

本会創立同人の一人,伊賀正汎氏は病魔のおかすところとなり薬石効なく,去る1980年10月21日満59才の若さで逝去されました。ここに深甚なる哀悼の意を表し,ご冥福を祈るとともに,本号を霊前に捧げます。 日本甲蟲學會



#### 昆 蟲 学 評 論

#### THE ENTOMOLOGICAL REVIEW OF JAPAN

VOL. XXXVI. No. 1.

SEPT., 1981.

## Notes on the Chrysomelidae from Taiwan, China. X.

#### By Shinsaku Kimoto

Biological Laboratory, Department of General Education, School of Medicine, Kurume University, Kurume 830

#### Subfamily Galerucinae

Pyrrhalta igai n. sp. (Fig. 1)

Dark reddish brown; antenna entirely black; ventral surfaces dark reddish brown with metathorax in part slightly infuscate; legs black with basal part of femora brownish.

Head with vertex closely covered with fine pubescence, and with a longitudinal median furrow, slightly depressed at front; frontal tubercles distinctly raised, smooth, shining, impunctate, subquadrate, contiguous, anterior angle slightly inserted between antennal insertion; interantennal space hardly raised. Antenna rather robust, nearly  $\frac{2}{3}$  as long as body length, and in preapical segments nearly  $\frac{12}{3}$  times as long as wide; first segment robust, somewhat club-shaped; second shortest, nearly  $\frac{2}{3}$  as long as first; third nearly  $\frac{11}{2}$  times as long as second, and third to fifth subequal to each other in length and shape; sixth slightly shorter than fifth, and sixth to eighth subequal to each other in length and shape; ninth nearly  $\frac{4}{5}$  as long as eighth; tenth subequal to ninth in length and shape; eleventh slightly longer than tenth and its apex pointed. Pronotum transverse, nearly twice as long

as wide, anterior margin slightly curved posteriorly, lateral margin rounded, widest almost at middle, and narrowed anteriorly and posteriorly; basal margin widely rounded posteriorly, anterior and posterior corners each with a setigerous pore; surface closely covered with fine pubescence, and with a shallow longitudinal median furrow and a pair of deep depressions at middle of each side. Scutellum convex, covered with fine pubescence, subtriangular, and its apex truncate. Elytron broader than prothorax at base, slightly widened posteriorly and rounded at apex, distinctly and closely punctate, and closely covered with fine pu-



Fig. 1. Pyrrhalta igai n. sp. (Holotype)

bescence; elytral epipleuron distinct only on basal half.

Length: 7.4-7.8 mm.

Holotype: Nanshanchi, Nantou Hsien (25. v. 1970, A. LIN) (SHIBATA Collection, Osaka).

Paratypes: 1 ex., Mt. Shihtoushan, Miaoli Hsien (3. vi. 1976, H. Makihara); 1 ex., Nanshanchi, Nantou Hsien (17. v. 1969, S. HISAMATSU).

Distribution: Taiwan.

This new species somewhat resembles *Pyrrhalta scutellata* (HOPE) from Nepal, but differs in having pronotum more closely covered with longer hairs and legs entirely blackish.

The specific name of this new species is dedicated to the late Masahiro Iga, in memory of his contribution to the Japan Coleopterological Society.

#### Pyrrhalta viridipennis n. sp. (Fig. 2)

Body oblong. Head, prothorax and scutellum yellowish to reddish brown; elytron greenish with lateral margin and apical portion brownish; antenna reddish brown with apical segments somewhat infuscate; ventral surfaces and legs reddish brown.

Head with vertex closely covered with fine pubescence, and with a shallow subtriangular depression on anterior margin; frontal tubercle distinct, subquadrate, contiguous, with anterior angle arcuate, and inserted between antennal insertion, surface granulate, impunctate; interantennal space distinctly raised. Antenna rather slender, nearly  $\frac{2}{3}$  as long as body length, in preapical segments nearly three times as long as wide; first segment robust, somewhat club-shaped; second shortest, nearly  $\frac{2}{3}$  as long as first; third nearly  $\frac{21}{3}$  times as long as second; fourth slightly shorter than third; fifth subequal to fourth in length

and shape; sixth slightly shorter than fifth and subequal to seventh in length and shape; eighth nearly ½ as long as seventh, and eighth to tenth subequal to each other in length and shape; eleventh slightly longer than tenth and its apex pointed. Pronotum transverse, nearly

13/4 times as long as wide, anterior margin arched posteriorly, lateral margin rounded, widest slightly before middle, and narrowed anteriorly and posteriorly; basal margin slightly concaved at middle and obliquely rounded at side; anterior and posterior corners each with a setigerous pore; surface closely covered with fine pubescence, and with a distinct longitudinal median furrow and a pair of deep depressions at middle of each side. Scutellum slightly convex, covered with fine pubescence, subtriangular and its apex truncate. Elytron broader than prothorax at base, slightly widened posteriorly and rounded at apex, surface uneven, with three pairs of costae, of which one starting from middle of base and the other two from humeri, and closely covered with fine pubescence; elytral epipleuron gradually narrowed toward apex.

Length: 6.0 mm.

Holotype: Nanshanchi, Nantou Hsien (21. vii. 1974, Y. Kiyoyama) (Shibata Collection, Osaka).

Paratype: 1 ex., Sungan, Miaoli Hsien (10. iv. 1967, B. S. Chang).

Distribution: Taiwan.

This new species resembles *Pyrrhalta gressitti* Kimoto from Taiwan, but differs in being the body length longer, and in having antenna slenderer with the preapical segments nearly three times as long as wide. Also from *P. meifena* Kimoto, from Taiwan, this new species is separable in having the greenish elytron with the uneven surface.



Fig. 2. Pyrrhalta viridipennis n. sp. (Holotype)



Fig. 3. Pyrrhalta meifena Kimoto (Holotype)

#### Subfamily Cassidinae

Notosacantha shibatai n. sp. (Fig. 4)

Body ovate. Shining black, with margins all round slightly paler

and a small patch on each elytral expansion near middle yellowish brown; antenna dark reddish brown with four apical segments brownish black; ventral surfaces pitchy black with abdominal segments reddish brown.

Head with exposed dorsal surface deeply depressed as a whole and a slightly raised transverse ridge at slightly behind middle, and a small triangular notch at base, and vertical prolongation deeply cleft in middle at apex. Antenna comparatively short, not reaching beyond lateral expansion of pronotum; first segment large; second thick and round; third to sixth slender, elongate; seventh widened apically, subtriangular;

seventh to eleventh form a thick club, which is generally clothed with pubescence. Pronotum uneven, with irregular depressions and scattered punctures at middle, anterior margin of expansion slightly serrate; hyaline spots large and transverse in middle of lateral portion, and small and rounded at basal portion. Scutellum wide, subtriangular, rounded at apex, surface uneven, distinctly and closely punctate. Elytron punctate-striate, punctures coarse, rounded. and approximate; suture slightly depressed for a little distance behind scutellum, and thence slightly raised; three prominent tubercles on dorsum, one smaller tubercle at humerus, one larger one at a little distance behind base and third largest, situated be-

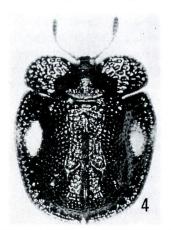


Fig. 4. Notosacantha shibatai n. sp. (Holotype)

hind middle, and transverse costae branching off from third tubercle joining with similar ones starting from an irregular pattern on posterior part.

Length: 4.5-5.0 mm.

Holotype: Sungkang, Nantou Hsien (10. vii. 1973, Y. Kiyoyama) (Shibata Collection, Osaka).

Paratype: 1 ex., Lienhwachi, Nantou Hsien (16. vii. 1973, Y. KIYOYAMA).

Distribution: Taiwan.

This new species somewhat resembles *Notosacantha tenuicula* (Spaeth) from India, in having elytron with a pale colored patch on the marginal expansion, but differs in having the dorsal surface shining black and the elytral tubercles and many transverse costae branching off from the tubercles weaker.

# A New Buprestid Beetle of the Genus Agrilus from Northern Thailand, with Description of a New Subgenus (Coleoptera, Buprestidae)

#### By Yoshihiko Kurosawa

Department of Zoology, National Science Museum, Tokyo

Mr. Masahiro Iga, a close friend of mine, died on October 21st, 1980. Though his name remains in *Chrysobothris igai* Y. Kurosawa, 1948, and *Agrilus asiaticus igai* Y. Kurosawa, 1963, in Buprestidae, *Agrilus sachalinensis* Obenberger var. *yokoyamai* Iga, 1955, the only scientific name in the Buprestidae given by him, was unfortunately replaced by *A. sinuatus yokoyamai* Y. Kurosawa, 1976, under the present code of zoological nomenculature. As a buprestid specimen before me brought from Northern Thailand seems to represent a new species and a new subgenus in the widespread genus, *Agrilus* Curtis, 1825, I am going to give it a new scientific name in honour of Mr. M. Iga.

Though the genus Agrilus is widespread and includes more than a thousand species known from all over the world except for the polar regions, no attempt to divide it into several genera or subgenera has succeeded, because of the existence of series of intermediate species. However, the new subgenus described herein seems to be readily separated from the other species of the genus Agrilus by the structure of antennae and body, and there seems to occur no intermediate species between this subgenus and the true Agrilis. Some species known from North America have the same antennal structure as this subgenus, but they are widely different from this in the structure of body.

I am greatly indebted to Mr. Wataru Suzuki, who collected many valuable specimens of buprestid beetles including this new species in Northern Thailand and offered them to me for study.

#### Subgenus Igagrilus Y. Kurosawa, nov.

Different from the other *Agrilus*-species in the following points: 1) Antennae serrate from the fifth segment; 2) scutellum lingulate, with an erect subrectangular projection on each side, but without median carina; 3) mesosternum declivous anteriorly and excavated for the in-

<sup>[</sup>Ent. Rev. Japan, Vol. XXXVI, No. 1, pp. 5-8, Sept., 1981]

sertion of anterior coxae, with sternal cavity narrow, not sharply separated from mesosternum; 4) pygidium triangularly pointed at the apex, with the disc flattened, but without median carina; 5) body elongate, filiform, and similar to that of *Paracylindromorphus*.

Type species: Agrilus (Igagrilus) elongatissimus Y. Kurosawa, nov. Range: Indochinese Peninsula.

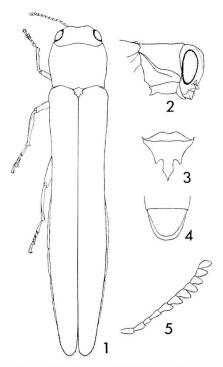
#### Agrilus (Igagrilus) elongatissimus sp. nov.

Female: Body extremely elongate, subparallel or somewhat filiform like some species of the genus *Paracylindromorphus* Théry, 1928; head violaceous with a steel-blue shimmer; pronotum entirely golden coppery; elytra entirely dark violaceous coppery, and rather mat; legs dark blue; antennae bronzy; body beneath greenish or bluish bronzy, brighter and more shining than dorsum.

Head not so large, and not broader than the anterior margin of pronotum; vertex coarsely rugoso-punctate, but the rugosity is concentrical on each side of the shallow median groove; eyes not so large, not prominent and subparallel or feebly converging below, with the inferior rims distinctly sinuate; frons narrow, slightly longer than wide, about 1.2 times as long as wide between the eyes, somewhat swollen and produced on each side of the median line, which is shallow at the middle, deeply excavated just below vertex, and filled with silver-whitish semirecumbent hairs on anterior third, transversely grooved along the posterior margin of antennal cavities, and coarsely but rather uniformly punctured, but the punctures are arranged in irregular rugosity; clypeus transverse, subtrapezoidal, with the anterior margin arcuately emarginate; antennal cavities large, surrounded inferiorly by carina; antennae short, slender and lax, serrate from the fifth segment, the first segment the longest and stoutest, the second stout, slightly shorter than the first and about 1.5 times as long as the third, which is the shortest, the fourth slender, about 1.5 times as long as the second, and about equal in length to the second, the fifth about as long as the fourth, subtriangular, but it is distinctly longer than wide, the sixth subtriangular, about as long as wide, and the following five apical segments from seventh to eleventh each distinctly broader than long.

Pronotum subquadrate, slightly attenuate behind, about 1.4 times as wide as long, and widest at anterior fourth; side sinuate just before posterior angles, gradually but somewhat arcuately expanded to anterior fourth, where they are arcuately rounded, and then obliquely attenuate to anterior angles, which are acute and produced in dorsal aspect, though sharply pointed and abased perpendicularly in lateral aspect;

anterior margin bisinuate, about as wide as posterior margin, with the median lobe broadly arcuate; posterior margin trisinuate, with the median lobe bipartite into two lobes by the arcuate ante-scutellar emargination: prehumeral carinae very short, obsolete, slightly curved, very close to marginal carina and recognizable at the part near posterior angle; marginal carinae strongly bisinuate; submarginal carinae strongly sinuate, broadly distant from marginal carina and somewhat obsolete in anterior half, gradually approximate to marginal carina posteriorly and conjunct with it at posterior fourth; disc somewhat gibbose just behind the median lobe of anterior margin, somewhat and semicircularly depressed around the gibbosity, semicircularly and obsoletely elevated behind the depression, broadly but obsoletely depressed along lateral margins causing them reflexed, and obsoletely depressed just before scutellum: surface densely rugoso-punctate, but the rugosity becomes somewhat concentrical



Figs. 1-5. Agrilus (Igagrilus) elongatissimus Y. Kurosawa, nov.
1, Dorsal view. 2, lateral view of head and prothorax. 3, prosternum.
4, anal sternite of abdomen. 5, left

to the anterior gibbosity in anterior half and transverse and parallel to posterior margin in posterior half; lateral parts along the margins and the parts between marginal and submarginal carinae clothed with subrecumbent silver-whitish hairs. Scutellum blackish, sublingulate, about as wide as long, longitudinally but very obsoletely impressed at the middle, with anterior margin arcuately produced, and an erect subrectangular projection on each side, but without median carina.

antenna.

Elytra prolonged and dilated posteriorly, about 4.5 times as long as wide, about 6.1 times as long as pronotum, widest just behind the middle, and broader than pronotum at the widest part; sides sinuate and constricted just before the middle, and broadly swollen in posterior half; apices separately and broadly rounded and finely and irregularly

denticulate; humeri less prominent, without humeral carina; basal margin narrowly and obsoletely edged; basal lobes not so strongly produced, obtuse, with the outer margin slightly sinuate; lateral margin broadly and gently trisinuate in lateral aspect; disc broadly but shallowly impressed along the suture from basal sixth to apex, causing the sutural margin narrowly reflexed, with the basal depression large, extending from just inferior sides of shoulders to scutellum and becoming deeper towards shoulders; surface densely but finely imbricate, and evenly clothed with very inconspicuous, recumbent, blackish hairs, but without any marking of hairs. Sides of the first to fifth abdominal segment narrowly exposed from elytra in dorsal aspect, very finely punctured, and clothed with inconspicuous, recumbent, greyish hairs.

Body beneath evenly punctured and evenly and densely clothed with short, semirecumbent, silver-greyish hairs, except for the sutural part of each abdominal segment which is glabrous and impunctured. Prosternum convex, and somewhat transversely rugoso-punctate anteriorly; gular lobe broadly bilobed; prosternal process even, subparallel or feebly constricted between anterior coxal cavities, and then sinuously attenuate to sharply pointed and prolonged apex. Mesosternum declivous anteriorly at the middle and edged and carinate just behind anterior coxal cavities on each side. Metasternum flattened at the middle, with the median groove distinct, and the anterior projection emarginate in an obtuse angle at the anterior margin. Abdomen beneath with first ventral segment broadly depressed between posterior coxae, the suture between the first and second ventral segments distinctly lobed and arcuately and posteriorly produced at the middle, and the apex of anal segment broadly rounded; pygidium triangularly produced in right angle at the tip, without median carina. Legs slender, with each basal segment of posterior tarsi long and slender, about as long as the following three segments united; claws simply cleft.

Length: 11.6 mm; width: 2.1 mm.

Holotype: 4, Near Meo Village, N. Thailand, 22. v. 1979, Wataru Suzuki lgt.

Male: Unknown. Distr.: Thailand.

This is the first Asian species in which the antennae are serrate from the fifth segment. Though there are several species having similar antennae in North America, they are different from this species by the bodily characteristics. I describe this as a new species and regard it to belong to a new subgenus different from any other *Agrilus*-species.

The holotype is preserved in the collection of the National Science Museum, Tokyo (Natural History).

## Occurrence of *Oodes* (*Oodes*) peguensis Bates in Iriomote Is., Japan (Coleoptera, Carabidae)

#### By Akinobu Habu

Insect Taxonomy Laboratory, National Institute of Agricultural Sciences<sup>1)</sup>, Kannondai III, Yatabe, Ibaraki Pref. -305

Lately I had an opportunity to examine one male and one female specimen of an *Oodes* species I had not met with before; they were found in Iriomote Is., Ryukyus, by Mr. S. Kasahara and Dr. K. Terada severally. During the course of examination I became aware that they agreed with Bates' description of *Oodes peguensis* from Burma. Dr. N. E. Stork of the British Museum, Natural History, has kindly loaned me at my request a female Tharrawaddy (Burma) specimen identified by the late Mr. H. E. Andrewes as *O. peguensis* Bates. Being unable to find any specific or subspecific difference between the Burmese and Japanese specimens, I consider that *O. peguensis* is distributed as far as Iriomote Is., though the comparative studies on the male and female genitalia and the male fore tarsi remain unaccomplished—the genitalia in the male specimen from Iriomote Is. are quite characteristic among the species of the Oodini of Japan. Further studies may elucidate whether 1) this species is widely distributed in Southeast Asia though rare, or 2) it is indigenous in Burma and may have been imported by ship into Iriomote Is. and established there, or 3) the Japanese form is a different species.

Here I wish to offer my warmest thanks to Mr. S. Kasahara and Dr. K. Terada for generously placing the specimens in my hand for study, and to Dr. N. E. Stork for kindly loaning me the Burmese specimen.

### Oodes (Oodes) peguensis BATES "Biruma-tokkuri-gomimushi"

Oodes Peguensis Bates, 1892, Ann. Mus. Civ. Stor. Nat. Genova, (2) 12 (32): 323-324 (Burma).

Oodes peguensis Bates: Andrewes, 1940, Proc. Roy. Ent. Soc. Lond., (B) 9:204. Description. Length 8.5-9.2 mm. Width 3.6-3.8 mm.

Black, half-mat; antennae and labrum reddish black, mandibles reddish black, apex and scrobe reddish brown, palpi dark reddish brown,

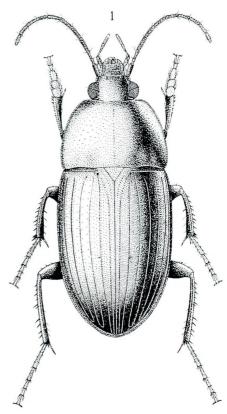
<sup>1)</sup> Retired in June, 1981.

<sup>[</sup>Ent. Rev. Japan, Vol. XXXVI, No. 1, pp. 9-13, Sept., 1981]

femora and tibiae reddish black, tarsi reddish brown or dark reddish brown, segment 1 of mid tarsi and segments 1 and 2 of hind tarsi slightly darker than other segments; ventral side black, rather shiny.

Head (Fig. 4) almost flat before mid-eye level, convex posteriorly; dorsal side minutely, densely punctate; microsculpture fully distinct,

isodiametric; tempora with one roundly oblique carina behind eyes, carina turning in inner anterior direction (tempora and carinae not observable in Burmese ex. inasmuch as head a little withdrawn beneath pronotum); eyes large and convex, WH/WF 1.59, 1.56, 1.54 in one and one ♀ from Japan and one ♀ from Burma respectively; supraorbital setae on or a little before mid-eye level; frontal impressions very shallow or obsolete, frontal foveae visible: fronto-clypeal suture fine, but well visible; clypeus bisetose, apex almost even, finely bordered; labrum shallowly emarginate at middle (not emarginate in Burmese ex.), six setae inserted at regular intervals; antennae reaching base of pronotum, segment 2 with one seta near apex ventrally in one 3 from Ryukyus; palpi without setae, apical segment of maxillary palpi shorter (five-sixths to six-sevenths) than penultimate



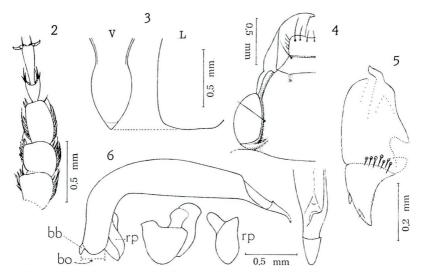
segment; tooth of mentum narrowly rounded at apex.

Pronotum gently convex, widest before basal angles, more than twice as wide as head, one and five-eighths times as wide as long (WP/WH 2.10, 2.08, 2.20, WP/LP 1.64, 1.64, 1.62, WP/WAP 1.93, 2.01, 2.13, WBP/WAP ca. 1.86, ca. 1.94, ca. 2.04, in one \$ and one \$ from Japan and one \$ from Burma respectively); surface very finely, densely punctate; microsculpture very distinct, isodiametric; apex shallowly to somewhat

deeply emarginate at median area, finely bordered at lateral areas; base shallowly but somewhat distinctly trisinuate, outer sinuations a little distincter than inner or median sinuation; basal angles almost rectangular though rounded; lateral margins finely bordered, well rounded-contracted anteriorly; fine, rather short posterior setae present on base inside basal angles ( $\circ$  ex. with only left seta, but small pore visible inside right basal angle,  $\circ$  ex. from Japan without setae, but pores visible,  $\circ$  ex. from Burma without setae, pores not discernible); median line fine, shallow, reaching neither apex nor base; basal foveae fully shallow and rather wide in  $\circ$  ex., longitudinally, shortly, linearly impressed in two  $\circ$   $\circ$ 

Wings developed (in 8 9 ex. from Japan). Elytra moderately convex, elliptic in ③ and ♀, widest at basal third (fourth in Burmese ex.), a little wider than pronotum (WE/WP 1.07, 1.08, 1.05, in one 3 and one and one and from Burma respectively), one and threesevenths times (one and one-third times in Burmese ex.) as long as wide; surface very finely, densely punctate; microsculpture very distinct, isodiametric, meshes same as those on pronotum in form and size; basal border almost rectilinear, inner part shortly curved in inner anterior direction near basal pore; tooth of shoulder minute; lateral margin very slightly contracted or almost parallel from basal third (or fourth) to middle, thence moderately rounded apically; apical sinuation absent; apex slightly dull; in 3 ex. striae faintly punctate, stria 1 somewhat shallow (shallower at basal area), striae 2 to 7 becoming deeper outward, striae 5 to 7 distinctly deep, in \( \varphi \) ex. from Japan punctures a little distincter than in 3 ex., striae 1 to 4 somewhat shallow, striae 5 to 7 a little deeper, but not so deep as in 8 ex., in a ex. from Burma punctures a little distincter and striae 5 to 7 shallower than in 9 ex. from Japan, in all specimens striae 1 and 2 arising from basal pore, stria 3 reaching basal border, striae 4 to 6 not reaching basal border, stria 4 fairly, striae 5 and 6 a little, curved inward behind basal border, stria 7 normal; scutellary striole shallow (faint in & ex.), moderately long; in  $\circ$  ex. intervals 1 to 4 almost flat, interval 5 somewhat convex, interval 6 a little more convex than interval 5, interval 7 fairly convex, in \(\varphi\) ex. from Japan intervals 1 to 4 flat, intervals 5 to 7 less convex than in 3 ex., in 9 from Burma intervals 5 to 7 less convex than in 9 ex. from Japan, interval 3 (in all ex.) with two small pores at twofifths to middle and before to behind three-fourths, pores a little separated from stria 2.

Fore tibiae longitudinally sulcate; fore tarsi of  $\circ$  (in Japanese ex.) (Fig. 2) with basal three segments well dilated, segment 1 a little longer



Figs. 2-6. Oodes (Oodes) peguensis Bates from Iriomote Is., Ryukyus. 2. Left fore tarsus,  $\Diamond$ . 3. Prosternal process. V. ventral view. L. lateral view. 4. Head. 5. Left stylus. 6. Male genitalia. bb: basal bulb. bo: basal orifice. rp: right paramere.

than wide, a little shorter than and almost as wide as segment 1, almost as long as wide, segment 3 longest, a little longer but a little narrower than segment 1, one and one-half times as long as wide; hind tarsi with segment 1 one and one-sixth ( $\Diamond$ ) or -fourth ( $\Diamond$  from Japan) times as long as segments 2 and 3 together.

Ventral side of head oblique-transversely rugose, proepisterna and lateral areas of pro- and mesosternum not punctate but shagreened, median area of metasternum and of sternites 2 to 5 smooth and shiny, meso- and metepisterna and lateral areas of metasternum and of sternites with large compact punctures, punctate areas of sternites somewhat rugose, sternite 6 rugose-shagreened almost entirely in  $_{+}$ , at apical half in  $_{0}$ ; prosternal process (Fig. 3) fairly wedge-shaped, bordered neither laterally nor apically, ventrohind angle rather dull in lateral view; metepisterna short, at most as long as wide (L/W 1.00, 0.98, 0.94 in one  $_{0}$  and one  $_{0}$  from Japan and one  $_{0}$  from Burma respectively), outer side furrowed (but not bordered as front and inner sides) in  $_{0}$  and  $_{0}$  from Japan, not furrowed in  $_{0}$  from Burma; sternite 6 with one seta in  $_{0}$ , two setae in  $_{0}$ , on either side.

Aedeagus (in Japanese ex.) (Fig. 6) somewhat slender, well bent at basal fourth, almost straight up to apical fifth, thence gently bent ven-

trally, fairly deflexed before apex, apical part well prolonged in lateral aspect; basal part unusual, with fairly small basal bulb, basal orifice opened ventrally, not dorsad; apical lamella less than one and one-half times as long as wide, right basal angle acutely reflexed, lateral margins slightly roundly, gently contracted apically, apex rounded; parameres unusual, left paramere doubled, thick at ventral area, deeply sinuate on dorsal margin, right paramere rather wide at basal two-thirds, narrower at apical third, apex well rounded, dorsal margin with one rectangular large projection.

Basal segment of styluses<sup>2)</sup> (in Japanese ex.) (Fig. 5) with about seven short setae at apical area, apical segment rather wide, outer margin with three or four very small teeth behind middle, inner margin with one rather short, somewhat stout spine at middle.

Distribution. Japan: Ryukyus—Iriomote Is. (1  $\,^\circ$ , VI. 8, 1978, Ôhara, K. Terada leg.; 1  $\,^\circ$ , VI. 10, 1979, Ôhara, S. Kasahara leg.). Burma—Palon in Pegu (after Bates, 1892), Prome and Tharrawaddy (after Andrewes, 1930).

#### Literature cited

Andrewes, H. E., 1930: Catalogue of Indian Insects, pars 18 (Carabidae): 238.

—— 1940: Key to some Indian genera of Carabidae (Col.). X. The genus *Oodes*.

Proc. Roy. Ent. Soc. Lond., (B) 9: 204.

Bates, H. W., 1892: Viaggio di Leonardo Fea in Birmania e regioni vicine. Ann. Mus. Civ. Stor. Nat. Genova, (2) 12 (32): 323-324.

 $<sup>^{2)}</sup>$  The Burmese specimen examined being an old and pinned one, I did not extract the genitalia for fear of damaging it.



## New or Little-known Tenebrionidae from Formosa (I)

#### Ву Кіміо Маѕимото

This paper introduces 1 new genus, 7 new species and 3 new forms of Tenebrionidae, all found in Formosa.

I should like to express my particular gratitude to Dr. Z. KASZAB of the Hungarian Natural History Museum. Dr. KASZAB contributed many of the specimens with permission to describe them for the first time here and offered invaluable advice and aid in determining unknown specimens, as well as providing me with much useful literature.

Special thanks are also due to Mr. S. Kondo for his contribution of specimens and literature and for the many hours he freely gave for discussion of my work. Many thanks also to Mr. T. Endo for the fine illustrations he drew for this paper.

I should also like to express my sincere gratitude to Dr. Y. Kurosawa, Dr. T. Nakane and Messrs. K. Sakai, H. Yokoyama, M. Ishida, K. Kawada and N. Nishikawa, who all helped me considerably by offering valuable advice and contributing specimens.

#### Neoplamius zoltani gen. et sp. nov.

Dark reddish brown; antennae, mouth organs, apical joints of tarsi, claws yellowish brown; bearing weak aeneous metallic luster on pronotum and elytra; head and pronotum feebly shining, elytra rather strongly and undersurface moderately shining. Oblong ovoid, rather strongly convex above, somewhat gourd-shaped. No hind wings.

Head a little transverse, flattened anteriorly, moderately convex above posteriorly, microscopically shagreened, irregularly and minutely punctate; frons gently sloping toward wide U-shaped frontal suture, sparsely punctate; clypeus weakly depressed and slightly convex in middle, sublinearly truncate in front and shortly rounded on both sides, minutely punctate, punctures closer in lateral and apical portions; genae subrectangular, softly depressed in posterior portion, minutely punctate; eyes moderate size, roundly produced laterally; ocular sulcus not very deep, narrowly and straightly grooved; interocular space broad, about 5 times eye diameter, sparsely punctate; vertex with shallow longitudinal impression, occiput closely punctate; tempora suddenly narrowed behind eye, then subparallel; antennae relatively slender, reaching base of

<sup>[</sup>Ent. Rev. Japan, Vol. XXXVI, No. 1, pp. 15-26, Sept., 1981]

pronotum, finely pubescent, 5 apical joints softly flattened, somewhat club-like, 7th to 10th joint dilated to apex and triangular, 11th oblong ovoid, relative length of each joint from base to apex as follows: 1.7, 1.0, 2.2, 1.5, 1.5, 1.5, 1.6, 1.7, 1.7, 1.7, 2.5.

Pronotum transverse, about 1.4 times as broad as long, broadest at middle; front border nearly straight in dorsal view, finely margined but margin interrupted along median 3/5; basal border bisinuate, finely but remarkably margined; sides roundly arched laterally, very feebly sinuate before middle and also near base, very finely margined; front angles subrectangular; hind

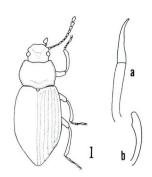


Fig. 1. Neoplamius zoltani sp. nov.

- a, Aedeagus;
- b, Male protibia.

angles a little obtuse; disc moderately convex, more finely shagreened than head, softly flattened in lateral portion, with shallow impression near front border and vague oblique one near base each on both sides, moderately punctate, punctures finer toward anterior portion. Scutellum subcordate, outer margin raised, impunctate.

Elytra about 1.8 times as long as broad, 1.2 times as broad as pronotum compared at both broadest points, a little broader than pronotum at base, gradually widened to rear, broadest at basal 3/5, roundly narrowed toward apex, a little acuminately produced at tip; dorsum strongly convex above, thickest at middle; disc less shagreened than pronotum, with 8 punctate-striae and short scutellary striole, punctures here small but deep, closely set, spaced about 1 time their diameter apart in inner portion and 2-3 times their diameter in lateral portion, 1st stria and 2nd, 5th and 6th converging near base, 1st stria straight, 2nd returning forward and soon disappearing, 3rd and 8th, 4th and 7th, 5th and 6th converging near apex; intervals feebly convex in inner portion, moderately so in lateral, 5th interval and 7th rather strongly convex posteriorly, unevenly and minutely punctate; sides of disc considerably enveloping hind body, so outer portion from 7th stria invisible in dorsal view; lateral borders not margined but only finely ridged in basal half; epipleura wide in basal portion, gradually narrowed toward apex; humeral corners distinctly angulate.

Mentum subcordate, raised in anterior-middle portion, sparsely pubescent; gula parabolic, finely reticulate; terminal joint of maxillary palpus relatively large, with arcuate outer side about 1.5 times length of inner, slightly longer than apical.

Prosternum very finely margined in front, slightly rugose and

impunctate, simply raised in intercoxal space, with prosternal process softly depressed and obtuse; mesosternum short, with hind border strongly raised in wide, shortened Y-shape and rugose; metasternum rather sparsely and finely punctate, punctures coarser laterally, shallowly wrinkled, with front border raised, median impression at posterior half; abdomen rather closely, finely and setaceously punctate.

Legs relatively short, rather closely and finely punctate; fore femora moderately thickened, thickest at basal 3/3, front (inner) margin nearly straight, hind margin moderately arcuate, middle femora thickest at 4/7, front (outer) margin arcuate and hind one nearly straight, hind femora thickest at  $\frac{5}{7}$ , otherwise same as middle ones; male fore tibiae rather strongly curved inward, slightly bent downward, feebly thickened toward apex, with small, obtuse, laminate tooth at basal 2/3 of inner margin, haired in apical  $\frac{2}{3}$  of inner side, middle tibiae curved in- and slightly downward, gradually thickened toward thickest point at basal  $\frac{2}{3}$ , haired in apical half of inner side, hind tibiae moderately curved inward and feebly so upward, weakly thickened toward thickest basal  $\frac{4}{5}$ , haired in apical  $\frac{2}{5}$ , female tibiae relatively simple shape; tarsi closely resemble those of *Plamius*, bearing yellowish hairs beneath, relative length of each joint of fore, middle and hind tarsi from base to apex as follows: 1.5, 0.9, 0.8, 0.5, 3.4; 2.0, 1.0, 0.8, 0.5, 3.3; 2.5, 1.0, 0.6, 3.6; claws small and strongly bent downward, with obtuse tooth at base.

Body of female, compared with that of male, larger, less narrowed at humeral portion, less acuminate at apex of elytra.

Body length: 5.0-7.0 mm.

Holotype<sup>1)</sup>: %, Fenchihu (1400 m), Chiayi Hsien, Formosa, 25 IV 1977, J. Klapperich leg. (HNHM); paratypes: 3 exs, ditto, 10 IV 1977, 4 exs, 11 IV 1977, 3 exs, 23 IV 1977, 11 exs, 25 IV 1977, 1 ex, 30 IV 1977, 1 ex, 8 V 1977, 15 exs, 20 V 1977, J. Klapperich leg.; 1 ex, Alishan, Chiayi Hsien, 11 VII 1927, 2 exs, Summit of Toranzan, 11-12 VI 1933, 1 ex, Fenchihu, 12 VII 1928, T. Kano leg.; 1 ex, Alishan (2300 m), 5-6 VII 1965, T. Nakane leg.

The new genus *Neoplamius* is closely allied to *Plamius* Fairmaire, but is differentiated as follows: 1) the hind wings are absent, 2) the elytra are oblong oval with reduced oblique shoulders and rounded sides, 3) the sides of the elytra largely envelope the hind body, 4) the pronotal base is entirely margined, 5) the ocular sulcus is shallower and simple. The new genus is also characterized as follows: 1) the body is rather strongly convex, 2) the antennae are relatively slender, 3) the male protibiae have an inner tooth.

Dr. Z. Kaszab has pointed out that this new species belongs to a new genus, but he has kindly given me permission to describe both the new genus and the new species here for the first time.

<sup>1)</sup> The holotypes are preserved in the Hungarian Natural History Museum (HNHM) or the National Science Museum, Tokyo (NSMT).

#### Neoplamius endoi sp. nov.

Blackish brown; antennae, legs, mouth organs, etc. reddish brown to yellowish brown; pronotum and elytra bearing rather strong aeneous luster, head and abdomen weakly so; major parts of body surface microscopically shagreened. Oblong ovoid, rather strongly convex above, somewhat gourd-shaped. No hind wings.

Head transverse, moderately convex in posterior portion, minutely and irregularly punctate; frons gently sloping toward straight fine frontal suture, with both ends bent obliquely forward and reaching outer margins, sparsely punctate; clypeus feebly depressed, weakly convex in middle, truncate in front and rounded on both sides, rather closely punctate; genae rather closely punctate, depressed and impunctate in posterior half, with outer margins rounded and subparallel posteriorly, weakly raised; eyes medium-sized, roundly arched laterally; ocular sulcus relatively shallow, especially so before eye; interocular space broad, about 5 times eye diameter, often with spot-like impression in middle; vertex sparsely punctate; antennae relatively slender, reaching base of pronotum, 5 apical joints flattened and somewhat club-like, 7th joint to 10th dilated to apex and triangular, 11th oblong ovoid, relative length of each joint (base to apex): 2.0, 1.6, 2.4, 1.9, 2.0, 1.6, 1.8, 2.0, 1.8, 1.9, 3.5.

Pronotum transverse, about 1.4 times as broad as long, broadest a little after middle; front border widely emarginate, sublinear in median  $\frac{1}{3}$ , very finely margined with margin interrupted along median  $\frac{3}{5}$ ; basal border weakly bisinuate, also finely margined; front angles

subrectangular; hind angles slightly obtuse; sides sublinearly widened in frontal ½, then rounded in medial ½, narrowed and weakly sinuate in basal ½, very finely but entirely margined; disc rather strongly convex, a little bulged anteriorly, vaguely impressed near front angles and shallowly and obliquely so after middle each on both sides, softly and arcuately depressed before base, faintly so along lateral margins, moderately punctate, punctures smaller than those on head, coarser in lateral portion. Scutellum triangular with rounded sides, flat, scattered with minute punctures.

Elytra about 1.6 times as long as broad,

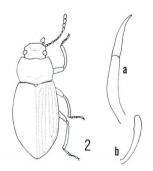


Fig. 2. Neoplamius endoi sp. nov.

a, Aedeagus;

b, Male protibia.

a little broader than pronotum at base, gradually widened backward, broadest at middle, then roundly narrowed toward acuminate apex; dorsum strongly convex above, thickest at basal ¼; disc with 8 fine punctate-striae and very short scutellary striole, punctures here small but deep, distance between them about 1–2 times their diameter, 1st stria and 2nd, 3rd and 4th, 5th and 6th converging near base, 5th and 6th, 4th and 5th/6th, 7th and 5th/6th/4th, 8th and 3rd, also converging in posterior portion; intervals mostly very weakly convex with microscopic punctures, strongly convex and prominent at rear end of 7th interval, fairly distinctly convex at rear ends of 3rd, 5th and 6th, and also in posterior portion of 8th; sides strongly enveloping hind body, so outer portion from 7th stria invisible in dorsal view; lateral border raised like ridge in basal ¼; epipleura wide in basal portion, gradually narrowed toward apex; humeral corners angulate.

Mentum subcordate, raised in anterior-middle portion and pointed, rugose and sparsely pubescent; gula parabolic, microscopically reticulate; terminal joint of maxillary palpus relatively large, with arcuate outer side about 1.5 times length of inner, 1.2 times length of apical.

Prosternum finely margined in front, sparsely and obsoletely punctate, raised in intercoxal space and softly flattened, weakly rugose, with prosternal process small and triangular, depressed; mesosternum short, with hind border raised in V-shape and a little rugose; metasternum relatively short, scattered with fine setaceous punctures, shallowly wrinkled in middle, with raised anterior border and fine median line in posterior half; abdomen rather closely and minutely punctate, feebly wrinkled in basal portions of 3 anterior sternites.

Legs rather short, closely, finely and setaceously punctate, with femora like N. zoltani; in male, fore tibiae curved rather strongly inward and slightly downward, feebly thickened toward apical portion, bluntly pointed at basal  $\frac{4}{7}$  of inner margin of underside, haired in apical half, middle tibiae rather strongly curved inward, slightly so downward, weakly thickened toward apex, haired in apical  $\frac{1}{3}$ , hind tibiae moderately curved inward, very slightly so upward, slightly thickened toward apex, haired in apical  $\frac{3}{7}$  (in female, tibiae relatively simple and without small protibial projection); tarsi without any special characteristics, relative length of each joint as follows; 1.5, 1.0, 0.8, 0.6, 3.2; 1.5, 1.0, 0.8, 0.7, 3.5; 2.6, 1.2, 0.9, 4.2; claws small but sharp, with obtuse tooth at base.

Compared with male, body of female stockier.

Body length: 5.0-6.5 mm.

Holotype: 3, Meifeng, Nantou Hsien, Formosa, 20 V 1971, K. Sakai leg. (NSMT); paratypes: 8 exs, ditto, K. Sakai leg.; 2 exs, 9 VI 1973, 7 exs, 11 VI 1973,

5 exs, 14 VI 1974, 3 exs, 30 VI 1974, 1 ex, 23 V 1974, H. Yokoyama leg.; 1 ex, 17 V 1974, 1 ex, 18 V 1974, 1 ex, 22 V 1974, K. AKIYAMA leg.; 1 ex, Sungkang-Meifeng, Nantou Hsien, 28 IV 1977, J. Ito leg.; 1 ex, Shanpin, 18 VIII 1978, K. Sugino leg.; 2 exs, Sungkang-Tsuifeng, 29 VI 1965, T. NAKANE leg.

This new species clearly differs from Neoplamivs zoltani MASUMOTO as follows: 1) the body is more convex above, with a stronger aeneous luster, 2) the head and the pronotum are broader, 3) the elytra have fairly prominent intervals in the posterior portion, 4) the legs are relatively slender, 5) the inner margin of the male fore tibiae has a blunt projection (in the case of N. zoltani, it is more conspicuous), 6) the shape of the aedeagus is different.

M. T. Chûjô recorded Plamius phaseori (Gebien) from Formosa in 1968, but I think it was this new species.

#### Derispia formosana sp. nov.

Dark reddish brown to blackish brown; head, pronotum (except basal portion on both sides), legs, 4 basal joints of antennae, mouth organs, gena, prosternum, etc. yellowish brown; elytra pale yellowish brown, with blackish markings as shown in fig. 3 a; 7 apical joints of antennae, rest of pronotum, scutellum infuscate; rather strongly shining. spheric.

Head nearly semicircular, feebly convex forward in posterior portion, flattened in anterior half, sparsely punctate, punctures small and scattered with finer ones between; frons very feebly convex in middle; frontal suture nearly straight, with both ends reaching outer margin; clypeus extremely transverse, very shortly subparallel-sided, truncate in front, nearly flattened, microscopically shagreened, sparsely and finely pubescent in apical portion; labrum transverse, roundly narrowed to front, sublinearly truncate in front, weakly convex, sparsely punctate and finely pubescent; genae obliquely roundly produced, with outer margins very slightly raised, scattered with few strong punctures; eyes oblique and small.

Pronotum transverse; front border moderately broadly emarginate and fairly produced forward in middle; basal border broadly rounded and weakly produced to rear in middle; sides obliquely rounded, with outer margins slightly reflexed; front angles rounded; hind angles subrectangular with rounded tip; disc convex a little forward, smooth (through ×20 microscope, seen as finely punctate). Scutellum triangular with rounded sides, sparsely scattered with microscopically fine punctures.

Elytra with rounded sides, broadest at middle, slightly roundly produced to rear in apical

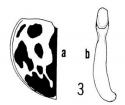


Fig. 3. Derispia formosana sp. nov. a, Left elytron; b, Aedeagus.

portion; dorsum strongly convex above, with rows of small punctures, often striated, distance between them irregular (about 2–5 times their diameter); intervals very feebly convex, 1st to 7th intervals with smaller punctures in row, 8th irregularly punctate; lateral margins very slightly expanded horizontally, visible along basal  $\frac{3}{4}$  from above.

Aedeagus asymmetric, relatively large, shape as shown in fig. 3 b. Body length: ca. 3.2 mm.

Holotype: 3, Fenchihu (1400 m), Chiayi Hsien, Formosa, 23 IV 1977, J. Klapperich leg. (HNHM); paratypes: 2 exs, ditto, 20 V 1977, J. Klapperich leg.

The new species resembles *Derispia japonica* Kaszab from Amami-Oshima Is., but differs from the latter in the following points: 1) the body is larger, 2) the punctures on the pronotum and the elytra are finer, 3) the outer margins of humeri are more slender, 4) the markings of the elytra are fairly different, 5) the outer margins of the elytra can be seen along basal  $\frac{3}{4}$  from above, 6) the shape of the aedeagus is different.

#### Derispia nanshanchiensis sp. nov.

Blackish brown; head, pronotum, major part of scutellum, elytra (except for markings), 6 apical joints of antennae, legs, mouth organs, gena, gula, prosternum, etc. yellowish brown; 5 apical joints of antennae infuscate; lateral margins of scutellum blackish; elytral markings blackish as shown in fig. 4 a; strongly shining. Hemispheric.

Head transverse-oblong, feebly convex in posterior portion, sparsely, microscopically finely punctate and pubescent; from softly depressed, front-clypeal border straight; clypeus transverse but narrow, shortly subparallel-sided, truncate in front, very feebly convex, sparsely punctate

and pubescent; labrum as broad as clypeus, roundly narrowed to front, truncate in front, feebly convex, finely punctate in posterior portion, relatively densely and finely pubescent; genae obliquely obtusely produced, with outer margins very feebly raised and finely rimmed; eyes medium-sized, roundly produced laterally.

Pronotum transverse; front border broadly, roundly emarginate, feebly, roundly produced forward in middle; basal border broadly rounded, roundly produced to rear in median  $\frac{1}{5}$ ; sides



Fig. 4. Derispia nanshanchiensis sp. nov. a, Left elytron;

a, Left elytron;b, Aedeagus.

obliquely rounded with outer margins weakly reflexed; front angles rounded; hind angles subrectangular with narrowly rounded tip; disc very smooth (finely punctate through  $\times 20$  microscope). Scutellum triangular with rounded sides, smooth like pronotum.

Elytra with rounded sides, broadest at middle, slightly produced to

rear in apical portion; dorsum strongly convex above, softly compressed in lateral portions, fairly evenly scattered with fine punctures, those in lateral portion a little stronger; lateral margins slightly and finely expanded horizontally, visible along basal  $\frac{2}{3}$  from above.

Aedeagus asymmetric, small, shape as shown in fig. 4 b.

Body length: ca. 2.7 mm.

Holotype: 含, Nanshanchi, Nantou Hsien, Formosa, 2 V 1978, Y. Komiya leg. (NSMT).

The new species is related to *Derispia klapperichi* Kaszab from China, but is easily distinguishable from the latter as follows: 1) the body is more hemispheric and more strongly convex above, 2) the coloration and the markings of the body above are different, 3) the upper surface is very smooth and strongly shining, 4) the elytral punctures are finer and do not form rows, 5) the shape of the aedeagus is different.

#### Derispia zoltani sp. nov.

Dark reddish brown to blackish brown; major part of head, lateral portions of pronotum, elytra (except markings), basal half of antennae, legs, mouth organs, gena, major part of prosternum, etc. pale yellowish brown; lateral portions of head, major part of pronotum, scutellum, apical half of antennae, etc. darker; elytral markings blackish as shown in fig. 5 a. Nearly hemispheric.

Head transverse, feebly convex and rather closely and finely punctate in posterior portion, softly flattened and sparsely punctate in anterior portion; frons weakly depressed on both sides; frontal suture slightly arched backward, fine and obsolete in middle; clypeus transverse, shortly and feebly convergent to front, sublinearly truncate in front, oblique-

ly depressed on both sides, sparsely punctate and pubescent, with short transverse impression in middle just before front-clypeal border; labrum also transverse, roundly narrowed to front, shortly truncate in front, feebly convex, comparatively densely punctate and pubescent; genae obliquely roundly produced, with outer margins weakly raised just above antennal insertion, sparsely but comparatively strongly punctate; eyes small, oblique; vertex softly obliquely depressed on both sides.

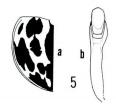


Fig. 5. Derispia zoltani sp. nov. a, Left elytron; b, Aedeagus.

Pronotum transverse, front border weakly roundly emarginate, roundly produced forward in median ½; basal border broadly rounded, very feebly produced to rear in middle; sides obliquely rounded, with margins slightly reflexed; front angles rounded; hind angles obtuse;

disc slightly convex forward in anterior portion, very smooth (through  $\times 15$  microscope finely punctate). Scutellum triangular, smooth like pronotum.

Elytra with rounded sides, broadest at middle, weakly roundly produced to rear in apical portion; dorsum strongly convex; disc with rows of small punctures, often striated, distance between them about 1–2 times their diameter; intervals flat and wide, 1st interval almost impunctate, 2nd and 3rd with row of smaller punctures, remaining intervals irregularly scattered with smaller punctures; lateral margins slightly, finely expanded horizontally, visible along basal  $\frac{2}{3}$  from above.

Aedeagus asymmetric, relatively large, shape as shown in fig. 5 b. Body length: ca. 4.8 mm.

Holotype:  $\Diamond$  , Alishan (2400 m), Chiayi Hsien, Formosa, 10 VI 1977, J. Klapperich leg. (HNHM).

The new species is somewhat related to  $Derispia\ undulata\ (Pic)$  from China, but differs from the latter as follows: 1) the elytra bear different markings, 2) the elytral margins are visible along the basal 2/3 in dorsal view (in the case of D. undulata, the body is so strongly convex that we can see only the anterior portion of the lateral margins).

#### Derispia kondoi sp. nov.

Blackish brown; major portions of head and pronotum, 3 basal joints of antennae, legs, gena, gula, prosternum, etc. yellowish brown; lateral portions of head, median half of basal portion of pronotum, 8 apical joints of antennae, scutellum darker; elytra pale yellowish brown with blackish markings as shown in fig. 6 a; strongly shining. Hemispheric.

Head transverse, widely flattened, sparsely and very finely punctate and pubescent, weakly convex longitudinally in middle; frons softly depressed near front-clypeal border on both sides; frontal suture fine

and nearly straight, with both ends obliquely bent forward and reaching outer margins; clypeus transverse, relatively closely and finely punctate, weakly convergent, straightly truncate in front, rather strongly bent downward and pubescent in anterior half; labrum semicircular, feebly convex, finely, closely punctate and pubescent; genae with outer margin obliquely rounded and slightly reflexed; eyes medium-sized, oblique, roundly produced laterally.

Pronotum transverse, feebly convex forward anteriorly; front border emarginate and produced forward in median %; basal border broadly

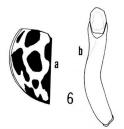


Fig. 6. Derispia kondoi sp. nov. a, Left elytron; b, Aedeagus.

rounded and roundly produced behind in median  $\frac{1}{5}$ ; sides obliquely rounded, with outer margins slightly reflexed; front angles rounded; hind angles acute but with rounded tip; disc very smooth (through  $\times 20$  microscope evenly, finely punctate). Scutellum triangular with rounded tip, smooth like pronotum.

Elytra with rounded sides, broadest at middle, slightly roundly produced to rear in apical portion; dorsum strongly convex; disc with rows of small punctures, often striated, distance between them about 1--2 times their diameter; intervals flat and wide, irregularly scattered with smaller punctures; lateral margins slightly expanded horizontally, visible along basal  $\frac{2}{3}$  from above.

Aedeagus asymmetric, large, shape as shown in fig. 6 b.

Body length: ca. 3.8 mm.

Holotype: %, Wulai, Taipei Hsien, Formosa, 5 VIII 1973, K. Маѕимото leg. (NSMT); paratypes: 5 exs, ditto.

This new species somewhat resembles *Derispia fukiensis* Kaszab from China, but differes from the latter as follows: 1) the body is larger, 2) the lateral portions of the head, the median half of the basal portion of the pronotum and the 8 apical joints of the antennae are darker, 3) each elytron bears an independent subsutural spot, 4) elytral intervals are irregularly punctate.

#### Derispia klapperichi Kaszab

In 1942, Kaszab described the species from China. In 1961 he added 2 new forms (ab. *separata* and ab. *confluentissima*). In the same year Chûjô and Miyatake wrote about *Derispia shibatai* from Amami-Oshima Is. and this species is thought to be synonymous with *D. klapperichi* ab. *confluentissima*. M. T. Chûjô recorded this species from Formosa in 1967.

Here I describe 3 new forms as follows:

Derispia klapperichi Kaszab ab. taiyal ab. nov.

Scutellal spot connected with sutural spot; sutural spot touching discal spot; submarginal band touching lateral spot and often reaching apical spot, sometimes lightening to brownish toward apical spot.

Holotype:  $\odot$ , Alishan (2400 m), Chiayi Hsien, Formosa, 10 VI 1977, J. KLAPPERICH leg. (HNHM); paratypes: 2 exs. ditto.







Figs. 7-9. Left elytra of *Derispia* klapperichi Kaszab.

7. ab. taiyal ab. nov.;

8. ab. ami ab. nov.;

9. ab. bunun ab. nov.

Derispia klapperichi Kaszab ab. ami ab. nov.

Scutellal spot connected with sutural spot; sutural spot touching posterior portion of discal spot; anterior portion along outer margin sometimes infuscate.

Holotype:  $\mathfrak{P}$ , Fenchihu (1400 m), Chiayi Hsien, Formosa, 15 IV 1977, J. Klapperich leg. (HNHM); paratypes: 2 exs, ditto, 8 V 1977, 1 ex, 30 IV 1977, J. Klapperich leg.; 1 ex, Alishan, 10 V 1977, J. Klapperich leg.

Derispia klapperichi Kaszab ab. bunun ab. nov.

Scutellal spot connected with sutural spot; sutural spot not touching discal spot; sometimes infuscate along outer margin.

Holotype: ↑, Fenchihu (1400 m), Chiayi Hsien, Formosa, 10 IV 1977, J. Klapperich leg. (HNHM); paratypes: 3 exs, ditto, 5 exs, 13 IV 1977, 7 exs, 15 IV 1977, 3 exs, 23 IV 1977, 13 exs, 8 V 1977, 6 exs, 14 V 1977, 6 exs, 20 V 1977, 4 exs, 30 V 1977, 15 exs, 30 IV 1977, J. Klapperich leg.; 1 ex, ditto, 7-8 VII 1965, T. Nakane leg.

#### Leiochrodes taiwanus sp. nov.

Dark reddish brown to blackish brown; margins of pronotum, outer margins and sutural portion of elytra yellowish brown and translucent; legs, mouth organs, prosternum, 4 basal joints of antennae yellowish brown; 5 apical joints of antennae a little infuscate; strongly shining, with pronotum and elytra bearing weak silky sheen. Nearly hemispheric.

Head a little transverse, flattened, finely punctate and pubescent, slightly convex medially; frons feebly raised in middle, softly depressed in front on both sides; front-clypeal border distinct on both sides only; clypeus convergent and straightly truncate in front, feebly convex, rather closely punctate and pubescent; labrum with rounded sides, shortly truncate in front, feebly convex, more finely punctate and pubescent; genae obliquely obtusely arched, weakly raised above antennal insertion, finely punctate like vertex; eyes extremely transverse; antennae reaching base of elytra, 4 basal joints slender or small, 7 apical joints softly depressed, 5th to 10th dilated to apex and triangular, 11th ovoid, relative length of each joint from base to apex as follows: 3.0, 1.4, 3.0, 1.2, 1.4, 1.6, 1.6, 1.5, 1.5, 1.5, 2.0.

Pronotum transverse; front border broadly roundly emarginate, finely margined and feebly reflexed except median  $\frac{1}{5}$ ; basal border nearly straight, roundly produced to rear in median  $\frac{1}{4}$ ; sides moderately arcuate and outer margins finely expanded horizontally; disc very finely and evenly punctate throughout. Scutellum triangular with rounded sides, finely punctate like pronotum.

Elytra with rounded sides, broadest at middle, weakly roundly produced to rear in apical portion; disc with rows of small punctures, distance between them about 2–5 times their diameter; intervals quite flat, irregularly scattered with smaller punctures (these often intruding between punctures in rows, causing them to appear more closely set at first sight); lateral margins distinctly expanded horizontally, visible along basal  $\frac{3}{4}$  from above.

Aedeagus small, shape as shown in fig. 10. Body length: ca. 3.8-4.2 mm.

The new species resembles *Leiochrodes nigronotatus* Pic from China, but differs from the latter as follows: 1) the intervals are scattered with fine punctures, 2) the upper surface bears different coloration.



Fig. 10. Aedeagus of Leiochrodes taiwanus sp. nov.

## Studies on Asian Cerambycidae, IV (Coleoptera)

#### By Masao Hayashi

In the present paper, three new species of Parandrinae and Cerambycinae are described from Japan and Taiwan, the two Taiwanese species of which have once been recorded under the names of the previously known species, and certain systematic discussion for a genus, and three species described by Monsieur M. Pic from Japan are also added.

The present author wishes to express his hearty thanks to Messrs. T. Shibata, H. Nara and Dr. K. Nakamura for their kindness providing the interesting material, and also to Dr. Andre Villiers for his constant aid giving the present author the chance for valuable type specimens' examination and referring literatures which never be able to obtain in Japan.

#### Parandrinae

#### Parandra lanyuana sp. nov.

Parandra janus: Kano (nec Bates), 1938, Annot. Zool. Japon., 17: 115, pl. 8, fig. 1 (Kotosho-Boteltobago).

Parandra shibatai Hayashi, 1963, Ent. Rev. Japan, 15(2): 50 (Botel Tobago), partim.

Body piceous reddish chestnut brown, mandibles and eyes blackish, elytra darkened, body beneath lighter than the above; body furnished with sparse yellow pubescence, somwhat longer on mouth parts, body beneath.

Head (ratio, 10) a little narrower than apex of prothorax (11) and a little broader than base of prothorax (9), finely sparsely punctured, shorter than prothorax, frons short, vertex with two dully convex pentagonal areas divided by a short, dull median longitudinal concavity, and a pair of blackish lateral arcuate carinae, separating genae from frons and vertex, clypeus with a short apical rectangular protuberance at middle, occiput weakly convex; mandibles relatively long, strongly sinuately carinate above, with four dorsal and one ventral teeth, dorsal consisting of two apical and two median larger teeth, inner dorsal surface with a few hairs. Antennae arriving only at middle of prothorax, scape scarcely longer than broad (ratio, 2.7: 2.5), less than twice as broad as other joints (ratio, 2.5: 1.5), second joint 2.3 times as broad

as long, third and the following joints subequal in length, with a few terminal hairs internally and externally. Eyes coarsely faceted, almost entire, narrow, 2.7 times as deep as wide. Prothorax a little broader than long (ratio, 10: 8.5), broadest at apex, almost parallel-sided at apical half, then distinctly narrowed to sinuate base, with dull hind angles; disc smooth, very finely sparsely punctured. Scutellum broader than long (ratio, 3: 2.5), smooth, with a few punctures at apex. Elytra 1.4 times as long as head and prothorax combined (incl. mandibles), and 2.2 times as long as the basal width, subparallel-sided, with conjointly rounded apex; disc subfinely sparsely punctured, with three pairs of dull longitudinal costae. Body beneath shiny, finely sparsely punctured. Legs shiny, femora short, stout, elongate oblong, compressed, tibiae sinuate, each with a strong terminal spine above and with irregular three teeth below, tarsus five jointed, fifth slightly longer than first to fourth united together.

Length, 19.5 mm.; width, 5.5 mm.

Female; Head smaller than in male; prothorax narrowed to apex from middle and rounded at sides. Mandibles relatively shorter than in male.

The type designation of the paratype of P. shibatai Hayashi (1  $\,^{\circ}$ , Botel Tobago, off SE. Formosa, April 1936, T. Kano leg., in Nat. Sci. Mus., designated in 1963, by Hayashi) has to be cancelled for shibatai.

#### Lepturinae

#### Stenocorini

Pidonia japonica (Pic), comb. nov.

Pseudopidonia japonica Pic, 1953, L'Echange, 69 (534): 14 (Japon).

This species seems to be a form of *Pidonia discoidalis* Pic, so far as the judgment of the present author revising the original description shows.

#### Pidonia michinokuensis nom. nov.

Pidonia japonica Онвачавні et Начавні, 1960, Ent. Rev. Japan, 11 (1): 15, pl. 2, fig. 11; pl. 3, figs. 9, 17 (Mt. Hakkoda, Aomori, Akita, Iwate, Yamagata, northern Honshu), (nec Pic, 1953).

The specific name was preoccupied, then a new name is given here to our species.

#### Pidonia trilineata (Pic), comb. nov.

Pseudopidonia trilineata Pic, 1954, L'Echange, 70 (535): 3 (Japon).

This species also seems to be a form of *Pidonia maculithorax* Pic, so far as the original description shows.

#### Lepturini

#### Idiostrangalia contracta (BATES) form

Strangalia (Strangalina) mediolineata Pic, 1954, L'Echange, 70 (538): 13 (Japon). Through the courtesy of Dr. Andre Villiers, Professor, Museum national d'Histoire naturelle, Paris, the present author could examine the original type of the Pic's species, and arrived at the conclusion that this species belongs to Idiostrangalia contracta (Bates) as a form closely allied to ohbayashii (Matsushita).

#### Cerambycinae

#### Obriini

#### Genus Pseudiphra Gressitt

Pseudiphra Gressitt, 1935, Ins. Matsum., 9: 152 (nom. nov. for Obriomorpha Matsushita, 1933; nec Aurivillius, 1917 for a Cerambycid genus).

Obriomorpha Matsushita, 1933, Jl. Fac. Agr. Hokkaido Univ., 34 (2): 309 (Type species: *Iphra? apicale* Schwarzer, 1925 — Taiwan).

Iriomoteus VILLIERS et Chûjô, 1971, Mem. Fac. Educ. Kagawa Univ., 11 (192): 54 (Type species: I. elegans VILLIERS et Chûjô, 1971 — S. Ryukyu). – syn. nov. –

Though the last authors compared their new genus with *Iphrobrium Gressitt*, which is presently treated as a synonym of *Longipalpus Montrouzier*; however, the type species, *I. elegans Villiers* et Chûjô is quite identical with the generic characters of *Pseudiphra Gressitt* and so far from *Iphrobrium Gressitt*. The species is also very closely allied to *P. apicale* (Schwarzer) from Taiwan, which is very much variable in colour.

#### Stenhomalus muneaka sp. nov.

Body blackish brown, prothorax and legs light reddish brown, and antennae annulated with dark yellowish basally from fourth to eleventh joints. Body covered with fine sparse fulvous pubescence in general and scattered with long flying fulvous hairs on prothorax, elytra and legs. Occiput reddish, and mouthparts reddish yellow, excepting apices of mandibles darkened.

Body flattened, head broader than prothorax (ratio, 4.8:4), frons

densely granulate-punctate, with a deep median longitudinal furrow and a pair of arcuate lateral ridges, separating genae from frons, occiput densely punctate, genae very short; eyes large, coarsely faceted, deeply emarginate, lower lobe almost occupying the side of head, upper lobes somewhat approximate each other on dorsum. Antennae in male fairly longer than body, surpassing elytral apices by eighth joint, slender, scape clavate, densely punctured, relative length of each joint is as follows: - 2.7: 0.4: 2.4: 2.5: 3.8: 4: 3.9: 3.5: 3.4: 3: 3.1. Prothorax longer than broad, broader at apex than at base (ratio, 3.5:3), finely constricted just insides of apex and base, and distinctly so before and behind lateral tubercles which dully produced at sides of middle, occupying more than two fifths of prothoracic length; disc shining, scattered with a few shallow coarse punctures. Scutellum small, tongue-shaped. Elytra broader than prothorax (ratio, of widest breadth between lateral tubercles of prothorax against the width of the base of elytra; 5.5:13), 2.4 times as long as the basal width, nearly parallel-sided for basal half, then slightly broadened and narrowed from apical one fourth, to separately rounded apices; disc coarsely, closely and striately punctured. Breast and abdomen impunctate. Legs slender, relatively long, femora shortly pedunculate and clavate apically, tibia simple, and tarsi relatively short.

Length, 8 mm., width, 3 mm.

Holotype,  $\Im$  (Hayashi coll.), paratype, 1  $\upphi$ , Kuzuha pass, Niigata Pref., Honshu, Sept. 12, 1978, H. Konishi leg. (Shibata coll.).

This new species is somewhat allied to *S. nagaoi* Hayashi from Japan, however, it immediately differs from the latter in having the quite different dark body colour.

#### Methiini

Oplatocera (Epioplatocera) mitonoi sp. nov.

Oplatocera oberthuri: Gressitt, 1935, Phil. Jl. Sci., 57 (2): 182 (Hassenzan, Bukai, Taiwan) (partim) (nec Gahan, 1906); Мітоло, 1938, Nippon no Kochu, Tokyo, 2 (1): 5 (Sozan, Taiwan; host: Adinandra formosana Начата); Сно̂јô et Мітоло, 1939, Taiwan Sangaku (Mountains of Formosa), 10: 97, fig. 2; Мітоло, 1940, Cat. Col. Japon., 8, 94, Ceramb.: 81.

Oplatocera (Epioplatocera) oberthuri: GRESSITT, 1951, Longic., 2:130, 132 (partim), (nec Gahan, 1906).

Reddish brown, matt, marked with dark brown to black as the following manners:— prothorax with an inverted cordate marking (in time, it divided into two at middle, scarcely related each other at the top) at center and a pair of short longitudinal vittae at sides of disc, and another pair of narrow ones inferiolateral near procoxae; elytra decorated

with two pairs of strongly oblique fasciae, first divided into two, an ill-defined lateral, narrow oblique one, and another discal oblong dark brown marking before middle, and second broader than first, oblique band post median, with darkened apical margins; apices and inner margins of mandibles, clypeus, temples and genae narrowly black, eyes black, basal palpal joints blackish; antennae black at apices of scapes, second joint, and apices from third to tenth joints, the blackish portions gradually abbreviated apically; gula, prosternal process, trochanters of fore legs, center of mesosternum, lateral margins of mesepisternum and metasterna, and apices of abdominal segments black; apices of femora and tibiae black. Body clothed with very short golden erect hairs denser and longer on prothorax, body and antennae beneath, than on other dorsum, and rather scarce on elytra and abdomen.

Head nearly as broad as long, narrower than prothorax, granulatepunctate, frons, clypeus and labrum very short, with a median longitudinal furrow on vertex and occiput, mandibles short, eyes coarsely faceted, deeply emarginate, upper lobe ovate, lower lobe globular, longer than broad, nearly as long as gena. Antennae in male 1.7 times as long as body, slender, scape short, thickened to apex which is ectoapically angulate, apices from third to seventh joints slightly thickened ectoapically with short stiffed hairs externally, third the longest, about twice as long as scape and longer than fourth. Prothorax broader than long (ratio, 5:4), distinctly tuberculated laterally behind middle, gradually narrowed to and strongly constricted behind apex, narrowed posteriorly to and narrowly constricted before base; disc densely granulate rugulose, strongly uneven. Scutellum small, triangular. Elytra about 2.6 times as long as the basal width, fairly narrowed posteriorly to narrowly acutely terminated apices at sutural angles; disc with four pairs of costae, the inner two longitudinal, starting from base and united before apical one fourth, outer two somewhat oblique, starting from behind humeri, third united to second before apex and fourth vanished posteriorly. Breast, abdomen and legs minutely, finely closely punctulate.

Length, 33 mm., width, 9 mm.

Holotype, %, Yangminshan, near Taipei, Taiwan, June 3, 1936, Y. Izumi leg. (ex. coll. Dr. K. Nakamura) (Hayashi coll.); paratype, 1 %, Fungchiifo, Taiwan, Aug. 18, 1968, Y. Maeda and T. Kobayashi leg. (Shibata coll.).

This new species differs from O. (E.) oberthuri Gahan from India, in having stouter lateral tubercles behind middle, instead of sharper but shallower ones at middle, distinctly posteriorly narrowed elytra, instead of nearly parallel-sided one, darker body colour with less developed elytral dark bands, etc.

The present author could compare this Taiwanese species with the true O.

oberthuri from Nepal. The holotype of this new species is actually one of the series once treated as so-called *O. oberthuri*, by Mr. MITONO, and had been presented to the present author through the courtesy of Dr. K. NAKAMURA, former Professor of Fac. Sci., Kyoto University, for which the present author wishes to thank for his kindness.

Therefore, in Taiwan, there are found two species of *Oplatocera* at present, viz. *mandibulata* Miwa et Mitono, 1935 (Miyama-oni-kamikiri) and *mitonoi* Hayashi, 1981 (Hasuji-oni-kamikiri, Chûjô et Mitono). The new scientific name is dedicated to Mr. Takeo Mitono, excellent entomologist, greatly contributed to the knowledge of Cerambycid fauna of Taiwan.

Correction for "Studies on Asian Cerambycidae, II (Coleoptera)", 1978, Ent. Rev. Japan, XXXI (1/2): 91.

Line 1. hamabovola should be read as hamabovora. According to the advise of Mr. Heikichi Irie of Fukuoka Pref., the host of the Glenea hamabovora is not Hibiscus Hamabo (Sieb. et Zucc.) Maxim., but Hibiscus tiliaceus Linné (Oohamabo, Yamaasa), because, there are no representatives of H. Hamabo from Ishigaki and Iriomote Islands.

#### Female Genitalia of Pterostichini Species mainly from Japan (II) (Coleoptera, Carabidae)

#### By Akinobu Habu

Insect Taxonomy Laboratory,
National Institute of Agricultural Sciences<sup>1)</sup>,
Kannondai III, Yatabe, Ibaraki Pref.-305

Genus Pterostichus Bonelli (continued from part I)

Subgenus *Nialoe* Tanaka Subgenus *Paralianoe* Ishida Subgenus *Epinialoe* Nakane

Styluses hardly to fairly curved; basal segment setose at subapical area of membranous part; apical segment rather narrow and long, base often more or less protrudent outward, sometimes not protrudent, ventral outer margin with two, sometimes one, rarely three, spines, spines not well developed, dorsal outer margin with one spine, rarely without spine (Fig. 88 A), subapical foramen distinct, with setae rather short. Hemisternites with sclerotized part generally not protrudent outward at apex.

The distinctions between these subgenera are mainly founded on some male genital characteristics, but I am sceptical about their subgeneric value; I treat them, therefore, as the same in this paper. The female genitalia are of no avail in discriminating them.

#### Pterostichus (Nialoe) brunneipennis akaishicus Tanaka

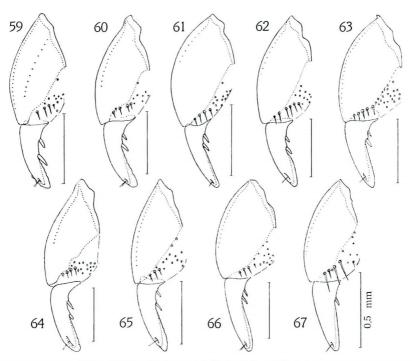
Styluses (Fig. 59) gently curved, basal segment with three or four somewhat long or rather short setae at subapical area, apical segment moderately curved, base protrudent outward, ventral outer margin with generally two, sometimes three, spines, spines rather long, a little stout, dorsal outer margin with one rather short spine; hemisternites with about thirty somewhat long distinct setae at apical membranous part.

<sup>1)</sup> Retired in June, 1981.

<sup>[</sup>Ent. Rev. Japan, Vol. XXXVI, No. 1, pp. 33-53, Sept., 1981]

#### Pterostichus (Nialoe) nakanei Straneo

Styluses (Fig. 60) moderately curved, basal segment with four or five short but distinct setae at subapical area, apical segment fairly curved, base protrudent outward, ventral outer margin with two rather short or somewhat long, a little stout spines, dorsal outer margin with one spine similar to those of ventral outer margin; hemisternites with about thirty rather long setae at apical membranous part.



Figs. 59-67. Styluses of Pterostichus (Nialoe) spp.

59. P. brunneipennis akaishicus Tanaka from Mt. Kobushigatake, Nagano Pref. (T. YAMAGUCHI). 60. P. nakanei STRANEO from Mt. Nishikomagadake, Nagano Pref. (S. IMAFUKU). 61. P. rhanis rhanis (TSCHITSCHÉ-RINE) from Katashina, Gumma Pref. (A. HABU). 62. P. rhanis angustistylis TANAKA from Mt. Hakone, Kanagawa Pref. (K. Suga). asymmetricus Bates from Katashina, Oze, Gumma Pref. (A. Habu). katashinensis katashinensis Habu from Katashina, near Oze, Gumma Pref. (A. HABU). 65. P. katashinensis naganoensis TANAKA from Kakumazawa, Ueda, Nagano Pref. (A. OGURA). 66. P. tokejii Yoshida et Tanaka from Mt. Mitake, Tokyo M. D. (S. KASAHARA). 67. P. latistylis TANAKA from Mt. Sasagamine, Niigata Pref. (K. BABA).

# Pterostichus (Nialoe) rhanis rhanis (Tschitschérine) P. rhanis angustistylis Tanaka

Styluses (Figs. 61, 62) moderately to fairly curved, basal segment with four to six rather short setae at subapical area, apical segment moderately curved, base protrudent outward, ventral outer margin with two spines, spines somewhat long or rather short, not stout, dorsal outer margin with one rather short spine; hemisternites with about thirty rather short setae at apical membranous part.

#### Pterostichus (Nialoe) asymmetricus Bates

Styluses (Fig. 63) moderately curved, with four or five short setae at subapical area, apical segment moderately curved, base protrudent outward, ventral outer margin with two spines, spines rather short, not stout, dorsal outer margin with one short spine; hemisternites with numerous (about forty) distinct bristles at apical membranous part.

# Pterostichus (Nialoe) katashinensis katashinensis Habu P. katashinensis naganoensis Tanaka

Styluses (Figs. 64, 65) moderately curved, basal segment with three or four short and fine setae at subapical area, apical segment moderately curved, base protrudent outward, ventral outer margin with two spines, spines moderately long, rather slender, dorsal outer margin with one spine similar to ventral spines; hemisternites with about thirty rather long setae at apical membranous part.

#### Pterostichus (Nialoe) tokejii Yoshida et Tanaka

Styluses (Fig. 66) moderately curved, basal segment with three or four short setae at subapical area, apical segment gently curved, base protrudent outward, ventral outer margin with two rather short or somewhat long, slender spines, dorsal outer margin with one spine similar to ventral marginal spines; hemisternites with about thirty setae at apical membranous part.

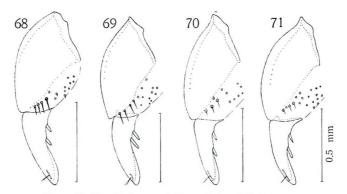
#### Pterostichus (Nialoe) latistylis Tanaka

Styluses (Fig. 67) gently curved, basal segment with three or four fairly long and one or two short setae at subapical area, apical segment a little curved, base somewhat dilated outward, ventral outer margin with one or two spines, spines short, narrow, dorsal outer margin with one short and narrow spines; hemisternites with more than twenty long setae at apical membranous part.

# Pterostichus (Nialoe) spiculifer spiculifer Bates P. spiculifer yatsuensis Tanaka

Styluses (Figs. 68, 69) moderately or fairly curved, basal segment with about

four somewhat long setae at subapical area, apical segment fairly curved, base protrudent outward, ventral outer margin with two spines, spines rather short to somewhat long, slightly stout, dorsal outer margin with one spine similar to those of ventral outer margin; hemisternites with some thirty moderately long setae at apical membranous part, apical area of sclerotized part with rudimentary protrusion.



Figs. 68-71. Styluses of *Pterostichus* (Nialoe) spp.

68. P. spiculifer spiculifer Bates from Mt. Monnaidake, Niigata Pref. (K. Baba). 69. P. spiculifer yatsuensis Tanaka from Kirizumi spa, Gumma Pref. (A. Habu). 70. P. janoi Jedlička from Kamikôchi, Nagano Pref. (H. Hasegawa). 71. P. cristatoides Straneo from Mt. Kurohime, Niigata Pref. (K. Baba).

#### Pterostichus (Nialoe) janoi Jedlička

Styluses (Fig. 70) gently curved, basal segment with about three short fine setae at subapical area, apical segment weakly curved, base protrudent outward, ventral outer margin with two spines, spines rather short, hardly stout, dorsal outer margin with one rather short spine; hemisternites with about thirty rather long setae at apical membranous part, apical area of sclerotized part with rudimentary protrusion.

#### Pterostichus (Nialoe) cristatoides Straneo

Styluses (Fig. 71) moderately curved, basal segment with about three short and fine setae at subapical area, apical segment moderately curved, base protrudent outward, ventral outer margin with two, sometimes three, spines, spines rather long, hardly stout, dorsal outer margin with one rather short spine; hemisternites with more than thirty somewhat long setae at apical membranous part.

#### Pterostichus (Nialoe) biexcisus kawanoi Ishida

Styluses (Fig. 72) gently curved, basal segment wide, with about four fairly

short and fine setae at subapical area, apical segment somewhat curved, base protrudent outward, ventral outer margin with one (sometimes two) spine, spine fairly short and narrow, dorsal outer margin with one fully short and narrow spine; hemisternites with more than thirty short setae at apical membranous part.

#### Pterostichus (Nialoe) chujoi Habu

Styluses (Fig. 73) hardly curved, basal segment narrow, with five rather long setae at subapical area, apical segment slightly curved, base not protrudent outward, ventral outer and dorsal outer margins with one spine at basal one-sixth to-fourth, spines not long nor stout; hemisternites with about fifteen rather long setae at apical membranous part.

#### Pterostichus (Nialoe) uenoi uenoi Straneo

Styluses (Fig. 74) fairly curved, basal segment narrow, with three or four fully long and one or two short setae at subapical area, apical segment longer and narrower than usual, base hardly protrudent outward, ventral outer margin with two spines, spines somewhat long, slender, dorsal outer margin with one spine similar to those of ventral outer margin; hemisternites with about twenty rather long setae at apical membranous part.

#### Pterostichus (Nialoe) mirificus Bates

Styluses (Fig. 75) weakly curved, basal segment with three or four developed setae and one or two short setae at subapical area, apical segment almost straight or a little curved, base not or somewhat dilated outward, ventral outer margin with one or two spines, spines short, spine near middle a little stout, dorsal outer margin with one short spine; hemisternites with about twenty developed setae at apical membranous part.

# Pterostichus (Nialoe) symmetricus Straneo

Styluses (Fig. 76) gently curved, basal segment with six or seven rather short setae at subapical area, apical segment gently curved, base protrudent outward, ventral outer margin with two spines, spines rather short, slender, dorsal outer margin with one spine similar to ventral marginal spines; hemisternites with more than thirty rather long setae at apical membranous part.

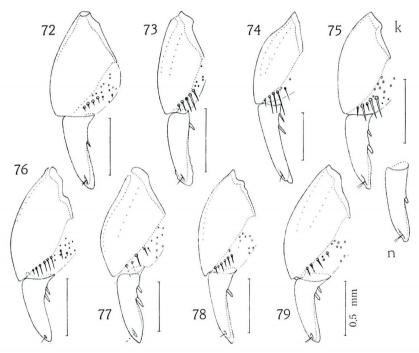
#### Pterostichus (Nialoe) mucronatus Straneo

Styluses (in one older \$\pi\$) (Fig. 77) a little curved, basal segment wide, with four or five short to somewhat long setae at subapical area, apical segment weakly curved, base protrudent outward, ventral outer margin with two spines, spines somewhat long, a little stout, dorsal outer margin with one rudimentary spine; hemisternites with about thirty rather short or somewhat long setae at apical

membranous part.

# Pterostichus (Nialoe) yakushimanus Nakane et Ishida

Styluses (Fig. 78) moderately curved, basal segment with five or six short to rather short setae at subapical area, apical segment gently curved, base protrudent outward, ventral outer margin with one or two somewhat long, a little stout spines, dorsal outer margin with one spine similar to ventral marginal spines; hemisternites with more than thirty somewhat long setae at apical membranous part.



Figs. 72-79. Styluses of Pterostichus (Nialoe) spp. 72. P. biexcisus kawanoi Ishida from Mt. Tsurugi, Tokushima Pref. (K. TERADA). 73. P. chujoi Habu from Mt. Tsurugi, Tokushima Pref. (M. CHÛJÔ). 74. P. uenoi uenoi STRANEO from Renge spa, Niigata Pref. (K. BABA). 75. P. mirificus Bates. k. ex. from Kurokawa, Niigata Pref. (K. BABA). n. Mt. Narumi, Niigata Pref. (K. BABA). 76. P. symmetricus STRANEO from Tsushima Is., Nagasaki Pref. (T. Shibata, through Mr. I. 77. P. mucronatus Straneo from Hirogawara, Nagano Pref. (A. HIURA). 78. P. yakushimanus NAKANE et ISHIDA from Mt. Miyanoura, Yaku Is., Satsunans, Kagoshima Pref. (Y. ASANO). 79. P. touzalini AND-REWES from Reihôkigan, Quelpart Is., Korea (through Dr. K. KUROSA).

# \*Pterostichus (Nialoe) touzalini Andrewes<sup>2)</sup> (Quelpart Is., Korea)

Styluses (Fig. 79) moderately curved, basal segment with three somewhat long setae at subapical area, apical segment moderately curved, base protrudent outward, ventral outer margin with two (sometimes one) spines, spines rather short, not stout, dorsal outer margin with one rather short, narrow spine; hemisternites with more than twenty rather long setae at apical membranous part.

#### Pterostichus (Nialoe) hisamatsui Ishida

Styluses (Fig. 81) gently curved, basal segment with three to five setae at subapical area, two or three of setae fairly long, apical segment gently curved, base protrudent outward, ventral outer margin with three spines, spines rather long, hardly stout (distal spine slightly stout), dorsal outer margin with one spine (abnormally two on left stylus of one spec. examined) similar to ventral marginal spines; hemisternites with some twenty fairly long setae at apical membranous part.

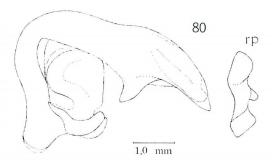
#### Pterostichus (Nialoe) pachinus Bates

Styluses (Figs. 82, 83) gently curved, basal segment moderately to fairly wide, with three to five or six somewhat long setae at subapical area, apical segment a little curved, base protrudent outward, ventral outer margin with one or two spines, dorsal outer margin with one spine, dorsal and ventral spines rather short, not stout; hemisternites with more than thirty somewhat or rather long setae at apical membranous part.

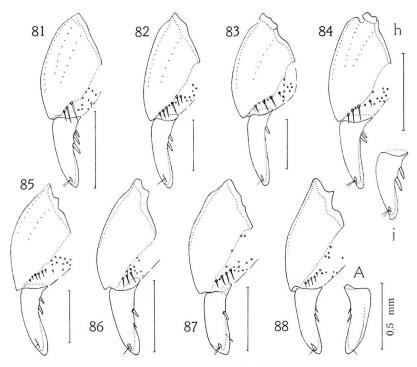
# Pterostichus (Nialoe) kyushuensis Habu

Styluses (Fig. 84) weakly curved, basal segment with three or four somewhat long setae at subapical area, apical segment weakly or gently curved, base protrudent outward, ventral outer margin with two spines, spines rather short and not stout, or somewhat long and rather stout, dorsal outer margin with one spine similar to distal spine of ventral outer margin; hemisternites with more than twenty rather long setae at apical membranous part.

Fig. 80. Male genitalia of *Pterostichus* (*Nialoe*) touzalini Andrewes from Quelpart Is., Korea (through Dr. K. Kurosa). rp: right paramere.



<sup>&</sup>lt;sup>2)</sup> The aedeagus (Fig. 80) is very characteristic in having a large, well protrudent protuberance on the ventral side before the middle.



Figs. 81-88. Styluses of Pterostichus (Nialoe) spp.

81. P. hisamatsui Ishida from Mt. Daisen, Kagawa Pref. (M. Satou).
82. P. pachinus Bates from Mt. Ichifusa, Kumamoto Pref. (A. Habu).
83. Do. from Mt. Hiko, Fukuoka Pref. (A. Habu).
84. P. kyushuensis Habu. h. ex. from Mt. Hiko, Fukuoka Pref. (A. Habu). j. Mt. Jakuchi, Yamaguchi Pref. (Kaoru Tanaka).
85. P. abaciformis Straneo from Azohara, Toyama Pref. (C. Tanaka).
86. P. asahinus Habu et Baba from Ishikiri Cave, Nakajō, Niigata Pref. (K. Baba).
87. P. macrogenys Bates from Katashina, Gumma Pref. (A. Habu).
88. Do. from Mt. Myōkō, Niigata Pref. (K. Baba).
88. Do. from Mt.

#### Pterostichus (Nialoe) abaciformis Straneo

Styluses (Fig. 85) moderately curved, basal segment with three or four short setae and a few shorter and finer setae at subapical area, apical segment moderately curved, base protrudent outward, ventral outer margin with two spines, spines rather short, slender, dorsal outer margin with one spine similar to ventral marginal spines; hemisternites with about thirty setae, inner setae short, outer setae somewhat long, at apical membranous part.

#### Pterostichus (Nialoe) asahinus Habu et Baba

Styluses (Fig. 86) moderately curved, basal segment with about three rather short setae and a few very short and fine hairs at subapical area, apical segment gently curved, base protrudent outward, ventral outer margin with two spines, spines more or less short, narrow, dorsal outer margin without spine; hemisternites with some thirty short setae at apical membranous part.

#### Pterostichus (Nialoe) macrogenys Bates

Styluses (Figs. 87, 88) weakly or gently curved, basal segment with about four short or rather short setae at subapical area, apical segment hardly or weakly curved, base protrudent outward, ventral outer margin with one or two short and narrow spines, dorsal outer margin without spine or with one vestigial spine; hemisternites with more than thirty rather short setae at apical membranous part.

#### Subgenus undefined (for yoritomus)

Styluses (Fig. 89) a little curved; basal segment moderately wide, with some setae at subapical area of membranous part, setae fully short and fine; apical segment moderately curved, rather narrow, well protrudent outward at base, ventral outer margin with two spines, dorsal outer margin with one spine, subapical foramen present, with two short setae. Hemisternites with sclerotized part not protrudent outward at apex.

# Pterostichus (subg. ?) yoritomus Bates

Basal segment of styluses (Fig. 89) with three or four setae at subapical area, apical segment with dorsal and ventral marginal spines moderately long, not or slightly stout; hemisternites with about twenty short, somewhat stout setae at apical membranous part.

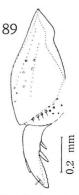


Fig. 89. Stylus of Pterostichus (subg. ?) yoritomus Bates from Mt. Nyûkasa, Nagano Pref. (T. KIMURA).

# Subgenus Platysma Bonelli

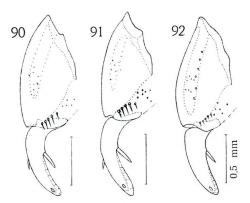
Styluses (Figs. 90-92) more or less curved; basal segment moderately wide, with some setae at subapical area of membranous part; apical segment narrow or somewhat slender, base well protrudent outward, ventral outer margin and dorsal outer margin with one distinct spine

before middle, subapical foramen present, without setae. Hemisternites with sclerotized part not protrudent at apical area or with rounded rudimentary protrusion.

The apical segment with a single spine on the ventral outer margin and dorsal outer margin is so far constant in this subgenus.

#### Pterostichus (Platysma) fortis Morawitz

Basal segment of styluses (Fig. 90) with about five short setae at subapical area, apical segment well curved, ventral outer margin fairly sinuate, spine long, slightly stout; hemisternites with more than twenty distinct setae at apical membranous part, sclerotized part not protrudent outward at apex.



Figs. 90-92. Styluses of *Pterostichus (Platysma*) spp. 90. *P. fortis* Morawitz from Ôiso, Kanagawa Pref. (A. Habu). 91. *P. leptis* Bates from Ammonkyô, Hokkaido (A. Abe). 92. *P. niger* (Schaller) from Germany.

# Pterostichus (Platysma) leptis Bates

Styluses (Fig. 91) and hemisternites similar to those of *fortis*, but apical segment a little longer.

# \*Pterostichus (Platysma) niger (Schaller) (Europe)

Basal segment of styluses (Fig. 92) with about five very short and fine hairs at subapical area, apical segment less rounded and less slender than in two preceding spp., ventral outer margin less emarginate, dorsal and ventral marginal spines a little shorter, slender; hemisternites with more than twenty short setae at apical membranous part, sclerotized part roundly, obsoletely protrudent outward at apical area.

# \*Subgenus Eutrichopus Tschitschérine

Styluses (Fig. 93) narrow, curved; basal segment rather narrow, with a few setae at subapical area of membranous part; apical segment slender, well curved, somewhat tapering apically, base hardly protrudent outward, ventral outer margin and dorsal outer margin with one spine, spines developed, subapical foramen distinct, with two distinct setae. Hemisternites hardly sclerotized at apical third, setae on apical area scarce.

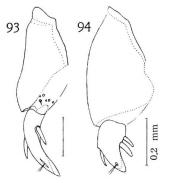
The styluses and hemisternites are unusual in Pterostichus.

#### \*Pterostichus (Eutrichopus) canariensis Brullé (Canaries)

Basal segment of styluses (Fig. 93) with one short seta and some distinct pores at subapical area, apical segment well curved, narrow, four times as long as wide at base, dorsal and ventral marginal spines at about basal fourth, fairly long and rather stout; hemisternites with three short setae at supposed apex.

# Uncertain species \*Pterostichus harpaloides Wollaston? (Canaries)

I have a pair of specimens identified as *P. harpaloides* by H. LINDBERG. The specimens have the elytra not twisted and not sinuate on the lateral border at the subapical area, and the female genitalia (Fig. 94) are also like those of some of the Sphodrina of the Platynini. I do not know whether LINDBERG's identification is correct or not.



Figs. 93, 94. Styluses in two spp. from Canaries. 93. Pterostichus (Eutrichopus) canariensis Brullé from Tenerife Is. 94. Gen. sp. (Sphodrina of Platynini) from Gomera Is.

# Genus Hypherpes Chaudoir<sup>3)</sup>

Styluses (in *colonus*) (Fig. 95) somewhat curved; basal segment with sclerotized part not extending outward at apical area, with some setae

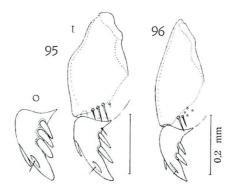
<sup>&</sup>lt;sup>3)</sup> After sent the typescript to the editorial staff, through the courtesy of Professor George E. Ball, I have been able to study some species of the genuine *Hypherpes* from Canada and *Allotriopus serratipes* Chaudoir from Mexico. I am now making another paper concerning the Japanese *Hypherpes* and *Allotriopus*.

at subapical area of membranous part, situation of setae like in *Pterostichus*; apical segment rather wide at basal half, somewhat narrow at apical half, not or somewhat acuminate apically, base fairly protrudent outward, ventral outer margin with three spines, dorsal outer margin with one spine, spines more or less well developed, subapical foramen distinct, with rather short setae (or seta?). Hemisternites similar to those of *Pterostichus*.

LINDROTH (1966) mentions that "... It must be concluded that the similarities between the Japanese *colonus* and the *amethystinus* and *adoxus* group of N. America are superficial and no signs of true relationship", but he does not establish a genus or subgenus for *colonus*.

# Hypherpes colonus Bates

Basal segment of styluses (Fig. 95) rather narrow in Ôkue ex., wider in Tsurugi ex., with three or four fairly long distinct setae at subapical area, apical segment well curved, dorsal and ventral marginal spines fully long and stout (proximal spine on ventral outer margin shorter and fine in Tsurugi ex.); hemisternites with more than twenty long, stout, spinous setae at apical membranous part.



Figs. 95, 96. Styluses of *Hypherpes* and *Allotriopus* spp. 95. *H. colonus* Bates. o. ex. from Mt. Ôkue, Miyazaki Pref. (M. Noda). t. Mt. Tsurugi, Tokushima Pref. (M. Satou). 96. *A. hoplites* Bates from Katashina, near Oze, Gumma Pref. (A. Habu).

# Genus Allotriopus Bates4)

Styluses (Fig. 96) like those of preceding gen., somewhat curved; basal segment with a few setae at subapical area of membranous part; apical segment acuminate apically, ventral outer margin with two or

<sup>4)</sup> Vid. the footnote 3.

three spines, dorsal outer margin with one spine, spines developed, subapical foramen distinct, seta (or setae) short and fine. Hemisternites like in preceding gen.

#### Allotriopus hoplites Bates

Basal segment of styluses (Fig. 96) rather narrow, with two relatively long setae at subapical area, apical segment well curved, ventral outer margin with two long and rather stout spines in one spec. examined, with three (proximal spine shorter and narrower) spines in other spec. examined; hemisternites with more than ten somewhat long setae at apical membranous part.

#### Genus Abax Bonelli

Styluses (only in *parallelus*) (Fig. 97) gently curved, reminding of some *Pterostichus* spp.; basal segment wide, with some setae at subapical area of membranous part, sclerotized part not extending outward at apical area; apical segment long, rather narrow, not tapering apically, base somewhat protrudent outward, ventral outer margin with one spine, dorsal outer margin with or without spine, subapical foramen present, with short seta (or setae?). Hemisternites similar to those of *Pierostichus*.

The styluses of this genus resemble those of *Omaseus, Steropus, Nialoe* etc. of *Pterostichus*.

# \*Abax (Abax) parallelus (Duftschmid) (Europe)

Basal segment of styluses (Fig. 97) with three or four rather short or somewhat long setae at subapical area, apical segment moderately curved, ventral outer margin shallowly sinuate, spine rather long, slender, dorsal outer margin without spine on left stylus, with one spine shorter than ventral marginal spine on right stylus in one spec. examined; hemisternites with about ten short but distinct setae at inner apical area of membranous part.

#### Genus Stomis CLAIRVILLE

Styluses (Figs. 98-100) somewhat curved; basal segment wide, sclerotized part extending outward and reaching outer margin of membranous part, membranous part confined at inner apical area, with a few or

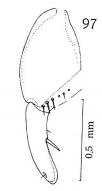


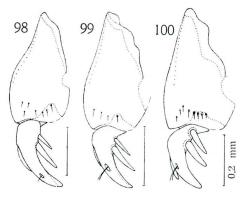
Fig. 97. Stylus of Abax (Abax) parallelus (Duftschmid) from Austria.

some short setae, sclerotized part also with three or four short setae at inner subapical area; apical segment fully curved, narrow at apical half, tapering apically, base distinctly protrudent outward, ventral outer margin with two spines, dorsal outer margin with one spine, marginal spines exceedingly long, stout, subapical foramen present, transferred more proximally than usual, setae present. Hemisternites similar to those of *Pterostichus*.

The basal segment with the sclerotized part wider than in *Pterostichus* and sparsely setose at the inner subapical area, and the characteristic form of the apical segment with remarkably long spines make it easy to distinguish *Stomis* from the other genera of the Pterostichini.

## Stomis prognathus Bates (see also Habu, 1981)

Basal segment of styluses (Fig. 98) with about three setae on apical membranous part, proximal spine on ventral outer margin fairly shorter and narrower than distal spine, fairly distant from base, subapical foramen before to behind apical third, setae short and fine; hemisternites with more than ten short setae at apical membranous part.



Figs. 98-100. Styluses of Stomis spp.

98. S. prognathus prognathus Bates from Mt. Izugadake, Saitama Pref. (M. Ohno). 99. S. pumicatus (Panzer) from Poland. 100. S. zaonus Habu from Mt. Chôkai, Yamagata Pref. (K. Shirahata).

# \*Stomis pumicatus (PANZER) (Europe)

Basal segment of styluses (Fig. 99) with one seta on apical membranous part, apical segment similar to that of *prognathus* in its form and size of spines, but subapical foramen opened more proximally, a little behind middle, with setae longer; hemisternites with less than ten short setae at apical membranous part.

#### Stomis zaonus Habu (see also Habu, 1981)

Basal segment of styluses (Fig. 100) with two or three (rarely four) setae at apical membranous part, apical segment shorter and more curved than in two preceding spp., base wider, spines distinctly stouter, proximal spine on ventral outer margin a little shorter and narrower than distal spine, a little separated from base, subapical foramen opened behind middle, setae similar to those of *pumicatus*, longer than in *prognathus*; hemisternites with about ten short setae at apical membranous part.

#### Genus Cosmodiscus SLOANE

Styluses (Fig. 101) somewhat curved; basal segment rather wide, sclerotized part not extending outward, but roundly protrudent apically, apical membranous part narrow at apical area, with a few setae near base of apical segment, setae situated distinctly more distally than usual; apical segment fairly curved, wide at basal half, narrow at apical half, slightly tapering apically, base fully protrudent outward, base of ventral side well oblique owing to protrudent area of sclerotized part of basal segment, ventral outer margin deeply sinuate, with one fully long, exceedingly stout spine, dorsal outer margin without spine, subapical foramen opened fairly more proximally than usual as in *Stomis*, setae (or seta) short and fine. Hemisternites glabrous.

This genus is isolated from the other genera:— the basal segment of the styluses with the sclerotized part roundly protrudent apically, the apical segment without any spine on the dorsal outer margin though with a single well developed spine on the ventral outer margin, and the unusual hemisternites without setae nor hairs are noteworthy characteristics. The styluses of *C. platynotus* are shorter as compared with its body length, only one and one-tenth times as long as those of the following *Caelostomus picipes* which is distinctly smaller in the body length.

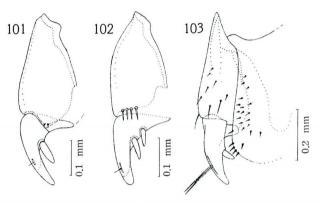
# Cosmodiscus platynotus (BATES)

Basal segment of styluses (Fig. 101) with two fully short setae at apical area of membranous part, apical segment with subapical foramen at about apical third.

#### Genus Caelostomus MacLeay

Styluses (Fig. 102) a little curved; basal segment with sclerotized part not extending outward nor apically, membranous part relatively short but wide, setae lined almost transversely near base of apical seg-

ment, setae situated more inward than usual; apical segment a little curved before apex, wide at basal half, narrow but not tapering at apical half, ventral outer margin well sinuate, with two spines, dorsal outer margin with one spine near middle, dorsal and ventral spines fairly long and stout, subapical foramen with setae (or seta) short. Hemisternites setose at apical part.



Figs. 101-103. Styluses (with inner part of hemisternite in Fig. 103). 101. Cosmodiscus platynotus (Bates) from Chiba, Chiba Pref. (A. Habu). 102. Caelostomus picipes MacLeay from Fuchů, Tokyo M. D. (A. Habu). 103. Oxyglychus laeviventris (Bates) from Mt. Kuishi, Kôchi Pref. (K. Morimoto).

# Caelostomus picipes MACLEAY

Basal segment of styluses (Fig. 102) with three or four rather short or somewhat long distinct setae at apical area; hemisternites with more than ten short to somewhat long setae at apical membranous part.

# Genus Oxyglychus Straneo

Styluses (Fig. 103) almost straight; basal segment sclerotized almost wholly, so without distinct membranous part, with several scattered setae, some setae short, some setae at subapical area rather long; apical segment moderately curved and somewhat narrowed at apical half, base well protrudent outward, ventral outer margin with one somewhat long, fully stout, spur-like spine at about middle, dorsal outer margin with one similar spine near middle, subapical foramen rather large, two setae fully long and distinct. Hemisternites (Fig. 103) setose at inner area (not apical area) of membranous part.

The female genitalia are so exceedingly different from those of the other genera, that *Oxyglychus* must also be an isolated genus, and there is no slightest relationship between this and the preceding *Caelostomus*. Although *O. laeviventris* is a little smaller in the body length than *Caelostomus picipes*, the styluses are distinctly longer, about one and one-half times as long as those of the latter (cf. scales in Figs. 102 and 103).

#### Oxyglychus laeviventris (BATES)

Basal segment of styluses (Fig. 103) with some six short and three rather long setae; hemisternites with rather dense short spinous setae at inner area, four or five setae at distal inner area a little longer and stouter.

#### Genus Abacetus Deiean

Styluses (Figs. 104–106) gently curved; basal segment similar to that of *Pterostichus*, sclerotized part not extending outward at apical area, membranous part with some setae lined obliquely on or along outer margin of sclerotized part near base of apical segment; apical segment narrowed towards apex, base protrudent outward, ventral outer margin more or less sinuate, with one spine near middle, spine short and narrow, dorsal outer margin without spine, subapical foramen present, with short setae. Hemisternites with several setae at apical membranous part.

#### Abacetus submetallicus Nietner

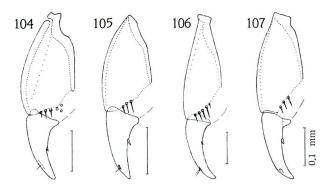
Basal segment of styluses (Fig. 104) somewhat wide, with three short setae at apical to subapical area, apical segment moderately curved, somewhat wide at basal half; hemisternites with less than ten somewhat long, stout setae at apical membranous part.

#### Abacetus leucotelus Bates

Basal segment of styluses (Fig. 105) rather narrow, with three somewhat long setae at subapical area, apical segment weakly curved, somewhat wide at basal half; hemisternites with more than ten rather long setae at apical membranous part.

#### Abacetus tanakai Straneo

Basal segment of styluses (Fig. 106) fairly narrow, with four or five somewhat long setae at subapical area, apical segment distinctly narrower than in two



Figs. 104-107. Styluses of Abacetus and Chlaeminus spp. 104. Abacetus submetallicus Nietner from Nepal (T. Kumata). 105. A. leucotelus Bates from Takara Is., Tokaras, Satsunans, Kagoshima Pref. (S.-I. Uéno). 106. A. tanakai Straneo from Akigase, Urawa, Saitama Pref. (H. Kajimura). 107. Chlaeminus (Chlaeminus) annamensis Tschitschérine from Takara Is., Tokaras, Satsunans, Kagoshima Pref. (T. Nakane).

preceding spp., well curved apically, spine on ventral outer margin very short and fine; hemisternites with less than ten short setae at apical membranous part.

#### Genus Chlaeminus Motschulsky

Styluses (Fig. 107) and hemisternites similar to those of *Abacetus*, but subapical foramen of apical segment without seta (in single  $\varphi$  of *annamensis* examined).

The female genitalia point out that *Chlaeminus* is nearly allied to *Abacetus*.

## Chlaeminus (Chlaeminus) annamensis Tschitschérine

Basal segment of styluses (Fig. 107) narrow, with three rather short setae at subapical area, apical segment narrow, well curved before apex; hemisternites with about ten short setae at apical membranous part.

#### \*Genus Catadromus MacLeay

Styluses (Fig. 108) somewhat curved, well chitinized; basal segment with sclerotized part not dilated outward at apical area, with rather dense short setae on inner side, membranous part without setae; apical

segment somewhat wide, gently curved, hardly tapering, base protrudent outward, ventral outer margin slightly sinuate, with two spines at basal third, spines short, a little stout, dorsal outer margin without spine, subapical foramen small, situated more inward or more dorsad (contrary to Myas) than usual and not observable in ventral view, seta (or setae) very short and fine. Hemisternites (Fig. 108) strongly sclerotized, apical margin of sclerotized part well defined, almost rectilinear, with short dense setae, inner margin with several shorter, fine hairs, apical membranous part glabrous.

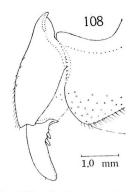


Fig. 108. Stylus and inner half of hemisternite of Catadromus tenebrioides (OLIVIER) from Sukamandi, Java (I. HATTORI).

Although Catadromus resembles

Lesticus in appearance, the female genitalia are remarkably different between them.

\*Catadromus tenebrioides (Olivier) (Java, Australia etc.)

Styluses and hemisternites as in Fig. 108.

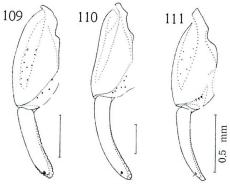
#### Genus Lesticus Dejean

Styluses (Figs. 109, 110) curved, narrow; basal segment with sclerotized part not extending outward, without setae though with some pores on membranous part; apical segment long and narrow, not tapering apically, ventral outer margin and dorsal outer margin without spine, subapical foramen small, without setae or with one (?) vestigial seta. Hemisternites (Fig. 4) transverse, sclerotized part well sclerotized and wide at apical area, apical margin distinct, outer apical margin with row of several short setae, a few proximal setae transferred onto membranous part, apical membranous part fully narrow, without setae at apical area.

Apart from the absence of setae on the basal segment and spines on the apical segment, the styluses have some similarities between *Lesticus* and *Platysma* of *Pterostichus* (cf. Figs. 90–92 and 109, 110), but whether the similarities suggest some true relationship between them or they are merely ostensible is above my comprehension.

#### Lesticus magnus (Motschulsky)

Basal segment of styluses (Fig. 109) somewhat wide, outer margin distincter than usual, apical segment a little curved at apical third, three-fourths as long as basal segment, subapical foramen opened more distally than usual, without setae; hemisternites with some ten short and fine setae on outer apical margin of sclerotized part to membranous part.



Figs. 109-111. Styluses of *Lesticus* and *Trigonotoma* spp. 109. *Lesticus magnus* (Motschulsky) from Kurokawa, Niigata Pref. (K. Baba). 110. *L. viridicollis* (MacLeay) from Tandjun Karan, Lampung, Sumatra (T. Kobayashi). 111. *Trigonotoma lewisii* Bates from Narae, Nakadôri Is., Gotôs, Nagasaki Pref. (K. Shirahata).

#### \*Lesticus viridicollis (MacLeay) (Southeast Asia)

Basal segment of styluses (Fig. 110) narrower than in *magnus*, not rounded but shallowly sinuate on inner margin, apical segment longer and narrower than in *magnus*, a little shorter than basal segment, fairly, uniformly curved, subapical foramen with one (?) vestigial seta; hemisternites with about fifteen short setae at outer apical margin of sclerotized part to membranous part.

#### Genus Trigonotoma Dejean

Styluses (only in *lewisii*) (Fig. 111) similar to those of *Lesticus* in shape, but basal segment with sclerotized part extending posteriorly from behind middle, reaching outer margin of membranous part, membranous part delimited at outer apical area, with very short and fine setae on border between sclerotized part and membranous part at subapical area; apical segment fully slender, subapical foramen with short and fine setae (or seta). Hemisternites transverse, with row of setae

along apex on sclerotized part, without setae at apical area of membranous part.

The female genitalia point out that *Lesticus* and *Trigonotoma* have a common ancestor.

#### Trigonotoma lewisii Bates

Basal segment of styluses (Fig. 111) moderately wide, with three rudimentary setae at subapical area, apical segment moderately curved, somewhat narrowed apically, four-fifths as long as basal segment; hemisternites with row of some ten short setae along apex on sclerotized part, one or two short setae on membranous part outside row of setae of sclerotized part.

#### Literature cited

HABU, A., 1978; Fauna Japonica, Carabidae, Platynini (Insecta, Coleoptera): 2-3.

—— 1981; On Japanese species of *Stomis* (Coleoptera, Carabidae). Ent. Rev. Japan, 35 (1/2): 33-39.

JEANNEL, R., 1942; Faune de France, 40, Col. Carab., 2: 730-837.

LINDROTH, C. H., 1966; The ground-beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Opusc. Ent., Suppl., 29: 455-460.

ZIMSEN, E., 1964; The Type Material of I. C. FABRICIUS: 58.



# The Cassidinae of Nepal, Bhutan and Northern Territories of India, in the Natural History Museum in Basel (Coleoptera, Chrysomelidae)

# By Shinsaku Kimoto

Biological Laboratory, Department of General Education, School of Medicine, Kurume University, Kurume 830

Twenty-one species of Cassidinae (Chrysomelidae) collected in Nepal, Bhutan and northern territories of India, are enumerated. Twelve species are photographed.

In the course of the study, I am indebted to Drs. W. WITTMER and M. BRANCUCCI, Natural History Museum in Basel, for their kind cooperation in giving me the opportunity to examine this interesting collection.

## Notosacantha maculipennis (Boheman, 1856) (Fig. 1)

Nepal: Jiri-Thodung, W. Wittmer, C. Baroni Urbani, 28. V. 1976 (1 ex.). Jiri, 1800-1900 m, W. Wittmer, C. Baroni Urbani, 27. V. 1976 (1 ex.). Chisapani, W. Wittmer, C. Baroni Urbani, 3. VI. 1976 (1 ex.).

Sikkim: Pelling, 1900 m, Bhakta Bahadur, 10. IV. 1978 (1 ex.).

Darjeeling, India: Umg. Kalimpong, Bhakta Bahadur, 3. IX. 1973 (1 ex.).

Meghalaya, India: Upper Shillong, 1900 m, W. WITTMER, C. BARONI URBANI, 13. V. 1976 (3 exs.). Umtyngar-Cherrapunjee, W. WITTMER, C. BARONI URBANI, 16. V. 1976 (2 exs.). Mawphlang, 1850 m, W. WITTMER, C. BARONI URBANI, 15. V. 1976 (1 ex.).

Uttar Pradesh, India: Dehra Dun, 750-1000 m, W. Wittmer, 25. VI. 1976 (1 ex.). Bhimtal, 1400-1500 m, W. Wittmer, 1-15. V. 1978 (1 ex.).

Distribution: India, Nepal, Sikkim.



Fig. 1. Notosacantha maculipennis (BOHEMAN)

#### Notosacantha tenuicula (Spaeth, 1913) (Fig. 2)

Meghalaya, India: Umtyngar-Cherrapunjee, W. WITTMER, C. BARONI URBANI, 16. V. 1976 (1 ex.). Distribution: India.

# Notosacantha sp.

Darjeeling, India: Shorang, 1300 m, BHAKTA BAHADUR CH., 26. VII. 1978 (1 ex.).

# Basiprionota decemmaculata (Boheman, 1850)

Bhutan : Kharbandi, 700 m, Dorjee Khandu Dukpa, VIII. 1975 (1 ex.).

Sikkim: Pam, S. Gangtok, 980 m, Bhakta Bahadur, 17. IV. 1977 (2 exs.). Rani Pull, S. Gangtok, Bhakta Bahadur, 22. IV. 1977 (1 ex.). Rangeli River, 900 m, Bhakta Bahadur, 15. IV. 1977 (2 exs.).



Fig. 2. Notosacantha tenuicula (Spaeth)

Darjeeling, India: Pedong, 800-1200 m, Bhakta Bahadur, 14. VIII. 1978 (3 exs.). Ibid., W. Wittmer, C. Baroni Urbani, 15. VIII. 1978 (4 exs.). Serhuke Road, Bhakta Bahadur Ch., 30. VII. 1978 (3 exs.). Gatule Kuola, 980 m, Kalimpong Umg., Bhakta Bahadur, 2. IV. 1977 (4 exs.). Kalimpong Umg., Bhakta Bahadur, 6. IV. 1977 (1 ex.). Jhepi, 1300-1400 m, W. Wittmer, 17. V. 1975 (1 ex.). Ibid., W. Wittmer, 22. v. 1975 (1 ex.). Kami Forest, nr. Kalimpong, 980 m, Bhakta Bahadur, 11. V. 1977 (1 ex.). Bijanbari, 800 m, W. Wittmer, 12. V. 1975 (1 ex.). Darjeeling, Bhakta Bahadur (4 exs.).

Meghalaya, India: Darugiri, Garo Hills, W. WITTMER, C. BARONI URBANI, 19. V. 1976 (3 exs.).

Distribution: India, Sikkim, Bhutan, Burma.

# Basiprionota maculipennis (Boheman, 1850) (Fig. 3)

Meghalaya, India: Darugiri, Garo Hills, W. WITTMER, C. BARONI URBANI, 19. V. 1976 (2 exs.).

Distribution: India, Nepal.

# Epistictia viridimaculata Boheman, 1850 (Fig. 4)

Meghalaya, India: Songsak, Garo Hills, W. WITTMER, C. BARONI URBANI, 19. V. 1976 (2 exs.). Barapani Old Road, 1000 m, W. WITTMER, C. BARONI URBANI, 14. V. 1976 (1 ex.).

Distribution: India, Nepal, Sikkim, Burma, Thailand, Cambodia, Malaya.



Fig. 3. Basiprionota maculipennis (BOHEMAN)

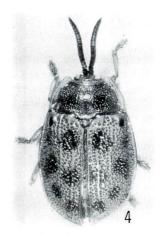


Fig. 4. Epistictia viridimaculata BOHEMAN

## Aspidomorpha sanctaecrucis (Fabricius, 1792)

Bhutan: Phuntsholing, 200-400 m, Dorjee Khandu Dukpa, IX. 1975 (5 exs.). Kharbandi, Dorjee Khandu Dukpa, IX. 1975 (5 exs.).

Nepal: Khandbari, 1350 m, Внакта Ванадия Сн., 28. IX. 1978 (2 exs.). О. Nepal, Внакта Ванадия Сн., 1975 (1 ex.).

Sikkim: Choka-Yoksam, 2100 m, Bhakta Bahadur, 6. VI. 1978 (1 ex.). Ahu Khola nr. Rani Puli, Bhakta Bahadur, 23. IV. 1977 (1 ex.).

Darjeeling, India: Singla, 450 m, W. WITTMER, 19. IV. 1978 (1 ex.). Kalimpong Umg., Bhakta Bahadur, XI. 1976 (1 ex.). Gakule Kuola, 980 m, Kalimpong Umg., Bhakta Bahadur, 2. IV. 1977 (1 ex.).

Assam, India: Kaziranga, 75 m, W. Wittmer, C. Baroni Urbani, 7-9. V. 1976 (1 ex.).

Meghalaya, India: Darugiri, Garo Hills,  $450\,\mathrm{m}$ , W. Wittmer, C. Baroni Urbani (1 ex.).

Distribution: India, Sri Lanka, Nepal, Sikkim, Bhutan, Burma, Thailand, S. China, Hainan, Indo-China, Malaya, Sunda Is.

## Aspidomorpha milialis (Fabricius, 1775)

Darjeeling, India: Shorang, 1300 m, Bhakta Bahadur Ch., 26. VII. 1978 (1 ex.). Pedong, 200-800 m, Bhakta Bahadur, 1978 (2 exs.).

Sri Lanka: Mt. Lauinia (Colombo), Ziegler, Zollig, 21. II. 1976 (1 ex.).

Distribution: India, Andaman Is., Sri Lanka, Burma, S. China, Hainan, Indo-China, Sunda Is., New Guinea, Philippines.

## Aspidomorpha dorsata (Fabricius, 1787)

Bhutan: Phuntsholing, 200-400 m, Dorjee Khandu Dukpa, IX. 1975 (1 ex.). Thimphu, Dorjee Khandu Dukpa, VIII. 1975 (1 ex.).

Darjeeling, India: Shepkola (P. O. Ryang), 150 m, W. Wittmer, C. Baroni Urbani, 2. V. 1976 (1 ex.). Pankha Banglo, Umg. Kalimpong, 5. VIII. 1978 (1 ex.).

Sikkim, India: Rangeli River, 950 m, BHAKTA BAHADUR, 17. IV. 1977 (2 exs.).

Indonesia: Mangole, Sula Inseln, V. & G. WEGENER, VII-XII. 1977 (1 ex.).

Distribution: India, Sri Lanka, Sikkim, Bhutan, Burma, Hainan, Thailand, Malaya, Sunda Is.

#### Aspidomorpha indica Boheman, 1854

Nepal. Phulchoki, 2000 m, W. WITTMER, BRANCUCCI, 7. VI. 1977 (1 ex.).

Sikkim: Xorthang, BHAKTA BAHADUR, 18. IV. 1978 (1 ex.).

Darjeeling, India: Jhepi, 1300-1400 m, W. WITTMER, 22-23. V. 1975 (1 ex.). Darjeeling, 2150 m, W. WITTMER, 26. V. 1975 (1 ex.). Pedong, 800-1200 m, W. WITTMER, C. BARONI URBANI, 15. VIII. 1978 (1 ex.).

Pakistan: Kalam, Swat, 2000-2400 m, W. WITTMER, 5. VI. 1978 (1 ex.).

Distribution: Pakistan, India, Nepal, Sikkim, Indo-China, China, Taiwan, Japan, Korea, Siberia.

# Aspidomorpha furcata (Thunberg, 1789)

Sikkim: Sisne, S. Gangtok, 930 m, Bhakta Bahadur, 14. IV. 1977 (1 ex.). Rangeli River, 900 m, Bhakta Bahadur, 15. IV. 1977 (1 ex.).

Darjeeling, India: Darjeeling, BHAKTA BAHADUR (1 ex.).

Meghalaya, India: Darugiri, Garo Hills, 450 m, W. Wittmer, C. Baroni Urbani, 19. V. 1976 (1 ex.).

Sri Lanka: Kandy, Ziegler, Zollig, 8. III. 1976 (2 exs.).

Distribution: India, Sri Lanka, Sikkim, Burma, Indo-China, S. China, Hainan, Malaya, Sunda Is., Philippines.

# Laccoptera quadrimaculata Thunberg, 1789

Bhutan: Phuntsholing, 200-400 m, Dorjee Khandu Dukpa, VIII. 1975 (1 ex.).

Nepal: Pokhara, 820 m, W. Wittmer, C. Baroni Urbani, 15-18. VI. 1976 (1 ex.). Bajra Barai, Kathmandu V., W. Wittmer, C. Baroni Urbani, 28. V. 1976 (1 ex.). Balaju, 1300-1370 m, W. Wittmer, Brancucci, 23. V. 1977 (1 ex.).

Darjeeling, India: Pedong, 800-1200 m, BHAKTA BAHADUR, 14. VIII. 1978 (2 exs.). Kali Ghora, 600 m, BHAKTA BAHADUR CH., 27. VII. 1978 (2 exs.). Shepkola (P. O. Ryang), 150 m, W. WITTMER, C. BARONI URBANI, 2. V. 1976 (1 ex.). Pelling, 2100 m, BHAKTA BAHADUR CH., 10. IV. 1978 (1 ex.). Jesla, 200 m, BHAKTA BAHADUR, 19. VII. 1978 (1 ex.).

Sikkim: Diukchu, Bhakta Bahadur, 10. IX. 1977 (5 exs.). Pelling, 2100m,

BHAKTA BAHADUR, 10. IV. 1978 (1 ex.). Reshi-Yortang, 400 m, BHAKTA BAHADUR, 17. IV. 1978 (1 ex.). Pam, S. Gangtok, 980 m, BHAKTA BAHADUR, 17. IV. 1977 (1 ex.).

Meghalaya, India: Shillong, W. Wittmer, C. Baroni Urbani, 12. V. 1976 (3 exs.). Darugiri, Garo Hills, 450 m, W. Wittmer, C. Baroni Urbani, 19. V. 1976 (1 ex.).

Assam, India: Kaziranga, 75 m, W. Wittmer, C. Baroni Urbani, 7–9. V. 1976 (1 ex.).

Uttar Pradesh, India: Dimli Pass, Sivalik Hills, W. WITTMER, 26. VI. 1976 (1 ex.).

Distribution: India, Andaman Is., Nepal, Sikkim, Bhutan, Burma, Indo-China, Sunda Is., S. China, Taiwan, Ryukyu Is.

### Glyphocassis trilineata (Hope, 1831) (Fig. 5)

Nepal: Kathmandu, 1300 m, W. WITTMER, BRANCUCCI, 22. V. 1977 (1 ex.).

Sikkim: Mangon, Bhakta Bahadur, 2. IX. 1977 (1 ex.). Oiukchu, Bhakta Bahadur, 10. IX. 1977 (1 ex.).

Uttar Pradesh, India: Bhimtal, 1400 m, F. Smetacek, 17. VII. 1978 (1 ex.). Distribution: India, Nepal, Sikkim.



Fig. 5. Glyphocassis trilineata (HOPE)

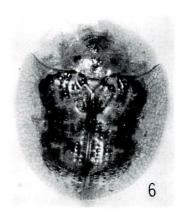


Fig. 6. Cassida syrtica
BOHEMAN

# Cassida syrtica Boheman, 1856 (Fig. 6)

Bhutan: Phuntsholing, 200-400 m, Dorjee Khandu Dukpa, IX. 1975 (1 ex.). Sikkim: Yonkam-Thing, Ling, 1100 m, Bhakta Bahadur, 8. IV. 1978 (5 exs.). Gyalzing, 1600 m, Bhakta Bahadur, 12. IV. 1978 (2 exs.). Gyalzing-Lage, Shap, 860 m, Bhakta Bahadur, 1978 (1 ex.). Reshi-Yortang, 400 m, Bhakta Bahadur, 17. IV. 1978 (5 exs.). Pelling, 2100 m, Bhakta Bahadur, 10. IV. 1978 (4 exs.).

Darjeeling, India: Rumshi, 280 m, Bhakta Bahadur, 21. VII. 1978 (3 exs.).

Pankha Sari, Внакта Ванадик Сн., 8. VIII. 1978 (1 ex.). Nowri Khola, 2200 m, Внакта Ванадик, 13. VIII. 1978 (1 ex.). Вапі, 260 m, Внакта Ванадик Сн., 24. VII. 1978 (2 exs.). Rimbick-Raman, 1950-2450 m, W. Wittmer, 19. V. 1975 (1 ex.). Darjeeling-Jhepi, W. Wittmer, 16. V. 1975 (1 ex.). Віјапрагі, 800 m, W. Wittmer, 12. V. 1975 (1 ex.).

Uttar Pradesh, India: Bhimtal, 1400-1500 m, W. WITTMER, 1-15. V. 1978 (4 exs.). Chanfi, 1300-1400 m, W. WITTMER, 8. V. 1978 (2 exs.). Naukuchiatal, 1300-1400 m, W. WITTMER, 4. V. 1978 (1 ex.). Bhowall, 1500-1600 m, W. WITTMER, 12. V. 1978 (1 ex.). Uttarkashi, 1300-1400 m, W. WITTMER, 18. V. 1978 (1 ex.).

Himachal Pradesh, India: Chopal-Khangna, 2000-2300 m, W. WITTMER, 7. V. 1977 (4 exs.).

Pakistan: Matiltan, Swat, 2250-2650 m, W. WITTMER, 15. VI. 1978 (1 ex.). Miandam, Swat, 1800-2300 m, W. WITTMER, 6. III. 1978 (1 ex.).

Distribution: Pakistan, India, Nepal, Sikkim, Bhutan.

## Cassida nigriventris Boheman, 1831 (Fig. 7)

Nepal: Jumla-Oadnarm, 2300-2750 m, W. Wittmer, 27. V. 1977 (2 exs.). Jumla, 2300 m, W. Wittmer, 26. V. 1977 (1 ex.). Pokhara, 820 m, W. Wittmer, C. Baroni Urbani, 15-18. VI. 1976 (1 ex.). Solo, 2880 m, O. Nepal, Bhakta Bahadur Ch., 22. VI. 1973 (1 ex.).

Sikkim: Pam, S. Gongtok, 980 m, BHAKTA BAHADUR, 17. IV. 1977 (1 ex.). Gyalzing-Lage, Shap, 860 m, BHAKTA BAHADUR, 13. IV. 1978 (1 ex.).

Darjeeling, India: Kalimpong Umg., BHAKTA BAHADUR, 10. V. 1977 (1 ex.).

Assam, India: Kaziranga, 75 m, W. Wittmer, C. Baroni Urbani, 7-9. V. 1976 (1 ex.).

Himachal Pradesh, India: Chopal, 2400-2750 m, W. WITTMER, BRANCUCCI, 7. V. 1977 (1 ex.). Chopal-Khangna, Nallah, 2250 m, W. WITTMER, BRANCUCCI, 7. V. 1977 (20 exs.). Manall, 2000-2300 m, W. WITTMER, BRANCUCCI, 15. V. 1977 (1 ex.).

Uttar Pradesh, India: Bhimtal, 1400 m, W. WITTMER, 1-15. V. 1978 (8 exs.). Chanfi, 1300-



Fig. 7. Cassida nigriventris
BOHEMAN

1400 m, W. WITTMER, 8. V. 1978 (4 exs.). Bhowall, 1500-1600 m, W. WITTMER, 12. V. 1978 (5 exs.). Naukuchiatal, 1300-1400 m, W. WITTMER, 4. V. 1978 (8 exs.). Ranikhet, 1800-2000 m, Garampani, W. WITTMER, 6. V. 1978 (3 exs.). Dehra Dun, 750-1000 m, W. WITTMER, 25. VI. 1976 (1 ex.).

Pakistan: Miandam, Swat, 1800-2300 m, W. Wittmer, 6. VIII. 1978 (3 exs.). Ibid., 19. VI. 1978 (1 ex.). Ibid., 20. VI. 1978 (1 ex.). Kawal, Khagan, 1450-1800 m, W. Wittmer, Brancucci, 15. VI. 1977 (2 exs.).

Distribution: Pakistan, India, Nepal, Sikkim.

#### Cassida australica Boheman, 1855

Nepal: Jiri-Thodung, W. WITTMER, C. BARONI URBANI, 28. V. 1976 (1 ex.).

Sikkim: Yortang, BHAKTA BAHADUR, 18. IV. 1978 (1 ex.).

Darjeeling, India: Lebong, 1800-1900 m, W. WITTMER, 8. V. 1975 (2 exs.). Ibid., 21. VI. 1975 (5 exs.). Lopchu, W. WITTMER, 9. V. 1975 (1 ex.). Shiri-Khola-Rimbick, 1950-2350 m, W. WITTMER, no date (1 ex.).

Pakistan: Shogran, Khagan, 2300-2750 m, W. WITTMER, BRANCUCCI, 17. VI. 1977 (3 exs.). Matiltan, Swat, 2250-2659 m, W. WITTMER, 13. VI. 1978 (1 ex.).

Kashmir: Daksum, 2400-2700 m, W. WITTMER, 9-13. VII 1976 (1 ex.).

Distribution: Kashmir, Pakistan, India, Nepal, Sikkim.

#### Cassida occursans Spaeth, 1914 (Fig. 8)

Sikkim: Rangeli River, 900 m, Bhakta Bahadur, 15. IV. 1977 (1 ex.). Ibid., 19. IV. 1977 (1 ex.).

Darjeeling, India: Darjeeling, 2150 m, W. WITT-MER, 26. V. 1975 (1 ex.).

Distribution: India, Sikkim.

#### Cassida circumdata Herbst, 1799

Sikkim: Rangeli River, 900 m, BHAKTA BAHADUR, 19. IV. 1977 (1 ex.).

Sri Lanka: Bentota, Brancucci, 21. VII. 1973 (1 ex.). Kandy, Ziegler, Zollig, 8. III. 1976 (1 ex.).

Distribution: India, Sri Lanka, Sikkim, Indo-China, S. China, Taiwan, Ryukyu Is., Philippines.

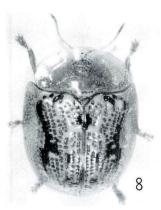


Fig. 8. Cassida occursans
Spaeth

## Cassida obtusata Boheman, 1854 (Fig. 9)

Meghalaya, India: Darugiri, Garo Hills, 450 m, W. WITTMER, 19. V. 1976 (1 ex.). Distribution: India, Burma, Indo-China, S. China, Taiwan, Sunda Is., Philippines.

# Cassida flavoscutata Spaeth, 1914 (Fig. 10)

Sikkim: Lage, Shap, 500-600 m, Bhakta Bahadur, 14. IV. 1978 (1 ex.).

Distribution: India, Sikkim.

# Chiridopsis septemnotata (Boheman, 1855) (Fig. 11)

Bhutan: Kharbandi, 700 m, Dorjee Khandu Dukpa, VIII. 1975 (1 ex.).

Sikkim: S. Gangtok, 930 m, Bhakta Bahadur, 17. IV. 1977 (2 exs.). Rani Pull,

S. Gangtok, BHAKTA BAHADUR, 22. IV. 1977 (1 ex.). Distribution: India, Sikkim, Bhutan, Malaya.



Fig. 9. Cassida obtusata Boheman

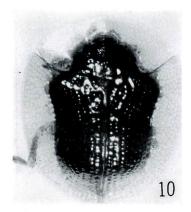


Fig. 10. Cassida flavoscutata
Spaeth

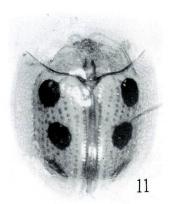


Fig. 11. Chiridopsis septemnotata (Boheman)

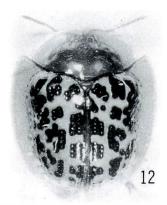


Fig. 12. Chiridopsis minica (Weise)

Chiridopsis minica (Weise, 1905) (Fig. 12)

Assam, India: Kaziranga, 75 m, W. WITTMER, C. BARONI URBANI, 7-9. V. 1976 (2 exs.).

Maghalaya, India: Songsak, Garo Hills, W. Wittmer, C. Baroni Urbani, 19. V. 1976 (2 exs.).

Distribution: India.

# Larvae of Two Species of Lebiini (Coleoptera, Carabidae)

# By Akinobu Habu

Insect Taxonomy Laboratory, National Institute of Agricultural Sciences<sup>1)</sup>, Kannondai III, Yatabe, Ibaraki Pref. -305

I describe in this paper the larvae of *Calleida* (*Callidiola*) onoha Bates and Parena (Parena) cavipennis (Bates). Before going further, special thanks are due to Miss Kimie Sadanaga, the former member of our laboratory, for her earnest breeding of the larvae, and to Mr. M. Oda, Nara Agr. Exp. Sta., for sending me the specimens.

# Calleida (Callidiola) onoha BATES Larvae ex ovipositione

Third instar. Length 9.8–10.3 mm. Width of head 1.05, 1.10 mm in two specimens. Length of cerci 1.6, 1.7 mm in two specimens.

Head reddish yellow, shiny. Mandibles pale reddish brown, yellowish or pale at basal third. Antennae and maxillae pale brown. Promeso- and metanotum dark brown. Legs brown, hind femora and hind tibiae pale, coxae and tarsi dark. Tergites dark brown; cerci dark brown, darker or almost black at basal half; pleural and ventral sclerites dark brown.

Head (Figs. 2, 4) almost flat, slightly tumid and widest a little before  $L_1$ , a little wider than long, lateral sides weakly contracted anteriorly and posteriorly, epicrania with one shallow longitudinal furrow on laterodorsal area from behind ocellar area to  $P_a$ , outside area of furrow somewhat carinate in lateral view; cervical grooves and cervical keels absent; setae  $O_2$ ,  $P_2$ ,  $L_1$ ,  $So_1$  and  $V_1$  fully long,  $Cl_2$ ,  $F_2$ ,  $P_1$ ,  $P_a$  and  $So_2$  moderately long,  $P_1$  and  $P_2$  almost in a beeline,  $V_1$  and  $L_2$  rather short,  $Cl_1$ ,  $Cl_3$ ,  $Cl_a$ ,  $F_1$ ,  $F_3$  and  $O_1$  short, identify of  $P_3$ ,  $So_3$  and  $V_3$  not distinct, nasale with one short but distinct seta on apex of two median teeth, epicrania with some somewhat long or rather short or fully short and fine additional setae; nasale more than twice as wide as long, with

<sup>1)</sup> Retired in June, 1981.

<sup>[</sup>Ent. Rev. Japan, Vol. XXXVI, No. 1, pp. 63-73, Sept., 1981]

four distinct dull teeth, two inner teeth more protrudent than outer teeth, outer teeth without seta; hind angle of frontal piece obtusely angulate in one ex., rather rounded in another ex.; epicranial suture absent in one ex., fully short in another ex. Antennae (Fig. 1) fairly shorter than mandibles, segment 1 transverse, one and one-half times as wide as long, segment 2 more than twice as long as segment, 1, fully longer than wide, segment 3 longest, one and one-half times as long as segment 2, slightly curved, with three setae and sensorium, segments 1 and 2 glabrous. Mandibles (Fig. 1) slender, nearly four times as long as wide, well curved; cutting edge smooth, with one vestigial tooth at basal area; penicillus present; outer side with two short and fine setae at basal third. Stipes of maxillae (Fig. 6) rather wide, one and fourfifths times as long as wide, with about five setae at apical area; segment 1 of outer lobe one and one-half times as long as segment 2, with one distinct seta at apex on ventral side; maxillary palpus with segment 2 less than four times as long as segment 1, twice as long as segment 3, segment 4 almost as long as segment 3, segment 1 with one seta at apex on ventral side. bium (Fig. 7) with mentum fully transverse (sclerotized area five times as wide as long), bare except for two setae on ventral side; ligula prominent, narrow, with two

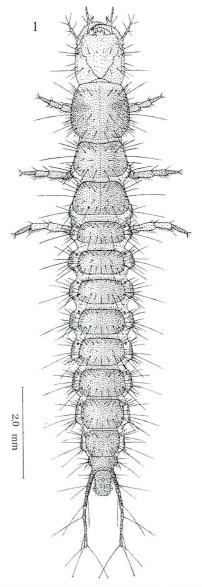
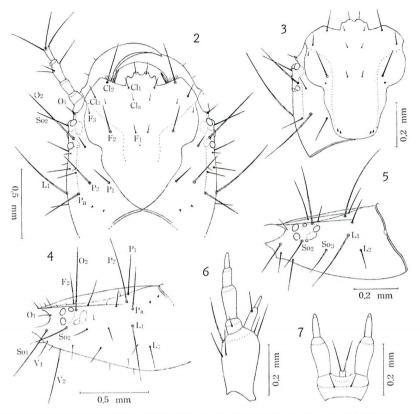


Fig. 1. Larva of Calleida (Callidiola) onoha Bates, instar 3.

setae a little separated from each other, reaching apex of segment 1 of labial palpi; labial palpi glabrous, segment 2 five-eighths as long as



Figs. 2-7. Calleida (Callidiola) onoha Bates, larva, instar 3 (III) and instar 1 (I).

Head in dorsal view, III.
 Do, I.
 Head in lateral view, III.
 Do., I.
 Maxilla in ventral view, III.
 Labium in ventral view, III.

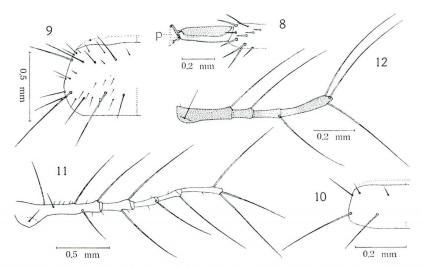
# segment 1.

Pronotum one and one-seventh to -fifth times as wide as head, shallowly, widely depressed on either lateral area, with rather numerous setae, apical border indistinct, basal border absent; meso- and metanotum with rather many setae.

Legs with several spinous setae on ventral side; tarsi (Fig. 8) somewhat tumid near middle on ventral side, sclerotized part longitudinally split on ventral side and ventral side longitudinally membranous in middle; claws hooked near apex, not dentate, pulvillus membranous, spread between claws, not bilobed.

Tergites (Fig. 9) 1 to 8 with basal border distinct, not bordered laterally, median line discernible at posterior area, six rather long and a few short setae in anterior setal row, four fully long and three rather long and some short setae in posterior row, some short setae between anterior and posterior rows; tergite 9 with four rather long setae, each at base of cerci and lateral areas; cerci (Fig. 11) slender, fully longer than abdominal segment 10, 5-segmented, gently ()-shaped, segment 1 longest, with three long setae (each near middle on dorsal side, at apical third on outer side and at apex on dorsal side), with or without one rather long seta at basal fourth on dorsal side, with several short and fine white hairs, segment 2 nearly one-half as long as segment 1, with two fully long setae, each before apex on ventral side and at apex on dorsal side, segment 3 a little shorter than segment 2, with one fully long seta at apex on lateral side, segment 4 almost as long as segment 3, with one fully long seta at apex on ventral side, segment 5 twice as long as segment 3 or 4, with three fully long setae at apical area, each on dorsal, inner and ventral side, segments 2 to 5 with one or two short and fine hairs; abdominal segment 10 with crotchets at apex.

*First instar.* Length 4.0-4.6 mm. Width of head 0.56-0.59 mm, mean 0.58 mm, in six specimens. Length of cerci 0.7 mm in six specimens.



Figs. 8-12. Calleida (Callidiola) onoha Bates, larva, instar 3 (III) and instar 1 (I).

<sup>8.</sup> Right hind leg at apical part in frontoventral view, III. p: pulvillus. 9. Tergite 4, III. 10. Do., I. 11. Tergite 9 and cercus in lateral view, III. 12. Do., I.

Head brown, brownish white at apical area before  $F_2$ . Mandibles pale brown, whitish at basal area. Pro-, meso- and metanotum brown. Legs wholly brown. Tergites, pleural and ventral sclerites brown; cerci (Fig. 12) brown, faintly dark, whitish at apical two-thirds of segment 3 and basal one-third of segment 4.

Head (Figs. 3, 5) widest at ocellar areas, less tumid before  $L_1$  than in instar 3, as long as wide to a little wider than long, epicrania with one longitudinal furrow at laterodorsal area as in instar 3; primary setae similar to those of instar 3, epicrania with one rather short seta inside hind margin of ocellar area ( $P_3$ ?) and rather long distinct  $So_3$ ; nasale same as in instar 3; posterior area of frontal piece fully wider than in instar 3, epicranio-frontal sutures well curved near hind margin of epicrania, hind angle of frontal piece not at all angulate but fully widely rounded; egg-bursters composed of two small acute teeth, placed at posterior part of frontal piece; epicranial suture completely absent. Antennae stouter than in instar 3, segment 2 wider than long.

Setae on pro-, meso- and metanotum fewer than in instar 3. Tergites (Fig. 10) 1 to 8 with row of six rather short setae (each outer seta longer) on anterior area, four long setae (each outer seta fully long) on posterior area; tergite 9 with two short setae near anterior margin, one somewhat long seta on each lateral area; cerci (Fig. 12) diverging, almost straight or slightly curved in dorsal view, 4-segmented, II<III<IV, with six fully long setae, setae shorter than cerci, segment 1 one and four-fifths times to twice as long as segment 2, one and one-fourth to -third times as long as segment 3, segments 1 and 2 with one seta at apex on outer side, segment 4 one and one-third to one and two-fifths times as long as segment 1, somewhat tumid at apical area, with three setae at apical area.

Biological notes. Miss Kimie Sadanaga observed that some female beetles deposited eggs on the inner surface of a glass tube in June and July. The present description is made from the larvae which she reared.

I have examined the following larval specimens of *C. onoha* preserved in our laboratory: 1 larva in third instar, VII. 21, 1966, feeding upon larvae of *Adoxophyes orana* Fischer von Röslerstamm (Tortricidae) found in Shiraoka, Saitama Pref. (K. Sadanaga leg.); 1 larva in third instar and 1 larva in first instar attacking larvae of *Conogethes punctiferalis* Guenée (Pyralidae) in Tosa, Kôchi Pref. (Y. Teraishi leg.).

# Parena (Parena) cavipennis (BATES) Larvae ex evolutione imaginis

Third instar. Length 9.5–10.5 mm. Width of head 1.46–1.62 mm, mean 1.56 mm, in seven specimens. Length of cerci 0.8–1.0 mm, mean 0.9 mm, in seven specimens.

Head reddish-brownish vellow, dark at posterior area of frontal piece, dark part a little extending onto epicrania along epicranio-frontal sutures, teeth of nasale more brownish. Antennae and maxillae pale yellowish brown. Mandibles reddish brown at apical half, light yellowish brown or brownish yellow at basal half. Pronotum reddish-brownish yellow, with brownish black large patch on each side, patches isolated, mesoand metanotum with larger patch on either side, patches reaching basal border (reaching or almost reaching basal border and outer basal area more or less brownish yellow in mesonotum, a little extending anteriorly beyond basal border in metanotum) and lateral margins, posterior area between patches and posterior margin more or Legs pale brown, less dark. coxae blackish partially at basal area. Tergites 1 to 8 somewhat dark transversely behind posterior setal row, with transverse brownish black patch on each side, patches more or less extending anteriorly beyond basal

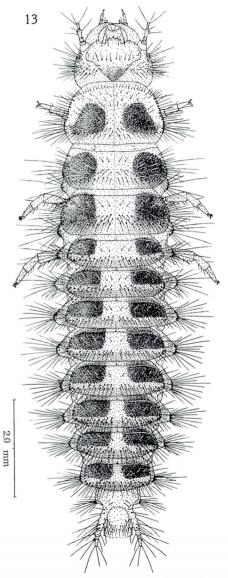


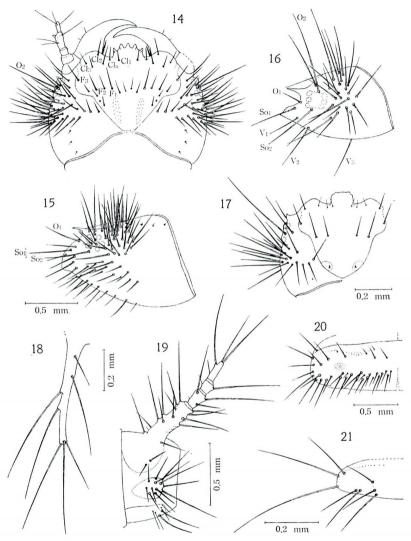
Fig. 13. Larva of Parena (Parena) cavipennis (BATES), instar 3.

border, completely or partially separated from posterior transverse dark part, becoming larger (and consequently median yellowish area becoming narrower) on posterior tergites, tergite 9, cerci and abdominal segment 10 pale yellowish brown; pleural and ventral sclerites dirty brown.

Head (Figs. 14, 15) flat, well tumid and widest at middle of lateral sides of epicrania, one and seven-tenths to one and three-fourths times as wide as long, lateral sides well rounded anteriorly and posteriorly; frontal piece with distinct complete Cl- and F-group and several distinct additional setae, generally four in Cl-group, ten to twelve in F-group; epicrania with numerous fairly long setae except posterior area, distinction between primary setae and secondary setae indistinct except O<sub>1</sub> (longer than in perforata), O2, So1 and So2; nasale protrudent beyond apical angles of frontal piece, about twice as wide as long, teeth more or less acute at apex, each tooth except median one with one very short and fine seta; hind angle of frontal piece narrowly rounded or a little truncate; epicranio-frontal sutures straight at posterior half. tennae (Fig. 14) distinctly shorter than mandibles, segment 1 fully wider than long, slightly longer than segment 2, segment 2 wider than long, without seta, segment 3 more than twice as long as segment 2, with three long setae like in perforata. Mandibles (Fig. 14) similar to those of perforata in form; notch on inner edge vestigial; outer side with two short and fine setae behind middle. Maxillary stipes one and seventenths times as long as wide, outer side fairly rounded at middle, with some setae, inner side well rounded behind apex, with some setae at subapical area; maxillary palpus with segment 1 three times as wide as long, segment 2 one and one-half times as wide as long, one and one-half to one and three-fourths times as long as segment 1, segment 3 less than to more than twice as long as segment 2. Labium and ligula similar to those of perforata, but two setae of ligula reaching or not reaching apex of labial palpi.

Pronotum one and one-fourth to -third times as wide as head, with dense setae at apical, lateral and basal areas, apical border indistinct, transverse impressions somewhat deep, wide.

Tergites (Fig. 20) 1 to 8 with median line at posterior half, basal border distinct, about sixteen setae at anterior area, more than forty setae at posterior area, setae short to rather long; tergite 9 (Fig. 19) with two setae at lateral areas and one pair of setae near base of cerci; cerci (Fig. 19) a little longer than abdominal segment 10, gently ()-shaped in dorsal view, obliquely, well reflexed in lateral view, segment 1 stout, longest, nearly as long as segments 2 to 4 together, with small knobs at base of setae, setae rather numerous, about fifteen in number, segment 2 with three setae, one near middle on ventral outer



Figs. 14-21. Parena (Parena) cavipennis (BATES), larva, instar 3 (III) and instar 1 (I).

14. Head in dorsal view, III.
15. Head in lateral view, III.
16. Do.,
I. 17. Head in dorsal view, I.
18. Left cercus in dorsal view, I.
19. Abdominal segment 9 with cercus in lateral view, III.
20. Tergite 4, III.
21. Do., I.

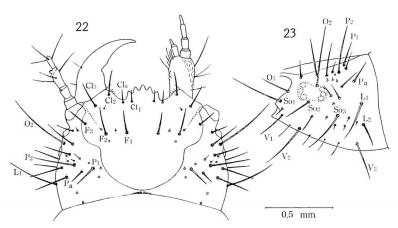
side, two setae near apex, each on outer dorsal side and ventral side, segment 3 shortest, with one seta near apex on ventral side, segment 4 less than one-half as long as segment 1, longer than segment 2, with two setae at apex and one seta at subapical area on dorsal side, segments 3 to 5 with sometimes one short secondary seta on dorsal side, longest primary seta two-thirds as long as cercus; pleural sclerites more densely setose than in *perforata*, epipleurites of abdominal segment 3 with fully more than twenty setae.

Second instar. Length 6.7-7.8 mm. Width of head 1.02-1.08 mm, mean 1.05 mm, in six specimens. Length of cerci 0.6-0.7 mm, mean 0.7 mm, in six specimens.

Almost same as in instar 3, but cerci generally straight and gently diverging, segment 4 longer than in instar 3, three-fifths to three-fourths as long as segment 1, less than to more than twice as long as segment 2.

First instar. Length about 4.5 mm (specimens more or less curled and not in good condition to measure length). Width of head 0.62–0.69 mm, mean 0.65 mm, in eleven specimens. Length of cerci 0.5–0.6 mm, mean 0.5 mm, in eleven specimens.

Yellowish white, with brownish black patches similar to those of instars 2 and 3, patch of frontal piece with ovoid pale area around egg-bursters.

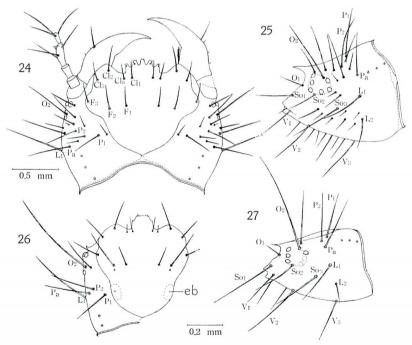


Figs. 22, 23. Heads of Parena (Parena) nigrolineata nipponensis Habu, larva, instar 3.

22. Dorsal view. 23. Lateral view.

Head (Figs. 16, 17) tumid and widest at about middle of epicrania as in instars 2 and 3, one and two-fifths times as wide as long; frontal piece with setae  $\text{Cl}_3$  and F-group developed,  $\text{Cl}_1$ ,  $\text{Cl}_2$  and  $\text{Cl}_a$  short and fine, without additional setae; epicrania with numerous setae at laterodorsal to lateral sides, but setae less numerous and longer than in instars 2 and 3,  $\text{V}_1$ ,  $\text{V}_2$  and  $\text{V}_3$  recognizable; nasale with two dull small indistinct teeth on either side; each egg-burster composed of one small acute tooth, situated more posteriorly than in *perforata*; hind angle of frontal piece dully angulate; epicranio-frontal sutures curved near egg-bursters. Antennae a little stouter. Mandibles without notch on inner edge.

Tergites (Fig. 21) 1 to 7 with six long setae at anterior area as usual, but median two setae transferred posteriorly, ten long setae at posterior area (four of them must be secondary), basal border rather distinct in basal one or two tergites, obscure in other tergites; tergite 9 without



Figs. 24-27. Heads of *Parena* (*Parena*) perforata (BATES), larva, instar 3 (III) and instar 1 (I).

24. Dorsal view, III. 25. Lateral view, III. 26. Dorsal view, I. eb: egg-burster. 27. Lateral view, I (26 and 27 drawn from different specimens).

setae near base of cerci; cerci (Fig. 18) rather slender, straight or slightly curved, diverging in dorsal view, less reflexed, not segmented, with seven fully long setae (basal one shorter), each at basal one-eighth on dorsal side, one-third on dorsal side, middle on outer side, two-thirds on outer ventral side and three at apical area, longest seta longer than cercus; epipleurites of segment 3 with five long setae.

Biological notes. Mr. M. Oda sent me some adult beetles and several larvae:—VII. 4, 1978 (instar 1), VII. 14, 1978 (instar 2) and VII. 17, 1978 (instar 3), Kashiwabara, Nara Pref., on leaves of the Japanese persimmon. He informed me that they are predacious on the larvae of Scopelodes contracta Walker (Heterogeneidae), an insect pest of the Japanese persimmon, in July and rather effective in Nara Prefecture, Honshu.

Remarks. This species is easily distinguishable from P. nigrolineata nipponensis Habu (Figs. 22, 23) and P. perforata (Bates) (Figs. 24-27) by its characteristic colouration, the head shorter and more setose and the cerci with numerous setae. The cerci not segmented in the first instar seem to be quite unusual in Parena and its allied genera. This characteristic together with the peculiar form of the styluses may indicate that P. cavipennis and probably P. laesipennis (Bates) are fairly distant from the other species of the genus.

### Correction

I revise here some mistakes committed in the following papers concerning homology of the setae on the epicrania:—

Parena nigrolineata Chaudoir: Habu, Sadanaga and Minamikawa, 1963, Kontyû, 31: 305-308, figs. 1, 2-7, and Parena perforata Bates: Habu and Sadanaga, 1967, Kontyû, 35: 391-397, figs. 1, 2-10.

I misidentified in figs. 2 and 3 of the former and figs. 2, 3 and 6 of the latter  $P_1$  as  $P_2$ ,  $P_2$  as  $P_3$  and  $So_3$  as  $L_2$ . Figs. 22 to 27 indicate revised setal names.



## 日本産カミキリムシの生態学的研究(1) カミキリ亜科9種の蛹の形態

、「方面」「一種の別の方法

## 黒 田 祐 一

Ecological Studies of the Cerambycid Beetles in Japan (I)

Morphological Notes on Nine Species of Cerambycine Pupae

## By Yûichi Kuroda

日本産カミキリムシの幼生期の形態、生活史については諸氏により次第に解明されつゝあるが、寄生木の記録の多いわりには未だその報告が少い現状である。筆者は野外及び飼育観察により得られた新知見を数回に分けて報告し、諸兄の参考に供する次第である。

本文に入るに先立ち日頃ご鞭韃,ご指導載いている林匡夫博士,加害木の同定にご無理をお願いした緒方健農学博士(茨城県林業試験場木材部組織研究室長),情報及び一部資料を提供された出雲善治,那須敏,山地治,渡辺昭彦氏及び採集に協力戴いた沖野貴司,小野豊,金利嘉雄氏ら各位に心から厚くお礼を申しあげる.

本篇には幼虫がカゴノキに寄生することが知られている Leptoxenus ibidiiformis BATES ベーツヤサカミキリ, エゾエノキから得られた Thranius variegatus BATES トラフホソバネカミキリ, Xylotrechus yanoi GRESSITT ヤノトラカミキリ, Hayashiclytus acutivittis (KRAATZ) カンボウホソトラカミキリ, Cyrtoclytus monticallisus Komiya アカネキスジトラカミキリ, 近年岡山県でシイタケ栽培の用材としてクヌギ・カシワ類などの伐採地の拡大とともに分布範囲のひろがっている Purpuricenus (Sternoplistes) lituratus GANGLBAUER モンクロベニカミキリ, ブドウに寄生する Brachyclytus singularis KRAATZ アカネトラカミキリ及び普通種ではあるが未だ蛹の記載のない Xylotrechus emaciatus BATES ニイジマトラカミキリ, Rhaphuma xenisca (BATES) ホソトラカミキリ の 9 種の蛹の形態について報告する.

# Leptoxenus ibidiiformis BATES ベーツヤサカミキリ (Pl. 1, Fig. 1a-1f.)

体はや $^1$ 扁平な円筒形で乳白色。頭部は背面からほとんど見えない。頭頂は円丘状で,毛はない。顔面は平滑で,複眼間が $^1$ 字形に強く凹む。毛や突起はない。上唇は丸味をおびた三角形で毛はない。触角は $^1$ 2とも体側にそって下降し,後肢腿節中間部で曲り,第 $^1$ 7腹節

腹面で交叉し、反対側の側腹部を上行し、第4または5腹節に達する. 触角各節は明瞭で、横じわがあり、節端は強く膨隆する.

前胸は円筒状で幅より長さが大で、1対の胸側突起と背部中央に1個の鈍突起がある。平滑で毛はない、中・後胸は平滑で毛はない、後胸小楯板溝はや、明瞭で極く浅い横条がある。 肢は長く、平滑で毛はない、腿節はや、棍棒状で、後肢腿節端は第7腹節中間に達する。

腹節は背面から 8 節が数えられ第 2~6 腹節背では正中線の左右が楕円形に僅かに隆起し、そこに  $3\sim5$  本の有毛刺状突起が横にならぶ。第 7 腹節背には前縁と 後縁の中間で 肋膜に近く 1 本の有毛短刺状突起,腹節端近くに 1 対または 3 本の有毛刺状突起がある。各突起は上に向く。第 8 腹節背には左右に各 2 本の短毛を生じる。腹節腹面は平滑で毛はない。

記載に用いた標本は山地治氏により1980年9月21日に臥牛山(岡山県高梁市)にてカゴノキ Actinodaphne lancifolia (SIEB. et Zucc.) から採集されたものである.

# Thranius variegatus BATES トラフホソバネカミキリ (Pl. 1, Fig. 2a-2h.)

体はやゝ扁平で、蛹化当初は乳白色、後期には淡黄褐色、♀はŝより大で約1.5倍、頭部は腹面に強く傾き、背面からはほとんど見えない、頭頂は丸いドーム状で平滑、正中部に極く浅い横じわがある。顔面は平滑で、上唇上部はT字形に深く凹み、その左右の隆起部に各2本及び複眼間に8~9本の有毛刺状突起が横にならぶ。上唇は円味をおびた三角形を呈し、正中部は深くくびれ、左右に各2本の有毛刺状突起がある。大腮に2本、頬部にも2~4本の有毛刺状突起がある。触角は逆八字状に着生し、体側にそって下降し、中肢腿節端で腹面に現れ、含は第2・3腹節の境、♀は第1・2腹節の境の高さで曲り、中肢胫節端に達する。触角第1節は環状にちりめんじわがあり、節端に2本の著明な突起がある。第3~8節端外側に1個の鈍突起がある。

前胸は円筒状で平滑,幅より長さが僅かに長い。前縁近くで中央部が強く膨隆し,側面から見たとき直角を呈する。側縁は軽く膨出し,後縁にそいくびれがある。前胸背中間部より前方突出部を囲み正三角形状に有毛刺状突起を生じ,後方には小刺状突起が疎生する。中・後胸は平滑で,中胸には浅い横じわが疎にあり,左右に1~2本の短毛を生じる。後胸は左右の中心部に4~5本の有毛小刺状突起がかたまって生じる。後胸小楯板溝は僅かに凹み,横条がある。翅は後肢跗節端に達し,上翅は幅せまく,後翅の外寄りを細長くおおう。肢は平滑,扁平で,中・後肢の腿節と胫節は分離し,その度合は中肢において著しい。各腿節端には内と外に向う2本の鈍突起がある。触角の突起とともに複眼の色が変化するにつれ先端が里変する。後肢腿節端は3では第5腹節中間に達し、9はそれよりや>短い。

腹部は背面から 9 節が数えられ,第  $1\sim6$  腹節背には 正中線から外に 向って大中小の不正 円形の 3 隆起がや  $\Sigma$  後縁よりにあり,それぞれに  $2\infty$  4~5 本,2 本,1 本の有毛刺状突起が横に ならんで生じ,その先端は後方に向う.そのほかに無毛小刺状突起が数本疎生する.第 7 腹

節背では正中線の中間両側に隆起部があり、その上に  $5\sim6$  本、その外側に  $1\sim2$  本の有毛刺状突起を生じ、前縁との間に左右各  $1\sim2$  本の有毛小刺状突起を生じる。第 8 腹節背には中間部左右に各 1 対の大きい無毛刺状突起が八字形にならび、その外側に 2 本、正中部に  $2\sim4$  本の小刺状突起を生じる。個体により前縁近くに小刺状突起を  $1\sim2$  本 生じる ものもある。第 9 腹節には 1 対の顆粒状隆起があり、それぞれに  $5\sim7$  本の無毛刺状突起が乱生する。2 には腹面に 1 対の大きい球状隆起を有する。腹面は平滑で、第  $5\cdot7$  節に 1 対、第 6 節に 2 対の極く小さい刺状突起または短毛を外側近くに生じる。

体長: $\,^{\circ}$  、17.0 mm; $\,^{\circ}$  、24.0 $\,^{\circ}$  26.0 mm. 前胸背幅: $\,^{\circ}$  、4.0 mm; $\,^{\circ}$  、5.5 $\,^{\circ}$  7.0 mm. 記載に用いた標本は高鉢山(鳥取県八頭郡)にて採取した エゾエノキ *Celtis jessoensis* Koidz. から1980年5月14日に得たものである.

Purpuricenus (Sternoplistes) lituratus Ganglbauer モンクロベニカミキリ (Pl. 1, Fig. 3a-3e.)

同属の他の2種に酷似するが、次の点が異る.

- (1) 顔面に 1~2本, 小腮鬚に 1本の微毛を生じる.
- (2) ↑の触角は中肢腿節端から外側に張りだし、環状を呈しつ、後肢腿節端の高さで腹面に曲り、上翅外縁にそって上行し、中肢腿節中間を通り、前肢腿節の外から⅓のところにて終る。毛はない。
- (3) 前胸背正中線の中間部両側に有毛顆粒状突起が約20本横長くかたまってあり、そのほかの部はまばらに生える.
- (4) 腹部は背面から 8 節が数えられ,第  $2\sim6$  腹節背は正中線の左右にやゝ横長い凹みがあり,それをとりまいて有毛刺状突起がある.後縁に近いものは前のものより鋭く,大きく,後方に向って横向きに生える.そのために突起基部は波状になる.なお,第 2 節より後節になるほど突起は大きくなる.第 7 腹節背は正中線の両側に10対ほどの先端が内側に曲る有毛刺状突起が生え,それの外側に有毛小刺状突起が疎生する.後縁近くに正中線と直角により鋭い 3 対の刺状突起が生じ,内側に強く鉤状に曲り,先端より約44のところから毛を生じる.第 8 腹節背には正中線近くに10数本の小刺状突起を生じ,後縁に 3 対の内後方に鉤状に曲る刺状突起があり,第 7 節のそれと同様に先端近くに毛を生じる.

体長:19.0 mm. 前胸背幅:5.0 mm.

記載に用いた標本は、1979年5月22日に山地治氏が金川(岡山県御津郡)で採集した成虫 6頭を提供され、それを飼育し、5月下旬から6月上旬にかけカシワ Quercus dentata Thunb.・クヌギ Quercus acutissima Carr. に産卵させ、1980年8月13日に得たものである.

Xylotrechus yanoi Gressitt ヤノトラカミキリ
(Pl. 2, Fig. 4a-4e.)

体はやゝ扁平で、頭部が鈍円に終る紡錘形を呈し、乳白色、頭部は腹面に強く曲り、頭頂

は円丘状で平滑,背面から見える。顔面は円形を呈し,横じわがあり,毛はない。上唇は三角形で横じわがある。小腮鬚に2本の短毛を生じる。触角間は広く,直角に附着する。触角は短く,その先端は前肢腿節端で終る。各節は不明瞭で,第1節端に1個の鈍突起がある。

前胸は円筒形で、前縁と側縁は球状に膨出し、長さより幅の方が大.後方約%のところで強くくびれ、両肩部は幅が広く、数本の刺毛を生じる.前胸背は後半部において側縁にそって浅い溝があり、それと後縁に囲まれる部は平滑で、無毛刺状突起が10数本疎生する.その他の部には後方を除き無毛刺状突起を生じ、それは側縁でやゝ密である.中胸背は平滑で、浅い横じわがあり、左右に3~5本の短毛を生じる.後胸背は平滑で、浅い横じわがあり、14~17本の短毛を生じる.小楯板溝は明瞭で、横条がある.肢は表面平滑で、各胫節に2本の短毛を生じる.後肢腿節端は第5腹節中間に達する.

腹節は背面から 8 節を数えられ,第  $1\sim6$  腹節背では正中線の両側に 先端が後方に曲る有毛刺状突起が不正円形状に生じ,正中線に近い  $1\sim2$  本の突起は他よりや  $\times$  大で, 内後方に曲る。なお,肋膜の近くに 1 本の有毛刺状突起を生じる。第 7 腹節背には中間部に各約 4 本の無毛刺状突起が横に 3 列にならび,前列と 2 列目のそれは内側に,後列のものは前内側に曲り,後列のものほど突起は 大きく鋭い。前列の突起の外側に 有毛小刺状突起 2 本を生じる。第 8 腹節背後縁の両側に各 2 本の無毛刺状突起が上に向いて生じる。腹面は平滑で,各節前半に主として短毛を疎生する。

体長: 24.0 mm. 前胸背幅: 6.8 mm.

記載は高鉢山にて採取したエゾエノキから1980年6月22日に得た♀の標本を用いた.

# Xylotrechus emaciatus BATES ニイジマトラカミキリ (Pl. 2, Fig. 5a-5f.)

ウスイロトラカミキリ X. cuneipennis (KRAATZ) (以下 X. c. と略す) に酷似するが、次の点が異る.

- (1) 上唇に  $1\sim2$  本,大腮及び小腮鬚に各 1 本の短毛がある。X. c. は無毛.
- (2) 触角第1節端上部と第3節端外側に1個の鈍突起がある. X. c. は第3節にない.
- (3) 前胸背はや  $\lambda$  縦長の楕円形を呈し、後縁のくびれは X. c. より少く、刺状突起には毛がない、X. c. は後方%が側方に膨出し、後縁のくびれは深く明瞭で、刺状突起に毛がある.
- (4) 後肢は X.c. より長く,第7腹節に達する.各胫節の中間に1本の刺毛がある。X.c. にはない.
- (5) 腹節背の刺状突起は X. c. より繊細で, 第7腹節背中央及び節端の刺状突起は X. c. が内前方に強く曲るのに,本種は上方に向く. また,第8腹節端の4本の刺状突起は後方内側に弱く曲るが,X. c. は上前方に強く曲る.

体長:%,  $12.6\sim15.4$  mm;  $$\varphi$$ , 15.8 mm. 前胸背幅:%,  $2.9\sim4.5$  mm;  $$\varphi$$ , 4.8 mm. 記載に用いた標本は赤西溪谷(兵庫県宍粟郡)で採取したエノキ *Celtis sinensis* Pers. var. *japonica* Nakai の立枯から1979年1月29日 $\sim2$ 月27日の間に得たものである.

# Hayashiclytus acutivittis (KRAATZ) カンボウホソトラカミキリ (Pl. 2, Fig. 6a-6e.)

体はほゞ円筒形で、細長く、乳白色、頭部は強く腹面に向って曲り、背面からは全く見えない、頭頂は円丘状で平滑、触角基部に左右それぞれ4本の短毛がならぶ、顔面は平滑で、浅い横じわがあり、上唇の上部は左右隆起し、それぞれ2本の短毛を生じる。複眼と隆起部の間にV字形に左右各5本の短毛を生じる。上唇は先端が円味をおびた三角形を呈し、横じわがあり、中心線は凹み、左右に各1本の長毛を生じる。大腮にはほゞ中央に4本の短毛、頰部に4~5本の短毛を生じる。小腮鬚には毛はない。触角は後肢腿節の中間部を迂回して腹面に現れ、その先端は中肢胫節の中間部で終る。各節は明瞭である。

前胸は円筒形で、背面において幅より長さが大で1.33 倍、後方約 1/10 のところで強くくびれる。主として前縁、中間部及び側面に短毛を疎生し、一部に長毛を混じる。なお、後縁に近い両側には10数本の短毛がかたまって生じる。中胸は平滑で、左右の前後に1本ずつ短毛を生じる。後胸も平滑で、小楯板溝は明瞭で、浅く凹み、横条があり、左右に各5本の短毛を生じる。肢は長く平滑で、毛はなく、各腿節は棍棒状で、中肢腿節端は第4腹節中間に、後肢のそれは第7腹節中間に達する。

腹部は背面から 8 節が数えられ,第 6 腹節より先は急に狭まる.第  $2\sim6$  腹節背においてほぼ横にならぶ 3 列の突起を認める.前列のものは前縁から13のところに数本の無毛小刺状突起がならび,中列は前縁から13のところに正中線の左右に 1 対の先端が内後方に向う無毛刺状突起を生じ,その外側に  $2\sim3$  本の有毛刺状突起がならぶ.後列は中列と 後縁の中間で左右にそれぞれ  $2\sim4$  本の先端が後に向う無毛刺状突起を生じる.第 7 腹節背には 中央部に内側に曲る 2 対の無毛刺状突起と,後縁に 4 本の内側に曲る 1 り大きい刺状突起を生じ,肋膜との間に刺毛を数本生じる.第 8 腹節背には後縁の両側に 1 対の無毛刺状突起を生じ,先端はや 1 内側上方に曲る.腹面は平滑で,中間部両側に  $1\sim2$  本の刺毛を生じる.

体長:13.5 mm. 前胸背幅:2.7 mm.

記載には高鉢山で採取したエゾエノキから1980年9月2日に得た3の標本を用いた.本種についてはすでにソ連での報告があるが、記載が簡単なため、ここに取りあげた。

# Brachyclytus singularis KRAATZ アカネトラカミキリ (Pl. 3, Fig. 7a-7f.)

体はやゝ扁平な円筒形で淡褐色. 頭部は腹面に向って傾き,背面から頭頂が見える. 頭頂は円丘状で平滑. 触角基部に近く左右に各  $2\sim3$  本の短毛がある. 顔面は全面に横じわがあり,上唇に接した左右に膨隆部がある. 触角間に4本の短毛,複眼間に約8本の短剛毛が横に1列にならぶ.上唇は三角形で横じわがあり,無毛.大腮にも毛はない. 触角は正中線に対し直角に附着し,体側縁を下向し、<math>3では第 $1\cdot2$ 腹節の境、4では後胸と第1腹節の境で終る.

前胸は円筒状で、側縁は強く膨隆し、後方約%のところで強くくびれる。前胸背には浅い

横じわがあり、前半部及び側面に有毛刺状突起を生じ、その先端は正中線の後方 $\frac{1}{3}$ の辺に向って僅かに曲る。中・後胸は平滑で、浅い横じわがある。後胸には数本の短毛を生じ、小楯板溝は明瞭で、浅く凹み、横条がある。肢は短く、後肢腿節端は $\circ$ では第5腹節端に、 $\circ$ は第 $\circ$ 2 腹節の中間に達する。毛はない。

腹部は背面から8節が数えられ、有毛刺状突起が第1・2腹節背では後縁近くに横にならび、第3~6腹節背では正中線の左右に環状にならび、その先端は後方に向って曲る。第7腹節背は正中線に浅い溝があり、左右に各25~30本の有毛刺状突起が不規則にならび、後方のものはより強大で頭部に向って曲り、その他のものは正中線に向って曲る。第8腹節背には正中線に向って曲る9~12本の有毛刺状突起と、後縁に上方に向って曲る左右各6本の有毛刺状突起を生じる。腹面は平滑で、各節に数本の短毛を生じる。

記載に用いた標本は1979年10月10日に岡山市野谷においてブドウ Vitis vinifera LINN.の 伐採枝から得たもの,及び1980年8月21日に高鉢山にてヤマブドウ Vitis Coignetiae Pulliat から得たものである.

# Cyrtoclytus monticallisus Komiya アカネキスジトラカミキリ (Pl. 3, Fig. 8a-8f.)

キスジトラカミキリ Cyrtoclytus caproides (BATES) (以下 C. c. と略す) に似るが、次の点が異る.

- (1) 顔面には横じわがあり,触角の間に 4 本,複眼の間に 8 本の短毛が大体横にならび,頰部に  $2\sim3$  本の短毛がある.上唇には横じわがあり,基部附近に 2 対,先端近くに 1 対の短毛がある.大腮には 2 本の短毛がある. C. c. の顔面は無毛または複眼の間に 1 対の短毛があり,頰部・上唇・大腮には毛がない.
  - (2) 触角第1節端に鈍突起がない.
- (3) 前胸背は側部が C.c. に比べより強く膨出し、その部に  $5\sim6$  本の鉤状の 刺状突起が前下方に向って 1 列にならぶ、背面の刺状突起は大小不同で、有毛であるが、C.c. のそれは大きさが大体一定し、毛がない。
- (4) 経節基部近くに前・中肢に2本,後肢に1本の刺毛がある. *C. c.* には各胫節中間部に2本の刺毛がある.
- (5) 第  $1\sim6$  腹節背の刺状突起は C.c. に比べ繊細で,より疎である.第 7 腹節背後縁の突起は 4 本とも内側に曲るが,C.c. のそれは内側の 2 本は内前方に,外側の 2 本は前方に曲る.第 8 腹節背には約 6 本の小刺状突起が八字形にならぶが,C.c. では 4 本の強大な刺状突起が後縁にならぶ.腹面には各節に C.c. に比べより繊細な短毛が  $2\sim3$  本生じる.

体長: $^{\circ}$ , 9.0 $\sim$ 19.5 mm;  $^{\circ}$ , 13.0 $\sim$ 14.5 mm. 前胸背幅: $^{\circ}$ , 2.2 $\sim$ 3.6 mm;  $^{\circ}$ , 2.9 $\sim$ 3.5 mm.

記載に用いた標本は高鉢山で採取したエゾエノキから1980年7月6日に得たものである.

## Rhaphuma xenisca (BATES) ホソトラカミキリ (Pl. 3, Fig. 9a-9f.)

体はほゞ円筒形で淡黄茶色. 頭部は腹面に向って強く曲り、顔面と腹面は同一平面上にあり、背面からは見えない. 頭頂は円丘状で平滑、触角基部に左右それぞれ1~3本の短毛を生じる. 顔面は浅い横じわが僅かに見られ、複眼の間に左右各4本、頰部に各1本の短毛を生じる. 上唇は円味をおびた三角形で、基部中央が浅く凹み、基部近くに2本、中間の両側に1本の短毛、先端に1~2本の微毛を生じる. 大腮に2本、小腮鬚に1本の短毛を生じる. 触角は正中線に対しほゞ直角に着生し、前胸側部、前・中肢腿節背線にそって下り、 おは第4・5腹節の境で後肢跗節の前面で曲り、先端は上翅先端に接し、♀は中肢腿節端から腹面に曲り、上翅先端近くで終る.

前胸は背面からみると中胸と接する部分が截断された球形に近い楕円形を呈し、後方約16のところで強くくびれる。中間部よりやゝ前寄りに正中部を除いて左右に各30~40本の剛毛を生じる。その部と後縁との中間に左右約15本の剛毛を生じる。前縁及び側面はそれよりまばらに短毛を生じ、腹面も数本の短毛を疎生する。中・後胸は平滑で、左右に数本の短毛を生じる。後胸小楯板溝は明瞭で、浅く凹み、浅い横条がある。肢は細長く、やゝ扁平で、毛はない。後肢腿節端は第6・7腹節の境に達する。

腹部は背面から 8 節が数えられ,第 2~6 腹節背には 正中線の左右に 刺状突起が不正円形にならび,その側面に長毛または短毛が疎生する.各節とも前半より後半の突起の方が大きく,正中線に一番近い突起がより大で,第 6 腹節に行くほど各突起は大きくなる.また,外側に位置する突起の一部は有毛である.第 7 腹節背には 5 対の刺状突起があり,前の 2 対は正中線に平行してならび,内側に向って強く曲り,基部近くに有毛刺状突起を伴う.後の 3 対は横にならび,頭部に向って強く曲る.側面に10数本の短毛を生じる.第 8 腹節背は後縁に 4 本の無毛刺状突起があり,上方に向く.個体により突起は先端が 2 本に分岐したり,または 1 本欠損する.肋膜上には数本の長毛を生じる.腹面は平滑で,数本の短毛を生じる.

体長: $\,$ 3,  $\,$ 10.5 $\sim$ 12.5 mm;  $\,$ 9,  $\,$ 10.0 $\sim$ 12.1 mm. 前胸背幅: $\,$ 3,  $\,$ 2.2 $\sim$ 2.7 mm;  $\,$ 9,  $\,$ 2.2 $\sim$ 2.6 mm.

記載には臥牛山で採取したタカノツメ *Evodiopanax innovans* (SIEB. et Zucc.) から1980 年 4月22日に得た標本を用いた.

#### 図 版 説 明

- Pl. 1, Fig. 1. Leptoxenus ibidiiformis BATES ベーツヤサカミキリ
  - 2. Thranius variegatus BATES トラフホソバネカミキリ
  - 3. Purpuricenus (Sternoplistes) lituratus GANGLBAUER モンクロベニカミキリ 令腹面 (1a, 2a, 3a); 令側面 (1b, 2b, 3b); 令背面 (1c, 2c, 3c); ♀腹面 (2d); 頭部・前胸 (2e); 令第7・8腹節背面 (1d, 2f, 3d); 令第7・8腹節腹面 (1e, 2g, 3e); ♀第7・8腹節腹面 (1f, 2h).

- Pl. 2, Fig. 4. Xylotrechus yanoi GRESSITT ヤノトラカミキリ
  - 5. Xylotrechus emaciatus BATES ニイジマトラカミキリ
  - 6. Hayashiclytus acutivittis (KRAATZ) カンボウホソトラカミキリ

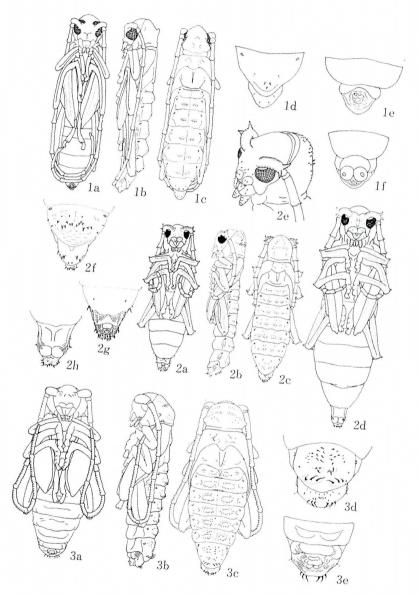
令腹面 (5a, 6a); ♀腹面 (4a); 令側面 (5b, 6b); ♀側面 (4b); 令背面 (5c, 6c); ♀背面 (4c); 令第7·8腹節背面 (5d, 6d); ♀第7·8腹節背面 (4d); 令第7·8腹節腹面 (5e, 6e); ♀第7·8腹節腹面 (4e, 5f).

- Pl. 3, Fig. 7. Brachyclytus singularis KRAATZ アカネトラカミキリ
  - 8. Cyrtoclytus monticallisus Komiya アカネキスジトラカミキリ

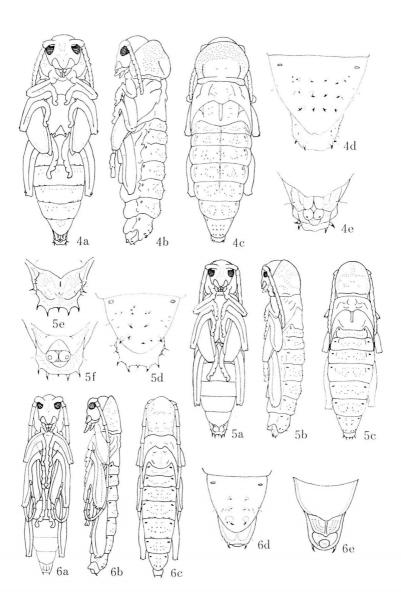
### 第32回 (昭和55年度) 大会記録

昭和55年度の第32回大会は、同年12月7日午前10時30分から大阪市立自然史博物館において開催された。後藤幹事の司会により、まず大倉幹事から会務会計報告が行われた後、午前中は恒例どおり出席会員の自由懇談および標本の同定に当てられた。午後1時から記念講演として、木元新作氏の"南西諸島をめぐるハムシ類のいくつかの問題"ならびに林匡夫氏の"ネパールの天牛について"がそれぞれ行われた。なお、両講演の間に河野伊三郎・森和夫の両氏から"アンダーマン諸島の自然"についてスライドを混えての話があり、盛会のうちに午後4時に閉会した。引続き有志による懇親会を長居駅前の"うき舟"で開催し、和気あいめい裡に午後8時30分に散会した。

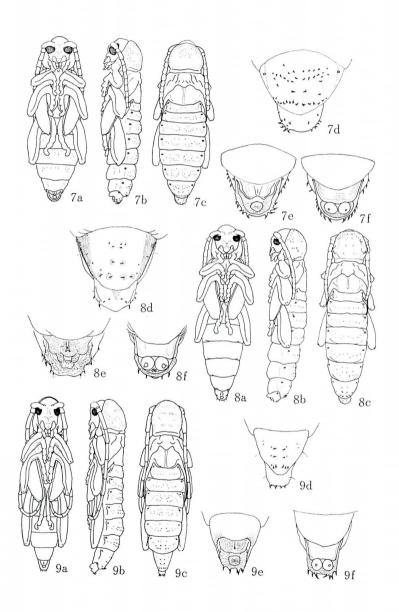
当日の出席者(敬称略)はつぎのとおり、後藤光男・春沢圭太郎・畑山武一郎・林 匡夫・林 靖彦・穂積俊文・生谷義一・岩田隆太郎・鎌苅哲二・木元新作・河野 洋・河野伊三郎・楠井善久・的場 績・水野弘造・水沼哲郎・森 和夫・中川宗次郎・中川俊夫・中山紘一・奈良 一・越智輝雄・大石久志・大石美也子・大川親雄・大倉正文・沢田高平・高羽正治・田村 保・遠山雅夫・豊嶋亮司・渡辺昭彦・八木正道・山地 治・山本謙吉・山下 晶・吉田元重・吉原一美・吉川文弘・吉川正彦. (大倉)



(Y. Kuroda del.)



(Y. KURODA del.)



(Y. KURODA del.)

## 琉球諸島の小島嶼におけるコガネムシ主科の分布ノート

## 1. 伊是名島および具志川島

## 楠 井 善 久

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

I, Izenajima Is. and Gushikawatô Is.

## by Yoshihisa Kusui

伊是名島は沖縄本島北部の北西約 30 km の海上,東経 127度 56 分, 北緯 26度 56分に位置し,周囲 16.7 km, 面積 11.78 km² と伊平屋列島では 2番目に大きい島であるが, 標高が 129 m と低く,島の大部分が古くから農耕地として利用され,一部に残る未利用の傾斜地も 2 次林と思われる。そのためか当地での採集報告は少なく, コガネムシ主科に関する報告は 楠井(1976) $^{11}$  があるのみである。 具志川島は伊是名島の北 3 km にある属島であって, 面積は 0.42 km² と小さく, 樹種も貧弱であり,この島からの採集記録はないようである.

筆者は1978年8月4日から6日までこれら2島において採集を行った。短時日であるが、下記の種類を得たので報告しておきたい。採集日はすべて8月であるためカッコ内に日付のみを記した。また、具志川島の採集は8月4日の日中のみである。

採集に際し多大なる協力を得た沖縄県中央家畜保健衛生所の星野千春氏に厚くお礼申しあ げる。

### I. 伊是名島

### Lucanidae

- Serrognathus platymelus okinawanus (KRIESCHE) オキナワヒラタクワガタ 4♀♀, Serikyaku (5th).
- Aegus laevicollis Saunders ネブトクワガタ 1♀, Serikyaku (5th).

亜種名は Subsp. *nakanei* ICHIKAWA et IMANISHI と思われる個体であるが、小形の1♀のため今後の調査で明らかにしたい。

<sup>1)</sup> 楠井善久 (1976);伊平屋諸島のコガネムシ類、月刊むし、61:26.〔昆虫学評論、第36巻、第1号、83-84頁、1981年、9月〕

#### Scarabaeidae

3. Onthophagus viduus HAROLD マルエンマコガネ

上翅基部と端部, 尾節板, 腹節両側の赤色紋が明瞭で大きい個体が多い.

- 4. Aphodius urostigma HAROLD フチケマグソコガネ 1 ex., Gohaguchihara (5th).
- 5. A. sublimbatus MOTSCHULSKY ウスイロマグソコガネ 1 ex., Serikyaku (4th); 5 exs., Gohaguchihara (5th).
- 6. Rhyparus azumai NAKANE セスジカクマグソコガネ 1 ex., Serikyaku (4th); 2 exs., Serikyaku (5th).
- 7. Maladera oshimana okinawana Nomura リュウキュウビロウドコガネ 2 含 含, Serikyaku (5th).
- 8. Apogonia bicarinata okinawana Nomura フタスジカンショコガネ 6 🕆 🕆 , 13 ♀ ♀ , Serikyaku (5th).
- 9. *Granida schoenfeldti* Brenske オキナワシロスジコガネ 1♀, Serikyaku (4th); 2♀♀, Serikyaku (5th).
- 10. Anomala xanthopleura Arrow リュウキュウドウガネ 4♀♀, Mt. Ohonoyama (4th); 2♀♀, Serikyaku (5th).

上翅の側縁隆起後角付近の拡がりは、既産地のものより狭い傾向がみられる.

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

 $1\, \ensuremath{\upphi}$  ,  $1\, \ensuremath{\upphi}$  , Serikyaku (5th).

上記の他に既知種として Anomala albopilosa yashiroi SAWADA オキナワアオドウガネ, Protaetia pryeri pryeri (JANSON) リュウキュウッヤハナムグリ, Oxycetonia forticula (JANSON) ヒメハナムグリの3種が楠井により報告されている。 今回の調査においてもオキナワアオドウガネを多数採集しているが,沖縄本島産に比して明らかに小さい個体が多いようである。

以上, 伊是名島から2科14種の分布を確認したが, 現在までの調査では Anomala 属の一部に若干亜種的な変異がみられるものの, すべて沖縄本島と共通の種であった.

### Ⅱ. 具志川島

#### Scarabaeidae

- 1. Anomala edentula okinawana Nomura ムシスジコガネ 1 %, (4th).
- 2. Protaetia pryeri pryeri (JANSON) リュウキュウツヤハナムグリ 1 含 (4th).