Some new forms of Elateridae in Japan (XVIII)

by

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Some new forms of Elateridae in Japan (XVIII)

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Synopsis Five species and eight subspecies are described newly as follows, and stated on the female structures of *Hypolithus ogatai* KISHII, 1983.

Hypolithus motschulskyi ohkawai, subsp. nov. (Tochigi Pref.).

Hypolithus motschulskyi shimotsuke, subsp. nov. (Tochigi Pref.).

Hypolithus yahikoanus, sp. nov. (Niigata Pref.).

Acteniceromorphus nishidai, sp. nov. (Tokushima Pref.).

Ampedus (Pseudelater) soboensis kiianus, subsp. nov. (Nara Pref.).

Ampedus (Pseudelater) otobei, sp. nov. (Mié Pref.).

Ampedus (Ampedus) kai, sp. nov. (Yamanashi Pref.).

Ectinoides insignitus ogatai, subsp. nov. (Is. Yaku-shima).

Glyphonyx yuwancola yambarus, subsp. nov. (Is. Okinawa-hontô).

Glyphonyx tamurai yamayai, subsp. nov. (Is. Okinawa-hontô).

Melanotus (Melanotus) senilis yakuinsulanus, subsp. nov. (Is. Yaku-shima).

Melanotus (Melanotus) lewisi tsushimensis, subsp. nov. (Is. Tsushima).

Melanotus (Melanotus) sukenagai, sp. nov. (Is. Ishigaki-jima).

This paper is one of the series by the author since 1955 giving the original descriptions of some unknown Elaterid-beetles in Japan and relating on the interesting species. In the present work, I describe newly five species and eight subspecies from some localities, and on a species that was described only based on a male specimen report the female structures.

Before going further I wish to express my cordial gratitude to many collectors of the valuable and useful materials treated in this paper, and my hearty thanks are also due to some collaboraters, who gave me the opportunity of studying materials as cited below (in alphabetical order): Dr. Kintarô BABA in Niigata Prefecture, Mr. Kiyoshi MASAKI in Kyoto Prefecture, Mr. Kôzô MIZUNO in Kyoto Prefecture, Mr. Nobuyuki NARUKAWA in Mié Prefecture, Mr. Takeshi OGATA of the Kyushu University, Mr. Hideo OHKAWA in Tochigi Prefecture, Mr. Akio SEINO in Niigata Prefecture, and Mr. Shigeto YAMAYA of the Nagaoka mun. sci. Mus. in Niigata Prefecture.

Hypolithus motschulskyi ohkawai, subsp. nov.

(Hypnoidinae, Hypnoidini) "Ashikaga-miyama-hisago-kometsuki" (Figs. 1, 2, 20 & 30)

Hypolithus (Hypnoides[!]) motschulskyi tachikawai OHIRA : OHKAWA, 1970, Insect, 21(2) : 24~25 (Mt. Maruiwa-dake in Tochigi) (det. by OHIRA).

Hypolithus motschulsky[!] FLEUTIAUX : OHKAWA & UCHIYAMA, 1983, Insect, **34**(1) : 29 (Omata-Iwakiri in Tochigi).

Miyama-hisago-kometsuki (Japanese name only) Онкаwa, 1979, Insect, 30(2): 88 (Mt. Narabe-yama, Mt. Maruiwa-dake & Ashikaga City in Tochigi).

In the general appearance, especially in the body measurement and the colouration, this new species intimately close to the subspecies *echigoanus* KISHII et OHIRA, 1956, from Mt. Amakazari in W. Niigata. But it can be separable by the continuing characteristics.

Female, $11.5 \sim 12.0 \times 3.6 \sim 3.8$ mm; male, $10.5 \sim 11.5 \times 3.5 \sim 3.8$ mm. Rather flattened above as well as beneath. Black with pronotal anterior angles feebly, pronotal hind corners broadly, sutural lines of elytra narrowly, elytral apices widely and distinctly, prosternal fore border, prosternal sutures, anterior angles of propleura, lateral margins of some apical segments of abdomen, antennae and legs more or less brownish. Pronotal disc simple, having no medio-longitudinal line nor suture, with punctures sparse and not so small. Hind angles of pronotum subparallel-sided, with apices not so elongate and protruded backwards straightly. Scutellum flattened entirely, without medio-longitudinal carination, subcircular and a little wider than length in median measurement. Elytral punctures among striae fine and rather sparse. Female



Fig. 1. The distributing areas of *Hypolithus motschulskyi ohkawai*, subsp. nov. and *H. m. shimotsuke*, subsp. nov. in Tochigi Prefecture.

bursa copulatrix with two plates as figured (fig. 2d), and small plate not emarginated at under edge.

Holotype, female, Iwakiri-sawa in Ashikaga City, Tochigi Pref., May 8, 1984, H. OHKAWA leg.; 2 male and a female isotype, ditto; a male and a female paratype, Mt. Narabe-yama in Tanuma Town, Tochigi Pref., May 6, 1977, H. OHKAWA leg.

Hypolithus motschulskyi shimotsuke, subsp. nov.

(Hypnoidinae, Hypnoidini) "Shimotsuke-miyama-hisago-kometsuki" (Figs. 1, 3 & 21)

This new subspecies of motschulskyi : Corymbites Motschulskyi FLEUTIAUX, 1902 (Bull. Mus. nat. Hist. Paris : 22, Japon central), is somewhat allied to the nominal subspecies in the outline according to the original description and OHIRA's note in 1968 (Ent. Rev. Japan, 21(1) : 29~30), and to the subsp. ohkawai described newly above. Although, it can be distinguishable from these subspecies and others by the following structures.

Female, 12.5×4.3 mm, a little elongately convex above, widest at middle of elytra. Black with pronotal rear corners feebly, prosternal anterior margin narrowly, propleural fore ends smally, apical segment of abdomen marginately, antennae and legs brownish red. Antennae short, hardly attaining bases of pronotal hind angles. Pronotum not so broad, with lateral sides substraightly narrowing forewards from bases of rear corners to anterior one-third, then roundly convergent to anterior corners. Hind angles distinctly emarginated at bases, a little divergnet postero-outwards to apices, which are rather elongate. Pronotal disc with a clear medio-longitudinal carination, but evanescent progressively at fore margin as well as on basal slope. Pronotal punctures small and rather dense. Scutellum semicircular, flattened, having a faint medio-longitudinal line. Punctures on elytral interstices among striae fine and dense. Bursa copulatrix with two plates as figured (fig. 3c), and small plate elongate having a plain emarginated under margin. Male unknown.

Holotype, female, Yunishi-gawa in Kuriyama Vilage, Tochigi Pref., June 10, 1984, H. OHKAWA leg. The type-series of both *ohkawai* and *shimotsuke* were sent to me through the courtesy of Mr. H. OHKAWA, to whom I wish to express my hearty gratitude for his kindly offering these interesting examples.

> Hypolithus ogatai KISHII, 1983 (Hypnoidinae, Hypnoidini) "Yaku-hisago-kometsuki" (Figs. 4 & 22)

Hypolithus ogatai KISHII, 1983, Ent. Rev. Japan, **38**(1): 30~31, figs. 3 & 6 (Takatsuka in Is. Yaku-shima); NAKANE, 1984, Conserv. Rep. Yaku-shima wild. Area: 611;



Kurosawa et alt., 1985, Color. Ill. Col. Jap., 3, Osaka : 60. Hypolithus sp. : Тsuкамото, 1983, Shin Yama no Konchû-ki, Tokyo : 93.

In 1983, I described this unique *Hypolithus*-species from the high ground in Is. Yakushima by only one male example. However, in the late autumn of 1985, I received some specimens of this species through the courtesy of Mr. T. OGATA, and among the samples I found a female individual having structures as follow as.

Female, 12.8×3.8 mm, a little darker than in male in coloration. Antennae rather more slender than in male. Pronotal hind angles plainly divergent postero-outwards. Pronotal disc with a medio-longitudinal smooth line, which is rather clear and a little carinated partly. Bursa copulatrix with two plates as figured (fig. 4c).

Specimen examined : a female, Mt. Miyanoura-dake in Is. Yaku-shima, Kagoshima Pref., June 22, 1983, T. OGATA leg. Following to a private letter from Mr. T. OGATA, this species had found on the under leaves of *Rhododendron metternichii* SIEB. et ZUCC., var. *yakushimanum* OHWI.

Hypolithus yahikoanus, sp. nov.

(Hypnoidinae, Hypnoidini) "Yahiko-hisago-kometsuki" (Figs. 5, 23 & 31)

Male, 12.0×3.8 mm. A little elongate, flattened above as well as beneath, but on elytra somewhat longitudinally convex above behind middle, narrowest at elytral humeri, then slightly widening posteriorly, widest behind middle of elytra, and roundly convergent to apices. Subshining, blackish brown wholly, with bases of frontal margin, anterior corners of pronotum, tips of pronotal hind angles, elytral sutures, apical area of elytra, fore rim of prosternum, anterior ends and hind margin of propleura, hind margins of abdominal segments, bases of antennal joints and legs more or less brownish or paler than ground coloration. Pubescence rather long, curved, subrecumbent, a little dense and yellowish on pronotal disc, clothed with sparse long golden setigerous hairs among slender dense brownish pubescence on elytra.

Head broad, flattened entirely with a pair of short longitudinal foveae behind frontal edge; relative breadth of each eye and vertex between eyes as 13:82 in upper

Fig. 2. Hypolithus motschulskyi ohkawai, subsp. nov.

a : pronotal outline in male, b : ditto in female, c : scutellum, d : sclerotic plates of female bursa copulatrix, e : male genitalia.

Fig. 3. Hypolithus motschulskyi shimotsuke, subsp. nov.

a : pronotal outline in female, b : scutellum, c : sclerotic plates of female bursa copulatrix. Fig. 4. Hypolithus ogatai KISHII, 1983

a : pronotal outline in female, b : scutellum, c : sclerotic plates of female bursa copulatrix. Fig. 5. *Hypolithus yahikoanus*, sp. nov.

a : pronotal outline in male, b : scutellum, c : male genitalia, d : left metacoxal plate, e : 5 basal segments of left antenna.

views; frontal margin distinctly carinated roundly at each base, then straightly extending medianly, and evanescently conglutinated each other at middle. Antennae slender, feebly shorter than combined length of head and prothorax together; relative length and width of 1st to 5th joint as 35:13, 20:10, 25:10, 22:15 and 21: 13 respectively; 4th to 10th ill-serrated; basal segment longest and cylindrical.

Pronotum not so elongate, weakly expanded medio-laterally, slightly sinuate before hind angles, simply and rather distinctly convex above roundly with a plain medio-longitudinal line, which is somewhat carinated medianly, but gently and progressively evanescent forewards; relative length and width medianly as 94 : 100. Each rear angle elongate, feebly divergent postero-laterally, with apex rather sharply pointed, having a conspicuous carination, which is extending anteriorly along lateral side beyond base of angle. Basal furrows very indistinct, shallow and short. Punctures on disc not so small, single, but ocellate on lateral area, rather dense, irregular in density, becoming denser and larger laterally, and on basal slope having minute punctures among general large ones densely. Surface among punctures scabrous with short dense uneven and longitudinal carinate creases, especially conspicuous medianly.

Scutellum subpentagonal, rather flattened above, with a vestige of weak mediolongitudinal elevation, slightly declivous antero-downwards; anterior edge well-ridged, feebly enlarged ahead; punctures dense and fine with few large ones compoundly.

Elytra widest behind middle; relative length of suture and humeral breadth as 100:42; striae fine and distinctly grooved, with elongate punctures; interstices rather flattened, clothed with punctures irregularly in size and density. Hind wings degenerate, namely ca. 3-5ths of elytral length.

Propleura with very dense minute punctures and sparse large shallow ones mixedly. Prosternal punctures similar to those on propleura in size, but generally sparse clearly on whole surface and deeply punctured. Prosternal process elongate, rather straight, narrow, with apex a little acuminate apically, having a distinct furrow on each lateral side. Metacoxal plates not enlarged rearwards near bases, then substraightly narrowing laterally, and each lateral end of hind edge conglutinated with anterior margin before lateral side. Abdominal punctures generally fine and dense, with sparse large ones compoundly. Legs moderate. Genitalia as figured (figs. 5c & 31), having typical form of *Hypolithus*-group. Female unknown.

Holotype, male, Mt. Yahiko in Niigata Pref., May 5, 1978, H. SAITÔ leg.

The present new species somewhat resembles in the outline and the coloration Hypolithus brunneofuscus NAKANE and H. aeneonigra (MIWA), however it differs plainly from the one in having the degenerate hind wings, the indistinct basal furrows on the pronotum, and the longitudinal carinate creases among the pronotal punctures, and from the other in having a medio-longitudinal line on the pronotum, the reduced rear wings, and the simple punctures on the elytral interstices. In having the incomplete hind wings, this new Hypolithus-species is also allied to H. motschulskyi (FLEUTIAUX, 1902), though the pronotal basal furrows of the former are clearly small and rather inconspicuous as compared with the latter having the explicit long and wide ones.

Acteniceromorphus nishidai, sp. nov.

(Denticollinae, Ctenicerini) "Tsurugi-futo-hirata-kometsuki" (Figs. 6 & 18)

Female, 12.5×3.4 mm, elongate, subcylindrical, weakly elevated above mediolongitudinally as well as beneath, narrowest at elytral humeri and bases of pronotal hind angles, slightly expanded laterally at middle of prothorax and behind middle of elytra also roundly. Subshining with clear brassy metalic lustre on whole surface. Black entirely, with apex of prosternal process feebly, apical margin of final segment of abdomen narrowly, basal joint of each antenna wholly, basal part of antennal joint 2nd to 6th, and legs more or less yellowish red. Pubescence long, dense, recumbent and silver-grey generally, with sparse brownish ones compoundly on elytra.

Head broad, rather flattened, with a shallow medio-longitudinal fovea on front; relative width of each eye and vertex between eyes as 14 : 73 in upper sights; frontal margin well-carinated at bases, evanescent entirely at middle; punctures large, simple, circular and plainly dense. Antennae not so slender, conspicuously short, hardly attaining bases of hind corners of pronotum; relative length and width of 1st to 5th joint as 29 : 14, 15 : 9, 24 : 12, 24 : 15 and 19 : 15 respectively; basal joint robust; 4th to 10th ill-serrated.

Pronotum well convex above simply and roundly, widest behind middle, then substraightly narrowing ahead near bases of fore angles and roundly converging at tips of corners, clearly sinuated before hind angles, which are elongately diverging posterooutwards having no carination; relative length and width in median measurement as 100:95; basal furrows small, short and somewhat invisible. Discal punctures fine, single, plainly dense at summit, then gradually sparse forewards, and gently becoming large by large in every direction; average distance among punctures at summit usually narrower than each puncture diameter explicitly; surface among punctures with microscopical creases wholly.

Scutellum elongate, tongue-shaped, slightly elevated medio-longitudinally, feebly constricted behind fore angles; anterior margin roundly expanded ahead; posterior end bluntly pointed or rather rounded; punctures very fine and dense; relative length and width in median measurement as 37:21.

Elytral striae fine having small elongate and deep punctures discontinuedly, which are connected mutually with fine shallow groove. Strial interstices feebly elevated longitudinally or hardly flattened partly, with single dense and circular punctures, but partly irregular in density; surface among punctures transversely rugose, especially explicit anteriorly.

Prosternal punctures at median part rather sparse, becoming gradually dense laterally; surface among punctures smooth entirely. Prosternal sutures straight and single. Prosternal process elongate, slightly concave behind base, then straightly extending backwards, having a distinct elongate furrow on each side from base to near apex,



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which is bluntly pointed posteriorly. Propleural punctures denser and larger than those on prosternum, somewhat subocellate partly; surface among punctures partly shagreen-likely sculptured. Metasternal punctures smaller than propleural ones, dense and single entirely; interstice surface among punctures smooth. Legs moderate. Male unknown.

Holotype, female, Mt. Tsurugi in Tokushima Pref., May 3, 1985, H. NISHIDA leg. The present new Acteniceromorphus-species appears to have a close relationship to Corymbites (Selatosomus) tengu MIWA (1934, Dept. Agr. Govt res. Inst. Formosa, 65:122, Pl. 5, fig. 22, from Mt. Togakushi in Shinano) belonging lately under the genus Acteniceromorphus and distributing in Honshû: Kantô, Chûbu and Kinki Districts, however the 3rd antennal joint is ca. 1.6 times as long as the 2nd in this new species instead of ca. twice or more in tengu, and the pronotal punctures of the former are denser than those of the latter, and the punctures on the under surface of nishidai are obviously denser, larger and generally coarser than those of tengu. It is possible that a female specimen of Acteniceromorphus tengu (MIWA) reported by OHIRA & KOSAKA in 1971 (Kontyû to Shizen, 6(10): 5~6, phot., from Mt. Ishizuchi in Ehime Pref.) may correspond to this new species.

The new name of this species is dedicated to Mr. H. NISHIDA collecting firstly this species, which was sent to me through the courtesy of Mr. T. OGATA, and to whom I wish to express my heartfelt thanks.

Ampedus (Pseudelater) soboensis kiianus, subsp. nov.

(Elaterinae, Ampedini) "Kii-hime-aka-kometsuki" (Figs. 7a, 7b & 24)

Ampedus (Pseudelater) soboensis OHIRA : KISHII, 1982, Bull. Heian High Sch., 26 : 41, figs. 14 & 48 (Mt. Ohmine in Nara Pref.).

In 1982, I reported Ampedus (Pseudelater) soboensis OHIRA (1963, Kontyú, 31 : 176, fig. 1, Mt. Sobo in Fukuoka Pref.) from Nara Prefecture as cited above, though

a : 5 basal segments of left antenna in subsp. kiianus, subsp. nov.

- c : ditto in subsp. soboensis.
- Fig. 8. Ampedus (Pseudelater) otobei, sp. nov.

Fig. 6. Acteniceromorphus nishidai, sp. nov.

a : right hind angle of pronotum, b : scutellum, c : 5 basal segments of left antenna,

d : pronotal process in profile.

Fig. 7. Ampedus (Pseudelater) soboensis OHIRA, 1963, female.

b : sclerotic plates of bursa copulatrix in subsp. kiianus, subsp. nov.

a : pronotal outline in male, b : ditto in female, c : 5 basal segments of right antenna in male, d : ditto in female, e : prosternal process in profile, f : male genitalia, g : apex of left paramere.

Fig. 9. Ampedus (Ampedus) kai, sp. nov.

a : prosternal process in profile, b : sclerotic plates in female bursa copulatrix, c : 5 basal segments of right antenna.

according to my latest study about the female genital organ by the sample from Mt. Sobo-san in Oita Prefecture of this species sending to me through the good will of Mr. T. OGATA, the examples from the Kii Peninsula have to divide different subspecies plainly as follow as.

Female, $11.2 \sim 11.4 \times 3.2 \sim 3.4$ mm. Pubescence on head and pronotum distinctly long, not so dense and whitish-yellow instead of short, rather dense and black in typical subspecies. Elytral pubescence generally black with on basal area sparse yellowish ones among blackish pubescence compoundly. Pronotal punctures clearly sparse and explicitly fine. Prickles of bursa copulatrix (fig. 7b) elongate, a little weakly sclerotized and ca. $30 \sim 40$ in numbers instead of rather short, well-chitinous and ca. 75 in typical subspecies (fig. 7c).

Holotype, female, Ichinotao in Mt. Ohmine, Nara Pref., June 10, 1979, K. MIZUNO leg. ; a paratype, female, Mt. Misen (1600 m alt.) in Mts. Ohmine, Nara Pref., July 5, 1980, K. MIZUNO leg.

Ampedus (Pseudelater) otobei, sp. nov.

(Elaterinae, Ampedini) "Hosohime-kuro-kometsuki" (Figs. 8, 27 & 32)

Male, 5.8×1.6 mm. Elongate, parallel-sided, rather flattened above, mediolongitudinally convex beneath. Shining obviously. Black entirely, with tarsal segments dusky brown. Pubescence suberect, not so long, dense and blackish all over.

Head broad, simply convex above roundly; relative width of each eye and breadth between eyes as 8:41 in upper views; frontal margin well-carinated, a little triangularly protruded antero-downwards; frontal groove broad at surroundings of antennal sulci shallowly, then indistinctly united each other medianly. Punctures on vertex exceedingly large, dense and ocellate perfectly, somewhat irregular in size and reticulate partly. Antennae clearly elongate, but not slender, exceeding tips of pronotal hind angles by apical two segments; relative joint length and width of lst to 5th as 13:6.5, 5.5:6, 11:10.5, 13.5:11 and 15:12 respectively; 2nd joint rather globular; 3rd to 10th conspicuously serrated.

Pronotum rather trapezoid, well convex above simply and roundly, with a vestige of medio-longitudinal furrow on basal slope only, widest near middle, then substraightly convergent to fore corners, and subparallel-sided at bases of hind angles, which are not so elongate, protruded posteriorly to apices pointed bluntly, with short indistinct unicarination. Punctures on disc large subocellate and obviously sparser than those on vertex ; average distance among punctures ca. 2 or 3 times as well as each puncture diameter, but uneven in density and size ; interpunctate space among punctures entirely glabrous.

Scutellum elongate, rather tongue-shaped, generally flattened ; anterior margin a

little expanded roundly ahead ; punctures fine and rather dense ; posterior end not so pointed ; relative length and width in median measurement as 19 : 10.5.

Elytra elongate ; sutural length and humeral breadth relatively as 100 : 38 ; striae deeply furrowed, with large deep punctures discontinuedly ; interstices among striae slightly elevated longitudinally, with punctures clearly minute, rather sparse and irregular in density ; surface among punctures smooth, slightly coarse, partly having minute granule-like sculptures and transverse rugosities.

Prosternal punctures single, sparse, not so large ; interstice among punctures entirely smooth. Prosternal sutures double, short, converging antero-outwards as well as rearwards. Prosternal process plainly bent inwards behind procoxal cavities, then straightly extending posteriorly, with under surface having a small obscure notch near middle ; apex triangularly pointed posteriorly. Propleural punctures a little larger and more irregular than those on prosternum. Metasternal punctures weakly elongate in shape longitudinally, feebly denser than those of propleura. Punctures of abdominal segments somewhat granule-like. Legs rather slender and moderate.

Genitalia as figured (figs. 8f, 8g & 32), with apex of each paramere having no lateral projection, slightly and roundly expanded only.

Female, 6.6×1.8 mm, generally allied to male, but some structures dissimilar as follows. Antennae subequal to head and prothorax combined together in length. Relative antennal joint length and width of 1st to 5th as 15:8, 6:6, 9.5:7, 11:9 and 12:9 respectively; 3rd joint ill-serrated. Carination on pronotal hind angles distinct. Prickles of bursa copulatrix almost absent.

Holotype, male, Chichi-ga-dani Valley in Miyagawa Vilage, Mié Pref., October 10, 1985, H. Otobe leg.; a female isotype, ditto.

The new present black *Pseudelater*-species may not be distinct from *Ampedus (Pseudelater) carbunculus* (LEWIS, 1879), however it could be distinguished by the dense subocellate punctures on the pronotal disc and the unique shape of the genital organ in the male. I could examined this interesting *Pseudelater*-species through the courtesy of Mr. N. NARUKAWA in Suzuka City, to whom I wish to express my cordial gratitude for his kindly offering specimens.

Ampedus (Ampedus) kai, sp. nov.

(Elaterinae, Ampedini) "Kai-oh-aka-kometsuki" (Figs. 9 & 19)

Ampedus (s. str.) pachycollis OHIRA : KISHII, 1976, Sci. Rep. Kyoto Pref., 14 : 18, fig. 20 (Mt. Kumotori).

The new present Ampedus-species intimately resembles A. (A.) yakuensis KISHII (1976, Sci. Rep. Kyoto Pref., 14:10, figs. 13, 17 & 22, Is. Yakushima) or the large individuals of Elater optabilis LEWIS (1894, Ann. Mag. nat. Hist., (6)13:33, Subashiri, Omine &

Oyayama) in the large body and the coloration. Although, from the one by the dense pronotal punctures and from the other by the elongate 3rd joint of antennae, and after all, from these allied species by the combination of the characteristics described below it becomes a conclusion that the present species should be an independent taxon.

Female, 16.2×4.8 mm, stout, parallel-sided, slightly convex beneath longitudinally. Subshining generally, but a little opaque on elytra. Black wholly, with elytra dark red, 2nd and 3rd antennal joint feebly brownish at apical end only, legs somewhat dark brownish generally, and with tarsi more or less paler. Pubescence not so long and dense, semierect, black with few pale ones compoundly on basal areas of elytra.

Head broad, slightly and roundly convex above with an indistinct concavation at summit; relative width of each eye and vertex breadth between eyes in upper sights as 11:94; frontal margin well-carinated near bases, then roundly extending anterodownwards, and obtusely united each other medianly. Punctures rather dense, small, circular and single, but partly subocellate; interstice among punctures glabrous. Antennae hardly attaining base of each hind angle of prothorax; relative joint length and width from 1st to 5th as 31:16, 15:11.5, 23:14.5, 31:21 and 29:20.5 respectively; basal joint robust and cylindrical; 2nd subglobular; 3rd elongate triangular; 4th to 10th serrated moderately.

Pronotum rather spherically convex above medianly and simply, having an obscure medio-longitudinal furrow on basal slope only, subparallel-sided behind middle to bases of rear corners, then gently and roundly convergent ahead ; relative length and width in median measurement as 91 : 100 ; hind angles rather short, scarcely divergent postero-outwards or rather substraightly extending backwards, with acute short unicarination ; punctures a little sparser and smaller than those of vertex medianly, then gently and progressively larger and denser laterally, and generally single medianly, but conspicuously umbilicate near fore angles and its circumference.

Scutellum shield-formed or elongate pentagonal, declivous antero-downwards, rather flattened or hardly and widely convex above, widest at fore angles, then slightly narrowing substraightly to behind middle; anterior margin well-ridged, a little elevated above, roundly expanded ahead; hind apex rounded; punctures similar to those on pronotal disc.

Elytra slightly elevated above medio-longitudinally, parallel-sided from humeri to beyond middle, then gently converging posteriorly; sutural length and humeral breadth relatively as 117:46; striae obviously fine, shallow, feebly grooved with indistinct discountable and discontinuous punctures; interstices among striae feebly elevated longitudinally having minute sparse punctures; interpunctate surface perfectly glabrous; sutural ends moderate.

Prosternal punctures sparser than on pronotal ones, uneven in density and size generally; interstice among punctures perfectly smooth. Prosternal process strongly bent inwards behind procoxae, then substraightly extending backwards, with a rather wide shallow and longitudinal furrow on each lateral side; apex distinctly excavated, with both ends rather acute. Prosternal sutures broad, double and clearly divergent anterooutwards as well as posteriorly, plainly furrowed at fore ends. Propleural punctures elongate longitudinally, denser than those of prosternum ; interstice among punctures smooth entirely. Metatsernal punctures similar to those on prosternum in size, but denser plainly ; interpunctate surface shagreen-likely sculptured microscopically. Prickles in bursa copulatrix as figured (fig. 9b), ca. 70 in numbers, with each prickle thick, elongate and well-sclerotized. Male unknown.

Holotype, female, Mt. Kumotori in Yamanashi Pref., July 1, 1964, N. OHTANI leg. Hearty thanks are due to Mr. K. MIZUNO, who kindly gave me the opportunity of the studying this species.

Ectinoides insignitus ogatai, subsp. nov.

(Elaterinae, Agriotini) "Yaku-yotsukiboshi-kometsuki" (Figs. 10, 26 & 36)

Ectinoides insignitus (LEWIS) : MATSUNAGA, 1976, Kita-Kyûshû no Konchû, 22 (2) : 38 (Ambô in Is. Yakushima, a female).

The population from Is. Yaku-shima of this species : Megapenthes insignitus LEWIS, 1894 (Ann. Mag. nat. Hist., (6)13 : 46, Miyanoshita & Yokohama) may have the position as a distinct new subspecies as given below.

Male, $6.6 \sim 7.4 \times 1.8 \sim 2.0$ mm. Elytral maculation clearly more elongate and larger than that of typical subspecies as figured (fig. 10c). Antennal segments elongate; relative length and width from lst joint to 5th as 20:7.5, 10:5, 10:5, 11.5:7.5 and 10.5:7.5 in holotype, and 18:7, 8:5, 7:5, 8.5:7 and 9:7 in a male specimen from Honshû (Arashiyama in Kyoto Pref., June 4, 1956, T. KISHII leg.). Pronotum rather narrow, elongate, not parallel-sided medianly, weakly and gently narrowing ahead from bases of hind angles, which are elongate and clearly divergent posterooutwards. Pronotal punctures a little smaller than those of typical subspecies, and rather longitudinally elongate in form. Rear apex of scutellum not emarginated alike nominal subspecies, simply and rather transversely ended feebly. Prosternal process a little thick, with terminal emargination roundly excavated. Apico-lateral expansion of each paramere broad, and slightly expanded roundly and laterally.

Holotype, male, Mt. Miyanoura-dake in Is. Yaku-shima, Kagoshima Pref., June 22, 1985, T. OGATA leg.; 2 isotypes, males, ditto. An isotype is deposited in the collection of Mr. T. OGATA. It gives me great pleasure to name this new subspecies after my collaborator, Mr. T. OGATA.



Glyphonyx yuwancola yambarus, subsp. nov.

(Elaterinae, Adrastini) "Yambaru-kuchiboso-kometsuki" (Figs. 12, 28 & 37)

This new subspecies from Is. Okinawa-hontô is characterized from the nominal subspecies distributing in Is. Amami-ohshima : *Glyphonyx yuwancola* OHIRA (1971, *Pacific Ins.*, 13(3/4) : 542, figs. 1F, 1G, 2M, Is. Amami-ôshima), by the following structures.

Male, $7.2 \sim 7.5 \times 1.8 \sim 2.0$ mm; female, $8.0 \sim 8.6 \times 2.2 \sim 2.5$ mm. Larger and robuster than nominal subspecies in general appearances. Coloration almost corresponding with the population from Is. Amami-ohshima. Antennae surely exceeding apices of pronotal rear angles by apical one joint or more in male, and subequal in female. Relative joint length of antennae and width from 1st to 5th as 25:7, 10:5.8, 8.5:5.5, 13.5:7.5 and 14:8 in male, and 29:8.5, 10.5:5.5, 10:5.5, 15:8 and 14:8in female respectively. Pronotal punctures smaller and sparser than those of typical subspecies plainly. Elytral interstices among striae not granulated but punctulated with even density and size.

Holotype, male, Mt. Nago-dake in Okinawa-hontô, Okinawa Pref., May 3, 1985, S. YAMAYA leg.; a male and 5 female isotypes, ditto.

Glyphonyx tamurai yamayai, subsp. nov.

(Elaterinae, Adrastini) "Yamaya-kuchiboso-kometsuki" (Figs. 11, 29 & 38)

In 1985, I described newly Glyphonyx tamurai from Is. Iriomote-jima by a pair of specimens (Bull. Heian High Sch., $29: 24\sim25$, figs. 75, 78 & 125). After several months of the publication, I received a male example of this species from Is. Okinawa-hontô with the materials of G. yuwancola described newly above as the subspecies whose specimens had collected at the same time and the place, through the courtesy of Mr. S. YAMAYA of the Nagaoka mun. sci. Museum. As a result of the study on these specimens collecting from both the localities Iss. Iriomote-jima and Okinawa-hontô, I came

Fig. 10. Ectinoides insignitus ogatai, subsp. nov.

d : scutellum, e : pronotal outline in male, f : male genitalia.

- Fig. 11. Glyphonyx tamurai yamayai, subsp. nov.
- a : 5 basal segments of right antenna, b : male genitalia, c : right hind angle of pronotum. Fig. 12. Glyphonyx yuwancola yambarus, subsp. nov.
- a : male genitalia, b : 5 basal segments of right antenna.

a:5 basal segments of right antenna, b: prosternal process in profile, c: right elytron,

Fig. 13. Melanotus (Melanotus) senilis yakuinsulanus, subsp. nov.

a : pronotal outline, b : apex of left paramere, c : prosternal process in profile, d : 5 basal segments of right antenna, e : male genitalia.

to the conclusion that the population from the latter was nothing but an indigenous subspecific taxon of *tamurai*. And the characters in the antennae, head punctures, pronotal punctures and in the outline of the prothorax, by which this new subspecies is separated from the nominal subspecies from Is. Iriomote-jima, are given in the following description and figures.

Male, 6.8×1.8 mm. Darker in coloration than nominal subspecies. Antennal segments more elongate; relative length and width from 1st to 5th as 23:6, 9:5, 8:5, 13:7 and 12.5:7.5 respectively instead of 22:7, 10:5, 8:4, 10:6 and 10.5:6 in holotype of subsp. *tamurai*. Head vertex more densely and regularly punctured. Pronotal lateral sides plainly narrowed at bases of hind angles, which diverge postero-outwards weakly. Pronotal punctures a little smaller and somewhat denser than those of nominal subspecies.

Holotype, male, Mt. Nago-dake in Is. Okinawa-hontô, Okinawa Pref., May 3, 1985, S. YAMAYA leg. It gives me great satisfication to name this new subspecies for Mr.S. YAMAYA.

Melanotus (Melanotus) senilis yakuinsulanus, subsp. nov. (Melanotinae) "Yaku-kuro-kushi-kometsuki" (Figs. 13, 25 & 35)

Melanotus senilis CANDÈZE : MIWA, 1929, Trans. nat. Hist. Soc., Formosa, 19(103) : 346 (Yakushima) ; TAKEUCHI, 1931, Trans. Kansai ent. Soc., 2 : 69 (Is. Yakushima) ; MIWA, 1934, Fauna Elat. Jap. Emp., Dept. Agr. Govt res. Inst. Formosa, 65 : 103 (Yakushima) ; NAKANE et KISHII, 1958, Sci. Rep. Saikyo Univ. (Nat. Sci. & Liv. Sci.), 2(5) : 38 (Yakushima).

Up to date, the specimens from Is. Yaku-shima of this species : Melanotus senilis CANDÈZE (1865, Elat. nouv., I, Mém. Soc. Acad. Belg. : 47, Japon), has been determined as the same specific-population with that from Japan proper. Although, as a result of taking into the cautious study, it may be, at last I think, a new valid subspecies and seems to be endemic to this island. And it may be established a distinction from the nominal subspecies by the combination of the structures as follow as.

Male, 10.6×2.8 mm (NAKANE & KISHII in 1958 reported as $10\sim12.3$ mm). The 2nd antennal joint globular, subequal as wide as length; relative joint length and width from 1st to 5th as 24:13, 9:9, 14.5:10, 22:14.5 and 21:14.5 respectively. Lateral sides of pronotum not parallel at hind angles, clearly diverging posterooutwards. Pronotal punctures a little smaller and sparser than those of typical subspecies. Elytral interstices among striae rather smooth, without transverse rugosities. Genitalia as figured (figs. 13b, 13e & 35); apico-lateral expansion of each paramere triangular. Holotype, male, Onoaida in Is. Yaku-shima, Kagoshima Pref., May 3, 1984, K. MIZUNO leg.

Melanotus (Melanotus) lewisi tsushimensis, subsp. nov.

(Melanotinae) "Tsushima-kushi-kometsuki" (Figs. 14, 17 & 33)

Melanotus legatus CANDÈZE : KISHII, 1961, Bull. Heian High Sch., 5 : 44 (Is. Tsushima), partim.

Melanotus (Melanotus) lewisi SCHENKLING : OHIRA & ARIMOTO, 1976, Tsushima no Seibutsu : 370, figs. 1-F, 2-C (Is. Tsushima) ; BABA & KISHII, 1982, Trans. Essa ent. Soc., 53 : 42~43, fig. 5 (Is. Tsushima) ; BABA & KISHII, 1986, Trans. Essa ent. Soc., 62 : 52 (Is. Tsushima).

Hitherto this species : Melanotus Lewisi SCHENKLING (1927, in JUNK'S Col. Cat., 88, Elat. II : 277, nom. nov., = Melanotus longipennis LEWIS, 1894, nec KÜST, 1848) has been reported often from Is. Tsushima as cited above. According to my latest researching, the population from this island has always the smaller body measurement than that of Japan proper and some other distinct differentiations. Therefore it should be treated as a distinct subspecies indigenous to Is. Tsushima, and the remarkable structures are as continuing description.

Male, $16.0 \sim 19.0 \times 4.4 \sim 5.5$ mm; female, 18.5×5.2 mm. Generally smaller than nominal subspecies, but robust plainly. Vertex punctures larger and denser than those of subsp. *lewisi*, and distinctly uneven in size and density. Antennal joints ill-serrated, generally elongate; relative length and width from 1st to 5th as 38:17, 11.5:11, 21:14, 36:18.5 and 34.5:19 respectively in holotype, and 42:19, 13:13, 25:15, 39:23 and 39:24.5 in a male specimen from Honshû (Saga in Kyoto City, June 19, 1975, T. KISHII leg.). Basal furrows of pronotal hind margin narrow and short. Lateral sides of scutellum clearly narrowing posteriorly. Elytral interstices among striae generally smooth, not so rugose transversely. Apico-lateral expansion of each paramere in male genitalia always narrower than that of typical subspecies.

Holotype, male, Mt. Ooboshi in Mine-chô, Is. Tsushima, Nagasaki Pref., July 26~ 27, 1979, A. SEINO leg.; 9 male isotypes, ditto; 4 male and a female paratype, Mt. Ariake, ditto, July 22~23, 1979, A. SEINO leg.; a male paratype, Mt. Kôrai-san, ditto, July 24~25, 1979, A. SEINO leg.; a male and a female paratype, Izuhara, ditto, July 21~31, 1959, T. KISHII leg.; 2 male paratypes, Sasuna, ditto, August 1~7, 1959, T. KISHII leg. The type-specimens collected by Mr. A. SEINO were send to me through the courtesy of Dr. K. BABA, to whom I wish to express my cordial glatitude for his kindly offering materials.



Fig. 14. Melanotus (Melanotus) lewisi tsushimensis, subsp. nov.

- a : 5 basal segments of right antenna in male, b : prosternal process in profile,
- c : scutellum, d : apex of left paramere, e : male genitalia.

Fig. 15. Melanotus (Melanotus) sukenagai, sp. nov.

- a : scutellum, b : right hind angle of pronotum, c : prosternal process in profile,
- d : apex of left paramere, e : male genitalia, f : 5 basal segments of right antenna.

Melanotus (Melanotus) sukenagai, sp. nov.

(Melanotinae) "Sukenaga-kushi-kometsuki" (Figs. 15, 16 & 34)

Male, $19.5 \sim 20.5 \times 5.2 \sim 5.4$ mm. Robust, well convex above longitudinally as well as beneath, subparallel-sided. Rather subopaque wholly. Dark brown to black, with antennae and legs more or less reddish brown. Pubescence not so long, dense, semierect and golden brown with clear lustre.

Head not so large, rather flattened with some indistinct concavations behind frontal margin irregularly; relative each eye breadth and vertex width between eyes in upper views as 25:66; frontal margin well-limited roundly and clearly carinated; anterior furrow broad medianly, a little concave. Eyes large, spherically prominent outwards. Punctures ocellate perfectly, circular, dense and large, but plainly irregular in density and size; interstice among punctures microscopically shagreened indistinctly. Antennae elongate, plainly exceeding tips of pronotal rear angles by one apical joint; relative joint length and width from 1st to 5th as 38:19, 15:13, 23.5: 15, 47:24 and 47.5:23.5 respectively; basal joint cylindrical, stout and roundly curved; 2nd rather globular; 3rd subclavate or rather ill-triangular; 4th to 10th prolate triangular, with anterior and apical margin having erect and rather short pubescence densely and hind margin having recumbent and long setigerous ones, and general measurement progressively and gently becoming narrow by narrow terminally; 11th elongate and longer than preceding joint.

Pronotum well convex above roundly and simply, subparallel-sided at bases of hind angles, then gently converging roundly ahead; rear angles broad, hardly diverging postero-outwards, with acute and plain unicarination along lateral sides exceeding scarcely base of each corner; basal furrows distinct, elongate and rather deeply grooved, a little divergent forewards each other, with each inner angle of furrow having a small rectangled emargination; basal slope abruptly declivous posteriorly, with a vestige of wide medio-longitudinal depression; rear margin rather simply and transversely depressed medianly, without a pair of small projections. Discal punctures single, distinctly smaller than those on vertex, rather dense and even in density and size, gently and progressively larger and denser laterally, perfectly ocellate on marginal areas and partly reticulate mutually; interspace among punctures apparently glabrous, though under high magnification sculptured with fine delicate shagreen-like rugosities on whole surface.

Scutellum elongate, rather tongue-shaped, flattened, a little declivous anteriorly; sides clearly constricted behind fore corners; anterior edge weakly expanded roundly ahead; posterior apex rounded; relative length and median width as 53:37. Punctures shallow and indistinct with transverse microscopical and shagreen-like sculptures on surface among punctures.

Elytra widest at humeri, which are strongly carinated and a little protruded out-

wards ; striae fine, with elongate and discontinuous punctures ; intervals among striae slightly convex above longitudinally near bases, but generally flattened posteriorly, having punctures very fine sparse and regularly clothed in density ; interspace among punctures generally smooth ; sutures simple and moderate ; apices also moderately ended.

Prosternal punctures small, rather sparse, single or partly subumbilicate, a little coarser and denser laterally; interspace among punctures completely smooth. Prosternal process in profile weakly bent inwards behind procoxal cavities, then straightly extending backwards, with a distinct furrow on each side from base to under part of hind apex, which is bluntly pointed having a small excavation at under margin. Prosternal sutures broad, double clearly, glabrous and plainly furrowed at anterior ends. Propleural punctures single, rather elongate longitudinally, a little denser and smaller than those of prosternum; interspace among punctures fairely microscopically sculptured by shagreen-like rugosities under high magnification. Metasternal punctures similar to those on propleura. Legs moderate; tarsal pubescence and hairs moderate. Genitalia as figured (figs. 15d, 15e & 34), generally broad, with apical expansion of each paramere widely triangular having acutely pointed apex and lateral projection. Female unknown.

Holotype, male, Mt. Banna-dake in Is. Ishigaki-jima, Okinawa Pref., May 31, 1984, T. SUKENAGA leg.; 2 male isotypes, ditto. An isotype is deposited in the collection of Mr. T. OGATA, who kindly gave me the opportunity of studying this interest *Melanotus*-species.

In the general outline, this new large *Melanotus*-beetle is somewhat allied to M. *lewisi* SCHENKLING from Japan proper, though the elongate antennae and prothorax, simple edge of the pronotal hind margin, rounded apex of the scutellum, and sparse single punctures on the prosternum are easily distinguishable from it. In some appearances, it is similar to M. *loochooensis* MIWA (1929, *Trans. nat. Hist. Soc. Formosa*, 19(103): 347, Okinawashima), but the slender and elongate antennae, the narrow vertex, small and single punctures on the pronotal disc, the narrow scutellum, sparse small punctures on the prosternum, the narrow prosternal process and the distinct shape of the male genitalia in this new species are divided each other easily.

Correction for "Some new forms of Elateridae in Japan (XVIII)"

I revise my figure's number given in the paper cited above (*Bull. Heian High Sch.*, **29** : $1 \sim 30$); page 22, number of figures : - 72 to 70, 70 to 72.

Explanation of Plate I

- Fig. 16. Melanotus (Melanotus) sukenagai, sp. nov., holotype, male, 20.5 mm.
- Fig. 17. Melanotus (Melanotus) lewisi tsushimensis, subsp. nov., holotype, male, 16.4 mm.
- Fig. 18. Acteniceromorphus nishidai, sp. nov., holotype, female, 12.5 mm.
- Fig. 19. Ampedus (Ampedus) kai, sp. nov., holotype, female, 16.2 mm.
- Fig. 20. Hypolithus motschulskyi ohkawai, subsp. nov. a. holotype, female, 11.6 mm. b. isotype, male, 10.8 mm.
- Fig. 21. Hypolithus motschulskyi shimotsuke, subsp. nov., holotype, male, 12.5mm.
- Fig. 22. Hypolithus ogatai KISHII, 1983, female, 12.8 mm. Mt. Miyanoura-dake in Is. Yaku-shima, June 22, 1983, T. OGATA leg.
- Fig. 23. Hypolithus yahikoanus, sp. nov., holotype, male, 12.0 mm.
- Fig. 24. Ampedus (Pseudelater) soboensis kiianus, subsp. nov., holotype, female. 11.4 mm.
- Fig. 25. *Melanotus (Melanotus) senilis yakuinsulanus, subsp. nov.,* holotype, male, 10.6 mm.
- Fig. 26. Ectinoides insignitus ogatai, subsp. nov., holotype, male, 7.4 mm.
- Fig. 27. Ampedus (Pseudelater) otobei, sp. nov. a. holotype, male, 5.8 mm. b. isotype, female, 6.6 mm.
- Fig. 28. Glyphonyx yuwancola yambarus, subsp. nov., holotype, male, 7.5 mm.
- Fig. 29. Glyphonyx tamurai yamayai, subsp. nov., holotype, male, 6.8 mm.

PLATE I













Explanation of Plate II

- Fig. 30. *Hypolithus motschulskyi ohkawai*, subsp. nov., isotype, male genitalia in dorsal view (4577).
- Fig. 31. *Hypolithus yahikoanus*, sp. nov., holotype, male genitalia in dorsal view (4571).
- Fig. 32. Ampedus (Pseudelater) otobei, sp. nov., holotype, male genitalia in dorsal view (4673).
- Fig. 33. *Melanotus* (*Melanotus*) *lewisi tsushimensis*, subsp. nov., holotype, male genitalia in dorsal view (4677).
- Fig. 34. *Melanotus* (*Melanotus*) *sukenagai*, sp. nov., holotype, male genitalia in dorsal view (4666).
- Fig. 35. *Melanotus* (*Melanotus*) *senilis yakuinsulanus*, *subsp. nov.*, holotype, male genitalia in dorsal view (4670).
- Fig. 36. *Ectinoides insignitus ogatai*, subsp. nov., isotype, male genitalia in dorsal view (4661).
- Fig. 37. Glyphonyx yuwancola yambarus, subsp. nov.
 a. holotype, male genitalia in dorsal view (4679).
 b. isotype, female bursa copulatrix in lateral view (4680).
- Fig. 38. *Glyphonyx tamurai yamayai*, subsp. nov., holotype, male genitalia in dorsal view (4669).

PLATE II

