

The Elaterid-beetles of the Tribe Agriotini from Japan
(COLEOPTERA : Elateridae, Elaterinae)

"The Elateridae of Japan, 1"

by

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This study is a result of the revisional works on the tribe Agriotini of the subfamily Elaterinae from Japan, previously reported by MIWA (1934) as a group of the subfamily Ludiinae under the title of "The fauna of Elateridae in the Japanese Empire", and by OHIRA (1969~1972) as the subfamily Agriotinae in the "Nihon no Kometsukimushi" series.

Before going further I wish to express my cordial thanks to many entomologists giving me useful helps in various ways.

Subfamily ELATERINAE LEACH Tribe *AGRIOTINI* CHAMPION

Key to Japanese genera of Agriotini

1. Fourth antennal joint 1.5 times as long as two preceding joints combined or more.
Hind angles of pronotum without carination. Antero-lateral corners of prosternum with an acute protuberance at inside of anterior end of sutures.
..... *Insuliectinus* gen. nov.
- Fourth antennal joint generally shorter than two preceding joints combined, or sometimes subequal. Hind angles of pronotum unicarinate, generally distinct, but sometimes more or less obscure in some species of *Dalopius*. 2
2. Lateral margins of pronotum incomplete anteriorly. Lateral lobes of aedeagus simply elongate without apico-lateral projection. *Sadoganus*
- Lateral margins of pronotum generally complete, sometimes interrupted partly near middle. Lateral lobes of aedeagus with acutely pointed, round or square-built apico-lateral projection. 3
3. Lateral sides of front before eyes furrowed triangularly. Antero-lateral corners of prosternum with an acute protuberance at inside of anterior end of sutures.
..... *Chatanayus*
- Lateral sides of front simple. Antero-lateral corners of prosternum simple. 4

4. Lateral sides of mesosternal groove distinctly expanded beneath roundly at posterior half. Bursa copulatrix with a pair of bundles of long acute sclerotic and radiate thornes. *Dalopius*
- Lateral sides of mesosternal groove simple, not expanded beneath, or sometimes hardly elevated longitudinally. Bursa copulatrix with two or three sclerotic plates having many long thornes or small protuberances. 5
5. Prosternal sutures straight near procoxal cavity, furrowed anteriorly more than half of sutural length ; posterior end not surrounded outer edge of procoxal cavity. *Ectinoides*
- Prosternal sutures more or less sinuate near procoxal cavity, furrowed anteriorly less than one-third of sutural length ; posterior end more or less surrounded outer edge of procoxal cavity. 6
6. Frontal carinae conglutinating with clypeal margin (rarely not conglutinating, when third antennal joint plainly smaller than fourth). Lateral margins of pronotum generally complete, or sometimes interrupted near middle. Mesosternal groove parallel-sided. Bursa copulatrix with two sclerotic plates having many long thornes or small protuberances. *Ectinus*
- Frontal carinae always not conglutinating with clypeal margin. Third antennal joint not so smaller than fourth. Lateral margins of pronotum usually complete. Mesosternal groove more or less expanded medio-laterally. Bursa copulatrix with three different-sized sclerotic plates having many small protuberances. *Agriotes*

Genus *Insuliectinus* gen. nov.

Type-species : *Insuliectinus amami* gen. et sp. nov.

Description. Male. Body elongate, rather well flattened above and moderately elevated beneath, and parallel-sided. Head narrow with a large clear subtriangular and elongate furrow along anterior side of each eye ; eyes distinctly large, spherical and well prominent outwards ; frontal carinae U-shaped and incomplete medianly. Antennae slender ; second and third joint small, more or less bulbous, and nearly equal in length and shape each other ; fourth conspicuously longer than two preceding joints combined together ; each joint from fourth to tenth elongate triangular and weakly serrated. Lateral margins of pronotum complete, definitely limited and almost straightly extending from base of hind angles to anterior corners in profile. Hind angles of pronotum elongate, simple, without carination. Scutellum flat and obliquely declivous forewards. Elytra moderate with fine punctate-striae plainly ; apices with a minute spine at each sutural end. Prosternal sutures double and clearly canaliculate at about anterior one-fourth of total length deeply ; posterior end a little sinuate near procoxal cavity. Frontal margin of prosternum rounded, distinctly carinate, with an acuminate protuberance at outer corner remarkably. Prosternal process elongate, straightly extending backwards, with a small notch at under side near apex. Mesosternal groove parallel-sided ; sides longitudinally elevated beneath ; rear end of groove well approaching posterior margin of mesosternum. Legs slender with tarsi and claws ordinary. Aedeagus broad ; basal plate plainly large ; apex of lateral lobes acutely

and widely projecting outwards. Female unknown.

Remarks. This new genus in the outline resembles *Chatanayus*, *Ectinus* or *Agriotes* among the Japanese Agriotini-genera, though it is readily distinguished from any of the other known genera from Japan and its adjacent area by the characteristics used in the generic key. According to the literature, moreover, it somewhat intimates closely to the Indo-Chinese genus *Tinecus*, but the shape of lateral lobe of aedeagus is plainly differentiated mutually.

1. *Insuliectinus amami* sp. nov.

アマミカバイロコメツキ

(Figs. 1, 3, 40, 116 & 117)

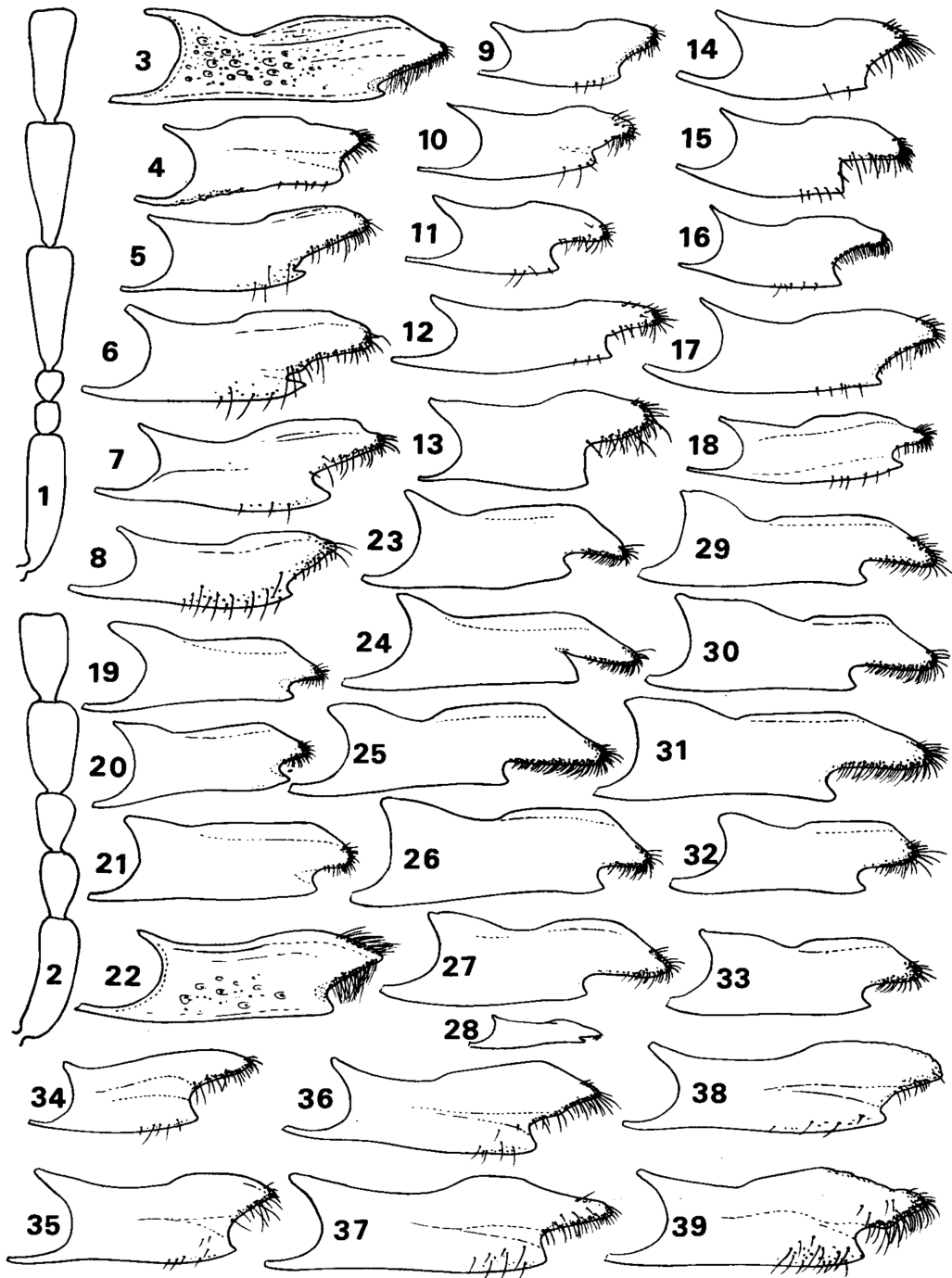
Description. Male. Length 9.6 mm, and breadth 2.6 mm. Not so slender, elongate, rather flattened above longitudinally, moderately elevated beneath, and parallel-sided. Subopaque all over. Reddish brown wholly, with antennae and legs a little paler. Pubescence dense, semierect, rather long, and greyish white to somewhat yellowish.

Head narrow, weakly convex above between eyes, then obliquely declivous antero-downwards, having a large elongate and subtriangular furrow along each antero-lateral margin before eyes; relative breadth of each eye and vertex across eyes in dorsal view 10:29; frontal edge distinctly carinate definedly before eyes, then substraightly and obliquely prolonged medianly, and incompletely conglutinating with clypeal margin, which is well limited. Punctures plainly ocellate, very dense, large and uneven in size; interpunctate surface very narrow and almost invisible. Eyes large, spherical and remarkably prominent laterally.

Antennae (fig. 1) slender, a little longer than head and prothorax together (including rear angles). Relative joint length and width in first to fifth as 15:5, 5:4, 5:4.2, 14:6.2 and 13:6 respectively; basal joint robust, longest and strongly sinuate at base; second smallest and rather obconical or subbulbous; third ill-obconical, subequal to second in length, and scarcely wider; fourth elongate triangular, conspicuously longer than two preceding joints combined; fourth to tenth similar in form each other, though gently decreasing in length and width apically; eleventh elongate, plainly narrow, a little longer than tenth, and more or less spear-head-formed.

Pronotum a little elongate, slightly convex above before middle, having a weak medio-longitudinal depression on basal slope. Relative median length and width 50:45. Sides in dorsal view subparallel medianly, then roundly converging at anterior corners, and feebly diverging from base of rear angles to each apex straightly. Hind angles well developing backwards without carination; apex rather acutely pointed posteriorly. Lateral margins in profile entire, distinctly limited, and a little sinuate below near fore end. Punctures very dense, large, ocellate, more or less irregular in size, similar to those on vertex, but somewhat smaller generally; interpunctate space clearly narrow and almost invisible.

Scutellum elongate, tongue-shaped, obliquely declining antero-downwards, feebly depressed longitudinally; frontal edge emarginate medianly; sides weakly constricted before



Figs. 1 & 2, antennal segments from first to fifth, and figs. 3 to 39, prosternal process in profile. 1 & 3 : *Insuliectinus amami* gen. et sp. nov. (holotype), 2 & 22 : *Ectinus koshiki* sp. nov. (holotype), 4 : *Sadoganus babai* (paratype, Kyoto), 5 : *Chatanayus ishiharai ishiharai* (Shiga), 6 : *C. ishiharai seiinoi* subsp. nov. (holotype), 7 : *C. iusularis insularis* (Is. Ishigaki), 8 : *C. insularis isaoi* (holotype), 9 : *Daloptius miwai* (Niigata), 10 : *D. japonicus* sp. nov. (paratype, Gumma), 11 : *D. tamui* (Nara), 12 : *D. bizen* sp. nov. (holotype), 13 ; *D. yakuensis* (Is. Yakushima), 14 : *D. ainu* (paratype, Is. Rishiri), 15 : *D. patagiatus* (Akita), 16 : *D. exilis*

middle; apex acuminately pointed; punctures almost absent; surface generally glabrous with microscopical shagreen-like sculptures all over. Relative median length and basal breadth 15:10.

Elytra more or less flattened longitudinally, though sutures slightly elevated above medianly, parallel-sided behind humeral angles to apical one-third, then roundly and gently convergent to apices. Relative sutural length and humeral breadth 50:19. Striae fine with minute elongate punctures partly interrupted. Strial intervals almost flattened, having dense fine punctures and distinct transverse rugose creases. Apex moderately ended with a small spine at sutural extremity.

Propleural punctures sparser and smaller than pronotal ones and subocellate; interpunctate surface smooth entirely. Prosternal punctures sparser, a little smaller and rather more uneven than those on propleuron, and generally subocellate; interpunctate surface perfectly glabrous. Prosternal fore edge rounded, well strongly carinate, with an acute protuberance at each antero-outer corner. Prosternal process (fig. 3) straightly extending posteriorly, with a small acuminate step near apical one-third on under side; apex bluntly pointed with hairs, which are long and plainly dense on under side, short and sparse at apex, and rather few on upper side. Prosternal sutures broadly double conspicuously, diverging forwards and obviously canaliculate deeply at anterior end. Mesosternal groove broad, parallel-sided distinctly; postero-lateral sides longitudinally elevated below weakly. Metasternal punctures generally smaller and denser than those on prosternum, though becoming gradually large and sparse laterally, and single entirely. Hind coxal plates narrowing outwards with outer end truncated briefly. Legs slender and moderate.

Aedeagus (figs. 40, 116 & 117) rather broad; median lobe also clearly broad with a small round protuberance at apex; lateral lobes elongate triangular, with apex rounded apically, and definedly projecting outwards acutely having a few saw-like creases; basal plate plainly large, longer than one-third of total length in aedeagus.

Female unknown.

Distribution. Japan: Satsunans (Is. Amami-ohshima).

Type-series. Holotype, male, Mt. Yuwan-dake in Is. Amami-ohshima, Kagoshima Prefecture, August 8, 1977, R. SATO et al. leg., at light-trap. This specimen lacks some segments of antennae and legs.

Remarks. In the general outline of this new species it is closely allied to some brownish species of the genera *Ectinus*, *Agriotes* or *Chatanayus* belonging under the tribe Agriotini, and somewhat to the Megapenthini-genera: *Amami-penthes*, *Neopenthes* etc., although the former is easily distinguishable from these genera in the combination of the

(Fukui), 17: *D. naomii* (paratype, Gifu), 18: *Ectinoides insignitus* (Kyoto), 19: *Ectinus insidiosus* (Nagano), 20: *E. exulatus* (Kochi), 21: *E. higonus* (Nara), 23: *E. sepes* (Kyoto), 24: *E. obakooe* (paratype, Akita), 25: *E. miyakei* (Oita), 26: *E. puberulus* (Nagano), 27: *E. dahuricus persimilis* (Is. Rebun), 28: *E. dahuricus dahuricus* (USSR: GURJEVA, 1979, fig. 488), 29: *E. nipponicus* (paratype, Akita), 30: *E. longicollis* (Nagano), 31: *E. obscurolineatus* (paratype, Toyama), 32: *E. sericeus sericeus* (Iwate), 33: *E. sericeus babai* (Is. Tsushima), 34: *Agriotes elegantulus* (Kyoto), 35: *A. hirayamai* (Is. Iriomote), 36: *A. ogurae ogurae* (Osaka), 37: *A. ogurae fuscicollis* (Hokkaido), 38: *A. ogurae hegurensis* (Is. Oki-no-shima), and 39: *A. obscurus* (Dalarna).

continuing structures : the second and third joints of antennae are remarkably small, and their combined length is clearly shorter than that of the fourth, anterior corner of the vertex before eyes are plainly furrowed elongately and deeply, and posterior angles of the pronotum are not carinate.

Thanks to Mr. S. YAMAYA of the Nagaoka Mun. Sci. Museum, who has kindly sent me this interesting elaterid-beetle from Is. Amami-ohsima, some structures hitherto unknown have been revealed, especially the anterior end of the prosternal suture has an acute protuberance.

Genus *Sadoganus* OHIRA

Type-species : *Sadoganus babai* OHIRA, 1956, Kontyû, 24(1) : 12, pl. 4, figs. 4 & 5, pl. 5, figs. 5~7, from Japan (Is. Sado & Honshu) (monotypic and original designation).

Sadoganus OHIRA, 1956, Kontyû, 24(1) : 11~12; OHIRA, 1962a : 132 (larva); KISHII, 1966 : 37; OHIRA, 1971b : 20; GURJEVA, 1979 : 308.

Supplemental description. Frontal carinae conglutinating with clypeal margin entirely. Lateral sides of front before eyes simple. Second joint of antennae shorter than third; fourth subequal length to two preceding joints combined or a little longer; fourth to tenth clearly serrated. Hind angles of pronotum unicarinate obscurely. Antero-lateral corners of prosternum simple. Prosternal sutures narrow, straight, slowly double posteriorly, broadly and rather deeply furrowed at each anterior two-fifths of total suture length; posterior extremity not surrounded outer edge of procoxal cavity. Lateral sides of mesosternal groove not expanded beneath, with rear end distinctly narrowed and keeping enough distance across hind edge of mesosternum. Legs moderate, with fourth tarsal joint simple.

2. *Sadoganus babai* OHIRA, 1956

ババムナピロコメツキ

(ニセハナコメツキ)

(Figs. 4 & 41)

Sadoganus babai OHIRA, 1956, Kontyû, 24(1) : 12, pl. 4, figs. 4 & 5, pl. 5, figs. 5~7 (Is. Sado, Mie, Kobotoke near Tokyo, Kyoto, Osaka & Nagano); OHIRA, 1962a : 132, pl. 57, A-K (Gifu) (larva); KISHII, 1965 : 196 (Kyoto); KISHII, 1966 : 37 (Kyoto); BABA et OHIRA, 1967 : 33, fig. 17 (Niigata); TANAKA, 1968 : 7 (Toyama); OHIRA, 1968d : 16, figs. 16-o, 17-d, & -1, 18-h, and -i (larva); OHIRA, 1971b : 20, figs. 494 & 513; OHIRA et al., 1971 : 16 (Hiroshima); BABA, 1972 : 216 (Niigata); MATOBA et HIRAMATSU, 1974 : 21 (Wakayama); OHIRA, 1977 : 21, fig. 2 (Aichi); WATANABE, 1977 : 14 (Okayama); BABA et OHIRA, 1978a : 29 (Niigata); TANAKA, 1979 : 394; KIDO, 1980 : 126, figs. A, B & D (Fukuoka & Kumamoto); BABA et KISHII, 1981a : 16, fig. 10 (Niigata).

Nise-hana-kometsuki (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, Tab.

Supplemental description. Length 8~11.5 mm, width 2.5~3.4 mm. Black with under surface and legs more or less dark reddish. Pubescence short, pale fulvous to greyish. Relative length and width from basal joint of antennae to fifth as 14:7, 5:4, 6:4, 12:8 and 10:8 respectively. Pronotal punctures minute, plainly dense, rather even and single;

interpunctate surface with fine shagreen-like sculptures all over. Hind angles of pronotum short, not divergent outwards, and acutely pointed rearwards. Elytral punctation among interstitial areas very rugose, dense and coarse, partly somewhat granulated, especially on basal angles. Prosternal process in profile (fig. 4). Aedeagus (fig. 41) narrow with lateral lobes simply elongate at apex without any lateral projection.

Distribution. Japan : Honshu (Tokyo, Nagano, Gifu, Aichi, Mie, Niigata, Is.Sado, Toyama, Kyoto, Osaka, Wakayama, Okayama & Hiroshima), and Kyushu (Fukuoka & Kumamoto).

Remarks. There is no information about the bursa copulatrix, because I have not seen any female examples.

Genus *Chatanayus* FLEUTIAUX

Type-species : *Agonischius ruficollis* FLEUTIAUX, 1902, Ann. Soc. ent. Fr., 1902 : 577, from Vietnam (Tonkin) (monotypic) (= *Agonischius Fleutiauxi* SCHWARZ, 1907, in WYTSMAN, Gen. Ins., Elat. : 277).

Chatanayus FLEUTIAUX, 1939, Ann. Soc. ent. Fr., 108 : 124 ; OHIRA, 1973 : 99.

Neoagriotes OHIRA, 1962b, Kontyû, 30(4) : 263 (as subgenus of *Agriotes* ESCHSCHOLTZ) (Type-species : *Agriotes insularis* MIWA, 1934, Fauna Elat. Jap. Emp. : 260, pl. 8, fig. 21, from Is. Iriomote, monotypic and original designation) ; KISHII, 1966 : 39 (as valid genus) ; OHIRA, 1971b : 22 ; OHIRA, 1973d : 99 & 101 (= *Chatanayus*).

Supplemental description. Frontal carina conglutinating with clypeal margin entirely. Second and third joint of antennae similar in length and form, fourth subequal length to two preceding joints combined or a little longer, and fourth to tenth weakly serrated. Hind angles of pronotum obscurely unicarinate. Prosternal sutures conspicuously broad and double, not straight, feebly curved antero-outwards, with each anterior end broadly and shallowly furrowed less than one-third of total length of sutures ; posterior extremities a little sinuate, and entirely surrounded outer edge of each procoxal cavity. Lateral sides of mesosternal groove longitudinally elevated beneath slightly. Hind end of mesosternal groove clearly broad, and keeping enough distance across hind edge of mesosternum. Legs moderate, with fourth tarsal joint simple. Aedeagus broad ; median lobe broad ; lateral lobes with round or square-built latero-apical projection. Bursa copulatrix having usually three kinds of thorny sclerotic plate in form and size, and sometimes having also an elongate thorny tube.

Key to Japanese species of *Chatanayus*

1. Antennae a little longer than apex of pronotal hind angles in male, or subequal in female. Apical expansion of lateral lobes in aedeagus longer than width. Median plate of thorny sclerotic plates on bursa copulatrix broad and small. 2
- Antennae shorter than apex of pronotal hind angles. Apical expansion of lateral lobes in aedeagus wider than length. Median plate of sclerotic thorny plates on bursa copulatrix narrow and large. 3
2. Carination on hind angles of pronotum distinct plainly. 3a. *ishiharai ishiharai*

- Carination on hind angles of pronotum very obscure. 3b. *ishiharai seinoi* subsp. nov.
- 3. Apex of lateral lobes in aedeagus rather acutely pointed apically. 4a. *insularis insularis*
- Apex of lateral lobes in aedeagus truncated. 4b. *insularis isaoi*

3a. *Chatanayus ishiharai ishiharai* (NAKANE et KISHII, 1954)

ウスカバイロコメツキ

(イシハラムナボソコメツキ, イシハラカバイロコメツキ)

(Figs. 5, 42 & 109)

Agriotes ishiharai NAKANE et KISHII, 1954a, Trans. Shikoku ent. Soc., 4(1) : 14, fig. 19 (Matsuyama in Iyo); NAKANE et KISHII, 1956a : 22; OHIRA, 1962a : 128, pl. 54, A-K (Aichi & Gifu) (*Agriotes*?, larva); KISHII, 1965 : 196 (Kyoto).

Agonisthus sp. KAMIYA et OHIRA, 1954, Shin-konchû, 7(7) : 21 (Okazaki, at light-trap). May be an error of *Agonischius*.

Agriotes (Neoagriotes) insularis ishiharai NAKANE et KISHII : OHIRA, 1962b, Kontyû, 30(4) : 264, pl. 15, figs. C-F (Okazaki).

Ectinus? *ishiharai* NAKANE et KISHII, 1955 [!]: KISHII, 1963, Akitu, 11(1) : 13 (Shiga & Kyoto).

Neoagriotes ishiharai NAKANE et KISHII : KISHII, 1966, Elat. Kyoto adj. Reg., Kyoto : 39 (Kyoto); OHIRA, 1968d : 12-14, figs. 2-e, 16-a, -v, 17-f, -k & 18-f (larva); OHIRA, 1971b : 22, figs. 491 & 505.

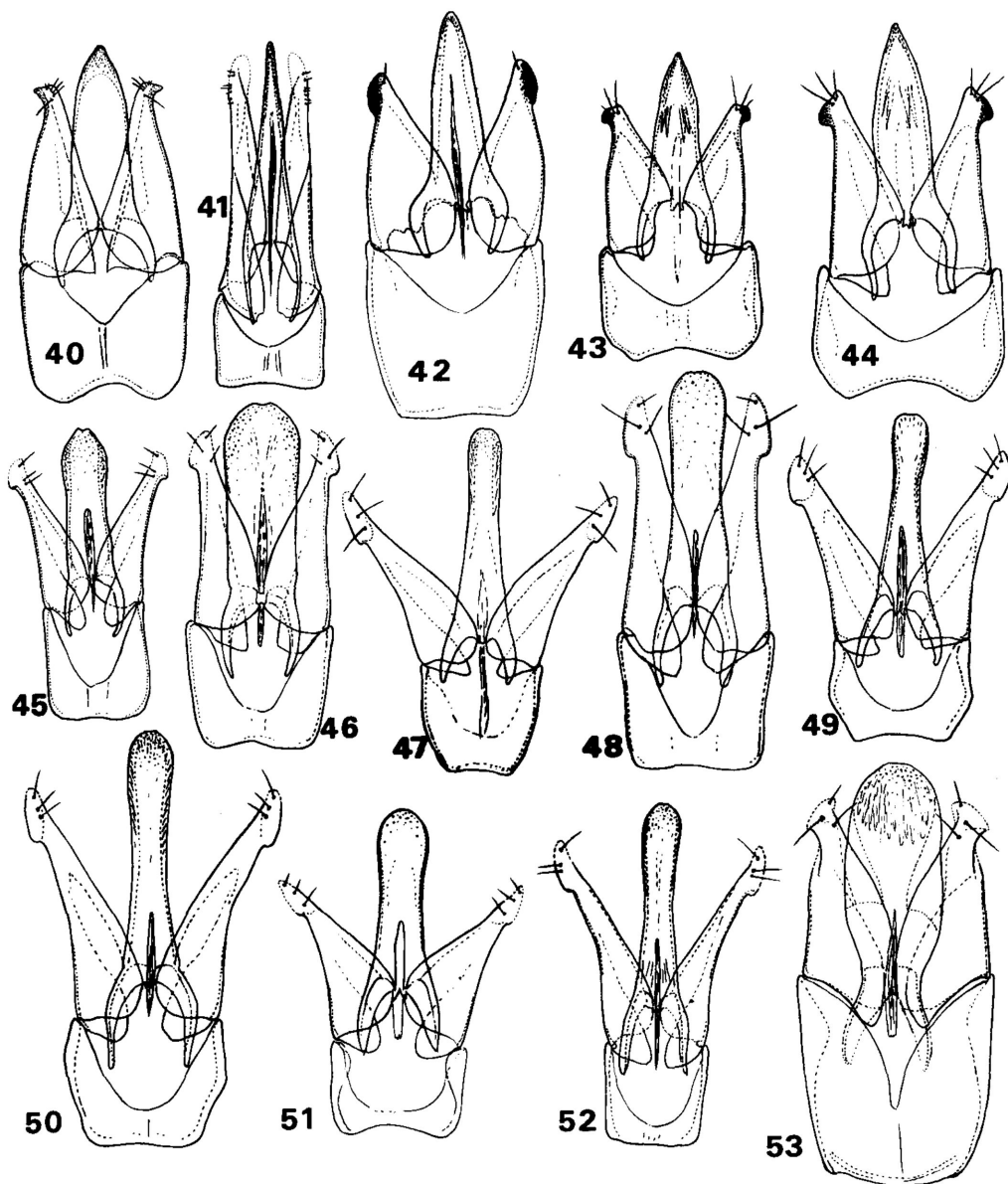
Chatanayus ishiharai NAKANE et KISHII : OHIRA, 1973c, Kontyû to Shizen, 8(11) : 26 (Kagoshima); OHIRA et al., 1976 : 11, fig. 1 (Mie); OHIRA et ASAOKA, 1976 : 150 (Aichi); OHIRA, 1983 : 9.

Chatanyus [!] *ishiharai* NAKANE et KISHII : SUZUKI, 1983b, Gekkan-mushi, 150 : 32 (Fukui). Lapsus calami.

Usu-kabairo-kometsuki (Japanese name only) SASAKAWA et KISHII, 1979, Dôbutsu-bumpu Chôsa-hôkoku-sho, Ins., Kankyô-chyô, Kyoto : 62.

Supplemental description. Length 9~9.5 mm (male), 9.5~10 mm (female), and width 2.4~2.6 mm (male), 2.8~3 mm (female). Subopaque. Generally pale brown with pronotal disc more or less dark. Pubescence white. Antennae filiformed and serration distinctly weak; relative length and width from basal joint to fifth as 29:9, 11:7, 14:7, 21:11 and 21:10 (male: Yamadayama, Kyoto, August 28, 1961, Y. HAYASHIDA leg.), and 26:8, 11:6.5, 12:6, 16:8 and 15:8 (female: Takashima-chyô, Shiga, August 8, 1962, K. FURUYA leg.). Medio-longitudinal canaliculation of pronotum very feeble and hardly visible on posterior slope only. Pronotal punctures dense, not so large, even and single. Prosternal process in profile (fig 5). Apical expansion of lateral lobes in aedeagus (fig. 42) longer than width, and roundly expanded laterally with many minute saw-like creases. Bursa copulatrix with three kinds of thorny sclerotic plate (fig. 109).

Distribution. Japan : Honshu (Aichi, Gifu, Mie, Fukui, Shiga, Kyoto & Hyogo : a female, Ikuno, August 18, 1961, S. TSUDA leg.), Shikoku (Ehime), and Kyushu (Kagoshima).



Figs. 40 to 53, aedeagus. 40 : *Insuliectinus amami* gen. et sp. nov. (holotype, 4310), 41 : *Sadoganus babai* (Kyoto, 357), 42 : *Chatanayus ishiharai ishiharai* (Kyoto, 2690), 43 : *C. insularis isaoi* (Is. Okinawa, 2170), 44 : *C. insularis insularis* (Is. Ishigaki, 2691), 45 : *Dalopius miwai* (Tochigi, 2718), 46 : *D. japonicus* sp. nov. (paratype, Gumma, 313), 47 : *D. tamui* (holotype, 2117), 48 : *D. bizen* sp. nov. (holotype, 3620), 49 : *D. yakuensis* (paratype, Is. Yakushima, 2263), 50 : *D. ainu* (holotype, 991), 51 : *D. patagiatus* (Akita, 3531), 52 : *D. exilis* (paratype, Nagano, 2723), and 53 : *D. naomii* (holotype, 3749).

3b. *Chatanayus ishiharai seinoi* subsp. nov.

セイノウスカバイロコメツキ

(Figs. 6 & 110)

Chatanayus insularis MIWA : BABA et KISHII, 1982, Trans. Essa Kontyû Dôkô-kai, Niigata, 53 : 31 (Is. Amami-ohshima).

Description. Female. Length 10.5~11 mm, width 3 mm. Blackish brown with antennae and legs yellowish. Subnitid. Pubescence fuscous. Antennae ill-serrated; relative length and width from basal joint to fifth respectively as 28:9, 10:7, 10:8, 20:10 and 19:10. Pronotal punctures distinctly dense, a little uneven and single. Interpunctate surface clearly glabrous. Medio-longitudinal canaliculation on pronotum rather distinct on posterior slope. Carination of hind angles of pronotum very obscure. Prosternal process in profile (fig. 6). Propleural punctures conspicuously sparse, small and simple. Bursa copulatrix with three thorny sclerotic plates, which are different in size each other, and remarkably elongate thorny tube (fig. 110). Male unknown.

Distribution. Japan : Satsunans (Is. Amami-ohshima).

Type-series. Holotype and a paratype, females, Mt. Yui-dake in Is. Amami-ohshima, Kagoshima Prefecture, August 13-15, 1977, A. SEINO leg.

Remarks. I erroneously identified (BABA et KISHII, 1982 : 31) the materials of type-series as a synonym of *Chatanayus insularis*. Generally, the external characteristics of this new subspecies resemble those of *C. insularis* (MIWA, 1934), although the feature of thorny sclerotic plates (figs. 109 & 110) on the bursa copulatrix is undoubtedly that of *ishiharai*. Thanks to Dr. K. BABA, who has kindly sent me this material.

4a. *Chatanayus insularis insularis* (MIWA, 1934)

オオウスカバイロコメツキ

(Figs. 7, 44, 111 & 113)

Agriotes insularis MIWA, 1934, Fauna Elat. Jap. Emp., Dept. Agr. Govt. res. Inst. Formosa, 65 : 260, pl. 8, fig. 21 (Is. Iriomote).

Agriotes (Neoagriotes) insularis insularis MIWA : OHIRA, 1962, Kontyû, 30(4) : 263.

Neoagriotes insularis MIWA ; OHIRA, 1968, Bull. Aichi Univ. Educ., 17 (Nat. Sci.) : 123, figs. 18 & 19 (Ishigaki & Iriomote) (partim); OHIRA, 1970 : 108, pl. 1, fig. G (Iriomote) (partim); OHIRA, 1971 : 22, fig. 508, phot. G ; OHIRA, 1973 : 30 (Ishigaki); KISHII, 1973 : 16, fig. 34 (Is. Ishigaki-jima).

Chatanayus insularis MIWA : OHIRA, 1973, Kontyû, 41(1) : 99.

Supplemental description. Length 10.5~11 mm (male), 10 mm (female), and width 2.4~2.6 mm (male), 2.6 mm (female). Body not so robust and subcylindrical. Reddish brown with pronotum dark brown, and antennae and legs more or less pale orange. Subnitid. Pubescence greyish to a little yellow. Antennae clearly serrated from fourth joint to tenth; relative length and width from basal joint to fifth respectively as 25:9, 10:7, 11:7, 18:10 and 17:10 (male : Mt. Omoto, Is. Ishigaki-jima, July 5, 1965, Y. HAYASHI leg.), and 28:10, 10:6, 12:5.5, 16:12 and 17:11 (female : Mt. Omoto, Is. Ishiga-

ki-jima, July 6, 1964, Y. HAMA leg.). Pronotal punctures dense, even, large and simple. Interpunctate surface rather glabrous. Medio-longitudinal canaliculation of pronotum distinct on basal slope. Carination on hind angles of pronotum clearly distinct. Prosternal process in profile (fig. 7). Propleural punctures small, single and very sparse. Apical expansion of lateral lobe in aedeagus (figs. 44 & 113) a little wider than length, rather roundly expanded laterally with many minute saw-like creases, and acutely pointed apically. Thorny and sclerotic plates of bursa copulatrix broad and large (fig. 111).

Distribution. Japan : Okinawas (Is. Ishigaki-jima and Is. Iriomote-jima).

4b. *Chatanayus insularis isaoi* (KISHII, 1973) stat. nov.

Resurrected from synonymy

マトバウスカバイロコメツキ

(Figs. 8, 43, 112, 114 & 115)

Neoagriotes isaoi KISHII, 1973, Bull. Heian High Sch., 17 : 16, figs. 35, 51 & 52 (Is. Amami-ohshima) ; KISHII, 1974 : 19, figs. 21 & 47 (Is. Okinawa-hontô).

Chatanayus insularis MIWA : BABA et KISHII, 1982, Trans. Essa Kontyû Dôkô-kai, Niigata, 53 : 48, fig. 31 (Is. Amami-ohshima) (= *isaoi*) ; OHIRA et KUSUI, 1982 : 14 (Is. Okinawa).

Neoagriotes insularis MIWA : OHIRA, 1968b, Bull. Aichi Univ. Educ., 17 (Nat. Sci.) : 123, figs. 18 & 19 (Amami-Ôshima) (partim) ; OHIRA, 1970b : 108, pl. 1, fig. G (Amami-Ôshima) (partim) ; OHIRA, 1971b : 22, fig. 508, phot. G (Amami) (partim).

Supplemental description. Length 11.2 mm (male), 12.5 mm (female), and width 2.5 mm (male), 3.5 mm (female). Distinctly robust and cylindrical. Dusky blackish brown with antennae, scutellum and legs more or less paler. Opaque. Pubescence golden-yellow. Antennae plainly serrated from fourth joint to tenth ; relative length and width from basal joint to fifth each as 35 : 11, 10 : 8, 11 : 9, 25 : 12.5 and 24 : 12 (female : holotype, Hatsuno, Is. Amami-ohshima, June 22, 1971, I. MATOBA leg.). Pronotal punctures a little dense, even, not so large and single. Interpunctate surface smooth perfectly. Medio-longitudinal canaliculation of pronotum wide and shallow on basal slope only, entirely invisible anteriorly. Carination on hind angles of pronotum conspicuous and acute. Prosternal process in profile (fig. 8). Propleural punctures rather large, sparse and single. Apical expansion of lateral lobe in aedeagus (figs. 43, 114 & 115) plainly wider than length, rather truncated laterally with many minute saw-like creases ; apex also truncated without acute projection. Thorny and sclerotized plates of bursa copulatrix (fig. 112) broad and large.

Distribution. Japan : Satsunans (Is. Amami-ohshima) and Okinawas (Is. Okinawa-hontô).

Remarks. In 1982, I erroneously treated *isaoi* as a synonym of *insularis*, though they may be separated each other in the coloration and size of the body, and in the shape of aedeagi. Thus, the Amami and Okinawa population constitutes a distinct subspecies of *insularis*.

Genus *Dalopius* ESCHSCHOLTZ

Type-species : *Elater marginatus* FABRICIUS, 1801, Syst. Eleuth., 2 : 236, from Europe (de-

signated by WESTWOOD, 1838) (= *Elater marginatus* LINNAEUS, 1758, Syst. Nat. ed. 10, 1 : 405).

Dalopius ESCHSCHOLTZ, 1829, In Thon, Ent. Archiv., 2(1) : 34 ; JAKOBSON, 1913 : 741 & 744 ; HYSLOP, 1921 : 638 ; MEQUIGNON, 1930 : 94 ; BROWN, 1934 : 30 ; ARNETT, 1955 : 607 ; KISHII, 1956 : 17 ; BECKER, 1956 : 25 ; KISHII, 1962 : 14 & 26 ; OHIRA, 1962a : 120 & 125 (larva) ; KISHII, 1966 : 38 ; GURJEVA, 1971 : 882-888 ; OHIRA, 1971b : 22 (as *Dolopius* [!] in page 20) ; GURJEVA, 1979 : 308, 309 & 344.

Dolopius CASTELNAU, 1836, Revue Ent. (SILBERMANN), 4 : tab. (opposite page 5) (Unjustified emendation) ; REDTENBACHER, 1849 : 32 ; SCHWARZ, 1907 : 254 & 280 ; SCHAUFUSS, 1911 : 628 & 636 ; REITTER, 1911 : 210 & 220 ; KUHNT, 1913 : 618 & 624 ; SCHENKLING, 1927 : 472 ; MIWA, 1928 : 37 ; MIWA, 1934 : 43 ; JAGEMANN, 1955 : 271 ; DOLIN, 1964 : 286 ; PALM, 1972 : 53. And many others.

Dolopsus ARNETT, 1955, Proc. US nat. Mus., 103(3336) : 608. Misreading or miscopying on MEQUIGNON's paper in 1930.

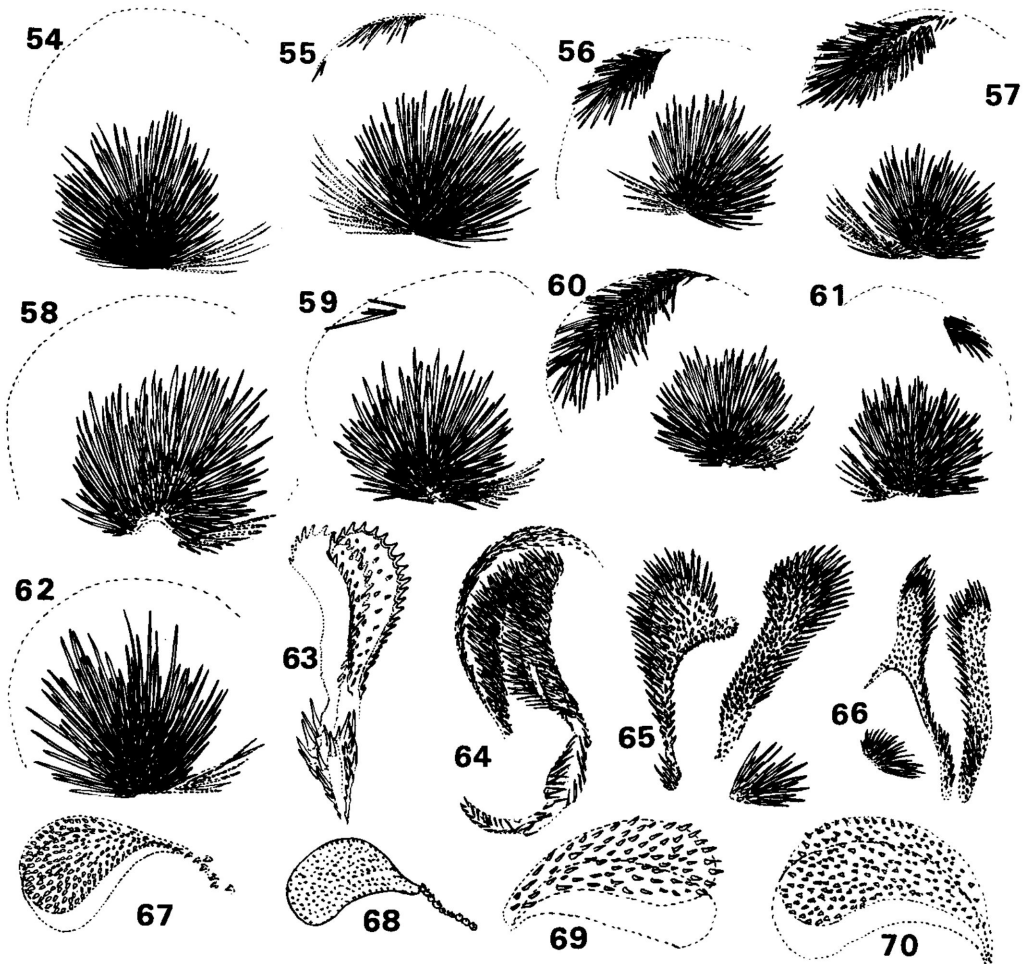
Supplemental description. In almost species (exclusive of *naomii*), body blackish brown, with narrow anterior margin and hind angles of pronotum, elytral longitudinal stripes from humeri to apices, and legs more or less yellowish brown, and elytral stripes generally variable in length, width or form. Pubescence fine, rather long, more or less dense, semierect, and pale yellow with some golden lustre. Frontal carinae incomplete medianly, always interrupted, and not conglutinating with clypeal margin. Lateral sides of front before eyes simple. Second joint of antennae subequal to third ; fourth to tenth ill-serrated or sometimes rather filiformed. Hind angles of pronotum indistinctly unicarinate. Prosternal sutures broad, double, substraight or a little sinuate, and divergent apically ; each anterior end very shallowly and broadly furrowed at about one-third of sutural length ; posterior extremity distinctly sinuate and entirely surrounded outer edge of procoxal cavity. Lateral sides of mesosternal groove parallel-sided, conspicuously enlarged roundly beneath before mesocoxal cavities. Posterior end of mesosternal groove keeping enough distance across hind edge of mesosternum. Fourth tarsal joint a little expanded apically. Median lobe of aedeagus generally widened outwards near apex. Lateral lobe of aedeagus more or less expanded outwards at apex. Bursa copulatrix with a pair of bundles of sclerotic radiate thornes, and sometimes having also a feathery thorny plate or several spines along margin on bursa.

Remarks. Generally, *Dalopius*-species in Japan is one of the most difficult ones to identify the species by the external characteristics. Their coloration, body measurements, ratio of antennal segments etc. are closely allied each other and moreover these characters are frequently various. Though, the structures of male aedeagus are very useful, and in female the number and form of sclerotic plates on the bursa copulatrix is also useful comparatively to classify in most cases.

Key to Japanese species of *Dalopius*

1. More or less slender. Black to dusky brown. Elytral stripes generally distinct, rarely very obscure. Median lobe of aedeagus always narrowed medianly. 2
- Rather robust. Brownish red wholly. Elytral stripes absent, sometimes slightly paler

- at humeral part. Median lobe of aedeagus remarkably broad, not narrowed medianly. 13. *naomii*
2. Elytral striations deep, with rather large circular punctures irregularly; intervals among striae more or less elevated longitudinally, or rarely flattened. 3
- Elytral striations conspicuously fine, with minute elongate punctures regularly and continuously; intervals among striae perfectly flattened. 12. *exilis*
3. Second joint of antennae twice as long as wide or more. 4
- Second joint of antennae 1.8 times as long as wide or less. 5



Figs. 54 to 70, sclerotic plates or thorny bundles in bursa copulatrix. 54 : *Dalopius miwai* (Akita, 4450), 55 : *D. japonicus* sp. nov. (paratype, 3545), 56 : *D. tamui* (paratype, Wakayama, 2116), 57 : *D. bizen* sp. nov. (paratype, Okayama, 4470), 58 : *D. yakuensis* (paratype, Is. Yakushima, 2767), 59 : *D. ainu* (Hokkaido, 3637), 60 : *D. patagiatus* (Akita, 3607), 61 : *D. exilis* (Nagano, 3789), 62 : *D. naomii* (Iwate, 4166), 63 : *Ectinoides insignitus* (Kyoto, 4446), 64 : *Ectinus insidiosus* (Akita, 3523), 65 : *E. exulatus* (Shimane, 2751), 66 : *E. higonius* (Akita, 3525), 67 : *E. dahuricus persimilis* (Hokkaido, 3656), 68 : *E. dahuricus dahuricus* (USSR : GURJEVA, 1979, fig. 619), 69 : *E. obakoeae* (paratype, Akita, 3597), and 70 : *E. sepes* (Shiga, 4308).

4. Black stripe along elytral sutures more or less broad, slightly expanded outwards behind middle. Bursa copulatrix with two radiate thorny bundles only. 9. *yakuensis*
- Black stripe along elytral sutures generally narrow, sometimes almost vanished exclusive of basal area. Bursa copulatrix with two radiate thorny bundles and several spines on margin. 10. *ainu*
5. Antennae usually extending beyond hind angles of pronotum by two apical joints or more (male), and or less (female). 6
- Antennae extending beyond hind angles of pronotum by one apical joint (male), and or plainly less (female). 6. *japonicus* sp. nov.
6. Elytral stripes more or less narrowing medianly. 7
- Elytral stripes not narrowing medianly. 11. *patagiatus*
7. Median lobe of aedeagus slender, length (exclusive of basal pieces) ca. 4 times as well as apical width or more. Bursa copulatrix with two thorny bundles and a feathery thorny plate. 8
- Median lobe of aedeagus robust, length (exclusive of basal pieces) ca. 3.2~3.5 times as well as apical width or less. Bursa copulatrix with two distinct large thorny bundles only. 5. *miwai*
8. Median lobe of aedeagus narrow. Feathery thorny plate on margin of bursa copulatrix rather small. 7. *tamui*
- Median lobe of aedeagus broad. Feathery thorny plate on margin of bursa copulatrix distinctly large. 8. *bizen* sp. nov.

5. *Dalopius miwai* OHIRA, 1972

ナカグロヒメコメツキ

(ヒメナカグロヒメコメツキ)

(Figs. 9, 45 & 54)

Dalopius miwai OHIRA, 1972c, New Ent., 21(2/3) : 45, fig. 3 (Mt. Mikunidake in Echigo & Shiga-kôgen in Nagano); SHIRAHATA et KUROSAWA, 1972 : 258 (Yamagata); BABA et OHIRA, 1973 : 10 (Niigata); OHIRA, 1975b : 26 (Fukui); BABA et OHIRA, 1977 : 10 (Niigata); BABA et OHIRA, 1978b : 40 (Yamagata); TANAKA, 1979 : 394 (Toyama); BABA et KISHII, 1979 : 20, fig. 2-24 (Akita) (partim); BABA, 1981 : 45, fig. (Niigata); KISHII, 1981 : 21, fig. 9 (Gifu, Nagano, Yamagata, Akita & Iwate); KUSAKARI, 1983 : 9 (Yamagata).

Dalopius lewisi FLEUTIAUX : KISHII et OHIRA, 1956 : 77 (Niigata) (partim); BABA et KISHII, 1957 : 71 (Niigata) (partim); INAZUMI, 1963 : 185; CHUJO et OHIRA, 1965 : 27 (Aomori); INAZUMI, 1965 : 42 (Tochigi); BABA et OHIRA, 1967 : 32 (Is. Sado); OHIRA, 1968c : 77 (Gifu); OHIRA et NAKAMURA, 1970 : 32 (Iwate); OHIRA, 1971b : 23, figs. 495, 511 & 551, phot. E; BABA, 1972 : 216 (Niigata); SASAJI et al., 1976 : 175 (Fukui).

Dalopius lewsi [!] FLEUTIAUX : TANAKA, 1968, Amica, 12(1) : 5 (Toyama), emend.

Supplemental description. Length 4.5~6 mm (male), 5.5~6.2 mm (female). Subshining. Elytral yellowish stripes more or less narrowing medianly, and very variable in degree, rarely perfectly interrupted. Antennae filiformed, serration weak; relative length and

width from basal joint to fifth respectively as 18:7, 7.5:5, 7.5:5, 12:6 and 12:6 (male : Mt. Kurikoma, Akita, July 17, 1978, K. BABA leg.), and 19:8, 8.5:5, 8.5:6, 10:6 and 10:6 (female : Mt. Chokai, Akita, June 20, 1978, K. BABA et N. KATO leg.). Elytral apex moderate, sometimes more or less truncate. Process of prosternum in profile (fig. 9). Fourth tarsal joint hardly expanded apically. Aedeagus (fig. 45); median lobe robust and broad; apical expansion of lateral lobe rather short. Radiate thornes in bursa copulatrix (fig. 54) long, a little slender, with two bundles only.

Distribution. Japan : Honshu (Aomori, Iwate, Yamagata, Akita, Gumma, Tochigi, Gifu, Nagano, Niigata, Is. Sado, Toyama & Fukui).

Remarks. I erroneously identified as *D. miwai* and illustrated the aedeagus of a specimen from Tokugô Pass in Nagano Prefecture in 1977 (pl. 4, fig. 97) and in 1981 (pl. 1, fig. 12). These examples are a new species, and describe here as *japonicus* as follow as. And, perhaps, some ones among the specimens recorded as *Dolopius* [!] *candzei* LEWIS by MIWA (1928 : 49) and as *Dolopius* [!] *marginatus* LINNAEUS by MIWA (1933b : 73; 1934 : 136) from Honshu should be corrected severally as either *Dalopius exilis*, *D. japonicus* or *D. miwai*.

6. *Dalopius japonicus* sp. nov.

ミヤマナカグロヒメコメツキ

(Figs. 10, 46, 55, 118, 119, 123 & 124)

Dalopius marginatus LINNAEUS : NAKANE et KISHII, 1954b, Sci. Res. Ozegahara Moor, Tokyo : 731 (Oze).

Dalopius lewisi FLEUTIAUX : KISHII, 1956, Akitu, 5(1) : 19, figs. 2, 4 & 7 (Honshu) (partim); KISHII et OHIRA, 1956 : 77 (Niigata) (partim); BABA et KISHII, 1957 : 71 (Niigata) (partim); NAKANE, 1959 : 92, fig. 4 (Oze).

Dalopius miwai OHIRA : KISHII, 1977, Bull. Heian High Sch., 21 : fig. 97 (Tokugô Pass); BABA et KISHII, 1979 : 20 (Akita) (partim); KISHII, 1981 : 21 (Yamagata) (partim) & fig. 12 (Tokugô Pass).

Description. Length 4.8~5.5 mm (male), 5.5~6.4 mm (female). Small, not so slender, elongate, subparallel-sided, more or less subcylindrical. Subshining. Brownish black, with pronotal margins more or less yellowish, scutellum a little reddish, elytral stripes yellowish and always more or less narrowing medianly, rarely entirely interrupted, and with legs yellowish brown. Generally elytral maculation very variable, and female usually paler than male in coloration. Pubescence fine, a little dense, semierect, rather long, and pale yellow.

Head rather broad, plainly convex above roundly between eyes, with a shallow depression medio-longitudinally, but rarely having no such depression; relative breadth of each eye and vertex across eyes in dorsal view 8:37. Frontal edge straight, well carinate definitely above antennal insertions, not conglutinating with clypeal margin, and obliterated medianly. Clypeal margin well limited, roundly projecting forwards. Vertex surface shagreen-likely sculptured perfectly with large ocellate and rather dense punctures.

Antennae slender, rather short, extending beyond hind angles of prothorax by only

apical-most joint or more (male), and or less (female). Relative length and width from basal joint to fifth respectively as 19:6.5, 8:4.5, 8:4.2, 11.5:6 and 11.5:6 (male : holotype), and 20:8, 9.5:5.5, 9.5:5.5, 11.5:7 and 12:6.5 (female : paratype, Kamikôchi, Nagano, July 9, 1951, H. ISHIDA leg.); basal joint longest, cylindrical and slightly sinuate, with a rather acute edge on hind margin; second and third similar in size, but the former cylindrical simply and the latter subobconical; fourth to tenth ill-serrated; eleventh ca. 2.7 times as long as width (male), and or less weakly (female).

Pronotum distinctly convex above medio-roundly and simply, without any canalication; relative median length and narrowest width 64:68 (male), and 79:84 (female); lateral sides in upper aspect subparallel each medianly, well expanded outwards behind frontal corners; hind angles straightly extending backwards, hardly divergent outwards, obtusely pointed at apex, with a short fine obsolete and straight carination along lateral margin. Discal surface generally shagreen-likely sculptured entirely, with dense sub-umbilicate and large punctures, but a little smaller than those on vertex in size.

Scutellum tongue-shaped, feebly elevated medianly, conspicuously declivous antero-obliquely; relative median length and basal width 16 : 12.5; lateral sides gently narrowing posteriorly from basal angles to rounded apex; surface slightly shagreen-likely sculptured, with sparse fine punctures.

Elytra feebly expanded medio-laterally, thence gently converging to humeral angles as well as to apical ends, which are rather roundly ended or sometimes weakly truncated. Relative length of suture and median breadth 100:39. Striae rather fine with large sub-ovate and discontinuous punctures; strial interstices obscurely elevated longitudinally, generally smooth, with partly minute and sparse granules.

Prosternal punctures conspicuously dense, deep and subocellate. Prosternal sutures broad, double, substraight and plainly divergent antero-laterally. Process in profile (fig. 10) elongate, subparallel-sided, with a distinct and acute notch on under side at apical one-third; apex bluntly ended; lateral sides weakly concave longitudinally, having minute shagreen-like sculptures. Propleural surface entirely shagreen-likely sculptured exclusive of posterior area, with punctures similar to those on prosternum, but a little sparser and shallower. Lateral sides of mesosternal groove distinctly expanded roundly below, with many small saw-like teeth at edge. Metasternal punctures clearly sparser and finer than those on prosternum. Legs moderate, with fourth tarsal joint indistinctly expanded apically.

Aedeagus (figs. 46, 118 & 119) robust; median lobe remarkably broad and robust, median length (exclusive of basal pieces) 2.6~2.9 times as well as apical maximum width, always slightly excavated at apex; lateral lobe with a rather large expansion at apico-lateral side, with apex roundly ended having three setae; basal plate moderate-formed. Bursa copulatrix with two bundles of sclerotic radiate thornes and several spines on margin of bursa (figs. 5, 123 & 124).

Distribution. Japan : Honshu (Aomori, Akita, Yamagata, Niigata, Gumma and Nagano).

Type-series. Holotype, male, Oze Moor, Gumma Prefecture, July 9, 1951, T. NAKANE leg. Paratypes, 5 males & 2 females, ditto.; a male & 12 females, Mt. Choki, Akita Prefecture, June 20, 1978, K. BABA & N. KATO leg.; a male, Tazawa-ko lake-side, Akita Prefecture, June 8, 1978, K. BABA et N. KATO leg.; a male & a female, Kunimi Pass,

Akita Prefecture, June 8, 1978, K. BABA et N. KATO leg.; 2 males, Kuromori Pass, Akita Prefecture, June 7, 1978, K. BABA et N. KATO leg.; a female, Mt. Komaga-take, Akita Prefecture, July 7, 1978, K. BABA leg.; a male, Mt. Gassan, Yamagata Prefecture, June 18, 1960, K. SHIRAHATA leg.; a male, & a female, Tsuruma-ike near Mt. Chokai, Yamagata Prefecture, July 24, 1969, K. SHIRAHATA leg.; a female, Mt. Chokai, Yamagata Prefecture, June 19, 1980, S. NAOMI leg.; 4 males & 2 females, Mt. Naeba, Niigata Prefecture, July 24, 1960, H. KOIKE leg.; a male & 3 females, Mt. Kasaga-dake, Nagano Prefecture, July 21, 1953, J. AKIYAMA leg.; 4 males, Tokugo Pass, Nagano Prefecture, July 10, 1951, H. ISHIDA leg.; a female, Kamikochi, Nagano Prefecture, July 9, 1951, H. ISHIDA leg.

Other specimens examined : 2 females, Sukayu Spa, Aomori Prefecture, July 25~26, 1952, T. KISHII leg.; a female, Mt. Ontake, Nagano Prefecture, August 2, 1953, S. UENO leg.; a female, Shibuyu Spa, Nagano Prefecture, July 15, 1954, J. AKIYAMA leg.; 3 males, Maru-ike, Nagano Prefecture, July 19~23, 1953, J. AKIYAMA leg.

Remarks. This new species almost agrees with the description and the illustrations of *D. miwai*, in special at the appearances of the general outline and the distribution it looks like *miwai* entirely, but the characteristics by which this species is separated from it are given in the key and in the figures after all.

7. *Dalopius tamui* KISHII, 1957

ホソナカグロヒメコメツキ

(ホソナカグロコメツキ)

(Figs. 11, 47 & 56)

Dalopius tamui KISHII, 1957, Akitu, 6(4) : 86, figs. 1 & 5 (Mt. Nachi in Wakayama); OHIRA, 1971b : 23; MATOBA et HIRAMATSU, 1974 : 21; OHIRA et ICHIHASHI, 1975 : 99 (Mie); SASAJI et al., 1976 : 175 (Fukui); OHIRA et ASAOKA, 1976 : 150 (Aichi).

Dalopius hirasanus KISHII, 1966, Elat. Kyoto adj. Reg., Kyoto : 38 (Mt. Hira-san in Shiga); OHIRA, 1971b : 22; OHIRA, 1973d : 101, fig. 1, A (Aichi); MATOBA et HIRAMATSU, 1974 : 21 (Wakayama); MIZUNO, 1976 : 26 (Kyoto); OHIRA et ASAOKA, 1976 : 150 (Aichi). **Syn. nov.**

Dalopius niponensis OHIRA, 1970a, Bull. Jap. ent. Acad., 5(1) : 11, figs. 2 & 6 (Mt. Amagi in Izu); OHIRA, 1971b : 22; SASAJI et al., 1976 : 175 (Fukui); TAKAKUWA, 1981 : 397 (Kanagawa). **Syn. nov.**

Dalopius patagiatus LEWIS : OHIRA et YOSHIDA, 1975, Gensei, 29 : 25, fig. 1-c (Tokushima); TAKAKURA et KIDO, 1979 : 22, fig. 1-F (Fukuoka).

Dalopius hirasanus ? KISHII : TANAKA, 1979, Toyama-ken no Konchû, List Col., Toyama : 14 & 394 (Toyama).

Supplemental description. Length 4.5~5.5 mm (male), 5~5.8 mm (female). Subshining. Dusky blackish brown with antennae usually basal two or three joints paler than others, anterior margin and hind angles of pronotum yellowish (rarely pronotum wholly brownish), elytral longitudinal stripes (rarely such stripes absent entirely : *niponensis*) yellowish, and with legs more or less yellowish brown. Coloration and elytral patterns always very variable, but elytral yellowish stripes more or less narrowing near middle, and rarely interrupted perfectly. Antennae filiformed, serration weak, extending beyond hind angles of

prothorax by two apical joints or more (male), and or less (female); relative length and width from basal joint to fifth each as 13:6, 8:4.2, 8:4, 12.5:6 and 12:6.5 (male: Mt. Bunaga-dake, Shiga, May 26, 1974, K. MASAKI leg.), and 17:6.5, 8:4.5, 8:4.4, 11.5:6 and 10:5.2 (female: Mt. Ohdai-ga-hara, Nara, May 27, 1973, H. HIRAMATSU leg.). Median length and narrowest breadth of pronotum 65:66. Elytral apex roundly and moderately ended, rarely feebly truncate. Process of prosternum in profile (fig. 11). Fourth tarsal joint scarcely expanded apically. Aedeagus (fig. 47); median lobe narrow, with apical end generally rounded simply, or rarely excavated slightly; median length (exclusive of basal pieces) ca. 5~6 times as well as apical maximum width; apical expansion of lateral lobe elongate. Bursa copulatrix with two large thorny radiate bundles and a conspicuous feathery thorny plate (fig. 56).

Distribution. Japan: Honshu (Kanagawa, Yamanashi, Shizuoka, Aichi, Mie, Toyama, Fukui, Shiga, Kyoto, Nara & Wakayama), Shikoku (Tokushima & Ehime), and Kyushu (Fukuoka & Oita).

Remarks. This species is here recorded from the first time from Yamanashi, Nara, Ehime & Kyushu as follows: a male, Daibosatsu Pass, Yamanashi Prefecture, June 25, 1966, K. TSUJI leg.; many examples, Mt. Ohdai-ga-hara, Nara Prefecture, May to July: a male, Mt. Ishizuchi, Ehime Prefecture, June 6, 1952, Y. WADA leg.; 2 males, Mt. Hiko-san, Fukuoka Prefecture, May 28, 1960, Y. KIMURA leg.; a male, Mt. Katamuki, Oita Prefecture, May 3, 1967, N. OHTANI leg.

As a result of the study on many materials, I came to the conclusion, that *Dalopius hirasanus* was nothing but a larger and color variation of *D. tamui*. Moreover, judging from the original description and illustrations, *D. nipponensis* from Izu Peninsula is possible that is a synonym of this species, but I had not chance to work on the type nor examples from Izu district, although, some specimens belonging undoubtedly to *tamui* from some localities (Mie, Nara & Wakayama) having a slender body and the unicolorous elytra, almost agree with the original description and figures of *nipponensis*. Thus, I think that *nipponensis* is a synonym of *tamui* after all.

In 1953 (Trans. Shikoku ent. Soc., 3: 75), ISHIHARA et al. recorded *Dolopius* (!) *marginatus* LINNAEUS, var. *ferrugineipennis* MOTSCHULSKY from Ehime Prefecture, may be this *Dalopius*-species should be corrected as either *tamui* or *exilis*. More, my judging from the photo and the body length (5 mm), the materials reported from Tokushima Prefecture as *Dalopius patagiatus* LEWIS by OHIRA et YOSHIDA in 1975 also should be revised as *tamui*.

And, HAYASHI (1955, Odaigaharasan-Ohsugidani no Konchûrui: 10) reported *Dolopius* (!) *marginatus* LINNAEUS from Mt. Ohdai in Mie Prefecture, though this also should be revised as either *tamui* or *exilis*.

8. *Dalopius bizen* sp. nov.

チュウゴクナカグロヒメコメツキ

(Figs. 12, 48, 57, 120, 121 & 125)

Dalopius patagiatus LEWIS: OHIRA et al., 1971, Miscell. Rep. Hiwa Mus. nat. Hist., 14:

16, pl. 1, figs. 32 & 39 (Hiroshima).

Dalopius hirasanus KISHII : TAKAHASHI, 1976, Toyooka High Sch. Kontyû-hyôhon Mokuroku,

4 : 8 (Hyogo) ; WATANABE, 1977 : 15 (Okayama) ; TAKAHASHI, 1982 : 74 (Hyogo).

Hira-nakaguro-kometsuki (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, tab.

Kurosuji-hime-kometsuki (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, tab.

Description. Length 4.5~5.7 mm (male), 5.6~6 mm (female). Small, not so slender, subparallel-sided, weakly flattened above longitudinally, and rather elevated below. Subshining. Yellowish orange, with head black entirely, pronotal disc more or less dark brown to black medianly (female paler than male), scutellum reddish brown, and with sutural stripes and lateral margins of elytra more or less brownish black ; sutural stripes always more or less expanded laterally before middle, rarely united with lateral stripes entirely. Pubescence fine, rather dense, semierect, rather long and pale yellow.

Head broad, weakly convex above simply and roundly between eyes, with a shallow wide medio-longitudinal depression anteriorly ; relative breadth of each eye and vertex across eyes in upper aspect 10 : 38. Frontal edge straight and well elevated upon antennal insertions, not united with clypeal margin, and obliterated entirely near middle. Clypeal margin transverse, a little enlarged forwards roundly. Vertex surface completely shagreen-likely sculptured, with large ocellate and dense punctures.

Antennae rather filiformed, extending beyond hind angles of prothorax by three apical joints or more (male), or by only apical-most one or more (female). Relative length and width from basal joint to fifth severally as 19 : 6, 8.5 : 4.6, 8 : 4.8, 13 : 6.2 and 12 : 6 (male : holotype), and 20 : 6.5, 8 : 4.4, 8 : 4.8, 11 : 5.6 and 10.5 : 5.5 (female : paratype, Mt. Kenashi near Maniwa, Okayama, June 27, 1976, O. YAMAJI leg.) ; basal joint cylindrical, robust, longest, and a little sinuate, with an acute carination on inside longitudinally ; second cylindrical ; third subobconical ; fourth to tenth ill-serrated ; eleventh ca. 2.9 times as long as width (male), and or less (female).

Pronotum slightly convex above roundly, without any median depression ; relative median length and narrowest width 64 : 67 (male), and 73 : 73 (female) ; lateral sides in dorsal views subparallel medianly, more or less expanded outwards behind anterior corners ; hind angles weakly divergent posteriorly, extending straightly, with rather distinct unication. Discal surface shagreen-likely sculptured all over, with dense even umbilicate punctures, but sparser and smaller than those on vertex.

Scutellum elongate triangular, flattened, remarkably declined antero-obliquely ; relative median length and basal width 15 : 12 ; lateral sides gently and convergingly narrowing posteriorly, but slightly expanded behind middle outwards ; apex round ; surface shagreen-likely sculptured wholly, with punctures almost absent.

Elytra parallel-sided from behind humeri to beyond middle, then gently and roundly convergent to apices, which are moderately ended or rarely truncated feebly. Relative length of suture and median breadth 100 : 36. Striae rather deeply impressed by strong round and rather large punctures continuously. Strial intervals rather flattened, though slightly elevated longitudinally near base, and with sparse punctures and faint granules.

Prosternal punctures minute, dense, simple and rather even, its interstices feebly sculptured by shagreen-like creases wholly. Prosternal sutures broad, double, substraight and

distinctly divergent antero-outwards. Process in profile (fig. 12) elongate, subright-angledly notched beyond middle on under side, with apex round having a few long fine hairs. Propleural surface entirely shagreen-likely sculptured exclusive of posterior boader, with subocellate and rather large punctures. Lateral sides of mesosternal groove well roundly and remarkably expanded below near middle, with many small saw-like teeth at edge. Metasternal punctures conspicuously sparser than those on prosternum. Legs modetate, with fourth tarsal joint hardly expanded apically.

Aedeagus (figs. 48, 120 & 121) not so slender; median lobe rather broad, median length (exclusive of basal pieces) ca 3.9 times as well as apical maximum width, with a weak excavation at apex; lateral lobe with a large longitudinal expansion at apico-lateral side, having three long setae; basal plate ordinary. Bursa copulatrix with two large thorny radiate bundles and an elongate remarkable feathery plate on margin (figs. 57 & 125).

Distribution. Japan : Honshu (Hyogo, Okayama & Hiroshima).

Type-series. Holotype, male, Wakasugi in Aida, Okayama Prefecture, May 8, 1977, T. WAKEJIMA leg. Paratypes, 7 males & 2 females, ditto, M. KANEDA, Y. OKUDA, T. WAKEJIMA et A. WATANABE leg.; a female, Mt. Kenashi in Maniwa, Okayama Prefecture, June 27, 1976, O. YAMAJI leg.; a female, Mt. Hinosen, Hyogo Prefecture, June 27, 1976, T. TAKAHASHI leg.; a male, Onzui, Hyogo Prefecture, May 22, 1965, K. TSUJI leg.; a male, ditto, May 13, 1973, T. TAKAHASHI leg.; a male, Takano, Hiroshima Prefecture, June 10, 1967, H. KADOWAKI leg.

Remarks. In the external outline, this new species is closely resembling *D. tamui* exclusive of the body is a little larger and more or less paler in the coloration, and yet at high magnification it looks like the latter, but a closer look of the genital organ reveals some striking differences as follows : the median lobe of aedeagus is plainly broader and the feathery thorny plate on the margin of bursa copulatrix is clearly larger than those of *tamui*, and moreover the distribution pattern suggested by the above records supports the present treatment that two species are invalued.

Judging from the illustration on the elytral pattern (pl. 1, fig. 39) and the body length (4.5 mm), the examples reported from Hiroshima Prefecture as *Dalopius patagiatus* LEWIS by OHIRA et al. in 1971 should be revised to this new species. And, perhaps, the example reported by OKUTANI (1974 : 207) as *tamui* from Hyogo Prefecture, also may should be corrected to *bizen*.

9. *Dalopius yakuensis* KISHII, 1975, stat. nov.

ヤククロスジヒメコメツキ

(ヒメナカグロカバコメツキ, クロスジヒメコメツキ)

(Figs. 13, 49 & 58)

Dalopius exilis yakuensis KISHII, 1975, Bull. Heian High Sch., 19 : 6, figs. 2 & 27 (Is. Yaku-shima) ; KISHII, 1983a : 37 (Is. Yaku-shima).

Dalopius [!] *ferrugineipennis* MOTSCHULSKY : MIWA, 1929b, Trans. nat. Hist. Soc. Formosa, 19(103) : 350 (Yaku-shima) ; TAKEUCHI, 1931 : 69 (Yaku-shima).

Dalopius [!] *marginatus* LINNAEUS, var. *ferrugineipennis* MOTSCHULSKY : MIWA, 1934,

Fauna Elat. Jap. Emp., Dept. Agr. Govt res. Inst. Formosa, 65 : 136 (Yaku-shima).

Dalopius exilis KISHII : NAKANE et KISHII, 1958, Sci. Rep. Saikyo Univ. (Nat. Sci. Liv. Sci.), 2(5) : 39, pl. 2, figs. 10 & 13 (Yakushima) ; KISHII, 1959a : 18 (Yakushima).

Supplemental description. Length 5.5~6.8mm (male), 5.6~7.2mm (female). Subshining. Yellowish stripes on elytra more or less narrowed near middle. Female generally paler than male in coloration, especially at pronotum. Antennae slender, filiformed, extending beyond rear angles of pronotum by three apical joints or more (male), or by only apical-most joint or more (female) ; relative length and width from basal joint to fifth severally as 24:6, 11:4.5, 11:5, 16:7 and 15:7 (male : Hananoégô, Is. Yakushima, July 14, 1961, K. UEDA leg.), and 22:7, 10:5.2, 10.5:5, 16:7 and 14:7 (female : Kosugidani, Is. Yakushima, August 7, 1957, N. TAMU leg.). Median length and narrowest breadth of pronotum 64:67 relatively. Elytral apex generally transversely truncated. Process of prosternum in profile (fig. 13). Fourth tarsal joint rather clearly expanded apically. Aedeagus (fig. 49) ; median lobe narrow, distinctly narrowed middle, then gently expanded laterally near apex having a small excavation at extremity, and median length (exclusive of basal pieces) ca. 5.1 times as well as apical maximum width ; apical expansion of lateral lobe rather broad and elongate, with three long setae at inside. Bursa copulatrix with two large thorny radiate bundles only (fig. 58).

Distribution. Japan : Satsunans (Is. Yakushima).

Remarks. This species has been treated as a subspecies of *D. exilis*. According to the characteristics of aedeagus and bursa copulatrix it becomes a conclusive that the specimens from Is. Yakushima should be an independent species, and it seems to be endemic to this island.

10. *Dalopius ainu* KISHII, 1962

エゾナカグロヒメコメツキ

(ナカグロコメツキ, ナカグロヒメコメツキ, タテジマカバコメツキ)

(Figs. 14, 50 & 59)

Dalopius exilis ainu KISHII, 1962, Bull. Heian High Sch., 7 : 26, pl. 4, figs. 3~5 (Is. Rishiri-tô, Kamiotoineppu & Lake Mashû) ; OHIRA, 1971b : 22 ; OHIRA et KUSUI, 75 : 25 (Wakkanai) ; KISHII, 1977 : fig. 98 (Akan) & fig. 123 (Is. Rishiri) ; BABA et OHIRA, 1978c : 46, figs. 3-c (Is. Rishiri & Wakkanai) ; BABA et KISHII, 1981b : 34 (Hokkaido) ; SASAKI, 1983 : 21, fig. 19 (Hokkaido).

Adrastus patagiatus LEWIS, 1894, Ann. Mag. nat. Hist., (6) 13 : 315 (Junsai) (partim) ; SCHENKLING, 1927 : 494.

Dalopius [!] *candezei* LEWIS : MIWA, 1928, Ins. Mats., 3(1) : 49 (Sapporo) (partim).

Dalopius [!] *marginatus* LINNAEUS : MIWA, 1929a, Monthl. Mag. zool. Soc., Tokyo, 41(492) : 452 (S. Saghalien) ; MIWA, 1933a : 30 (Saghalien) ; MIWA, 1934 : 157 (Saghalien) ; YUASA et NAKANE, 1950 : 1136 (Hokkaido) (partim).

Dalopius [!] *marginatus* LINNAEUS, var. *lewisi* FLEUTIAUX : MIWA, 1934, Fauna Elat. Jap. Emp., Dept. Agr. Govt res. Inst. Formosa, 65 : 136, pl. 7, fig. 10 (Sapporo) (partim).

Dalopius marginatus subsp. ? : KISHII, 1959b, Trans. Rika-kenkyû-kai, Kyoto priv. mid. high

Sch., Kyoto, 3 : 13 (Is. Rishiri & Is. Rebun).

Dalopius exilis KISHII : NAKANE, 1963, Sci. Rep. Kyoto Pref. Univ. (Nat. Sci. Liv. Sci.), 3(5), A ser. : 240 (Rausu & Rushagawa) ; GURJEVA, 1979 : 347, 349, 350 & 613 (Is. Kunashiri & Is. Shikotan).

Dolopius [!] *lewisi* FLEUTIAUX : GURJEVA et KRYVOLUTSKAJA, 1968, Elat. -fauna Kuriles, Vladivostok : 47 (Kuriles).

Dalopius patagiatus LEWIS : GURJEVA, 1971, Ent. Rev., 50(4) : 887 (Kuriles).

Dalopius ainu KISHII : GURJEVA, 1979, Fauna USSR : 345, 347, 349, 350 & 352, figs. 594, 598, 600, 601, 604 & 612 (Saghalien, Is. Kunashiri, Is. Shikotan & Hokkaido).

Supplemental description. Length 5.8~6.5 mm (male), 6.4~7 mm (female). Rather shining. Black stripes along elytral sutures usually simple and narrow, not expanded medio-laterally, rarely almost obliterated. Antennae rather short, ill-serrated, extending beyond hind angles of pronotum by two apical joints or more (male), and or less (female) ; relative length and width from basal joint to fifth each as 21:6.5, 8:4, 8:5, 14.5:7 and 14:6.5 (male : paratype, Kutsugata, Is. Rishiri, August 19, 1958, T. KISHII leg.), and 23:6.5, 9:5, 9:5, 14:7 and 12.5:7 (female : paratype, Mt. Rishiri, Is. Rishiri, August 2~7, 1958, T. KISHII leg.). Median length and narrowest breadth of pronotum 75:75 relatively. Elytral apex more or less hardly truncated. Process of prosternum in profile (fig. 14). Fourth tarsal joint rather distinctly expanding apically. Aedeagus (fig. 50) ; median lobe narrowest near middle, then a little widening apically as well as basally, with apex feebly emarginate, and median length (exclusive of basal pieces) ca. 4.8~5.5 times as well as apical maximum width ; apical expansion of lateral lobes elongate and not so broad. Bursa copulatrix with two large radiate thorny bundles and several spines on margin (fig. 59).

Distribution. Japan : Hokkaido (Is. Rebun, Is. Rishiri, Is. Kunashiri : after GURJEVA et KRYVOLUTSKAJA, 1968 ; GURJEVA, 1979 -, Is. Shikotan : after ditto -, & the proper). Saghalien (after MIWA, 1929a, 1933a & 1934, & GURJEVA, 1979).

Remarks. This species originally was described as a subspecies of *Dalopius exilis*, and many authors have been treated so until recently, though GURJEVA in 1979 revised to an independent species. According to the characteristics of thorny bundles and spines on the bursa copulatrix in female genital organ it should be treated as a distinct species after all.

11. *Dalopius patagiatus* (LEWIS, 1894)

クロスジヒメコメツキ

(Figs. 15, 51 & 60)

Adrastus patagiatus LEWIS, 1894, Ann. Mag. nat. Hist., (6)13 : 35 (Chuzenji & Wada-toge) (partim).

Dolopius [!] *Lewisi* FLEUTIAUX, 1900, Bull. Mus. Hist. nat. Paris, 1900, 7 : 358 (Japan central) ; FLEUTIAUX, 1902 : 23 (Japan central).

Sericus Lewisi FLEUTIAUX : SCHENKLING, 1927, in JUNK's Col. Cat., 88, Elat. 2 : 476.

Dolopius [!] *candzei* LEWIS : MIWA, 1928, Ins. Mats., 3(1) : 49 (partim).

Dolopius [!] *marginatus* LINNAEUS : MIWA, 1934, Fauna Elat. Jap. Emp., Dept. Agr. Govt res. Inst. Formosa, 65 : 136 (Chiuzenji & Wada-toge) (partim).

Dolopius patagiatus LEWIS : NAKANE, 1958, Rep. Shigen-kagaku Kenkyû-sho, 46/47 : 87 ; NAKANE, 1959 : 92, figs. 1~2 (Nikko & Chiuzenji) ; NAKANE et al., 1963 : 166, pl. 83, figs. 20 ; INAZUMI, 1965 : 42 (Tochigi) ; BABA et OHIRA, 1967 : 32 (Niigata) ; HOZUMI, 1968 : 42 (Mie) ; KASE, 1971 : 58 (Yamanashi) ; OHIRA, 1971b : 23, figs. 496, 512 & 552 ; BABA, 1972 : 216 (Niigata) ; OHIRA, 1972c : 45, figs. 1 & 2 (= *Dolopius Lewisi* FLEU-TIAUX) ; BABA et OHIRA, 1973 : 10 (Niigata & Is.Sado) ; BABA et OHIRA, 1977 : 10 (Niigata) ; KISHII, 1977 : fig. 99 (Niigata) ; BABA et OHIRA, 1978b & d : 40 & 56 (Yamagata) (partim) ; SHIRAHATA et KUROSAWA, 1978 : 213 (Yamagata) ; BABA et KISHII, 1979 : 19, fig. 2~23 (Akita) ; GURJEVA, 1979 : 346 ; BABA, 1981 : 46, fig. (Niigata) ; KISHII, 1981 : 21 (Nagano & Yamagata) ; HIRANO, 1982 : 10 (Iwate) ; KTAI-MURA, 1982 : 47 (Toyama).

Supplemental description. Length 5.5~6.2 mm (male), 6~6.8 mm (female). Subshining or a little opaque. Black stripes along elytral sutures generally simple and well defined, not expanded medio-laterally. Antennae slender, subfiliformed, extending beyond rear angles of pronotum by three apical joints or more (male), or by two or more (female) ; relative length and width from basal joint to fifth mutually as 20:8, 8.5:5, 8.5:5.5, 14:7 and 13.5:6.5 (male : Mt. Chokai, Akita, June 20, 1978, K. BABA et N. KATO leg.), and 20.5:6, 8.5:5, 8.5:5, 13.5:7 and 11.5:6.5 (female : Matsuo-mura, Iwate, June 15, 1959, S. HIRANO leg.). Median length and narrowest breadth of pronotum 72 : 67 relatively. Elytral apex normal, not truncated. Process of prosternum in profile (fig. 15). Fourth tarsal joint a little expanded apically. Aedeagus (fig. 51) rather broad ; median lobe clearly expanded roundly before apex, which is simple without emargination, median length (exclusive of basal pieces) ca. 4~4.5 times as well as apical maximum width ; apical expansion of lateral lobes a little elongate, not so broad, with three long setae. Bursa copulatrix with two large radiate thorny bundles, and a large feathery thorny plate on margin (fig. 60).

Distribution. Japan : Honshu (Aomori, Iwate, Akita, Yamagata, Miyagi, Tochigi, Kanagawa, Yamanashi, Nagano, Mie, Niigata, Is. Sado and Toyama).

Remarks. Hitherto, by several entomologists this species had been reported from Kyushu as follows. CHUJO et al., 1959 : 15 (Hikosan) ; AMANO et al., 1963 : 23 (Fukuoka) ; TAKAKURA, 1974 : 62 (Fukuoka) ; OHTSUKA et NAOMI, 1977 : 8 (Kumamoto) ; TAKAKURA et KIDO, 1979 : 22, fig. 1-F (Fukuoka) ; OHTSUKA et al., 1981 : 11 (Kumamoto). Although, judging from the illustration of the male genitalia (fig. 1-F) by TAKAKURA et KIDO, it is most probable that these *Dolopius*-species reported as *patagiatus* from Kyushu district should seem to be revised as *D. tamui*. And, as stated in the remarks of *D. tamui* the record from Shikoku of this species is also very questionable, therefore all the previous records as *D. patagiatus* from both Shikoku and Kyushu should be corrected as mentioned above.

WATANABE reported this species from Okayama Prefecture in 1977 being based on the record by SHIGEI et al. (1965). But it is dubious that *D. patagiatus* distributes in this district, and it seems *D. bizen* in all probability.

12. *Dalopius exilis* KISHII, 1956

ナガナカグロヒメコメツキ

(クロスジヒメコメツキ, ナガナカグロコメツキ)

(Figs. 16, 52 & 61)

Dalopius exilis KISHII, 1956, Akitu, 5(1) : 20, figs. 5 & 8 (Aomori, Gumma, Nagano, Gifu & Nara) ; TAMU et TSUKAMOTO, 1956 : 22 (Is. Kammuri) ; KISHII et OHIRA, 1956 : 77 (Niigata) ; BABA et KISHII, 1957 : 70 (Niigata) ; NAKANE, 1959 : 92, fig. 3 (Kamikochi) ; OHIRA, 1962a : 125, pl. 52, A-I (larva) ; INAIZUMI, 1963 : 185 ; KAMIMURA et al., 1964 : 31 (Mt. Jonen) ; INAIZUMI, 1965 : 42 (Tochigi) ; HOZUMI, 1968 : 42 (Gifu) ; GURJEVA, 1979 : 347 & 353 (partim) ; TAKAHASHI, 1982 : 74 (Hyogo) ; SUZUKI, 1983a : 7 (Kanagawa).

Dalopius [!] *candezei* LEWIS : MIWA, 1928, Ins. Mats., 3(1) : 49 (partim) ; TAKIGUCHI, 1934 : 45 (Odai).

Dalopius [!] *marginatus* LINNAEUS : MIWA, 1934, Fauna Elat. Jap. Emp., Dept. Agr. Govt res. Inst. Formosa, 65 : 135~136 (partim).

Dalopius morginatus [!] LINNAEUS : OHIRA, 1954b, New Ent., 3(4) : 30 (Mt. Yatsugata-ke).

Dalopius exilis exilis KISHII : KISHII, 1962, Bull. Heian High Sch., 7 : pl. 4, figs. 1 & 2 ; CHUJO et OHIRA, 1965 : 27 (Aomori) ; KISHII, 1966 : 38 (Kyoto) ; BABA et OHIRA, 1967 : 32, fig. 30 (Niigata) ; OHIRA, 1968d : 13, figs. 16-u & 18-d (larva) ; SHIRAHATA et KUROSAWA, 1970 : 206 (Yamagata) ; OHIRA et NAKAMURA, 1970 : 32 (Iwate) ; OHIRA, 1971b : 22, figs. 497, 514 & 553, phot. N ; OHIRA et TORIGAI, 1971 : 92 (Gifu) ; TAKAHASHI, 1975b : 62 (Hyogo) ; OHIRA et ICHIHASHI, 1975 : 99 (Mie) ; BABA et OHIRA, 1978a, b & d : 29, 39 & 49 (Niigata, Yamagata & Akita) ; TANAKA, 1979 : 16, 29 & 394 (Toyama) ; BABA et KISHII, 1979 : 19, fig. 2-22 (Akita) ; BABA, 1981 : 45, fig. (Niigata) ; KISHII, 1981 : 19 & 21 (Gifu, Iwate & Aomori) ; KUSAKARI, 1983 : 9 (Yamagata) ; BABA et KISHII, 1984 : 7 & 11 (Niigata & Toyama).

Dalopius exilis exilis [!] KISHII : BABA, 1972, Col. syst. Area Tainai Riv., N. Niigata : 216 (Niigata).

Dalopsus [!] *exilis exilis* [!] KISHII : ITAGAGAKI, 1973, Ins. Okitama, Yamagata Pref., Konchû-shi, 1 : 27.

Naga-nakaguro-hime-kometsuki (Japanese name only) KADOWAKI, 1970, Sukashiba, 10 : 34, tab. ; TANAKA, 1983 : 14 (Toyama).

Supplemental description. Length 5.5~6.6 mm (male), 6~7.2 mm (female). Subopaque. Black stripes along elytral sutures always obscurely limited, more or less expanded medio-laterally, rarely perfectly conglutinating with lateral black margins. Antennae slender, rather filiformed, extending beyond rear angles of pronotum by three apical segments or more (male), and or less (female) ; relative length and width from basal joint to fifth respectively as 20:7, 8.5:5, 9:5, 13.5:6.2 and 13:6 (male : Shimajima Val., Nagano, July 5, 1964, K. MIZUNO leg.), and 22:7, 8.5:5, 6:5, 13:7.5 and 12.5:7.5 (female, Shimajima Val., Nagano, August 5, 1965, K. TSUMURA leg.). Median length and the narrowest breadth of pronotum 77:74 relatively. Elytral apex generally moderate. Process of prosternum in profile (fig. 16). Fourth tarsal joint a little expanded apically. Aedeagus (fig. 52) remarkably elongate, rather slender ; median lobe clearly narrowed

medianly, then gently and roundly expanded apically as well as basally, with apex more or less emarginated, median length (exclusive of basal pieces) ca. 5~6 times as well as apical maximum width; apical expansion of lateral lobes conspicuously elongate, not so broad, with three long setae. Bursa copulatrix with two large radiate thorny bundles, and a rather small feathery thorny plate on margin (fig. 61).

Distribution. Japan : Honshu (Aomori, Iwate, Akita, Yamagata, Tochigi, Gumma, Kanagawa, Nagano, Gifu, Mie, Niigata, Toyama, Fukui, Kyoto, Is. Kammuri, Hyogo & Nara), and Shikoku (Ehime).

Remarks. So far as I am aware, the records from Fukui Prefecture and Shikoku district are the first and as follows. Mt. Arashima-dake, Fukui, 2 males, June 5, 1982, M. SAITO leg.; Akausagi-yama, Fukui, a male & a female, July 4, 1982, M. SAITO leg.; Yashaga-ike, Imajyo, Fukui, a male, June 18, 1983, K. MIZUNO leg.; Tsuchi-goya, Ehime, a male, July 14, 1974, R. SHIMAMOTO leg.; Mt. Ishizuchi, Ehime, 3 males & a female, July 6, 1976, R. SHIMAMOTO leg.; ditto, a male, July 26, 1979, R. SHIMAMOTO leg.; Omogo Val., Ehime, a male & 2 females, July 13, 1980, R. SHIMAMOTO leg. I wish to express my cordial thanks to Messrs. M. SAITO, K. MIZUNO & R. SHIMAMOTO for their courteous helps, especially in sending to me these examples cited above.

Although, the *Dalopius*-species reported by ISHIHARA et al. in 1953 from Omogo and Mt. Ishizuchi in Ehime Prefecture as *Dalopius* [!] *marginatus* LINNAEUS, var. *ferruginipennis* MOTSCHULSKY should be corrected as this species in all probability.

13. *Dalopius naomii* KISHII, 1981

ナオミヒメコメツキ

(Figs. 17, 53 & 62)

Dalopius naomii KISHII, 1981, Bull. Heian High Sch., 25 : 19~21, figs. 5~8, 10 & 11 (Shinhotaka Spa, Mt. Iide, Shimajima Valley & Azusa-yama).

Supplemental description. Length 5.9~6.2 mm (male), 6.8~8 mm (female). Rather opaque. Reddish brown wholly, with antennae, narrow anterior and posterior margin of pronotum, narrow longitudinal obscure stripes on elytra extending from humeral angles to near middle, and legs more or less paler. Pubescence long recumbent dense and fulvous. Antennae slender, extending beyond hind angles of prothorax by four apical joints or more (male), or by two (female); relative length and width from basal joint to fifth each as 23:8, 8.5:6, 11:6.2, 16:8 and 14:7 (male: paratype, Shinhotaka Spa, Gifu, June 12, 1980, S. NAOMI leg.), and 24:8, 10:5.3, 12:6, 16:8 and 16:7.8 (female: paratype, Shimajima Valley, Nagano, July 21~29, 1974, A. NISHITANI leg.). Median length and narrowest breadth of pronotum 77:75. Elytral apex moderate. Process of prosternum in profile (fig. 17). Fourth tarsal joint expanded apically. Aedeagus (fig. 53) explicitly broad and robust; median lobe remarkably broad, not narrowed medianly, with apex simply rounded, median length (exclusive of basal pieces) ca. 3 times as well as apical maximum width; apical expansion of lateral lobes rather small, with three long setae. Bursa copulatrix with two large radiate thorny bundles only (fig. 62).

Distribution. Japan : Honshu (Iwate, Niigata, Gifu & Nagano).

Remarks. This species is known only from the central mountainous regions in Honshu, but I had fortunately a chance to study a female example from Iwate Prefecture through the courtesy of Mr. S. HIRANO in Morioka City as follows. A female, Kawai-mura, Iwate Prefecture, June 4, 1972, S. HIRANO leg. The coloration and the form of aedeagus in this species are remarkably unique among the Japanese *Dalopius*-species.

Genus *Ectinoides* KISHII

Type-species : *Agriotes leucophaeatus* CANDÈZE : KISHII, 1966, *Elat. Kyoto adj. Reg.*, Kyoto ; 40, from Japan (monotypic and original designation) (= *Megapenthes insignitus* LEWIS, 1894, *Ann. Mag. nat. Hist.*, (6)13 : 46, from Japan).

Ectinoides KISHII, 1966, *Elat. Kyoto, adj. Reg.*, Kyoto : 40 ; OHIRA, 1971b : 21 ; OHIRA, 1972b : 71.

Supplemental description. Frontal carinae conglutinating with clypeal margin entirely. Antennae short, with second joint a little longer and larger than third, fourth to tenth remarkably serrated. Hind angles of pronotum elongate, truncated at apex, with acute long unication clearly. Lateral sides of mesosternal groove simple, not elevated below. Posterior end of mesosternal groove broad, distance across rear end of mesosternal groove and posterior edge of mesosternum plainly narrow. Legs moderate. Aedeagus narrow ; median lobe distinctly narrow, with basal pieces clearly long ; apico-lateral expansion of lateral lobes large. Bursa copulatrix with a pair of elongate sclerotized plates with many short thorne-like protuberances, and having a pair of basal pieces of large plates with about ten long thornes forming in line.

14. *Ectinoides insignitus* (LEWIS, 1894)

ヨツキボシコメツキ

(ヨツモンムナボシコメツキ, ヨツキボシムナボシコメツキ, ヨツボシムナボシコメツキ)

(Figs. 18, 63 & 71)

Megapenthes insignitus LEWIS, 1894, *Ann. Mag. nat. Hist.*, (6)13 : 46 (Miyano-shita & Yokohama) ; SCHENKLING, 1925 : 167 ; MIWA, 1933b : 72 ; MIWA, 1934 : 83, pl. 2, fig. 20 (Subashiri, Oyama, Gifu, Mt. Takao, Hirao, Mt. Tsurugi & Yuyama) ; HIRAYAMA, 1940 : 74, pl. 27, fig. 35 (Shimajima-dani) ; ISHIHARA et al., 1953 : 73 (Ehime).

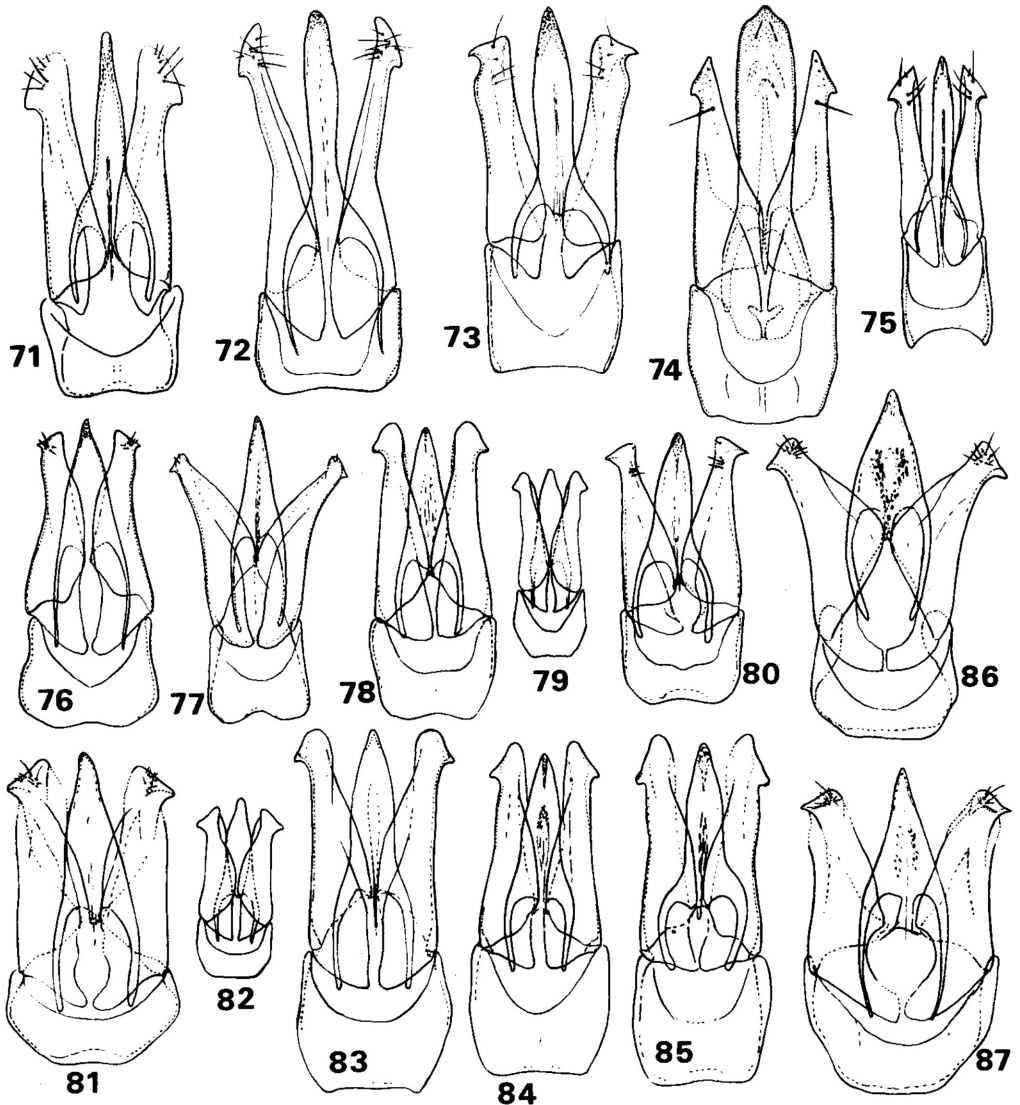
Agriotes insignitus LEWIS : OHIRA, 1954c, *Gensei*, 3(1/2) : 16 ; INAZUMI, 1963 : 185, pl. 9, fig. 4 ; INAZUMI, 1965 : 43 (Tochigi).

Agriotes leucophaeatus CANDÈZE : NAKANE et KISHII, 1955a, *Color. Ill. Ins. Japan*, (Col.), Osaka : 13, pl. 5, fig. 13 (Osaka) ; YAMAMOTO, 1958 : 84 (Hyogo) ; TANAKA, 1960 : 1~5 (Toyama) ; NAKANE et al., 1963 : 166, pl. 83, fig. 19 ; AMANO et al., 1963 : 23, pl. 4, fig. 9 (Fukuoka) ; KISHII, 1965 : 196 (Kyoto) ; TANAKA, 1968 : 5 (Toyama) ; KURAGATA, 1971 : 29 (Kanagawa) ; GURJEVA, 1972 : 873 ; GURJEVA, 1973 : 161 ; KAWAMOTO et INOUE, 1978 : 8 (Tottori) ; TANAKA, 1979 : 394.

Agriotes laucophaeatus [!] CANDÈZE : IZAKI, 1957, Trans. Fukui-ken Hakubutsu Dôkô-kai, 4 : 28 (Fukui).

Agriotes ? leucophaeatus CANDÈZE : KISHII, 1957, Akitu, 6(4) : 89 (Nachi).

Ectinoides leucophaeatus CANDÈZE : KISHII, 1966, Elat. Kyoto adj. Reg., Kyoto : 40 (Kyoto) ; BABA et OHIRA, 1967 : 22 (Niigata) ; OHIRA et NAKAMURA, 1970 : 31 (Iwate) ; BABA, 1972 : 216 (Niigata).



Figs. 71 to 87, aedeagus. 71 : *Ectinoides insignitus* (Kyoto, 261), 72 : *Ectinus insidiosus* (Akita, 3598), 73 : *E. exulatus* (Akita, 3521), 74 : *E. koshiki* sp. nov. (holotype, 4330), 75 : *E. higonius* (Akita, 3524), 76 : *E. sepes* (Shimane, 2752), 77 : *E. obakoe* (holotype, 3517), 78 : *E. miyakei* (Oita, 4276), 79 : *E. pilloseloides* (USSR : GURJEVA, 1979, fig. 621), 80 : *E. puberulus* (Nagano, 2748), 81 : *E. dahuricus persimilis* (Hokkaido, 324), 82 : *E. dahuricus dahuricus* (USSR : GURJEVA, 1979, fig. 622), 83 : *E. nipponicus* (holotype, 3514), 84 : *E. longicollis* (Nagano, 310), 85 : *E. obscurolineatus* (holotype, Toyama), 86 : *E. sericeus sericeus* (Akita, 3594), and 87 : *E. sericeus babai* (paratype, Is. Tsushima, 2141).

Ectinoides insignitus LEWIS : OHIRA, 1971b, Kontyû to Shizen, 6(11) : 21, figs. 493 & 510 ; OHIRA et al., 1971 : 15 (Hiroshima) ; OHIRA et TORIGAI, 1971 : 92, fig. 1-H (Gifu) ; HIRANO, 1972 : 22 (Hakone) ; OHIRA, 1972b : 71 ; OHIRA, 1973c : 26, fig 1-A (Kagoshima) ; OHIRA et TORIGAI, 1973 : 40 (Gifu) ; MATOBA et HIRAMATSU, 1974 : 21 (Wakayama) ; TAKAHASHI, 1975b : 62 (Hyogo) ; OHIRA, 1975a : 42 (Aichi) ; BABA et OHIRA, 1975 : 11 (Niigata) ; OHIRA et ICHIHASHI, 1975 : 98 (Mie) ; MIZUNO, 1976 : 26 (Kyoto) ; OHIRA et al., 1976 : 11 (Mie) ; SASAJI et al., 1976 : 175 (Fukui) ; MATSUNAGA, 1976 : 38 (Is. Yakushima) ; OHIRA et ASAOKA, 1976 : 149 (Aichi) ; BABA et OHIRA, 1977 : 10, fig. 1-11 (Niigata) ; ARIMOTO, 1977 : 34 (Osaka) ; WATANABE, 1977 : 15 (Okayama) ; SHIRAHATA et KUROSAWA, 1978 : 213 (Yamagata) ; TAKAKURA et KIDO, 1979 : 22 (Fukuoka) ; HIRANO, 1979 : 143 (Miyagi) ; OHIRA, 1980 : 207 (Aichi) ; TAKAKUWA, 1981 : 397 (Kanagawa) ; BABA et KISHII, 1981a : 16 (Niigata) ; TAKAHASHI, 1982 : 74 (Hyogo) ; NAKATA, 1982 : 388 (Osaka & Hyogo) ; OHIRA et KUSUI, 1982 : 11 (Niigata) ; SHIMOYAMA, 1982 : 131 (Aomori) ; SUZUKI, 1983a : 6 (Kanagawa) ; KUSAKARI, 1983 : 9 (Miyagi).

Agriotes (s. str.) *leucophaeatus* CANDÈZE : GURJEVA, 1979, Fauna USSR : 367, 374 & 434~435, figs. 650, 653, 773 & 783 (Primorskaya & Japan).

Yotsukiboshi-kometsuki (Japanese name only) IMAFUKU, 1958, Shin-kontyû, 11(13) : 32 (Nagano) ; KADOWAKI, 1978 : 34, tab. : Matsumoto Mushi-no-kai, 1982 : 137 (Nagano).

Supplemental description. Length 5.5~6.8 mm (male), 6~7.2 mm (female). Subopaque. Black with antennae and under surface more or less brownish, and two pairs of elytral patterns and legs yellowish (rarely posterior patches on elytra absent entirely). Pubescence fine semierect, rather dense, not so long and fulvous. Vertex shagreen-likely sculptured wholly, with large dense and simple punctures evenly. Relative length and width from basal joint of antennae to fifth each as 17:6, 7:4.5, 6.2:4.5, 8.5:5.5 and 9:5 (male : Kamikatsura, Kyoto, March 23, 1956, T. KISHII leg.), and 18:7, 8:5, 7:4, 8:6.5 and 8:6.5 (female : Arashiyama, Kyoto, June 23, 1957, T. KISHII leg.). Pronotal surface entirely shagreen-likely sculptured with explicitly dense, large and subumbilicate punctures. Median length and maximum width (exclusive of hind angles) of pronotum 85:74 relatively (male), and 96:85 (female). Rear angles of prothorax divergent outwards. Elytral striae with large deep punctures continuously. Strial interstices flattened, with large coarse and irregular-sized punctures densely. Elytral apex moderate. Prosternal punctures not so dense, uneven in density and size. Propleural punctures conspicuously denser and smaller than those on prosternum. Process of prosternum in profile (fig. 18). Aedeagus (fig. 71). Sclerotized plates of bursa copulatrix (fig. 63).

Distribution. Japan : Honshu (Aomori, Iwate, Yamagata, Miyagi, Tochigi, Tokyo, Kanagawa, Shizuoka, Nagano, Gifu, Aichi, Mie, Niigata, Toyama, Ishikawa, Fukui, Kyoto, Hyogo, Osaka, Nara, Wakayama, Okayama, Hiroshima & Tottori), Shikoku (Tokushima & Ehime), Kyushu (Fukuoka, Kumamoto & Kagoshima), and Satsunans (Is. Yakushima), and USSR (Primorskaya, after GURJEVA, 1979).

Genus *Ectinus* ESCHSCHOLTZ

Type-species : *Elater aterrimus* LINNAEUS, 1761, Fauna Suec. ed. 2 : 726, from Europe (designated by WESTWOOD, 1838).

Ectinus ESCHSCHOLTZ, 1829, Ent. Archiv, 2 : 34 (as subgenus of *Agriotes*) ; SCHWARZ, 1891 : 88 (= *Agriotes* ESCHSCHOLTZ) ; SCHWARZ, 1906 : 269 (as subgenus of *Agriotes*) ; HYSLOP, 1921 : 643 (Type-species : *Elater volhynensis* FISCHER, 1823, Ent. Imp. Russ., 2 : 212, unjustified designation) ; SCHENKLING, 1927 : 441 (as subgenus of *Agriotes*) ; FLEUTIAUX, 1939 : 125 (= *Agriotes*) ; JAGEMANN, 1955 : 256 (as subgenus of *Agriotes*) ; BECKER, 1956 : 26 (= *Agriotes*) ; KISHII, 1961 : 47 ; KISHII, 1962 : 27 ; OHIRA, 1962a : 129 ; KISHII, 1966 : 40 ; OHIRA, 1971b : 20 ; GURJEVA, 1972 : 838~844 ; KISHII, 1979 : 39~40 ; GURJEVA, 1979 : 353~356 ; KISHII, 1983b : 57~62.

Supplemental description. Frontal carinae conglutinating with clypeal margin entirely in most species, but rarely not conglutinating as *Agriotes*-species (*E. dahuricus persimilis*), or hardly conglutinating (*E. koshiki*). Antennae more or less serrated from fourth joint to tenth, with second subequal to third or rather longer, and with fourth always more or less larger than third. Carination on pronotal hind angles distinct and acute. Lateral edges of pronotum generally complete, but sometimes interrupted near middle, when remarkably depressed or rather concave before middle. Elytral apex always moderate. Prosternal sutures broad, double, generally straight, or a little curved antero-divergently, with anterior end broadly and rather shallowly furrowed less than anterior one-third length. Posterior end of mesosternal groove broad, with distance across hind end of groove and rear margin of mesosternum distinctly narrow. Legs moderate, with tarsal joints simple.

Remarks. This genus is generally and mainly characterized from some allied genera in having the frontal carinae before eyes are entirely conglutinated with the clypeal margin, but rarely the carinae are unsuccessful to conglutinate after all. On that occasion, the structures of genital organs in both sexes and of the mesosternal groove may perhaps back up the determination to this genus.

Key to Japanese species of *Ectinus*

1. Prosternal process with a rather small notch near apex. Median lobe of aedeagus parallel-sided medianly, with basal pieces short. Bursa copulatrix with two asymmetric plates having long thornes. 2
- Prosternal process with a large conspicuous notch at apical one-third or -fourth. Median lobe of aedeagus always clearly narrowing convergingly from base to apex. Bursa copulatrix with two symmetric plates having small protuberances or short thornes. 5
2. Second joint of antennae subequal to fourth in length. 3
- Second joint of antennae distinctly shorter than fourth. 4
3. Carination on hind angles of pronotum always reached apical end of angles. 15. *insidiosus*
- Carination on hind angles of pronotum not reached apical end of angles.

- 16. *exulatus*
4. Interpunctate surface on pronotum shagreen-likely sculptured densely and wholly..... 17. *higonius*
- Interpunctate surface on pronotum entirely smooth. 18. *koshiki* sp. nov.
5. Third joint of antennae more than 1.6 times as long as second. 6
- Third joint of antennae less than 1.5 times as long as second. 11
6. Second joint of antennae obconic. 7
- Second joint of antennae cylindrical. 19. *sepes*
7. Elytra unicolorous, black or reddish brown entirely. Apical expansion of lateral lobes in aedeagus short. 8
- Elytra reddish brown, with basal area and sutural zone more or less blackish. Apical expansion of lateral lobes in aedeagus elongate. 10
8. Elytra entirely black. 9
- Elytra entirely reddish brown. 25. *nipponicus*
9. Antennae not extending beyond hind angles of prothorax. Median lobe of aedeagus broad. Apical expansion of lateral lobes in aedeagus triangular. 22. *piloselloides*
- Antennae extending beyond hind angles of prothorax by one apical joint or more (male), and not extending (female). Median lobe of aedeagus narrow. Apical expansion of lateral lobes in aedeagus hemicircular. 21. *miyakei*
10. Elytral bases and sutures narrowly black. Apical expansion of lateral lobes in aedeagus a little long, with lateral projection acute. Sclerotic plates of bursa copulatrix subhemispherical. 26. *longicollis*
- Elytral bases and sutures broadly blackish, sometimes wholly brownish black on elytra. Apical expansion of lateral lobes in aedeagus elongate, with lateral projection obtuse. Sclerotic plates of bursa copulatrix elongate and subovate. 27. *obscurolineatus*
11. Frontal carinae before eyes always conglutinating with clypeal margin clearly..... 12
- Frontal carinae before eyes not conglutinating with clypeal margin. 24. *dahuricus persimilis*
12. Lateral sides of prothorax generally obscure medianly, sometimes perfectly interrupted, and always distinctly depressed before middle. 13
- Lateral sides of prothorax complete, not depressed near middle. 23. *puberulus*
13. Apical notch on under surface of prosternal process roundly emarginate. Elytra yellowish brown or wholly black. 14
- Apical notch on under surface of prosternal process acutely emarginate. Elytra dusky reddish. 20. *obakoe*
14. Lateral lobes of aedeagus rather narrow. Sclerotic plates of bursa copulatrix distinctly narrowing basally. Distributing widely from Hokkaido to Kyushu. 28a. *sericeus sericeus*
- Lateral lobes of aedeagus rather broad. Sclerotic plates of bursa copulatrix gently narrowing basally. Distributing only at Is. Tsushima. 28b. *sericeus babai*

15. *Ectinus insidiosus* (LEWIS, 1894)

キアシクロムナボソコメツキ

(キアシムナボソコメツキ)

(Figs. 19, 64 & 72)

Megapenthes insidiosus LEWIS, 1894, Ann. Mag. nat. Hist., (6)13 : 44 (Chiuzenji & Niohazan) ; SCHENKLING, 1925 : 167.

Agriotes insidiosus LEWIS : MIWA, 1934, Fauna Elat. Jap. Emp., Dept. Agr. Govt res. Inst. Formosa, 65 : 134, pl. 7, fig. 4 (Nikko, Nasu, Karuizawa & Mt. Togakushi).

Agriotes hattorii OHIRA, 1954a, Mushi, 27(6) : 45, pl. 4, figs. 5, 7 & 10 (Karuizawa & Hirayu) ; CHUJO et OHIRA, 1965 : 27 (= *insidiosus*).

Ectinus insidiosus LEWIS : NAKANE et KISHII, 1954b, Sci. Res. Ozegahara Moor, Tokyo : 731 (Oze) ; NAKANE et KISHII, 1955b : 45 (Mt. Takachiho) ; BABA et OHIRA, 1956 : 11 (Is. Sado) ; KISHII et OHIRA, 1956 : 77 (Niigata) ; INAIZUMI, 1963 : 185 ; CHUJO et OHIRA, 1965 : 26 (Aomori) (= *Agriotes hattorii*) ; MORITA, 1965 : 17 (Toyama) ; INAIZUMI, 1965 : 42 (Tochigi) ; KISHII, 1966 : 41 (Kyoto) ; BABA et OHIRA, 1967 : 33, fig. 25 (Niigata & Is. Sado) ; TANAKA, 1968 : 6 (Toyama) ; OHIRA et NAKAMURA, 1970 : 31 (Iwate) ; KASE, 1971 : 58 (Yamanashi) ; OHIRA, 1971b : 20, figs. 487 & 503 ; BABA, 1972 : 216 (Niigata) ; GURJEVA, 1972 : 844 ; OHIRA et TORIGAI, 1973 : 40 (Gifu) ; MATOBA et HIRAMATSU, 1974 : 21 (Wakayama) ; OHIRA, 1975a : 42 (Aichi) ; BABA et OHIRA, 1975 : 10 (Niigata) ; OHIRA et ICHIHASHI, 1957 : 98 (Mie) ; OHIRA et ASAOKA, 1976 : 150 (Aichi) ; BABA et OHIRA, 1977 : 10 (Niigata) ; WATANABE, 1977 : 14 (Okayama) ; BABA et OHIRA, 1978a & b : 28 & 39 (Niigata & Yamagata) ; SHIRAHATA et KUROSAWA, 1978 : 213 (Yamagata) ; TANAKA, 1979 : 16 & 394 (Toyama) ; KISHII, 1979 : 39, figs. 24, 39 & 55 (Akita) ; GURJEVA, 1979 : 356 & 362 (Is. Kunashiri & Japan) ; BABA et KISHII, 1979 : 19 (Akita) ; OHIRA, 1980 : 207 (Aichi) ; BABA, 1981 : 46, fig. (Niigata) ; KISHII, 1981 : 21 (Iwate) ; BABA et KISHII, 1981a : 15 (Niigata), 36 (Akita) ; OHIRA et KUSUI, 1982 : 11 (Niigata) ; KISHII, 1983b : 58, fig. 4 (Iwate, Nagano & Miyazaki) ; SUZUKI, 1983a : 6 (Kanagawa) ; KUSAKARI, 1983 : 9 (Yamagata) ; BABA et KISHII, 1984 : 7 (Niigata), 11 (Toyama).

Ectinus insidiosus [!] LEWIS : OHIRA, 1968a, Kontyu to Shizen, 3(3) : 31 (Niigata).

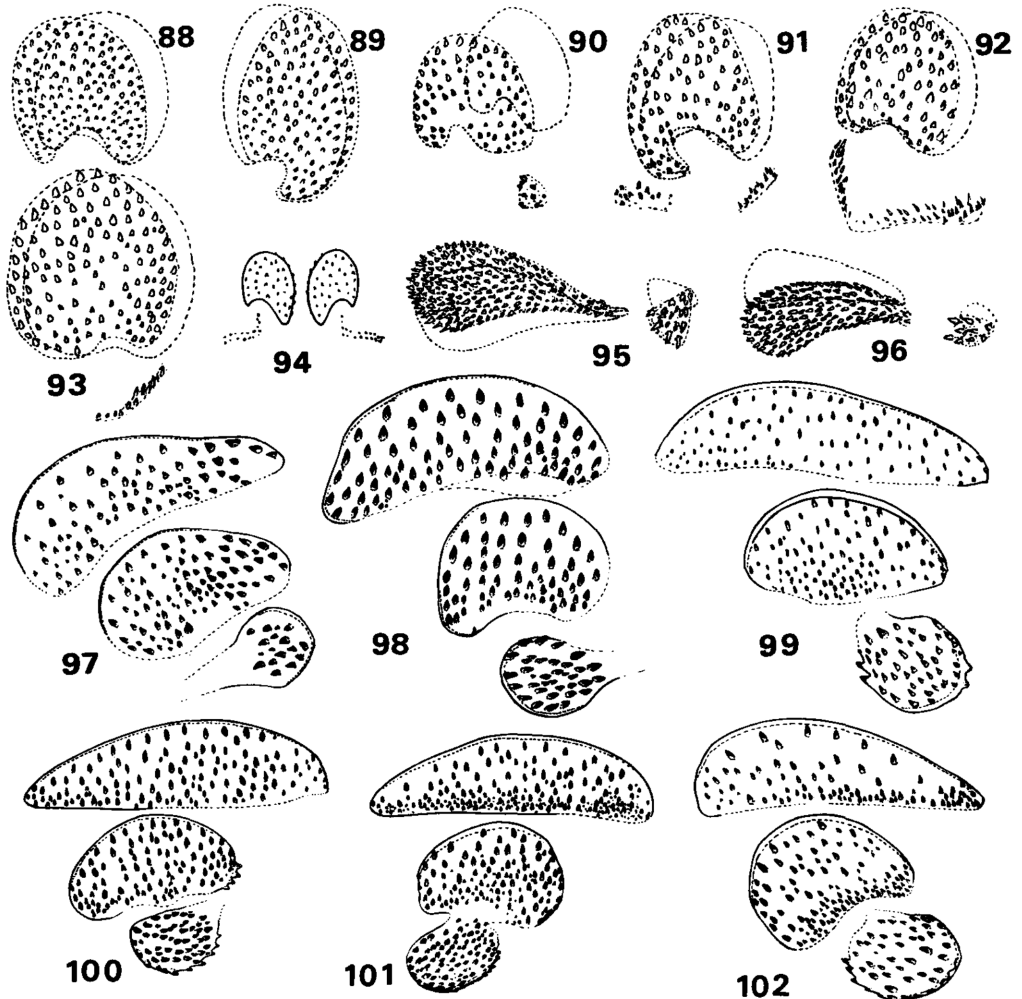
Ectinus [!] *insidiosus* LEWIS : MATSUDA et NAKAO, 1976, Kita-Kyushu no Kontyu, 23(1) : 31 (Oita).

Kiashi-kuro-munaboso-kometsuki (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, tab.

Supplemental description. Length 7.5~9 mm (male), 8.5~10.5 mm (female). Opaque. Black, with antennae dusky brown and legs brownish orange. Pubescence short, fine, semierect, dense and grieseous to fulvous. Antennae hardly reaching hind angles of pronotum (male), or clearly shorter (female) ; relative length and width from basal joint to fifth each as 21 : 7, 10 : 5.2, 8 : 5.8, 10.5 : 7.2 and 10 : 7.2 (male : Maruike, Nagano, July 27, 1953, J. AKIYAMA leg.), and 22 : 7.5, 10 : 6, 9 : 6, 11 : 8.4 and 10 : 9 (female : Mt. Chokai, Akita, July 6, 1978, K. BABA leg.) ; second and third joint similar in shape and subobconic. Pronotal punctures very dense, umbilicate, and uneven in size ; interpunctate area minutely shagreen-likely sculptured. Basal slope of pronotum with a smooth distinct medio-longitudinal canaliculation. Relative median length and width of prothorax 100 : 90. Lateral sides of prothorax complete, not depressed medianly. Interstrial surface of elytra

with dense clear granules, especially distinct on basal half area. Prosternal process in profile (fig. 19). Prosternal sutures straight, furrowed at apical one-third shallowly. Aedeagus (fig. 72) elongate; apex of median lobe rather rounded, and usually exceeding beyond lateral lobes; apico-lateral expansion of lateral lobes rather elongate. Bursa copulatrix with two large asymmetric plates having many long thornes and two elongate thorny rows (fig. 64).

Distribution. Japan : Hokkaido (? Is. Kunashiri, after GURJEVA, 1979), Honshu (Aomori, Iwate, Akita, Yamagata, Tochigi, Gumma, Kanagawa, Yamanashi, Nagano, Gifu, Aichi, Mie, Niigata, Is. Sado, Toyama, Kyoto, Wakayama & Okayama), and Kyushu



Figs. 88 to 102, sclerotic plates in bursa copulatrix. 88 : *Ectinus miyakei* (Nara, 2769), 89 : ditto (Oita, 4275), 90 : *E. puberulus* (Nagano, 3652), 91 : *E. nipponicus* (paratype, Akita, 3882), 92 : *E. longicollis* (Nagano, 3666), 93 : *E. obscurolineatus* (paratype, Niigata, 3646), 94 : *E. pilloseloides* (USSR : GURJEVA, 1979, fig. 618), 95 : *E. sericeus sericeus* (Nara, 4129), 96 : *E. sericeus babai* (paratype, Is. Tsushima, 2146), 97 : *Agriotes elegantulus* (Kyoto, 4439), 98 : *A. hirayamai* (Is. Iriomote, 4443), 99 : *A. obscurus* (Bohemia, 4499), 100 : *A. ogurae ogurae* (Ibaragi, 2701), 101 : *A. ogurae fuscicollis* (Hokkaido, 4447), and 102 : *A. ogurae hegurenensis* (holotype, 4352).

(Oita & Miyazaki).

Remarks. According to the original description, *Dolerosomus ? sericarius* MOTSCHULSKY (1866, Bull. Moscou, 39 : 166, from Japon) appears to agree in most structural characters with this species, but I had not chance to work on the type.

16. *Ectinus exulatus* (CANDÈZE, 1873)

ムナボソコメツキ

(Figs. 20, 65 & 73)

Agriotes exulatus CANDÈZE, 1873, Mém. Soc. roy. Sc. Liège, (2)5 : 29 (Japon) ; LEWIS, 1894 : 313 (Nagasaki) ; MIWA, 1934 : 133, pl. 6, fig. 28 (Nagasaki ? & Mt. Kirishima) ; NAKANE et al., 1963 : 166, pl. 83, fig. 14 ; EJIMA, 1967 : 4 (Nagasaki) ; TAKAHASHI, 1975a : 12 (Hyogo) ; TAKAHASHI, 1982 : 73 (Hyogo).

Agriotes (s. str.) *exulatus* CANDÈZE : SCHENKLING, 1927, in JUNK's Col. Cat. 88, Elat. 2 : 446.

Ectinus exulatus CANDÈZE : KISHII et OHIRA, 1956, Akitu, 5(3) : 77 (Niigata) ; KISHII, 1958 : 38 (Miyazaki) ; TAKAKURA, 1959 : 5 (Oita) ; CHUJO et al., 1959 : 15 (Mt. Hikosan) ; AMANO et al., 1963 : 23 (Fukuoka) ; CHUJO et OHIRA, 1965 : 26, pl. 2, fig. 4 (Aomori) ; KISHII, 1966 : 41 (Kyoto) ; BABA et OHIRA, 1967 : 33, fig. 27 (Niigata) ; TANAKA, 1968 : 6 (Toyama) ; OHIRA et NAKAMURA, 1970 : 31 (Iwate) ; OHIRA, 1971b : 21, figs. 489 & 507, phot. F ; OHIRA et al., 1971 : 15 (Hiroshima) ; OHIRA, 1972a : 10 (Oita) ; BABA, 1972 : 216 (Niigata) ; OHIRA et TORIGAI, 1973 : 40, fig. 1-D (Gifu) ; OKUTANI, 1974 : 207 (Hyogo) ; OHIRA, 1974b : 4 (Fukuoka) ; MATSUNAMI et al., 1974 : 16 (Kumamoto) ; BABA et OHIRA, 1975 : 10 (Niigata) ; OHIRA et YOSHIDA, 1975 : 24 (Tokushima) ; MATSUDA et NAKAO, 1976 : 31 (Oita) ; BABA et OHIRA, 1977 : 10 (Niigata) ; OHTSUKA et NAOMI, 1977 : 8 (Kumamoto) ; NAOMI, 1977b : 11 (Oita) ; KADOWAKI et FUJIMURA, 1977 : 17 (Shimane) ; WATANABE, 1977 : 14 (Okayama) ; BABA et OHIRA, 1978d : 55 (Hiroshima) ; SHIRAHATA et KUROSAWA, 1978 : 213 (Yamagata) ; IMASAKA, 1978 : 13 (Nagasaki) ; TAKAKURA et KIDO, 1979 : 22 (Fukuoka) ; KISHII, 1979 : 39, figs. 26, 41 & 57 (Akita) ; HIRANO, 1979 : 143 (Miyagi) ; BABA et KISHII, 1979 : 19 (Akita) ; GURJEVA, 1979 : 356 ; OHTSUKA et al., 1981 : 10 (Kumamoto) ; TAKAKUWA, 1981 : 397 (Kanagawa) ; TANAKA, 1979 : 394 ; TAKAHASHI, 1982 : 74 (Hyogo) ; NAKATA, 1982 : 388 (Hyogo) ; KITAMURA, 1982 : 47 (Toyama) ; KISHII, 1983b : 59, figs. 5, 49 & 50 (Akita, Niigata, Kochi & Oita) ; BABA et KISHII, 1984 : 7 (Niigata).

Ectinus sepes LEWIS : KISHII, 1979, Bull. Heian High Sch. 23 : fig. 58 (Shimane).

Munaboso-kometsuki (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, tab. ; IMASAKA, 1979 : 7 (Nagasaki).

Supplemental description. Length 7.5~8.2 mm (male), 8~9.5 mm (female). Subopaque. Black, with antennae and legs more or less dark brownish, sometimes pronotum wholly dusky brown and elytra brownish entirely. Pubescence fine, rather erect, dense and whitish yellow. Antennae shorter than hind angles of pronotum by one apical joint (male), and or more (female) ; relative length and width from basal joint to fifth respectively as 24:8, 12.5:6, 10:6.5, 13:8 and 12.5:8 (male : Kamisakamoto, Kochi, May 10, 1980, R.SHIMAMOTO leg.), and 24:8, 11:5.8, 8.5:6, 11:8 and 10:7 (female : Kunimi

Pass, Akita, June 8, 1978, K. BABA et N. KATO leg.) ; second joint cylindrical ; third subobconic. Pronotal punctures conspicuously dense, rather large, ocellate, and a little uneven in size ; interpunctate space narrow, almost invisible, partly shagreen-likely sculptured. Basal slope of pronotum with an obscure medio-longitudinal impression, always not smooth. Relative median length of pronotum and narrowest breadth 100 : 78. Lateral sides of prothorax complete, slightly depressed before middle. Interstrial surface of elytra with rather dense punctures, partly having granules rugosely. Prosternal process in profile (fig. 20). Prosternal sutures plainly curved antero-divergently, furrowed at apical one-third shallowly. Aedeagus (fig. 73) ; apex of median lobe narrowly pointed, and clearly exceeding beyond lateral lobes ; apical expansion of lateral lobes small, with lateral projection distinctly acute. Two large sclerotic plates of bursa copulatrix asymmetric and elongate, with very long thornes marginally (fig. 65).

Distribution. Japan : Honshu (Aomori, Iwate, Akita, Yamagata, Miyagi, Kanagawa, Gifu, Niigata, Toyama, Kyoto, Hyogo, Okayama, Hiroshima & Shimane), Shikoku (Tokushima, Ehime & Kochi), and Kyushu (Fukuoka, Oita, Kumamoto, Miyazaki & Nagasaki).

Remarks. This species is here recorded for the first time from Ehime Prefecture as follows : a male, Odamiya, Ehime Prefecture, May 8, 1977, R. SHIMAMOTO leg. And I wish to express my heartfelt thanks for Mr. SHIMAMOTO's kindly offering specimen.

Among the Japanese-species of *Ectinus*, judging from the structures of the genital organs in both sexes, this species appears to have a close relationship to *E. higonius*.

17. *Ectinus higonius* (LEWIS, 1894)

クロムナボソコメツキ

(Figs. 21, 66 & 75)

Megapenthes higonius LEWIS, 1894, Ann. Mag. nat. Hist., (6)13 : 43 (Ichibusayama & Oguma) ; SCHENKLING, 1925 : 167.

Agriotes higonius LEWIS : MIWA, 1929b, Trans. nat. Hist. Soc. Formosa, 19(103) : 349 (Yakushima) ; TAKEUCHI, 1931 : 69 (Is. Yakushima) ; MIWA, 1933b : 71 & 73 (Oita & Kyoto) ; MIWA, 1934 : 134, pl. 7, fig. 3 (Yuyama, Nagasaki & Yakushima) ; ISHIHARA et al., 1953 : 75 (Ehime) ; NAKANE et al., 1963 : 165, pl. 83, fig. 15 ; KAWAMOTO et INOUE, 1978 : 8 (Tottori).

Ectinus higonius LEWIS : NAKANE et KISHII, 1955b, Sci. Rep. Saikyo Univ. (Nat. & Liv. Sci.), 2(1), A ser. : 45 (Nagano & Kyoto) ; KISHII et OHIRA, 1956 : 77 (Niigata) ; BABA et OHIRA, 1956 : 11 (Sado) ; BABA et KISHII, 1957 : 71 (Niigata) ; KISHII, 1958 : 30 (Fukuoka) ; NAKANE et KISHII, 1958 : 39 (Is. Yaku) ; NAKANE, 1958 : 87 (Aomori) ; KISHII, 1959a : 18, pl. 3, fig. 8 ; CHUJO et al., 1959 : 15 (Mt. Hikosan) ; AMANO et al., 1963 : 23, pl. 4, fig. 10 (Fukuoka) ; CHUJO et OHIRA, 1965 : 26, pl. 2, fig. 11 (Aomori) ; KISHII, 1965 : 196 (Kyoto) ; KISHII, 1966 : 41 (Kyoto) ; BABA et OHIRA, 1967 : 33 (Niigata & Is. Sado) ; OHIRA et NAKAMURA, 1970 : 31 (Iwate) ; OHIRA, 1971b : 21, figs. 490 & 504 ; OHIRA et al., 1971 : 15, pl. 1, fig. A (Hiroshima) ; OHIRA et TORIGAI, 1971 : 92 (Gifu) ; OHIRA, 1972a : 10 (Oita) ; BABA, 1972 : 216 (Niigata) ; OHIRA et TORIGAI, 1973 : 40 (Gifu) ; BABA et OHIRA, 1973 : 9 (Niigata) ; MATOBA et HIRAMATSU,

1974 : 21 (Wakayama) ; MATSUNAMI et al., 1974 : 16 (Kumamoto) ; TAKAKURA, 1974 : 62 (Fukuoka) ; OHIRA et YOSHIDA, 1975 : 24 (Tokushima) ; OHIRA et al., 1976 : 11 (Mie) ; OHIRA et ASOKA, 1976 : 149 (Aichi) ; BABA et OHIRA, 1977 : 10 (Niigata) ; OHTSUKA et NAOMI, 1977 : 8 (Kumamoto) ; KADOWAKI et FUJIMURA, 1977 : 17 (Shimane) ; BABA et OHIRA, 1978a, b & d : 28, 39 & 55 (Niigata, Yamagata & Hiroshima) ; SHIRAHATA et KUROSAWA, 1978 : 213 (Yamagata) ; IMASAKA, 1978 : 13 (Nagasaki) ; KAWAMOTO et INOUE, 1978 : 8 (Tottori) ; TANAKA, 1979 : 14 & 393 (Toyama) ; TAKAKURA et KIDO, 1979 : 22, fig. 1-I (Fukuoka) ; KISHII, 1979 : 39, figs. 25, 40 & 56 (Akita) ; HIRANO, 1979 : 143 (Miyagi) ; GURJEVA, 1979 : 356 ; BABA et KISHII, 1979 : 19 (Akita) ; OHTSUKA et al., 1981 : 10 (Kumamoto) ; BABA, 1981 : 46, fig. (Niigata) ; BABA et KISHII, 1981a & b : 15 & 41 (Niigata & Hiroshima) ; KISHII, 1983a : 37 (Is. Yakushima) ; KISHII, 1983b : 58, fig. 3 (Iwate, Nara & Is. Yaku) ; KUSAKARI, 1983 : 9 (Miyagi) ; BABA et KISHII, 1984 : 3 & 7 (Niigata & Is. Awa-shima).

Ectimus (!) *higonius* LEWIS : MATSUDA et NAKAO, 1976, Kita-Kyushu no Konchu, 23(1) : 31 (Oita).

Kuro-munaboso-kometsuki (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, tab. ; TAGUCHI, 1981 : 39 (Hakodate).

Supplemental description. Length 7.5~9.8 mm (male), 8.6~10.5 mm (female). Opaque. Black, with antennae and legs partly dusky brownish. Pubescence short, fine, rather erect, dense and blackish (Yakushima's example greyish to fulvous usually). Antennae subequal to hind angles of prothorax (male), or clearly shorter (female) ; relative length and width from basal joint to fifth severally as 25 : 9.5, 11 : 7, 12 : 7.5, 15.5 : 10 and 15 : 10 (male : Kawaimura, Iwate, May 27, 1979, S. HIRANO leg.), and 26 : 9.5, 10 : 6, 10.5 : 7, 14 : 9.5 and 13 : 9.5 (female : Mt. Wasamata, Nara, May 10, 1981, K. MIZUNO leg.) ; second joint subcylindrical ; third subobconic. Pronotal punctures remarkably dense, not so large, ocellate, and rather even in density and size ; interpunctate space shagreen-likely sculptured wholly. Basal slope of pronotum with a glabrous medio-longitudinal canaliculation. Relative median length of pronotum and narrowest breadth 100 : 84. Lateral sides of prothorax complete. Interstrial surface of elytra densely and rugosely sculptured by distinct granules wholly. Prosternal process in profile (fig. 21). Prosternal sutures straight, very broad, furrowed at anterior one-third. Aedeagus (fig. 75) ; median lobe with acutely pointed apex, and distinctly exceeding beyond lateral lobes ; apico-lateral expansion of lateral lobes triangular, a little elongate, with lateral projection acute. Bursa copulatrix with two elongate thorny asymmetric plates having long thornes at margin (fig. 66).

Distribution. Japan : ? Hokkaido (Hakodate, after TAGUCHI, 1981), Honshu (Aomori, Iwate, Akita, Yamagata, Miyagi, Nagano, Gifu, Aichi, Mie, Niigata, Is. Awa-shima, Is. Sado, Toyama, Kyoto, Nara, Wakayama, Hiroshima, Tottori & Shimane), Shikoku (Tokushima, Ehime & Kochi), Kyushu (Fukuoka, Oita, Kumamoto & Nagasaki), and Satsunans (Is. Yakushima).

Remarks. This species is here recorded for the first time from Kochi Prefecture as follows : 5 males & a female, Monobe-mura, April 25, 1982, R. SHIMAMOTO leg. ; 4 males & 6 females, Irazu-yama, June 5, 1982, R. SHIMAMOTO leg. These examples reported above were sent to me through the courtesy of Mr. R. SHIMAMOTO to whom I wish to express my cordial gratitude.

TAGUCHI (1981) recorded this species from Hakodate in Hokkaido without the latin name. Unless more materials from Hokkaido with the trustworthy determination are available, verification of the record would be impossible.

It is interesting that the materials from Is. Yakushima slightly differs from other localities, in having greyish fulvous pubescence all over, in especial remarkable on elytral sutures and bases. But I will recognize it as an infraspecific variation for the present time.

18. *Ectinus koshiki* sp. nov.

コシキカバイロコメツキ

(Figs. 2, 22, 74, 122, 126 & 127)

Description. Male. Length 10.5 mm, breadth 2.7 mm. Not so stout, elongate, subcylindrical, a little flattened above longitudinally, moderately elevated beneath and parallel-sided. Subopaque. Reddish brown wholly, with head a little darker, antennae and legs somewhat paler. Pubescence dense, long, semierect and whitish yellow.

Head broad, feebly convex above between eyes, then abruptly declivous antero-downwards; relative breadth of each eye and vertex across eyes in dorsal views 15:62; frontal carinae plainly defined before eyes, then obliquely and straightly extending to clypeal margin, which is also definitely limited, straight and scarcely conglutinated with frontal carination. Punctures single, dense, generally large and distinctly irregular in size and form; interpunctate space very narrow, smooth and partly reticulate severally.

Antennae (fig. 2) slender, filiformed, and a little exceeding apices of prothoracic hind angles by one apical joint. Relative joint length and width from basal ones to fifth respectively as 30:9, 13:8, 14:8.5, 20:11, and 20.5:10; basal joint robust, longest, cylindrical and weakly sinuate; second smallest, obconic and ca. 1.5 times as long as wide; third subtriangular and a little longer and hardly wider than second; fourth to tenth ill-serrated, similar in form each other and gradually slender and narrow apically; fourth nearly 1.4 times as long as third, and 1.5 times as second; terminal joint narrow, elongate, subspear-head-formed and clearly longer than preceding joint.

Pronotum slightly elongate, subcylindrical, having a medio-longitudinal hollow on posterior slope. Relative median length and narrowest breadth (exclusive of hind angles) 100:89. Sides in upper views subparallel medianly, weakly expanded outwards behind anterior corners, and a little widening from behind middle to apices of rear angles straightly; lateral margins invisible in upper aspects, clearly limited completely through total length, and in profile straightly and obliquely extending from posterior angles to under sides of eyes. Hind angles straightly protruded backwards, a little divergently widening outwards; apices rather sharply pointed, having long straight and well-defined uncarination along each side. Punctures generally similar to those on vertex, though evener in density and size; interpunctate space glabrous and narrow.

Scutellum tongue-shaped, elongate, declivous ahead; anterior margin upheaved roundly above; sides constricted medianly; apex a little transversely cut; surface feebly convex above, with minute, a little sparse and single punctures. Relative length and basal width 31:21.

Elytra elongate, weakly depressed longitudinally, parallel-sided from behind humeral angles to apical one-third, then gradually and roundly narrowing to apices, which are ordinarily ended. Relative sutural length and humeral breadth 100:38. Striae fine, having minute elongate punctures. Strial intervals rather flattened with fine sparse punctures, and minute and dense granulation, having irregular traverse rugosity-like creases.

Propleural punctures somewhat resembling pronotal ones, but a little sparser, even and smaller; interpunctate area smooth entirely. Prosternal punctures similar to propleural ones, though weakly shallower. Prosternal fore edge rounded beneath, having a blunt nodule-like projection at each outer angle. Prosternal process elongate, robust, slightly incurved behind procoxae, then straightly extending backwards, having an acuminate small step behind apex, which is bluntly ended (fig. 22). Prosternal sutures straight, broad, double, feebly divergent anteriorly, and plainly canaliculate at fore ends broadly and rather deeply. Mesosternal groove wide and deep, with sides distinctly carinate, subparallel each other, and a little widening at anterior one-third. Metasternal punctures smaller than prosternal ones, even and rather sparse; interpunctate space smooth perfectly. Hind coxal plates narrowing laterally, with each outer end truncate. Legs moderate.

Aedeagus (figs. 74, 122, 126 & 127) unique-formed among *Ectinus*-species from Japan and its adjacent area; median lobe broad exclusive of apex, which has a small blunt nodule-like projection, remarkably exceeding beyond lateral lobes; lateral lobes rather narrow, each with a sharp protrusion at outer side of apex, which is also rather acuminately protruded.

Female unknown.

Distribution. Japan : Kyushu (Is. Shimo-koshiki-jima).

Type-series. Holotype, male, Aose, Is. Shimo-koshiki-jima, Nagasaki Prefecture, August 10, 1967, collected by a member of the Biological Club of the Heian High School, at light-trap.

Remarks. This new species is somewhat similar to *Chatanayus*-species in the outline and coloration, but it can be easily separated by the characters given in the key. Moreover, it is very unique in the general body coloration, the smooth pronotal surface, and in the shape of male genital organ among the Japanese *Ectinus*-species.

19. *Ectinus sepes* (LEWIS, 1879)

キアシムナボソコメツキ

(ニセムナボソコメツキ, キアシクロムナボソコメツキ)

(Figs. 23, 70 & 76)

Agriotes sepes LEWIS, 1879, Ent. monthl. Mag., 16 : 312 (Kawachi) ; LEWIS, 1894 : 312 (Kii) ; MIWA, 1934 : 133, pl. 6, fig. 26 (Tokushima) ; ISHIHARA et al., 1953 : 75 (Ehime) ; NAKANE et al., 1963 : 165, pl. 83, fig. 13.

Agriotes (s. str.) *sepes* LEWIS : SCHENKLING, 1927, in JUNK's Col. Cat., 88, Elat. 2 : 454.

Ectinus sepes LEWIS : CHUJO et al., 1959, Enum. Ins. Mont. Hikosan, 2, Col. : 15 (Mt. Hikosan) ; OHIRA, 1971b : 21, figs. 488 & 506 ; MATOBA et HIRAMATSU, 1974 : 21 (Wakayama) ; NAOMI, 1974 : 24 (Mt. Kuju) ; TAKAKURA, 1974 : 62 (Fukuoka) ; OHIRA et

ICHIHASHI, 1975 : 98 (Mie) ; MATSUDA, 1976b : 40 (Fukuoka) ; WATANABE, 1977 : 14 (Okayama) ; BABA et OHIRA, 1978d : 55, fig. 1-C (Hiroshima) ; GURJEVA, 1979 : 350 ; KITAMURA, 1982 : 46 (Toyama) ; KISHII, 1983b : 56, 57 & 59, figs. 7, 46~48 (Shimane, Kyoto, Shiga & Miyazaki).

Agriotes seps [!] LEWIS : EJIMA, 1967, Koganemushi, 1(3) : 4 (Nagasaki).

Ecinus [!] *sepes* LEWIS : MATSUNAMI et al., 1974, Trans. Kumamoto Konchu Doko-kai, 44 : 16 (Kumamoto).

Ectimus [!] *sepes* LEWIS : MATSUDA et NAKAO, 1976, Kita-Kyushu no Konchu, 23(1) : 31 (Oita).

Kiashi-munaboso-kometsuki (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, tab.

Supplemental description. Length 9.2~9.5 mm (male), 8.5~9.8 mm (female). Subnitid. Black with antennae and legs yellowish orange (usually basal three joints of antennae paler than others). Pubescence fine, rather long, semierect, dense and whitish yellow. Antennae subequal to hind angles of prothorax (male), or surely shorter (female) ; relative length and width from basal joint to fifth each as 23:8, 8.5:5.2, 8:6, 16.5:9 and 15:9 (male : Azoke Valley, Kyoto, May 20, 1656, T.KISHII leg.), and 25:8.5, 10:6, 9.5:6.5, 17.5:10 and 15.5:9 (female : Sakata-no-tani, Hyogo, June 9, 1973, T.TAKAHASHI leg.) ; second joint subcylindrical ; third obconic. Pronotal punctures not so dense and large, ocellate, and rather even in density and size ; interpunctate surface rather clearly visible, with shagreen-likely sculptured wholly. Lateral sides of prothorax complete, not depressed medianly. Basal slope of pronotum obscurely depressed medio-longitudinally. Relative median length of pronotum and narrowest breadth 100:76. Interstrial surface of elytra with rather sparse and minute punctures, not rugose nor granulated. Prosternal process in profile (fig. 23). Prosternal sutures slightly curved antero-divergently, shallowly furrowed at anterior one-third. Aedeagus (fig. 76) not so broad ; apex of median lobe a little exceeding beyond lateral lobes ; latero-apical expansion of lateral lobes small, with lateral projection acute. Bursa copulatrix with two large symmetric plates having dense protuberances, and strongly curved near base (fig. 70).

Distribution. Japan : Honshu (Toyama, Mie, Shiga, Kyoto, Osaka, Wakayama, Okayama, Hiroshima & Shimane), Shikoku (Tokushima & Ehime), and Kyushu (Fukuoka, Oita, Kumamoto, Miyazaki & Nagasaki).

Remarks. Judging from the figures reported by OHIRA et YOSHIDA (1975 : 24, fig. 1-G) from Tokushima and by TAKAKURA et KIDO (1979 : 22, fig. 1-G) from Fukuoka as *Ectimus sepes*, it is most possible that these samples are exactly agreeing with *E. sericeus* as stated by the author (1983b : 56). Similarly, it is probable that the previous reports from Shikoku and Kyushu districts as *sepes* by many entomologists are containing *sericeus* having the black elytra.

Although this species is widely distributed in Japan, it seems to be quite uncommon everywhere.

20. *Ectinus obakoe* KISHII, 1979

オバコカバイロコメツキ

(Figs. 24, 69 & 77)

Ectinus obakoe KISHII, 1979, Bull. Heian High Sch., 23 : 34, figs. 2, 3, 31, 43 & 59 (Mt. Chokai-zan in Akita) ; BABA et KISHII, 1979 : 19, fig. 2-16 (Akita) ; KISHII, 1983b : 60, fig. 8 (Akita & Niigata) ; TSUKAMOTO, 1983 : 92.

Supplemental description. Length 7.2~7.8 mm (male), 8~8.3 mm (female). Subopaque. Black with antennae brownish (two or three basal joints usually paler than others), elytra dark reddish brown having infusate basal margin (rarely almost dusky reddish to infusate on whole surface of elytra), and with legs yellowish brown. Pubescence rather long, semierect, very dense and fulvous. Antennae subequal to hind angles of prothorax or slightly longer (male), or distinctly shorter (female) ; relative length and width of basal joint to fifth severally as 19:8, 10:6, 9:6, 13:8 and 14:8 (male : holotype, Mt. Chokai, Akita, June 20, 1978, K. BABA et N. KATO leg.), and 22:8, 9:6, 8:6, 12:8 and 11:8 (female : paratype, ditto) ; second joint cylindrical ; third subobconic. Pronotal punctures dense, large, ocellate and irregular in size ; interpunctate space narrow, generally glabrous and partly microscopically shagreen-likely sculptured feebly. Relative median length of pronotum and narrowest breadth 100:81. Interstrial surface of elytra with fine sparse punctures having irregular and transverse rugosities. Prosternal process in profile (fig. 24). Prosternal sutures substraight, furrowed at anterior one-third shallowly. Aedeagus (fig. 77) not so broad ; apex of median lobe clearly exceeding beyond lateral lobes ; apico-lateral expansion of lateral lobes small, with lateral projection acute. Bursa copulatrix with two elongate symmetric plates having rather sparse elongate protuberances, and slightly curved near base (fig. 69).

Distribution. Japan : Honshu (Akita & Niigata).

Remarks. This species appears to have a close relationship to *E. sepes*, but is plainly smaller, with interrupted and depressed sides of prothorax, and with genital organs differentiated clearly.

21. *Ectinus miyakei* OHIRA, 1964

ミヤケムネナガコメツキ

(Figs. 25, 78, 88 & 89)

Ectinus miyakei OHIRA, 1964a, Kontyu, 32(2) : 233, figs. 1-A, 2-A, B (Mt. Kuju in Oita) ; OHIRA, 1964b : 53, fig. F (Oita) ; MATSUDA, 1964 : 70 (Oita) ; MORITA, 1965 : 17 (Mt. Shirouma & Mt. Asahi in Toyama) ; MATSUDA, 1967 : 18 ; OHIRA, 1971b : 21, figs. 485 & 501, phot. L ; MATSUDA, 1973 : 26 (Oita) ; OHIRA et YOSHIDA, 1975 : 24, fig. 1-H (Tokushima) ; MATSUDA, 1976a : 38 (Tokushima & Ehime) ; TANAKA, 1979 : 394 ; KISHII, 1979 : 36 & 40, figs. 11 & 64 (Nara) ; OHTSUKA et al., 1981 : 10 (Kumamoto) ; KISHII, 1983b : 54, 55 & 60, figs. 9, 43, 44 & 45 (Nara & Oita) ; TSUKAMOTO, 1983 : 92.

Ectinus [!] *miyakei* OHIRA : MATSUDA et NAKAO, 1976, Kita-kyushu no Konchu, 23(1) :

31 (Mt. Kuju).

Miyake-munenaga-kometsuki (Japanese name only) OHIRA, 1974a, Kontyu to Shizen, 9(3) : 20, fig. 1-B (Mt. Daisen in Tottori).

Supplemental description. Length 12.5 mm (male), 14~15 mm (female). Subshining. Black with tarsal joints brownish apically (Nara's example with legs entirely brownish). Pubescence short, dense, rather erect and greyish (Kyushu's example), or yellowish white (Nara's example). Relative length and width from basal joint of antennae to fifth each as 35:14, 14:9, 13:10, 25.5:14 and 25:14.5 (male : Mt. Kuju, Oita, July, 18, 1981, T. OGATA leg.), 38:13, 14.5:8.5, 15.5:10, 22:14 and 21.5:14 (female : ditto), and 42:12, 14:9, 13.5:11, 23:13 and 22.5:12 (female : Mt. Ohdaigahara, Nara, June 15-16, 1974, K. MIZUNO leg.); second joint and third obconic. Lateral sides of pronotum always interrupted beyond middle, and clearly depressed. Pronotal punctures rather dense, not so large, ocellate and a little uneven in density and size; interpunctate space finely shagreen-like sculptured wholly. Relative median length of pronotum and narrowest width 100:80. Basal slope hardly impressed medio-longitudinally. Interstrial surface of elytra with fine and distinctly sparse punctures; interpunctate space smooth generally. Prosternal process in profile (fig. 25). Prosternal sutures substraight, furrowed at anterior one-third or less shallowly. Aedeagus (fig. 78) rather narrow; apex of median lobe scarcely exceeding beyond lateral lobes; apico-lateral expansion large, with lateral projection not acute. Bursa copulatrix with two large hemicircular plates (figs. 88 & 89).

Distribution. Japan : Honshu (? Toyama, after MORITA, 1965, ? Tottori, after OHIRA, 1974, & Nara), Shikoku (Tokushima & Ehime), and Kyushu (Oita & Kumamoto).

Remarks. The only record of the species from Toyama Prefecture was made by MORITA (1965 : 17), based on the specimen reported from Mts. Shirouma-dake and Asahi-dake, and followingly TANAKA (1979 : 394) cited this record in his report. However, it is questionable whether this specimen was identified accurately. Thus, unless more materials determined exactly are available, verification of the record would be impossible. In an essay, OHIRA (1974a : 20) inserted a photo of this species from Mt. Daisen in Tottori Prefecture without latin name nor any comment on the interesting distribution. This locality of the specimen seems to be incorrectly gave an account of Mt. Daisen-zan in Oita Prefecture.

22. *Ectinus piloselloides* (SCHWARZ, 1891)

(Figs. 79 & 94)

Agriotes aterrimus (LINNAEUS, 1761), var. *piloselloides* SCHWARZ, 1891, Deutsch. ent. Zeit. : 88 (Amur).

Agriotes (Ectinus) aterrimus piloselloides SCHWARZ : SCHENKLING, 1927, in JUNK's Col. Cat., 88, Elat. 2 : 442.

Ectinus piloselloides SCHWARZ : GURJEVA, 1972, Entom. Rev., 51(4) : 843 ; GURJEVA, 1979 : 358 & 359, figs. 618 & 621 (Primorskaya & Kunashiri).

Distribution. Japan : Hokkaido (Is. Kunashiri, after GURJEVA, 1979) ; and USSR

(Primorskaya).

Remarks. I have not seen any specimens collected in Japan inclusive of Kuriles. According to GURJEVA (1979 : 358) the specimen from Primorskaya is 12~15 mm and black wholly with dusky brownish antennae and legs, and the genital organs were illustrated as figs. 618 & 621 (figs. 79 & 94).

23. *Ectinus puberulus* (MIWA, 1928)

キンケオオカバイロコメツキ

(ケムナボソコメツキ, キンケムネナガコメツキ, キンケムナボソコメツキ)

(Figs. 26, 80 & 90)

Agriotes puberulus MIWA, 1928, Ins. Mats., 3(1) : 44, pl. 1, fig. 8 (Sapporo & Iwate) ;
MIWA, 1934 : 133, pl. 6, fig. 25 (Hokkaido) ; ISHIHARA et al., 1953 : 75 (Ehime).

Agriotes (Ectinus) puberulus MIWA : OHIRA, 1954b, New Ent., 3(4) : 29, pl. 1, fig. 3
(Asama-kogen).

Ectinus puberulus MIWA : CHUJO et OHIRA, 1965, Mem. Fac. liv. Arts & Educ., Kagawa Univ., 2(132) : 25, pl. 1, fig. H (Aomori) ; INAZUMI, 1965 : 42 (Tochigi) ; KASE, 1971 : 58 (Yamanashi) ; OHIRA, 1971b : 20, figs. 486, 502 & 524 ; GURJEVA, 1972 : 844 ; MATOBA et HIRAMATSU, 1974 : 21 (Wakayama) ; KISHII, 1979 : 35 & 40, figs. 10, 33, 34, 47, 48 & 63 (Kumamoto, Tokushima & Nagano) ; GURJEVA, 1979 : 356 & 362 ; KISHII, 1983b : 61, fig. 10 (Nagano & Nara) ; SASAKI, 1983 : 20, fig. 18 (Hokkaido).

Ke-munaboso-kometsuki (Japanese name only) Keihin Konchu-doko-kai, 1959, Atarashi-i Konchu-saishu, Tokyo : 314 (Ehime).

Supplemental description. Length 12.5~13 mm (male), 12.5~14.5 mm (female). Subopaque. Black with antennae and legs reddish brown, sometimes with narrow anterior margin of pronotum brownish, rarely with elytral base to apex more or less yellowish brown longitudinally from fourth striation to eighth distinctly. Pubescence long, dense, subrecumbent and golden yellow. Antennae subequal to hind angles of prothorax (male), or shorter (female) ; relative length and width from basal joint to fifth respectively as 38:13, 18.5:8, 15:10, 14:12 and 18.5:11 (male : Mt.Obako-dake, Nara, May 23~24, 1981, K. MIZUNO leg.), and 39:15, 21:11.5, 13:12, 20.5:13.5 and 18.5:12 (female : Sanjiro, Nagano, July 9, 1973, J. KITAMURA leg.) ; second joint and third obconic. Lateral sides of prothorax complete always, not depressed medianly. Pronotal punctures dense, rather small, ocellate and a little uneven in density and size ; interpunctate surface shagreen-likely sculptured entirely. Relative median length of pronotum and narrowest width 100:82. Basal slope of pronotum obscurely impressed medio-longitudinally. Interstrial surface of elytra with fine dense punctures wholly and granules on basal part distinctly ; interpunctate area slightly rugose transversely. Prosternal process in profile (fig. 26). Prosternal sutures broad, weakly sinuate posteriorly, conspicuously divergent apically, with anterior end broadly and shallowly furrowed at apical one-third. Aedeagus (fig. 80) a little broad ; apex of median lobe feebly exceeding beyond lateral lobes ; latero-apical expansion of lateral lobes not so small and triangular, with lateral projection plainly acute. Bursa copulatrix with two large hemicircular plates having many small protuberances (fig. 90).

Distribution. Japan : Hokkaido (proper), Honshu (Aomori, Iwate, Tochigi, Gumma, Yamanashi, Nagano, Kyoto, Nara & Wakayama), Shikoku (Tokushima & Ehime), and Kyushu (Kumamoto).

Remarks. So far as I know, this species is here recorded for the first time from Gumma and Kyoto Prefecture as follows : a female, Kita-Karuisawa, Gumma, August 9, 1949, T. KISHII leg. ; a male, Kibune, Kyoto, April 29, 1959, T. SHIBATA leg.

2A. *Ectinus dahuricus persimilis* (LEWIS, 1894)

オオカバイロコメツキ

(Figs. 27, 67 & 81)

Agriotes persimilis LEWIS, 1894, Ann. Mag. nat. Hist., (6)13 : 312 (Junsai) ; MIWA, 1928 : 43 (Saghalien, Is. Shikotan, Is. Kunashiri, Is. Etrup, Sapporo, Kushiro, Is. Rishiri & Mt. Tsubakura) ; MIWA, 1929a : 451 (Kuriles & Saghalien) ; MIWA, 1933a : 30 (Saghalien) ; MIWA, 1933b : 73 (Kamikochi) ; MIWA, 1934 : 133, pl. 6, fig. 24 (Nikko & Tokugotoge), 157 (Is. Shikotan, Is. Kunashiri, Is. Etrup, Saghalien, Is. Kaiba-to & Towada) ; MIWA, 1935 : 52 & 53 (Is. Shikotan, Kamikochi & Shimajima) ; KUSANAGI, 1936 : 315 (Mt. Ishizuchi) ; HIRAYAMA, 1940 : 74, pl. 27, fig. 29 (Sapporo) ; SAKURAI, 1942 : 1 (Hokkaido) (larva) ; NAKANE, 1950 : 105 (Niigata) ; YUASA et NAKANE, 1950 : 1134 ; ISHIHARA et al., 1953 : 75 ; NAKANE et al., 1963 : 165, pl. 83, fig. 12 ; KAMIMURA et al., 1964 : 31 (Mt. Jonen).

Agriotes (s. str.) *persimilis* LEWIS : SCHENKLING, 1927, in JUNK's Col. Cat., 88, Elat. 2 : 453.

Ectinus persimilis LEWIS : NAKANE et KISHII, 1954b, Sci. Res. Ozegahara Moor, Tokyo : 731 (Oze) ; NAKANE et KISHII, 1955a : 12 ; NAKANE et KISHII, 1956b : 82 ; KISHII et OHIRA, 1956 : 77 (Niigata) ; BABA et KISHII, 1957 : 71 (Niigata) ; KISHII, 1959b : 13 (Is. Rishiri & Is. Todo) ; OHIRA, 1960 : 32 (larva) ; KISHII, 1962 : 28, pl. 4, fig. 8 (Is. Rishiri & Is. Todo) ; OHIRA, 1962a : 130, pl. 55, A-J (Nagano) (larva) ; INAIZUMI, 1963 : 185 ; NAKANE, 1963 : 240 (Rausu) ; INAIZUMI, 1965 : 41 (Tochigi) ; OGASAWARA, 1966 : 60 (Niigata) ; SHIRAHATA et KUROSAWA, 1970 : 206 (Yamagata) ; NAKANE, 1971 : 181 (Mt. Daisetsu) ; GURJEVA, 1972 : 843 ; ITAGAKI, 1973 : 27 (Yamagata) ; TANAKA, 1979 : 393 (Toyama) ; KITAMURA, 1982 : 47 (Toyama).

Ectinus dahuricus persimilis LEWIS : OHIRA, 1968e, Gensei, 18 : 3 ; OHIRA et NAKAMURA, 1970 : 30, phot. O (Iwate) ; KASE, 1971 : 58 (Yamanashi) ; OHIRA, 1971b : 21, figs. 483 & 499, phot. K ; SHIRAHATA et KUROSAWA, 1972 : 258 (Yamagata) ; BABA et OHIRA, 1973 : 9, fig. 2-3F (Niigata) ; OHIRA et KUSUI, 1975 : 25 (Is. Rishiri, Rebun & Is. Todo) ; BABA et OHIRA, 1978c : 46 (Wakkanai) ; KISHII, 1979 : 40, figs. 32, 46 & 62 (Hokkaido) ; KISHII, 1981 : 21 (Iwate) ; KISHII, 1983b : 59, fig. 6 (Is. Rebun, Iwate & Nagano) ; SASAKI, 1983 : 20 (Hokkaido).

Ectinus dahuricus CANDÈZE : GURJEVA, 1979, Fauna USSR : 359, figs. 87, 479, 488, 619, 622 & 625 (USSR, Saghalien, Kunashiri, Shikotan, Etrup, N. China, Corea & Japan) (= *persimilis*).

Ohkabairo-kometsuki (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, tab. ; Matsumoto Mushi-no-kai, Nagano, 1982 : 132 & 137 (Nagano).

Supplemental description. Length 10~13.5 mm (male), 12~14.5 mm (female). Subshining. Black with antennae, elytra (exclusive of bases and sutural zone narrowly) and

legs reddish brown, rarely sutural zone of elytra widely infusate. Pubescence distinctly short, fine, dense, semierect and whitish yellow. Antennae exceeding beyond hind angles of prothorax by one apical joint or less (male), or clearly shorter by one or more apical joint (female); relative length and width from basal joint to fifth each as 37:12, 16:9, 17:9.5, 22.5:15 and 20.5:14.5 (male: Mt. Norikura, Nagano, May 19, 1974, K. TSUKAMOTO leg.), and 38:13.5, 16:8.5, 14.5:10, 21:14 and 18.5:13.5 (female: Mt. Hayachine, Iwate, June 22~24, 1980, S. NAOMI leg.); second joint cylindrical; third obconic or rather triangular. Lateral sides of prothorax always complete, not depressed medianly. Pronotal punctures distinctly dense, rather small, simple and a little uneven in density and size; interpunctate space glabrous, having no any shagreen-like sculptures. Relative median length of pronotum and narrowest breadth 100:98. Basal slope of pronotum with a faint medio-longitudinal depression, but always plainly obliterated. Interstrial surface of elytra with dense minute punctures and distinct transverse rugosities. Prosternal process in profile (fig. 27). Prosternal sutures straight, clearly broad, slightly divergent anterolaterally, broadly and shallowly furrowed at anterior one-third or more. Aedeagus (fig. 81) conspicuously broad; apex of median lobe feebly exceeding beyond lateral lobes; apico-lateral expansion of lateral lobes triangular, with lateral projection rather acute. Bursa copulatrix with two symmetric plates not so elongate, having many small protuberances (fig. 67).

Distribution. Japan: Hokkaido (Is. Rishiri, Is. Rebun, Is. Todo, Is. Kunashiri, Is. Shikotan, Is. Etrup & proper), Honshu (Aomori, Iwate, Yamagata, Tochigi, Gumma, Yamana-shi, Shizuoka, Nagano, Niigata & Toyama), and Shikoku (? Ehime, after KUSANAGI, 1936); USSR (Primorskaya, Saghalien & Is. Kaiba).

Remarks. The only record of this species from Shikoku was made by KUSANAGI (1936: 315), based on the sample collected from Mt. Ishizuchi in Ehime Prefecture. However, it is doubtful that this species distributes in Shikoku district. A male specimen of this species is here recorded for the first time from Shizuoka Prefecture as follows: Niken-goya, May 26, 1973, K. TSUKAMOTO leg. GURJEVA (1979: 359) treated this species as a synonym of *A. dahuricus* (figs. 28, 68 & 82) distributing in the eastern area of USSR, though I wish to retain to decide for its reception till a careful examination made on the adequate examples of the species.

25. *Ectinus nipponicus* KISHII, 1979

ニホンカバイロコメツキ

(Figs. 29, 83 & 91)

Ectinus nipponicus KISHII, 1979, Bull. Heian High Sch., 23: 36, figs. 4, 5, 7, 35, 51, 52 & 66~68 (Hokkaido, Aomori, Iwate, Akita, Yamagata, Niigata, Gumma, Tochigi & Toyama); BABA et KISHII, 1979: 18, fig. 2-20 (Akita); KISHII, 1981: 21 (Yamagata & Iwate); KISHII, 1983b: 60, fig. 12 (Akita); TSUKAMOTO, 1983: 92; KUSAKARI, 1983: 9 (Yamagata).

Supplemental description. Length 9.5~10.5 mm (male), 10.5~12.5 mm (female). Subshining. Black with antennae more or less infusate (exclusive of basal two or three

joints paler, rarely antennae wholly reddish brown), and with elytra and legs more or less yellowish brown. Pubescence not so short, semierect, dense and whitish yellow. Antennae exceeding beyond hind angles of pronotum by one apical joint or more (male), or plainly shorter (female); relative length and width from basal joint to fifth each as 23:11.5, 13:9.5, 12:9, 23.5:12 and 21:13.5 (male: paratype, Mt. Chokai, Akita, June 20, 1978, K. BABA et N. KATO leg.), and 35:10.5, 13.5:7.5, 12.5:8, 20.5:11 and 19:10.5 (female: paratype, ditto); second subobconic; third rather triangular. Lateral sides of prothorax interrupted beyond middle (rarely hardly complete), more or less depressed medianly. Pronotal punctures rather dense, feebly large, subocellate and uneven in density and size; interpunctate space smooth, but partly weakly and shagreen-likely sculptured in high magnification. Relative median length and narrowest breadth of pronotum 100:82. Basal slope of pronotum with a medio-longitudinal shallow depression. Interstrial surface of elytra with fine and dense punctures having dense transverse and irregular rugosity-like creases among punctures. Prosternal process in profile (fig. 29). Prosternal sutures substraight, broad and shallowly furrowed at anterior two-fifths. Aedeagus (fig. 83); apex of median lobe not exceeding beyond lateral lobes; laero-apical expansion of lateral lobes broad, not elongate, with lateral projection obtusely pointed. Bursa copulatrix with two large hemicircular plates (fig. 91), with basal emargination large and deep.

Distribution. Japan: Hokkaido (Sapporo), and Honshu (Aomori, Iwate, Akita, Yamagata, Fukushima, Tochigi, Gumma, Nagano, Niigata, Toyama & Fukui).

Remarks. The following records are the first time ones of this species from some Prefectures. A male, Mt. Azuma, Fukushima, August 8, 1974, A. SHINOHARA leg.; 2 females, Hinoemata, ditto, July 27~29, 1975, K. MIZUNO leg.; a female, Mt. Amakazari, Nagano, July 31, 1981, K. MIZUNO leg.; a female, Mt. Arashima-dake, Fukui, June 5, 1982, M. SAITO leg. I wish to express my hearty thanks to the collectors cited above for their kindly offering specimens.

As I pointed out (1979: 42), many records from the northern district of Honshu reported as *E. longicollis* may perhaps should be revised as this species.

26. *Ectinus longicollis* (LEWIS, 1894)

ムネナガカバイロコメツキ

(Figs. 30, 84 & 92)

Agriotes longicollis LEWIS, 1894, Ann. Mag. nat. Hist., (6)13: 311 (Nikko); FLEUTIAUX, 1900: 357 (Japon central); YOKOYAMA, 1930: 85, pl. 11, fig. 7; YAMAJI, 1935: 181 (Miyagi); MOCHIZUKI, 1936: 37 (Corea); HIWATASHI, 1938: 25 (Iwate); OHTSUKA, 1938: 548 (Mt. Tateyama); NAKANE, 1938a: 555 (Tadeshina); NAKANE, 1938b: 748 (Tadeshina); NAKANE et al., 1963: 165.

Agriotes (s. str.) *longicollis* LEWIS: SCHENKLING, 1927, in JUNK's Col. Cat. 88, Elat. 2: 450.

Agriotes sericeus CANDÈZE, var. ? : MIWA, 1934, Fauna Elat. Jap. Emp., Dept. Agr. Govt. res. Inst. Formosa, 65: 132, pl. 6, fig. 23 (Nikko).

Agriotes orientalis [!] CANDÈZE [!]: TAKEUCHI, 1937, Kontyu-kai, 5(42): 523 (Gum-

ma). *Lapsus calami* ?

Agriotes sericeus, var. *longicollis* LEWIS : YUASA et NAKANE, 1950, Icon. Ins. Jap., Tokyo : 1134.

Agriotes (Ectinus) longicollis LEWIS : OHIRA, 1954b, New Ent., 3(4) : 28 (Asama-kogen).

Ectinus longicollis LEWIS : NAKANE et KISHII, 1954b, Sci. Res. Ozegahara Moor, Tokyo : 731 (Oze) ; NAKANE et KISHII, 1955a : 12 ; NAKANE et KISHII, 1956b : 82 ; KISHII et OHIRA, 1956 : 77 (Niigata) ; NAKANE et KISHII, 1956c : 205, pl. 22, fig. 12 ; BABA et KISHII, 1957 : 71 (Niigata) ; INAZUMI, 1963 : 185 ; KISHII, 1963 : 12 (Hyogo) ; CHUJO et OHIRA, 1965 : 25, pl. 2, figs. 9 & 10 (Aomori) ; MORITA, 1965 : 17 (Toyama) ; BABA et OHIRA, 1967 : 32, fig. 26 (Niigata) ; OHIRA, 1968c : 77 (Gifu) ; OHIRA, 1968d : 14, figs. 4e, 16b, 16r & 18e (larva) ; OHIRA et NAKAMURA, 1970 : 29 (Iwate) ; OHIRA, 1971b : 21, figs. 482 & 498 ; OHIRA et TORIGAI, 1971 : 92 (Gifu) ; BABA, 1972 : 216 (Niigata) ; BABA et OHIRA, 1973 : 8 (Niigata) ; OHIRA et TORIGAI, 1973 : 40 (Gifu) ; OKUTANI, 1974 : 207 (Hyogo) ; MATOBA et HIRAMATSU, 1974 : 21 (Wakayama) ; MATSUNAMI et al., 1974 : 16 (Kumamoto) ; OHIRA et YOSHIDA, 1975 : 24 (Tokushima) ; MIZUNO, 1976 : 26 (Kyoto) ; OHIRA et al., 1976 : 11 (Mie) ; BABA et OHIRA, 1977 : 10 (Niigata) ; BABA et OHIRA, 1978a, b & d : 28, 39 & 48 (Niigata, Yamagata & Akita) ; SHIRAHATA et KUROSAWA, 1978 : 213 (Yamagata) ; TANAKA, 1979 : 16 & 393 (Toyama) ; KISHII, 1979 : 40, figs. 36, 37, 49, 50 & 69 (Nagano) ; GURJEVA, 1979 : 356 ; TAKAKUWA, 1981 : 397 (Kanagawa) ; BABA, 1981 : 46, fig. (Niigata) ; KISHII, 1981 : 19 (Gifu) ; TAKAHASHI, 1982 : 74 (Hyogo) ; OHIRA et KUSUI, 1982 : 11 (Niigata) ; KISHII, 1983b : 60, fig. 13 (Nagano) ; BABA et KISHII, 1984 : 7 & 11 (Niigata & Toyama).

Ectinus longicollis [!] LEWIS : INAZUMI, 1965, Bull. Coll. Agr., Utsunomiya Univ., 6(1) : 41 (Tochigi).

Ectinus logicollis [!] LEWIS : OHIRA, 1980, Aichi-ken Toyone-mura no Dobutsu, Aichi : 207 (Aichi).

Munenaga-kabairo-kometsuki (Japanese name only) SASAJI et al., 1976, Fukui-ken Shizen-kankyo-hozen Kiso-chosa Hokoku-sho, Fukui : 175 (Fukui) ; KADOWAKI, 1978 : 34, tab.

Supplemental description. Length 9.5~11.5 mm (male), 11~13 mm (female). Subshining. Black with antennae and legs more or less infuscate, and with bases, margins and sutures of elytra narrowly blackish. Pubescence short, rather erect, dense and whitish yellow. Antennae exceeding beyond hind angles of prothorax by one apical joint or more (male), or subequal or less (female) ; relative length and width from basal joint to fifth severally as 29:11.5, 12.5:8, 11.5:8.5, 22.5:13 and 22:12 (male : Mt. Togakushi, Nagano, July 29, 1972, K. UENO leg.), and 30:11, 12:8, 12:8, 19:11.5 and 18.5:11 (female : Kiyosato, Nagano, August 4, 1982, K. MIZUNO leg.) ; second joint subcylindrical ; third obconic. Lateral sides of prothorax interrupted and depressed medianly. Pronotal punctures rather large, dense, subocellate and a little uneven in density and size ; interpunctate space shagreen-likely sculptured. Relative median length and narrowest breadth 100:82. Basal slope of pronotum with a medio-longitudinal and shallow impression. Interstitial surface of elytra with fine sparse punctures, and rather glabrous on among punctures. Prosternal process in profile (fig. 30). Prosternal sutures substraight, shallowly furrowed at anterior one-third. Aedeagus (fig. 84) rather narrow ; apex of median lobe clearly shorter than lateral lobes ; latero-apical expansion of lateral lobes a little elongate,

with lateral projection weakly acute. Bursa copulatrix with two large hemicircular plates having each base slightly emarginate (fig. 92).

Distribution. Japan : Honshu (? Aomori, ? Iwate, ? Akita, ? Miyagi, ? Yamagata, Tochigi, Gumma, Kanagawa, Nagano, Gifu, Aichi, Mie, Niigata, Toyama, Fukui, Kyoto, Hyogo, Wakayama & Tottori), Shikoku (Tokushima), and Kyushu (Kumamoto).

Remarks. Hitherto, by many entomologists, this species has been recorded from the northern district of Honshu followingly : YAMAJI, 1935 : 181 (Miyagi); HIWATASHI, 1938 : 25 (Iwate); CHUJO et OHIRA, 1965 : 25, pl 2, figs. 9 & 10 (Aomori); BABA et OHIRA, 1978b & d : 39 (Yamagata); SHIRAHATA et KUROSAWA, 1978 : 213 (Yamagata).

However, as I pointed out in the remarks of *E. nipponicus* mentioned precedingly, these specimens may should be corrected as *E. nipponicus*.

27. *Ectinus obscurolineatus* KISHII, 1979

コゲチャムナボソコメツキ

(Figs. 31, 85 & 93)

Ectinus obscurolineatus KISHII, 1979, Bull. Heian High Sch., 23 : 38, figs. 8, 9, 38, 53, 54 & 65 (Mt. Tateyama, Mt. Yukikura-yama, Mt. Asahidake & Serio); KISHII, 1983b : 61, fig. 11 (Toyama & Kyoto); TSUKAMOTO, 1983 : 92.

Supplemental description. length 9.8~12.2 mm (male), 11.6~12.8 mm (female). Subopaque. Black to dusky brown, with apical joint of antennae brownish, elytra usually infusate from sutural interstices to near the fourth and with legs dusky brownish, generally female more dusky than male. Pubescence long, semierect, dense and whitish. Antennae exceeding hind angles of prothorax by two apical joints or more (male), or subequal or less (female); relative length and width from basal joint to fifth each as 35 : 13.5, 15.5 : 10, 15.5 : 10.5, 25 : 14.5 and 26 : 15 (male : paratype, Mt. Tateyama, Toyama, August 1, 1960, K. MIZUNO leg.), and 33 : 11, 12 : 8, 12.5 : 8, 20.5 : 11.5 and 20 : 11 (female : paratype, Mt. Yukikura-dake, Niigata, July 26, 1961, K. BABA leg.); second and third joint rather obconic. Lateral sides of prothorax interrupted clearly and strongly depressed medianly. Pronotal punctures rather small and simple, feebly sparse and uneven in density and size; interpunctate space generally smooth, though finely shagreen-likely sculptured partly in high magnification. Relative median length and narrowest breadth 100 : 85. Basal slope of pronotum rather simple medianly. Interstitial surface of elytra with rather dense and very fine punctures, and transversely rugose granules on basal half distinctly. Prosternal process in profile (fig. 31). Prosternal sutures slightly curved antero-outwards, broad and furrowed at anterior one-third. Aedeagus (fig. 85) narrow; apex of median lobe surely shorter than lateral lobes; lateral lobe with elongate apico-lateral expansion having outer projection obtuse. Bursa copulatrix with two hemicircular plates slightly excavated at each base (fig. 93).

Distribution. Japan : Honshu (Nagano, Niigata, Toyama & Kyoto).

Remarks. There are some specimens of the species from Nagano Prefecture collected

in the following localities : a male, Tokugo Pass, July 10, 1951, H. ISHIDA leg. ; a female, ditto, August 20, 1952, K. KAWASAKI leg. ; a female, ditto, August 5, 1963, Y. IMAI leg. ; a male, Mt. Ontake, July 26, 1973, T. KISHII leg. These specimens are here recorded for the first time from Nagano. Generally, it seems to be difficult to divide this species from *E. longicollis* by the external structures except genital organs.

28a. *Ectinus sericeus sericeus* (CANDÈZE, 1878)

カバイロコメツキ

(Figs. 32, 86 & 95)

Agriotes sericeus CANDÈZE, 1878, *Elat. nouv.*, 2, *Ann. Soc. ent. Belg.*, 21 : 49 (Awomori) ; HEYDEN, 1879 : 350 (Mino) ; LEWIS, 1894 : 312 (Subashiri & Wada-toge) (= *sericans*) ; FLEUTIAUX, 1900 : 357 (Japon centrale) ; FLEUTIAUX, 1902 : 23 (Japon centrale) ; YOKOYAMA, 1928 : 1044 ; KOBAYASHI, 1931 : 62 (Shikotan Is.) ; MIWA, 1933b : 73 (Ibuki, Hakuba, Minomo & Tokugo-toge) ; MIWA, 1934 : 132, pl. 6, fig. 22 (Sapporo, Jo-zankei, Towada, Nasu, Nikko, Senjogahara & Kamikochi) & 157 (Shikotan Is.) ; KUSANAGI, 1936 : 316 (Sanuki & Mt. Ishizuchi) ; BABA et SAWANO, 1938 : 57 (Is. Awa-shima) ; Fukui-ken Hakubutsu-gakkai, 1938 : pl. 16, fig. 31 (Fukui) ; MIWA, 1939 : 119 (Sapporo) ; Nagano Agr. exp. Stat., 1939 : 820 (Nagano) (larva) ; HIRAYAMA, 1940 : 74, pl. 27, fig. 31 (Tokyo) ; NAKANE, 1950 : 105 (Niigata) ; YUASA et NAKANE, 1950 : 1134, fig. 3254 ; ISHIHARA et al., 1953 : 75 (Ehime) ; IZAKI, 1957 : 28 (Fukui) ; NAKANE et al., 1963 : 165, pl. 83, fig. 11 ; TSUJI et KISHIDA, 1972 : 29 (Hyogo) ; TAKAHASHI, 1975a : 12 (Hyogo) ; KAWAMOTO et INOUE, 1978 : 8 (Tottori) ; TAKAHASHI, 1982 : 73 (Hyogo) ; SHIMOYAMA et al., 1982 : 131 (Aomori).

Agriotes sericans LEWIS, 1879, *Ent. monthl. Mag.*, 16 : 157 (Awomori) ; LEWIS, 1894 : 362 (= *sericeus*).

Agriotes (s. str.) *sericeus* CANDÈZE : SCHENKLING, 1927, *JUNK's Col. Cat.* 88, *Elat.* 2 : 454.

Agriotes seriseus [!] CANDÈZE : MIWA, 1935, *Kansai Konchu Zasshi*, 3(2) : 52 & 53 (Mt. Hakkoda, Kamikochi, Yarigatake & Minomo) ; YAMAZAKI et MASUDA, 1957 : 79 (Shizuoka).

Ectinus sericeus CANDÈZE : NAKANE et KISHII, 1955a, *Color. Ill. Ins. Jap. (Col.)*, Osaka : 12, pl. 5, fig. 1 (Nagano) ; BABA et OHIRA, 1956 : 11 (Sado) ; NAKANE, 1958 : 87 (Aomori) ; YAMAYA, 1960 : 31 (Hakodate) ; KISHII, 1961 : 47 ; NAKANE, 1963 : 240 (Rausu) ; TSUJI, 1963 : 30 (Hyogo) ; OHIRA, 1968d : 14, figs. 3k, 16m, 16p, 17b & 18g (larva) ; OHIRA, 1969b : 19 & 21 (= *candezei* KISHII, nec LEWIS) ; OHIRA et NAKAMURA, 1970 : 30 (Iwate) ; OHIRA, 1971b : 21, figs. 484 & 500 ; GURJEVA, 1972 : 843 ; OHIRA et TORIGAI, 1973 : 40 (Gifu) ; BABA et OHIRA, 1973 : 9 (Niigata & Is. Sado) ; OHIRA, 1973d : 100 (Aichi) ; OKUTANI, 1974 : 207 (Hyogo) ; MATOBA et HIRAMATSU, 1974 : 21 (Wakayama) ; OHIRA, 1975a : 42 (Aichi) ; OHIRA, 1975b : 26 (Fukui) ; BABA et OHIRA, 1975 : 11 (Niigata) ; OHIRA et YOSHIDA, 1975 : 24 (Tokushima) ; OHIRA et ICHIHASHI, 1975 : 98 (Mie) ; MIZUNO, 1976 : 26 (Kyoto) ; OHIRA et al., 1976 : 11 (Mie) ; OHIRA et ASAOKA, 1976 : 150 (Aichi) ; BABA et OHIRA, 1977 : 9 (Niigata & Is. Sado) ; WATANABE, 1977 : 14 (Okayama) ; SHIRAHATA et KUROSAWA, 1978 : 213 (Yamagata) ; TANAKA, 1979 : 16, 28, 29 & 393 (Toyama) ; HIRANO, 1979 : 143 (Miyagi) ; GUR-

JEVA, 1979 : 356, 358 & 360, fig. 624 (Primorskaya, Saghalien, Is. Kunashiri, Is. Shikotan & Is. Etrup) ; TAKAKUWA, 1981 : 397 (Kanagawa) ; NAKATA, 1982 : 387 (Osaka & Hyogo) ; KITAMURA, 1982 : 46 (Toyama) ; SASAKAWA et al., 1983 : 122 (Kyoto) ; SUZUKI, 1983a : 6 (Kanagawa) ; SASAKI, 1983 : 21 (Hokkaido).

Ectinus candezei LEWIS : KISHII, 1956, Akitu, 5(1) : 19 ; KISHII et OHIRA, 1956 : 77 (Niigata) ; KISHII, 1959b : 13 (Is. Rishiri & Is. Rebun) ; KISHII, 1961 : 47, pl. 10, figs. 8 & 9 ; INAIZUMI, 1963 : 185 ; HIGUMA, 1964 : 101 ; KISHII, 1965 : 196 (Kyoto) ; INAIZUMI, 1965 : 41 (Tochigi).

Ectinus candezei candezei LEWIS : KISHII, 1961, Bull. Heian High Sch., 7 : 27 (Is. Rishiri & Is. Rebun) ; CHUJO et OHIRA, 1965 : 26 (Aomori) ; KISHII, 1966 : 41 (Kyoto).

Ectinus candezei ? LEWIS : OHIRA, 1962a, Mor. tax. Study Larvae Elat. Jap. : 131, pl. 56, A, J (Nagano & Aichi) (larva).

Ectinus sericeus sericeus CANDÈZE : BABA et OHIRA, 1967 : 32 (Niigata) ; HOZUMI, 1968 : 42 (Mie) ; OHIRA et al., 1971 : 15 (Hiroshima) ; BABA, 1972 : 216 (Niigata) ; BABA et OHIRA, 1978a : 28 (Niigata & Hiroshima) ; KISHII, 1979 : 39, figs. 28, 29, 44 & 60 (Akita & Kyoto) ; BABA et KISHII, 1979 : 18 (Akita) ; OHIRA, 1980 : 207 (Aichi) ; BABA, 1981 : 46, fig. (Niigata) ; KISHII, 1981 : 18 & 19 (Tottori & Gifu) ; BABA et KISHII, 1981a : 15 & 18 (Niigata & Is. Sado) ; BABA et KISHII, 1981b : 34 & 37 (Hokkaido & Yamagata) ; KISHII, 1983b : 55~57, figs. 14, 39~42 & 51~56 (Is. Rishiri, Iwate, Nagano, Nara, Ehime & Tokushima) ; KUSAKARI, 1983 : 9 (Hokkaido, Iwate, Yamagata & Miyagi) ; BABA et KISHII, 1984 : 7 (Niigata).

Ectinus sericeus sericeus [!] CANDÈZE : KASE, 1971, Trans. Seibutsu Kenkyu-kai, Chiba Keiai Jr. Coll., 3 : 58 (Yamanashi).

Ectinus sepes LEWIS : OHIRA et YOSHIDA, 1975, Gensei, 29 : 24, fig. 1-G (Tokushima) ; TAKAKURA et KIDO, 1979 : 22, fig. 1-G (Fukuoka).

Ectinus [!] *sericeus* CANDÈZE : MATSUDA et NAKAO, 1976, Kita-Kyushu no Konchu, 23 (1) : 31 (Oita).

Ectinus Sericeus [!] CANDÈZE : ARIMOTO, 1977, Rep. Seibutsu Kenkyu-kai, Dept. Agr., Kinki Univ. : 34 (Osaka).

Ectinus sericus [!] *sericus* [!] CANDÈZE : BABA et OHIRA, 1978b & c : 39 & 46 (Yamagata, Is. Rishiri & Wakkanai).

Kabairo-kometsuki (Japanese name only) Keihin Kontyu Doko-kai, 1959 : 220 (Nagano) ; Nishiwaki Nat. Co., Dept. 1965 : 51 (Hyogo) ; SASAJI et al., 1976 : 175 (Fukui) ; KADOWAKI, 1978 : 34, tab.

Supplemental description. Length 8~10.5 mm (male), 9.5~11.5 mm (female). Subshining. Black with antennae (three basal joints always paler than others), elytra and legs yellowish brown, but in most examples from southern west district having elytra wholly blackish as well as head and pronotum. Pubescence fine, rather erect, dense and yellowish. Antennae hardly exceeding hind angles of prothorax (male), or distinctly shorter by one apical joint or more (female) ; relative length and width from basal joint to fifth each as 26:8, 11:6, 9.5:6.5, 15:9 and 15:8.5 (male : Kawai-mura, Iwate, June 3, 1979, S. HIRANO leg.), and 27:9, 12:7, 11:7.5, 15.5:10 and 15:9 (female : Mt. Komaga-take, Akita, July 7, 1978, K. BABA leg.) ; second joint cylindrical ; third obconic. Pronotal punctures dense, rather large, subocellate and uneven in density and size ; interpunctate space feebly sculptured by shagreen-like creases. Basal slope on pronotum with

a shallow medio-longitudinal impression. Relative median length of pronotum and narrowest breadth 100:81. Interstrial surface of elytra with sparse faint punctures on most parts, and feeble granules on basal part only. Prosternal process in profile (fig. 32). Prosternal sutures straight, plainly widening anteriorly, and furrowed at anterior one-fourth shallowly. Aedeagus (fig. 86) explicitly broad; median lobe broad and short, clearly exceeding beyond lateral lobes; apical expansion of lateral lobes triangular and rather small, with acute projection at outside. Two large symmetric plates of bursa copulatrix abruptly narrowing basally, with many short acute thornes (fig. 95).

Distribution. Japan : Hokkaido (Is. Rishiri, Is. Rebun, Is. Shikotan, Is. Kunashiri, Is. Et-rup & proper), Honshu (Aomori, Iwate, Akita, Yamagata, Fukushima, Miyagi, Tochigi, Gumma, Tokyo, Kanagawa, Shizuoka, Yamanashi, Nagano, Gifu, Aichi, Mie, Niigata, Is. Awa-shima, Is. Sado, Toyama, Ishikawa, Fukui, Shiga, Kyoto, Hyogo, Osaka, Nara, Waka-yama, Okayama, Hiroshima, Tottori & Shimane), Shikoku (Tokushima, Kagawa & Ehi-me), and Kyushu (Oita); Saghalien and USSR (Primorskaya, after GURJEVA, 1979).

Remarks. As I pointed out in 1983 (b : 56~57) and in the remarks of *sepes* stated above, the specimens reported as *sepes* or sometimes *exulatus* by many entomologists from the southern west Japan : Kii Peninsula, Shikoku and Kyushu ..., are very questionable in the determination, in the most occasion, I think that the species should be revised to *sericeus* having the black elytra. Especially, judging from the figures shown by OHIRA et YOSHIDA (1975 : 24, fig. 1-G) from Tokushima and by TAKAKURA et KIDO (1979 : 22, fig. 1-G) from Fukuoka as *sepes*, it is closely similar to *sericeus*. As a result, I come to the conclusion that the species are undoubtedly nothing but a color variation of *sericeus*.

So far as I am aware, this species is here recorded for the first time from Fukushima Prefecture : 2 females, Hinoemata, July 30~31, 1974, K. MIZUNO leg.

28b. *Ectinus sericeus babai* (KISHII, 1961)

ツシマカバイロコメツキ

(Figs. 33, 87 & 96)

Ectinus candezei babai KISHII, 1961, Bull. Heian High Sch., 5 : 47, pl. 10, figs. 10 & 11 (Is. Tsushima); SHIROUZU, 1976 : 820.

Ectinus sericeus babai KISHII : OHIRA, 1976b, Tsushima no Seibutsu, Nagasaki : 661; KISHII, 1979 : 39, figs. 30, 45 & 61 (Is. Tsushima); KISHII, 1983b : 57 & 62, figs. 15, 57 & 58 (Is. Tsushima).

Ectinus sepes LEWIS : KISHII, 1961, Bull. Heian High Sch., 5 : 47, pl. 10, figs. 12 & 13 (Is. Tsushima); OHIRA, 1976b : 661; KISHII, 1983b : 57 (= *sericeus babai*).

Tsushima-kabairo-kometsuki (Japanese name only) KADOWKI, 1978, Sukashiba, 10 : 34, tab.

Supplemental description. Length 8~8.5 mm (male), 8.5~9 mm (female). Generally this subspecies may be characterized from the nominal subspecies as follows : body a little smaller, more slender, pronotal punctures denser and more ocellate, prosternal process in profile (fig. 33), median lobe of aedeagus a little narrower, apical expansion of lateral lobes of aedeagus broader, and two large symmetric plates of bursa copulatrix

gently narrowing basally (fig. 96).

Distribution. Japan : Kyushu (Is. Tsushima).

Genus *Agriotes* ESCHSCHOLTZ

Type-species : *Elater sputator* LINNAEUS, 1758, Syst. nat., 10th ed. : 405, from Europe (designated by WESTWOOD, 1838).

Agriotes ESCHSCHOLTZ, 1829, Ent. Archiv, 2 : 34 ; CANDÈZE, 1863 : 358 ; CANDÈZE, 1891 : 196 ; SCHWARZ, 1891 : 81 ; REITTER, 1905 : 8 ; SCHWARZ, 1906 : 268 ; JAKOBSON, 1913 : 741 & 742 ; HYSLOP, 1921 : 624 ; SCHENKLING, 1927 : 440~441 ; MIWA, 1928 : 37 ; MEQUIGNON, 1930 : 95 ; MIWA, 1931 : 74 & 77 ; BROWN, 1933 : 176 ; MIWA, 1934 : 42 ; BROWN, 1936 : 249 ; FLEUTIAUX, 1939 : 122 & 125 ; JAGEMANN, 1955 : 255 ; BECKER, 1956 : 26 ; KISHII, 1964 : 13 ; KISHII, 1966 : 41 ; OHIRA, 1971b : 21~22 ; GURJEVA, 1979 : 363~364.

Cataphagus STEPHENS, 1830, Ill. Brit. Ent. Mand., 3 : 185 & 247 (Type-species : *Elater lineatus* LINNAEUS, 1767, Syst. nat., 12th ed. : 653, from Europe, original designation) ; CANDÈZE, 1863 : 358 (= *Agriotes*) ; HYSLOP, 1921 : 634 (Type-species : *Cataphagus (Hemirhipus) acuminatus* STEPHENS, 1830, Ill. Brit. Ent. Mnd., 3 : 248, from Europe, original designation. Unjustified emendation).

Pedetus KIRBY, 1837, In Fauna Bor. -Amer. Ins., 4 : 145 (Type-species : *Elater obscurus* LINNAEUS, 1758, Syst. nat., 10th ed. : 406, from Europe, original designation) ; HYSLOP, 1921 : 663 (= *Agriotes*) ; BECKER, 1956 : 26.

Dolopius (!) ESCHSCHOLTZ : LE CONTE, 1853, Trans. Am. phil. Soc., 10 : 455 (partim) ; HYSLOP, 1921 : 638 (= *Agriotes*).

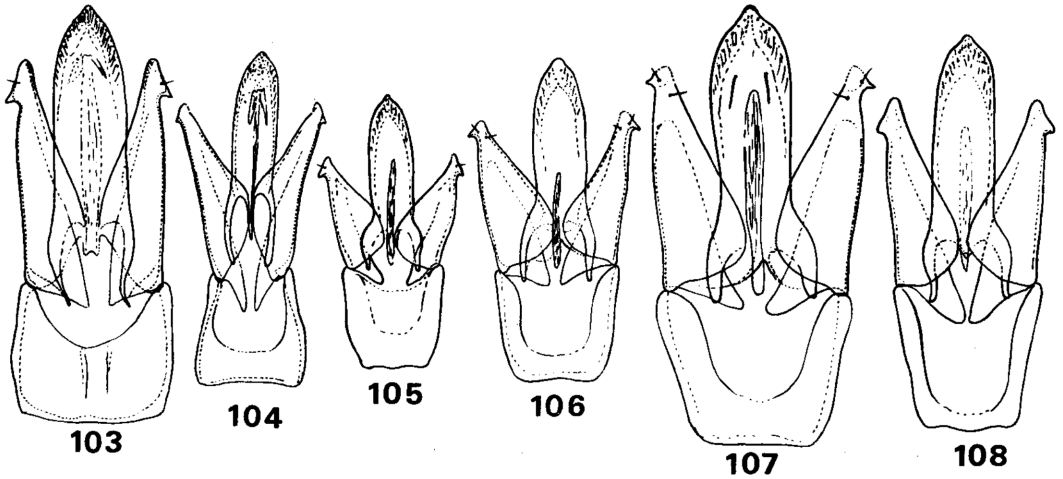
Agriodrasus REITTER, 1911, Faun. germ., 3 : 222 (as subgenus of *Agriotes*) (Type-species : *Elater pallidulus* ILLIGER, 1807, Mag. für Ins., 6 : 6, from Europe, original designation) ; BECKER, 1956 : 26 (= *Agriotes*).

Agriodratus (!) ARNETT, 1955, Proc. US nat. Mus., 103 (3336) : 602. Lapsus calami.

Supplemental description. Frontal carinae before eyes obliquely transverse, not reached clypeal margin. Antennae in most species subequal to hind angles of prothorax or slightly shorter (male), or remarkably shorter (female) ; ill-serrated from fourth joint to tenth. Carination on rear angles of pronotum generally distinct. Lateral sides of prothorax generally complete, rarely interrupted medianly. Elytral apex moderate. Prosternal sutures straight, broad, double and shallowly furrowed broadly at anterior one-third. Posterior end of mesosternal groove generally broad, rarely distinctly narrow. Distance across hind end of groove and rear margin of mesosternum rather narrow. Legs moderate, with tarsal joints simple.

Key to Japanese species of *Agriotes*

1. Pronotal disc among punctures entirely smooth. 2
- Pronotal disc among punctures shagreen-likely sculptured entirely. 32. *obscurus*
2. Second joint of antennae longer than fourth. 4
- Second joint of antennae shorter than fourth. 3



Figs. 103 to 108, aedeagus. 103 : *Agriotes elegantulus* (Kyoto, 1323), 104 : *A. hirayamai* (Is. Iriomote, 4444), 105 : *A. obscurus* (Suecchia, 262), 106 : *A. ogurae ogurae* (Osaka, 2698), 107 : *A. ogurae fuscicollis* (Hokkaido, 220), and 108 : *A. ogurae hegurensis* (Is. Oki-no-shima, 2702).

- 3. Antennae in male clearly longer than hind angles of pronotum by one apical joint or more. Pronotal punctures rather small and plainly sparse. 29. *elegantulus*
- Antennae in male distinctly shorter than hind angles of pronotum by two apical joints. Pronotal punctures large and remarkably dense. 30. *hirayamai*
- 4. Elytral interstices among striae always more or less infuscate from second to fourth or fifth. 5
- Elytra wholly yellowish orange, rarely slightly infuscate from second interstice to fourth. Median lobe of aedeagus plainly narrowing near base. Apical expansion of lateral lobes in aedeagus small and triangular, with lateral projection distinctly sharp. Distributed in Honshu. 31a. *ogurae ogurae*
- 5. Hind angles of pronotum more or less divergent laterally, with uncarination acute and elongate. 6
- Hind angles of pronotum subparallel-sided each other, with uncarination rather short. Median lobe of aedeagus parallel-sided, not narrowing basally. Apical expansion of lateral lobes in aedeagus large, with lateral projection obtuse. Distributed in islands of the Japan Sea. 31c. *ogurae hegurensis*
- 6. Median lobe of aedeagus broad, distinctly narrowing near base. Apical expansion of lateral lobes in aedeagus small, with lateral projection clearly acute. Distributed in Hokkaido. 31b. *ogurae fuscicollis*
- Distributed in Kyushu. 31d. *ogurae nakayamai*

29. *Agriotes elegantulus* LEWIS, 1894

ヒメカバイロコメツキ
(ヤスマツカバイロコメツキ)
(Figs. 34, 97 & 103)

Agriotes elegantulus LEWIS, 1894, Ann. Mag. nat. Hist., (6)13 : 313 (Fukushima); MIWA, 1934 : 133, pl. 6, fig. 27 (Mt. Tsurugi in Awa); KISHII, 1955 : 105, fig. 4 (Kibune) (= *yasumatsui*); KISHII et OHIRA, 1956 : 77 (Niigata); KISHII, 1958 : 30 (Sobosan & Mt. Kuju); ISHIHARA et al., 1958 : 5 (Mt. Tsurugi in Awa); CHUJO et al., 1959 : 15 (Mt. Hikosan); TAKAKURA, 1959 : 5 (Mt. Hikosan); INAIZUMI, 1963 : 185; KISHII, 1965 : 196 (Kyoto); INAIZUMI, 1965 : 43 (Tochigi); KISHII, 1966 : 42 (Kyoto); BABA et OHIRA, 1967 : 32, fig. 31 (Niigata); EJIMA, 1967 : 4 (Nagasaki); ISHIHARA et al., 1974 : 87 (Is. In-no-shima in Hiroshima); OHIRA, 1974b : 4 (Fukuoka); OHIRA et YOSHIDA, 1975 : 24 (Tokushima); SASAJI et al., 1976 : 175 (Fukui); MATSUDA et NAKAO, 1976 : 31 (Oita); OHIRA et ASAOKA, 1976 : 149 (Aichi); TANAKA, 1979 : 16 & 394 (Toyama); TAKAKURA et KIDO, 1979 : 22 (Fukuoka); HIRANO, 1979 : 144 (Miyagi); OHIRA, 1980 : 206 (Aichi).

Agriotes (s. str.) *elegantulus* LEWIS : SCHENKLING, 1927, in JUNK's Col. Cat. 88, Elat. 2 : 446; GURJEVA, 1979 : 371 & 396, fig. 700.

Agriotes yasumatsui MIWA, 1933b, Mushi, 6(2) : 71 (Mt. Sobosan); MIWA, 1934 : 135, pl. 7, figs. 8 & 9 (Mt. Sobosan); YAMAUCHI, 1935 : 51 (Oita); ESAKI et al., 1938 : 289, pl. 132, fig. 513-1; NAKANE, 1950 : 105 (Niigata); ISHIHARA et al., 1953 : 75 (Ehime); KISHII, 1955 : 109, fig. 4 (= *elegantulus*).

Agriotes (*Agriotes*) *elegantulus* LEWIS : OHIRA, 1963, Kontyu, 31(4) : 272, pl. 12, fig. E (Fukushima, on the type-specimen).

Agriotes (*Agriodrastus*) *elegantulus* LEWIS : OHIRA, 1968c, Ent. Rev. Japan, 20(1/2) : 77 (Gifu); OHIRA, 1971b : 22, figs. 492 & 509; OHIRA et al., 1971 : 16 (Hiroshima); MATOBA et HIRAMATSU, 1974 : 21 (Wakayama); OHIRA, 1975b : 26 (Fukui); OHIRA et ICHIHASHI, 1975 : 99 (Mie); NAOMI, 1977a : 10 (Kagoshima); OHTSUKA et NAOMI, 1977 : 8 (Kumamoto); OHTSUKA et al., 1979 : 11 (Kumamoto).

Agriotes (*Cataphagus*) *elegantulus* LEWIS : KISHII, 1977, Bull. Heian High Sch., 21 : 30; BABA et KISHII, 1984 : 7 & 11 (Niigata & Toyama).

Agriotes (*Agriodrastus*) *elegantulus* [!] LEWIS : NAOMI, 1977b, Trans. Kumamoto Kontyu Doko-kai, 23(1), 54 : 11 (Oita).

Agriotes (*Agriodrastus*) *elegantulus* [!] LEWIS : WATANABE, 1977, Sukashiba, 114 : 15 (Okayama).

Hime-kabairo-kometsuki (Japanese name only) KADOWAKI, 1978, Suzumushi, 10 : 34, tab.

Supplemental description. Length 4.8~5.5 mm (male), 5.2~6.5 mm (female). Not so cylindrical, rather slender. Shining. Yellowish brown entirely, sometimes with head and pronotum more or less infuscate. Pubescence dense, clearly erect, long and whitish yellow. Antennae exceeding beyond hind angles of prothorax by two apical joints (male), or subequal (female); relative length and width from basal joint to fifth mutually as 15 : 5.5, 7 : 4.5, 7 : 4, 10.5 : 6 and 11 : 6 (male : Hanase Pass, Kyoto, July 20, 1956, T. KISHII leg.), and 14.5 : 5.5, 7.5 : 4.8, 6.5 : 4, 9.5 : 5.5 and 10 : 6 (female : ditto); second joint cylindrical and plainly expanded medianly; third obconical. Pronotal punctures single and even in density and size. Basal slope generally simple. Relative median length and

width of pronotum 75:73. Lateral margin of prothorax complete. Carination on hind angles of pronotum acute, rarely obliterated. Interstrial surface of elytra with fine sparse punctures; interpunctate space smooth wholly. Prosternal process in profile (fig. 34). Aedeagus (fig. 103); median lobe explicitly broad; apical expansion of lateral lobes elongate triangular, with lateral projection acute. Bursa copulatrix with three plates having small protuberances, which are clearly uneven in size and density (fig. 97).

Distribution. Japan: Honshu (Fukushima, Miyagi, Tochigi, Gumma, Tokyo, Nagano, Gifu, Aichi, Mie, Niigata, Toyama, Fukui, Kyoto, Wakayama, Okayama & Hiroshima), Shikoku (Tokushima, Ehime & Kochi), and Kyushu (Fukuoka, Oita, Kumamoto, Nagasaki & Kagoshima).

Remarks. Hitherto, this species has been frequently treated as belonging to the subgenus *Agriodrastus* or *Cataphagus* by some authors. As a result of the study on the genital organs of this species, it shows only very minor subgeneric differences even in such superficially distinct forms as between *elegantulus* and *sputator* (type-species of *Agriotes* genus). Thus, I think that the present placement of this species in the genus is an exact treatment undoubtedly.

So far as I am aware, it is here recorded for the first time from Gumma, Tokyo, Nagano and Kochi Prefectures as follows: 2 females, Mt. Tanigawadake, Gumma, August 4, 1949; 2 females, Mt. Gozen-yama, Tokyo, July 21, 1961, S. KONDO leg.; a male, Mt. Kiso-koma-ga-dake, Nagano, August 4~6, 1949, M. IGA leg.; 2 males & a female, Mt. Ontake, Nagano, August 2, 1952, S. UENO leg.; a female, ditto, July 27, 1973, T. KISHII leg.; 2 females, Kajigamori, Kochi, August 15, 1972, R. SHIMAMOTO leg.

30. *Agriotes hirayamai* MIWA, 1934

ヒラヤマカバイロコメツキ

(Figs. 35, 98 & 104)

Agriotes hirayamai MIWA, 1934, Fauna Elat. Jap. Emp., Dept. Agr. Govt. res. Inst. Formosa, 65: 261, pl. 8, fig. 20 (Is. Iriomote); OHIRA, 1968b: 123, figs. 1 & 2 (Is. Ishigaki & Is. Iriomote); OHIRA, 1969a: 99 (Is. Iriomote); OHIRA, 1969c: 32 (Iriomote); OHIRA, 1970b: 108, pl. 1, fig. H (Iriomote & Yonaguni); OHIRA, 1971a: 541, fig. 2K (Is. Ishigaki); OHIRA, 1973b: 30 (Is. Yonaguni); BABA et KISHII, 1982: 52, fig. 13 (Is. Iriomote).

Agriotes (Agriotes) hirayamai MIWA: OHIRA, 1971b, Kontyu to Shizen, 6(11): 22, fig. 515 (Is. Ishigaki, Is. Iriomote & Is. Yonaguni); CHUJO, 1973: 28 (Is. Yonaguni & Is. Ishigaki).

Supplemental description. Length 4~5 mm (male), 4.5~5.5 mm (female). Robust and well cylindrical. Subopaque. Generally infuscate brown, though distinctly variable from yellowish brown wholly to infuscate entirely, rarely pronotal coloration and elytral ones perfectly different oppositely each other either yellowish brown or blackish brown, but usually with some basal joints of antennae, posterior border of pronotum rather broadly, abdomen and legs more or less paler. Pubescence plainly long, dense, rather recumbent and whitish yellow. Antennae distinctly shorter than hind angles of prothorax by two apical joints or more (male), or by three or more (female); relative length and width

from basal joint to fifth each as 10 : 4, 5.5 : 4, 5.2 : 3.5, 7.2 : 5 and 7 : 5 (male : Shirahama, Is. Iriomote, April 22, 1981, K. BABA leg.), and 12 : 5.5, 6 : 4.2, 6 : 4, 6.2 : 5 and 6.5 : 5 (female : Komi, Is. Iriomote, April 23, 1981, K. BABA leg.); second joint cylindrical, clearly expanded medianly; third rather triangular. Pronotal punctures single, even in density and size; interpunctate space perfectly smooth. Basal slope with a faint medio-longitudinal depression. Relative median length and width of pronotum 72 : 80. Lateral margins of prothorax complete. Carination of hind angles of pronotum distinct, not so long. Interstitial surface of elytra with rather large, dense and uneven punctures, having fine rugosities among punctures in high magnification. Prosternal process in profile (fig. 35). Aedeagus (fig. 104); median lobe narrow; apical expansion of lateral lobes small triangular, with lateral projection acute. Bursa copulatrix with three plates having rather large protuberances, which are rather plainly even in size and density (fig. 98).

Distribution. Japan : Ryukyus (Is. Ishigaki, Is. Iriomote & Is. Yonaguni).

31a. *Agriotes ogurae ogurae* LEWIS, 1894

チャイロムナボソコメツキ

(オグラカバイロコメツキ)

(Figs. 36, 100, 106 & 128)

Agriotes ogurae LEWIS, 1894, Ann. Mag. nat. Hist., (6)13 : 313 (Kioto, at the Ogura lakes); MIWA, 1934 : 134; NAKANE et al., 1963 : 166, pl. 83, fig. 16; Kyoto Prefecture, 1983 : 16, 47~50, fig. 34.

Agriotes (s. str.) *ogurae* LEWIS : SCHENKLING, 1927, in JUNK's Col. Cat. 88, Elat. 2 : 453; GURJEVA, 1979 : 374, 408~410 & 415, figs. 645, 722 & 743 (= *subvittatus*).

Agriotes (!) *ogurae* LEWIS : KISHII, 1959c, Akitu, 8(3) : 64 (Yodogawa).

Agriotes ogurae ogurae LEWIS : KISHII, 1964, Bull. Heian High Sch., 8 : 28, pl. 3, figs. 1, 4 & 12 (Kyoto); KISHII, 1966 : 42 (Kyoto); OHIRA, 1974b : 4, fig. 1-B (Fukuoka); ARI-MOTO, 1979 : 19 (Hyogo).

Agriotes ogurae ogurae LEWIS, ab. form. *unicolor* KISHII, 1964, Bull. Heian High Sch., 8 : 29 (Osaka); KISHII, 1966 : 42 (Kyoto).

Agriotes (Agriotes) ogurae ogurae LEWIS : OHIRA, 1971b, Kontyu to Shizen, 6(11) : 22.

Agriotes subvittatus MOTSCHULSKY : GURJEVA, 1972 : Ent. Rev., 51(4) : 870 (= *ogurae*, *rubidicinctus*, & *fuscicollis*).

Agriotes ogurae yamadai OHIRA, 1976a, Trans. Shikoku ent. Soc., 13(1/2) : 49 & 50, fig. 3-A, B (Inuyama in Aichi); SATO, 1982 : 9. **Syn. nov.**

Agriotes (s. str.) *subvittatus* MOTSCHULSKY : GURJEVA, 1979, Fauna USSR : 408, 410 & 415, figs. 645, 722 & 743.

Chyairo-munaboso-kometsuki (Japanese name only) SASAKAWA et KISHII, 1979, Dobutsu-bumpu Chosa-hokoku-sho, Konchu-rui, Kyoto : 62.

Supplemental description. Length 8~9 mm (male), 8.5~9.5 mm (female). Not so robust nor cylindrical. Rather opaque. Yellowish brown with head and pronotum more or less infuscate, rarely elytra a little infuscate exclusive of sutures and marginal borders, or body wholly pale yellowish (ab. *unicolor*), and generally female paler than male. Pubescence rather long, dense, recumbent and whitish yellow. Antennae subequal to hind angles of

prothorax (male), or distinctly shorter by one apical joint or more (female); relative length and width from basal joint to fifth respectively as 29:9, 17:6, 14:7, 19:9.5 and 16.5:9.5 (male : Yodo river-side, Kyoto, April 1956, B. OUE leg.); and 28:8.5, 16:6.2, 12.5:6.8, 15:8 and 15:8.5 (female : Hirakata, Osaka, August 21, 1964, T. HORIO leg.); second joint elongate obconic; third rather triangular. Pronotal punctures rather large, clearly dense, single and rather even in density and size; interpunctate space narrow and smooth entirely. Basal slope generally simple, sometimes with a trace of weak medio-longitudinal depression. Relative median length and width of pronotum 98:100. Lateral margins of prothorax generally complete, rarely obliterated medianly. Carination on hind angles of pronotum clear and short. Interstrial surface of elytra with minute dense and irregular punctures, among which space smooth. Prosternal process in profile (fig. 36). Aedeagus (figs. 106 & 128). Sclerotized plates of bursa copulatrix (fig. 100).

Distribution. Japan : Honshu (Ibaragi, Aichi, Kyoto, Osaka & Hyogo).

Remarks. According to OHIRA (1976a : 49~50) the subspecies *yamadai* from Inuyama City in Aichi Prefecture is differentiated from the nominate subspecies as "entirely yellow brown elytra, the finer and sparser punctuation on the disc of the head and pronotum, the finely rugose intervals of the elytra, and the slightly longer second and third segments of the antennae. ... a female." Although, judging from many specimens collected from various places of Honshu, it is impossible to separate these two subspecies, and I think the former as a synonym of the latter. And, hitherto no specimens have been taken in Kanto Province, though fortunately I had a chance to work on two female specimens from Ibaragi Prefecture : Ami-machi, July 20, 1962, Y. KIMURA leg. Moreover, lately ARIMOTO (1979 : 19) reported this species from Itami City in Hyogo Prefecture firstly, and I could examine some specimens through his kindly courtesy as follows : a male & two females, Gunko-bashi, Ina-gawa river-side, Itami City, Hyogo, June 25 to July 25, 1977, H. ARIMOTO leg. However, after all, I could not find any useful differentiation from these materials from either Ibaragi and Hyogo districts.

31b. *Agriotes ogurae fuscicollis* MIWA, 1928

トビイロムナボソコメツキ

(トビイロカバイロコメツキ)

(Figs. 37, 101 & 107)

Agriotes fuscicollis MIWA, 1928, Ins. Mats., 3(1) : 44, pl. 1, fig. 9 (Kyoto); MIWA, 1933a : 30 (Saghalien); MIWA, 1934 : 135, pl. 7, fig. 7 (Sapporo, Teshio & Hakodate), 157 (Saghalien) (revised the original type-locality to Hokkaido from Kyoto); NAKANE, 1950 : 1134, fig. 3253; NAKANE et KISHII, 1956a : 22, pl. 3, fig. 87 (Horomui); OHIRA, 1960 : 32 (larva); OHIRA, 1962a : 127, pl. 53-A, K (Hokkaido) (larva); NAKANE et al., 1963 : 166, pl. 83, fig. 17.

Agriotes obscurus LINNAEUS : SAKURAI, 1952, Bull. Hokkaido Agr. Stat., 63 : 108~112.

Agriotes ogurae fuscicollis MIWA : KISHII, 1964, Bull. Heian High Sch., 8 : 29, pl. 3, fig. 2, 5 & 13 (Horomui); OHIRA, 1968d : 13, figs. 5e, 16h, 16q, 17g, 17j & 18j (larva).

Agriotes (Agriotes) ogurae fuscicollis MIWA : OHIRA, 1971b, Kontyu to Shizen, 6(11) : 22.

Agriotes subvittatus MOTSCHULSKY : GURJEVA, 1972, Ent. Rev., 51(4) : 870 (= *fuscicollis*).

Agriotes (s. str.) *subvittatus* MOTSCHULSKY : GURJEVA, 1979, Fauna USSR : 374, 408, 409, 410 & 415, figs. 645, 722 & 743 (USSR, Saghalien, Korea & Japan).

Supplemental description. Length 8~8.5 mm. Subopaque, slightly more shining than nominal subspecies. Brownish red, usually with head, pronotal disc and strial interstices of elytra from second to fourth or fifth more or less infusate. Pubescence short. Relative length and width of antennal joints from first to fifth each as 24:8.5, 13.5:6.8, 11.5:7, 12:9 and 12.5:9 (male : Horomui, Hokkaido, June 19, 1949, Y. NISHIJIMA leg.), and 28:10, 14:6.5, 12:7, 13.5:9 and 13.5:8.5 (female : ditto). Pronotal punctures rather dense and large. Relative median length and width of pronotum 94:100. Elytral punctures on interstitial surface distinctly fine and sparse. Prosternal process in profile (fig. 37). Aedeagus (figs. 107). Sclerotized plates of bursa copulatrix (fig. 101).

Distribution. Japan : Hokkaido (proper) ; and Saghalien.

Remarks. This subspecies is less variable in the coloration than the typical subspecies. GURJEVA (1979) treated this species as a synonym of *A. subvittatus* distributing widely in the eastern district of USSR. However, I wish to retain to decide for its reception till a careful examination made on the adequate materials of this species.

31c. *Agriotes ogurae hegurensis* KISHII, 1964

ヘグラカバイロコメツキ

(Figs. 38, 102, 108 & 129)

Agriotes ogurae hegurensis KISHII, 1964, Bull. Heian High Sch., 8 : 28, pl. 3, figs. 3 & 6 (Is. Hegura-jima in Ishikawa); BABA et OHIRA, 1973 : 9, figs. 2 & 3-G, H (Is. Sado).

Agriotes fuscicollis MIWA : NAKANE et KISHII, 1955b, Sci. Rep. Saikyo Univ. (Nat. Sci. Liv. Sci.), 2(1), A ser. : 45 (Is. Hegura).

Agriotes (Agriotes) ogurae hegurensis KISHII : OHIRA, 1971b, Kontyu to Shizen, 6(11) : 22. *Hekura-kabairo-kometsuki* (Japanese name only) KADOWAKI, 1978, Sukashiba, 10 : 34, tab.

Supplemental description. Length 8 mm. Opaque. Coloration and pubescence similar to subsp. *fuscicollis*. Relative length and width of antennae from first to fifth each as 27:10, 14.5:6, 14:7, 13.5:9.5 and 12.5:9 (male : Is. Oki-no-shima, Shimane, July 24, 1966, N. OHTANI leg., this example is the first record from Is. Oki), and 24:9, 14.5:6, 12:7, 14:8 and 14.5:9 (female : holotype, Is. Hegura-jima, Ishikawa, August 10, 1952, K. TSUKAMOTO leg.). Pronotal punctures smaller than those of subsp. *fuscicollis* and a little uneven in size and density. Relative median length and width of pronotum 98:100. Prosternal process in profile (fig. 38). Elytral punctures on interstitial surface similar to those of *fuscicollis*. Aedeagus (figs. 108 & 129). Sclerotized plates of bursa copulatrix (fig. 102).

Distribution. Japan : Honshu (Is. Sado, Is. Hegura & Is. Oki-no-shima in Shimane).

Remarks. It closely similar in the coloration to the subspecies *fuscicollis* from Hokkaido, but judging from the different characters of male genital organs, it should be treated as a distinct subspecies,

31d. *Agriotes ogurae nakayamai* OHIRA, 1976

ナカヤマカバイロコメツキ

Agriotes ogurae nakayamai OHIRA, 1976a, Trans. Shikoku ent. Soc., 15(1/2) : 50 (Fukuoka City); TAKAKURA et KIDO, 1979 : 22.

Agriotes ogurae ogurae LEWIS : OHIRA, 1974b, Kita-Kyushu no Konchu, 20(1) : 4, fig. 1-B (Fukuoka).

Supplemental description. No specimens of this subspecies have been examined from Kyushu by the author. According to the original description by OHIRA, main characters are as follows. Length 7 mm. Moderately shining. Dark reddish brown entirely excepting darker and blackish brown head, pronotum, and second to fifth intervals of elytra; antennae and legs yellow brown. Vestiture short, recumbent and pale yellow on dorsal surface, becoming longer on ventral surface. Described from a male.

Distribution. Japan : Kyushu (Fukuoka).

Remarks. According to OHIRA, he stated that the holotype specimen had the clearly and rectangularly emarginated posterior margin of each propleuron as a strong difference to the typical subspecies from Yodogawa Province. However, judging from my examination on many examples from the Yodogawa river-side, this character is quite unstable from slightly emarginated margin to remarkably and rectangularly emarginated one.

32. *Agriotes obscurus* (LINNAEUS, 1758)

(Figs. 39, 99 & 105)

Elater obscurus LINNAEUS, 1758, Syst. nat., 10th ed. : 406; SCOPOLI, 1763 : 278; SCHRANK, 1781 : 186; HERBST, 1784 : 114; LATREILLE, 1804 : 26; GYLLENHAL, 1808 : 430.

Elater obtusus DE GEER, 1774, Mém. Ins., 4 : 147, t. 5, figs. 19~22; CANDÈZE, 1863 : 387 (= *obscurus*).

Elater badius MÜLLER, 1776, Zool. Dan. : 60; BUYSSON, 1893 : 41 (= *obscurus*, ab.).

Elater variabilis FABRICIUS, 1792, Ent. Syst., 1(2) : 230; PAYKULL, 1800 : 26; CANDÈZE, 1863 : 387 (= *obscurus*).

Elater hirtellus HERBST, 1806, Natur. Ins. Käf., 10 : 94, t. 166, fig. 11; CANDÈZE, 1863 : 387 (= *obscurus*).

Cataphagus obscurus LINNAEUS : STEPHENS, 1830, Ill. Brit. Ent. Mandib., 3 : 185.

Agriotes obscurus LINNAEUS : LACORDAIRE, 1835, Faun. ent. Paris, 1 : 672; WESTWOOD, 1838 : 233, fig. 24; CANDÈZE, 1863 : 387 (= *obtusus*, *variabilis* & *hirtellus*); THOMSON, 1864 : 91; SOLSKY, 1871 : 364; SCHWARZ, 1891 : 114, t. 2, figs. 80 & 50a-b; REITTER, 1911 : 222; JAKOBSON, 1913 : t. 38, fig. 28; MEQUIGNON, 1930 : 343, 348 & 349; JAGEMANN, 1955 : 270; TSCHEREPANOV, 1957 : 320; GURJEVA, 1979 : 411~413 & 415, figs. 632, 724 & 745 (USSR, Saghalien & Kunashiri).

Agriotes variabilis FABRICIUS : CASTELNAU, 1840, Hist. nat. Ins. Col., 1 : 248; CANDÈZE, 1863 : 387 (= *obscurus*).

Agriotes obscurus LINNAEUS, ab. *badius* MÜLLER : BUYSSON, 1893, Faune gallo-rhén., 5 : 41.

Agriotes obscurus LINNAEUS, ab. *cinnamomeus* BUYSSON, 1893, Faune gallo-rhén., 5 : 41 ; REITTER, 1911 : 222.

Agriotes obscurus LINNAEUS, ab. *radhisticola* FLEISCHER, 1910, Wien. ent. Zeit., 29 : 329.

Agriotes obscurus LINNAEUS, ab. *nigrinus* KOLBE, 1924, Jahr. Ver. schl. Ins., 14 : 53 (nec. HERBST).

Agriotes (s. str.) *obscurus* LINNAEUS : SCHENKLING, 1927, in JUNK's Col. Cat., 88, Elat. 2 ; 451.

Agriotes (s. str.) *obscurus* LINNAEUS, ab. *nigrinodes* SCHENKLING, 1927, in JUNK's Col., Cat., 88, Elat. 2 : 452 (nom. nov., = *nigrinus* KOLBE, nec. HERBST).

Supplemental description. Length 7.5~9.5 mm (male), 9~10 mm (female). Distinctly cylindrical and robust. Opaque. Dark brown to more or less infusate on head and pronotal disc. Pubescence rather dense, long, recumbent and grieseous. Antennae plainly shorter than hind angles of prothorax by one apical joint (male), or by two (female); relative length and width from basal joint to fifth each as 29:9.5, 13.5:7, 11.5:6, 15:9 and 15:10 (male : Celákovice, Czechoslovakia, May, 1950, DVOREK leg.), and 27:11, 14:8.5, 12.5:8.5, 15.5:10 and 16:10.5 (female : Zlalo, Koruna, Bohemia, June 16, 1930); second joint cylindrical; third obconic. Pronotal punctures large, subocellate, remarkably dense and plainly irregular in density and size; interpunctate space narrow and distinctly shagreen-likely sculptured. Basal slope of pronotum with a feeble medio-longitudinal depression. Relative median length and width of pronotum 100:82. Lateral margins of prothorax generally obscure or perfectly interrupted medianly. Carination on hind angles of pronotum clearly distinct and long. Interstrial surface of elytra with minute dense punctures, among which space is entirely covered by plain shagreen-like rugosities. Prosternal process in profile (fig. 39). Aedeagus (fig. 105). Sclerotized plates of bursa copulatrix (fig. 99).

Distribution. Japan : Hokkaido (Is. Kunashiri, after GURJEVA, 1979) ; Europe to Primorskaya and Saghalien.

Remarks. Being unable to examine any specimen from Siberia, Saghalien and Is. Kunashiri, the description stated above is based on some examples from Europe.

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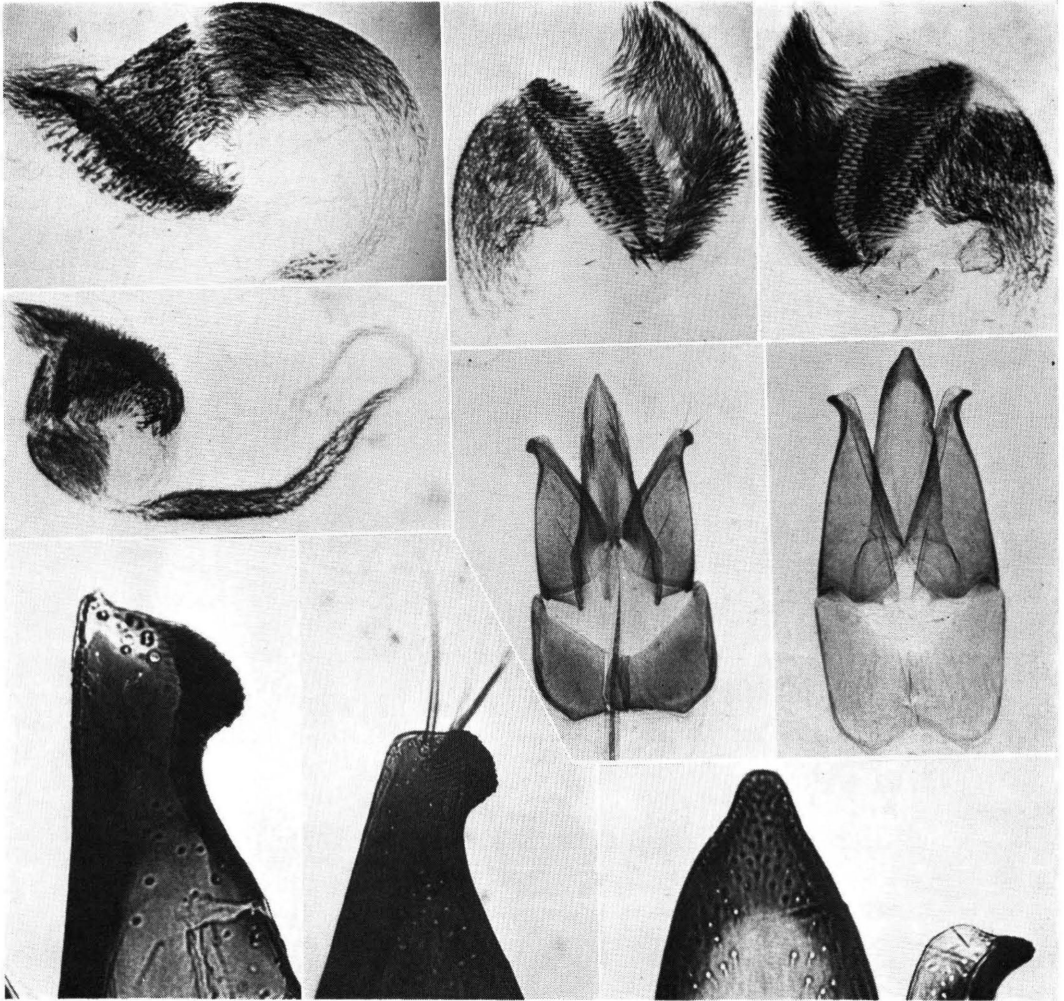
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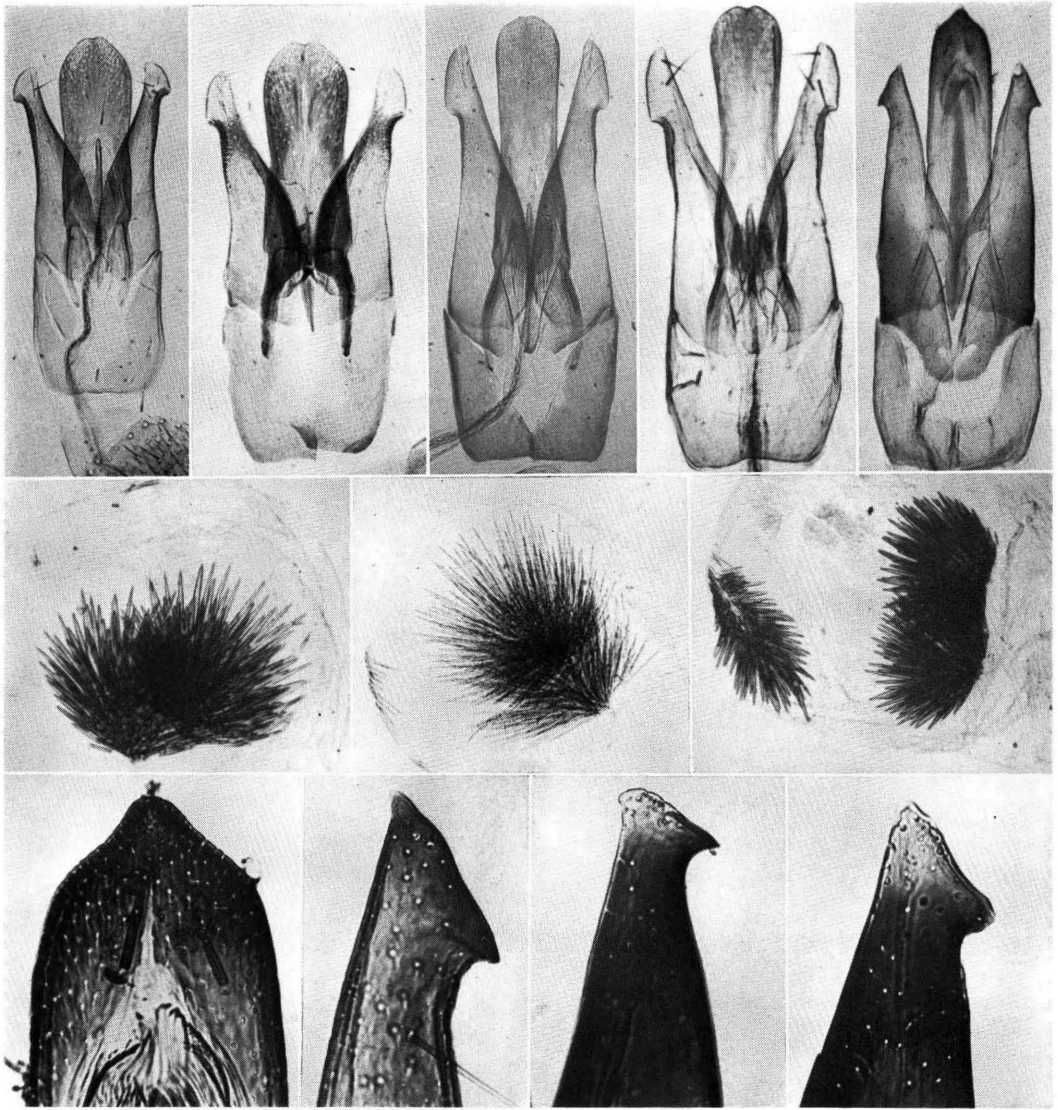
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Figs. 109 to 112, sclerotic plates in bursa copulatrix, figs. 113 & 114, apical expansion of lateral lobe of aedeagus, figs. 115 & 116, aedeagus, and fig. 117, apical part of aedeagus. 109 : *Chatanayus ishiharai ishiharai* (Kyoto, 4328), 110 : *C. ishiharai seinoi* subsp. nov. (holotype, 4331), 111 : *C. insularis insularis* (Is. Ishigaki, 4332), 112 : *C. insularis isaoi* (holotype, 2154), 113 : *C. insularis insularis* (Is. Ishigaki, 2691), 114 & 115 : *C. insularis isaoi* (Is. Okinawa, 2170), and 116 & 117 : *Insuliectinus amami* gen. et sp. nov. (holotype, 4310).

109	111	112
110		
	115	116
113	114	117



Figs. 118 to 122, aedeagus, figs. 123 to 125, thorny bundles of bursa copulatrix, fig. 126, apex of median lobe of aedeagus, and figs. 127 to 129, apical expansion of lateral lobe of aedeagus. 118 : *Dalopius japonicus* sp. nov. (paratype, Akita, 3540), 119 : ditto (paratype, Niigata, 1787), 120 : *D. bizen*, sp. nov. (holotype, 3620), 121 : ditto (paratype, Okayama, 4466), 122, 126 & 127 : *Ectinus koshiki* sp. nov. (holotype, 4330), 123 : *Dalopius japonicus* sp. nov. (paratype, Aomori, 4456), 124 : ditto (paratype, Akita, 3545), 125 : *D. bizen* sp. nov. (paratype, Okayama, 4470), 128 : *Agriotes ogurae ogurae* (Kyoto, 2698), and 129 : *A. ogurae hegurensis* (Is. Oki-no-shima, 2702).

118	119	120	121	122
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126	127	128	129	