.

13. P. (P.) rhanis angustistylis TANAKA

 $1\, ♀$, Shôji-guchi 1–2 gồmé, Yamanashi-ken, IX. 16, 1969 ; $3\, ♂$ ♂, Shôji-guchi $4\,$ gồmé, Yamanashi-ken, IX. 15, 1969.

14. P. (P.) mitoyamanus Tanaka

4 & &, Motosu-daiichi-fùketsu Pit, Aokigahara, Yamanashi-ken, XI. 1, 1969; 1 &, Jinza-fûketsu Cave, Aokigahara, Yamanashi-ken, IX. 6, 1969.

Pterostichus (Rhagadus) harponifer sp. nov. (Fig. 1)

Length: $8\frac{1}{4}-9\frac{1}{2}$ mm. Width: $3-3\frac{1}{2}$ mm. Apterous.

Body reddish brown to dark brown above, shining; underside, cephalic appendages and legs reddish brown, palpi yellowish brown.

Head (width: 1.61-1.86 mm) convex, smooth; frontal furrows diverging posteriorly, barely reaching level of front supraorbital pores, punctured; spaces outside frontal furrows distinctly convex; hind supraorbital pores even with or slightly behind level of posterior eye-margin; eyes convex; tempora not swollen, about half as long as eye; genae beneath eye smooth. Clypeus and labrum nearly truncate. Ultimate joint of maxillary palpi cylindrical, truncate at apex, 2.9-3.4 (5 exs.) times as long as wide, longer than penultimate; ultimate joint of labial palpi subsecuriform, truncate at apex, widest at middle, narrowed slightly towards apex and distinctly towards base, 3.2-3.8 (5 exs.) times as long as wide, longer than penultimate; mentum tooth shallowly bifid. Antennae (σ) subfiliform, less than half as long as body, with apical $2\frac{1}{2}$ joints extending beyond base of prothorax, joint I longer than III, II unisetose, VI 2.2 (5 exs.) times as long as wide.

Prothorax cordate, convex, 1.22–1.28 (av. 1.25 in $9\ 3\ 3$) or 1.33 ($1\ 4$) times as wide as long, widest at apical $2\ 5$, 1.50–1.58 (av. 1.55) times as wide as head; apical margin concave, finely bordered on both sides, 0.64–0.69 (av. 0.67) as wide as widest part; lateral margins nearly regularly arcuate from apex to base, bordered; basal margin straight, rather indistinctly bordered behind basal foveae, 0.75–0.80 (av. 0.77) as wide as widest part, 1.12–1.17 (av. 1.15 in $9\ 3\ 3$) or 1.08 ($1\ 4$) times as wide as apical margin; disk smooth, apical crescent depression lacking, median

line fine; lateral grooves vaguely punctured; basal foveae double, deep, punctured, bordered on outer side by a distinctly raised wide carina; front marginal pore a little before widest part, hind one at the angle.

Elytra oblong, moderately convex, 1.47–1.57 (av. 1.53) times as long as wide, widest before middle, 2.19–2.32 (av. 2.25 in $9 \ \sigma$) or $2.35 \ (1 \ \varphi)$ times as long and 1.13–1.22 (av. 1.18) times as wide as prothorax; shoulders 0.65–0.72 (av. 0.70) as wide as widest part, the angles dentate; basal border nearly straight; striole very short, on interstice II; striae distinctly impressed throughout, very finely punctured, sometimes almost smooth; interstices moderately convex, smooth; subapical sinuation very shallow; inner plica visible; dorsal pores 2 on interstice III adjoining stria II.

Underside punctured on sides of prosternum, prepisterna, mesosternum, mesepisterna, sides of metasternum, metepisterna and sides of

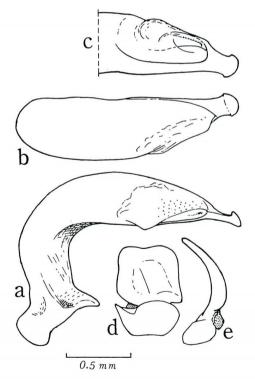


Fig. 1. Pterostichus (Rhagadus) harponifer sp. nov., male genitalia. a, median lobe, left side; b, ditto, dorsal surface of apical part; c, ditto, ventral surface of apical part; d, left paramere; e, right paramere.

abdomen. Prosternal process rounded at apex, unbordered, the vertical side broadened dorsally, bordered on both sides; metasternal process clearly bordered; metepisterna bordered on anterior margin, sulcate along inner margin, 0.96-1.13 (av. 1.02) times as long as wide.

Legs: hind tibia and tarsus combined together 0.80-0.86 (av. 0.83 in $9\ \mbox{$\it O$}\ \mbox{$\it O$}\)$ or $0.77\ (1\ \mbox{$\it V$}\)$ as long as elytra; joints I-III of meso- and metatarsi sulcate on outer side; joint V glabrous beneath.

Microsculpture very fine, of isodiametric meshes on head, transverse meshes on prothorax and elytra.

Genitalia \mathcal{S} (Fig. 1): median lobe with apical orifice open on left-ventral side (characteristic of Rhagadus); apex wide, rounded, nearly symmetrically hooked on both sides.

Distribution. Central Honshû, Japan.

Type locality. Mt. Fuji, Shizuoka and Yamanashi Prefectures.

Type specimens. Holotype &: Aokigahara (1,100 m), northern foot of Mt. Fuji, Yamanashi Pref., VIII. 23, 1971, S.-I. Uéno leg., in the collection of the National Science Museum (Nat. Hist.), Tokyo. Paratypes: 2 & &: Motosu-daiichi-füketsu Pit, Aokigahara, northern foot of Mt. Fuji, XI. 1, 1969, S.-I. Uéno leg., in the collection of the National Science Museum (Nat. Nist.), Tokyo; 1 &: Jūrigi, (1,000 m), southern foot of Mt. Fuji, Shizuoka Pref., VI. 12, 1971, K. Tanaka leg., in K. Tanaka's collection.

Specimens examined from other localities. 1 β : Mt. Kamiyama (1,100-1,400 m), in Hakone Mts., Kanagawa Pref., V. 31, 1971, K. Tanaka leg., 2 β β , 1 φ : l. c., VI. 10, 1972, K. Tanaka leg.; 1 β : Mt. Dando (1,000 m), Aichi Pref., VI. 7, 1971, K. Tanaka & H. Ôhira leg.; 1 β : Amô Pass-Shòyashiki, Gifu Pref., VI. 19, 1972, K. Tanaka & H. Ôhira leg.

Taxonomic discussion. The two paratype specimens found in the lava pit, Motosu-daiichi-fûketsu, are a little more reddish in colour than in the other specimens; this depigmentation appears to have been derived from their habitat. In the body structure, they are not different from other specimens. The present new species is easily distinguished from all the other known species of the subgenus Rhagadus by the characteristic shape of the apex of the aedeagus. It is most closely allied to P.(R.) latemarginatus (Straneo) and difficult to be discriminated from this species by the external characters. Typical latemarginatus has, however, the wider prothoracic lateral grooves and distinctly iridescent elytra.

A New Splendid Species of the Genus Ovalisia KERREMANS from Thailand (Coleoptera, Buprestidae)

By Kôyô Akiyama

15-10, 2-chôme, Daidô-chô, Kanazawa-ku, Yokohama 236

Abstract A new species of the genus *Ovalisia* from Thailand is described under the name of *Ovalisia hideoi*.

The genus *Ovalisia* has been hitherto recorded 22 species from Indo-China. Through the courtesy of my young brother, HIDEO AKIYAMA, I was able to examine a specimen of a splendid buprestid beetle belonging to the genus *Ovalisia* captured in Doi Suthep, Northern Thailand. After my careful examination, it was apparent that it should be placed in an undescribed species closely related to *Ovalisia sarrauti* BOURGOIN, 1922, from Laos. In this paper, the above mentioned species will be described as new to science. The holotype is deposited in the National Science Museum (Nat. Hist.), Tokyo.

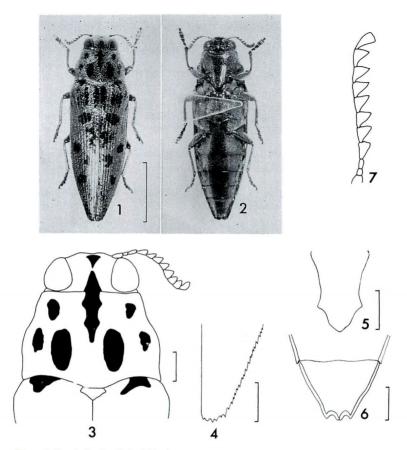
I wish to express my sincere gratitude to Dr. Yoshihiko Kurosawa, former head of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo, for his constant guidance, to Prof. Gayle H. Nelson of the Department of Anatomy, College of Osteopathic Medicine of the Pacific, California, for his kindness in reading the original manuscript and offering invaluable suggestions, to Mr. Masatoshi Takakuwa of the Kanagawa Prefecture Museum, Yokohama, for his invaluable advice, and to my young brother, Hideo Akiyama, for his kind offer of the material.

Ovalisia hideoi sp. nov. (Figs. 1-6)

Female. Body large, elongate, and strongly shining; dorsal surface golden green with orange tinge; head with two longitudinal triangular black spots at frons and vertex; pronotum with seven irregular black spots (see: Fig. 3); each elytron ornamented with ten irregular black spots (see: Fig. 1); body beneath bright green, with distinct golden tinge; antennae brightly green, with blue tinge; legs green, with golden tinge.

Head distinctly narrower than the base of pronotum; frons nearly flat, but broadly, deeply depressed around cavities of antennae, with

[[]Ent. Rev. Japan, Vol. XLII, No. 2, pp. 121-123, Dec., 1987]



Figs. 1-7. 1-6. Ovalisia hideoi sp. nov. 1, dorsal view; 2, ventral view; 3, anterior half of the body (dorsal view); 4, right elytral apex; 5, prosternal process; 6, anal abdominal sternite. Scales: 1-2, 5 mm, 3-6, 1 mm. 7, each antenna of Ovalisia sarrauti BOURGOIN (after DESCARPENTRIES & VILLIERS, 1963).

pair of distinct carinae running obliquely inside each eye toward midline, surface coarsely, confluently punctate, sparsely clothed with a few inconspicuous silver-whitish setae with anterior margin arcuately emarginate; antennal cavities small; antennae rather short, subpectinate from fourth segment, with first segment longest, stout, second shortest, subglobular, third about 1.7 times as long as second, fourth longer and wider than third.

Pronotum transverse, about 1.5 times as wide as long, distinctly

wider at base than apex, and equal in width at base and middle; sides rather bisinuate; anterior margin almost straight; posterior margin moderately bisinuate; disc moderately convex, with a shallow depression on middle of base; surface coarsely, confluently punctate, except for black spots which are impunctate or are sparsely punctured. Scutellum transversely subpentagonal.

Elytra about 2.3 times as long as wide, about 4.1 times as long as pronotum and widest near base; sides obliquely truncate at humeri, subparallel from humeri to just before middle, then faintly arcuately narrowed to apical three-tenths, the remainders straight, and minutely serrate at apical half, apices strongly serrate; disc strongly, regularly convex, confluently punctate near base, then distinctly striate-punctate, intervals densely, confluently punctate except for impunctate black spots.

Prosternum flat, coarsely rugoso-punctate, clothed with long semirecumbent silver-grey setae. Abdomen beneath coarsely, rather densely punctate except for sides of basal segment, punctures shallow, semicircular, never confused each other, and are sparsely clothed with long, fine, recumbent silver-greyish setae; apex of anal sternite distinctly bisinuate. Legs normal.

Length: 15.8 mm; width: 5.1 mm.

Holotype: $\+$, Doi Suthep (1,000 m in alt.), near Chieng Mai, Northern Thailand, 28. V. 1978, H. AKIYAMA lgt.

Remarks. This new species is closely allied to O. sarrauti Bourgoin, 1922, from Laos, but can be easily distinguished from it by the differently sharpened antennal serrations (see Figs. 3~&~7).

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Coprophagid-beetles from Northwest Thailand (I)

Ву Кіміо Маѕимото

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Abstract This is the first part of a series of papers dealing with a research project on coprophagid-beetles from Northwest Thailand. A new species, *Euoniticellus cambeforti* is described, and a list of the species collected is also given.

Introduction

Northwest Thailand, one of the most productive areas in the Oriental Region for those interested in the coprophagid-beetles, is adjacent to the areas where Arrow, Paulian and many other entomologists studied and achieved much success in the past.

Since 1985, I have been undertaking a continuous field survey in Chiang Mai and nearby areas. In this survey I have been fortunate to have had the assistance of Mr. Manit Yimyam of Toongnoi School, Pao District, Chiang Mai Province.

I propose to report the results of the present research in series form, and this paper is the first of the series. In this paper, I will describe a new species of the genus *Euoniticellus*, which is the first from the Indochinese Subregion, and I will present a list of the species collected. Most of those listed from these areas have been recorded for the first time.

For determining the unknown species, I am indebted to Dr. Yves Cambefort, Muséum National d'Histoire Naturelle, Paris, and also to Dr. Makoto Kiuchi, Sericultural Experiment Station, Ibaraki Prefecture, Japan.

I would also like to express my sincere gratitude to Mr. Teruo Ochi in Kawanishi City, Mr. Hirotaka Matsuka in Tokyo, and Dr. Yoshiaki Komiya of Tokyo University, for their contribution of specimen materials.

The holotype is preserved in the National Science Museum (Nat. Hist.), Tokyo, and some paratypes are deposited in the Muséum National d'Histoire Naturelle, Paris, and also in the British Museum (Nat. Hist.), London.

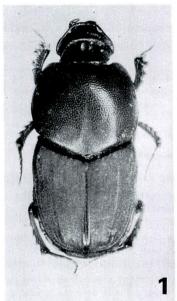
Euoniticellus cambeforti sp. nov.

(Figs. 1 & 2)

Yellowish brown, with outer margin, gibbosities and elevation on

head, pronotum and elytra partly more or less darkened in colour; head and pronotum moderately shining, elytra rather matt.

Oblong oval and slightly widened anteriorly, moderately convex above and weakly flattened.





Figs. 1, 2. 1. Euoniticellus cambeforti sp. nov., &, holotype; 2. ditto, male head.

carinate; frons with two pairs of short gibbosities barely touching fronto-clypeal carina, those in inner portion more conspicuous; interocular space slightly depressed; vertex weakly ridged; genae obliquely rounded; $\varphi \varphi$ — clypeus more strongly and widely produced forwards than in males; fronto-clypeal border unclear but gently, rather broadly convex instead; interocular space slightly depressed.

Pronotum fairly closely punctate throughout, the punctures about twice as large as those on head; sides impressed at anterior ½. Scutellum acute triangle and closely punctate.

Elytra shallowly punctate-striate; intervals feebly convex and microshagreened, scattered with shallow punctures; sutural portion rather noticeably ridged apically; apices sparsely bristled.

Pygidium microshagreened, shallowly punctate and shortly haired, the punctures become closer in basal portion.

Protibiae quadridentate along antero-outer margin; ratio of length

of metatarsal segments (from basal to apical) and also of terminal spur of metatibia as follows: 20, 7, 5.5, 3.5, 9; 16.

Body length: 6-7 mm.

Holotype: &, Chiang Mai, Northwest Thailand, 7. IV. 1980, H. Matsuka leg. Paratypes: 1 ex., same data as the holotype; 6 exs., Chiang Dao (Elephant park), 23. VII. 1986, K. Masumoto leg.; 2 exs., Maesa Vil. (Elephant park), 23. VII. 1986, K. Masumoto leg.; 1 ex., Maesa Vil. (Elephant park), 13-14. VI. 1987, Manit Y. leg.; 2 exs., Chiang Dao (Elephant park), 20. VI. 1987, Manit Y. leg.; 10 exs., Maesa Vil. (Elephant park), 4. VII. 1987, Manit Y. leg.; 55 exs., Chiang Dao (Elephant park), 27-31. VII. 1987, K. Masumoto leg.; 39 exs., Maesa Vil. (Elephant park), 26. VII-1. VIII. 1987, K. Masumoto leg.

Notes. This species can be easily distinguished from other known species by arrangement of carinae on the head (Fig. 2).

According to Janssens (1953), fifteen species belonging to the genus *Euoniticellus* are hitherto known from Asia, Europe, Africa and Cuba. More than ten species are known from Africa. It is noteworthy that this new species is the first from the Indochinese Subregion.

List of Coprophagid-beetles from Northwest Thailand (I)

SCARABAEIDAE

Scarabaeinae

Tribe Gymnopleurini

1. Gymnopleurus (Paragymnopleurus) melanarius Harold, 1867

Gymnopleurus melanarius HAROLD, 1867, Col. Hefte, 1:76.

Localities in Northwest Thailand: Pao District.

Distribution: India to Central China; Taiwan; Ceylon; Sumatra; Java.

2. Gymnopleurus (Paragymnopleurus) sinuatus (OLIVIER, 1789)

Scarabaeus sinuatus Olivier, 1789, Entom., 1:160.

Localities in Northwest Thailand: Pao District.

Distribution: India to South China: Taiwan; Indonesia.

Tribe Canthonini

3. Cassolus nudus Sharp, 1875

Cassolus nudus Sharp, 1875, Col. Hefte, 13:40.

Localities in Northwest Thailand: Phuping Palace.

Distribution: Thailand to South China.

Tribe Pinotini

4. Parachorius thomsoni HAROLD, 1873

Parachorius thomsoni Harold, 1873, Col. Hefte, 11:103.

Localities in Northwest Thailand: Doi Suthep.

Distribution: India to South China.

5. Onychothecus corniclypeus Chang, 1980

Onychothecus corniclypeus Chang, 1980, Acta ent. sin., 23 (3): 303.

Localities in Northwest Thailand: Doi Suthep.

Distribution: Thailand; Southwest China.

Tribe Coprini

6. Synapsis tridens SHARP, 1881

Synapsis tridens Sharp, 1881, Ann. Soc. ent. Belg., 25: 92.

Localities in Northwest Thailand: Doi Inthanon.

Distribution: India to South China.

7. Heliocopris bucephalus (FABRICIUS, 1775)

Copris bucephalus Fabricius, 1775, Syst. Ent., 1: 24.

Localities in Northwest Thailand: Doi Inthanon, Doi Pui, Meo Vil., Maesa Vil., Pao District, Chiang Dao.

Distribution: India to South China; Java.

8. Catharsius (s. str.) molossus (Linné, 1758)

Scarabaeus molossus Linné, 1758, Syst. Nat., ed. 10, 3:347.

Localities in Northwest Thailand: Doi Inthanon, Pao District, Chiang Dao.

Distribution: South Afghanistan to South China; Taiwan; Indonesia.

9. Catharsius (s. str.) birmanensis Lansberge, 1874

Catharsius birmanensis Lansberge, 1874, Col. Hefte, 12: 11.

Localities in Northwest Thailand: Pao District.

Distribution: Assam to Laos.

10. Copris (s. str.) sinicus Hope, 1842

Copris sinicus Hope, 1842, Proc. ent. Soc. London: 60.

Localities in Northwest Thailand: Doi Inthanon, Pao District.

Distribution: India to South China; Java.

11. Copris (s. str.) corpulentus GILLET, 1910

Copris corpulentus GILLET, 1910, Notes Leyden Mus., 32:13.

Localities in Northwest Thailand: Doi Inthanon, Maesa Vil.

Distribution: Assam to Indochina.

12. Copris (s. str.) carinicus Gillet, 1910

Copris carinicus GILLET, 1910, Notes Leyden Mus., 32:8.

Localities in Northwest Thailand: Doi Inthanon.

Distribution: Assam; Burma; Thailand.

13. Copris (s. str.) obenbergeri Balthasar, 1933

Copris obenbergeri Balthasar, 1933, Stett. ent. Ztg., 94: 263.

Localities in Northwest Thailand: Doi Inthanon.

Distribution: Thailand; South China.

14. Copris (s. str.) repertus Walker, 1858

Copris repertus WALKER, 1858, Ann. Mag. nat. Hist., (3) 2:208.

Localities in Northwest Thailand: Doi Inthanon.

Distribution: Ceylon; India; Thailand; South China.

15. Copris (s. str.) angusticornis Arrow, 1933

Copris angusticornis Arrow, 1933, Ann. Mag. nat. Hist., (10) 12:421.

Localities in Northwest Thailand: Doi Suthep.

Distribution: Thailand; North Vietnam; South China.

16. Copris (Paracopris) cariniceps Felsche, 1910

Copris cariniceps Felsche, 1910, D. ent. Ztschr.: 348.

Localities in Northwest Thailand: Doi Inthanon.

Distribution: Thailand; Central and South China; Taiwan.

17. Copris (Paracopris) punctulatus Wiedemann, 1823

Copris punctulatus Wiedemann, 1823, Zool. Mag., 2 (1): 11.

Localities in Northwest Thailand: Maesa Vil., Pao District, Chiang Dao.

Distribution: Assam to Indochina; Malay Peninsula; Java and Sulawesi, etc.

18. Copris (Microcopris) reflexus (FABRICIUS, 1787)

Scarabaeus reflexus Fabricius, 1787, Mant. Ins., 1:16.

Localities in Northwest Thailand: Doi Inthanon, Maesa Vil., Pao District, Chiang Dao.

Distribution: Burma to Central China; Taiwan; Malay Peninsula; Indonesia.

19. Copris (Microcopris) propinquus Felsche, 1910

Copris propinguus Felsche, 1910, D. ent. Ztschr.: 347.

Localities in Northwest Thailand: Pao District.

Distribution: Thailand; Laos; South China; Taiwan.

20. Copris (Microcopris) vitalisi Gillet, 1921

Copris vitalisi GILLET, 1921, Ann. Soc. sci. Brux.: 124.

Localities in Northwest Thailand: Meo Vil., Pao District.

Distribution: Assam; Thailand; Indochina.

Tribe Onitini

21. Onitis falcatus (WULFEN, 1786)

Scarabaeus falcatus Wulfen, 1786, Descr. Capens. Ins.: 14.

Localities in Northwest Thailand: Doi Inthanon, Maesa Vil., Pao District.

Distribution: India to China; Philippines.

22. Onitis niger Lansberge, 1875

Onitis niger Lansberge, 1875, Ann. Soc. ent. Belg., 18:130.

Localities in Northwest Thailand: Pao District, Phrae.

Distribution: Thailand; North and Central Vietnam; Java.

23. Onitis subopacus Arrow, 1931

Onitis subopacus Arrow, 1931, Fauna British India, 3:395.

Localities in Northwest Thailand: Doi Inthanon, Pao District.

Distribution: South Afghanistan to South China; Sunda Is.

Tribe Oniticellini

24. Drepanocerus falsus (Sharp, 1875)

Oniticellus falsus Sharp, 1875, Col. Hefte, 13:52.

Localities in Northwest Thailand: Maesa Vil.

Distribution: Assam; Thailand; Laos.

25. Drepanocerus runicus Arrow, 1909

Drepanocerus runicus Arrow, 1909, Ann. Mag. nat. Hist., (8) 4:93.

Localities in Northwest Thailand: Doi Inthanon, Maesa Vil., Chiang Dao.

Distribution: Burma; Thailand; Vietnam.

26. Drepanocerus sinicus HAROLD, 1868

Drepanocerus sinicus HAROLD, 1868, Col. Hefte, 4:104.

Localities in Northwest Thailand: Doi Inthanon, Maesa Vil., Chiang Dao.

Distribution: India to South China.

27. Drepanocerus striatulus Paulian, 1945

Drepanocerus striatulus PAULIAN, 1945, Col. Scarab. de l'Indochine: 138.

Localities in Northwest Thailand: Maesa Vil., Chiang Dao.

Distribution: Thailand; North Vietnam; South China (Kuichou).

28. Euoniticellus cambeforti sp. nov.

Localities in Northwest Thailand: Maesa Vil., Chiang Dao.

Distribution: Thailand.

29. Oniticellus cinctus (Fabricius, 1775)

Scarabaeus cinctus Fabricius, 1775, Syst. Ent.: 30.

Localities in Northwest Thailand: Doi Inthanon, Maesa Vil., Pao District, Chiang

Distribution: India to South China; Malay Peninsula; Java.

30. Oniticellus tessellatus Harold, 1879

Oniticellus tessellatus HAROLD, 1879, Col. Hefte, 16: 227.

Localities in Northwest Thailand: Chiang Dao.

Distribution: Thailand; Indochina.

31. Liatongus phanaeoides (Westwood, 1840)

Onthophagus phanaeoides Westwood, 1840, in Royle's Himalaya, Ent.: 55.

Localities in Northwest Thailand: Meo Vil.

Distribution: India to Japan.

32. Liatongus venator (Fabricius, 1801)

Copris venator Fabricius, 1801, Syst. Eleuth., 1:41.

Localities in Northwest Thailand: Maesa Vil., Pao District, Chiang Dao.

Distribution: Tenasserim; Thailand; Laos; Central Vietnam; Java; Lombok; Sumba.

33. Liatongus tridentatus (Boucomont, 1919)

Oniticellus tridentatus BOUCOMONT, 1919, Bull. Mus. Paris: 602.

Localities in Northwest Thailand: Doi Inthanon, Doi Suthep.

Distribution: Burma to South China.

34. Liatongus affinis (Arrow, 1908)

Oniticellus affinis Arrow, 1908, Ann. Mag. nat. Hist., (8) 1:181.

Localities in Northwest Thailand: Doi Inthanon, Maesa Vil., Pao District, Chiang Dao.

Distribution: India to Indochina.

35. Liatongus capricornis (Arrow, 1931)

Oniticellus affinis var. capricornis Arrow, 1931, Fauna British India, 3:368.

Localities in Northwest Thailand: Pao District.

Distribution: Burma; Thailand.

36. Liatongus gagatinus (Hope, 1831)

Onthophagus gagatinus HOPE, 1831, in GRAY's, Zool. Misc.: 22.

Localities in Northwest Thailand: Doi Inthanon.

Distribution: India to Indochina.

37. Liatongus vertagus (FABRICIUS, 1798)

Copris vertagus Fabricius, 1798, Ent. Syst. Suppl.: 30.

Localities in Northwest Thailand: Doi Inthanon.

Distribution: Assam to Central China.

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A New Species of the Genus *Yamatostrius* KISHII from Amami-Ôshima Is. of the Ryukyus, Japan (Coleoptera, Elateridae, Negastriinae)

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Abstract A new species of the genus *Yamatostrius* from Amami-Ôshima Is. of the Ryukyus is described and illustrated.

In the present paper, the author has described a new species belonging to the Yamatostrius Kishii, 1976 for the first time from the Ryukyus. Consequently, three species, Yamatostrius albipilis (Candeze, 1873), Y. osawai (Ôhira, 1972) and Y. amamiensis sp. nov. have been known to occur in Japan.

Yamatostrius amamiensis sp. nov. (Figs. 1-3) (Japanese name: Amami-chibi-mizugiwa-kometsuki)

Male: Length 2.4-2.8 mm.; width 1.4-1.8 mm.

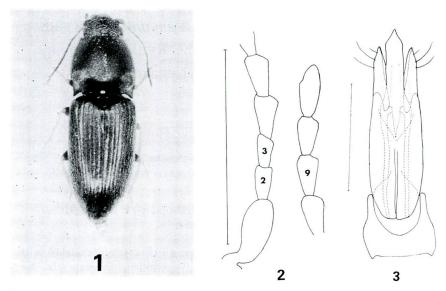
Body oblong-ovate and convex above, clothed with whitish-gray pubescence all over. Dorsal surface black and rather opaque; ventral surface blackish-brown to black; antennae blackish-brown except for brownish-yellow second and third segments; legs brownish-yellow except for darker femora and coxae.

Head gently convex between eyes; almost flattened between antennae; surface rugosely punctate and somewhat granulate; clypeal margin well ridged, rounded and weakly impressed at middle.

Antennae rather short, with extremities barely reaching to posterior angles of pronotum; basal segment robust and subovate; second segment subclavate, about 2.3 times as long as its width; third segment clavate, about twice as long as its width, and somewhat shorter than second segment; from fourth to tenth segments weakly serrate; apical segment about 2.8 times as long as its width; relative length of each segment; 2.0:1.2:1.0:1.4:1.3:1.3:1.3:1.3:1.2:1.2:1.7.

Eyes somewhat prominent; interval between eyes about 3.0 times as

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figs. 1-3. 1. Yamatostrius amamiensis sp. nov., holotype, 3. 2. Antenna of Yamatostrius amamiensis sp. nov. Scale: 0.5 mm. 3. Aedeagus of Yamatostrius amamiensis sp. nov. Scale: 0.2 mm.

wide as diameter of each eye.

Pronotum subtrapezoid, with sides slightly rounded and widest across middle; anterior angles sharply prominent forward; anterior margin distinctly rounded at middle and clearly emarginated just insides of anterior angles; disc densely, coarsely and rugosely punctate, with median longitudinal area more or less granulate; posterior angles short projecting posteriorly, each bears a long distinct carina above, which extends from base to near middle along side.

Scutellum tongue-shaped, subvertical, with surface flattened, densely and minutely punctate.

Elytra about 1.8 times as long as its basal width, sides almost parallel at basal two-thirds, then rounded and gradually tapering towards apices; striae well defined; intervals slightly elevated, minutely punctate and irregularly rugose.

Legs rather stout; with each extremity of fourth tarsal segment slightly expanded beneath; the fifth usually shorter than third and fourth put together; claws simple.

Aedeagus as figured (fig. 3); median lobe broad and sharply pointed apically; lateral lobes gradually narrowed apically, with each tip pointed.

Female: Very similar to male, but the body robuster and the anten-

nae shorter.

Holotype: $1 \, \varnothing$, Kinsakubaru, Amami-Ôshima Is., $3. \, \text{V.} \, 1986$, H. Акімото leg. Paratypes: $2 \, \varnothing \, \varnothing$, Kinsakubaru, Amami-Ôshima Is., $2. \, \text{V.} \, 1984$, A. Като leg.; $1 \, \varnothing$, Kinsakubaru, Amami-Ôshima Is., $2. \, \text{V.} \, 1984$, H. Акімото leg.; $4 \, \varnothing \, \varnothing \, 4 \, \varphi \, \varphi$, Kinsakubaru, Amami-Ôshima Is., $2. \, \text{V.} \, 1986$, K. Odanaka leg.; $5 \, \varnothing \, \varnothing \, 1 \, \varphi$, Kinsakubaru, Amami-Ôshima Is., $2. \, \text{V.} \, 1986$, H. Акімото leg.; $1 \, \varphi$, same data as holotype.

Distribution: Amami-Ôshima Is. of the Ryukyus.

The holotype is deposited in the National Science Museum (Nat. Hist.), Tokyo. This new species is somewhat allied to Y. albipilis from Japan (Honshu, Kyushu), but can be distinguished from the latter by the following points: 1) Body smaller, slenderer, and more flattened above. 2) Elytra lacking long erect setae among short pubescence as well as Y. osawai. 3) Lateral lobes of aedeagus more clearly pointed apically.

Acknowledgement

I wish to express my hearty thanks to Dr. Hitoo Ôhira of the National Institute for Physiological Sciences, Okazaki for his constant guidance and to Mr. Kiyoshi Matsuda of Takarazuka for his kind advice on the present study. My thanks are also due to Mr. Atsushi Kato and Mr. Ken Odanaka for their kind help offering materials.

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A New Species of the Genus *Maladera* MULSANT from the Danjo Islands (Coleoptera, Scarabaeidae)

By Yoshikazu Miyake¹⁾ and Shoichi Imasaka²⁾

In the present paper, we described a new *Maladera*-species from Meshima Is. in the Danjo Islands near Kyushu, Japan. It is the second scarabaeid species from there which is described by us. In our opinion, the species seems to be an endemic one of this islands and a replacement species of the *Maladera japonica* (MOTSCHULSKY).

The used material in this study was collected by Mr. M. EJIMA of the Hokuyodai High School, Nagasaki. And, the holotype is deposited in the National Science Museum (Nat. Hist.), Tokyo and the paratype is preserved in our cabinet.

Here my sincere thanks are offered to Mr. Masao Ejima for kindly giving us an opportunity to study this interesting material.

Maladera ejimai Y. MIYAKE et IMASAKA, sp. nov.

3: Black, with maxillary and labial palpi, antennae, shining penultimate sternite of abdomen fulvous, apical part of front tibiae, and tarsi somewhat reddish. Body opaque, with dorsal surface opalescent reflexion, clypeus, genae, mouth-parts, eyes, antennal foot-stalks and legs shining, except for ventral surface of femora partially opaque.

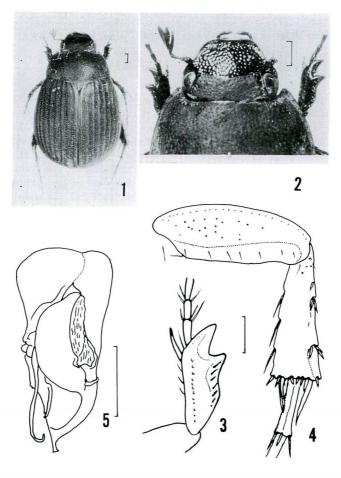
Body broadly oval and convex, legs moderate in length. Clypeus trapezoidal, densely coarsely more or less rugosely punctate, somewhat convex in the middle, anterior area depressed, but without distinctly transverse groove, with a few erect brownish setae in front; lateral sides strongly convergent anteriorly, front margin slightly sinuate, front angles rounded, external margin reflexed; clypeo-frontal suture angulate at middle, almost straight at sides. Frons scatteringly finely punctate, without hairs behind the middle, bearing a few short hairs near eyes. Genae moderately punctate, with a few setae at the ends. Antennae 10-segmented, the club as long as its foot-stalk.

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Pronotum 1.9 times as broad as length, broadest before the base, not strongly convex above, finely scatteringly punctate, lateral sides nearly evenly arched, with a row of sparse brownish setae along the lateral margins, front angles produced, but the apices not acute, hind ones obtuse, front margin with a few setae on each side. Scutellum triangular, twice as broad as length, finely sparsely punctate, and incon-



Scales: 0.5mm.

figs. 1-5. 1. Maladera ejimai sp. nov., dorsal view. 2. Head, dorsal view. 3. Front tibia, dorsal view. 4. Hind femur and tibia, ventral view. 5. Parameres of 3 genitalia, dorsal view.

spicuously carinate in the middle.

Elytra as long as breadth, more or less amplificate posteriorly and the apex truncated; elytral striae unevenly finely punctate, the intervals slightly costate, and sparsely, finely punctate; epipleurae rather densely bearing short brownish setae.

Pygidium triangular, about 2.6 times as broad as length, densely finely punctate, bearing sparsely minute setae on the disc, and long yellowish setae near external margin.

Abdominal sternite finely punctate, with a transverse row of brownish setae which being more or less irregular in the middle. Metasternum finely punctate, with a inconspicuous median carina, bearing sparsely erect darkish hairs in front, recumbent short hairs behind.

Front tibia tridentate, with apical two teeth large, the third very obsolete, becoming inconspicuous expansion. Hind femur 2.6 times as long as breadth, the hind margin scarcely sinuate apical third, the ventral surface strongly shining with posterior third opaque, sparsely but strongly punctate especially near base. Hind tibia slender, three times as long as breadth, not strongly dilated, gradually widened to the apex. The ventral surface almost glabrous scantily finely punctate near base, the longer terminal spur much shorter than the first tarsal segment, the first to fourth tarsal segments without hairs and with a row of minute serration on ventral surface.

Length: 9.3-10.4 mm; breadth: 6.2-6.8 mm.

Holotype: \Im , paratype: 1 \Im , Meshima Is., Danjo Islands, 12. IX. 1986, M. EJIMA leg.

The new species is most closely allied *Maladera japonica japonica* (Motschulsky) from Japan proper, but it differs from the latter by the following points: 1) The body is much broader in the proportion, especially remarkable breadth of the pronotum, scutellum, elytra and pygidium. 2) The punctations on the ventral surface of the hind tibia are much finer and sparser. 3) The third tooth of front tibia is more obsolete and vestigial. 4) The characteristics of the genitalia, etc.

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Synonymical Notes on Three Species of Chalcididae from Japan (Hymenoptera)

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Through the kindness of Dr. Z. Bouček of the Commonwealth Institute of Entomology in London, I have been able to revise the three chalcidid species of Japan. My most sincere thanks are offered to him for his valuable advice as well as sending me some specimens.

Brachymeria (Brachymeria) porthetrialis Joseph, Narendran et Joy

Brachymeria porthetrialis Joseph, Narendran and Joy, 1972, Tech. Bull. Commonwealth Inst. Biol. Contr., no. 15: 27-29, figs. 19-24 (India).

Brachymeria intermedia porthetrialis Joseph et al.: Joseph, Narendran and Joy, 1973, Zool. Monogr., no. 1: 9, 42-45, figs. 10 (1)-10 (6).

Brachymeria (Brachymeria) nambui HABU, 1978, Ent. Rev. Japan, 32: 116-118, 119-120, figs. 8-14 (Japan: Yorii, Saitama Pref.).

I have been able to examine two female specimens from India which Dr. Z. Bouček kindly offered me.

Hockeria bifasciata Walker

Hockeria bifasciata Walker, 1834, Ent. Mag., 2: 35 (Europe)2).

Hockeria nipponica Habu, 1960, Bull. Natl. Inst. Agr. Sci., (C) no. 11: 221-222, 225-229, figs., 175, 176-184, 233 (Japan: Niigata etc.).

I sent a female specimen to Dr. Z. Bouček, who kindly compared it with those from Europe.

¹⁾ Retired in June, 1981.

²⁾ Subsequent synonyms are omitted (vid. Habu, 1960, p. 234; Habu, 1962, p. 81).
[Ent. Rev. Japan, Vol. XLII, No. 2, pp. 141-142, Dec., 1987]

Dirhinus (Dirhinus) anthracia Walker

Dirhinus Anthracia Walker, 1846, List. Spec. Hym. Ins. Brit. Mus., part 1, Chalcidites: 7, 85 (Philippine Is.).

Dirhinus (Dirhinus) hesperidum Rossi: Habu, 1959, Kontyù, 27: 133; Habu, 1960, Bull. Natl. Inst. Agr. Sci., (C) no. 11: 310, 316-321, figs. 161, 162, 381-387, 388, 389; Habu, 1961, Mushi, 35: 82; Habu, 1962, Faun. Jap., Chalcid. etc.: 139, 143-147, figs. 27, 273-276, 286, 287, 298, 303, pl. 18-fig. 1; Habu, 1963, Mushi, 37: 119; Habu, 1966, Kontyù, 34: 240.

Distribution. Japan. Korea. N. China. Philippines. Malaya. India.

Dr. Z. Bouček kindly presented me a female specimen from India and a male from Malay Peninsula.

Postscript

After sending the typescript to the editorial staff, I received from Dr. Z. Bouček a reprint of the following paper: Bouček and Narendran, 1981, Indian chalcid wasps (Hymenoptera) of the genus *Dirhinus* parasitic on synanthropic and other Diptera, Syst. Ent., 6, pp. 229-252. *Dirhinus anthracia* Walker is mentioned at large in pp. 239-242, figs. 5, 6, 9 and 14. The synonyms enumerated in this paper are as follows:—

Dirrhinus ruficornis Cameron, 1905, Trans. S. Afr. Phil. Soc., 15: 208-209 (S. Africa). Eniacella rufricornis Girault, 1913, Bull. Wisc. Nat. Hist. Soc. (N. S.), 11: 35 (Australia).

Eniacella bicornuticeps Girault, 1915, Mem. Queensl. Mus., 4: 353 (Australia). Dirhinus sarcophagae Froggatt, 1919, Agr. Gaz. N. S. Wales, 30: 853-855

Dirhinus frequens Masi, 1933, Konowia, 12: 7-9 (Formosa).

Dirhinus intermedius MANI and DUBEY, 1972, Or. Ins., 6: 404-407 (India).

Dirhinus georgei Mani and Dubey, in Mani, Dubey, Kaul and Saraswat, 1974, Mem. Sch. Ent., Agra, 3: 31-33 (India).

This species is widely distributed in Asia, Australia and Africa.

A Study on the Electron Microscopic Comparison of the Elytra of Cerambycidae (Coleoptera), Part II.

By Shu Tamura and Tamotsu Tamura

Abstract The authors examined the elytra of two subfamilies of Cerambycidae by using a scanning electron microscope. Philinae obviously differs from Disteniinae and Prioninae, but otherwise rather resembles microscopically Aseminae and some of Cerambycinae. We find that nineteen tribes of Cerambycinae show various surface structures. There are micrographical similarities among some tribes, e.g. Molorchini, Stenopterini, Callidiopini, Hesperophanini and Graciliini, few differences between all the species we examined belonging to the same genera, e.g. Obrium, Stenhomalus and Glaphyra respectively and some significant differences proper to each of the species of the same genera, e.g. Rosalia and Purpuricenus respectively, despite their mutual similarities in appearance. In contrast, we find no similarities among the species of the same tribes, e.g. Cerambycini, Pyrestini and Cleomenini respectively.

Part I of this study reported the differences and similarities between six subfamilies of Cerambycidae; Parandrinae, Prioninae, Aseminae, Spondylinae, Lepturinae and Disteniinae. In this paper, the authors examine the surface of the elytra of two subfamilies of Cerambycidae (Philinae and Cerambycinae) by using a scanning electron microscope.

Materials and methods

56 species of Philinae and Cerambycinae were used for this study, as shown in Table 1. As in the previous report, we did not distinguish between males and females, since there were no differences between them as far as our examination was concerned.

The procedures and the equipment used were the same as those previously described.

Table 1. Examined species of Philinae and Cerambycinae of Cerambycidae and the sites of collection.

Philinae		
Philus pallescens Bates	Formosa	

[[]Ent. Rev. Japan, Vol. XLII, No. 2, pp. 143-152, pls. 4-16, Dec., 1987]

Cerambycinae Achrysonini

Nortia pruinicollis Gressitt

Methiini

Xystrocera globosa (Olivier) Leptoxenus ibidiiformis Bates

Hesperophanini

Trichoferus campestris (Faldermann)

Cerambycini

Cerambyx scopolii Fuesslins Trirachys orientalis Hope

Graciliini

Axinopalpis gracilis (KRYNICKI)

Phoracanthini

Allotraeus sphaerioninus Bates

Nysina rufescens Pic

Callidiopini

Curtomerus flavus (Fabricius)

Ceresium sinicum WHITE

Ceresium fuscum Matsumura et Matsushita

Obriini

Obrium brunneum (FABRICIUS)

Obrium japonicum Pic

Obrium tsushimanum Hayashi

Stenhomalus nagaoi Hayashi

Stenhomalus taiwanus Matsushita

Molorchini

Molorchus minor Linné

 $Glaphyra\ umbellatarum\ (Schreber)$

 $Glaphyra\ cobaltina\ ({\it Hayashi})$

Glaphyra gracilis (HAYASHI)

Stenopterini

Stenopterus rufus (Linné)

Thranini

Thranius variegatus BATES

Thranius rufescens (BATES)

Rosaliini

Rosalia alpina (LINNÉ) Rosalia batesi Harold

Rosalia formosana Saunders

Pyrestini

Pyrestes haematicus PASCOE Erythrus congruus PASCOE

Callichromini

Callichroma velutinum FABRICIUS

Aromia moschata (LINNÉ)

Amami Is., Japan

Osaka, Japan Nara, Japan

Wakayama, Japan

Czechoslovakia Nagasaki, Japan

Bulgaria

Nara, Japan

Kagoshima, Japan

Ogasawara Iss., Japan

Saga, Japan

Ishigaki Is., Japan

Caucasus, U.S.S.R. Hokkaido, Jayan

Tsushima Is., Japan Fukuoka, Japan

Nara, Japan

Czechoslovakia

Czechoslovakia Amami Is., Japan

Nara, Japan

Bulgaria

Tottori, Japan

Formosa

Czechoslovakia

Wakayama, Japan

Formosa

Wakayama, Japan

Formosa

Brazil

Czechoslovakia

Chloridolum thaliodes (BATES)	Wakayama, Japan		
Chloridolum japonicum HAROLD	Osaka, Japan		
Chloridolum viride (Thomson)	Tottori, Japan		
Schwarzerium quadricolle (BATES)	Nara, Japan		
Embrikstrandia bimaculata (White)	Formosa		
Callidini			
Callidium violaceum (LINNÉ)	Czechoslovakia		
Phymatodes alni (LINNÉ)	W. Germany		
Phymatodes maaki Kraatz	Tottori, Japan		
•	Tottori, japan		
Purpuricenini	Bulgaria		
Purpuricenus budensis (Goetze)	Nara, Japan		
Purpuricenus temminckii (Guérin-Méneville)			
Purpuricenus lituratus GANGLBAUER	Wakayama, Japan		
Amarysius sanguinipennis (Blessig)	Oita, Japan		
Cleomenini			
Dere thoracica White	Nara, Japan		
Mimistena setigera Schwarzer	Kagoshima, Japan		
Cleomenes takiguchii Ohbayashi	Yaku Is., Japan		
Kurarua rhopalophoroides Hayashi	Nara, Japan		
Clytini			
Xylotrechus antilope (Schönherr)	Czechoslovakia		
Xylotrechus lautus Matsushita	Nara, Japan		
Clytus melaenus Bates	Tottori, Japan		
Plagionotus arcuatus (LINNÉ)	Bulgaria		
Chlorophorus varius (MÜLLER)	Bulgaria		
Chlorophorus diadema (Motschulsky)	Nara, Japan		
Anaglyptini			
Anaglyptini Anaglyptus mysticus (Linné)	Czechoslovakia		
Anaglyptus niponensis Bates	Tottori, Japan		
Anagrypius niponensis DATES	Tottori, Japan		

Classification according to Gressitt (1951), VILLIERS (1978) and HAYASHI (1984).

Results

Philus pallescens (Figs. 1, 2): round holes (approximately $20~\mu$ in diameter) and smooth surface, each hole with a hair ($120-150~\mu$).

Nortia pruinicollis (Fig. 3): oval holes $(20 \times 50~\mu$ in diameter) and smooth surface, each hole with a long hair (approximately $200~\mu$).

Xystrocera globosa (Figs. 4, 5): irregularly rounded holes and scale-shaped grooves, slender hair from the protrusion at a distance of approximately $20~\mu$ from each hole.

Leptoxenus ibidiiformis (Fig. 6): oval holes (30 \times 15 μ in diameter) and smooth surface, each hole with a hair.

Trichoferus orientalis (Figs. 7, 8): almost round holes (approximately 50 μ in diameter) and smooth surface, each hole with a hair.

Cerambyx scopolii (Figs. 9, 10): sparse hairs on the grooved surface.

Trirachys orientalis (Figs. 11, 12): dense hairs on the almost smooth surface.

Allotraeus sphaerioninus (Figs. 13, 14): guitar-shaped holes and smooth surface, each hole with a hair.

Nysina rufescens (Fig. 15): nearly the same as in Figs. 13, 14.

Axinopalpis gracilis (Fig 16): small holes (approximately 20 μ in diameter) and long and slender hairs (approximately 190 μ) on the smooth surface.

Curtomerus flavus (Figs. 17, 18): almost round holes (approximately 50μ in diameter) and smooth surface, each hole with a long hair (200-400 μ) or a short hair (30-50 μ).

Ceresium sinicum (Fig. 19): nearly the same as in Fig. 16.

Ceresium fuscum (Fig. 20): nearly the same as in Fig. 16.

Obrium brunneum (Fig. 21): slender hairs (100-130 μ) and smooth surface.

Obrium japonicum (Fig. 22): nearly the same as in Fig. 21.

Obrium tsushimanum (Fig. 23): nearly the same as in Fig. 21.

Stenhomalus nagaoi (Fig. 24): small round holes (approximately $10~\mu$ in diameter) and short and slender hairs (40- $50~\mu$) on the smooth surface, each hole with a short or long hair (130- $150~\mu$).

Stenhomalus taiwanus (Fig. 25): nearly the same as in Fig. 24.

Molorchus minor (Fig. 26): round holes (approximately 20 μ in diameter) and smooth surface, each hole with a hair (100-120 μ).

Glaphyra umbellatarum (Fig. 27): nearly the same as in Fig. 26.

Glaphyra cobaltina (Fig. 28): nearly the same as in Fig. 26.

Glaphyra gracilis (Fig. 29): nearly the same as in Fig. 26.

Stenopterus rufus (Fig. 30): long hairs (approximately $180~\mu$) and smooth surface.

Thranius variegatus (Figs. 31, 32): small oval holes and hairs on the almost smooth surface, each hole with an irregular protrusion at the basal side and a very short hair from the apical side.

Thranius rufescens (Fig. 33): nearly the same as in Figs. 31, 32.

 $\it Rosalia\ alpina\ (Figs.\ 34,\ 35):$ oval protrusions and dense hairs on the rugged surface.

Rosalia batesi (Fig. 36): almost global protrusions and short hairs on the rugged surface.

 $\it Rosalia\ formosana\ (Figs.\ 37,\ 38)$: many clusters of several hairs on the almost smooth surface.

Pyrestes haematicus (Fig. 39): round holes and smooth surface, each hole with a long and winding hair.

Erythrus congruus (Figs. 40, 41): highly irregular grooves, in scale-like pattern, with larger unevenness as a whole and scattered very short hairs.

Callichroma velutinum (Figs. 42, 43): shallow holes and smooth surface, each with a short and wide hair (approximately $100~\mu$).

Aromia moschata (Figs. 44, 45): shallow holes and shallow grooves on the almost smooth surface, each hole with a short hair (approximately $60~\mu$).

Chloridolum thaliodes (Figs. 46, 47): irregularly rounded holes, each hole with a short hair (approximately $80~\mu$).

Chloridolum japonicum (Fig. 48): round holes (70-80 μ in diameter) and smooth surface, each hole with a short hair.

Chloridolum viride (Figs. 49, 50): shallow holes and irregular grooves on the shallow honeycomb-like grooved surface, each hole with a short hair.

Schwarzerium quadricolle (Fig. 51): slender hairs (approximately $120~\mu$) on the grooved surface.

Embrikstrandia bimaculata (Fig. 52): irregularly rounded holes, each with a hair. Callidium violaceum (Figs. 53, 54): small round holes and shallow grooves on the surface, each hole with a hair $(120-200 \ \mu)$.

Phymatodes alni (Fig. 55): small round holes and shallow grooves on the surface, each hole with a short hair $(50-80~\mu)$.

Phymatodes maaki (Fig. 56): nearly the same as in Fig. 55.

Purpuricenus budensis (Figs. 57, 58): irregularly oval holes on the scale-shaped surface, each hole with a short hair, some hairs longer.

Purpuricenus temminckii (Fig. 59): irregularly oval holes on a more distinctly scale-shaped surface, each hole with a very short hair or longer hair (approximately 100μ).

Purpuricenus lituratus (Fig. 60): almost oval holes and traces of scale-like grooves on the surface, each hole with a short hair.

Amarysius sanguinipennis (Figs. 61, 62): slender hairs (140-200 μ) on the honeycomb-like surface.

Dere thoracica (Figs. 63, 64): irregular holes and irregular deep grooves on the surface, each hole with a short hair.

Ministena setigera (Fig. 65): small round holes and smooth surface, each hole with a hair (approximately 120 μ), some hairs longer (350-400 μ).

Cleomenes takiguchii (Figs. 66, 67): guitar-shaped holes and shallow grooves on the surface, each hole containing a very short hair.

Kurarua rhopalophoroides (Fig. 68): slender hairs on the smooth surface, each small hole with a longer hair (approximately $180~\mu$).

Xylotrechus antilope (Figs. 69, 70): small shallow holes on the smooth surface, each hole with a hair $(120-140~\mu)$.

Xylotrechus lautus (Fig. 71): small round holes on the smooth surface, each hole with a hair $(100-120~\mu)$.

Clytus melaenus (Fig. 72): small round holes on the smooth surface, each hole with a slender hair (140-160 μ).

Plagionotus arcuatus (Fig. 73): small round holes on the almost smooth surface, each hole with a hair (70-80 μ).

Chlorophorus varius (Fig. 74): small round holes on the smooth surface, each hole with a hair (120-130 μ).

Chlorophorus diadema (Fig. 75): nearly the same as in Fig. 74.

Anaglyptus mysticus (Figs. 76, 77): round holes (50-60 μ in diameter), each with a hair (160-180 μ).

Anaglyptus niponensis (Fig. 78): round holes (30-40 μ in diameter), each with a slender hair (approximately 150 μ).

Discussion

The authors examined Philinae and nineteen tribes of Cerambycinae in this report.

VILLIERS (1978) recognized that Philinae was closely related to Prioninae, whereas Philinae was included into Disteniidae as the same family by Crowson (1981). We find that Philinae is obviously different from Disteniinae and Prioninae, but otherwise rather resembles microscopically Aseminae and some of Cerambycinae, e.g. Molorchini, Stenopterini Graciliini and so on (refer to previous paper).

We also note that Cerambycinae shows diversity in surface structure. *Nortia* belonging to Achrysonini and *Xystrocera* and *Leptoxenus* to Methiini resemble each other. There are no similarities between two species of Cerambycini as we examined. Interestingly, *Allotraeus* and *Nysina* belonging to Phoracanthini are apparently similar to *Psephactus remiger* (HAROLD) in Prioninae (refer to previous paper). In general, there are few differences among some tribes of Cerambycinae, e. g. Molorchini, Stenopterini, Callidiopini, Hesperophanini and Graciliini, which also have comparative similarities to Aseminae and Philinae microscopically (refer to previous paper).

We examined three species of *Obrium* and two species of *Stenhomalus* as in Obriini. Although *Obrium* is somewhat different from *Stenhomalus*, there are few differences between all any of the species belonging to either of them. Then, we pursued a further study to examine whether both *Obrium* and *Stenhomalus* had the surface structures proper to each. Four species collected in Japan were used for an additional study; *Obrium nakanei* Ohbayashi, *O. hattai* Ohbayashi, *Stenhomalus cleroides* Bates and *S. lighti* Gressitt. We observed the dorsal view of the left elytral base of these species by the same methods as previously described. These observations reveal that *Obrium* and *Stenhomalus* both show nearly the same surface structures respectively (figures not shown).

We cannot distinguish between Molorchus and Glaphyra, comparing them micrographically. Moreover, we examined four other species of Glaphyra collected in Japan; G. kojimai (Matsushita), G. shibatai (Hayashi), G. nitida (Obika) and G. hattorii (Ohbayashi). We also find few differences between Fig. 27 to 29 and those of latter findings (figures not shown).

Rosalia can easily be divided into two color groups; a vermilion red group including R. formosana and a pale blue or bluish gray group including R. alpina and R. batesi. Playilstshikov (1934) designated the former as an independent genus Eurybatus, however, it has recently been included in the same genus as Rosalia by Gressitt and Rondon (1970), Hayashi (1984) and so on. We find that R. formosana differs from the other two Rosalia microscopically, indicating that Eurybatus may be an independent genus, and also find fine differences between R. alpina and R. batesi as to protrusions and hairs on the elytra. To investigate whether these differences are proper to each of them, we examined some of the other specimens of these two species. These findings reveal that there are significant differences, but only a few, proper to each of them (figures not shown).

We examined seven species of violet or blue green Callichromini; Callichroma is somewhat similar to Embrikstrandia, and Aromia is also similar to Chloridolum viride. The other three species differ only slightly from one another.

Thranius has no differences between the two species as we examined, however, in Pyrestini, Erythrus which has a peculiar surface structure differs distinctively from Pyrestes.

The main distribution of Purpuricerini which has a lot of genera is in Central

and South America. Only two genera, *Purpuricenus* collected in Japan and Bulgaria and *Amarysius* also in Japan, have been examined; the elytra of two of the three *Purpuricenus* are scale-shaped, however, *Amarysius* shows quite a different appearance, specifically a honeycomb-like surface. There are a few differences between the three species of *Purpuricenus* we examined as to surface structure. In an attempt to investigate whether these differences are significantly proper to each of them or just simple variation among them, we examined some of the other specimens of the three species. The additional examination resulted in support for the former hypothesis (figures not shown). Accordingly, this indicates the possibility of classification among species with mutual resemblances by micrographically distinguishable characteristics proper to each of them.

We examined four species of Cleomenini found in Japan; Dere thoracica, Mimistena setigera, Cleomenes takiguchii and Kurarua rhopalophoroides show various appearances and mutual dissimilarities microscopically, however, they resemble each other in view of their morphological features.

Aurivillius (1912) considered Anaglyptini as a synonym of Clytini, however, Anaglyptini has recently been recognized as an independent tribe by Linsley (1964), Gressitt and Rondon (1970), Villiers (1978) and so on. Microscopic findings cannot distinguish between Anaglyptini and Clytini.

Thus, we demonstrate a diversity of surface structure among nineteen tribes of Cerambycinae in this paper; micrographical similarities among some tribes, e.g. Molorchini, Stenopterini, Callidiopini, Hesperophanini and Graciliini; few differences among all species of the same genera, e.g. *Obrium, Stenhomalus* and *Glaphyra* respectively; some significant and reproducible differences, even though only a few, proper to each of the species of the same genera, e.g. *Rosalia* and *Purpuricenus* respectively, despite their mutual similarities in appearance; in contrast, there are no similarities between the species of the same tribes, e.g. Cerambycini, Pyrestini and Cleomenini respectively. These findings suggest the possibility of taxonomic use for classification among species with mutual resemblances by significantly distinguishable characteristics as well as the limits to classification only by using the scanning electron microscope.

Acknowledgements

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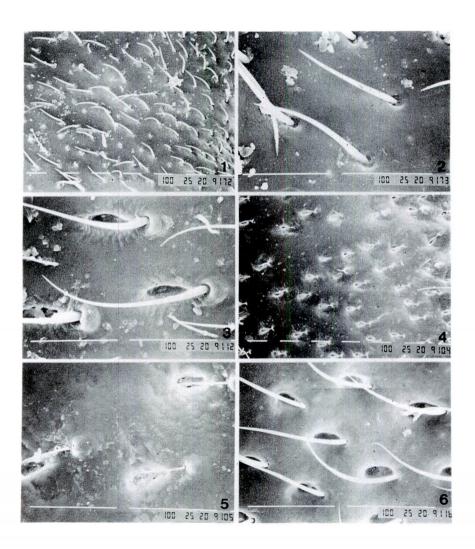
Explanation of Plates 4-16.

- Pl. 4, Fig. 1 Philus pallescens, ×100.
 - 2 Ditto, $\times 500$.
 - 3 Nortia pruinicollis, ×500.
 - 4 Xystrocera globosa, ×100.
 - 5 Ditto, $\times 500$.
 - 6 Leptoxenus ibidiiformis, ×500.
- Pl. 5, Fig. 7 Trichoferus campestris, $\times 100$.
 - 8 Ditto, ×500.
 - 9 Cerambyx scopolii, $\times 100$.
 - 10 Ditto, $\times 500$.
 - 11 Trirachys orientalis, $\times 100$.
 - 12 Ditto, ×500.
- Pl. 6, Fig. 13 Allotraeus sphaerioninus, ×100.
 - 14 Ditto, ×500.
 - 15 Nysina rufescens, $\times 500$.
 - 16 Axinopalpis gracilis, ×500.
 - 17 Curtomerus flavus, ×100.
 - 18 Ditto, ×350.
- Pl. 7, Fig. 19 Ceresium sinicum, ×350.
 - 20 Ceresium fuscum, $\times 350$.
 - 21 Obrium brunneum, ×350.
 - 22 Obrium japonicum, 1,000.
 - 23 Obrium tsushimanum, $\times 1,000$.
 - 24 Stenhomalus nagaoi, ×350.
- Pl. 8, Fig. 25 Stenhomalus taiwanus, ×500.
 - 26 Molorchus minor, ×500.
 - 27 Glaphyra umbellatarum, ×500.
 - 28 Glaphyra cobaltina, $\times 500$.

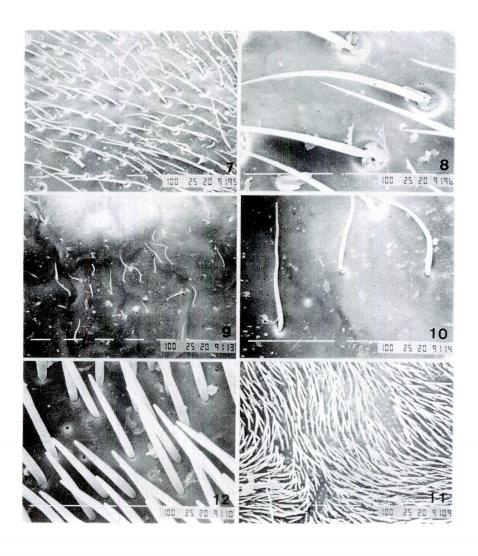
- 29 Glaphyra gracilis, ×500.
- 30 Stenopterus rufus, \times 500.
- Pl. 9, Fig. 31 Thranius variegatus, ×100.
 - 32 Ditto, $\times 500$.
 - 33 Thranius rufescens, $\times 500$.
 - 34 Rosalia alpina, ×100.
 - 35 Ditto, $\times 500$.
 - 36 Rosalia batesi, ×500.
- Pl. 10. Fig. 37 Rosalia formosana, ×100.
 - 38 Ditto, $\times 500$.
 - 39 Pyrestes haematicus, ×100.
 - 40 Erythrus congruus, ×100.
 - 41 Ditto, ×500.
 - 42 Callichroma velutinum, ×100.
- Pl. 11, Fig. 43 Ditto, ×1,000.
 - 44 Aromia moschata, $\times 100$.
 - 45 Ditto, ×500.
 - 46 Chloridolum thaliodes, $\times 100$.
 - 47 Ditto, ×500.
 - 48 Chloridolum japonicum, ×500.
- P1. 12, Fig. 49 Chloridolum viride, ×100.
 - 50 Ditto, \times 500.
 - 51 Schwarzerium quadricolle, ×500.
 - 52 Embrikstrandia bimaculata, ×500.
 - 53 Callidium violaceum, ×100.
 - 54 Ditto, \times 500.
- P1. 13, Fig. 55 Phymatodes alni, ×500.
 - 56 Phymatodes maaki, ×500.
 - 57 Purpuricenus budensis, ×100.
 - 58 Ditto, ×500.
 - 59 Purpuricenus temminckii, ×500.
 - 60 Purpuricenus lituratus, ×500.
- P1. 14, Fig. 61 Amarysius sanguinipennis, ×100.
 - 62 Ditto, ×500.
 - 63 Dere thoracica, $\times 100$.
 - 64 Ditto, $\times 500$.
 - 65 Mimistena setigera, ×100.
 - 66 Cleomenes takiguchii, ×100.
- P1. 15, Fig. 67 Ditto, ×500.
 - 68 Kurarua rhopalophoroides, $\times 500$.
 - 69 Xylotrechus antilope, $\times 100$.
 - 70 Ditto, $\times 500$.
 - 71 Xylotrechus lautus, $\times 500$.
 - 72 Clytus melaenus, ×500.
- P1. 16, Fig. 73 Plagionotus arcuatus, ×500.
 - 74 Chlorophorus varius, ×500.

- 75 Chlorophorus diadema, ×500.
- 76 Anaglyptus mysticus, ×100.
- 77 Ditto, ×500.
- 78 Anaglyptus niponensis, ×500.

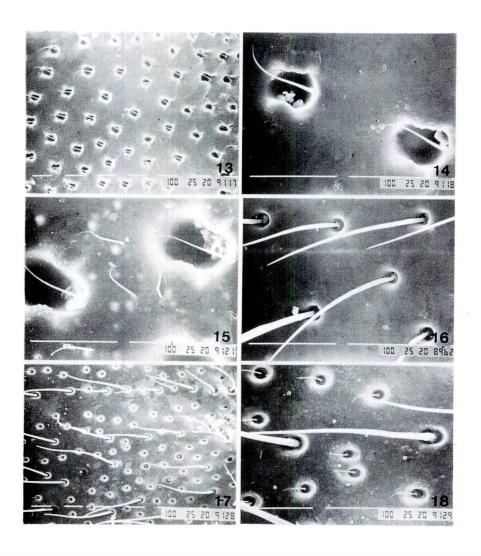
Scale: Each white line is equal to $100~\mu$ at a magnification of $\times 100$, $\times 350$ or $\times 500$, and $10~\mu$ at a magnification of $\times 1,000$.



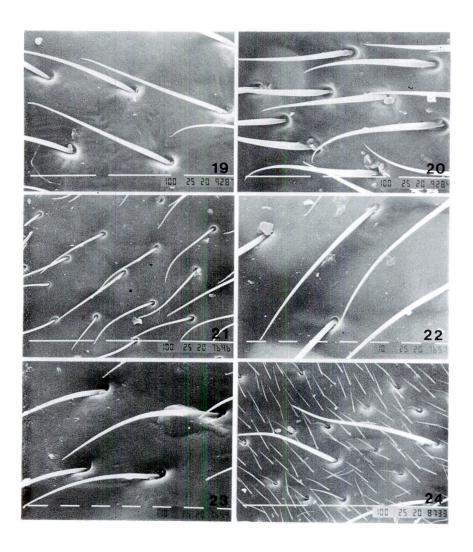
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(S. & T. TAMURA photo.)

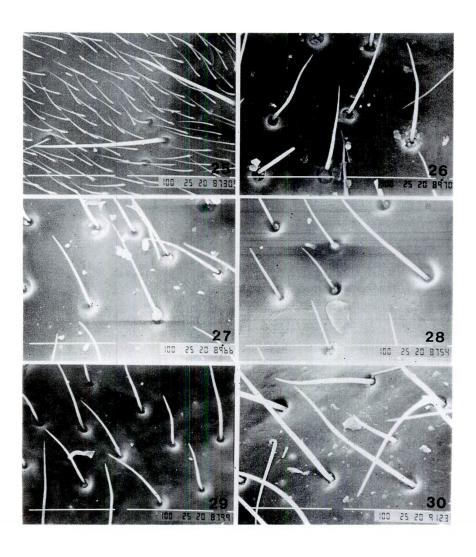


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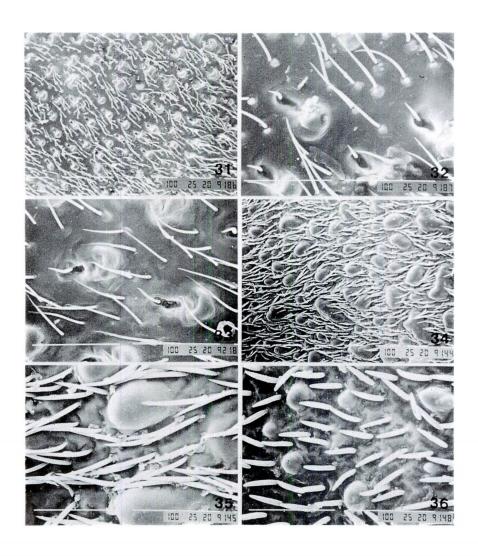


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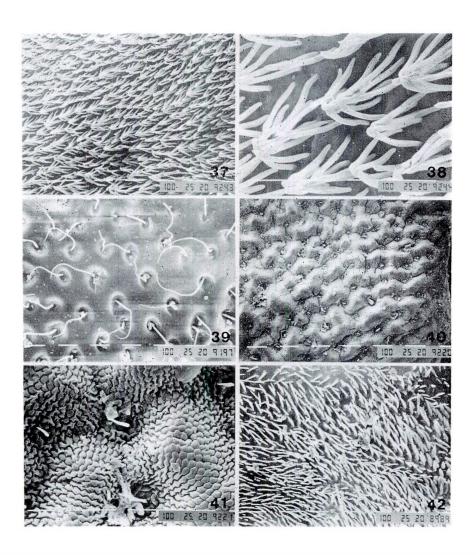


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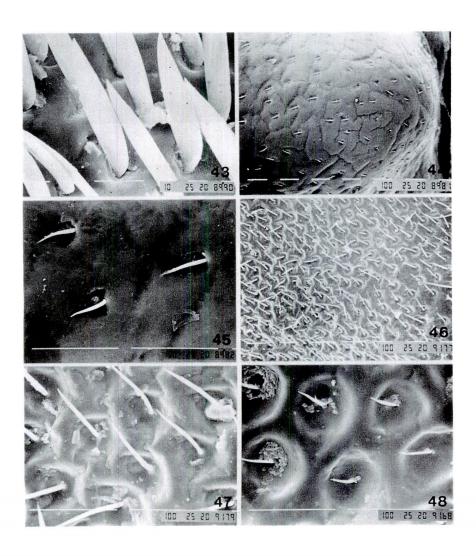


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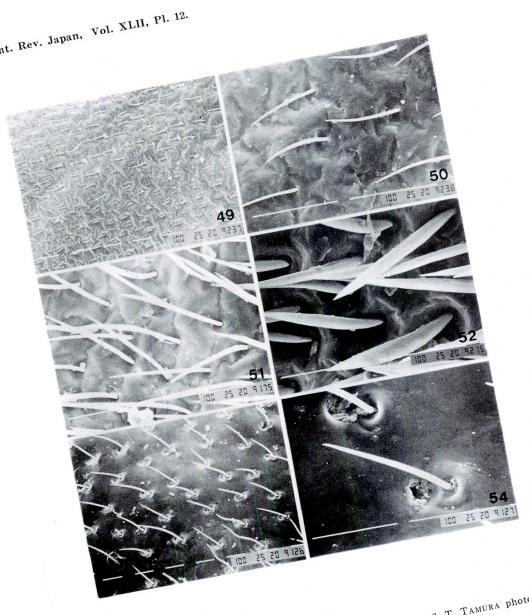


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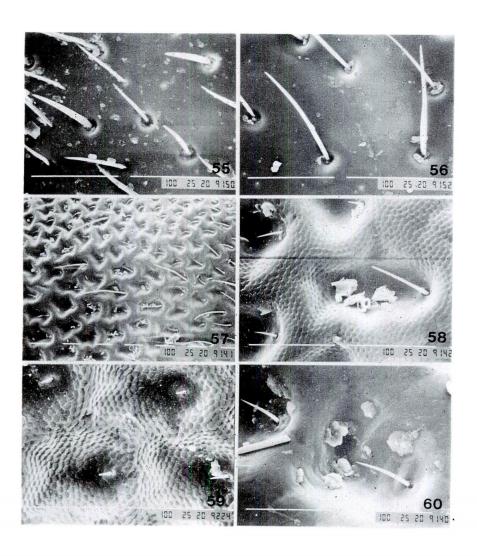


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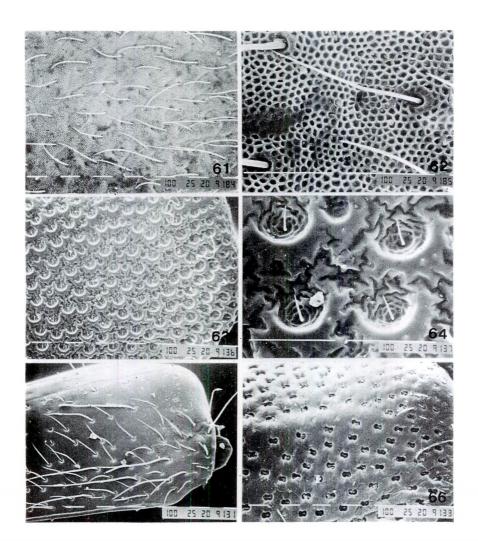


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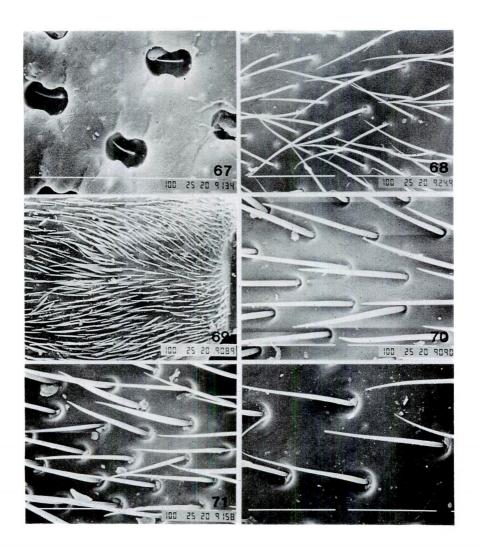


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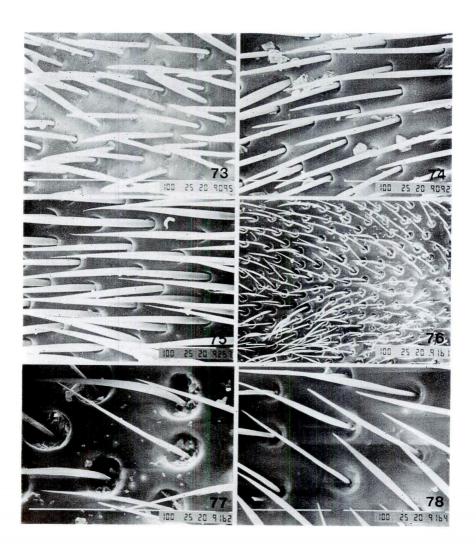


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Study of Asian Cerambycidae (Col.) IX

By Masao Hayashi

In the present paper, certain systematically questionable species in the Japanese cerambycid fauna are revised by directly examining the type specimens on the *Pyrestes*-species from Japan, Korea and Taiwan, and so called *Pothyne silacea* Pascoe. And some of callichromine species from South East Asia are studied belonging to the genera of *Schmidtiana*, *Gauresthes*, *Pachyteria* and *Polyzonus*, and described six new species and one new subspecies from Japan, Mindanao, Borneo, Sumatra, Malaysia and Thailand. A new synonym, a new combination and several corrections are also dealt and some new distribution records are given from Philippines and Thailand.

Regarding the present study, the present author is greatly indebted to the following entomologists for examining the type specimens deposited in the British Museum (Natural History), London, the National Science Museum (Nat. Hist.), Tokyo, and Hokkaido University:— Dr. Jane E. Marshall, Mr. R. J. W. Aldridge, Mrs. S. L. Shute, Dr. S. Takagi, Dr. T. Kumata, Dr. Y. Kurosawa and Dr. S.-I. Uéno, for giving the chance to freely examine their collections, he also expresses his cordial thanks for their kindness:— Mr. T. Shibata, Mr. H. Nara and Mr. M. Yagi.

Cerambycinae

Pyrestini

On the *Pyrestes*-species from Japan, Korea and Taiwan.

Historical Review

The species of genus *Pyrestes* Pascoe (1857), Pyrestini, Cerambycinae was firstly reported from Japan by Bates (1873) under the name of *P. cardinalis* Pascoe (1863) originally described from Hong Kong. Pic (1923) firstly described *P. curticornis* n. sp. from Taiwan. Schwarzer (1925) also described *P. formosanus* n. sp. from Fuhosho, Kosempo and Sokutsu in S. Taiwan. Dr. Kano (1926) recorded *P. cardinalis* from Honshu, Japan and he also reported the species by his collected materials from Urai, N. Taiwan. Dr. Okamoto (1927) described a new *Pyrestes*-species *coreanus* under the genus *Leptoxenus* from Mt. Chii, Korea. Prof. Plavilstshikov (1932, 1940) treated two species of *Pyrestes*, *haematicus* from N. China, and *cardinalis* from S. China, Hong Kong and Japan. Dr. Matsushita (1933) reported *P. cardinalis* from Shinano (Nagano Pref.) of Central Honshu and Mt. Ari in Taiwan. Though he cited *P. curticornis* as prior to *formosanus*, however, owing to the original description for *curticornis* Pic was too brief, he did not adopt Pic's species, in postscript. Mr. Mitono (1940) firstly recorded *P. haematicus* Pascoe (1857) from Japan,

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originally described from N. China, P. cardinalis and P. curticornis from Taiwan, and synonymized P. formosanus with the latter. Pic (1946–'47) discussed opposingly against the treatment of Plavilstshikov (1932) for Pic's species. Dr. Gressitt (1951) followed the above, and additionally synonymized P. cardinalis to P. haematicus. Pic (1953) described P. longicollis n. sp. from Hori, C. Taiwan. Hayashi described P. inaequalicollis n. sp. from Amami-Oshima (1962) and P. yayeyamensis n. sp. from Ishigakijima (1972), both in Ryukyu Islands.

The present author has considered the systematic condition seems to be unstable for a long time.

Consideration

Genus Pyrestes Pascoe (1857) was established based on his three new species, eximius from Borneo, minuatus from N. India and haematicus from N. China, with rather brief description, comparing with Eurythrus White (1853). Later Lacordaire (1869), Gahan (1906) and Plavilstshikov (1932, 1940) supplemented more detailed generic descriptions, and the latest author elected P. haematicus as the type species, and Dr. Gressitt (1951) also elected P. eximius. Among the succeeding authors described the additional Pyrestes-species from India, Burma, Malaya, Laos, Singapore, Borneo, China, Taiwan, Korea and Japan, the present author considers that Fairmaire's diagnosis is important to state "L'auteur ne parte pas de la longueur du corselet qu'il serait utile de connaître et qui doit varier d'aprés les sexes.", when he described P. hypomelas n. sp. (1887).

Fortunately, the present author could have a chance to examine the two important types of *P. haematicus* Pascoe and *P. cardinalis* Pascoe now deposited in the British Museum (Nat. Hist.) through the courtesy of Dr. Jane E. Marshall, Mr. R. J. W. Aldridge and Mrs. S. L. Shute, to whom the present author has to express his cordial thanks for their kindness to give him such happy chance.

The following is the result of examination of the two types and the Pyrestes-species from Japan, Korea and Taiwan.

In conclusion, Japanese species is recognized only one species, excepting two independent species from Ryukyu Islands, and Korean species is also one, *P. haematicus* Pascoe, and Taiwanese species are two at present. And Japanese and Taiwanese species are quite different each other and separated from previously recorded above stated N. China and Hong Kong species.

Pyrestes inaequalicollis Hayashi

HAYASHI, 1962, Ent. Rev. Japan, 14 (1): 9, pl. 2, fig. 3 (Amami-Oshima). Types (HAYASHI and SHIBATA Colls.).

Distribution: Ryukyu Islands (Amami-Oshima, Okinawa).

Pyrestes yayeyamensis Hayashi

Hayashi, 1972, Ent. Rev. Japan, 24 (1/2): 28 (Ishigaki Is.). Types (Hayashi Coll.).

Distribution: Ryukyu Islands (Ishigakijima, Iriomotejima).

In the original description, it was compared with "P. formosana Pic", but it was a mistake of P. formosanus Schwarzer, viz. P. curticornis Pic.

Pyrestes haematicus Pascoe (Pl. 17, fig. 1)

PASCOE, 1857, Tr. Ent. Soc. London, (2) 4:97 (North China).

Body deep red on head, prothorax and scutellum, red on elytra, with narrowly black suture and margins; red on antennae, shining on 1st to 4th segments and 5th to 11th segments darkened at apical dilated corners, black on gula and breast, brownish red on abdomen, shining. Legs shining red, apices of femora and tarsi darkened. Body furnished with erect soft black hairs arising from each puncture; body beneath and legs covered with fulvous hairs densely.

Head with a pair of small dull elevations, encircled by a shallow depression at frons where minutely punctured, with a median longitudinal short but deep furrow on vertex between antennal insertions; occiput minutely, transversely rugose. Antennae in male rather stout, fully surpassing the middle of elytra, weakly dilated ectoapically from 5th to 10th joints; relative length of each joint is as follows: -4.5:1.2:5:4: 5:5:5:4.5:4:3. Prothorax longer than broad (ratio, 7:5), narrowly constricted behind apex and before base, roundly expanded laterally; disc covered with shallow rugae, obliquely on both sides and transversely on center of apical portion, confluently, coarsely punctured on central portion and rather distinctly transversely rugose on basal portion, and not punctured on apical and basal collars. Scutellum pentagonal, concave. Elytra broader than prothorax (ratio, 6.5:5), about 2.6 times as long as the basal width, weakly narrowed at middle, then slightly broadened posteriorly to before apical portion and rounded at apex; disc coarsely and sparsely punctured at basal portion, in a unit square of micrometer under 60×lens two or three fine punctures visible, the interspace between punctures broader than puncture itself at the base, the punctures becoming finer and sparser to apex. Breast coarsely, closely punctured, abdomen finely, sparsely punctured, shining.

Length, about 14 mm.

The type specimen carries the following five labels; 1. Type, on a round paper/2. N. China, on a round paper/3. Pyrestes haematicus Pascoe./4. Pyrestes haematicus Pascoe (Type) on twice folded paper./5. 3 on a narrow paper.

Distribution: N. China.

forma coreanus (Окамото)

Leptoxenus coreanus Окамото, 1927, Ins. Matsumurana, 2 (2): 66 (Mt. Chii, Korea). Type specimen examined (Онвауаян Coll.); Saito, 1932, Mem. 25th

Anniv. Suigen Coll. Agr. For.: 9 (Mts. Koryo, Zokuri, Korea).

Pyrestes haematicus Pascoe f. coreanus: Hayashi, 1956, Ent. Rev. Japan, 7 (2): 40 (Korea).

Body shining black, only excepting red elytra.

Material examined: 1 \varnothing , Suigen, Korea, Aug. 1935, K. Saito leg.; 1 \varnothing , Sanbo, Korea, Aug. 7. 1935, K. Saito leg. (Matsushita Coll., Hokkaido Univ.).

Distribution: Korea.

Pyrestes cardinalis PASCOE (Pl. 17, fig. 2)

PASCOE, 1863, Jl. Ent., 2:50 (Hongkong).

Body shining black to blackish red on head, antennae, scutellum and legs, bright blood-red on prothorax and elytra, and black on body beneath. Body generally furnished with short black hairs arising from each puncture, more densely on prothorax than on others; and covered with fulvous hairs thinly on body beneath and densely on legs.

Head slightly narrower than prothorax (ratio, 4:5); from short, transverse, with a large transverse oblong elevation at apex, rugose; vertex raised, very narrow between antennal insertions with a deep median longitudinal sulcation, prolonging backward along central canal to middle of occiput; occiput depressed medially, longitudinally rugulose, punctured on apical half and transversely rugulose, punctured on middle half. Antennae arriving at behind middle, strongly dilated ectoapically from 5th to 10th, 11th incised near apex; scape short, thickened and curved at apex; relative length of each joint is as follows: 4.5:1.5: 4.5:4:4.5:4.6:4.5:4:3.3:3:4; shining at basal four joints and mat on the rests. Prothorax longer than wide (ratio, 7:6), constricted just behind apex and at a short distance before base and reflexed at base; disc transversely, partly obliquely rugose, and dully tuberculate laterally at middle. Scutellum narrowly triangular, concave and rugulose. Elytra three times as long as the basal width, broader than prothorax, a little narrowed just behind base, then gradually broadened posteriorly to apical third, and again narrowed to conjointly rounded apex, but dehiscent at sutural apices; disc convex dorsally at humeri and near scutellum at base and apical one-third, coarsely, closely and deeply punctured at inner basal half, and the punctures becoming finer at sides and to apex. Breast coarsely punctate, abdomen finely, densely punctured. Legs relatively short, clavate on femora, tibiae dilated apically, tarsi broad, densely covered with fulvous brush-like hairs on underside of 1st to 3rd joints.

Length: 18 mm.

The type specimen carries the following four labels; 1. Syntype/2. Hongkong/3. Pyrestes cardinalis Pasc. \$9/4. Surface: Pyrestes cardinalis Pasc. \$9/4. Surface: Pyrestes cardinalis Pasc.

Pascoe Coll. 93-60.

Distribution: Hong Kong.

Pyrestes nipponicus sp. nov.

Pyrestes cardinalis + haematicus: Auctt. (nec PASCOE) from Japan.

Head, prothorax and scutellum dark red, mat, narrowly margined with black at apex and base of prothorax, and on suture and margins of elytra; antennae dark red, shining from 1st to the basal half of 5th joint and mat, blackish from apical half of 5th to 11th joints. Body beneath (except dark reddish gula) black or deep blackish red; legs dark red on femora, blackish on apices of femora, tibiae and tarsi. Body furnished with long erect black soft hairs arising from each puncture, hairs on prothorax denser than those on head and elytra. Legs furnished with black hairs on ventral surfaces.

Head in front with a small transverse rectangular low elevation, encircled by a shallow depression, where finely, closely punctured with a deep fine median longitudinal furrow, started from the above center of said depression, prolonging backward through a narrow central deep canal between antennal insertions on vertex to the middle of occiput. Antennae stout, about 0.63 times as long as body in male, angularly dilated ectoapically from 5th to 10th joints, 11th the longest and incised at apical portion; relative length of each joint is as follows: — 4:1.5: 4.3:3.5:4.5:5:5:4.8:4.5:4:6.5 in male; scape short, thickened and finely punctured. Prothorax elongate, about 1.2 times as long as broad in male (ratio, 6:5), cylindrical, narrowly constricted just behind apex and before base, shallowly rounded laterally at middle; disc occupied by distinct, coarse transverse rugae throughout the surface. Scutellum pentagonal. Elytra broader than prothorax (ratio, 3:2), 2.75 times as long as the basal width in male, nearly parallel-sided, but a little narrowed shallowly at middle, then scarcely broadened at apical portion and rounded at apex; disc coarsely and subclosely punctured on basal half, in a unit square of micrometer under 60×lens three coarse punctures visible, the interspace between punctures narrower than puncture itself, the punctures becoming finer and sparser, but still deep even to apex. Breast coarsely punctured, abdomen finely punctured, shining. Legs rather short, finely punctured.

Length, 14.5–19 mm.; width, 3.5–4.8 mm.

Holotype, \mathcal{O} , allotype, \mathcal{P} , Oshima, off Shionomisaki, Wakayama Pref., South Central Honshu, Japan, June 21. 1957, M. Hayashi leg.; paratypes, 1 \mathcal{P} , Mt. Kooya, Wakayama Pref., June 21. 1947, M. Hayashi leg.; 1 \mathcal{P} , Cape Ashizuri, Kochi Pref., S. Shikoku, June 5. 1982, K. Kojima leg. (Hayashi Coll.).

Distribution: Japan (Hoshu, Shikoku, Oki, Tsushima).

Among the congeners of this genus, this new species is most allied to $P.\ haematicus$ Pascoe from N. China and Korea, however, it differs from the latter by having quite different prothorax which is entirely occupied by coarse transverse rugae, the punctures on elytra coarser and closer, even at apical half deeper than those of $P.\ haematicus$ and antennae are more strongly dilated ectoapically, etc.

forma munekuro Fujimura, comb. nov.

Pyrestes haematicus Pascoe f. munekuro Fujimura, 1956, Kontyû, Tokyo, 24 (1): 3 (Kamikochi, Nagano Pref., Mt. Tanzawa & Yokohama, Kanagawa Pref.).

Body deep red on head and scutellum, red on elytra with narrowly margined with black on suture and sides, red on antennae on basal four joints and infuscated apically from 5th, and prothorax entirely black.

Distribution; Japan (Honshu).

This form was described in 1956, however, unfortunately structural characters differentiated from $P.\ haematicus$ entirely were not stated. Therefore this name was prior but cannot be an object of the provisions of Articles 11 & 13 (i) of International Zoological Nomenclature.

forma tsushimensis nov.

Body entirely dark brown or blackish brown. Length, 12.5-17.5 mm.; width, around 4 mm.

Types: 1 ♂, Izuhara, Tsushima Is., Nagasaki Pref., Kyushu, Japan, July 21–31. 1959; 3 ♂ ♂, 3 ♀ ♀, Izuhara, July 16. 1983, H. Konishi leg. (Hayashi & Shibata Colls.).

Distribution: Japan (Tsushima).

Pyrestes curticornis Pic (Pl. 17, figs. 3 ♂, 4 ♀)

Pic, 1923, Mélanges Exot. Ent., 38: 13 (Formose); Plavilstshikov, 1932, Best. Tab. eur. Col., 102, Ceramb. 2: 124, foot note; Matsushita, 1933, Jl. Fac. Agr. Hokkaido Univ., 34: 232; Gressitt, 1951, Longicornia, 2: 184 (Kahodai, Baibara, Sozan, Bandai, Hori, Musha, Taiwan); Pic, 1947, Misc. Ent., 43(1-14): 18. Pyrestes formosanus Schwarzer, 1925, Ent. Blätter, 21: 24 (Fuhosho, Kosempo, Sokutsu, Taiwan).

Body black, with red pronotum and elytra; prothorax narrowly margined with black at apex and base. Body beneath in male reddish, sides of breast black. In female body largely red, body beneath dark red to black. Body densely furnished with long flying hairs of black and light fulvous, especially on scapes and prothorax.

Head longer than broad, frons sparsely punctured on apical half, with semicircular convex portion, divided from inclined upper half by a transverse groove, with a median short longitudinal furrow starting from the middle of the groove backward through a central canal of

vertex to occiput where coarsely, irregularly punctured. Antennae in male longer than body, in female 0.7 times as long as body, scape densely punctured, relative length of each joint is as follows:— 4:1:4.3:3.5:4.4:4.3:4:3.5:3.3:3:4.5. Prothorax longer than broad (ratio, 14:11), narrower at apex than at base, distinctly constricted behind apex and shallowly before base, dully angulate laterally behind middle; disc granulate-punctate, or coarsely punctured and minutely, arcuately plicated on all surface. Scutellum tongue-shaped and concave. Elytra 2.43 times as long as the basal width, convex at humeri and concave at sides of scutellum, a little widened at posterior half; disc coarsely but sparsely punctured at basal half, the punctures becoming slightly finer to apex, where rounded but angulate at sutural corners.

Length, 13-16.5 mm.; width, 2.8-3.8 mm.

Distribution: Taiwan.

Pyrestes longicollis Pic (Pl. 17, figs. 5 ♂, 6 ♀)

Pic, 1953, Diversités Entomologiques, 12:8 (Hori, Formose).

Body elongate and narrow, rather small species; black, mat, prothorax and elytra red, body furnished with light fulvous flying hairs generally. Apex and base of prothorax narrowly margined with black. Head longer than broad (ratio, 3.5 : 3) and broader than apex of prothorax at the width between both eyes, irregularly, coarsely punctured, frons with a semicircular convex portion with few coarse punctures. Antennae in male longer than body, in female 0.7 times as long as body, dilated ectoapically from 5th to 10th joints, 3rd and 4th weakly thickened apically. Prothorax longer than wide, constricted just behind apex and before base, arcuately inflated laterally before base; disc obliquely rugose at sides and arcuately so at center of apex, transversely, very shortly plicate on basal half of disc and granulate at sides, with or without a short medioposterior longitudinal raised portion. Scutellum rather small, triangular, concave. Elytra narrow and elongate, three times as long as the basal width, rounded at humeri and apex; disc concave near scutellum, coarsely, sparsely and irregularly punctured, the punctures becoming a little finer and regular to apex. Legs rather slender, tibiae dilated and arcuate to apex.

Length, 10-12.5 mm.; width, 2.8-3 mm.

Distribution: Taiwan.

Prothemini

Prothema angulifera Aurivillius

Aurivillius, 1916, Tijdschrift vor Entomologie, 59: 216, pl. 8, fig. 3 (Mt. Kina-

balu, N. Borneo). 9 mm.

Material examined: 19, Tappa, Isabela, N. Luzon, Philippines, April 23-25, 1982, S. Hashimoto leg. (Nat. Sci. Mus. Coll.). New to Philippine fauna.

Distribution: Borneo, Philippines.

Callichromini

Polyzonus schmidti Schwarzer (Pl. 17, fig. 8)

Schwarzer, 1926, Ent. Mitteil., 15:8 (Tankulan, Mindanao & S. O. Luzon, Philippines). 18-20 mm.; Plavilstshikov, 1934, Best. Tab. eur. Col. 112:113; Podany, 1979, Entom. Abh. Mus. Tierk. Dresden, 43 (1): 229, 246.

Distribution: Philippines (Mindanao, Sibuyan, Luzon).

Polyzonus prasinus (WHITE) (Pl. 17, fig. 9)

Promeces prasinus White, 1853, Cat. Col. Brit. Mus., 7: 170 (Eastern India). 9 lines.

Polyzonus prasinus: Gahan, 1906, Fauna Brit. Ind. Col., 1: 219 (S. India, Assam, Burma); Aurivillius, 1912, Col. Cat., 39: 317; Plavilstshikov, 1934, loc. cit.: 112 (Malacca). 16-22 mm.

Chelidonium polyzonoides Thomson, 1865, Syst. Ceramb.: 568 (Cambodia). 17-19 mm. Material examined: 1 \(\rightarrow \), Palni Hills, 1,000 m., Tamill udle State, S. India, May 1978, Sourli Kazu leg. 21 mm. (Nara Coll.).

Distribution: India, Burma, Cambodia, Malaysia?

Schmidtiana mindanaoana sp. nov. (Pl. 18, fig. 1)

Head, prothorax and scutellum shining black excepting light ochraceous mouthparts; antennae testaceous yellow with black apex of 6th and the five succeeding joints. Elytra testaceous yellow with blackish violet more than apical halves (ratio of testaceous yellow: blackish violet, 5:6). Body beneath black with violet reflection generally, the reflection stronger on abdomen. Legs testaceous yellow, tarsal claws brownish. Body covered with silky appressed black pubescence on black portions and with yellow pubescence on yellowish testaceous portions.

Head rather small, frons finely punctured with a median longitudinal furrow, starting from apex, backward through the narrow canal between very much developed antennal tubercles on vertex, to occiput; vertex closely punctured, occiput finely, closely punctured. Antennae arriving at apical one-third of elytra in female, scape short, weakly broadened to apex with a sharp ectoapical angle, angulate ectoapically from 3rd

to 10th joints, 11th incised outer preapical portion. Prothorax broader than long, narrowly constricted just behind apex and before base and strongly constricted at some distance insides from apex and base with dully triangular lateral tubercles behind middle, roundly expanded laterally between apex and the lateral tubercles, and arcuately narrowed posteriorly behind the tubercles to prebasal constriction; disc finely, closely punctured, and partly rugulose, with a pair of big depressions at both sides of central line. Scutellum long trigonate, obliquely rugulose. Elytra almost parallel-sided for basal half, excepting the weakly developed humeri, then gradually narrowed to rounded apex; 2.6 times as long as the basal width; disc furnished with three pairs of longitudinal costae, inner two pairs more distinct and combined at apical portions and innermost incomplete and central one complete, bending inward at apex, outer one obsolete; disc finely, closely punctured. Body beneath sparsely punctured. Prosternal process with a dull small tubercle. Legs rather slender, femora weakly thickened, tibiae shallowly dilated apically, tarsi relatively short, dilated apically.

Length, 46 mm.; width, 12.5 mm.

Holotype, $\, \circ \,$, Ilomavis, Mt. Apo, Mindanao, Philippines, April 16. 1983, K. Hamai leg. (Nara Coll.).

Distribution: Philippines.

This new species belongs to a group of *S. javanica* (PODANY) from Java, *S. borneensis* (PODANY) from Borneo and *S. heyrovskyi* (PODANY) from Sumatra, however, it differs from the allied species by the following key:—

- 1. Elytra rounded at apex.....
- Elytra truncate; prosternum reddish brown, posterior half of elytra black with strong green tint and broad black ring on hind femur. 39 mm. E. Borneo
 borneensis (PODANY)
- 2. Elytra with reddish fulvous basal one-third and bluish violet (β) or green (♀) apical two-thirds; all femora with black rings. 43 (β), 54 (♀) mm. Java·············javanica (PODANY)
- Elytra with testaceous yellow basal half and blackish violet apical half; legs testaceous yellow. 46 (♀) mm. Philippines………mindanaoana Hayashi sp. nov.

Gauresthes aureopurpureus sp. nov. (Pl. 18, figs. $3 \, \sigma$, $4 \, \circ$)

Body bicolored on dorsum, golden purplish red, varying to metallic green in certain light, and dark blue green. Antennae blue on basal six joints, the rest mat, blackish. Prothorax decorated with large parentheses blue markings, encircled the central golden purplish red portion. Scutellum golden purplish. Elytron decorated with three narrow longi-

tudinal blue vittae, 1st narrowed apically just inside, along sutural golden purplish red line, almost arriving just before apex, 2nd near side of disc, incomplete and 3rd marginal, complete. Body beneath light green with golden red tint. Legs blue, hind tibiae with green tint in male and cobalt tint in female. Body covered with black pubescence on dark blue green portions, and with light fulvous pubescence on body beneath.

Head coarsely, transversely rugose, mandibles sparsely punctured, margins of clypeus narrowly carinate and black. Antennae 0.8 times as long as body in male, shorter in female, angulate ectoapically from 3rd to 10th joints and costate at outer sides, coarsely punctured on 1st to 6th joints and finely punctured from 7th to 11th. Prothorax broader than long (ratio, 7:5), constricted distinctly at apex and before basal collar, angulately expanded just behind apical constriction, gradually broadened posteriorly to a sharp but small lateral tubercle behind middle, then distinctly, shortly narrowed posteriorly to prebasal constriction, shallowly broadened for short distance about one-fifth of the pronotal length to the base; disc transversely rugose, excepting dark blue portions finely punctured, apical and basal collars transversely plicate. Prosternum finely punctured. Scutellum triangular, arcuate at sides; minutely, transversely rugose. Elytra 2.75 times as long as the basal width, broader at base than prothorax, narrowed posteriorly to basal one-third point, then slightly so to rounded apices with minute angles; disc coarsely, rugosely punctured, excepting blue longitudinal vittae where finely, closely punctured. Meso- and metasterna and abdomen finely, closely punctured. Legs rather slender, frontal and median femora weakly clavate and hind pair longer, the femora weakly thickened and tibiae dilated to apices, tarsi relatively short. Abdomen with five segments in male, simply truncate at apex, with six segments in female, the 5th centrally concave on apical half.

Length, 21.5 mm. (♂), 29 mm. (♀); width, 5 mm. (♂), 6.5 mm. (♀). Holotype, ♂, Crocker Range, 16 m. N. W. Kenningau, Sabah, E. Malaysia, June 3. 1982, S. Nagai leg.; allotype, ♀, the same locality as holotype, Sept. 6. 1982, S. Nagai leg. (Ohbayashi Coll.).

Distribution: Borneo.

Gauresthes sumatrensis sp. nov.

Body dorsum dark metallic green on head, prothorax, scutellum and elytra; mandibles black, apical half of clypeus membranous, brown and the rest black; body beneath partly darkened at sides of metasterna, covered with thin fulvous pubescence. Antennae blue on 1st to 3rd joints, dark steel blue on 4th to 6th and dull black on the succeeding joints. Legs light reddish testaceous, excepting black hind tibiae and

all tarsal claws, sparsely covered with fulvous pubescence.

Head partly impunctate at central trigonate portion, shining, sides of which obliquely rugulose, and arcuately depressed, with a short dull median longitudinal impression near apex; vertex closely punctured and obliquely and longitudinally rugulose with a deep canal at middle, occiput with a short median carina, finely punctured on dorsum and coarsely so at sides. Antennae in male slightly shorter than body, angulate ectoapically from 3rd to 10th joints, relative length of each joint is as follows: - 6:1:13:6.5:7:7:5.7:5.5:4.5:4.5:6. Prothorax broader than long (ratio, 4:3.5), with a pair of shining narrowly transversely grooved constrictions behind apex and before base, caught by bireflexed sharp carinae, dully inflated laterally at middle; disc finely, closely punctured and somewhat transversely rugulose, with a median shining longitudinal narrow line. Scutellum triangular, finely punctulate. Elytra narrowed posteriorly to conjointly rounded apices, about three times as long as the basal width, finely punctured and shallowly, transversely rugulose, relatively broader than prothorax, with four pairs of shining longitudinal costae, innermost along suture, two pairs on disc and another dull and lateral, on which transversely rugulose; body beneath finely, shallowly punctulate.

Body partly covered with black pubescence on pronotum and on elytra excepting on costae or carinae.

Length, 19-22 mm.; width, 5-7 mm.

Holotype, \circlearrowleft , and paratype, $1 \circlearrowleft$, Sibolangit, N. Sumatra, May 28. 1985, Arboimun leg. (Nara Coll.).

Distribution: Sumatra.

Gauresthes malayanus Hayashi

HAYASHI, 1985, Ent. Rev. Japan, 40 (2): 132, pl. 7, fig. 4 (Cameron Highlands, Malaysia).

Color variation is found on legs. Legs are entirely blue violet.

Material examined: 1 &, Cameron Highlands, Dec. 1982 (YAGI Coll.).

Distribution: W. Malaysia.

Gauresthes thailandensis sp. nov.

Body dorsum blue, on head, mandibles blackish blue, clypeus brownish on apical half, antennae black with scapes bluish, prothorax metallic green and somewhat bluish on scutellum and elytra; body beneath blue, densely covered with fulvous pubescence. Legs light reddish brown, with black hind tibiae and all tarsal claws, covered with fulvous pubescence in male. Elytra with three dull metallic green-blue longi-

tudinal costae on disc.

Head, finely, closely punctured on vertex and occiput, excepting sparsely punctured clypeus at upper half, frons irregularly, finely punctured, transversely rugose laterally, costate at sides, with a pair of elongate elliptical black patches at upper half, with a deep median longitudinal furrow from apex of frons through a deep canal between developed vertex to base of occiput. Antennae a little shorter (0.96 times) than body, ectoapically angulate from 3rd to 10th; relative length of each joint is as follows: 8:1.5:17:8.5:9:9:9:9:7.5:7:8.5. Prothorax broader than long, strongly constricted and impunctate, shining, just behind apex and before base, caught by bireflexed at apex and base, inflated laterally at middle; disc finely, closely punctured, excepting apical median triangular shining portion just behind and related to apical transverse groove. Scutellum triangular, finely punctulate. Elytra fairly broader than prothorax (ratio, 7.5:6), 2.88 times as long as the basal width, parallel-sided and conjointly rounded at apices; disc very finely, closely and rugulosely punctured, with three dully convex and dully transversely rugulose costae on disc. Body beneath very finely, closely punctulate, covered with scarce fine whitish fulvous pubescence.

Length 26-30 mm.; width, 6.5-6.8 mm.

Holotype, &, Doi Pui, Chiang Mai, N. Thailand, May 11. 1985, Jannong, P. leg.; allotype, \$\pa\$, the same locality as holotype, March 9. 1985, Jannong, P. leg. (Nara Coll.). Distribution: Thailand.

Allotype (\updownarrow) has the antennae only arriving at apical one-third of elytra (0.76 times as long as body), and elytra are 2.8 times as long as the basal width.

Key to the known species of genus Gauresthes

1. Legs uniformly metallic blue to blue-green, without light reddish portions;

Body blue; elytra parallel-sided · · · · · 4 Body green 5 4. Prothorax longer than broad, with a short premedian shining line at middle of disc; elytra 3.25 times (\eth) and 2.7 times (\updownarrow) longer than the basal width; body largely dark blue. 20-29.5 mm. Borneo rufipes Bates Prothorax broader than long, with a small inverted triangular shining portion at middle just behind shining apical transverse groove; elytra 2.88 times (3) and 2.8 times (a) as long as the basal width; body largely blue, prothorax metallic green. 26-30 mm. N. Thailand thailandensis Hayashi sp. nov. 5. Elytra almost parallel-sided; 2.8 times (3) and 2.53 times (4) as long as the basal width; head blue, prothorax green, elytra metallic dark green, with distinct shining longitudinal carinae. 25-30 mm. W. Malaysia malayanus HAYASHI 6. Body blue with violet reflection, superior on elytral apex; antennae blue, elytral costae distinctly blue. 25-32 mm. Java..... elegans (Fisher) Body dorsum dark metallic green; antennae blue on basal 3 joints, dark steel blue on 4th to 6th and the rest dull black. 19-22 mm. N. Sumatra..... sumatrensis Hayashi sp. nov.

Pachyteria narai sp. nov. (Pl. 18, fig. 2)

Head dark green, eyes black. Antennae light brown on 1st and 2nd joints, yellow, mat on 3rd to 5th and basal portion of 6th and black on apical portion of 6th to 11th. Prothorax blue green. Scutellum dark green. Elytra blue green, with two pairs of black pubescent longitudinal vittae, inner pair apical half along suture on the longitudinal depression and outer pair parallel with inner ones along laterodiscal line. Body beneath dark green covered with light fulvous pubescence. Legs dark blue, femora with green tint.

Head sparsely punctured. Antennae distinctly shorter than body, sharply but minutely angulate from 5th to 10th, costate and concave beneath from 5th to 11th. Prothorax broader than long, strongly constricted at some distance from apex and base, with sharp lateral tubercles; disc coarsely, sparsely punctured except antemedian portion, where shining and impunctate, with a short median longitudinal line. Scutellum triangular. Elytra finely punctured, the punctures becoming sparser to apex. Abdomen six segmented, terminal segment narrow and short, emarginate at apex; breast sparsely punctured; abdomen covered with pubescence. Legs densely punctured on femora; middle tibiae concave beneath, hind pairs distinctly longer than frontal and middle pairs, hind tibiae depressed and dilated to apex, with two terminal spurs (one long, and another short), front and middle tarsi broader than hind ones.

Length, 25 mm.; width, 7 mm.

This new species is allied to *P. moultoni* Aurivillius (1910) from Borneo, however, it differs from the latter by having larger body, shining blue green dorsum, instead of black, 1st and 2nd antennal joints light brown, not of green and tarsi blue, not violet.

Pachyteria apicalis VAN DE POLL subsp. cameronensis nov.

This new subspecies differs from the nominate subspecies of Borneo by having the following characteristics:—

In female, body relatively longer, especially elytra 2.85 times as long as the basal width, instead of 2.72 times in nominate subspecies; with apical black portion longer, nearly on posterior half, than only apical one-third in nominate subspecies, prothorax broader (ratio, 1.53 times) than nominate subspecies; disc furnished with a pair of posterolateral dull tubercles and no trace of a median longitudinal line.

Length, 49 mm.; width, 13 mm.

Holotype, $\,\varsigma\,$, Cameron Highlands, Pahang, Malaysia, June 3. 1984, P. P. Wong leg. (Nara Coll.).

Distribution: Malaysia.

Clytini

Chlorophorus laharae GARDNER

GARDNER, 1942, Indian Forest Records, (New Series) Ent., 7 (2): 72 (Kalimpong, Bengal, India). 11 mm.

Chlorophorus aei HAYASHI, 1979, Ent. Rev. Japan, 33 (1/2): 90, fig. 4 (Andewa to near Lelep, alt. 1,550 m., Nepal) 12.5 mm. Syn. nov.

Distribution: India, Nepal.

This new synonymy was acknowledged by examination of the photograph of the type specimen deposited in British Museum (N. H.) of the former species, through the courtesy of Prof. M. Sato of Nagoya Women's University and kind advice of Mr. C. Holtzschuh, Wien.

Lamiinae

Agnini

Xenicotelopsis violacea Breuning

Breuning, 1947, Arkiv f. Zool., 39, A/6: 11 (Tonkin); Breuning, 1963, Ent. Arb. Mus. Frey, 14: 76 (Description of female).

Material examined: 1 ♂, Doi Pui, Chiang Mai, N. Thailand, May 25. 1984, А. M. Соттом leg. 15 mm. (Nat. Sci. Mus.). New to Thai fauna.

Distribution: N. Vietnam, N. Thailand.

Mesosini

Cacia (Pericacia) cretifera (HOPE)

Lamia cretifera HOPE, 1831, in GRAY, Zool. Misc.: 27.

Cacia (Pericacia) cretifera: Breuning, 1939, Nov. Ent. 3me Suppl., 55: 459.

Cacia incensa PASCOE, 1865, Tr. Ent. Soc. Lond., 3 (3): 112, note.

Material examined: 1 $_{\circlearrowleft}$, 1 $_{\updownarrow}$, Up Digst, Isabele, N. Luzon, Philippines, no further data. 14-17.5 mm. (Nat. Sci. Mus.). New to Philippine fauna.

Distribution: Nepal, India, S. W. Asia, Philippines.

Hippopsini

What is the true Pothyne silacea Pascoe (1871)?

With regard to the cerambycid fauna of Japan, it is generally believed to have been almost clarified at present. However, partially, certain questionable species whether do those actually distribute or live in Japan or not, are still remained.

Among the above stated questionable species, there is one species, *Pothyne silacea* Pascoe (1871). As the original locality of the species was designated as Nagasaki by Pascoe in the description, many students had no doubt the only known *Pothyne* in Western Honshu, Shikoku and Kyushu was believed to identify *Pothyne silacea* Pascoe, previously.

But, because *Pothyne annulata* Breuning (1942) was newly described from Nagasaki, the identification of the unique *Pothyne*-species from Western Japan was again put into question. The present author had studied the unique Western Japanese *Pothyne*-species, carefully comparing with the both original descriptions of *P. silacea* and *P. annulata*, and arrived at the conclusion, the species was actually identified as *Pothyne annulata* Breuning, differing from *P. silacea* (cf. Kojima et Hayashi, 1969).

On the other hand, Dr. Breuning (1966) had published "Revision des Agapanthini des eurasiatisch-australischen Region", and he redescribed detailedly so called P. silacea (p. 26) in his revision. But, the both Pascoe's original and Breuning's redescriptions for P. silacea are quite different each other, then the question has newly arisen.

Though the original description of *P. silacea* was rather brief, there is no way to correctly identify *P. silacea*, only excepting to directly examine the type specimen now deposited in the British Museum (Nat. Hist.), or to believe and follow the Breuning's redescription (cf. Takakuwa et Kusama, 1979). The present author could not follow the latter way, because the difference between the both descriptions is specific, not subspecific or in lower categories.

Fortunately, the author could examine the type specimen of *P. silacea*, through the courtesy of Mrs. S. L. Shute of the British Museum and could obtain the accurate description of the type of *P. silacea*, here in below.

Pothyne silacea Pascoe (Pl. 17, fig. 7)

Pascoe, 1871, Ann. Mag. N. H., (4) 8: 278 (Nagasaki?). Male. Type examination (British Museum).

"P. rufo-brunnea, elytris silaceis, supra pube grisea sparse tecta, vittisque pube condensata formatis; antennis articulo tertio quam primo manifeste longiore; prothorace perparum longiore quam latiore, basi fortiter transversim sulcato; elytris leviter disperse punctulatis, apicibus rotundatis; corpore infra pedibusque regulariter griseo-pubescentibus. Long. 7 ½ lin.

Hab. Nagasaki." (Original description).

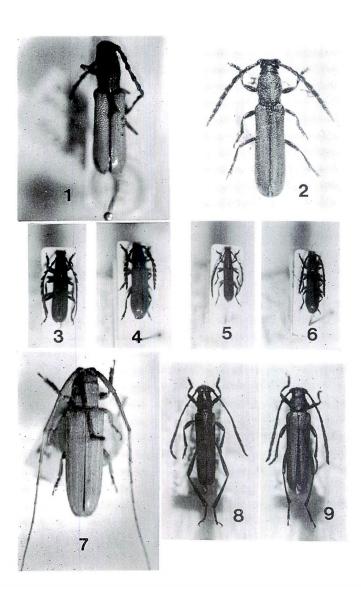
Body light reddish brown on head, prothorax and on legs, lighter colored on elytra and antennae; furnished with white pubescence, finely, densely covering on frons, temples and scutellum, condensed in five longitudinal vittae on prothorax, one central, complete encircled a short shining longitudinal ground colored line, a pair of lateroinferior incomplete and another pair of broad inferior; and in five pairs of shallow longitudinal vittae on elytra, 1st on suture, 2nd discal, incomplete by basal and apical parts vanished, 3rd laterodiscal, complete from base to apex, 4th sublateral incomplete and 5th marginal, broad and complete; and on the sides of breast. On the other parts of body and on legs beneath rather sparsely and not densely covered with pubescence. Antennae furnished with long dark brown hairs on underside from 1st to 6th joints and with more scarce hairs from 7th to 12th; and annulated with white pubescence on basal portions from 4th.

Head short and broad, frons punctured, but not granulate, occiput irregularly, sparsely punctured, under eye lobe longer than wide and also gena (ratio, 4:3). Antennae in male about 1.6 times as long as body, scape slightly thickened, cylindrical; relative length of each joint is as follows:—12:1.3:16:13:10:9:8:8:7:6.7:4.5:2.5. Prothorax nearly as long as broad, cylindrical; weakly constricted at apex and base; disc irregularly, sparsely punctured. Elytra about 2.75 times as long as the basal width, distinctly broader than prothorax, gradually narrowed posteriorly from base to broadly rounded apices; disc sparsely and moderately punctured on the basal portion, three punctures visible in a unit square under $60 \times lens$, the interspace between the punctures broader than puncture itself, the punctures becoming much finer and sparser apically.

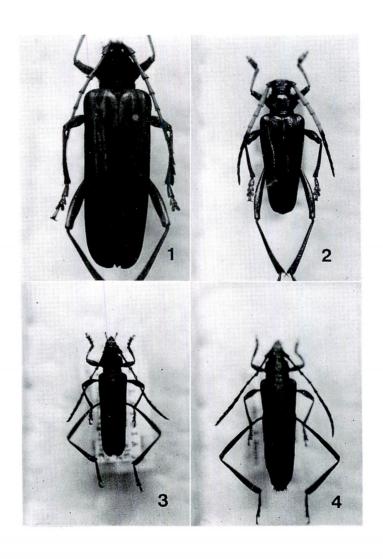
Length, 15.8 mm.

The type specimen carries the following five labels; 1. Pothyne silacea P. /2. Pascoe Coll. 93-60/3. Pothyne silacea Pasc. Type/4. black oval /5. Type, on round paper with a red ring. The type locality label could not be found. (British Museum Coll.).

Distribution: Japan (Nagasaki)?



(M. HAYASHI photo.)



P. silacea Pascoe (1871)

Pubescence white.

Antennae 1.6 times as long as body in male.

Frons punctured.

Elytra broadly rounded at apex.

P. silacea: Breuning (1966)

Pubescence reddish clay yellow.

Antennae 2 times as long as body in male.

Frons finely punctured and granulate.

Elytra narrowly rounded.

P. silacea PASCOE (1871)

Pubescence white.

Antennae 1.6 times as long as body in male.

Frons punctured.

Elytra broadly rounded at apex; 2.74 times as long as the basal width, in male.

P. imasakai Hayashi (1976)

Pubescence yellow.

Antennae 1.8-1.9 times as long as body in male.

Frons sparsely, finely punctured.

Elytra obliquely truncate at apex; more than 3 times as long as the basal width, in male.

In the original description for $P.\ imasakai$ Hayashi (1976), the present author compared with $P.\ silacea$: Breuning, not with $P.\ silacea$ Pascoe, then the comparing description should be corrected as the above.

Dr. Breuning apparently should unfortunately describe another specimen deposited in Paris Museum for the redescription for $P.\ silacea$ Pascoe.

By the above review, it might be sure that *P. silacea* PASCOE is an independent species with no relation to presently known any species of *Pothyne*, from the Japanese fauna.

Pothyne imasakai Hayashi

Hayashi, 1976, Bull. Osaka Jonan Women's Jr. Coll., 11: 18 (Yonaguni Is., Yayeyama, Ryukyu Islands).

Pothyne silacea: TAKAKUWA et KUSAMA (nec PASCOE), 1979, Elytra, Tokyo, 7 (1): 5, fig. 3 (Yonaguni Is.).

Distribution: Ryukyu Islands (Yonagunijima).

Explanation of Plates 17-18.

- Pl. 17, fig. 1. Pyrestes haematicus PASCOE, &, Type N. China.
 - 2. Pyrestes cardinalis PASCOE, Q, Type Hong Kong.
 - 3. Pyrestes curticornis Pic, &, Taiwan.
 - 4. ditto, ♀, Taiwan.
 - 5. Pyrestes longicollis Pic, &, Taiwan.
 - 6. ditto, ♀, Taiwan.
 - 7. Pothyne silacea PASCOE, &, Type Nagasaki?
 - 8. Polyzonus schmidti Schwarzer, 2, Sibuyan, Philippines.
 - 9. Polyzonus prasinus (WHITE), ♀, S. India.
- Pl. 18, fig. 1. Schmidtiana mindanaoana sp. nov., 9, Mindanao.
 - 2. Pachyteria narai sp. nov., ♀, Sumatra.
 - 3. Gauresthes aureopurpureus sp. nov., 3, Borneo.
 - 4. ditto, ♀, Borneo.

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