昆 蟲 学 評 論

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Two New Genera of the Pterostichini from Japan (Coleoptera, Carabidae)

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As I have already mentioned (Habu, 1981 b), Lindroth (1966) points out that the Japanese "Hypherpes" colonus Bates is not congeneric with the North American Hypherpes, though he does not establish any generic taxon for this species.

There being a need to describe a new genus for *colonus*, I asked for Professor G. E. Ball's assistance. He generously sent me a pair of Canadian specimens of seven *Hypherpes* species, and moreover gave me unexpectedly a male and a female specimen of *Allotriopus serratipes* Chaudoir from Mexico for the sake of my study on "*Allotriopus*" hoplites Bates.

Allotriopus has hitherto comprised only two species, A. serratipes and A. hoplites, and it has been quite questionable for me that the Japanese species and the Mexican one are congenial. The comparative study of these two species has made me certain that they are distinctly heterogeneous, and that the BATES' species requires a new genus.

My most sincere thanks are due to Professor George E. Ball of the University of Alberta for his kindness, without which I could not have made any comparative study of these genera.

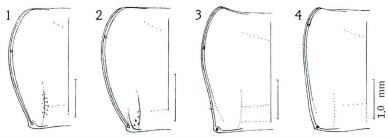
¹⁾ Retired in June, 1981.

Carllindrothius, gen. nov.

Hypherpes Chaudoir: Habu, 1981, Ent. Rev. Japan, 36: 43-44.

Type-species: Hypherpes colonus BATES from Japan.

Description. Body narrower and more convex than in Hypherpes. Head with eyes moderately convex; oblique part of tempora hardly tumid, one-half as long as eye; antennae submoniliform, hardly reaching base of pronotum, pubescent from segment 4, segment 2 without verticillate setae at apex, segments 3 to 11 not compressed from sides; labrum not emarginate at apex; mandibles moderate in length; palpi with apical segment almost cylindrical, truncate at apex; mentum with lateral lobes almost triangular, epilobes a little exceeding apex of lateral lobes, tooth moderately long, bifid. Pronotum (Fig. 1) not transverse; surface punc-



Figs. 1-4. Pronota.

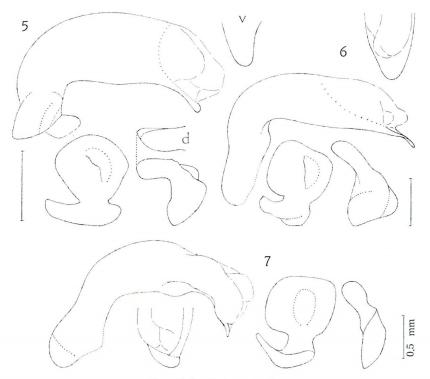
- 1. Carllindrothius colonus (BATES) from Mt. Hiko, Fukuoka Pref. (A. HABU).
- 2. Georgeballius hoplites (BATES) from Mt. Akagi, Gumma Pref. (A. HABU).
- 3. Hypherpes amethystinus (Mannerheim) from Canada. 4. Allotriopus serratipes Chaudoir from Mexico.

tate only in basal foveae; lateral margins distinctly contracted posteriorly, lateral furrows narrow, distinct, reaching posterior marginal setae; base distinctly bordered on lateral areas; basal angles obtuse, more or less dull at apex, sometimes indistinct (individual variation in *colonus*); basal foveae rather deep, with single linear impression. Wings reduced. Elytra not mat owing to microsculpture forming fully transverse meshes; base not well raised at outer area, with distinct tooth at shoulder; scutellary striole fairly short; interval 3 without dorsal pore. Legs not slender; hind trochanters (Fig. 21) not narrowed apically, apex widely rounded; hind femora (Fig. 21) without tooth on ventral side in \Diamond and \Diamond ; hind tibiae not tuberculose inside; mid and hind tarsi with basal three segments sulcate at outer dorsal side; tarsal segment 5 glabrous on ventral side. Ventral side distinctly punctate on lateral areas; metepisterna short; sternite 6 simple, with one seta in \Diamond , two setae in \Diamond , on either side. Aedeagus (Fig. 6) well bent behind middle, basal perpen-

dicular part rather distinct, basal part narrow, ventral side not concave, apical lamella simple; right paramere hardly curved, fully wide at basal half. Styluses described by Habu (1981 b).

 $\it Range.$ Asia (Japan). Only $\it C.$ $\it colonus$ (Bates) is distributed in Shikoku and Kyushu, Japan.

Remarks. Lindroth (1966) considers Hypherpes colonus different from the true Hypherpes owing to the elytral microsculpture—isodiametric in Hypherpes—and the form of the aedeagus and the right paramere (Fig. 7). The styluses also differ between the North American and Japanese genera: they are almost similar in the form and structure in the six species of the former I have examined, H. amethystinus (Mannerheim) (Fig. 8), H. herculaneus (Mannerheim) (Fig. 9), H. neobrunneus (Lindroth) (Fig. 10), H. castaneus (Dejean) (Fig. 11), H. protractus LeConte (Fig. 12) and H. crenicollis LeConte (Fig. 13), viz. the basal segment is with some very short setae at the subapical area, and the apical segment is narrower (wide at the basal half in Carllindrothius), and less curved, they bearing a close resemblance to those of Steropus



Figs. 5-7. Male genitalia.

- 5. Georgeballius hoplites (BATES) from Mt. Akagi, Gumma Pref. (A. HABU).
- 6. Carllindrothius colonus (BATES) from Mt. Daisen, Kagawa Pref. (M.

SATOU). 7. Hypherpes amethystinus (MANNERHEIM) from Canada.

and *Eosteropus* of the genus *Pterostichus* (vid. Figs. 48-54 in Habu, 1981 a). Although the styluses are narrower, the body of these Canadian species is contrariwise a little wider than in the Japanese *C. colonus*.

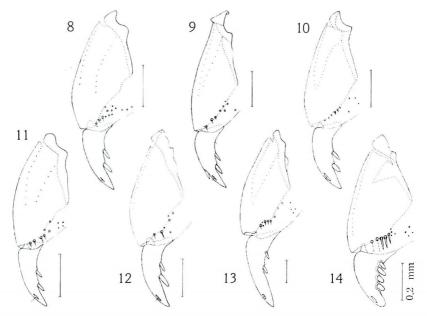
The styluses of the Canadian *H.*? algidus LeConte (Fig. 14) are fairly different from those of the six foregoing species:—the basal segment is wider, with some longer setae at the subapical area, and the apical segment is also wider, with four stout spines on the ventral outer margin—and they suggest that this species is derived from another ancestor. The styluses of *Carllindrothius* rather remind of *Lagarus*, *Eolagarus* and *Argutor* of *Pterostichus* (vid. Figs. 24–30 in Habu, 1981 a).

Georgeballius, gen. nov.

Allotriopus Chaudoir: Habu, 1981, Ent. Rev. Japan, 36: 44-45.

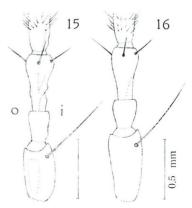
Type-species: Allotriopus hoplites BATES from Japan.

Description. Body more convex than in Allotriopus. Head with eyes moderately convex, but smaller than in Carllindrothius; tempora gently tumid behind eyes, tumid part a little shorter than eye; antennae (Fig.



Figs. 8-14. Left styluses of *Hypherpes* spp. from Canada. 8. *H. amethystinus* (Mannerheim). 9. *H. herculaneus* (Mannerheim). 10. *H. neobrunneus* (Lindroth). 11. *H. castaneus* (Dejean). 12. *H. protractus* LeConte. 13. *H. crenicollis* LeConte. 14. *H. ? algidus* LeConte (older female).

15) moniliform, not reaching base of pronotum, densely pubescent from segment 4 segment 1 shallowly depressed at outer dorsal area, segment 2 without additional setae at apex, with one small dull protuberance on inner side near base, segments 3 to 10 more or less compressed from sides, segment 3 with generally two small dull protuberances on inner side at basal half; labrum not emarginate at apex; mandibles moderate in length (longer in Allotriobus): palpi with apical segment subcylindrical, truncate at apex; mentum with lateral lobes gently rounded at outer margin, epilobes a little extending bevond lateral lobes, tooth moderately long, bifid. Pronotum (Fig. 2) not transverse, hardly punctate or with a few punctures in basal foveae: lateral mar-



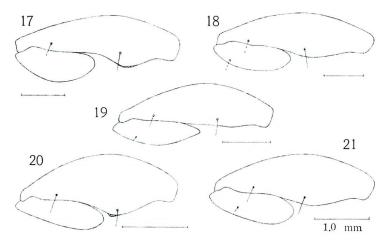
Figs. 15, 16. Left antennae at basal part. i: inner side. o: outer side.

15. Georgeballius hoplites (BATES) from Kurokawa, Niigata Pref. (K. BABA). 16. Allotriopus serratipes CHAUDOIR from Mexico.

gins well contracted posteriorly, lateral furrows narrow, distinct, reaching posterior marginal setae; base distinctly bordered laterally; basal angles obtuse, more or less dull at apex; basal foveae deep, with two linear impressions, outside area of outer impression obscurely carinate in basal angles. Wings reduced. Elytra not mat, microsculpture forming fully transverse meshes (isodiametric and elytra mat in Allotriopus); base raised at outer area. with distinct raised tooth at shoulder; scutellary striole rather short, either on interval 1, reaching basal border, or on interval 2, arising from basal pore (individual variation in hoplites); interval 3 with one pore at apical one-seventh or -eighth, pore adjoining stria 2. Legs not slender; hind trochanters (Fig. 20) of 3 and 4 not narrowed apically, apex widely rounded; hind femora (Fig. 20) of & well dilated, with small dull protuberance on ventral side at greatest width; hind tibiae tuberculose inside in 8; mid and hind tarsi with segments 1 to 3 sulcate at outer dorsal side; tarsal segment 5 not compressed from sides, glabrous ventrally. Ventral side densely, distinctly punctate on lateral areas (not punctate in Allotriopus); metepisterna short; sternite 6 simple, with single seta in 3, two setae in 9, on either side. Aedeagus (Fig. 5) fully stout, fairly bent before base, basal perpendicular part short, ventral side not concave, apical lamella simple, fully short; right paramere well curved, well dilated at basal part, apex obscurely pointed in dorsal view. Styluses described by HABU (1981 b).

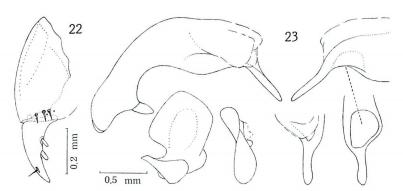
Range. Asia (Japan). G. hoplites (BATES) is distributed in east to north areas of Honshu, Japan.

Remarks. The Mexican Allotriopus has the antennae moniliform, but not tuberculose on the second and third segments (Fig. 16), the pronotum (Fig. 4) with a single basal impression, the elytral base not raised outward, the humeral tooth not distinct, the hind trochanters (Fig. 19) narrowed and pointed apically though not



Figs. 17-21. Left hind trochanters and femora, 3.

17. Hypherpes amethystinus (Mannerheim) from Canada. 18. H. herculaneus (Mannerheim) from Canada. 19. Allotriopus serratipes Chaudoir from Mexico. 20. Georgeballius hoplites (Bates) from Katashina, Gumma Pref. (A. Habu). 21. Carllindrothius colonus (Bates) from Mt. Hiko, Fukuoka Pref. (A. Habu).



Figs. 22, 23. Allotriopus serratipes Chaudoir from Mexico. 22. Left stylus. 23. Male genitalia.

acute at the apex, the hind femora (Fig. 19) not dilated, not dentate ventrally in the male and female, the mid and hind tarsi not sulcate on the outer dorsal area, the fifth segment of all tarsi distinctly compressed from sides and thin in a dorsal view at the basal half, and the aedeagus not bent and therefore not perpendicular at the basal part, with a large deep fovea on the ventral side, with a fully long and narrow apical lamella, and the right paramere not curved, not fully dilated at the basal area.

The apical segment of the styluses of *Georgeballius* is well curved, dilated at the basal half, and resembles that of the preceding *Carllindrothius*, and both the genera may have been descended from a common ancestor, but that of *Allotriopus* (Fig. 22) is gently curved, not so wide at the basal half, and bears a close resemblance to *Hypherpes*.

The male hind femur with a small dull protuberance on the ventral side is not necessarily a unique characteristic in *Georgeballius*, and some species of *Hypherpes* (Fig. 17) have also such a protuberance.

Literature cited

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 - 1981 b: Do. (II). Do., 36: 43–45.
- LINDROTH, C. H., 1966: The ground-beetles (Carabidae, excl. Cicindelinae) of Canada and Alaska. Part 4. Opusc. Ent., Suppl., 29: 459-460.

Chrysomelidae Collected by the Japan-India Cooperative Survey in India¹⁾, 1978.

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In October to December, 1978, I had an opportunity to collect chrysomelid-beetles in India as a member of the joint project of Hokkaido University, University of Calcutta and Zoological Survey of India. This is the first part of serial papers on the chrysomelid-beetles collected during the research trip and deals with 7 subfamilies: Zeugophorinae, Criocerinae, Clytrinae, Cryptocephalinae, Chlamisinae, Eumolpinae and Chrysomelinae, and enumerates 84 species including 3 new species.

Half of the material examined here will be deposited in the collection of the Entomological Institute, Hokkaido University, and the other half in the collections of the Zoological Survey of India and the Department of Zoology, Calcutta University, both in Calcutta.

I wish to express my cordial thanks to the late Prof. D. N. RAYCHAUDHURI of the Department of Zoology, Calcutta University and his staffs for the corporation to this joint project, and my hearty grief over his unexpected decease. Thanks are also due to Dr. T. N. Ananthakrishnan, the former director of the Zoological Survey of India and his staffs in Z. S. I., also for their corporation to the project. My thanks are also due to Prof. V. K. Gupta, University of Delhi; Dr. P. K. Sen-Sarma of Forest Research Institute, Dehra Dun; Drs. A. Ramen and C. Kandasamy of Loyolla College, Madras; Dr. N. C. Nair and members of the Southern Circle, Botanical Survey of India, Coimbatore for their kind help during the research. Dr. S. Kimoto of Kurume University and Dr. M. Daccordi of Museo Civico Naturale, Verona are thanked for their useful suggestions on the taxonomy of the group.

Enumeration

Subfamily Zeugophorinae

1. Zeugophora indica Jacoby, 1903 (Text fig. 1 b)

¹⁾ Research Trips for Forest and Agricultural Insects in the Subcontinent of India (Hokkaido University, University of Calcutta, and Zoological Survey of India Joint Project) [Grants-in-Aid for Overseas Scientific Survey, Ministry of Education, Japanese Government, 1978, No. 304108; 1979, No. 404307], Scientific Report No. 14. [Ent. Rev. Japan, Vol. XXXIX, No. 1, pp. 9-25, pls. 1-2, June, 1984]

2 exs., Kotagiri, Nilgiri, Tamil Nadu (T. N.), 29. XI. 1978. Distribution. India, Thailand.

2. Zeugophora longicornis (Westwood, 1864) (Text fig. 1 a)

1 ex., Mohand Forest nr. Dehra Dun, Utter Pradesh (U. P.), 7-9. XI. 1978; 1 ex., Mettupalayam View, Nilgiri, 30. XI. 1978.

Distribution. India, Nepal, Thailand.

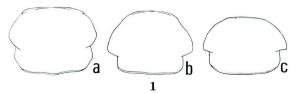


Fig. 1. Pronotum of: a, Zeugophora longicornis (from Mettupalayam View); b, Z. indica (from Kotagiri); c, Z. yunnanica (from Shillong).

3. Zeugophora yunnanica Chen & Pu, 1962 (Text fig. 1 c)

1 ex., Shillong, Meghalaya, 13. II. 1978, S. F. SAKAGAMI & T. KUMATA leg. Distribution. Assam, China (Yunnan).

Subfamily Criocerinae

4. Lilioceris cheni Gressitt & Kimoto, 1961

1 ex., Botanical Garden, Calcutta, West Bengal (W. B.), 18. X. 1978. Distribution. India, Thailand, Laos, S. China, Taiwan.

5. Lilioceris impressa (Fabricius, 1787)

1 ex., Top Slip, Anaimalai, T. N., 2-5. XII. 1978. Distribution. India, Sri Lanka, Nepal, Burma, Andaman Is., Nicobar Is., Thailand,

Altitude of collecting sites as:

Himachal Pradesh — Solan (ca. 1500 m). Utter Pradesh — Mussoorie: Lal Tibba (ca. 2200 m); Bhata Reserve (ca. 1500 m); Kemptee Fall (1400-1600 m). Simla: Sadhupul (ca. 1250 m); Kufri (2500-2700 m); Mashobra (ca. 2100 m). Dehra Dun (600-700 m); Mohand Forest (ca. 500 m); Sahastradhara (ca. 800-900 m). Rishikesh (450 m). Tamil Nadu—Nilgiri: Kotagiri (ca. 1700 m); Mettupalayam View (800-1000 m); Kallar (750-850 m); Coonoor (1700-1900 m); Pykara (ca. 2200 m); Nadubattam (ca. 2000 m). Anaimalai, Top Slip (550-800 m). Madumalai (ca. 1000 m). Coimbatore (400-500 m); Marudhamalai (600-700 m). Yercaud, Salem (1300-1500 m).

Laos, Cambodia, Vietnam, S. China, Hainan Is., Taiwan, Malayan Is., Philippines, Sumatra.

6. Lilioceris semipunctata (Fabricius, 1801)

1 ex., Yercaud, Salem, T. N., 1. XII. 1978.

Distribution. India, Sri Lanka, Nepal, Thailand, Hainan Is., Borneo, Sumatra, Iava.

7. Crioceris nigrornata Clark, 1866

2 exs., Sahastradhara nr. Dehra Dun, 6. XI. 1978; 2 exs., Mohand Forest nr. Dehra Dun, 7-9. XI. 1978.

Distribution, India.

8. Crioceris multimaculata Jacoby, 1898 (Pl. 1, fig. 1)

1 ex., Top Slip, Anaimalai, 2-5. XII. 1978; 2 exs., Agric. Coll., Coimbatore, T. N., 1, 5. XII. 1978.

Distribution. India.

9. Oulema downesi BALY, 1865

1 ex., Calcutta, 14-19. X. 1978; 1 ex., suburbs of Calcutta, 20. XI. 1978; 1 ex., Agric. Coll., Coimbatore, 5. XII. 1978; 1 ex., Madras, T. N., 16-19. XII. 1978. Distribution. India.

10. Lema (Lema) coromandeliana (Fabricius, 1798)(Text fig. 2 a'-c')

3 exs., Botanical Garden, Calcutta, 18. X, 21. XII. 1978; 2 exs., Calcutta, 14-19. X. 1978; 1 ex., Dehra Dun, 2-6. X. 1978; 2 exs., FRI, Dehra Dun, 10-13. XI. 1978; 41 exs., Agric. Coll., Coimbatore, 1, 5, 9-13. XII. 1978; 14 exs., Madras, 16-19. XII. 1978; 2 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 3 exs., Kallar, Nilgiri, 9, 12. XII. 1978; 1 ex., Palghat Forest, Kerala, 8. XII. 1978.

Distribution. India, Sri Lanka, Thailand, Laos, Cambodia, Vietnam, S. China, Taiwan, Philippines, Sumatra, Borneo, Java, Celebes.

11. Lema (Lema) cyanea Fabricius, 1798

12 exs., Kallar, Nilgiri, 9, 12. XII. 1978; 1 ex., Mettupalayam View, Nilgiri, 10. XII. 1978.

Host. Commelina sp. (Commelinaceae) at Kallar.

Distribution. India, Sri Lanka, Nepal, Burma, Thailand, Laos, Vietnam, S. China, Taiwan, Sumatra.

12. Lema (Lema) epipleuralis JACOBY, 1908

1 ex., Coimbatore, 9-13. XII. 1978. Distribution. India.

13*. Lema (Lema) horni Weise, 1903

2 exs., Palghat Forest, Kerala, 6, 8. XII. 1978; 1 ex., Madras, 16-19. XII. 1978. Distribution. S. India, Sri Lanka.

14. Lema (Lema) lacertosa LACORDAIRE, 1845

5 exs., Calcutta, 14-19. X, 15-18. XI. 1978. Host. *Commelina* sp. (Commelinaceae). Distribution. India, Laos, Vietnam, S. China, Malay Peninsular, Singapore.

15. Lema (Lema) lycaon JACOBY, 1908

1 ex., Madras, 16-19. XII. 1978; 1 ex., Agric. Coll., Coimbatore, 5. XII. 1978. Distribution. S. India.

16. Lema (Lema) maheensis Jacoby, 1908

3 exs., Madras, 16-19. XII. 1978; 1 ex., Coimbatore, 1. XII. 1978. Distribution. S. India.

17. Lema (Lema) malabarica Jacoby, 1908

5 exs., Calcutta, 14-19. X. 1978; 1 ex., Botanical Garden, Calcutta, 18. X, 21. XII. 1978.

Host. *Commelina* sp. (Commelinaceae). Distribution. India.

18. Lema (Lema) nilgiriensis JACOBY, 1908

19 exs., Kallar, Nilgiri, 10, 12. XII. 1978; 1 ex., Mettupalayam View, Nilgiri, 10. XII. 1978.

Host. *Commelina* sp. (Commelinaceae) at Kallar. Distribution. S. India.

19. Lema (Lema) ornaticollis Jacoby, 1908

3 exs., Palghat Forest, Kerala, $6,\ 8.$ XII. 1978 ; 5 exs., Top Slip, Anaimalai, 2--5. XII. 1978.

Distribution. S. India.

20. Lema (Lema) paradoxa Jacoby, 1904

^{*}An asterisk indicates new record from India.

4 exs., Kallar, Nilgiri, 9, 12. XII. 1978; 4 exs., Mettupalayam View, Nilgiri, 30. XI, 10. XII. 1978; 6 exs., Top Slip, Anaimalai, 2-5. XII. 1978.

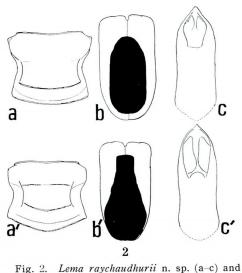
Distribution. S. India.

21. Lema (Lema) raychaudhurii n. sp. (Pl. 1, fig. 2, Text fig. 2 a-c)

Male. Body rather flat, subparallel-sided; reddish brown except for head below eyes, antennae, underside, pronotum on the lateral side near base, prosternum, femora and large oval patch on elytra metallic dark blue; the elytral patch extending from basal depression to before apex, and from suture to 5th interstice; abdominal sternites more or less infuscate; dorsum glabrous except for head covered with long silvery pubescence; underside pubescent.

Head distinctly punctured on frons to neck; frons strongly convex and deeply grooved at middle; antenna short and robust, shorter than $\frac{1}{2}$ body length, pubescent beyond 3rd segment, gently broadened from 3rd to 5th; 1st segment conical; 5th longer than twice the 2nd; 8th to 10th, each short cylindrical; 10th slightly longer than broad; relative length of antennal segments as: 5th = 7th>6th = 11th> 8th = 9th> 1st = 3rd = 4th = 10th> 2nd. Prothorax transverse, $\frac{3}{4}$ as long as broad, broadened anteriorly and broader at anterior corner than at base; sinuate

and margined at anterior margin, angularly produced at anterior corner, strongly constricted at middle on lateral margins; disc sparsely covered with shallow punctures, longitudinally raised dorsally above the middle constriction, basal sulcus deep, situated at basal 1/4; another obscure subbasal sulcus present parallel to basal margin. Scutellum trapezoid, glabrous and weakly depressed Elytron almost 4 medially. times as long as broad, broadest at humerus and almost parallelsided for basal 3/3; disc with 11 rows of large punctures, of which diameter is distinctly broader than their interstices; on post-scutellar area the punctures especially larger; sub-



L. coromandeliana (a'-c').

a, pronotum; b, elytra; c, aedeagus (dorsal view of apical portion).

basal depression distinct; 5th interstice raised at base; interstices more or less raised near apex. Femora stout; hind tarsus with 1st segment distinctly shorter than 2nd and 3rd combined.

Size. 6.0-7.0 mm in length, 2.0-2.3 mm in breadth in both sexes.

Coloration is variable: one female specimen has the dorsum wholly reddish brown with slight aeneous luster except for head below eyes; ground color of the dorsum may light reddish brown; trochanter reddish brown in 3 among 6 examined. Another female specimen has the anterior sulcus on the pronotum well developed.

This new species is characterized by the frons which is strongly raised, and is distinctly punctate as well as neck; antenna short and robust; prothorax broadest at anterior corners; elytron with 11 rows of large punctures, and slightly rugose posteriorly to scutellum etc. L. semifulva Jacoby from Burma is similar to this new species in appearance, but its head is impunctate and with antennae $\frac{2}{3}$ as long as the body. This new species is somewhat similar to cyaneosuturalis, form of L. coromandeliana Fabricius in the coloration of elytra, but characters of head and prothorax suffice to distinguish this species from the latter. This species is named after late Prof. D. N. Raychaudhuri, University of Calcutta, for his memory of undertaking this Japan-India Cooperative Research.

22. Lema (Lema) rufotestacea Clark, 1866

32 exs., Calcutta, 14-19. XI, 15-19. XII. 1978; 1 ex., Botanical Garden, Calcutta, 18. X. 1978; 15 exs., Kallar, Nilgiri, 9, 12. XII. 1978; 1 ex., Coimbatore, 5. XII. 1978; 1 ex., Dhony Hills, Kerala, 7. XII. 1978; 1 ex., Top Slip, Anaimalai, 2-5. XII. 1978. Host. Commelina sp. (Commelinaceae) at Calcutta.

Distribution. India, Burma, Thailand, S. China, Hainan Is., Taiwan.

23. Lema (Lema) rugifrons (JACOBY, 1889)

1 ex., Madras, 16-19. XII. 1978. Distribution. India, Burma, Thailand, Laos, Vietnam, Taiwan, Ryukyu Is.

24. Lema (Lema) signatipennis JACOBY, 1900

1 ex., Palghat Forest, Kerala, 6. XII. 1978. Distribution. India.

25. Lema (Lema) suturella (BALY, 1865)

10 exs., Kallar, Nilgiri, 9, 12. XII. 1978. Distribution. India.

Subfamily Clytrinae

26. Merilia lunurata (FABRICIUS, 1781) (Text fig. 3 a)

2 exs., Madras, 12. VIII. 1968, T. Kumata leg.; 7 exs., Coimbatore, 9-13. XII. 1978.

Distribution. India.

27. Diabromorpha balteata LACORDAIRE, 1848 (Text fig. 3 c)

1 ex., Poondi nr. Madras, 15. XII. 1978. Distribution. S. India.

28. Diapromorpha indica Jacoby, 1903 (Text fig. 3 d)

2 exs., Jawad Hills, T. N., 14. XII. 1978; 1 ex., Top Slip, Anaimalai, 2-5. XII. 1978.

Distribution. S. India.

29. Diapromorpha pallens (Fabricius, 1787) (Text fig. 3 e)

1 ex., suburbs of Calcutta, 20. XI. 1978. Distribution. India, Burma, Thailand, Laos, Vietnam, S. China, Hainan Is.

30. Diapromorpha turnica (Fabricius, 1801) (Text fig. 3 b)

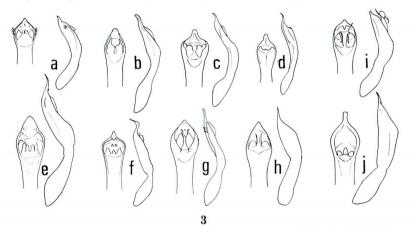


Fig. 3. Aedeagus (left, dorsal view of apical portion; right, lateral view) of: a, Merilia lunurata (from Coimbatore); b, Diapromorpha turnica (from Coimbatore); c, D. balteata (from Poondi); d, D. indica (from Jawad Hills): e, D. pallens (from Calcutta); f, D. dejeani (from Kathmandu, Nepal); g, Clytra lefevrei (from Kallar); h, Miochila suturata (from Top Slip); i, Smaragdina quadripunctata (from Dhony Hills); j, S. nilgiriensis (from Thambaram).

17 exs., Jawad Hills, 14. XII. 1978; 1 ex., Marudhamalai nr. Coimbatore, 11. XII. 1978; 1 ex., Thambaram nr. Madras, 18. XII. 1978; 5 exs, Madras, 16-19. XII. 1978; 17 exs., Coimbatore, 5, 9. XII. 1978.

Host. A shrub tree of Rutaceae at Jawad Hills. Distribution. India, Sri Lanka.

31. Clytra lefevrei JACOBY, 1895 (Text fig. 3 g)

8 exs., Kallar, Nilgiri, 9, 12. XII. 1978; 4 exs., Mettupalayam View, Nilgiri, 30. XI, 10. XII. 1978; 1 ex., Top Slip, Anaimalai, 2-5. XII. 1978.

Distribution. India.

32. Miochila gracilis Lacordaire, 1848

1 ex., Top Slip, Anaimalai, 2-5. XII. 1978; 1 ex., Kallar, Nilgiri, 9. XII. 1978. Distribution. India, Kashmir, Nepal, Burma, Thailand, Laos, Vietnam.

33. Miochila suturata (JACOBY, 1898) n. comb. (Text fig. 3 h)

= Aetheomorpha suturata Jacoby, 1898.

13 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 4 exs., Kallar, Nilgiri, 9, 12. XII. 1978; 1 ex., Mettupalayam View, Nilgiri, 10. XII. 1978.

Hosts. *Clausena* sp. ? (Rutaceae). Distribution. India.

34. Aspidolopha melanophthalma (LACORDAIRE, 1848)

4 exs., Calcutta, 5. VIII. 1968, T. Kumata leg., 15-18. XII. 1978.

Distribution. India, Sri Lanka, Thailand, Laos, Cambodia, Vietnam, Hainan Is.,
Malay Peninsular, Borneo, Sumatra, Java.

35. Aetheomorpha fallax Lacordaire, 1848 (Pl. 1, fig. 3)

2 exs., Madras, 16-19. XII. 1978.

Distribution. India.

One specimen has the elytra largely blackish with basal area, suture and apical margin remaining fulvous.

36. Ceratobasis nair Lacordaire, 1848 (Text fig. 4)

7 exs., Madras, 16--19. XII. 1978 ; 39 exs., Agric. Coll., Coimbatore, 5, 10--13. XII. 1978.

Distribution. India.

37. Smaragdina laevipennis (Jacoby, 1908) (Pl. 1, fig. 3)

2 exs., Palghat Forest, Kerala, 6, 8. XII. 1978.

Distribution. S. India.

38. Smaragdina minuta (Jacoby, 1908)

1 ex., Kallar, Nilgiri, 9. XII. 1978; 1 ex., Mettupalayam View, Nilgiri, 10. XII. 1978.

Distribution. India.

39. Smaragdina nilgiriensis (Jacoby, 1903) (Text fig. 3 j)

1 ex., Jawad Hills, 14. XII. 1978; 2 exs., Thambaram nr. Madras, 18. XII. 1978.

Distribution. S. India.

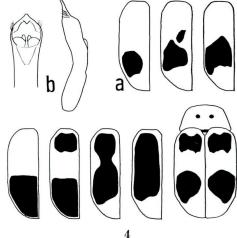


Fig. 4. Ceratobasis nair Lacordaire. a, variation of elytral marking; b, aedeagus (left, dorsal view of apical portion; right, lateral view)

- 40. Smaragdina quadripunctata (JACOBY, 1887) n. comb. (Text fig. 3 i)
 - = Diapromorpha quadripunctata Jacoby, 1887.

2 exs., Dhony Hills, Kerala, 7. XII. 1978 ; 3 exs., Top Slip, Anaimalai, 2–5. XII. 1978.

Distribution. S. India, Sri Lanka.

Subfamily Cryptocephalinae

41. Adiscus nigroplagiatus (JACOBY, 1903)

1 ex., Coonoor, Nilgiri, 23–26. XI. 1978. Distribution. India, Thailand.

42. Coenobius fulvipes BALY, 1877

1 ex., Calcutta, 14–19. X. 1978. Distribution. India.

43. Coenobius pallipes JACOBY, 1908

3 exs., Coonoor, Nilgiri, 29. XI. 1978. Distribution. S. India.

44. Cryptocephalus guttifer Suffrian, 1854 (Text fig. 5 a)

9 exs., Solan, Himachal Pradesh (H. P.), 24-27. X. 1978. Distribution. India, SW. China.

45. Cryptocephalus lefevrei Jacoby, 1895 (Text fig. 5 d)

5 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 1 ex., Madumalai, T. N., 27, 28. XI. 1978.

Distribution. S. India.

46. Cryptocephalus posticalis Jacoby, 1895

1 ex., Marudhamalai nr. Coimbatore, 11. XII. 1978. Distribution. S. India.

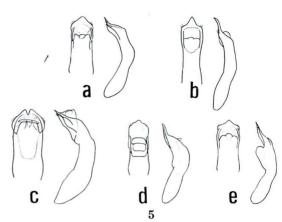


Fig. 5. Aedeagus (left, dorsal view of apical portion; right, lateral view) of: a, Cryptocephalus guttifer (from Solan); b, C. vittipennis (from New Delhi); c, C. vahli (from Madras); d, C. lefevrei (from Top Slip); e, C. sehestedti (from Coimbatore).

47. Cryptocephalus sehestedti Fabricius, 1798 (Text fig. 5 e)

5 exs., Coimbatore, 5, 9–13. XII. 1978 ; 5 exs., Madras, 16–19. XII. 1978. Distribution. India.

48. Cryptocephalus suffriani Jacoby, 1908

1 ex., Top Slip, Anaimalai, 2-5. XII. 1978. Distribution. S. India.

49. Cryptocephalus vahli Fabricius, 1798 (Text fig. 5 c)

5 exs., Coimbatore, 5, 9-13. XII. 1978; 13 exs., Madras, 16-19. XII. 1978; 1 ex., Calcutta, 2. II. 1978, S. F. Sakagami & T. Kumata leg. Distribution. India, Sri Lanka.

50. Cryptocephalus vittipennis Suffrian, 1854 (Text fig. 5 b)

2 exs., New Delhi, Delhi, 20-23. X. 1978. Distribution. India.

Subfamily Chlamisinae

51. Chlamisus nilgiriensis JACOBY, 1908

4 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 1 ex., Kallar, Nilgiri, 12. XII. 1978;

- 1 ex., Palghat Forest, Kerala, 6. XII. 1978. Distribution. S. India.
- 52. Chlamisus orientalis (JACOBY, 1895)

1 ex., Dhony Hills, Kerala, 7. XII. 1978. Distribution. S. India.

53. Chlamisus tenebrosa Jacoby, 1908

1 ex., Kallar, Nilgiri, 9. XII. 1978. Distribution. S. India.

Subfamily Eumolpinae

54. Nodina crassipes Jacoby, 1908

1 ex., Calcutta, 14-19. X. 1978. Distribution. India.

55. Nodina nigrilabrum JACOBY, 1908

1 ex., Thekkady (Periyar Sanct.), Kerala, 19-21. XII. 1978. Distribution. S. India.

56. Nodina tarsalis Duvivier, 1892

11 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 4 exs., Yercaud, Salem, 1. XII. 1978; 1 ex., Madumalai, 27, 28. XI. 1978.

Distribution. India.

57. Nodostella elongata JACOBY, 1903 (Text fig. 6 e)

28 exs., Botanical Garden, Ootacamund, Nilgiri, 24. XI. 1978; 8 exs., Coonoor, Nilgiri, 23–26. XI. 1978; 33 exs., Pykara, Nilgiri, 28. XI. 1978; 2 exs., Kotagiri, Nilgiri, 29. XI. 1978.

Distribution. S. India.

58. Basilepta fulvicorne (Jacoby, 1904)

1 ex., Mettupalayam View, Nilgiri, 30. XI. 1978. Distribution. S. India.

59. Basilepta maculiceps (JACOBY, 1908) (Text fig. 6 d)

2 exs., Palghat Forest, Kerala, 8. XII. 1978; 7 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 1 ex., Kallar, Nilgiri, 9. XII. 1978.

Distribution. S. India.

60. Basilepta maculipenne (JACOBY, 1908)

1 ex., Mettupalayam View, Nilgiri, 10. XII. 1978; 1 ex., Palghat Forest, Kerala, 6. XII. 1978.

Distribution. S. India.

61. Basilepta nala n. sp. (Pl. 2, fig. 5)

Female. Body subquadrate; color testaceous; head and pronotum brownish; pronotum on lateral margins, scutellum and elytra with suture and round spot posterior to middle black; venter pitchy except for testaceous prosternum; antenna infuscate on apical 3 segments.

Head closely covered with distinct punctures; antenna filiform, almost ½ as long as body, pubescent beyond 4th segment; 1st segment long conical, shortest and less than half the 11th; 2nd slender, slightly shorter than 3rd; 3rd to 10th subequal in length to each other; 11th distinctly longer than 10th. Pronotum transverse, 1.6 times as broad as long, broader basally than at anterior margin, weakly produced on both anterior and posterior margins; side narrowly reflexed and margined, angulate behind middle, thence almost straightly narrowed to both ends; anterior sulcus punctate, but indistinct at middle; disc densely covered with large punctures, of which diameter is broader than the distance between themselves. Scutellum broadly shield-shaped. Elytron nearly 3 times as long as broad, weakly broadened from base to basal $\frac{2}{3}$; disc broadly depressed behind basal elevation; interstices weakly raised on basal 3/3; humerus distinctly tuberculate; 7th and 8th interstices each costate behind humerus; 9th interstice with a small tuberculation just behind humerus; punctures deep, regularly arranged in 11 rows at least on basal 2/3, rather coarse on lateral area, somewhat weakened and irregular on apical ½; diameter of punctures larger than the distance between themselves. Prosternum subquadrate, with scattered punctures; femur unarmed beneath, the anterior robuster than the others.

Size. 2.4-2.6 mm in length, 1.4 mm in breadth.

This species is characterized by the coloration of the dorsum, strongly punctate elytra, distinctly punctate head and pronotum which is angulate behind middle, etc. *Basilepta unipunctatum* (Jacoby) has a similar elytral pattern, but is far larger with antenna almost as long as body.

62. Basilepta nilgiriense (JACOBY, 1903)

1 ex., Coonoor, Nilgiri, 23-26. XI. 1978.

Distribution. S. India.

63. Basilepta thoracicum (JACOBY, 1908) (Text fig. 6 c)

24 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 1 ex., Palghat Forest, Kerala, 6, 8. XII. 1978.

Distribution. S. India.

64. Pagria costatipennis JACOBY, 1887

1 ex., Top Slip, Anaimalai, 2-5. XII. 1978. Distribution. S. India, Sri Lanka.

65. Pagria signata (Motschulsky, 1858)

4 exs., suburbs of Calcutta, 20. XI. 1978; 2 exs., Dehra Dun, 10-13. XI. 1978; 7 exs., Sahastradhara nr. Dehra Dun, 6. XI. 1978; 8 exs., Mohand Forest nr. Dehra Dun, 7, 9. XI. 1978; 1 ex., Bhata Reserve, Mussoorie, U. P., 3. XI. 1978; 1 ex., Kemptee Fall, Mussoorie, 4. XI. 1978; 6 exs., Solan, 24-31. X. 1978; 1 ex., Mettupalayam View, Nilgiri, 30. XI. 1978; 3 exs., Kallar, Nilgiri, 9. XII. 1978; 1 ex., Coonoor, Nilgiri, 23-26. XI. 1978; 2 exs., Coimbatore, 8-13. XII. 1978; 1 ex., Marudhamalai nr. Coimbatore, 11. XII. 1978; 6 exs., Madumalai, 27, 28. XI. 1978; 9 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 5 exs., Palghat Forest, Kerala, 6, 8. XII. 1978; 2 exs., Dhony Hills, Kerala, 7. XII. 1978.

Distribution. India, Burma, Vietnam, China, Taiwan, Korea, Ryukyu Is., Japan, Siberia, Philippines, Indonesia.

66. Scelodonta indica Duvivier, 1891

1 ex., Mettupalayam View, Nilgiri, 10. XII. 1978; 1 ex., Dhony Hills, Kerala, 7. XII. 1978.

Distribution. India.

67. Scelodonta nilgiriensis Jacoby, 1908

1 ex., Kallar, Nilgiri, 9. XII. 1978; 1 ex., Dhony Hills, Kerala, 7. XII. 1978. Distribution. S. India.

68. Xanthophorus balyi (JACOBY, 1903) (Pl. 2, fig. 7)

1 ex., Kallar, Nilgiri, 9. XII. 1978; 2 exs., Top Slip, Anaimalai, 2-5. XII. 1978. Distribution. S. India.

69. Colasposoma asperatum Lefèvre, 1885

2 exs., Kallar, Nilgiri, 12. XII. 1978. Distribution. India, Burma, China.

70. Colasposoma auripenne (Motschulsky, 1860)

4 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 5 exs., Madras, 16-19. XII. 1978; 1 ex., Marudhamalai nr. Coimbatore, 11. XII. 1978; 1 ex., Palghat Forest, Kerala, 8 XII. 1978.

Distribution. India, Burma, Andaman Is., Laos, Vietnam, Malay Peninsular, China, Taiwan, Ryukyu Is.

71. Colasposoma villosulum Lefèvre, 1885

1 ex., Jawad Hills, 14. XII. 1978. Distribution. S. India.

72. Pachnephorus lewisii BALY, 1878

3 exs., suburbs of Calcutta, 20. XI. 1978 ; 1 ex., Calcutta, 14-19. X. 1978 ; 1 ex., Botanical Garden, Calcutta, 21. XII. 1978.

Distribution. India, Burma, Thailand, Cambodia, Laos, Vietnam, China, Taiwan.

73. Pachnephorus porosus Baly, 1878

2 exs., suburbs of Calcutta, 20. XI. 1978 ; 3 exs., Calcutta, 20. XII. 1978 ; 2 exs., New Delhi, Delhi, $20\mbox{-}23.$ X. 1978 ; 1 ex., Madras, $16\mbox{-}19.$ XII. 1978.

Distribution. India, Burma, Thailand, Vietnam, China, Taiwan, Korea, E. Siberia.

74. Tricliona lakshmi n. sp. (Pl. 2, fig. 6, Text fig. 6 b)

Male. Body elongate, subparallel-sided; color fulvous with vertex infuscate and mandibles dark brown.

Head impunctate; clypeus well demarcated; eye large with the transverse diameter 3 times as long as the distance between eyes; antenna filiform about 0.7 as long as body, pubescent beyond 4th segment; 1st segment subequal in length to 4th or 5th; 2nd almost as long as 3rd; 6th to 10th subequal in length to each other; 11th longest, almost twice as long as 2nd. Pronotum transverse, about 1.6 times as wide as long, widest near middle, nearly straight at anterior margin, weakly produced posteriorly on basal margin, roundly produced on lateral margins; each corner with a setigerous pore; disc convex, almost impunctate. Scutellum impunctate and trigonate, as long as wide. Elytra 3 times as long as wide, weakly widened from base to basal 2/3, thence roundly narrowed to apex; disc deeply punctate-striate on anterior portion, more finely punctured toward apex; interstices shining and weakly raised. Underside sparsely pubescent; prosternum weakly granulate, about 1.5 times as long as wide between coxae; fore and middle legs with 1st tarsal segment dilated, as wide as 3rd; each femur with a minute denticle.

Female. Eyes smaller, with its transverse diameter almost as wide

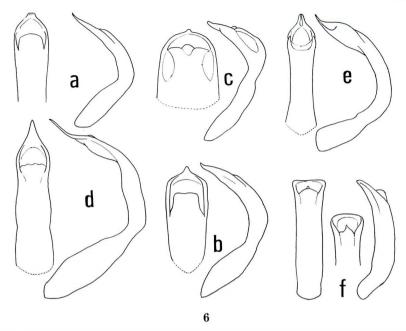


Fig. 6. Aedeagus (left, dorsal view of apical portion; right, lateral view) of: a, Tricliona variabilis (from Top Slip); b, T. lakshmi n. sp. (from Top Slip); c, Basilepta thoracicum (from Top Slip); d, B. maculiceps (from Top Slip); e, Nodostella elongata (from Pykara); f, Chrysolina madrasae (from Mettupalayam View).

as distance between them; antenna longer, 0.7 as long as body; relative length of antennal segments as: 5th = 11th > 6th = 7th > 4th = 8th = 9th = 10th > 1st > 3rd > 2nd; 5th twice as long as 2nd. Pronotum slightly narrowed toward base; scutellum roundly shield-shaped; elytra very weakly punctate; foreleg with 1st tarsal segment narrower than 3rd; femur with a distinct denticle.

Size. 2.7 mm in length, 1.5 mm in breadth (male); 3.5 mm in length, 2.5 mm in breadth (female).

Specimens examined. $1 \odot$ (holotype, preserved in the collection of Zoological Survey of India, Calcutta), $1 \odot$, Top Slip, Anaimalai, Tamil Nadu, India, 2-5. XII. 1978, Jap.-Ind. Co. Tr.

This species is characterized by the coloration, impunctate head and pronotum, weakly dentate fore femora and extremely large eyes in the male. The weakly dentate femur of foreleg is not typical of the genus and by this character, this new species is clearly separated from *T. laevicollis* (JACOBY) from Sri Lanka.

75. Tricliona variabilis JACOBY, 1895 (Text fig. 6 a)

4 exs., Top Slip, Anaimalai, 2-5. XII. 1978; 1 ex., Madumalai, 27, 28. XI. 1978; 1 ex., Thekkady (Periyar Sanct.), Kerala, 19-21. XII. 1978.

Distribution. S. India.

Subfamily Chrysomelinae

76. Crosita mellyi (STÅL, 1857)

1 ex., Solan, 28-31. X. 1978. Distribution. India, Himalayas, Afghanistan, Tibet, N. China.

77. Chrysolina aurata Suffrian, 1851

1 ex., New Delhi, Delhi, 20-23. X. 1978; 2 exs., Botanical Garden, Calcutta, 2. II. 1978, S. F. Sakagami & T. Kumata leg.
Distribution. India, Burma, Thailand, Laos, Vietnam, China.

78. Chrysolina carinata (JACOBY, 1903) (Pl. 2, fig. 8)

1 ex., Coonoor, Nilgiri, 23-26. XI. 1978. Distribution. S. India.

79. Chrysolina exanthematica (Wiedemann, 1821)

1 ex., Sahastradhara nr. Dehra Dun, 6. XI. 1978. Distribution. India, China, Siberia, Japan.

80. Chrysolina madrasae (Jacoby, 1900) (Text fig. 6 f)

8 exs., Mettupalayam View, Nilgiri, 30. XI, 10. XII. 1978; 2 exs., Top Slip, Anaimalai, 2-5. XII. 1978.

Distribution. India.

81. Chrysolina vishnu (Hope, 1831)

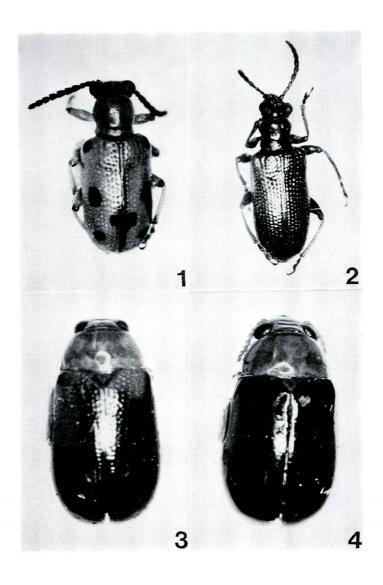
1 ex., Kemptee Fall, Mussoorie, 4. XI. 1978. Distribution. India, Nepal, Sikkim.

82. Phratora abdominalis Baly, 1878

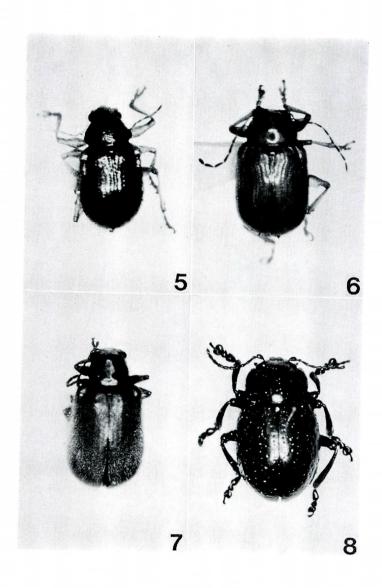
1 ex., Kufri nr. Simla, U. P., 26. X. 1978. Distribution. India, Punjab.

83. Plagiodera miniaticollis (HOPE, 1831)

1 ex., FRI, Dehra Dun, 10-13. XI. 1978. Distribution. India, Burma.



(H. TAKIZAWA photo.)



(H. TAKIZAWA photo.)

84. Plagiodera versicolora (LAICHARTING, 1781)

2 exs., Solan, 24-27. X. 1978 (reared from larvae feeding on *Salix* sp.). Distribution. India, Nepal, Afghanistan, China, Taiwan, Korea, Japan, Siberia, Europe, N. Africa.

Explanation of plates 1-2.

- Pl. 1, fig. 1. Crioceris multipunctata JACOBY (from Coimbatore)
 - 2. Lema raychaudhurii n. sp. (from Coimbatore)
 - 3. Aetheomorpha fallax LACORDAIRE (from Madras)
 - 4. Smaragdina laevipennis (JACOBY) (from Palghat Forest)
- Pl. 2, fig. 5. Basilepta nala n. sp. (from Thekkady)
 - 6. Tricliona lakshmi n. sp. (from Top Slip)
 - 7. Xanthophorus balyi (JACOBY) (from Top Slip)
 - 8. Chrysolina carinata (JACOBY) (from Coonoor)

With kind suggestions of Dr. M. DACCORDI, I have realized the following errors in my previous determination of *Chrysolina* species (TAKIZAWA, 1980).

- 1. Chrysolina carinata (JACOBY, 1903)
 - = Chrysolina krishnu: Takizawa, 1980: 53, locality of fig. 3 b should be Coonoor.
- 2. Chrysolina freyi Bechyne, 1950
 - = Chrysolina brahma Takizawa, 1980.
- 3. Chrysolina sp.
 - = Chrysolina madrasae: Takizawa, 1980: 51, locality of fig. 3 e should be Punjab.
- 4. Chrysolina conglomerata Maulik, 1926
 - = Chrysolina aurata: Takizawa, 1980: 50.
- 5. Chrysolina aurata Suffrian, 1851
 - = Chrysolina inconstans: Takizawa, 1980: 51.

Reference

TAKIZAWA, H., 1980, Notes on Indian Chrysomelinae based on the collection of the Forest Research Institute, Dehra Dun (Coleoptera: Chrysomelidae). Ins. Matsum., n. s. 21: 49-55.

Chrysomelidae (Coleoptera) of Korea Preserved in the Hungarian Natural History Museum, Budapest, III.

By VASSIL TOMOV University of Plovdiv, Bulgaria

This third my paper on the Korean Chrysomelidae preserved in the Hungarian Museum, Budapest, deals with 15 species and subspecies of the subfamilies Zeugophorinae, Criocerinae, Cryptocephalinae and Galerucinae. The material has been collected during the autumn months (September, October) and probably that is the reason for the little variety of species, as well as for the scarce number of specimens in most of the cases. For almost all of the listed species new localities are indicated.

I am very thankful to Dr. Z. KASZAB from the Budapest Museum (Natural History) for the loan of the materials that are recorded here.

Abbreviations: SV—Leg. H. Steinmann & T. Vasarhelyi; TF—Leg. Topál & Forró; VZ—Leg. A. Vojnits & L. Zombori.

Subfamily Zeugophorinae

Zeugophora (Pedrillia) annulata (BALY)

Pedrillia annulata BALY, 1873, Trans. Ent. Soc. Lond.: 79.

New material: Prov. Kangwon, Kumgang-san, $12~\rm km$ from rest-house on road to Kwinyon-am, $14.~\rm X.~1978,~\rm VZ,~1~ex.^{1)}$

Subfamily Criocerinae

Lema (Lema) diversa BALY

Lema diversa BALY, 1873, Trans. Ent. Soc. Lond.: 71.

New material: Prov. South Pyongan, Yonpung-ho, 10 km SW of Kaechon, 1. X. 1978, VZ, 1 ex.

Oulema oryzae (Kuwayama)

Lema oryzae Kuwayama, 1931, Ins. Matsumurana, 5 (3): 115.

¹⁾ Geographical distribution is given here only for the species which have not been recorded in my previous papers (Tomov, 1978; 1982).

[[]Ent. Rev. Japan, Vol. XXXIX, No. 1, pp. 27-30, June, 1984]

New material: Prov. South Pyongan, Sunhakang, 23. IX. 1979, SV, 1 ex.

Subfamily Cryptocephalinae

Cryptocephalus regalis Gebler

Cryptocephalus regalis Gebler, 1830, Ledeb. Reise, 2 (3): 208. New material: Prov. South Pyongan, Lake Taesong-ho, 13. IX. 1979, SV, 1 ex.

Cryptocephalus kraatzi Chûjô

Cryptocephalus kraatzi Chûjô, 1935, Arb. Morph. Taxon. Ent. Berlin-Dahlem, 2 (3): 220.

Material examined: Prov. Chagang, Mt. Myohyang-san, 15. IX. 1980, TF, 1 ex. Known from: Japan, Korea, N. China (Gressitt & Kimoto, 1961; Jolivet, 1973).

Cryptocephalus exiguus amiculus Baly

Cryptocephalus amiculus BALY, 1873, Trans. Ent. Soc. Lond.: 98.

Cryptocephalus exiguus amiculus: L. Medvedev, 1978, Proc. Inst. Biol. Pedol., Vladivostok, new ser., 50 (153): 84.

New material: Prov. Kangwon, Mt. Kumgang-san, 27. IX. 1979, SV, 1 ex.

Cryptocephalus fulvus Goeze

Cryptocephalus fulvus Goeze, 1777, Ent. Beytr., 1: 321.

New material: Prov. Chagang, Mt. Myohyang-san, 15. IX. 1980, TF, 1 ex.

Pachybrachis ochropygus Solsky

Pachybrachis ochropygus Solsky, 1872, Horae Soc. Ent. Ross., 8:254. New material: Prov. Kangwon, Mt. Kumgang-san, Kuryong Falls, 18. IX. 1980, TF, 2 exs.

Pachybrachis lopatini L. Medvedev et Rybakova

Pachybrachis lopatini L. Medvedev & Rybakova, 1980, Reichenbachia, 18 (4): 43, ff. 1-4, 16-18.

New material: Prov. South Pyongan, Lake Taesong-ho, 13. IX. 1979, SV, 1 ex.

Subfamily Galerucinae

Galeruca heydeni Weise

Galeruca Heydeni Weise, 1887, Horae Soc. Ent. Ross., 21: 272.

Material examined: Pyongyan City, Mt. Daesong-san, 20. IX. 1979, SV, 1 ex. Known from: Korea, NE China, SE Siberia (Ogloblin, 1936; Gressitt & Kimoto, 1963; Jolivet, 1973).

Clitena fuscipennis (JACOBY)

Galerucella fuscipennis JACOBY, 1885, Proc. Zool. Soc. Lond.: 746.

Clitena fuscipennis: Ogloblin, 1936, Faune URSS, 26 (1): 132, f. 56.

Pyrrhalta fuscipennis: GRESSITT & KIMOTO, 1963, Pac. Ins. Mon., 1B: 450.

Material examined: Prov. South Hwanghae, Suyong-san, 27. IX. 1978, VZ, 30 exs.; Prov. Chagang, Mt. Myohyang-san, Chongchon-river valley, 12. IX. 1980, TF, 1 ex.; Mt. Myohyang-san, 13. IX. 1980, TF, 2 exs. and 14. IX. 1980, TF, 17 exs.; Mt. Myohyang-san, Hotel Myohyang, 13. IX. 1980, TF, 9 exs. and 14. IX. 1980, TF, 9 exs.; Prov. Kangwon, Mt. Kumgang-san, 18. IX. 1980, TF, 5 exs. and 19. IX. 1980, TF, 4 exs.

Known from: Japan, Korea, E. Siberia (Ogloblin, 1936; Gressitt & Kimoto, 1963; Jolivet, 1973).

Apophylia flavovirens (Fairmaire)

Malaxia flavovirens Fairmaire, 1878, Ann. Soc. Ent. France, ser. 5, 8: 139. New material: Prov. South Pyongan, Lake Taesong-ho, 13. IX. 1979, SV, 5 exs.

Galerucella grisescens (Joannis)

Galeruca grisescens Joannis, 1866, Abeille, 3:98.

New material: Prov. South Pyongan, Kyollyong Reservoir, 30 km N from Pyongyan, 30. IX. 1978, VZ, 1 ex.; Lake Taesong-ho, 13. IX. 1979, SV, 14 exs.; Pyongyan City, Mt. Daesong-san, 20. IX. 1979, SV, 3 exs.; Nampo, 22. IX. 1979, SV, 1 ex.; Prov. South Hwangae, Songhwa, 17. IX. 1979, SV, 7 exs.; Prov. Kangwon, near Lake Samilpo, 29. IX. 1979, SV, 3 exs.

Oides decempunctata (Billberg)

Adorium decempunctata Billberg, 1808, In Schönherr, Syn. Ins. 1, 2: 230 (note). Material examined: Prov. North Hwanghae, Sohung-ho, 20 km SSE of Sariwon, 29. IX. 1978, VZ. 1 ex.

Known from: Korea, China (Ogloblin, 1936; Gressitt & Kimoto, 1963; Jolivet, 1973; Takizawa, 1980).

Monolepta nebulosa Ogloblin

Monolepta nebulosa Ogloblin, 1936, Faune URSS, 26 (1): 320.

New material: Prov. Kangwon, Mt. Kumgang-san, 18. IX. 1980, TF, 6 exs.; Mt. Kumgang-san, Kuryong Falls, 18. IX. 1980, TF, 2 exs.

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JOLIVET, P., 1973; Essai d'analyse écologique de la faune chrysomélidienne de la

at order

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Studies on Japanese Anthribidae, VII. (Coleoptera)

By TAICHI SHIBATA

Melanopsacus inaequalis sp. nov.

3. Black to dark brown, elytra and legs brownish, basal joints of antennae yellowish, pubescence darkened.

Rostrum twice as wide as long, with ocellate punctures dense and somewhat retiform as on head; distance of upper-innerocular space a little narrower than space between antennal scrobes (7:8). Antennae with 3rd to 5th joints of subequal length, each slightly longer than 6th, from which shortened to 8th, 9th as large as 10th, both narrowly triangular, 11th oblong-oval.

Pronotum about 1.5 times as wide as long, widest across dorsal carina, transversely convex, sides subparallel and slightly sinuate basally, or weakly narrowed from base to the middle, then rather strongly narrowed apically; ocellate punctures much smaller than those on rostrum, forming a finely shagreened sculpture; dorsal carina straight, laterally turned forward at sides in right angle, but not extended to basal third, baso-lateral carinae long, projecting ventro-obliquely below elytral shoulders. Scutellum cordiform, convex.

Elytra cylindrical, short, less than 1.5 times as long as wide, parallel to apical fourth at sides; on microgranulate derm, seriate punctures large and deep, especially those of inner three rows foveiform behind subbasal swellings, where intervening areas among them with their adjacent interspaces irregularly contiguous to one another, and sporadically somewhat transversely raised, so that in effect central area of elytra much broken or rugged, and giving a vermiculate appearance. Pygidium as wide as long, triangular, subround at apex, ocellate punctures similar to, but not so compact as those of rostrum.

Prosternum with small ocellate punctures like on pronotum, denser and coarser on proepisterna except sparser on projecting basal extreme corners, those on meso-metasterna and abdomen much finer and shal-

[[]Ent. Rev. Japan, Vol. XXXIX, No. 1, pp. 31-32, June, 1984]

lower. Abdomen depressed medially from 1st to 4th sternites, just behind the depression on anal sternite bearing a round tawny-piliferous pit.

♀. unknown.

Length: 2.6 mm.

Holotype: \Diamond , Ikari, Amami-Ohshima Is., 11. V.1960, Т. Shibata leg. (Т. Shibata coll.).

The markedly uneven surface of elytra is alone sufficient to distinguish the present species from the other known species. Although the author described here the present species under *Melanopsacus* with some hesitations, as Morimoto pointed out¹⁾, it is difficult to find the noticeable difference between *Choragus* and *Melanopsacus*. If the present species would belong to *Choragus*, it resembles superficially *C. cryptocephalus* Sharp, but in the latter species the anal sternite in \Diamond is without any sign of sexual appendix and the elytra are less uneven, the punctures of their inner rows are much smaller, not foveiform, and the 2nd interspace of each elytron is interrupted behind subbasal swelling by a transverse bridge links the 1st and 3rd ones.

Stenorhis hirashimai Morimoto

1978, Esakia, 12: 22, fig. 2.

The author examined one specimen from Okinawa Is. (1 &, Arakawa, 2. VII. 1973, T. Hatayama leg.), however, from the authentic form it has a minute difference on the pronotum, lateral sides of which are very gently and gradually narrowed from base to apical third, whence the strong frontal decrease commences.

^{1) 1978,} Esakia, 12, p. 29.

Reports of Anthribidae from Taiwan, VI. (Coleoptera)

By TAICHI SHIBATA

Autotropis fulvescens sp. nov.

The present species is very near to A. basipennis Sharp, but differs as under-mentioned details.

Antennae with funicle a little robuster, 7th joint visibly whitish, 8th trigonate, directly incrassate apically from base and forming a club together with the succeeding three joints, while in *basipennis* 8th pedunculate, narrow at base, and clavate from its apical part.

Pronotum thickly pubescent, transversely convex across middle, dorsal carina variable in form, substraight, or as in *basipennis* angulately convex forward before scutellum.

Elytra with bases less upswept and subbasal swellings much higher, tuberculiform, disc rather fully suffused with fulvous pubescence, devoid of a black postmedian fascia, alternate interspaces confusedly tessellated, 3rd interspace more convex throughout.

Length (excl. head): 3.0-5.5 mm.

Holotype: \lozenge , Lushan, Nantou Hsien, 4. V. 1974, S. Takeda leg. (T. Shibata coll.); paratypes: $3 \lozenge \lozenge 1 \diamondsuit$, ditto, 5. V. 1974 and 26. IV. 1978, S. Takeda and K. Murakami leg.; $2 \lozenge \lozenge 3 \diamondsuit \diamondsuit$, Nanshanchi, Nantou Hsien, 29. III. 1970, 2 & 6. V. 1971 and 9. V. 1973, T. Kobayashi, Y. Hayashi and Y. Kiyoyama leg.; $1 \diamondsuit$, Tapan, Taitung Hsien?, 16. V. 1974, S. Takeda leg.; $1 \diamondsuit$, Fenchifu, Chiai Hsien, 25. IV. 1973, Y. Kiyoyama leg.

Stenorhis bifoveolatus sp. nov.

♀. Body cylindrical, brown, appendices reddish, covered with dark pubescence, variegated and spotted with golden pubescence, dorsal pattern formed by which resembles exactly that of *S. hirashimai* Мокімото, but each elytron on 3rd interspace with a longitudinal bridge links the first and second fasciae.

Rostrum and head roughly somewhat reticulately ocellate-punctulate,

[[]Ent. Rev. Japan, Vol. XXXIX, No. 1, pp. 33-34, June, 1984]

the sculpture not concealed by thick golden pubescence; eyes almost circular; space between antennal scrobes one-fourth or one-fifth as wide as interocular space. Antennae with 4th joint a little shorter than 3rd, and subequal to 8th in length, but in thickness gradually accrescent distally, joints of club oblong, 9th as long as 10th and a little shorter than 11th.

Pronotum one-third wider than long, widest at base, from which sides subparallel to basal third and arcuately weakly narrowed forward to apical third, then rather strongly so distally; disc reticulate-punctulate and convex centrally, on each side with a small but distinct round fovea behind middle, and with a small depression on each lateral corner of base, therefore sides apparently sinuate in subparallel process; dorsal carina slightly undulate, lateral carinae short, scarcely reached to the middle, angles of carinae a little over 90°. Scutellum transverse.

Elytra one-third longer than wide at base, where being as wide as pronotum, parallel-sided and evenly convex lengthwise, basal margins well fitting with pronotal carina; areas among seriate punctations and their interspaces on a level and irregularly granulate-punctulate.

Pygidium of same shape as in *hirashimai*, a little wider than long, densely ocellate-punctulate except apical smooth area, the sculpture of punctations similar to that of head, partly granule-like.

Prosternum with large round punctations, which on central area sparser and on extreme basal corners abruptly decreasing in size. Punctations of meso-metasterna a little smaller, of abdomen still so than those of prosternum.

Legs robust, middle and hind tibiae more or less compressed laterally, each with a dorsal setiferous dilatation in front of shallow apical groove.

3. unknown.

Length: 2.2 mm.

Holotype: $\mbox{\ensuremath{\upright9}}$, Sungkang, Nantou Hsien, 22. VII. 1974, N. Ito leg. (T. Shibata coll.).

The present species is very near to *S. hirashimai* Morimoto from S. Japan and *S. cylindratus* Frieser from Taiwan, but distinguishable from both in having the golden hairs instead of being whitish gray, a pair of postmedian small foveae of the pronotum and a longitudinal bridge of each elytron in the dorsal pattern.

A New Species of *Bembidion* from Kyushu, Japan (Coleoptera, Carabidae)

By Akinobu Habu

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Kannondai III, Yatabe, Ibaraki Pref. -305

Bembidion (Peryphus) ehikoense sp. nov. "Hime-hikosan-mizugiwa-gomimushi"

Bembidion (Peryphus) misellum Harold: Нави in Chûjô, Nakane, Нави, Кімото, Мокімото and Каміуа, 1959, Enum. Ins. Mont. Hikosan, 2. Col.: 3.

Description. Length 3.7-4.0 mm. Width 1.6-1.7 mm.

Shiny, head and pronotum black, somewhat aeneous, elytra brownish black, not or hardly aeneous; labrum brownish black, mandibles light reddish brown, antennal segments 1 and 2 and basal area of segments 3 to 5 or 6 light reddish-yellowish brown, remaining part of antennae and palpi dark reddish brown, femora and tarsi reddish-yellowish brown, tibiae pale reddish-yellowish brown; ventral side reddish black.

Pronotum (Fig. 2) cordate, well convex, widest at two-fifths, at least one and one-fifth times as wide as head, one and one-fifth times as wide as long, base slightly wider than apex (in seven \circ \circ and three \circ \circ WP/WH 1.20–1.24, mean 1.22, WP/LP 1.18–1.22, mean 1.20, WP/WBP 1.35–1.39, mean 1.37, WBP/WAP ca. 1.00–1.06, mean 1.04); surface with a few punctures at apical area (less punctate than in *misellum*), several large,

¹⁾ Retired in June, 1981.

[[]Ent. Rev. Japan, Vol. XXXIX, No. 1, pp. 35-37, June, 1984]

distinct punctures between basal foveae; microsculpture absent; apical angles obtuse, dull, not protrudent; apical sulci at lateral areas, fully distant from apex inward; base gently rounded at median area, straightly, fairly oblique at lateral areas; basal angles obtuse (ca. 120°) though distinct; lateral margins finely bordered, roundly, well contracted anteriorly and posteriorly, sinuate before basal angles, thence gently contracted up to basal angles; lateral furrows fine, distinct; basal carinae somewhat distinct; basal foveae fairly deep.

Wings developed. Elytra ovate, convex, widest at middle, one and four-sevenths times as wide as pronotum (WE/WP 1.51-1.59, mean 1.56, in seven $\lozenge \lozenge$ and three $\lozenge \lozenge \lozenge$), one and three-sevenths to a little more than one and one-half times as long as wide; microsculpture absent in \lozenge , rather distinct, isodiametric at basal third, absent at remaining part in \lozenge ; shoulder without clavicular carina; striae shallow except apical part of striae 1 and 8, distinctly punctate, striae and punctures evanescent at apical fifth or fourth, apical striole rather shallow to a little deep; intervals slightly convex at basal fourth or third, interval 3 with two pores at two-sevenths (before one-third) and five-eighths (before two-thirds).

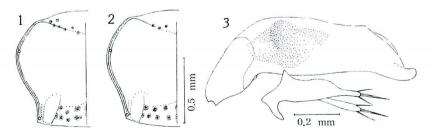
Hind tarsi with segment 1 more than twice (at most two and one-fourth times) as long as segment 2, segment 5 distinctly shorter than segment 1, proportion 0.78-0.86 in $\,^{\circ}$ and $\,^{\circ}$.

Ventral side not punctate; metasternal process completely, distinctly bordered, sulcus distant from apex of process.

Aedeagus (Fig. 3) rather stout, gently bent at basal fourth, thence almost straight, apex somewhat reflexed; parameres equal in length, with two rather long setae at apex, two shorter setae at subapical area or near apex, each on dorsal and ventral side.

Distribution. Japan: Kyushu.

Type-series. Holotype: 3, VIII. 3, 1948, Mt. Hiko, Fukuoka Pref. (A. HABU),



Figs. 1-3. Bembidion (Peryphus) spp.

- 1. B. misellum Harold. 2, 3. P. ehikoense sp. nov. 1, 2. Pronota.
- 3. Male genitalia.

Remarks. This species so resembles B. (Peryphus) misellum Harold from Honshu that I misidentified it in 1959. The form of the pronotum, however, is different between these species: the lateral margins are deeply sinuate before the basal angles, parallel from the sinuation to the basal angles, the base gently oblique at the lateral areas, and the basal angles are distincter, nearly 100° , in B. misellum (Fig. 1), but the lateral margins are less sinuate, gently contracted from the sinuation to the basal angles, the base a little wider (vid. WP/WBP and WBP/WAP), more oblique laterally, and the basal angles are more obtuse, about 120° , in P. ehikoense (Fig. 2). The proportions of B. misellum in five $\Diamond \Diamond$ and five $\Diamond \Diamond$ are as follows: — WH/WF 1.69-1.81, mean 1.74 (1.69-1.81, mean 1.76, in \Diamond , 1.70-1.75, mean 1.72, in \Diamond), WP/WH 1.20-1.25, mean 1.23, WP/LP 1.14-1.24, mean 1.18, WP/WBP 1.37-1.46, mean 1.41, WBP/WAP ca. 0.94-1.02, mean 0.99, WE/WP 1.54-1.61, mean 1.57.

The aedeagus contains a mass and two or three chitinized parts near the middle.

Notes on the Chrysomelidae from Taiwan, China, XI

By Shinsaku Kimoto

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Subfamily Zeugophorinae

Zeugophora dimorpha Gressitt (Fig. 1 a)

Zeugophora dimorpha Gressitt, 1945, Lingnan Sci. J., 21 (1-4): 137, 138, figs. (SE China: SE Kiangsi, SE Kwangtung; CAS). — Gressitt & Kimoto, 1961, Pac. Ins. Mon., 1A: 24, 25, 27 (SE China).

Distribution: SE China, Taiwan.

Specimens examined: Sungkang, Nantou Hsien, 1 ex, 6. viii. 1969, T. Kobayashi, 1 ex., 11. vii. 1973, Y. Kiyoyama.

This species is here recorded for the first time from Taiwan.

Subfamily Criocerinae

Crioceris orientalis JACOBY

Crioceris orientalis Baly, 1885, Proc. Zool. Soc. Lond., 1885: 195 (Japan: Sapporo; ВМ). — Yuasa, 1938, Kontyů, Tokyo, 12 (2): 41, figs. (Japan). — Кімото, 1964, J. Fac. Agr. Kyushu Univ., 13 (1): 133 (Japan).

Distribution: Japan (Hokkaido, Honshu, Kyushu), Taiwan.

Specimen examined: Mt. Lalashan, Taipei Hsien, 1 ex., 11. viii. 1974, Y. KIYOYAMA. This species is here recorded for the first time from Taiwan, and separable from *Crioceris quatuordecempunctata* (Scopoli), in having from smore weakly raised and closely covered with fine hairs.

Lilioceris formosana Heinze, New Status

Lilioceris neptis formosana Heinze, 1943, Stett. Ent. Ztg., 104: 104 (Formosa; ZMB).

Lilioceris neptis: Kimoto, 1964, J. Fac. Agr. Kyushu Univ., 13 (1): 130, 131 (Ryukyu Is.). — Kimoto & Gressitt, 1966, Pac. Ins., 8 (2): 469, 492 (Ryukyu Is.).

Lilioceris cyaneicollis: Кімото, 1966, Esakia, Kyushu Univ., (5): 22 (Ryukyu Is.). Distribution: Taiwan, Ryukyu Is.

[[]Ent. Rev. Japan, Vol. XXXIX, No. 1, pp. 39-58, June, 1984]

Specimens examined: Mt. Shihtoushan, Miaoli Hsien, 1 ex., 4. vi. 1976, H. Makihara; Nanshanchi, Nantou Hsien, 1 ex., 3. iv. 1981, Y. Yamamoto; Lushan Wenchuan, Nantou Hsien, 2 exs., 7. vi. 1976, H. Makihara; Hungyeh Wenchuan, Hualien Hsien, 1 ex., 14. vi. 1976, H. Makihara; Ghungshan, Chiayi Hsien, 1 ex., 26. vi. 1968, M. Tomokuni; Changlo, Pingtung Hsien, 1 ex., 16. vi. 1975, H. Makihara.

The type series of this species, preserved in the Zoological Museum, Berlin, contains both *formosana* Heinze and *cyaneicollis* Pic. It would be better to refer *formosana* Heinze for this species. Some relative species from Taiwan, with scutellum entirely pubescent and antenna slenderer, can be separable from the following key.

Subfamily Clytrinae

Aetheomorpha taiwana (Chûjô, 1934) (Fig. 1 b)

Aetheomorpha bowditchi Gressitt & Kimoto, 1961, Pac. Ins. Mon., 1A: 87 (Yunnan). Smaragdina scalaris: Takizawa, 1978, Kontyû, Tokyo, 46 (4): 596 (Taiwan). Distribution: S. China, Taiwan.

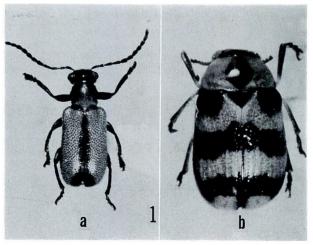


Fig. 1. a, Zeugophora dimorpha Gressitt, b, Aetheomorpha taiwana (Chûjô).

Tituboea ohbayashii n. sp. (Fig. 2)

Head black with most of fronto-clypeus reddish brown, pronotum

reddish brown with a pair of small median markings black, scutellum entirely black; elytron reddish brown with subbasal, postmedian, humeral and latero-median markings black, and postmedian and latero-median markings placed obliquely; antenna pitchy black with three or four basal segments reddish brown; ventral surfaces reddish brown with meso- and metathorax black; legs reddish brown with apical ½ to ⅓ of tibiae and entire tarsi black.

Head with vertex convex, generally smooth, shining, sparsely impressed by minute punctures, inter-ocular area strongly depressed, rugose,

thickly pubescent-punctate. Antenna short, robust, with third segment small, hardly thickened apically; fourth subtriangular, slightly longer than wide; fifth subequal to fourth in shape but slightly larger; fifth to tenth subequal to each other in shape but become smaller toward apical segments; eleventh elongate, nearly 1 ½ times as long as tenth and its apex pointed. Pronotum transverse, nearly 1 \(\frac{4}{5}\) times as wide as long, anterior margin nearly straight, basal margin slightly arched posteriorly at middle, lateral margin rounded, widest slightly before base and strongly narrowed anteriorly and less strongly so posteriorly; surface convex, with a faint transverse furrow slightly behind anterior margin and a pair of oblique impressions laterally, sparsely impressed by small punctures. Scutellum subtriangular, apical area smooth, shining, and basal area sparsely covered by small punctures and



Fig. 2. Tituboea ohbayashii n. sp.

fine hairs. Elytron elongate, subparallel-sided, rounded at apex, surface convex, distinctly but not closely punctate.

Length 6.2-6.7 mm. Distribution: Taiwan.

Holotype: Shanpalin, Taoyuan Hsien, 7. v. 1982, N. Ohbayashi (Type No. 2436, Kyushu Univ.).

Paratype: Nanshanchi, Nantou Hsien, 1 ex., 1. v. 1982, N. Ohbayashi.

This new species somewhat resembles *Tituboea tonkinea* (PIC) from Vietnam, but differs in having pronotum with a pair of small markings at middle and elytron with four small markings placed obliquely. Also, from *Smaragdina octomaculata* (CHÛJÔ), this new species is separable in having the anterior legs distinctly longer and much slenderer than the others.

Smaragdina kurosuji n. sp. (Figs. 3 a, 4 a)

Head black with apex of fronto-clypeus reddish brown, pronotum reddish brown with a transverse medio-basal and a pair of lateral markings black, scutellum pitchy black with apex much paler; elytron reddish brown, with two discal longitudinal stripes black; antenna pitchy black with three or four basal segments reddish brown; ventral surfaces black; legs reddish brown with dorsal surfaces of femora and tibiae and entire tarsi black.

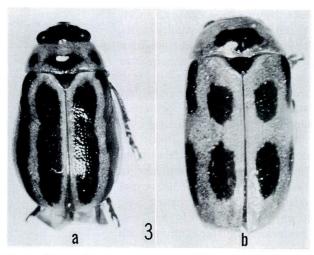


Fig. 3. a, Smaragdina kurosuji n. sp., b, Smaragdina kuromon n. sp.

Head with vertex convex, generally smooth, shining, sparsely impressed by minute punctures, inter-ocular area slightly depressed, rugose, thickly pubescent-punctate. Antenna short, robust, with third segment small, hardly thickened apically; fourth distinctly widened apically but clearly narrower and shorter than fifth; fifth strongly widened and nearly $1\frac{1}{4}$ times as wide as long; fifth to tenth subequal to each other in length and shape; eleventh $1\frac{1}{4}$ times as long as tenth and its apex pointed. Pronotum transverse, nearly $2\frac{1}{4}$ times as wide as long, anterior margin nearly straight, basal margin slightly arched posteriorly at middle, lateral margin rounded, widest slightly before base and strongly narrowed anteriorly and less strongly so posteriorly; surface convex, with a faint transverse furrow slightly behind anterior margin and a pair of oblique impressions laterally, sparsely impressed by small punctures. Scutellum subtriangular, apical area smooth, shining, and basal area sparsely covered by small punctures and fine hairs. Elytron elongate, subparallel-

sided, rounded at apex, surface convex, strongly and thickly punctate.

Length 3.6-4.2 mm. Distribution: Taiwan.

Holotype: Tungpu Spa, Nantou Hsien, 21. v. 1981, F. Kimura (Shibata Collection, Osaka).

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

Paratypes: 1 ex., same data as the holotype but K. Kuzugami; Mt. Ali, Chiayi Hsien, 1 ex., 18. v. 1981, F. Kimura.

This new species somewhat resembles $Smaragdina\ octomaculata\ (Chûjô)$ from Taiwan, but differs in having the elytral punctures much stronger and the ventral surfaces and legs much darker.

Smaragdina kuromon n. sp. (Figs. 3 b, 4 b)

Head entirely black, pronotum reddish brown with a large median marking black, scutellum entirely pitchy black; elytron reddish brown, with subbasal, postmedian, humeral and latero-posterior markings black, and postmedian and latero-posterior markings placed transversely, and in some specimen these two markings united; antenna pitchy black with three or four basal segments somewhat paler; ventral surfaces black; legs reddish brown with dorsal surfaces of femora and tibiae and entire tarsi black.

Head with vertex convex, generally smooth, shining, sparsely impressed by minute punctures, inter-ocular area distinctly depressed, rugose, pubescent-punctate. Antenna short, robust, with third segment small, hardly thickened apically; fourth distinctly widened apically but clearly narrower and shorter than fifth; fifth strongly widened, and nearly as wide as long; fifth to tenth subequal to each other in length and shape; eleventh elongate, nearly 1½ times as long as tenth and its apex pointed. Pronotum transverse, nearly 2½ times as wide as long, anterior margin nearly straight, basal margin slightly arched posteriorly at middle, lateral margin rounded, widest slightly before base and strongly nar-

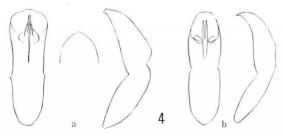


Fig. 4. Male genitalia: a, Smaragdina kurosuji n. sp., b, Smaragdina kuromon n. sp.

rowed anteriorly and less strongly so posteriorly; surface convex, with a faint transverse furrow slightly behind anterior margin and a pair of oblique depressions laterally, sparsely impressed by small punctures. Scutellum subtriangular, apical area smooth, shining, and basal area sparsely covered by small punctures and fine hairs. Elytron elongate, subparallel-sided, rounded at apex, surface convex, distinctly but not so closely punctate.

Length 5.3-5.5 mm. Distribution: Taiwan.

Holotype: Fenchihu, 1,400m, Chiayi Hsien, 12. iv. 1965, T. Shirôzu (Type No. 2437, Kyushu Univ.).

Paratypes: Hsileng, Taoyuan Hsien, 1 ex., 20. iv. 1982, N. Ohbayashi; Puli, Nantou Hsien, 1 ex., Native Collector.

This new species resembles *Smaragdina nigrosignata* (Pic) from S. China, but differs in having the ventral surfaces entirely black, the postmedian and lateroposterior markings of elytron placed transversely and pronotum with a large median markings subbasally.

Subfamily Chlamisinae

Chlamisus geniculatus (JACOBY)

Chlamys geniculata JACOBY, 1896, Entomol., 29:6 (Amami-Oshima; BM).

Chlamisus geniculatus: Kimoto, 1964, J. Fac. Agr. Kyushu Univ., 13 (1): 158, 161 (Japan, Ryukyu Is.).

Distribution: Japan, Ryukyu Is., Taiwan.

Specimen examined: Wushe, Nantou Hsien, 1 ex., 4. iv. 1970, T. MIYATAKE.

This species is here recorded for the first time from Taiwan.

Chlamisus japonicus (JACOBY)

Chlamys japonica Jacoby, 1885, Proc. Zool. Soc. Lond., 1885: 198, pl. 11, fig. 5 (Japan; BM).

Chlamisus japonicus: Gressitt & Кімото, 1961, Pac. Ins. Mon., 1A: 171, 180 (China). — Кімото, 1964. J. Fac. Agr. Kyushu Univ., 13 (1): 158, 160 (Japan, Ryukyus).

Distribution: Japan, Ryukyu Is., Taiwan.

Specimens examined: Yangmingshan, Taipei Hsien, 1 ex., 16. vii. 1974, Y. KIYO-YAMA; Meifeng, Nantou Hsien, 1 ex., 26. vi. 1971, Y. MIYATAKE.

This species is here recorded for the first time from Taiwan.

Subfamily Eumolpinae

Parascela cribrata (Schaufuss) (Fig. 5 a)

Pseudocolaspis cribrata Schaufuss, 1871, Nunquam Otiosus, 1:200 (Hong Kong). Parascela cribrata: Baly, 1878, J. Linn. Soc. Lond., 14:252. — Gressitt &

Кімото, 1961, Рас. Ins. Mon., 1A: 237 (S. China). — Кімото & Gressitt, 1966, Рас. Ins., 8 (2): 473, 507 (Ryukyus).

Basilepta hirta Chen, 1935, Sinensia, 6 (6): 765, fig. (Yunnan). — Gressitt & Kimoto, 1961, Pac. Ins. Mon., 1A: 237 (=cribrata).

Parascela hirta: Chen, 1940, Sinensia, 11 (5-7): 485, 503.

Distribution: S. China, Taiwan, Ryukyu Is. (Iriomote).

Specimen examined: Sungkang, Nantou Hsien, 1 ex., 4. iv. 1971, H. Nomura.

This species is here recorded for the first time from Taiwan.

Subfamily Chrysomelinae

Linaeidea aeneipennis (BALY) (Fig. 5 b)

Lina aeneipennis Baly, 1859, Ann. Mag. Nat. Hist., (3) 4: 61 (N. China; BM). Plagiodera siemsseni Weise, 1922, Tijdschr. Ent., 65: 56 (Fukien; STOCKHOLM).

— Chen, 1934, Rech. Chrysom. Chine et Tonkin: 60; 1936, Ann. Soc. Ent. Fr., 105: 172 (China). — Gressitt & Kimoto, 1963, Pac. Ins. Mon., 1B: 352 (= aeneipennis).

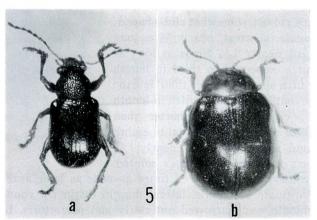


Fig. 5. a, Parascela cribrata (Schaufuss), b, Linaeidea aeneipennis (BALY).

Chrysomela aeneipennis: CHEN, 1934, Rech. Chrysom. Chine et Tonkin: 63; 1936, Ann. Soc. Ent. Fr., 105: 176 (China).

Linaeidea aeneipennis: Gressitt & Kimoto, 1963, Pac. Ins. Mon., 1B: 351, 352 (China).

Distribution: S. China, Taiwan.

Specimens examined: Nanshanchi, Nantou Hsien, 1 ex., 31. iii. 1981, 1 ex., 3. iv. 1981, Y. YAMAMOTO.

This species is here recorded for the first time from Taiwan.

Subfamily Galerucinae

Pyrrhalta ohbayashii n. sp. (Fig. 6)

General color dark reddish brown, antenna pitchy black with two or three basal segments dark reddish brown, ventral surfaces partly pitchy black, legs dark reddish brown with apical part of tibiae and entire tarsi pitchy brown.

Head with vertex rugosely punctate and covered with fine pubescence, and anterior part slightly depressed medially, frontal tubercle distinctly raised, vertical, long, subtriangular, separated by a distinct longitudinal groove, and its anterior corner extending forward between antennal insertions. Antenna robust, in preapical segments nearly 1 1/2 times as long as wide, and almost 2/3 as long as body length; first segment long, robust, somewhat club-shaped; second elongate, shortest, nearly $\frac{2}{3}$ as long as first; third nearly 1 1/4 times as long as second; fourth subequal to third in length and shape; fifth slightly longer than fourth; sixth and seventh subequal to fifth in length and shape; eighth slightly shorter than seventh; ninth and tenth subequal to eighth in length and shape; eleventh nearly 1 1/3 times as long as tenth and its apex pointed.

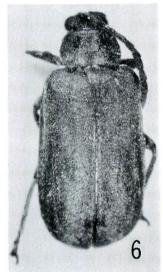


Fig. 6. Pyrrhalta ohbayashii n.

Pronotum transverse, nearly 1 ¾ times as wide as long, anterior margin slightly emarginate at middle, lateral margin distinctly rounded, widest almost at middle, and narrowed anteriorly and posteriorly, basal margin slightly emarginate at middle and turned obliquo-forwardly at lateral area, anterior and posterior corners slightly thickened and each with a seta-bearing pore; surface rugosely punctate and covered with fine pubescence, and with a shallow anterio-median, a fairly deep posterio-median and a pair of deep lateral depressions. Scutellum convex, covered with fine pubescence, trapezoid, narrowed posteriorly. Elytron broader than pronotum at base, subparallel-sided, and rounded at apex, surface slightly uneven, with two pairs of lateral costae, starting from humerus, of which exterior one running parallel to lateral margin and the other obliquo-interiorly, and both interrupted subbasally, surface closely punctate and covered with fine pubescence; elytral epipleuron gradually narrowed toward apex.

Length 4.0-4.1 mm. Distribution: Taiwan.

Holotype: Mt. Lalashan, Taoyuan Hsien, 7. v. 1982, N. Ohbayashi (Type No. 2438, Kyushu Univ.).

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

This new species somewhat resembles *Pyrrhalta gressitti* Kimoto from Taiwan, in having the elytral surface uneven, but differs in having elytron entirely dark reddish brown, antenna more robust in preapical segments, and antenna and legs much darker.

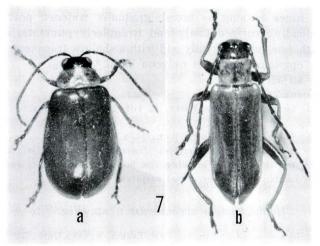


Fig. 7. a, Mimastracella bicolor n. sp., b, Haplosomoides abdominalis n. sp.

Mimastracella bicolor n. sp. (Fig. 7 a)

Head entirely black, pronotum yellowish brown, scutellum and elytron entirely reddish brown, antenna pitchy black, ventral surfaces entirely yellowish brown, legs reddish brown with tibiae and tarsi infuscate.

Head with vertex ruggedly impressed by distinct punctures and sparsely covered by fine hairs and their interstices finely granulate; frontal tubercle distinctly raised, subquadrate, contiguous, deeply grooved medially and its anterior corner extending forward between antennal insertions. Antenna slender, nearly $\frac{2}{3}$ as long as body length; first segment long, robust, somewhat club-shaped; second nearly $\frac{3}{5}$ as long as first, shortest; third nearly $\frac{1}{4}$ times as long as second; fourth longest, nearly $\frac{1}{2}$ times as long as third; fifth slightly shorter than fourth; sixth and seventh subequal to fifth in length and shape; eighth nearly $\frac{4}{5}$ as long as seventh; ninth and tenth subequal to eighth in length and

shape; eleventh nearly $1\frac{1}{2}$ times as long as tenth and its apex pointed. Pronotum transverse, nearly $2\frac{1}{5}$ times as broad as long, lateral margin rounded, widest almost at middle and gradually narrowed anteriorly and posteriorly; anterior and posterior corners each with a setigerous pore, and anterior corner distinctly thickened; surface smooth, shining, sparsely impressed by distinct punctures without any distinct hairs dorsally, and impressed by a pair of lateral and a pair of latero-basal and a subbasal depressions shallower. Scutellum subtriangular, rounded apically and its surface distinctly punctate, thickly covered by fine hairs. Elytron nearly $1\frac{4}{5}$ times as long as broad, gradually widened posteriorly and rounded apically; surface finely and irregularly punctate, and thickly covered with fine hairs dorsally and with a shallow transverse depression subbasally; epipleuron distinct only on basal $\frac{1}{4}$ to $\frac{1}{3}$ s.

Length 4.3–4.9 mm. Distribution: Taiwan.

Holotype: Sungkang, Nantou Hsien, 23. viii. 1973, Y. Kobayashi (Shibata Collection, Osaka).

Paratype: Taiheizan, Ilan Hsien, 1 ex., 24. x. 1932, K. SATO.

This new species somewhat resembles *Mimastracella brunnea* GRESSITT & KIMOTO from S. China, but is separable in being the body length shorter, and having the different color combination of the dorsal surfaces.

Haplosomoides abdominalis n. sp. (Fig. 7 b)

Haplosomoides miyamotoi: Kimoto, 1969, Esakia, Kyushu Univ., (7): 34 (Taiwan). General color yellowish brown, antenna pitchy black, ventral surfaces of meso- and metathorax and abdomen pitchy brown, legs pitchy brown with basal half of femora yellowish brown.

Head with vertex shagreened, sparsely impressed by minute punctures; frontal tubercle slightly raised, subtriangular, contiguous, surface smooth, distinctly grooved medially, its anterior corner extending forward between antennal insertions. Antenna slender, slightly shorter than body length; first segment long, club-shaped; second shortest, nearly $\frac{2}{3}$ as long as first; third nearly $\frac{2}{5}$ times as long as second; fourth about $\frac{1}{3}$ times as long as third; fifth slightly shorter than fourth; sixth subequal to fifth in length and shape; seventh slightly shorter than sixth in length; eighth subequal to seventh in length and shape; ninth slightly shorter than eighth in length; tenth subequal to ninth in length and shape; eleventh slightly longer than tenth and subequal to sixth in length but its apex pointed. Pronotum transverse, about $\frac{1}{2}$ times as broad as long, widest nearly at anterior margin and gradually narrowed posteriorly, and with lateral margin nearly straight and posterior margin slightly arched posteriorly; anterior and posterior corners each with a

setigerous pore, and anterior corner distinctly thickened and posterior corner slightly so, and furnished with short setae along lateral margin; dorsal surface generally smooth, shining, sparsely impressed by minute punctures, with a pair of large depressions laterally and a shallow transverse furrow anteriorly. Scutellum subtriangular, rounded apically and its surface sparsely covered by fine punctures. Elytron subparallel-sided and rounded at apex, nearly $4\frac{4}{5}$ times as long as broad, and with a shape longitudinal costa starting from humerus; surface distinctly and irregularly punctate, and sparsely covered with some short hairs subapically. In male specimen apex of each antennal segment widened, apical portion of tibia of middle leg strongly curved, and apex of fifth abdominal segment trilobed.

Length 4.5-5.5 mm.

Distribution: Taiwan.

Holotype: Sungkang - Meifeng, Nantou Hsien, 25-26. v. 1972, M. Sakai (Ehime University).

Paratopotypes: 2 exs., same data as the holotype.

Paratypes: Sungkang - Meifeng, Nantou Hsien, 2 exs., 18. v. 1970, M. Sakai; Tsifeng, Nantou Hsien, 1 ex., 28. vi. 1970, Y. Hori; Tungpu Spa, Nantou Hsien, 2 exs., 22. v. 1981, K. Koizumi, 1 ex., 10. vi. 1980, M. Yamamoto, 2 exs., 21. v. 1981, 1 ex., 10. vi. 1980, N. Ito; Huanshan, Taichung Hsien, 8 exs., 31. v. - 2. vi. 1971, K. Kanmiya; Hohuan Pass, Hualien Hsien, 1 ex., 3. v. 1971, K. Kanmiya.

This new species resembles *Haplosomoides miyamotoi* Kimoto from Ryukyu Is., but differs in having pronotum much narrower and subquadrate, and in most specimens antenna, legs and abdomen pitchy brown, and in male specimen apex of each antennal segment somewhat widened and apex of middle tibiae strongly curved.

Haplosomoides egena Weise (Fig. 8 b)

Haplosomoides egena Weise, 1922, Tijdschr. Ent., 65: 74 (China: Fukien; STOCK-HOLM). — Gressitt & Kimoto, 1963, Pac. Ins. Mon., 1B: 518 (SE China, Vietnam).

Distribution: Nepal, Bhutan, Vietnam, China, Taiwan.

Specimen examined: Kenting Park, Pingtung Hsien, 1 ex., 4. v. 1982, N. Онвачаѕні. This species is here recorded for the first time from Taiwan.

Hoplasoma majorina Laboissière (Fig. 8 a)

Haplosomela semiopaca: Takizawa, 1978, Kontyû, Tokyo, 46 (1): 128 (Taiwan). Distribution: Vietnam, S. China, Taiwan.

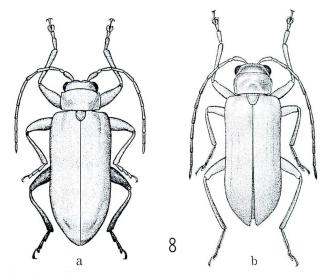


Fig. 8. a, Hoplasoma majorina Laboissière, b, Haplosomoides egena Weise.

Taiwanaenidea n. gen.

Type species: Taiwanaenidea strigosa Kimoto, from Taiwan.

Gender: Feminine.

Elongate; subparallel-sided. Antenna slenderer, nearly as long as body length; eye large, gena nearly $\frac{1}{3}$ as long as transverse diameter of an eye; prothorax distinctly marginate on lateral and basal margins and narrowly marginate on anterior margin, and with a pair of distinct depressions laterally; elytron with partly regular puncture-rows, and their interstices not raised, and sparsely covered with fine hairs and with epipleuron relatively broad, and broadened slightly at end of basal $\frac{1}{5}$, then gradually narrowed to apex, and its surface slightly concaved; prosternum narrow, but visible between coxae; anterior coxal cavity closed behind; hind tibia with many short spine apically; first tarsal segment of posterior leg distinctly shorter than following three segments combined; tarsal claws appendiculate; fifth abdominal segment trilobed apically in male and entire in female.

This new genus closely resembles *Hoplosaenidea* Laboissière, but differs in having the posterior tibia without distinct single spine at apex, elytron impressed by partly arranged longitudinal rows of punctures and its surface sparsely covered by fine hairs.

Taiwanaenidea strigosa n. sp. (Fig. 9 a)

General color cupreous blue, antenna pitchy brown, legs pitchy brown with femora pitchy black; in pale colored specimen entirely yellowish to dark reddish brown.

Head with vertex very finely granulate, sparsely impressed by small punctures and covered by small number of fine hairs; frontal tubercle distinctly raised, transverse, subtriangular, contiguous, deeply grooved medially, surface finely granulate. Antenna slender, nearly as long as body length, and in preapical segments nearly twice as long as wide; first segment longest, somewhat club-shaped; second shortest, nearly $\frac{1}{4}$ as long as first; third $\frac{1}{4}$ times as long as second; fourth $\frac{1}{4}$ times as long as fourth; fifth nearly $\frac{4}{5}$ as long as fourth; sixth to tenth subequal to fifth in length and shape; eleventh $\frac{1}{4}$ times as long as tenth and its apex

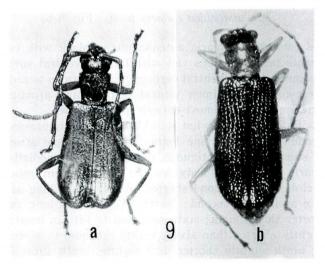


Fig. 9. a, Taiwanaenidea strigosa n. sp., b, Taiwanaenidea collaris n. sp.

pointed. Pronotum slightly longer than broad, widest at anterior margin, gradually narrowed porteriorly, and with slight constriction before basal margin; anterior margin nearly straight and basal margin slightly arched posteriorly; anterior and posterior corners each with a setigerous pore, and each corner distinctly thickened, and furnished with short setae along lateral margin; dorsal surface very finely granulate, sparsely impressed by distinct punctures, especially on lateral area and covered by small numbers of fine hairs, and with a pair of large, shallow depressions

laterally. Scutellum wide at base, gradually narrowed posteriorly and apex rounded, surface finely granulate and sparsely covered by fine hairs. Elytron subparallel-sided, nearly four times as long as wide; surface very finely granulate, and sparsely covered by fine hairs and impressed by partly regular longitudinal rows of punctures, and their interstices not raised, and average diameter of punctures distinctly narrower than their interstices.

Length 3.2-4.5 mm. Distribution: Taiwan.

Holotype: Mt. Lishan, Taichung Hsien, 5. iv. 1973, K. KIYOYAMA (SHIBATA Collection, Osaka).

Paratopotypes: 2 exs., same data as the holotype.

Paratypes: Lishan, Taichung Hsien, 1 ex., 31. iii. 1970, 1 ex., 28. iii. 1971, 4 exs., 29. iii. 1971, H. Nomura; Piluchi, Nantou Hsien, 3 exs., 30. iv. 1982, N. Ohbayashi.

Taiwanaenidea collaris n. sp. (Fig. 9 b)

General color bluish black, antenna pitchy black with two or three basal segments brownish, legs yellowish brown, ventral surfaces pitchy black; in some specimen ventral surfaces pitchy brown to reddish brown, and in palest colored specimen ventral surfaces and pronotum entirely reddish brown and head almost entirely pitchy brown.

Head with vertex somewhat wrinkled, sparsely impressed by minute punctures and covered by fine hairs; frontal tubercle strongly raised, transverse, subquadrate, contiguous, deeply grooved medially. Antenna slender, nearly as long as body length; first segment robust, longest, somewhat club-shaped; second shortest, nearly \(\frac{1}{3} \) as long as first; third nearly twice as long as second; fourth 1 1/4 times as long as third; fifth slightly shorter than fourth; sixth subequal to fifth in length and shape; seventh slightly shorter than sixth; eighth subequal to seventh in length and shape; ninth slightly shorter than eighth; tenth subequal to ninth in length and shape; eleventh slightly longer than tenth and subequal to sixth in length but its apex pointed. Pronotum slightly longer than broad, widest at ¼ from anterior margin, gradually narrowed posteriorly, and with slight constriction at $\frac{1}{3}$ from basal margin; anterior margin nearly straight and basal margin slightly arched posteriorly; anterior and posterior corners each with a setigerous pore, and anterior corner distinctly thickened and posterior corner slightly so, and furnished with several short setae along lateral margin; dorsal surface generally smooth, shining, sparsely impressed by minute punctures, and with a pair of large and deep depressions laterally. Scutellum subtriangular, rounded apically and its surface finely granulate, and with a large fovea at middle.

Elytron subparallel-sided, nearly four times as long as wide; surface sparsely covered by fine hairs and impressed by partly regular longitudinal rows, and their interstices smooth, shining, not raised, punctures large and their average diameter wider than their interstices.

Length 3.8-4.3 mm. Distribution: Taiwan.

Holotype: Meifeng, Nantou Hsien, 26. vi. 1971, Y. MIYATAKE (Osaka Museum of Natural History, Osaka).

Paratopotypes: 2 exs., same data as the holotype.

Paratypes: Taotsua, nr Hotso, Nantou Hsien, 1 ex., 27. vi. 1971, Y. MIYATAKE; Lishan, Nantou Hsien, 1 ex., 7. vi. 1976, H. Makihara; Huanshan, Taichung Hsien, 2 exs., 1. vi. 1971, K. Kanmiya.

This new species is separable from *Taiwanaenidea strigosa* KIMOTO, in having the surface of pronotum smooth, shining, and the elytral punctures more strongly and closely impressed.

Hoplosaenidea kanmiyai n. sp. (Fig. 10 a)

Head pitchy black with fronto-clypeus and mouth part yellowish brown, pronotum and scutellum pitchy black, elytron dark yellowish brown with sutural and marginal areas pitchy black, antenna pitchy black with two basal segments yellowish brown, ventral surfaces pitchy black with prosternum yellowish brown, legs yellowish brown with tibiae and tarsi infuscate in various degrees.

Head with vertex finely granulate, sparsely impressed by minute punctures and covered by fine hairs, and longitudinally depressed anteriorly at middle; frontal tubercle strongly raised, transverse, contiguous, deeply grooved medially, and with anterior corner produced anteriorly and inserted between antennal insertions, surface slightly granulate. Antenna slender, nearly 1 ½ times as long as body length, thickly covered by fine hairs; first segment robust, somewhat club-shaped; second round, shortest, nearly 1/4 as long as first; third elongate, nearly four times as long as second in length; fourth nearly 1 \(\frac{1}{4}\) times as long as third, and nearly equal to length of second and third combined; fifth nearly 11/5 times as long as fourth; sixth to tenth subequal to fifth in length and shape; eleventh subequal to tenth in length but its apex pointed. Pronotum nearly 1 \(\frac{1}{3}\) times as long as wide, widest at \(\frac{1}{4}\) from anterior margin, slightly narrowed anteriorly and more strongly so posteriorly, and with slight constriction at 1/3 from basal margin; anterior margin nearly straight and basal margin slightly arched posteriorly; anterior and posterior corners each with a setigerous pore, and anterior corner slightly thickened; dorsal surface slightly granulate, sparsely impressed by minute punctures, and with a pair of deep, transverse depressions

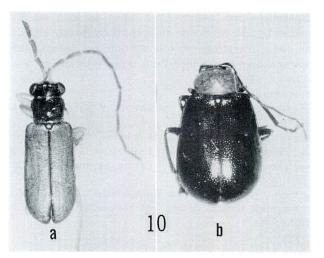


Fig. 10. a, Hoplosaenidea kanmiyai n. sp., b, Calomicrus collaris n. sp.

which are almost connected at middle. Scutellum subtriangular, rounded apically and its surface somewhat granulate. Elytron subparallel-sided, nearly $4\frac{1}{2}$ times as long as wide; surface closely impressed by distinct punctures and their interstices smooth, shining, punctures large and average diameter of punctures wider than their interstices, and punctures partly arranged in irregular rows and with two or three slightly raised longitudinal costae laterally.

Length 3.0-4.0 mm. Distribution: Taiwan.

Holotype: Huanshan, Taichung Hsien, 31. v. 1971, K. Kanmiya (Type No. 2439, Kyushu Univ.).

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

This new species somewhat resembles $Hoplosaenidea\ taiwana\ (Chûjô)$ from Taiwan, but differs in having the dorsal surfaces dark yellowish brown with pronotum pitchy black, and antenna covered by hairs much finer in male specimen.

Calomicrus collaris n. sp. (Fig. 10 b)

General color bluish black, pronotum reddish brown, antenna pitchy black, and legs, ventral surfaces of meso- and metathorax and abdomen black.

Head with vertex slightly wrinkled, sparsely impressed by very minute punctures, frontal tubercle distinctly raised, subtriangular, contiguous, separated by a distinct longitudinal furrow and its anterior angle extending forward between antennal insertions, surface smooth, shining.

Antenna slender, in preapical segments nearly or more than five times as long as wide, and nearly $\frac{2}{3}$ as long as body length; first segment long, robust, somewhat club-shaped; second elongate, nearly half as long as first; third slender, nearly $1\frac{3}{4}$ times as long as second; fourth $1\frac{1}{2}$ times as long as third; fifth to tenth subequal to fourth in length and shape; eleventh nearly $1\frac{1}{4}$ times as long as tenth and its apex pointed. Pronotum convex, transverse, about $1\frac{4}{5}$ times as wide as long, anterior margin almost straight, lateral margin rounded, widest slightly before middle, narrowed anteriorly and posteriorly, basal margin rounded posteriorly, surface smooth, shining, sparsely impressed by minute punctures, anterior and posterior corners each with a seta-bearing pore. Scutellum subtriangular, surface smooth, shining, nearly impunctate. Elytron broader at base than prothorax, gradually widened posteriorly and rounded at apex, surface closely and distinctly punctate, and their interstices smooth, shining, impressed by minute punctures.

Length 3.9-4.4 mm. Distribution: Taiwan.

Holotype: Sungkang, Nantou Hsien, 6. viii. 1969, T. Kobayashi (Shibata Collection, Osaka).

Paratypes: Sungkang, Nantou Hsien, 1 ex., 16. vii. 1966, H. KAMIYA; Yangmingshan, Taipei Hsien, 1 ex., 25. v. 1965, Y. MIYATAKE.

This new species somewhat resembles *Calomicrus kurosawai* Kimoto from Taiwan, but differs in having the legs entirely black and the third antennal segment longer than second.

Arthrotus shibatai n. sp. (Figs. 11 a, 12 a)

General color yellowish to reddish brown, antenna pitchy black with two or three basal segments brownish, legs pitchy black with femora yellowish brown; in some specimen elytron with an ill-defined large longitudinal stripe pitchy black, in darkest colored specimen dorsal surfaces, together with most of ventral surfaces of thorax and legs, pitchy black, and in palest colored specimen dorsal and ventral surfaces and legs entirely yellowish to reddish brown.

Head with vertex convex, smooth, shining, sparsely impressed by minute punctures, and with a distinct depression in front of middle, frontal tubercle transverse, separated by apex of inter-antennal space. Antenna slender, long, nearly $\frac{2}{3}$ as long as body length; in male, first segment long, robust, club-shaped; second short, nearly $\frac{1}{3}$ as long as first; third shortest, nearly $\frac{2}{3}$ as long as second; fourth longest, nearly $\frac{2}{3}$ times as long as length of second and third combined; fifth slightly shorter than fourth; sixth to eighth subequal to fifth in length and shape; ninth slightly shorter than eighth; tenth subequal to ninth in length and shape;

eleventh subequal to eighth in length but its apex pointed; in female, third nearly 1½ times as long as second; fourth nearly 1½ times as long as length of second and third combined. Pronotum transverse, slightly wider than twice as wide as long; anterior and posterior margins strongly arched posteriorly; lateral margin distinctly rounded, widest almost at middle; anterior corner strongly thickened, sharply pointed apically, and posterior corner slightly angulate, and each with a setabearing pore large and situated at angle; dorsal surface slightly convex. sparsely impressed by minute punctures on middle and distinctly and more closely punctate on lateral portion. Scutellum subtriangular, smooth, shining. Elytron broader than pronotum at base, slightly widened posteriorly and rounded at apex, without any distinct transverse furrow behind subbasal area, distinctly and closely punctate, elytral epipleuron smooth, shining, sparsely impressed by minute punctures.

Length 5.0-5.9 mm.

Distribution: Taiwan.

Holotype: Nanshanchi, Nantou Hsien, 1. iv. 1981, F. KIMURA (SHIBATA Collection, Osaka).

Paratypes: 1 ex., same locality as the holotype, 31. iii. 1981, 1 ex., 3. iv. 1971, F. KIMURA. 1 ex., 3. iv. 1981, Y. YAMAMOTO, 1 ex., 4. viii. 1970, T. KOBAYASHI; Sungan, Miaoli Hsien, 1 ex., iv. 1967, B.-S. CHANG; Huanshan, Hsueshan Mo, Taichung Hsien, 1 ex., 1. vi. 1971, K. KANMIYA; Puli, Nantou Hsien, 1 ex., vi. 1958, Native Collector.

This new species resembles Arthrotus testaceus Gressitt & Kimoto from China, but is separable in being the body length longer, and having the apex of male genitalia widely rounded.

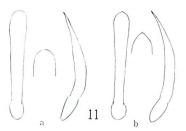


Fig. 11. Male genitalia: a, Arthrotus shibatai n. sp., b, Arthrotus testaceus Gressitt & Ki-

Khasia itorum n. sp. (Fig. 12 b)

General color pitchy black, antenna pitchy black with seventh and eighth segments pale brown.

Head with vertex smooth, shining, nearly impunctate, with a longitudinal sulcus at middle; frontal tubercle distinctly raised, contiguous, elongate-subtriangular, with anterior angle acute, inserted between antennal sockets, and posterior margin distinctly separated from vertex by a distinct transverse furrow. Antenna slender, distinctly longer than body length; first segment long, robust, club-shaped; second shortest, nearly $\frac{2}{5}$ as long as first; third $\frac{2}{3}$ times as long as second; fourth $\frac{1}{5}$ times as long as third; fifth to seventh subequal to fourth in length and

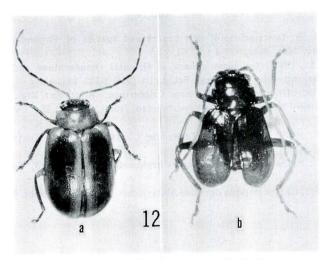


Fig. 12. a, Arthrotus shibatai n. sp., b, Khasia itorum n. sp.

shape; eighth slightly shorter than seventh; ninth and tenth subequal to eighth in length and shape; eleventh subequal to tenth in length but its apex pointed. Pronotum transverse, nearly twice as wide as long; lateral margin rounded, widest at ½ from anterior margin and slightly narrowed anteriorly and more strongly so posteriorly; anterior and basal margins widely rounded posteriorly; anterior corner somewhat thickened and basal angle slightly produced laterally, and each with a setigerous puncture; surface smooth, shining, nearly impunctate, and with a pair of transverse furrows laterally. Scutellum subtriangular and apex rounded, surface smooth, shining, impunctate. Elytron with lateral margin arched, gradually widened posteriorly and rounded at apex, humerus distinctly raised, and with sharply raised lateral costa starting from humerus and running parallel to lateral margin; surface smooth, shining, sparsely impressed by small punctures, and furnished with some short hairs along lateral margin.

Length 4.1–4.3 mm. Distribution: Taiwan.

Holotype: Mt. Ali, Chiayi Hsien, 17. v. 1981, T. et N. Ito (Shibata Collection, Osaka).

Paratopotypes: 3 exs., same data as the holotype.

Paratype: 1 ex., same data as the holotype, but 18. v. 1981.

This new species resembles *Khasia kraatzi* Jacoby from N. India, but differs in being the body length longer, and having pronotum much wider and the posterior margin rounded posteriorly.

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A New Species of the Genus *Stilicoderus* from Japan (Coleoptera, Staphylinidae)

Ву Татео Іто

In this paper I have tried to describe a new Stilicoderus-species from Amami-Oshima Island, Japan.

I wish to express my hearty thanks to Mr. Taichi Shibata for his kind help in literature, materials and various ways, to Dr. Kohei Sawada for his continuous encouragement in studying on Staphylinidae and to Mr. Masafumi Ohkura for his supporting and giving me a chance of the publication. And I am also indebted to Mr. Shun-ichiro Naomi for his kind help in literature and to the members of the Osaka Coleopterological Society for their kind helps in literature, materials and some ways.

Stilicoderus duplicatus sp. nov. (Fig. 1)

Body black without a metallic luster, covered with yellowish brown

pubescence, clypeus light yellow, mouth parts, antennae and legs reddish brown, lateral sides of tergites and posterior margins of sternites narrowly dark reddish brown. Length: 5.5-6.0 mm.

Head a little broader than long (about 8: 7), closely covered with coarse, deep and somewhat longitudinal punctures; frons slightly reflexed at sides. Eyes small but prominent, much shorter than postgenae, which unbordered latero-ventrally and subparallel-sided. Antennae relatively slender, reaching near base of pronotum, each segment longer than broad, except for 9th and 10th slightly broader than long, 1st very robust and as long as the preceding two segments together, 2nd shorter than 3rd. Mandibles (Fig. 2) robust, curved, and pointed at apices, the right mandible internally with four and the left one with three strong teeth, basal two teeth of right



Fig. 1. Stilicoderus duplicatus sp. nov.

[[]Ent. Rev. Japan, Vol. XXXIX, No. 1, pp. 59-61, June, 1984]

mandible subequal in size to each other. Labrum (Fig. 2) with five teeth, in which the middle tooth triangular and longitudinally carinated, the most external ones small. Neck about one-sixth as broad as head. Under side of head with very deep and sparse umbilicate-punctures. Gular sutures fused except apical fifth. Mentum transversely trapezoidal and well-chitinized.

Pronotum a little narrower than head (about 9:10), a little broader than long (about 11:10); the widest point situated about at apical two-fifths, from which sides abruptly narrowed anteriorly but gradually and straightly so posteriorly; disk closely granulated, each granule with a fine hair at tip; median carina entire except extreme base. Scutellum semicircular, rugosely and sparsely punctured.

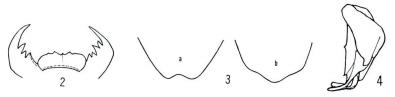
Elytra broader than pronotum (about 11:9), slightly broader than long in sutural length; the widest point situated about at apical one-third; disk uniformly covered with fine punctures and with additional several irregular rows of very large and coarse punctures except near postero-external angles.

Abdomen subparallel-sided, nearly as broad as elytra; tergites with extremely fine and rather close punctures, each tergite of basal four with a transverse depression and a vaguely wavy ground-sculpture, 3rd or 4th tergite broader than others; punctures of sternites like those on tergites. In the male 7th sternite weakly depressed at the middle of posterior half and 8th sternite (Fig. 3 a) shallowly excised, in the female 8th sternite (Fig. 3 b) slightly protuberant posteriorly at the middle of apical margin.

Legs rather slender, all 1st tarsal segments robust, nearly as long as the preceding two segments together, 4th strongly bilobed and as large as 1st, 5th inserted near base of 4th.

Male genitalia (Fig. 4) asymmetrical, parameres twisted and rectangularly deviated.

Holotype: \Diamond , Hatsuno, Amami-Oshima Is., 4 IV 1966, T. Ito leg. (T. Shibata coll.); paratypes: $2 \Diamond \Diamond 2 \Diamond \varphi$, ditto, 1 IV 1966, H. Nomura and T. Ito leg.; $5 \Diamond \Diamond 1$ \Diamond , Ikari, Amami-Oshima Is., 11, 21, 22 & 29 V 1960 and 2 VII 1961, T. Shibata leg.;



Figs. 2-4. 2. Labrum and mandibles. 3. The posterior margin of 8th sternite. a in \Diamond , b in \Diamond . 4. Male genitalia in lateral view.

1 %, Todoroki, Amami-Oshima Is., 12 VII 1961, Т. NAKAOKA leg. Specimen examined: 1 ♀, the same data as holotype.

The new species differs clearly from all the other known *Stilicoderus*-species in having the fourth tarsal segments such as those of *Stiliderus* Motschulsky. And it is somewhat allied to *Stilicoderus pendleburyi* Cameron from Malaysia in color and size, however, easily separated from the latter in having the punctures of head coarser the penultimate segment of antennae, pronotum and also elytra broader. On the character of the fourth tarsal segments it is similar to *Stiliderus nitidipennis* Bernhauer from Philippines, but may be distinguished from the latter by the narrower head, the larger body in size, and the posterior margin of the seventh tergite which is not "mit einem weissen Hautsaum".

Two New Species of the Genus *Onthophagus* LATREILLE from Taiwan and the Ryukyu Archipelago (Coleoptera, Scarabaeidae)

By TERUO OCHI

In this paper the author deals with two new species of the genus Onthophagus Latreille collected from Taiwan and the Ryukyu Archipelago.

Before going further, the author wishes to express his hearty thanks to Dr. Yoshihiko Kurosawa who gives him constant guidance and provided an opportunity to examine many type specimens of Nomura's Collection preserved in the National Science Museum of Tokyo. Special thanks are also due to Mr. Yoshikazu Miyake and Dr. Shuji Okajima of Tokyo University of Agriculture, and Mr. Yorio Miyatake and the late Mr. Isamu Hiura of Osaka Museum of Natural History, for their kind advices.

The author is also indebted to following Messrs. Taichi Shibata, Koichi Sugino, Kiyoshi Matsuda, Masao Tôyama, and Kimio Masumoto, for their kind assistance in this study.

Onthophagus (Strandius) hiurai sp. nov. (Figs. 1 & 2)

Onthophagus (Strandius) gagates: No-MURA, 1973, Ent. Rev. Japan, 25:41, 47; MASUMOTO, 1976, Elytra, 4(1):

Length: 13.6-16 mm.: breadth: 6.8-9.5 mm.

Body black, less shiny; palpi, antennae, and tarsi blackish brown; abdominal sternites with two small faint reddish brown spots on each side; dorsal surface almost glabrous on head and pronotum, sparsely clothed with short blackish brown hairs on elytra and pygidium.

Male: Head subpentagonal, broader than long (3.6: 3.3); clypeal margin roundly produced into a

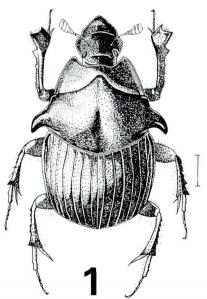


Fig. 1. Onthophagus (Strandius) hiurai sp. nov., \Diamond . Scale: 2.0 mm.

strongly reflexed lobe at middle, with sides slightly expanded before clypeo-genal junctions; genal margin rounded, moderately prominent; clypeal suture distinctly carinate, feebly procurved or obtusely angulate at middle, and conjointed with genal suture at margin; vertex with a rather short transverse carina, which is also weakly procurved or obtusely angulate at middle; surface closely, coarsely, somewhat rugosely punctate on clypeus and on frons, very closely on genae, sparsely so on vertex which is becoming microgranulose.

Pronotum broader than long (8.9: 5.9 including lateral projections), with subhexagonal disc posteriorly elevated; frontal margin bisinuate, with front angle strongly produced, rounded at tip; lateral margin nearly straight or gently rounded in front, and sinuate behind; basal margin obtusely angulate at middle; subhexagonal disc with front and sides abruptly declivous, and very feebly, longitudinally impressed at middle, with frontal edge strongly produced at middle, and with sides strongly projected obliquely backward as a hooked and curved process far beyond lateral margin in major male, less projected and less hooked in minor male; lateral declivity shallowly hollowed along base; surface microgranulose, moderately strongly and rather densely punctate on subhexagonal disc, except for median part and upper edge of declivity where are sparsely punctate and slightly lustrous, shallowly, densely so in front and at sides.

Elytra wider than long (8.3:5.1), finely and shallowly striate; striae

indefinitely and feebly punctate, bearing fine ridges; intervals almost flat, microgranulose, rather sparsely, rugosely punctate; microgranules melted into satiny surface on humeral callus, apical angles, and sutural intervals.

Metasternum shiny, sparsely, shallowly and finely punctate in middle, sparsely and coarsely so in front and at sides; each abdominal sternite microgranulose, with a transverse row of small punctures which is becoming coarser near sides. Pygidium weakly convex, margined at base, microgranulose, and sparsely punctate. Front tibia strongly dilated at apex, with the first and third teeth somewhat small, the second very large, and the fourth small.

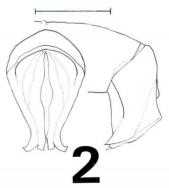


Fig. 2. Male genitalia of Onthophagus (Strandius) hiurai sp. nov. Scale: 1.0 mm.

Female: Head slightly broader than long (3.5 : 3.3); clypeal margin scarcely reflexed, with sides not expanded; clypeal suture strongly

carinate, well procurved, conjointed with genal suture rather far from margin; vertex with a carina strongly elevated, slightly longer than that of male. Pronotum broader than long (7.1:5.4), with lateral margin broadly rounded in front, and sinuate behind; sides bearing two tubercles, placed behind half. Front tibia normal, not strongly dilated at apex. Otherwise like male.

Holotype: \Diamond , Sunkang, Nantou Hsien, 6 Aug. 1968, leg. T. Kobayashi. Allotype: \wp , Fengchifu, Chiai Hsien, 18 Aug. 1969, leg. T. Kobayashi.

Distribution: Taiwan.

Note: O. gagates has been recoded by some authors from Taiwan, but the probability of distribution is very questionable. They might have been perhaps the present species. This species is nearly allied to gagates from India to China, but differs from the latter as follows: 1) The body is larger; 2) the punctures of pronotum are larger and stronger; 3) the subhexagonal disc of pronotum and elytral intervals are distinctly microgranulose and less shiny. In the male, the clypeal suture is not so strongly procurved as in gagates, consequently it extended to the clypeo-genal junction at the margin. The lateral projections of the pronotum are well developed and strongly hooked.

Onthophagus (Indachorius) suginoi sp. nov. (Figs. 3 & 4)

Length: 4.5-5.8 mm.; breadth: 2-2.7 mm.

Body shining black; head and pronotum with coppery or bronzy green reflection; mouth parts, palpi, anterior parts of head and of pronotum, and legs reddish brown; antennal foot-stalks and tarsi light brown; antennal clubs yellowish red-brown; surface sparsely clothed with conspicuous long erect yellow hairs, which are shorter and sparser on head. Elytra decorated with testaceous markings as follows: A transverse band at base extending from the second intervals to lateral margins and constricted or interrupted on the fifth and eighth intervals; rather small round spot placed near middle of lateral margins; another triangular apical patch situated from the second interval to lateral hind angle.

Male: Head broader than long (1.4: 1.2); clypeal margin produced, reflexed in front, and truncate or feebly excised at middle; clypeal suture carinate, well procurved, and conjointed with genal suture far from margin; genal suture also carinate, and converging posteriorly; in major male, vertex produced backward as a prolonged lamina at middle, whose posterior angles sharply toothed, and with a long cylindrical slender horn between them; in minor male, the lamina reduced to a short

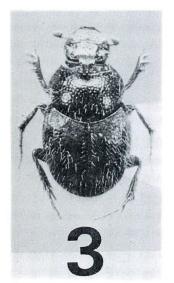


Fig. 3. Onthophagus (Indachorius) suginoi sp. nov.,

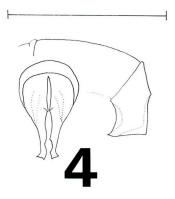


Fig. 4. Male genitalia of Onthophagus (Indachorius) suginoi sp. nov. Scale: 1.0 mm.

transverse carina; surface sparsely, coarsely, somewhat rugosely punctate on clypeus, densely on genae, shallowly so on frons.

Pronotum broader than long (2.4:1.7); frontal margin bisinuate, with front angle sharply produced; lateral margin straight in front, and sinuate behind; basal margin evenly rounded, and finely margined; surface densely, evenly and coarsely punctate, and sparsely, vaguely punctulate between punctures; in major male, anterior part with a rather broad depression at middle, the depression sparsely and finely punctate.

Elytra broader than long (2.3: 2.9), shallowly crenate-striate, with strial punctures moderately strong; intervals feebly convex, lustrous, and weakly rugose; the sutural and second intervals punctate with single longitudinal row of indefinite punctures; the third to seventh with double rows of similar punctures; the eighth with three irregular rows of ones.

Metasternum coarsely punctate; the punctures sparse in middle, dense around all margins. Abdominal sternites sparsely punctate at middle, densely so on sides, with one or two rows of punctures along basal margins except for last sternite, which is densely and coarsely punctate. Pygidium gently convex, coarsely and evenly punctate.

I egs slender. Front tibia rather elongate, weakly incurved at apex,

with three acute external teeth; the first tooth slightly longer than the second; the third small; rest of outer margin serrate.

Female: Head with a pair of tubercles separated by a fine ridge on vertex; transverse wrinkles of clypeus stronger than those of male. Front tibia rather stout, with four external teeth; the fourth tooth very small, barely recognized. Otherwise like male.

Holotype: 3, Mt. Yonaha, Okinawa Is., 1 Aug. 1975, leg. K. Sugino.

Paratypes: $3 \, \diamondsuit \, \lozenge \, 1 \, \diamondsuit$, the same data as the holotype; $3 \, \diamondsuit \, \lozenge \, 2 \, \diamondsuit \, \diamondsuit$, ditto, 23 Oct. 1982, leg. T. Mizunuma.

Distribution: Okinawa Is.

Note: This new species is allied to *O. koshunensis* Balthasar from Taiwan, but can be distinguished from it by the following characteristics: 1) The eyes are large, and the interspace between them is distinctly shorter than four times as long as the width of one eye, while in *O. koshunensis*, they are small, and the interspace between them is more than five times as long as the width of one eye; 2) the second interval of elytra has single row of punctures, while in *O. koshunensis*, that has double rows of punctures. In the male, the front tibia is elongate and slender, and bears three distinct external teeth, while in *O. koshunensis*, it is rather stout, and often bears four external teeth.

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A New Tenebrionid Beetle from Taiwan (Coleoptera, Tenebrionidae)

By Kiyoshi Ando

In this paper, I propose to describe a new *Aptereucyrtus* species from Lanhsu Is., Taiwan. I wish to express my appreciation to Mr. Taichi Shibata for his constant guidance and helpful suggestion in my study. Thanks are also due to Mr. M. T. Chûjô, Mr. S. Hisamatsu, Mr. M. Miyatake, Mr. Y. Miyatake, the late Mr. I. Hiura, Mr. M. Ohkura, Mr. K. Masumoto, Dr. M. Yoshida and the members of the Osaka Coleopterological Society for their kind assistances in literature and various ways.

Aptereucyrtus shibatai sp. nov. (Fig. 1)

Male. Body strongly biconvex above in lateral view, faintly shining and elytra with a faint brassy or aeneous tinge; black, ventral side, femora and tibiae sometimes reddish, labrum, mouth parts, palpi, antennae and tarsi dark reddish brown.

Head subhexagonal, nearly flat, widely and shallowly emarginate at apex, gently rounded from before eyes to apex at sides, distinctly separated front and hind areas by clearly impressed clypeal suture, front area inclusive of rised genae finely punctured, but the punctures closer along clypeo-apical margin, on hind area those behind clypeus larger and much more compact than at the rest; eyes rather small, constricted behind as usual, space between them about 1.8 times as

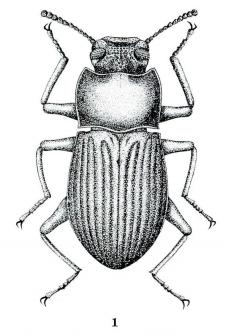


Fig. 1. Aptereucyrtus shibatai sp. nov.

wide as transverse diameter of eye; ocular-sulci deepened internally, and not extended ventrally. Antennae long and slender, fully beyond the middle of pronotum, 2nd segment shortest, 6th to 11th widened and forming a loose elongate club, each subtriangular except subquadrate 11th. Labrum transversely oblong, weakly rugose and sparsely punctured, with long and dense yellowish pubescence along apex. Each mandible with a small subapico-ventral notch. Terminal joint of maxillary palpi securiform. Mentum obtrapezoidal, with long sparse pubescence, shallowly depressed on both sides of a median longitudinal keel.

Pronotum about 1.4 times as wide as long, widest at the middle, from which sides arcuately narrowed anteriorly and slightly sinuately so posteriorly; apical side emarginate, weakly bordered except median part, basal side slightly bisinuate, and weakly produced behind at the middle, distinctly and entirely bordered as on lateral sides; apical angles produced but blunt at tip, basal ones rectangular; disc strongly and transversely convex, finely and closely punctured, but the punctures much smaller and sparser laterally. Scutellum small, triangular and impunctate.

Micropterous. Elytra strongly convex, oblong-oval, about 1.5 times as long as wide, scarcely wider at base than pronotal base; sides arcuately narrowed posteriorly from the widest point at the middle; striae fine and shallow, their punctures coarse, but minuter and closer on apical steep declivity; intervals minutely obscurely punctured throughout and moderately convex, but a little more convex on apical declivous area and lateral sides; scutellary strioles obsolete.

Prosternum sparsely rugose and coarsely punctured, its process convex between coxae in lateral view, shallowly depressed along middle,

horizontal and pointed at apex; propleura glabrous. Mesosternum sparsely yellowish pubescent as on prosternal process, and rugosely punctured, with usual V-shaped ridge, its basal angles rounded. Metasternum finely, rather sparsely punctured, more closely so medially and laterally. Basal two sternites with sparse yellowish pubescence along middle, punctures of which a little larger and closer than those on apical three; anal sternite evenly flat and rounded at apex, more or less depressed subapically.

Legs long and slender, minutely and moderately punctured; femora tumid medi-



Fig. 2 Male genitalia of Aptereucyrtus shibatai sp. nov. a, lateral view; b, dorsal view.

ally; tibiae shorter than femora, with a pair of terminal mucrones at each inner side, front tibiae slightly incurved at apical third, where densely pubescent as like as on each inner apical side of middle and hind tibiae; tarsi simple, hardly dilated apically, beneath with dense, long and yellowish pubescence, of terminal segments much sparser, ratio in length of tarsal segments as follows: Front tarsi 5:3:3:2.5:14, middle tarsi 7:4:3:3:14, hind tarsi 12:5:4:14.

Male genitalia fusiform (Fig. 2), acuminate at apex, and ventrally at apical fifth strongly but the rest gently curved in lateral view.

Female. Elytra with a very slight purple tinge. The 1st and basal half of 2nd sternites glabrous, feebly and longitudinally rugose, anal sternite distinctly grooved along apical margin. Terminal segment of middle tarsi more than twice as long as 1st, in \circ twice as long as 1st.

Length: 11.0-13.0 mm. Width: 4.5-5.5 mm.

The present species is very closely allied to *A. hemichalceus* Gebien, 1921 from Philippines, but according to the original description it can be distinguished from the latter by the following points: The antennae are longer, fully beyond the middle of pronotum, the elytra is a little longer and slimmer, whose widest point is situated just at the middle, and the punctures of pronotum are irregular instead of being equal in size.

New Coprophagous Lamellicornia from Japan and Formosa (I)

Ву Кіміо Маѕимото

In this paper, 2 Japanese and a Formosan species of the genus *Bolbelasmus* (Bolboceratini), 2 Formosan species of the genus *Onthophagus* (Onthophagini), and a Japanese species of the genus *Psammodius* (Psammodiini) are newly described.

Dr. Yoshihiko Kurosawa of the National Science Museum, Tokyo (Natural History), gave me an opportunity to examine specimens allied to *Bolbelasmus coreanus* (Kolbe) and allowed me to describe the series of the new species, and Dr. Shun-Ichi Uéno of the Museum extended me kind aid and advice during the course of this study. Mr. Atsuo Izumi offered the *Bolbelasmus* specimen which he captured on Ishigaki Is., and Mr. Taichi Shibata permited the loan of the specimen of the genus of Amami Is. and allowed me to describe the new species. Messrs. Shigeaki Kondo and Kazuhiro Sawada offered specimens of *Psammodius* which they found on Ishigaki Is. and Iriomote Is., and Mr. Masaaki Ishida allowed me to borrow the species hitherto known of the genus with which I could compare the new one. Mr. Toshitsugu Endo drew the fine illustration inserted. I would like to express my deep gratitude to the above persons for their continuous support and encouragement in my study.

Tribe Bolboceratini

Bolbelasmus ishigakiensis sp. nov.

Reddish brown, with head, margins of pronotum and elytra, pair of spots on both sides of pronotum blackish brown, underside of body and antennae lighter in color, hairs on undersurface, antennae and legs yellowish brown; strongly shining above. Broadly oval; strongly convex above.

Male: Head transverse, rather moderately closely micropunctate (punctures visible in $\times 10$); clypeus somewhat broad subhexagonal, coarsely and irregularly punctate, feebly wrinkled anteriorly, weakly raised in middle, with outer margin reflexed, straight in front, oblique laterally, shortly subparallel posteriorly, pointed near base; genae rather wide but short, bordered from frons by low ridge, broadly depressed in middle, scattered with coarse punctures, outer margin subrectangular with rounded corner, and slightly reflexed; frons transverse and broad, scattered

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with large and small punctures, these becoming sparser posteriorly, softly depressed laterally, armed with conical horn just at middle; eyes large and exceeding genae laterally.

Pronotum also transverse; front border feebly arcuate posteriad, slightly sinuate at each side, rather thickly margined in median half;

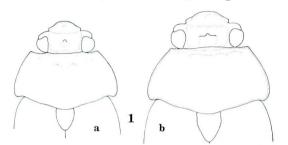


Fig. 1. Bolbelasmus ishigakiensis sp. nov. a, ℰ; b, ♀.

basal border widely arcuate posteriad, weakly and roundly produced in median $\frac{1}{5}$, feebly sinuate at each side, basal margin disappeared in median half, with short row of punctures just opposite scutellum; lateral margins widely arcuate oblique-laterad and margined; front angles obtusely angulate; hind angles widely rounded; disk strongly convex, microscopically punctate (visible in $\times 8$), scattered with strong punctures in anterior and lateral portions, those closer and coarser laterally, feebly alutaceous in antero-lateral portions, weakly impressed at middle on both sides, abruptly declined along front border, with 2 pairs of gibbosities along upper edge of declivity, outers set former, and with pair of shallow excavations each between inner and outer gibbosities. Scutellum large, ligulate, evenly micropunctate.

Elytra with 14 fine punctate-striae; strial punctures small, separated in 2-3 times their diameter longitudinally; 8th stria not reaching to base of elytron, 9th and 14th, 10th and 12th, and 13th and 14th connected with each other anteriorly, 11th shortened, 2nd stria not reaching apical margin, 4th and 6th, 7th and 9th, 10th and 12th, 13th and 3rd, and 14th and 1st connected, and 5th, 8th and 10th shortened posteriorly; intervals moderately convex, rather sparsely micropunctate (visible in $\times 20$).

Metasternum roundly glabrous in middle, coriaceous and haired in remaining portion, with fine median groove. Abdomen also coriaceous, with dense, long hairs.

Upper terminal spur of metatibia as long as 2 basal and half of 3rd tarsal segments combined.

Female: Frons with transverse carina in middle, carina having 3 tubercles, of which median is most prominent and subconical, 2 others

blunt and placed at each end of carina; pronotum with transverse, feebly bisinuate ridge in median ¼ along front border.

Body length: ca. 12 mm.

Holotype: ∂, Bannadake, Ishigaki, Ryukyu Is., Japan, 8. VI. 1982, A. Izuмі leg.; paratype: 1 ex., Bannadake, 16. V. 1974, H. Макінака leg.

This new species resembles *Bolbelasmus coreanus* (Kolbe) from Korea, but is easily distinguishable from the latter in having the following characteristics: Clypeus subhexagonal with pointed edges posteriorly; outer margin of gena subrectangular;

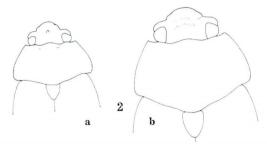


Fig. 2. Bolbelasmus coreanus (Kolbe). a, ♂; b, ♀.

eyes exceeding genae laterally; front border of pronotum more thickly margined medianly; scutellum clearly broader; elytral striae finer but deeper with more closely set punctures; arrangement of conical horn on frons and shape of gibbosities on pronotum different in male; shape of ridge and frontal declivity on pronotum different in female.

Bolbelasmus shibatai sp. nov.

Reddish brown, with margins of head, pronotum and elytra, and spots on both sides of pronotum blackish brown, antennae and undersurface of body lighter in color, hairs on undersurface, antennae and legs yellowish brown; moderately shining above. Broadly oval; strongly convex above.

Male: Head transverse, sparsely micropunctate (punctures visible in $\times 10$); clypeus somewhat trapezoid, coarsely and rather closely punctate, feebly raised in middle, with outer margin weakly ridged; genae transverse, moderately sloping antero-laterad, rather coarsely and closely punctate, outer margin subrectangular with rounded corner and slightly reflexed; frons transverse and broad, scattered with round punctures in anterior half, almost impunctate posteriorly, armed with conical horn at anterior $\frac{1}{3}$ medianly; fronto-clypeal border nearly straight and weakly ridged, slightly produced in median half; eyes large and exceeding genae laterally.

Pronotum also transverse; front border widely arcuate posteriad,

feebly produced forward in median half, bisinuate at each side, nearly evenly margined; basal border produced posteriad in wide V-shape with rounded apex, slightly sinuate at each side, margin disappeared in median half; lateral margins roundly narrowed forward, narrowly margined; front angles rectangular; hind angles widely rounded; disk strongly convex, rather sparsely micropunctate (visible in $\times 15$), scattered with round, strong punctures laterally, shortly and abruptly declined toward front

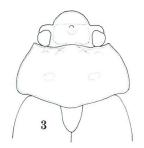


Fig. 3. Bolbelasmus shibatai sp. nov., 3.

border, with spot-like impressions after middle and near lateral margins, and longitudinal excavations declined forward in anterior $\frac{2}{5}$ with pair of low gibbosities at each inner edge. Scutellum fairly large and ligulate, sparsely micropunctate.

Elytra with 14 punctate-striae, these becoming shallower posteriorly; strial punctures notching intervals, distance between punctures 1.5–3 times their diameter; 8th stria to 14th not reaching to base of elytron, 10th and 12th connected to each other anteriorly, 11th shortened, 13th and 14th faded near base, 1st, 3rd, 13th and 14th reaching to apex, 1st and 14th, 3rd and 13th, 4th and 7th, 5th and 6th, 7th and 8th, and 10th and 12th connected apically; intervals moderately convex and almost impunctate.

Metasternum coriaceous, subcordately raised in middle and roundly flattened and glabrous, with fine median groove. Abdomen also coriaceous, rather densely haired.

Upper terminal spur of metatibia a little longer than 2 basal segments of metatarsus combined.

Body length: 10 mm.

Holotype: \Diamond , Sato, Amami, Satsunan Is., Japan, 24. VIII. 1961, Y. Susumu leg. The new species somewhat resembles the preceding new one, but is easily distinguishable from the latter by its shape of clypeus, arrangement of the frontal horn, and gibbosities and excavations on pronotum (see figs. 1, 3).

Bolbelasmus kurosawai sp. nov.

Reddish brown, with margins of pronotum and elytra, vague spots on both sides of pronotum darker, undersurface lighter in color, abdomen yellowish brown, hairs on undersurface, antennae and legs yellowish; strongly shining above. Broadly oval; strongly convex above.

Female: Head transverse, rather sparsely micropunctate (punctures visible in $\times 15$), weakly alutaceously anteriorly; clypeus somewhat trapezoid with rounded sides, coarsely and closely punctate, rather transversely

wrinkled, very feebly raised in middle, with outer margin slightly reflexed, widely produced forward, very shortly subparalleled near base; genae weakly declined laterad, depressed in anterior half, coarsely punctate,

with outer margin weakly reflexed, nearly straight in front and rounded laterally; frons transverse and broad, coarsely and rather closely punctate, nearly impunctate posteriorly, armed with transverse carina in middle, carina having 3 tubercles, of which median is most prominent and transverse, 2 others rather subconical and placed at each end of carina; fronto-clypeal border and fronto-genal ones ridged; eyes large, exceeding genae laterally.

Pronotum also transverse; front border weakly arcuate posteriad, feebly produced forward median $\frac{2}{5}$, slightly sinuate at each

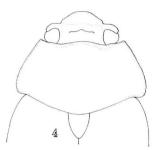


Fig. 4. Bolbelasmus kurosawai sp. nov., ♀.

side, almost evenly and finely margined; basal border produced posteriad in wide V-shape, weakly sinuate at each side, margin disappeared between areas opposite of 7th striae in median $\frac{3}{5}$, with few punctures in row opposite scutellum; lateral margins roundly narrowed in basal half, then sublinearly so to front, margined; front angles rather acutely angulate; hind angles widely rounded; disk strongly convex, rather evenly micropunctate (visible in $\times 10$), scattered with large and strong punctures, these becoming coarser and closer laterally, almost impunctate in middle and posterior portions, abruptly declined and almost impunctate along front border, upper edge of this declivity shortly sublinear in median half and bisinuate at each side in dorsal view, faintly impressed at middle on both sides near lateral margins. Scutellum ligulate, sparsely micropunctate.

Elytra rather finely punctate-striate; strial punctures small but noticeably notching intervals, distance between punctures 2--3 times their diameter; 8th stria, 11th and 13th clearly not reaching to base, 9th, 10th, 12th and 14th extending near base, 10th and 12th connected with each other anteriorly, 1st and 14th reaching apical margin, 2nd, 5th, 8th and 11th shortened, 3rd and 13th, 4th and 6th, 7th and 9th, and 10th and 12th connected apically; intervals weakly convex above, sparsely micropunctate (visible in $\times 25$).

Metasternum transverse-subrhombicly raised, weakly alutaceous and long-haired, subcordately glabrous in postero-median, with fine median line. Abdomen coriaceous, rather densely haired.

Outer teeth of protibia rather acute; upper terminal spur of metatibia as long as 2 basal and half of 3rd tarsal segments combined.

Body length: 11 mm.

Holotype: \mathcal{P} , Central Formosa, 1967 (no detailed data, captured by a native collector).

This new species is allied to *Bolbelasmus coreanus* (Kolbe), but is distinguishable from it in following points: Head more coarsely punctate and wrinkled; genae slightly extended antero-laterad; eyes exceeding genae; frons more transverse and punctures comparatively sparser and almost impunctate posteriorly, with transverse carina clearly longer. Pronotum more strongly narrowed forward; front border more strongly produced medianly; front angles noticeably acute; lateral margins more clearly canaliculate; disk more sparsely punctate, punctures smaller. Scutellum narrower. Elytra with finer punctate-striae, punctures in them consistantly set. Outer teeth of protibia more acute. Interprocoxal space not ridged like *B. coreanus*, but only convex.

Tribe Onthophagini

Onthophagus (s. str.) hajimei sp. nov.

Blackish brown, with mouth parts, antennal stalks, tarsi more or less reddish yellow, each elytron with testaceous bands (basal one extends

from 1st stria to lateral margin and is always interrupted at 5th interval, smaller one from 1st stria to inner ½ of 4th interval at apical ⅓) and spots across 4th stria and from 6th interval to 8th along apical edge; surfaces of body distinctly bearing yellowish hairs; moderately shining and with coppery luster on head and pronotum. Body broadly oval and fairly strongly thickened.

Male: Head semicircular; clypeus rather closely punctate, scattered with larger punctures among smaller ones, very sparsely haired laterally, feebly raised along fronto-clypeal border, with outer margin weakly reflexed above and conspicuously so in front; genae also punctate and more noticeably haired, punctures a little

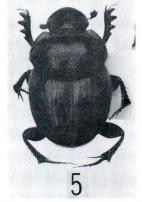


Fig. 5. Onthophagus hajimei sp. nov., \Diamond .

larger than those on clypeus, with outer margin obtusely produced laterad; frons rather finely punctate like posterior portion of clypeus; vertex with short, slightly postero-arcuate, transverse carina connecting genal sutures.

Pronotum transverse, rather closely punctate, punctures distance about 1.5–2 times their diameter each, scattered with small punctures among larger ones, especially distinct anteriorly, bearing bent hairs throughout except glabrous areas near hind angles, hairs surrounding these areas

denser and longer than those in remaining portion; front border slightly arcuate in median $\frac{3}{4}$ and roundly curved forward at each side; basal border widely arcuate posteriad; lateral margins strongly produced laterad; front angles subrectangular; hind angles obliquely truncate; disk strongly convex, abruptly declined in front, shallowly grooved medianly, groove becoming broader in front, thus presenting narrow declivity in anterior $\frac{1}{4}$ 3.

Elytra finely and shallowly crenate-striate; intervals nearly flat and feebly microreticulate with isodiametric meshes, scattered with setiferous, microscopically granular punctures, these rather regularly arranged in 3–4 rows on each interval.

Pygidium weakly convex, closely punctate, rather densely haired. Metasternum scattered with punctures and haired, punctures closer and hairs longer laterally. Abdominal sternites with row of setiferous punctures along each base, setae longer laterally.

Protibiae weakly curved inward, with 4 outer teeth, of which each apex is rounded. First segment of metatarsus fairly long, approximately 3/5 times length of metatibia, 1.3 times length of 4 following segments combined, nearly same length as terminal spur.

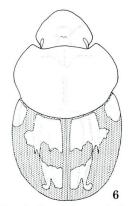


Fig. 6. Onthophagus hajimei sp. nov., $^{\circ}$.

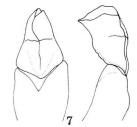


Fig. 7. Male genitalia of Onthophagus hajimei sp. nov.

Female: Compared with male, head more strongly and rugosely punctate, with 2 noticeable carinae, former on fronto-clypeal border forward-arcuate, latter on vertex very slightly forward-arcuate and shorter but more conspicuous than former; pronotum less strongly thickened, with less distinct median groove.

Body length: 6.0-8.5 mm.

Holotype: ∂, Kenting, Pingtung Hsien, Formosa, 2. IV. 1979, К. Маѕимото leg.; paratypes: 8 exs., same data as the holotype.

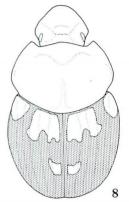
This new species somewhat resembles, especially in female, Onthophagus (s. str.) sobrius Balthasar from China, but differs from the latter in the following points: Body more densely haired; basal bands on elytra always interrupted at 5th intervals and posterior bands more distinct; head with short transverse carina on vertex in male (in case of $O.\ sobrius$ armed with small conical protuberance); pronotum rather simply, abruptly declined anteriorly with narrow declivity in anterior 1/3.

Onthophagus (s. str.) setchan sp. nov.

Blackish brown, with anterior portion of head, legs and large part of prosternum lighter in color, mouth parts, antennal footstalks and gula rather reddish brown, elytron with testaceous band at base, which extends from 1st stria to lateral margin but always interrupted at 5th interval, also usually with spot across 2nd stria at apical 1/3, and with small spots across 4th stria, 6th and 7th along apical edge; each surface of body distinctly bearing yellowish hairs; moderately shining, with very feeble coppery luster on forebody and proepisternum. Broadly oval; rather strongly thickened.

Male: Head semicircular; clypeus rather evenly and closely punctate, scattered with larger punctures and sparsely haired laterally, slightly raised along fronto-clypeal suture, with outer margin feebly reflexed above, rather strongly so in front; genae dilated obtusely produced laterad, more coarsely punctate than clypeus; frons rather evenly punctate like posterior portion of clypeus; vertex with short, straight, transverse carina connecting genal sutures.

Pronotum transverse, closely punctate, punctures distance about their own diameter each. scattered with small punctures among larger Fig. 8. Onthophagus setchan ones anteriorly, former approximately 1/4 of



sp. nov., 3.

latter in size, rather densely haired, hairs surrounding glabrous areas near hind angles noticeably longer than those in remaining portion; front border slightly produced in median 3/3 and roundly curved forward at each side; basal border widely arcuate posteriad; lateral margins rather strongly produced laterad; front angles a little acute; hind angles truncate and slightly sinuate; disk strongly convex above and softly flattened, fairly abruptly declined anteriorly, with shallow parabolic declivity in anterior $\frac{2}{5}$ and narrower one in basal $\frac{2}{5}$ medianly.

Elytra finely and shallowly crenate-striate; intervals nearly flat and microreticulate with isodiametric meshes, with setiferous, microscopically granular punctures, those rather irregularly arranged.

Pygidium weakly convex, rather coarsely and closely punctate, fairly densely haired. Metasternum nearly glabrous rather broadly in middle, with median groove, punctate and haired laterally. Each abdominal sternite with row of setiferous punctures along base, setae becoming longer laterally.

Protibiae weakly incurved with 4 strong outer teeth. First segment of metatarsus fairly long, about \(^{3}\)5 times length of metatibia, 1.2 times length of 4 following segments combined, nearly same length as terminal

spur.

Female: Compared with male, body less thickened; head more coarsely punctate, transversely wrinkled anteriorly, with 2 noticeable carinae, former on fronto-clypeal border low and arcuate forward, latter on vertex short and nearly straight; pronotum more coarsely and closely punctate, more shortly declined in front, with faint oblong depression at anterior 1/3 and shallow groove in posterior half medianly; outer teeth of protibia more obtuse.

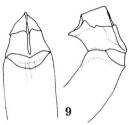


Fig. 9. Male genitalia of Onthophagus setchan sp. nov.

Body length: 7.4-8.4 mm.

Holotype: 8, Fenchihu, Chiayi Hsien, Formosa, 7-8. VII. 1965, Y. Kurosawa leg.; paratypes: 1 ex., same data as the holotype; 2 exs., Fenchihu, 12. VIII. 1975, 3 exs., Fenchihu, 25. VI. 1982, К. Маѕимото leg.; 1 ex., Pihu, Nantou Hsien, Formosa, 10 VIII. 1977, К. Маѕимото leg.; 25 exs., Fenchihu, 7. VII. 1974, Т. Осні leg.

This new species closely resembles the preceding new one, but is distinguishable from the latter in the following characteristics: Body darker, with testaceous bands and spots on elytra narrower and smaller (see figs. 6, 8); less metallically shining; hairs on surfaces of body finer. In male, head more strongly produced laterad, rather evenly punctate; pronotum more transverse, front angles more acute; disk more closely punctate, with anterior declivity broader and impunctate in middle, posterior groove also broader; pygidium more coarsely punctate; outer teeth of protibia more acute. In female, 2 carinae on head shorter, more apart from each other, with hind one straight.

NOMURA (1973) recorded O. (s. str.) sobrius BALTHASAR from Formosa, but it is this new one.

Tribe Psammodiini

Psammodius kondoi sp. nov.

Reddish brown, with large part of pronotum blackish brown, antennae and undersurface of body paler; moderately shining. Oblong oval, strongly convex above and postero-laterad, feebly constricted between fore and hind bodies. Brachypterous.

Head strongly convex above and somewhat forward, feebly alutaceous, rather closely granular in anterior half, granules rounded anteriorly, becoming larger and rather oblong posteriorly; clypeus shallowly emarginate in wide V-shape in anterior margin with each side obtusely rounded, lateral margins weakly arcuate antero-laterad and clearly notched before genae; fronto-clypeal suture invisible; genae prominent, rather auriculate, with outer margin feebly reflexed and ridged posteriorly, ridge extending to inner portion of eye, gouged along ridge; eyes very small; vertex with pair of oblique, short, low ridges surrounded with shallow grooves.

Pronotum transverse, roundly and steeply declined laterally, margined with row of coarse punctures and fringed with bifurcate setae along lateral and basal margins; front border feebly arcuate forward; basal border widely produced posteriad; lateral margins rather shortly arcuate laterad, serrate in anterior half; disk feebly alutaceous, with 5 transverse ridges and 4 grooves, former rather

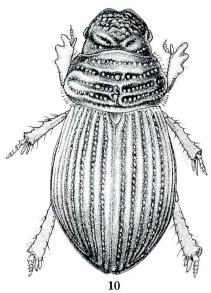


Fig. 10. Psammodius kondoi sp. nov.

smooth and scattered with microscopic punctures and interrupted in basal 2 ridges by median groove, which often extends to 3rd ridge, latter with row of coarse punctures. Scutellum triangular with rounded sides, smooth.

Elytra convex above and postero-laterad, remarkably narrower than pronotum at base, broadest at basal $\frac{3}{5}$; elytral suture connate; basal margin margined; humeral teeth indistinct; lateral margins without setae; disk 10 striated, strial punctures small and round, scarcely incised into intervals; intervals moderately convex, smooth, sparsely scattered with microscopic punctures, with 10th intervals short and about $\frac{1}{3}$ of elytral length.

Pygidium alutaceous, transversely and roughly ridged across apical $\frac{2}{5}$, grooved in basal $\frac{3}{5}$ medianly. Metasternum smooth, broadly, rather subrhombicly raised and roundly depressed in middle, truncate and deeply impressed posteriorly, with fine longitudinal median groove. First abdominal sternite and lateral portions of 2nd to 4th weakly alutaceous; anal sternite semicircularly gouged in basal $\frac{2}{3}$ on both sides.

Metatibiae widened to apexes, breadth about as long as 3 tarsal segments combined, with 2 rows of setiferous tubercles on ventral surface, terminal spurs stout, slightly thickened to each apex, upper spur a little shorter than two tarsal segments combined; tarsi short, 4 basal segments dilated to each apex, 5th small and elongate oblong, basal segment as

long as 2 followings combined.

Body length: 2.8 mm.

Holotype: 3, Kabira, Ishigaki, Ryukyu Is., Japan, 4. V. 1977, S. Kondo leg.; paratypes: 2 exs., same data as the holotype; 2 exs., Yoshihara, Ishigaki, 26. II. 1984, K. Sawada leg.; 2 exs., Ôhara, Iriomote, Ryukyu Is., 25. II. 1984, K. Sawada leg.

This new species is easily distinguishable from *Psammodius* species hitherto known from East Asia in having a strongly convex body, connate elytral suture and degenerated hind wings.



Study of Asian Cerambycidae, VI. (Coleoptera)

By Masao Hayashi

In the present paper, eight species of Cerambycinae are here described as new to science from India, Philippines and Taiwan.

The valuable material dealt in the present study is sent for identification by the kindness of Messrs. M. Yagi, H. Nara and K. Matsuda, to whom the present author wishes to express his hearty thanks for their generosity of usual aids and cooperation.

The title of this series was changed from the No. 5 Report from "Studies on" to "Study of" Asian Cerambycidae.

Cerambycinae

Methiini

Oplatocera (Epioplatocera?) khasimontana sp. nov.

Large species; body light brown, covered with light yellowish brown pubescence generally, densely on prothorax and breast. Prothorax with an inverted triangular indistinct dark marking at middle of anterior half of disc. Elytra narrowly margined with dark brown at suture and lateral margins, and decorated with two pairs of dark brown markings and bands which are based obliquely before and behind middle, basal pair of which consisting of an elongate lateral one at basal one fifth of epipleura and a small round discal one at basal quarter on first costa, and hind pair consisting of oblique broad bands running from the middle of lateral margin inward to apical one fifth of suture, but not touching margin and suture. Antennae narrowly annulated with piceous dark brown at apices from third to ninth joints. Apices of femora also piceous dark brown.

Head and antennal scapes intricate-rugulose. Antennae in female nearly as long as body, with no denticulations, but fringes beneath. Prothorax strongly narrowed from a short distance from base to base, and weakly so at apex, sharply tuberculate laterally behind middle; disc with small four callosities in quadrate manner and a median longitudinal

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shining line behind middle, interspaces finely closely intricate-rugulose. Elytra 2.92 times as long as the basal width, almost parallel-sided, slightly narrowed behind base, and narrowed posteriorly from apical quarter to small sharp sutural spines; disc finely intricate-rugulose, with two pairs of oblique costae. Breast and abdomen shallowly finely closely punctured. Legs slender but rather short.

Length, 55 mm., width, 14 mm.

Holotype, \mathcal{L} , Khasi Hills, Assam, Northern India, July, 1978, no further data (YAGI Coll.).

This new species differs from the closest ally, O. (E.) mandibulata MIWA et MITONO from Taiwan, by having larger and lighter body with less distinct and not developed dark brown markings or bands on dorsal surface, and it forms a group with the latter, separated from another group, O. (E.) oberthuri GAHAN, shibatai HAYASHI and chujoi HAYASHI by their larger body and developed prothorax, etc.

Cerambycini

Lachnopterus antigueensis sp. nov. (Pl. 3, fig. 1, \Diamond ; fig. 2, \Diamond)

Body piceous black, elytra light brown, base and lateral portions of basal quarter black, covered with golden yellow appressed long pubescence, in transverse direction.

Head with median longitudinal channel which suddenly divergent posteriorly from the frontal line of eyes, with a longitudinal inverted arrow feather shaped callosity at middle of the divergence on vertex. Antennae 1.32 times as long as body in male, angulate ectoapically from fifth to tenth joints and compressed, eleventh slightly incised dorsally before apex. Prothorax slightly broader than long (ratio, 20:21), distinctly narrowed at apex, then broadened posteriorly before middle and gradually narrowed posteriorly, and narrowly constricted before base; disc convex, covered with black tomentose, furnished with three shining callosities, a pair of which rather small and round medioanteriorly, another longitudinal one at middle which transversely interrupted, and divided the disc with two deep oblique impressions, the interspaces shallowly transversely wrinckled. Scutellum triangular. Elytra 2.15 times as long as the basal width, gradually narrowed posteriorly from base to conjointly rounded apex; disc furnished with three pairs of dull longitudinal carinae. Legs relatively long, femora clavate.

Female: Antennae shorter than body, 0.95 times as long as body. Prothorax broadest at middle. Elytra almost parallel-sided for basal three fourths.

Length, 22 mm., width, 6.5 mm.

This new species differs from the type species of the genus, *L. auripennis* Newman from Luzon, by having light brown elytra covered with golden yellow pubescence (instead of reddish elytra with cinnabar red pubescence), and longer antennae than body in male (instead of shorter antennae even in male).

Lachnopterus sibuyanus sp. nov. (Pl. 3, fig. 3)

This species is closely allied to the former, L antigueensis sp. nov., however, antennae in female fairly shorter than body, 0.92 times as long as body, more thickened apically than in L antigueensis, third joint longer than scape, relative length of each joint is as follows:— 7:1.9:8.2:5:7:8:8:7.5:7:7:9. Prothorax differently relieved on disc. Legs relatively shorter than in L antigueensis.

Length, 18.9 mm., width, 6 mm.

Holotype, ♀, Is. Sibuyan, Philippines, March-July, 1980, P. RIANO leg. (Matsuda Coll.).

Molorchini

Molorchus rufosternalis sp. nov. (Pl. 3, fig. 4)

Body relatively stout; piceous brownish black, covered with white hairs, densely on scutellum, in the form of narrow transverse white pubescent bands at the sides of second to fourth abdominal sternites. Body beneath piceous brownish black, with light red metasternum. Legs piceous brownish black with pale fulvous peduncles of hind femora. Body furnished with blackish brown long hairs and white long hairs intermixed.

Head coarsely irregularly punctured. Antennae 11-jointed in both sexes; 1.8 times as long as body, scapes coarsely punctured; relative length of each joint is as follows: - 3.5 : 1.3 : 4 : 5 : 7.3 : 8.3 : 8.5 : 9 : 8.5:9:10 (appendiculate). Prothorax longer than broad (ratio, 9:7.3), broader at apex than at base (ratio, 6.5: 5.5), weakly constricted behind apex, gradually broadened to postmedian lateral small tubercles, then strongly constricted before base, disc almost impunctate at apical collar, very coarsely reticulately punctured excepting a pair of antelateral pairs of big callosities and a small postmedian one which are shining, and transversely plicate at basal collar. Elytra shorter than the basal width (ratio, male 0.94: 1; female 0.83: 1), anteriorly expanded at humeri, slightly widened posteriorly for a little, then fairly narrowed posteriorly to separately subangulate apices and dehiscent from just behind of middle of suture; disc obliquely arcuately impressed from insides of humeri backward to a little behind of sutural dehiscent point, coarsely sparsely punctured excepting close punctations behind sutural base. Hind femora pedunculate and clavate (ratio, 6.5:8).

Length, 10 mm., width, 2.25 mm.

This new species is somewhat allied to *M. subglabrus* (Gressitt), however, it differs from the latter by having smaller body, relatively shorter antennae and light red metasternum.

Molorchus yui sp. nov. (Pl. 3, fig. 5)

Body piceous brownish black, elytra decorated with a pair of oblique elliptical subtransparent whitish markings at middle of disc. Femora narrowly pale yellowish white basally at front and middle pairs and with long basal pale peduncles and piceous apical clubs of hind pair. Body furnished with white pubescent markings at pronotal base, scutellum, meso- and metasterna, sides of metacoxae, and of first to fourth abdominal sternites, the abdominal ones enlarged apically.

Head finely irregularly punctured. Antennae 1.45 times as long as body in male, 11-jointed, first to fourth shining, fifth to eleventh mat by very fine pubescence; relative length of each joint is as follows:—3.5: 1:4:4:5.5:6:6.5:6.5:6:6.5:6. Prothorax longer than broad (ratio, 9:7), broader at apex than at base (ratio, 6:5), almost impunctate at apical collar and transversely plicate at basal collar, disc with a pair of big lateroapical, and a small postmedian ovate shining callosities, interspaces coarsely irregularly punctured and somewhat densely so on surrounding areas of the callosities. Scutellum densely covered with white pubescence. Elytra longer than the basal width (ratio, 9:8), straightly narrowed posteriorly at sides from behind humeri, and dehiscent posteriorly from behind middle of suture to narrowly rounded apices; disc obliquely impressed from insides of humeri to sutural margins before apical convex portions; disc sparsely irregularly punctured.

Length, 9.75 mm., width, 2 mm.

This new species belongs to *watanii* group and is closely allied in structure to *M. watanii* (Kano), however, it differs from the latter by having larger body and different impunctate shining callosities on pronotal disc and subtransparent whitish elytral markings.

Molorchus semitaiwanus sp. nov. (Pl. 3, fig. 6)

Small and slender species; body dark piceous castaneous brown,

elytra decorated with a pair of ovate white subtransparent markings on premedian sutural portions. Legs lighter, piceous brown, hind femora with whitish peduncles and piceous apical clubs (ratio, 3.5: 3.5). Body scantly furnished with white pubescent markings on abdomen.

Head irregularly punctured. Antennae 1.48 times as long as body, 11-jointed in male, relative length of each joint is as follows:—2:0.5:2.5:2.5:3.3:3.7:3.6:3.3:3.2:2.8:3. Prothorax longer than broad (ratio, 4.5:3), disc with no shining callosity, very coarsely reticulately punctured, with a long suberect hair from each puncture. Elytra longer than the basal width (ratio, 6:4), decorated with a pair of ovate subtransparent whitish markings before middle, very sparsely punctured.

Length, 5.1 mm., width, 1 mm.

This new species is somewhat allied to *M. taiwanus* Hayashi et Matsuda, however, it differs from the latter by having shorter 11-jointed antennae (instead of 12-jointed, 1.8 times in *taiwanus*), smaller body, different subtransparent pale markings on premedian portions of elytra.

Glaphyra jiuyuehtana sp. nov.

Body black, mandibles red with black apices. Elytra decorated with a pair of subtransparent irregularly quadrate whitish markings at middle of sutural sides, the outerbase of which prolonging anteriorly to base. Hind femora with pale peduncles and apical piceous clubs (ratio, 6:8). Body beneath furnished with white pubescent markings at sides of third to fourth abdominal sternites. Antennae in male 11-jointed, 1.62 times as long as body, relative length of each joint is as follows: -3.5: 0.8: 2.8: 3.5: 5.8: 6: 6.5: 6.4: 6.5: 6: 6.8. Prothorax 1.25 times as long as the width between both lateral small tubercles at basal quarter of its length (ratio, 7.5 : 6), narrowly constricted at apex and broadly narrowed at base, disc very shallowly widened posteriorly to basal quarter, with a pair of small ovate and a postmedian elongate central flat callosities, interspaces of which coarsely punctured. Elytra a little longer than the basal width (ratio, 8:7), and slightly longer than prothorax (ratio, 8:7.5), 1.14 times as long as the basal width. Hind femora relatively shortly pedunculate and longly clavate (ratio, 6:8).

Length, 8.38 mm., width, 1.5 mm.

Holotype, \Diamond (Hayashi Coll.); paratypes, $1\,\Diamond$, Jiuyuehtan, Nantou Hsien, Taiwan, May 4, 1981, C. K. Yu leg.; $1\,\Diamond$, Jiuyuehtan. May 9, 1981, C. K. Yu leg. (Nara Coll.).

This new species is somewhat allied to G. lishanensis (HAYASHI) comb. nov., however, it differs from the latter by having longer body (5 mm. in G. lishanensis).

three shining callosities on pronotal disc, instead of five, different quadrate subtransparent markings on elytra and less developed white pubescent markings on abdomen.

Glaphyra liukueiensis sp. nov.

Body almost entirely piceous brownish black with no subtransparent whitish markings on elytra and no pale yellow peduncles of femora. Body furnished with long black and white hairs, and decorated with white long pubescent markings on posterior half of scutellum, behind posterior edges of metasternum and sides of first to fifth abdominal sternites.

Head irregularly punctured. Antennae 11-jointed in male, 1.38 times as long as body, relative length of each joint is as follows:—3:0.8:2.7:3.2:4.7:5.3:5.5:5.4:5.3:5.2:6. Prothorax fairly longer than broad (ratio, 7:5.5), broader at apex than at base (ratio, 5:4.5), constricted before base; disc coarsely reticulately punctured with five shining impunctate callosities, a big oblong pair of which lateroapical, a small elongate one medioposterior and a small round pair laterobasal. Elytra a little longer than the basal width and prothorax (ratio, 8:7), finely very sparsely punctured. Hind femora relatively longly pedunculate and shortly clavate (ratio, 7:6.5).

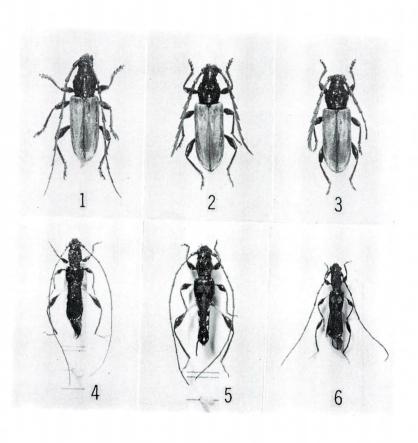
Length, 8.5 mm., width, 1.75 mm.

Holotype, \Diamond (Hayashi Coll.); paratype, $1 \, \Diamond$, Liukuei, Kaohsiung Hsien, Taiwan, May 26, 1982, C. K. Yu leg. (Nara Coll.).

This new species is allied to the former species, G. jiuyuehtana sp. nov., however, it differs from the latter by having the entirely unicolorous body with no pale portions and five discal callosities on pronotum and much developed white pubescent markings on body beneath and on scutellum.

Explanation of Plate 3.

- Fig. 1. Lachnopterus antigueensis sp. nov., 3.
 - 2. Ditto, ♀.
 - 3. Lachnopterus sibuyanus sp. nov, ♀.
 - 4. Molorchus rufosternalis sp. nov., 3.
 - 5. Molorchus yui sp. nov., ô.
 - 6. Molorchus semitaiwanus sp. nov., 3.



Notes on Staphylinidae from Taiwan (Col.), III.

By Yasuhiko Hayashi

Deleaster taiwanensis sp. nov. (Figs. 1-3)

Body stout, weakly shining, covered with rather fine yellowish and sparing pubescence; blackish brown above and paler beneath except for clypeus, labial palpi and tarsi yellowish brown, other mouth parts, antennae and legs reddish brown. Length: 8-9 mm.

Head more than two-thirds as long as wide, a little wider and shorter than pronotum (about 1.1:1 & 1:1.2), coarsely sparingly punctured except for clypeus finely punctured along lateral and basal margins; microsculpture reticulate, weak on vertex but strong on lateral and basal areas: clypeus finely impressed along the middle (in ♀ the median impression indistinct but my examined material may immature); clypeo-frontal suture straight and strongly impressed; dorsal grooves wide but shallow; neck-constriction bearing a small fovea at the middle. Eyes large and their longitudinal diameter about 4 times as long as the length of Antennae slender, moderately long, reaching middle of elytra, with whity ciliae except basal segment; each segment with following ratio as: - 19.0 (5.5):9.0(5.5):17.0(5.5):11.0(6.0):11.5



Fig. 1. Deleaster taiwanensis sp. nov.

 $(6.0) : 14.0 \ (7.5) : 14.5 \ (7.5) : 14.0 \ (7.5) : 14.0 \ (7.5) : 13.0 \ (7.5) : 17.0 \ (7.5).$

Pronotum slightly wider than long (1.14:1), shorter and narrower than elytra (1:2.3 & 1:2), subcordiform, widest at apical one-third,

[[]Ent. Rev. Japan, Vol. XXXIX, No. 1, pp. 91-93, June, 1984]

arcuately dilated in front half and feebly sinuate behind at side, apical side feebly arcuate and basal one straight, basal angles obtusely rounded; disc coarsely sparingly punctured as on head, finely impressed along the middle from apical one-sixth to basal one-third; lateral depressions large but rather shallow, basal one shallow and defined by an oblique raised ridge on each side; microsculpture reticulate, weak on front median area, strong and finely rugose on the lateral depressions and microgranulate on the basal depression.

Scutellum finely rugose, finely sparingly punctured except smooth margins.

Elytra moderately convex, slightly widened apically, nearly as long as wide, feebly impressed along suture, behind shoulders and at center of each elytron, coarsely, closely and weakly punctured, the puncture obscure near apical margin; microsculpture obsolete.

Abdominal tergites sparingly, irregularly and minutely punctured; microsculpture rather weak but distinct on lateral sides of basal 4 segments; apical margin of 8th segment shallowly emarginate at the middle and with several irregular small notches in the emargination. Sternites

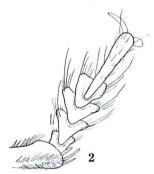


Fig. 2. Left front tarsus of Deleaster taiwanensis sp. nov.



Fig. 3. Male genitalia of

Deleaster taiwanensis sp. nov.
a, ventral view;
b, lateral view.

of abdomen coarsely and sparingly punctured on distinct lineate microsculpture; in \Diamond apical margin of 8th segment truncate and somewhat undulate, in \Diamond weakly arcuate.

Front tarsi in & fairly dilated, simple in \(\psi \).

Male genitalia (Fig. 3) weakly chitinised, slightly asymmetrical and somewhat warped; median lobe membranous along dorso-median line and on apical portion, but its ventral side well chitinised, depressed, deeply bilobed apically, and orifice widely opened apically; paramerae club-shaped, slender, longer than half length of median lobe and curved

dorso-internally at apex.

The new species is well similar to D. yokoyamai Adachi from Japan, but it is easily distinguishable from the latter as followings: — In the new species body larger and darker, clypeal median impression distinctly present at least in \Diamond , neck-

constriction with a distinct small fovea and pronotal basal depression rather smooth, pubescence finer and shorter, but in the latter species body smaller (about 7 mm.) and lighter in coloration, clypeal median impression and a small fovea on neck-constriction entirely absent, pronotal basal depression apparently rough and finely wrinkled, microsculptures on basal area of head and on pronotal depressions much stronger and rougher, but those on vertex and on front median area of pronotum obsolete and indistinct; in the new species median lobe of male genitalia weakly chitinised, its apical portion rather membranous or semitransparently chitinous and its ventral side narrowly and shallowly excised paramerae long, club-shaped and curved dorsointernally, but in the latter species (Fig. 4) median lobe well chitinised, not warped, largely transparently chitinous in apical one-third and its ventral side widely

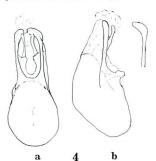


Fig. 4. Male genitalia of

Deleaster yokoyamai Adachi.
a, ventral view;
b, lateral view.

and deeply excised, paramerae shorter than half length of median lobe, clavate and curved only internally at apex.

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第35回 (昭和58年度) 大会記録

第35回大会は昭和58年12月4日午前10時30分から大阪市立自然史博物館において開催された。午前中は例年どおり自由懇談及び甲虫標本の同定にあてられ、それぞれのグループで虫談に花が咲いた。

午後1時から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あった後、記念講演として、黒田祐一氏の"ニューギニアに虫を求めて"並びに渡辺弘之氏の"タイ東北部における食虫習慣について"の講演が、それぞれスライドを混えて行われた。引続き遠山雅夫氏の"世界のタマムシ科の紹介"と題し、翅脈・腹板の形・ゲニタリア等々からタマムシ科の亜科の問題点について私見の発表があり、盛会裡に午後4時すぎ閉会した。

当日の出席者(敬称略・*は懇親会出席者)はつぎのとおり。有本久之・*後藤光男・畑山武一郎・*林 匡夫・林 靖彦・平田信夫・久松定成・*生谷義一・今村隆一・今坂正一・*石田 裕・伊藤 武・*岩崎 博・岩田隆太郎・加藤敦史・河上仁之・木元新作・小林隆裕・黒田祐一・黒沢良彦・*的場 績・松田 潔・水野弘造・森 和夫・中川俊夫・*奈良 一・越智輝雄・大垣誠祥・大平廣士・*大川親雄・*大倉正文・酒井雅博・*佐藤正孝・*佐々治寛之・鈴木 互・高羽正治・武田 滋・滝沢春雄・田村 周・田村 保・*田中昭太郎・*遠山雅夫・豊嶋亮司・渡辺弘之・山地 治・吉原一美・吉川文弘. (大倉)

ムネアカセンチコガネの生態について

和 田 薫

Ecological Notes on *Bolbocerosoma mgroplagiatum* (Waterhouse) (Scarabaeidae, Col.)

By KAORU WADA

はじめに

Bollocerosoma nigroplagiatum (WATERHOUSE) ムネアカセンチコガネは日本・朝鮮に分布するが、国内では灯火に飛来したり、夕刻飛翔中の個体や、または犬糞やキノコ上にいた個体が採集され、報告²⁾⁴⁾⁶⁾ されている。しかし、本種は分布が局地的で、出現期も明らかでなかったことから採集が困難で、従来その生態についてほとんど未知であった。

筆者は1982年に横浜市内で採集された本種を得る機会があり報告⁷⁾したが、その後の調査により本種の生態の一部を明らかにすることができたのでここに報告する.

この報文作成に当り、日頃からご教示を賜わっている石田正明先生、種々助言を賜わった 三宅義一先生、腸内容物を判定していただいた山岡文彦先生、資料収集と生態観察を手伝っ

てくれた 和田泰士君 及び協力して 下さった ご家族の方 方,資料収集をしてくれた細川健一君・松村規正君に深 く感謝する.

調査地域及び方法

1)調査地域の概要

調査地域は神奈川県横浜市の中央部で、瀬谷区と旭区の境界に当る地域である。環境及び植生は、川崎・横浜地区にあっては比較的自然環境が良く保たれており、クヌギ・コナラやスギ・ヒノキの雑木林及び植林地の他に、シラカシやタブ等の自然林も寺社を中心として点在する。また、周辺には畑や草地が多く、数軒の農家には牛が飼われている。調査地は瀬谷区阿久和町で、新幹線と道路を中心にはさんだ両側の地域である。

2)調査地の環境と景観

調査地点 P_1 の環境及び景観は図2のとおりである。 環境は人家の庭で、西側及び北側は宅地化され、東側は

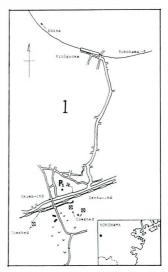


図1. 調査地域.

[昆虫学評論, 第39巻, 第1号, 95-100頁, 1984年, 6月]

草地、つづいて寺社林が接し高台となっているため、南側・東側方向に開けた開放的環境となっている。地質は $5\sim15\,\mathrm{cm}$ の厚さの黒土層の下に $30\,\mathrm{cm}$ 以上の厚さに関東ローム層の赤土が堆積し、その下は砂層となる。関東ローム層の赤土は非常に保水力が高く、地面の湿気は多い

3)調查期間

調査期間は1982年 7 月~1983年10月の間で, 1983年 6 月14日に生息地を確認後,調査地点を P_1 に限定し, 野外観察並びに 海老名市で飼育 観察を行なった.採集方法は灯火誘引及び巣穴

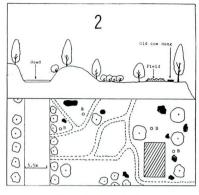


図2. 調査地点の景観.

から掘り出す方法により行なった。また、飼育は水槽及び植木鉢に赤土を入れ、押しかため、その上に古い乾燥牛糞を置いたものを用い、その中に2~3ペアの成虫を放した。飼育用器はすべて野外においた。

成虫の生態

1) 出現期及び活動時間

a) 出現期. 調査地における本種の成虫の出現期は6月上旬~9月上旬までであるが、発

生時期には6月上旬~7月上旬と8月下旬~9月上旬の2つのピークが見られる。

飼育下における成虫の生存期間は約3週間であることから、本種は年一化で比較的長い期間にわたり成虫が出現すると思われる.

b)活動時間.成虫の活動時間は、午後5時以降,夜明けまでで、特に夕暮れ時には活発な飛翔行動が見られる.また、日中は地面に掘った穴の中及び糞塊の下に静止した状態で見い出される.

2) 食性及び習性

a) 食性. 本種の成虫の食物としては, 従来キノコや犬糞が報告されているが, 飼 育下での実験及び観察により, 成虫の腸内 容物の分析結果として植物繊維及び古い乾 燥した牛糞に見られる寄生虫が 検出 され

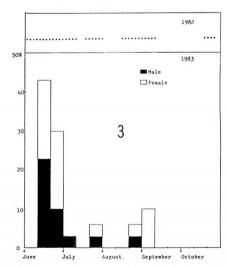


図3. 調査地点におけるムネアカセンチコガネの消長. (*採集記録および出現確認.)

た. このため古い牛糞を餌として利用することが確認された. 調査地においては, 成虫の出現期に古い牛糞塊上にヒトヨタケ科のキノコの一種が生えるが, 飼育下では本種がこのキノ

コを食べることはなかった.

また、新鮮な牛糞を与えた場合には、利用することもなく、すぐにカビに被われる現象が見られた。このことは、一般に糞虫が集まった糞塊にはカビの発生が見られないことと考え合わせると、本種が古い乾燥した牛糞のみを利用する理由が理解される。今後、糞虫の集まった糞塊にカビが繁殖しにくい仕組が明らかになることにより、明確な解答が出るものと期待される。

従って、成虫の食物として、或いはキノコや犬糞を利用するものがあるにしても、当地では古い牛糞を主な食物として利用しているものと思われる.

b)習性. 成虫は地面に穴を掘り、その中に潜むことが多い. 巣穴は直径 12mm、深さ 20cm 位で、一般に糞塊の下、及び糞塊から 1m 以内の離れた場所に見られる. 糞塊から離れた場所の場合、木陰になって直射日光が当たらない場所ではそのままに、 日当りの良い場所では落葉下などに作られる.

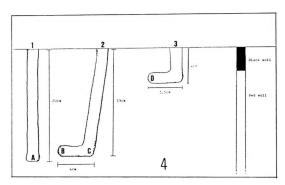


図 4. 野外における巣穴の状態.

- 1, 14 VI 1983; A:16.
- 2, 15 VI 1983; B:13, C:1♀.
- 3, 18 VI 1983; D:1♀.

巣穴からは単独で採集されることが多いが、 飼育下では雌のみの 産卵巣穴作りも観察され たので、雌については単に潜むための巣穴か、産卵のための巣穴であるかが判断できない。

成虫は採集された場合、雌雄とも体の一部(腹節と翅鞘、或いは翅鞘と後肢)をこすり合わせることにより摩擦音を出す.

造巣及び産卵

1) 造巢

造巣活動は一般に雌雄ペアになって夜間に行なわれ、巣穴は障害のない限り $15\,\mathrm{cm}$ 以上の深さに掘られ、野外においては $40\,\mathrm{cm}$ 以上の例も観察された。巣穴の坑道の形は、地面から $5\sim\!20\,\mathrm{cm}$ ほぼ垂直に掘られ、そこから水平または斜め下方に掘られた後に、もとの垂直に掘った地点から再び垂直に掘られるものが多い。また、巣穴は糞塊の下、及び糞塊の近くに作られる。

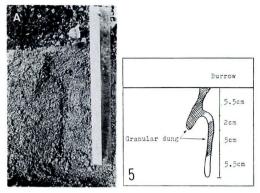


図5. 巣穴の断面及び糞粒の状態.

ペアの形成は飼育下での観察では、夕刻の飛翔活動の後に、 なされることが多い. ペアの 結びつきについては、 継続的なものか、 一つの巣穴を掘るごとに換わるものかは明らかでないが、 飼育水槽内においてペアを分離した場合は、 ほとんどもとのペアに戻ることが観察されるため、或る程度は継続的なものと思われる.

野外において採集された状態(図4の2)から巣穴を掘るのは主に雄と思われる。また、飼育下においては、雌個体のみが巣穴の入口に近い部分に見られることが多い。従って、造巣活動に際しては、雄が巣穴を掘り、雌は土の運搬及び巣穴の壁を押し固め、なめらかにする役割を分担して行なうものと思われる。

巣穴の坑道には、成虫(主に雌の役割)によってかみくだかれて大きさのそろった小さな 糞粒がゆるくつめられており、この糞粒がつめられている割合や部位は巣穴によって多少異 なる.

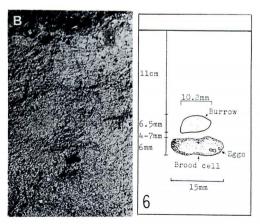


図 6. 卵室の形状及び産卵状態.

造巣活動が完了した後,死期が近づくと,成虫は巣穴の外に出て死に,巣内において死骸や生存した個体を発見することはない.寿命は一般に雄より雌の方が長い.

2) 産卵様式

産卵は巣穴の坑道底部の直下に作られた 楕円形の部屋で行なわれる。 卵室と坑道の間は 4 ~ 7 mm 位の厚さの土壁によって仕切られる。 卵室は長径 15 mm, 短径 6 mm で, 一般に坑道よりも大きく, 卵室の内壁は坑道に比べて粗い作りとなっている。

卵は $2.5 \text{ mm} \times 2 \text{ mm}$ 位の大きさで、この卵室内に $3 \sim 8$ 卵(飼育下)まとめて産卵されるが、野外においても同様の産卵が行なわれるかは未確認である。

考察及びまとめ

調査期間中に調査地以外の横浜市内からムネアカセンチコガネが採集された.

3♀♀, Mamon-cho, Naka-ku, Yokohama City, 28 VII 1982, K. Hosokawa leg. at light. 1♀, Imagawa-cho, Asahi-ku, Yokohama City, 10 VII 1983, N. MATSUMURA leg. at light. これらの地域を調べてみると共通していることは、近くに牛を飼っており、また畑に乾燥させた牛糞を肥料として使用している所があることである。このことから本種の分布地域は、神奈川県内の平野部から今後も多く確認されることと思われる.

本種の生態、特に糞の利用形態はヨーロッパ産の Typhoeus typhoeus LEACH ミツカドセンチコガネやアメリカ産の Mycotrupes 属のセンチコガネ類と共通点が見られる。 ミツカドセンチコガネでは、 成虫の食物は羊糞であるが、 幼虫の餌として利用するのは古い乾燥した羊糞に限られる。 また、成虫は砂質の裸地に生息し、 $1.5 \,\mathrm{m}$ 位の穴を掘る。 Mycotrupes 属においても、 成虫は腐った菌類やバナナ等の果実を食べるが、 幼虫の餌としては古い牛糞を利用する。 また、成虫は砂質の松林やカシ林に生息し、 $1.5 \,\mathrm{m} \sim 2 \,\mathrm{m}$ 位の穴を掘ることが知られている。 これら両種に共通しているのは、 (1) 幼虫の餌として古い乾燥した 糞を利用すること、 (2) 砂地に生息し、 $1 \,\mathrm{m}$ 以上の深い巣穴を掘ることである。

これに対して、ムネアカセンチコガネは古い乾燥した牛糞を幼虫の餌として利用することは共通するが、巣穴の深さが浅いようである。ムネアカセンチコガネの巣穴の浅いことは、 寒さや湿度の維持を特にはかる必要のない気候条件や土質の地域に造巣するためと思われる。

今回は卵以降の発生段階の観察を充分行なえなかったため、成虫の習性を中心とした生態を記述するにとどまったが、今後さらに詳しい観察を続け、今回充分解明できなかった点を含めて、明らかにしていきたい.

Summary

- 1. The ecological observation of *Bolbocerosoma nigroplagiatum* (WATERHOUSE) with their habits and egg laying is described.
- 2. The adults emerge in June to September and begin their move from dayfall to daybreak.
- 3. The adults eat old cow dung, besides they prepare for larva to eat.
- 4. The burrows are dug about 20 to 40 cm deep and they are plugged loosely with

granular dung.

- 5. Both the male and female generally work together in digging the burrows and each takes its part in their work.
 - Male: Digging the burrows. Female: Making smooth the wall of burrows, crushing cow dung.
- Approximately three to eight eggs are laid in the brood cells whose thickness of 4 to 7 mm are established.
- 7. The larva is not observed.

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