

## Notes on the Oriental Species of the Coleopterous Family Buprestidae (I)

By

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A short trip to Europe made during February and March, 1973, made the author possible to find out some synonyms among the Oriental species of the family Buprestidae and to describe some new or misidentified species.

It is rather frequent that even the same species were described under different names from various localities. As the original descriptions of Oriental buprestids are widely scattered in various literature and as almost all the type-specimens of those described by European authors are preserved in European collections, it is difficult for us to correctly determine the names of such species. It had been impossible for the author to discuss synonymy between Japanese and Continental species before his trip to Europe, where he examined as many types of Oriental species as possible in the museums of London, Paris, Prague and Copenhagen. The results of his study will be dealt with in this series of reports. The author could examine the types of E. SAUNDERS and G. LEWIS in the British Museum (Natural History), those of M. DE MARSEUL, L. FAIRMAIRE, J. THOMSON, Ch. KERREMANS and A. THÉRY in the Muséum National d'Histoire Naturelle, Paris, those of A. VON GEBHARDT and J. OBENBERGER in the National Museum, Prague (Museum of Natural History) and those of J. C. FABRICIUS in the Zoological Museum of the University, Copenhagen. During the course of this study he found many synonyms and confusions among the names given by the European authors. Such confusions seem to be largely caused by European authors, who simply named and described his seemingly new species and did not make careful consideration upon the species described by previous authors from neighbouring localities or sometimes even from the same locality, as if the species new to them were all new to science. A mistake common to them is the fact that they confused individual variations and local races with the species. Only those who live in the native land of the species in question, exactly know the details of local variations of each species, and who actually examined many types scattered to many European collections, can point out those mistakes caused by European authors. The present author is going to correct these errors caused by European authors and consequently by himself.

The author must express his sincere gratitude to many entomologists for their kind loan of the materials used in the present study, and to Mr. R. D. POPE and Miss C. M. VON HAYEK of the British Museum (Natural History), London, Mr. A. DESCARPENTRIES of the Muséum National d'Histoire Naturelle, Paris, Dr. J. JELÍNEK and Dr.

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*Paratrachys hederæ* E. SAUNDERS, 1873

*Paratrachys hederæ* E. SAUNDERS, 1873, J. Linn. Soc. London, 11, p. 523.

Habitat: Japan (Shikoku, Kyûshû, Yakushima), China, North Vietnam.

In the original description, E. SAUNDERS stated on the biology of this species as "on ivy stems." It is therefore apparent that he thought "ivy stem" as a kind of *Hedera*. However, the correct host plant of this species is *Ficus pumila* LINNÉ, not a kind of *Hedera*. E. SAUNDERS jumped to a conclusion that "ivy stems" observed by G. LEWIS, the collector of this species, belonged to a kind of *Hedera*. This mistake was first pointed out by T. SHIRÔZU in 1937 (Nippon no Kôchû, 1, p. 96), and later accurate host plant was confirmed by many authors including the present author himself.

In 1958, J. OBENBERGER recorded this species from Yunnan, and the present author examined in the collection of the British Museum (Natural History) a specimen of this species from China labelled as "China, Bowring 63-47". Although A. THÉRY regarded *Trachys hypocrita* FAIRMAIRE, 1888, described from Tonkin as a synonym of *hederæ*, the author confirmed in the British Museum (Natural History) and the Muséum National d'Histoire Naturelle, Paris, that *hypocrita* is a good species no doubt different from *hederæ*. The reason will be given under the heading of *P. hypocrita* FAIRMAIRE.

*Paratrachys princeps* sp. nov.

Closely resembles *P. hederæ* E. SAUNDERS, 1873, from Japan and China, but differs from it in the following points: Body narrower and slenderer, about 1.7 times as long as wide, while it is about 1.5 times as long as wide in *hederæ*; punctures finer, those on elytra sometimes arranged in oblique rows from humeri to apex, while, in *hederæ*, they are arranged in rugae concentric to scutellum; white pubescent bands on elytra broader, with the hairs denser; punctuation on the body beneath finer and denser.

Length: 2.8-3.7 mm; width: 1.7-2.1 mm.

Holotype and paratopotypes: 9 exs., Agina, Amami-Oshima, 7. iv. 1964, T. SHIRÔZU lgt. Paratypes: 4 exs., Rakanyama, Amami-Oshima, 4. vii. 1961, Prince MASAHITO lgt.; 1 ex., Kominato, Amami-Oshima, 25. viii. 1960, Y. KOMIYA lgt.; 51 exs., Kominato, Amami-Oshima, 8. iv. 1964, T. SHIRÔZU lgt.; 1 ex., Yanma, Amami-Oshima, 4. v. 1967, T. YAMAZAKI lgt.; 1 ex., Naze, Amami-Oshima, 4-6. v. 1960, T. SHIBATA & T. SUSUMU lgt.; 4 exs., do., 5. vi. 1961, T. SHIBATA lgt.; 10 exs., do., 14. vi. 1961, T. SHIBATA lgt.; 3 exs., do., 25 & 28. vi. 1961, T. SHIBATA lgt.

*Host plant.* *Ficus pumila* LINNÉ (confirmed by T. SHIRÔZU in 1964).

*Habitat.* Ryûkyû Islands (Amami Group).

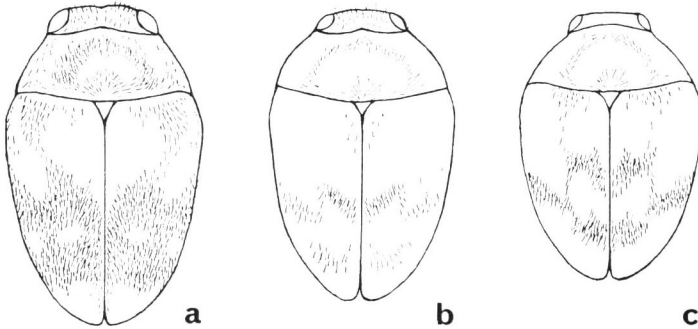


Fig. 1. Outline of *Paratrachys princeps* Y. KUROSAWA, nov. (a), *P. hypocrita* FAIRMAIRE (b) and *P. miyatakei* Y. KUROSAWA, nov. (c).

*Paratrachys princeps chujoi* subsp. nov.

*Paratrachys hederæ*: CHÛJÔ, 1959, Mem. Fac. Lib. Arts & Educ., Kagawa Univ., (II), (69), p. 4.

Different from the nominate form from Amami-Oshima in the following points: Body smaller and strongly ovate, with head smaller and humeri less prominent; punctation finer; body above more or less tinged with aeneous colour.

Length: 2.7–3.6 mm; width: 1.6–2.1 mm.

Holotype and paratopotypes: 28 exs., Yona, Kunigami-son, Okinawa I., 22. v. 1973, Y. KUROSAWA lgt.; paratypes: 5 exs., Yona, Okinawa I., 11–12. vi. 1973, Y. KUROSAWA lgt.; 2 exs., Yona, Okinawa I., 6. v. 1963, H. NOMURA lgt.; 20 exs., Shuri, Okinawa I., 10. iv. 1975, K. SAKAI lgt.

*Host plant.* *Ficus pumila* LINNÉ (confirmed by the author in 1973).

*Habitat.* Ryûkyû Islands (Okinawa Group).

*Paratrachys hypocrita* (FAIRMAIRE, 1888)

*Trachys hypocrita* FAIRMAIRE, 1888, Ann. Soc. ent. France, (6), **8**, p. 349.

*Paratrachys hypocrita*: THÉRY, 1924, Bull. Soc. ent. France, **1924**, p. 205, fig.

*Paratrachys hederæ*: THÉRY, 1925, Assoc. franç. Avanc. Sci., Grenoble, p. 431.

Body short, ovate, entirely black; above entirely clothed with short, recumbent, black hairs, and obscurely ornamented with semirecumbent, silver-whitish hairs.

Head rather small, slightly narrower than the anterior margin of pronotum, and broadly and arcuately produced in dorsal aspect, though almost hidden in pronotum; frons broad, distinctly broader than long, coarsely punctate, and scattered densely with recumbent dark greyish hairs, with the median groove feebly and obsoletely impressed; clypeal suture absent; anterior margin of clypeus subtruncate; antennae compact, serrate from the sixth segment.

Pronotum transverse, about 2.5 times as wide as long, and widest at the base; sides rounded, arcuately attenuate from base to front; anterior margin slightly emarginate on each side of the median lobe, which is slightly produced and somewhat angulate;

anterior angles broadly obtuse but feebly produced in dorsal aspect, but well-defined and subrectangular in lateral aspect; posterior margin broadly and arcuately produced; posterior angles acute and slightly produced backwards; marginal carinae well-defined and somewhat arcuately curved; disk evenly convex, with a small obsolete antescutellar depression; surface coarsely, strongly and rather uniformly punctate; punctures rounded, compact with one another, but not confluent; ornamentation by semirecumbent whitish hairs  $\odot$ -formed, with the central small patch in the antescutellar depression, and the semicircular band around the central patch narrow, interrupted and obscure. Scutellum flattened, subtriangular, slightly longer than wide, smooth and impunctate.

Elytra short, about 1.2 times as long as wide, slightly longer than three times the length of pronotum, and widest at humeri; sides rounded at humeri, then arcuately attenuate to apices, which are separately rounded; disk evenly convex; lateral carinae distinct, with the outer one entire, running from base to apex along the margin, and the interior one short, running from the anterior third to the posterior fourth; surface coarsely, densely, but rather uniformly punctate; punctures rounded, and arranged in oblique rows from humeral parts to apex; ornamentation by semirecumbent silver-whitish hairs very small and obscure, a very narrow, interrupted, zigzag band at the middle, and a very obscure band at the posterior fourth.

Body beneath entirely clothed with silver-greyish recumbent hairs. Prosternum convex, punctured, with the anterior margin broadly and arcuately emarginate; prosternal process broad, subparallel between the anterior coxal cavities and broadly truncate at apex. Elytral epipleura broad, long triangular in the anterior two-fifths of the length of body, obliquely covering the entire length of the lateral part of posterior coxae, coarsely rugoso-punctate, but vanished at the middle. Abdomen beneath finely and obscurely rugoso-punctate, with the apex of the last ventral segment rounded.

Length: 2.8–3.1 mm; width: 1.8–2.0 mm.

*Specimens examined.* 10 exs., Tai Po Kau, Hongkong, 21. iv. 1965, T. SHIRÔZU lgt.

*Host plant.* *Ficus harlandi* BENTH. (confirmed by T. SHIRÔZU in 1965).

*Habitat.* South China, North Vietnam.

In 1924, A. THÉRY removed this species from the genus *Trachys* FABRICIUS, 1801, to the genus *Paratrachys* E. SAUNDERS, 1873, whose type-species is *P. hederæ* E. SAUNDERS, 1873. In the year following, the same author regarded this species as a synonym of *P. hederæ*. His opinion was followed by some entomologists without confirmation. The author has had some doubt on this view and looked for FAIRMAIRE's type. In the British Museum (Natural History), he found a specimen labelled "Tonkin Fairm., *hypocrita* Fairmaire, Type, Kerremans 1903–59", which agreed well with FAIRMAIRE's original description and with the specimens from Hongkong. On the other hand, the so-called type preserved in the Muséum National d'Histoire Naturelle, Paris, is a specimen from Hoa Long, Tonkin N. which agrees well with *P. hederæ* E. SAUNDERS, 1873, from Japan. Based upon the Paris specimen erroneously considered as the type of *hypocrita* FAIRMAIRE, 1888, A. THÉRY seems to have regarded *hypocrita* as a synonym

of *hederae*. As mentioned above, the other type preserved in the British Museum, which came from Ch. KERREMANS in 1903, agrees well with the description given by L. FAIRMAIRE, and the author herewith designates the specimen as the lectotype of *Paratrachys hypocrita* FAIRMAIRE, 1888.

*Paratrachys miyatakei* sp. nov.

Body short, ovate, attenuate anteriorly and posteriorly, entirely black with the exception of antennae and tarsi brownish, but the first and second segments of each antenna and each last tarsal segment are always blackish; body above entirely clothed with semierect black hairs and ornamented with semirecumbent silver-whitish hairs.

Head rather small, slightly narrower than the anterior margin of pronotum and about a half as broad as the posterior margin of it; vertex not grooved, sparsely but rather uniformly punctate; frons rather flattened and sparsely punctured, with a fine shallow median groove, a small shallow depression at the centre, and a transverse depression along clypeal suture, the punctures being fine and rounded; eyes subparallel, with the interior rim straight; clypeal suture distinct, and slightly arcuate; clypeus very thin, and somewhat obsolete; antennal cavities small; antennae compact, serrate from the sixth, with the first and second segments subglobular and about equal in length, from the third to fifth subcylindrical, about equal in length.

Pronotum subtrapezoidal, about 2.6 times as wide as long, and widest at the base; sides oblique, almost straight or feebly arcuate; anterior margin subtruncate; anterior angles obtuse and not produced in dorsal aspect, somewhat acute and slightly produced in lateral aspect, but the tip is rather blunt; posterior margin arcuately produced, somewhat sinuate near each posterior angle; posterior angles acute and slightly produced; marginal carinae entire, feebly sinuate or almost straight; disk evenly convex, with a very obsolete and shallow depression just before scutellum; surface uniformly punctured, and clothed with black and white semirecumbent hairs, but the white hairs concentrate to the parts just before scutellum and the middle of the anterior margin. Scutellum almost equilateral triangle, flattened or slightly depressed, and impunctate.

Elytra short, slightly longer than wide, about three times as long as pronotum, and widest at humeri; sides expanded at humeri, then arcuately attenuate to apices, which are separately rounded; disk evenly convex, with two carinae running along the margin, outer one of which runs from the basal angle to near apex, but becomes obsolete in the posterior half, and the interior one runs from just behind the shoulder to the posterior third, and then vanished; surface finely and rather uniformly punctured, but the punctures are obliquely arranged in rows from the humeral part to apex and are somewhat concentric to scutellum; ornamentation by semirecumbent silver-whitish hairs arranged as follows: a few in the basal area; an undulate band at the middle; a band at the posterior third which is transverse at the sutural part, bends upwards and is conjunct with the central band at the middle.

Body beneath entirely but sparsely clothed with recumbent silver-greyish hairs. Prosternum convex, punctured, with the anterior margin broadly and somewhat arcuately emarginate; prosternal process broad, slightly constricted by the anterior coxal cavities, and broadly truncate at apex. Mesosternum and metasternum evenly convex. Elytral epipleura broad and oblique at humeral part, slightly covering the latero-anterior part of posterior coxa and rugoso-punctate, but vanished just before the middle. Abdomen beneath very finely punctured, with the apex of the last ventral segment rounded.

Length: 3.1 mm; width: 2.0 mm.

Holotype: ♂, Doi Suthep, North Thailand, 19. vi. 1965, Y. MIYATAKE lgt.

*Host plant.* Unknown, but presumably a kind of *Ficus*.

This species is peculiar in the colour of the antennae and tarsi and the ornamentation of the elytra.

*Agrilus undulatipennis* sp. nov.

Male:— Body above black, head and pronotum strongly, scutellum and the anterior half of elytra weakly tinged with cupreoviolaceous hue; body beneath dark violaceocuprescent, sometimes dark cupreoeneous; antennae black with cuprescent tinge; legs concolorous with the body beneath.

Head moderate, distinctly narrower than the maximum width of pronotum, clothed with semirecumbent black hairs, but the pubescence is mixed with silver-whitish hairs at the anterior and lateral parts and on clypeus; surface entirely punctato-rugose, but the rugosity is longitudinally arranged on vertex and somewhat concentrically to clypeus in the anterior half of frons; vertex somewhat gibbouse in dorsal aspect and distinctly grooved at the middle, the rugosity being somewhat concentric to each gibbosity; frons broad, distinctly broader than long, irregularly swollen, but not flat-

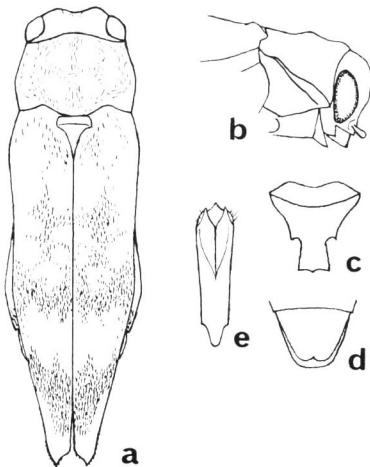


Fig. 2. *Agrilus undulatipennis* Y. KUROSAWA, nov.; a, dorsal view; b, lateral view of head and pronotum; c, prosternum; d, last ventral segment of abdomen; e, male genital apparatus.

tened, somewhat depressed anteriorly, and deeply and transversely grooved just above each antennal cavity; clypeal suture horizontal; clypeus transverse, about twice as wide as long at the part of clypeal suture, with the anterior margin arcuately emarginate, and the surface minutely shagreened; eyes moderate, oblique, converging in front, with the interior margin obliquely straight or very feebly sinuate; antennal cavities large, transverse, surrounded interiorly by narrowly elevated ridge; antennae rather compact, with the second segment about twice as long as the third.

Pronotum transverse, about 1.5 times as wide as long, and widest just behind the middle or at the posterior two-fifths; sides rounded or arcuate from base to front; anterior margin bisinuate, with the median lobe broadly produced; anterior angles sharply produced in dorsal aspect, but acute, ill-defined, and strongly abased in lateral aspect; posterior margin trisinuate, narrowly edged, with antescutellar part subtruncate or slightly emarginate; posterior angles blunt and obtuse; prehumeral carinae entirely absent; marginal carinae abased just before the posterior angle, then bisinuate to the anterior angle; submarginal carinae somewhat approximate to the marginal carina at the anterior angle, most distant from it at the anterior third, then strongly and somewhat arcuately approximate to it posteriorly and conjunct with it just before the posterior third; disk broadly but obliquely depressed before scutellum, transversely depressed behind the anterior lobe, causing the part between these two depressions transversely elevated; surface transversely reticulato-rugose, but the rugosity is somewhat compact just behind the median elevation; hairs subrecumbent, black and inconspicuous, mixing silver-white hairs being arranged as follows: several ones forming the median longitudinal vitta, and sparse ones forming obscure markings on each side of the median vitta. Scutellum T-shaped, finely shagreened, with the median carina bilobed, somewhat  $\cap$ -shaped, and the median projection very long and sharply produced posteriad between elytra.

Elytra about 2.8 times as long as wide, about 3.7 times as long as pronotum, widest just behind the middle and slightly narrower than the maximum width of pronotum at the base; sides slightly rounded at humeri, subparallel in the anterior third or slightly but broadly sinuate from humeri to the part of the maximum width, where they are broadly arcuate, then obliquely attenuate to apices, which are separately acute or dentate, with the outer and interior margin of the dentation finely but distinctly denticulate or serrate, but the form of apex is rather variable individually; the dentation is sometimes sharp and acute, with the interior side emarginate and the sutural angle dentate, sometimes blunt, less projecting with the sutural angle blunt, and sometimes acute, with the outer margin arcuate and slightly swollen and the interior margin sinuate; basal margin narrowly edged; basal lobes not so strongly produced, with the outer side sinuate; sutural margin feebly elevated in the posterior three-fourths; humeri not prominent, without humeral carina; disk broadly depressed at the base, slightly but obsoletely depressed in the post-scutellar part, and rather flattened along the suture; surface clothed with short, black, recumbent hairs except for the parts ornamented with semirecumbent, silver-whitish, pubescent hairs arranged as follows: an irregular,

obscure patch at the post-scutellar part; a very obscure one in the basal depression; a broad transverse band which occupies an area from the basal third to the part of the maximum width, but the sides are usually obscure in the anterior half and the posterior margin of the band forms a zigzag line; a broad band occupying the posterior third, but the apex is narrowly not ornamented; consequently, the parts without whitish hairs behind humeri and just behind the middle look like naked zigzag black bands.

Body beneath rather uniformly but sparsely clothed with short, semirecumbent, silver-whitish or greyish hairs. Prosternum flattened or slightly convex at the middle; gular lobe distinctly bilobed; prosternal process flattened or broadly but obsoletely depressed apically, with the sides constricted between the anterior coxal cavities, obliquely expanded behind there, and broadly subtruncate at apex, but the truncated margin is sometimes slightly and arcuately emarginate on each side of the short median projection. Metasternum longitudinally but narrowly grooved at the middle, with the anterior projection broadly truncate at the tip. Abdomen beneath finely and sparsely punctured, with the first ventral segment evenly convex, and the last ventral segment triangularly but narrowly emarginate. Pygidium rounded and not carinate at the tip. Posterior coxae constricted at the middle, with the latero-posterior angles subrectangular and not produced. Posterior tarsi about as long as posterior tibiae, with the first segment about twice as long as the second, and about as long as the following three segments united. Claws simply cleft.

Female:— There is no distinct difference from the male.

Length: 7.8–9.1 mm; width: 2.1–2.6 mm.

Holotype (♂) and paratopotypes: 2 ♂♂, 2 ♀♀, Mugio, Yakushima I., Kyûshû, 16. vi. 1969, Y. KIYOYAMA lgt. Paratypes: 1 ♀, Yakushima I., 12. vii. 1973, K. SUGINO lgt.; 1 ♂, Ohkawa, Yakushima I., 26. vii. 1975, H. AKIYAMA lgt.

*Host plant.* Unknown.

*Habitat.* Japan (Yakushima), Formosa.

The elytral ornamentation of this species is sufficiently peculiar to distinguish it from the other allied species of this genus. The present species is also found in Formosa. The author has examined the following specimens collected in Formosa: 1 ♂, Rengechi, C. Formosa, 15. vi. 1973, H. YOKOYAMA lgt.; 1 ♀, Sungkang (Tattaka in Japanese), Nantou Hsien, C. Formosa, 29. vi. 1965, Y. KUROSAWA lgt. There is no essential difference between the specimens from Japan and Formosa.