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## The Stratiomyinae (Diptera, Stratiomyidae) of Japan, II

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**Synopsis** The present paper revises the genera *Oplodontha* and *Orthogoniocera* from Japan and deals with 4 species of which 1 (belonging to *Orthogoniocera*) seems to be new to science.

### Genus *Oplodontha* RONDANI

*Oplodontha* RONDANI, 1863, Archivio per la Zool. Modena 3: 78. Type-species: *Stratiomys viridula* FABRICIUS (by original designation).

*Hoplodonta*, emend.

This genus is distributed in the Palaearctic, Oriental, and Ethiopian regions, with 2 (after LINDNER, 1936-38), 4 (after JAMES, 1975), and about 10 species from these regions respectively.

Antenna distinctly shorter than head; antennal segment 1 subequal to or longer than segment 2; antennal flagellum appears to be 5-segmented (small and inconspicuous, penultimate segment absent); in antennal flagellum first 3 segments nearly parallel-sided and last segment comparatively wider or shorter and with apex rounded; in proboscis from a lateral view, apical geniculated part almost entirely chitinous and with a median, narrow thickened line.

Veins  $R_{2+3}$  and  $R_4$  absent; *discal cell conspicuously small*; vein  $M_3$  absent, and vein  $M_1$  and sometimes vein  $M_2$  absent or incomplete.

### *Oplodontha* sp. (=possibly *rubrithorax* MACQUART)

(Figs. 1E-F, 2D)

The specimens here described as *Oplodontha* sp. may possibly be the same as *rubrithorax* (MACQUART, 1838, Dipt. Exot. Vol. 1, part 1, p. 185) which is widely distributed in India, Ceylon, Thailand (after BRUNETTI, 1923); Belgian Congo (after LINDNER, 1938); the Philippines, Java, the Ryukyus (after JAMES, 1947).

They are also very similar to *viridula* FABRICIUS (1775) distributed "from North Africa and Europe to China and Kamchatka" (after ROZKOŠNÝ, 1973).

OUCHI (1940) recorded *rubrithorax* (3 ♂♂, 1 ♀) from Formosa (Kagi) and stated: "The present species closely similar to *E. (H.) viridula* except the fore, middle femora with a black ring." But JAMES (1947) wrote: "This species [= *rubrithorax*] shows considerable variation in the color of the legs; the front and middle femora typically have each a median black band, although the legs may be wholly yellow. The brassy to reddish pubescence of the thorax, which suggested

the specific name to MACQUART, is often obscure, and may be yellowish."

In *rubrithorax* "Abdomen pale greenish or yellowish, more or less brownish on apical half; sometimes wholly pale" (after BRUNETTI, 1920: 67).

In *viridula* "Abdomen hellgrün oder gelblich mit schwarzen Längsstreifen, der in seiner Ausdehnung sehr variabel ist" (after LINDNER, 1936-38: 99) and "Many of the varieties with a reduced dorsal pattern on abdomen were described as distinct species by earlier authors" (after ROZKOŠNÝ, 1973: 88).

I have examined the specimens (3 ♂♂, 3 ♀♀) of *viridula* from England, but have no chance to study the material of *rubrithorax* from S. E. Asia and the Ryukyus.

A well defined blackish part on abdominal dorsum is present in the specimens from England (= *viridula*) but absent in the specimens (1 ♂, 1 ♀) on hand from Hokkaido. Those from Hokkaido may possibly belong to *rubrithorax*.

It is within the bounds of possibility, however, that *viridula* and *rubrithorax* are not separated specifically.

*Male*. Head: Dark brownish to blackish; antennal segments 1-2, first 3 annulations of antennal flagellum, and membranous part of mid-lower face brownish; head and its appendages with pale yellowish pile which is absent on mid-lower face, median protrudent part of upper face, basal portion of proboscis, and antennal flagellum, may become golden yellow in certain lights, is short on front, ocellar triangle, and antennal segments 1-2 (recumbent on frontal triangle, very sparse on ocellar triangle); pile on vertex more dense than in occiput; eye bare; height of head (including ocellar triangle) from a lateral view 1.1 length of head from a lateral view and 0.8 total width of head from a direct frontal view; width of one eye at greatest point from a direct frontal view 1.2 distance from antenna to median ocellus, 1.4 width of face at lowest portion from a direct frontal view, and 4.3 width of front just above antenna; distance from lowest margin of face to antenna 1.2 that from antenna to median ocellus and 3.0 length of mid-upper face which is 0.6 width of face at upper margin of mid-lower face; ocellar triangle 1.1 times as wide as long; width of vertex between uppermost corners of eyes 2.8 distance from lateral ocelli to line drawn between uppermost corners of eyes which is 0.4 length of ocellar triangle; antenna 0.9 times as long as distance from antenna to median ocellus; relative length of antennal segments 1, 2, 3, 100-100-357 and their relative width 57-71-71; structural characters are based on 1 specimen.

Thorax: Dark brownish to blackish; in scutellum spines and posterior margin yellowish brown; humeral and posterior calli, and pteropleura may have a yellowish brown to reddish brown tinge; thorax clothed with pale yellowish erect pile which becomes subrecumbent on sternopleura and recumbent on hypopleura and subscutellum, and is absent on pteropleura (except upper part), posterior part of metapleura, and postscutellum; concave part of mesopleura bare except for two recumbent (or subrecumbent) pilose stripes in specimen on hand; mesonotum and scutellum intermixed with short, recumbent black pile which becomes golden yellow

on lateral parts; erect pile on scutellum may be few in number and is shorter than in mesonotum; pleura may have pale gray pollen; haltere with knob pale greenish and stem yellowish brown in specimen on hand; spine-like process (measured along outer surface) 0.4 times as long as scutellum (along mid-line) in 1 specimen measured.

Leg: Yellowish brown; coxa, mid trochanter, and mid-ventral part of mid femur dark brownish to blackish in specimen on hand; coxa and femur with pale yellowish pile which is largely absent on posterior surface (except basal portion) of hind femur and is partly longer and erect on posterior surface of fore femur, and mid femur at posterior surface with a row of long and erect pile; coxa may have pale gray pollen; relative length of segments (excluding coxa and trochanter) of fore leg 306-278-100-50-33-25-56, of mid leg 328-356-128-61-39-22-56, of hind leg 383-361-172-78-44-28-61 and in hind leg from a lateral view relative

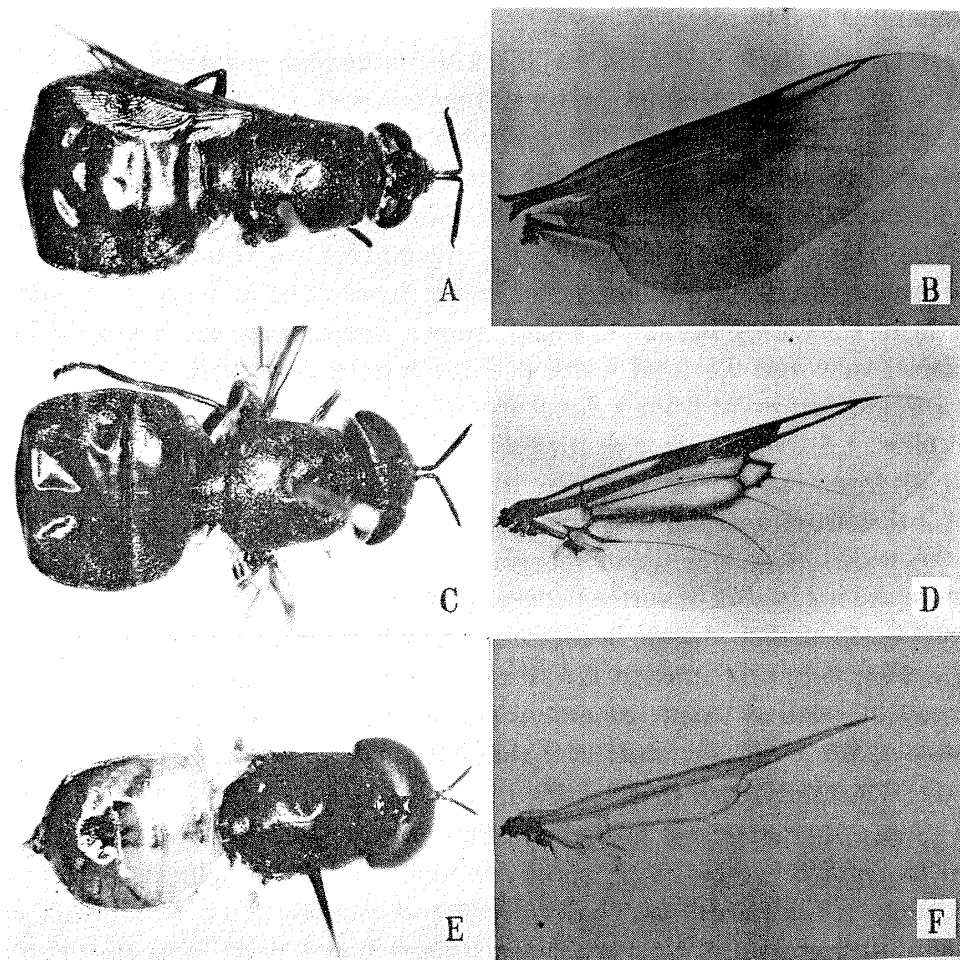


Fig. 1. Body (dorsal view) and wing. A & B: *Orthogoniocera hirayamae* (MATSUMURA), ♀. C & D: *Orthogoniocera shikokuana* sp. n., ♀. E & F: *Oplodontha* sp. (=possibly *rubrithorax* Macquart), ♂.

width of femur, tibia, and tarsal segments 1-3, 67-44-28-28-25 (tarsal segment 1, 0.16, segment 2, 0.35, segment 3, 0.55 times as wide as long) (based on 1 specimen).

Wing: Membrane almost hyaline; cell between vein  $R_1$  and  $R_s$  yellowish brown; veins  $M_2$  and  $M_4$  and base of  $M_1$  present but  $M_3$  entirely lacking;  $M_2$  and  $M_4$  ending rather far before wing margin and not strongly curved; relative length of A, B, C, D, E+F, G, H, 33-100-83-67-117-67-67 and that of W, X+Y+Z, 100:407, basal section of  $R_s$  3 times as long as C, petiole of anal cell (up to wing margin) 0.6 times as long as vein between 2nd basal and 5th posterior cell, and discal cell 0.1 times as long as distance between discal cell and wing apex (based on 1 specimen).

Abdomen: Yellowish brown or pale greenish; middle portions of terga 1-3, those of sterna 1-3, terga 4-5, and sterna 4-5 may be tinged with dark brownish to blackish, but these darkened parts are not so well-defined; abdomen rather sparsely clothed with pale yellowish recumbent pile which is erect on middle portion of sternum 1, sides of tergum 1, antero-lateral part of tergum 2, and posterior border of tergum 4, is partly black on terga 1-4 except sides, and is longer on (1) sides of tergum 1 and (2) antero-lateral part of tergum 2 (longest on inner part of (2) just mentioned); abdomen 0.9 times as wide as long in 1 specimen measured.

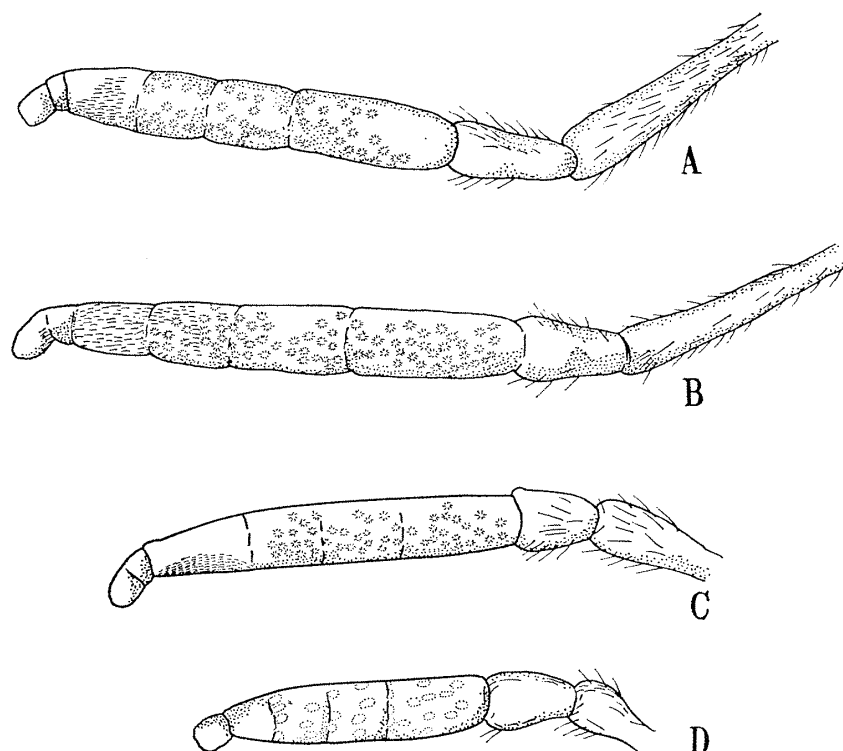


Fig. 2. Antenna (inner view). A: *Orthogoniocera hirayamae* (MATSUMURA), ♀. B: *Orthogoniocera shikokuana* sp. n., ♀. C: *Orthogoniocera* sp. (=probably *filipjewi* PLESKE), ♀. D: *Oplodontha* sp. (=possibly *rubrithorax* MACQUART), ♂.

Genitalia: Not examined.

Length: Body 8 mm; wing 6; fore basitarsus 0.45.

*Female.* Similar to ♂ except as follows: Head: Antennal flagellum entirely dark brownish to blackish, lateral chitinous part of mid-lower face brownish and median protrudent part of upper face with a brownish tinge in specimen on hand; pile on head except inner cheeks and proboscis recumbent; pile on front not shorter than that on face, vertex, and occiput; pile on vertex and postocular rim dense; width of one eye at greatest point from a direct frontal view 0.7 distance from antenna to median ocellus, 0.6 width of face at lowest portion from a direct frontal view, and 0.6 width of front just above antenna; width of front just above antenna 1.1 that at median ocellus; distance from lowest margin of face to antenna 1.3 that from antenna to median ocellus and 2.8 length of mid-upper face which is 0.4 width of face at upper margin of mid-lower face; ocellar triangle as wide as long and 0.3 times as wide as front at median ocellus; vertex between uppermost corners of eyes as wide as front at median ocellus; greatest length of postocular rim at upper occiput 0.6 length of ocellar triangle; antenna 1.2 times as long as distance from antenna to median ocellus; relative length of antennal segments 1, 2, 3, 100–100–357 and their relative width 50–69–63; structural characters are based on 1 specimen.

Thorax: Pile on thorax except pro- and metapleura recumbent and golden yellow but some pile on pteropleura and posterior part of mesopleura erect or suberect; spine-like process (measured along outer surface) 0.3 times as long as scutellum (along mid-line) in 1 specimen measured.

Leg: Pile on posterior surface of fore femur not so longer as in ♂; relative length of segments of fore leg 278–256–100–44–33–22–50, of mid leg 300–333–128–50–28–19–?, of hind leg 356–344–172–72–44–28–56 and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1–3, 56–39–25–22–22 (tarsal segment 1, 0.15, segment 2, 0.3, segment 3, 0.5 times as wide as long) (based on 1 specimen).

Wing: Relative length of A, B, C, D, E+F, G, H, 29–100–57–43–114–71–71, and that of W, X+Y+Z 100:341, basal section of Rs 4 times as long as C, petiole of anal cell (up to wing margin) 0.5 times as long as vein between 2nd basal and 5th posterior cell (based on 1 specimen).

Abdomen: Pile on antero-lateral part of tergum 2 apparently shorter than in ♂ and that on posterior part of tergum 4 recumbent or almost so; terga 1–4 (as well as rest of abdomen) without black pile; abdomen 1.0 times as wide as long in 1 specimen measured.

Length: Body 7 mm; wing 6; fore basitarsus 0.45.

*Distribution.* Japan (Hokkaido).

*Specimens examined.* 1 ♂, Sapporo, 18. vii. 1961, S. TAKAGI (KAU); 1 ♀, Ashoro, 30. vii. 1959, K. MORIMOTO (KAU).

Genus *Orthogoniocera* LINDNER

*Orthogoniocera* LINDNER, 1951, Bonner Zoologische Beiträge 2: 187. Type-species: "*Odontomyia hirayamae* Matsumura."

LINDNER (1951) erected *Orthogoniocera* on the basis of the specimens (2 ♂♂, 1 ♀) taken from Fukien, China and determined as "*Odontomyia hirayamae* MATSUMURA." The specimens in question seem to be closely related to but differing from *hirayamae*. He characterized *Orthogoniocera* as "eine *Eulalia* [= *Odontomyia*] mit *Stratiomyia* [= *Stratiomys*]-Fühlern."

In *Orthogoniocera* as well as *Stratiomys*, the antennal segment 2 and flagellum are liable to be at an sharp angle to the segment 1, while in *Odontomyia* s. str. and *Oplodontha* they may not be so. But this character is certainly not substantial. If the diagnoses mentioned in the key to genera (couplet 3 in NAGATOMI, 1977 b) are not significant, *Orthogoniocera* will fall into a synonym of *Odontomyia*. Further, there is a probability that *Orthogoniocera* is identical with some other genus treated as a synonym or subgenus of *Odontomyia* with which I am not acquainted.

Antenna about as long as or longer than head, its segment 1 distinctly longer than segment 2; in antennal flagellum first 3 segments gradually broader toward apex or parallel-sided, and last segment comparatively wider or shorter and not tapering toward apex; in proboscis from a lateral view, apical geniculated part largely membranous but with a strongly chitinous, more or less T or Y shaped, mid basal part (see Fig. 3).

Vein R<sub>4</sub> absent; discal cell normal in size; vein M<sub>3</sub> entirely absent or at least incomplete and vein M<sub>1</sub> often incomplete.

Abdomen distinctly wider than thorax.

In ♂ front, lateral part of face, and cheeks with long, erect pile.

*Orthogoniocera* is closely related to *Labostigmina* ENDERLEIN, 1930 (Type-species: *Odontomyia occipitalis* JOHNSON) but may be distinguished from the latter in the following points: (1) antennal flagellum 6-segmented; (2) last segment of antennal flagellum forming a style (together with penultimate segment) (i.e. abruptly becoming narrower or making a bend) and obtuse at apex, (3) apical, geniculated part of proboscis largely membranous or fleshy and longer pilose, and (4) proboscis shorter than in *Labostigmina*. In *Labostigmina* (1) 5-segmented (i.e. small and inconspicuous, penultimate segment absent), (2) not forming a style and usually pointed at apex, (3) entirely chitinous and very short pilose or nearly bare, and (4) long and narrow.

I have examined 6 species of *Labostigmina* from North, Central, and South America (namely, *elegans* MACQUART, *hieroglyphica* OLIVIER, *johnsoni* CURRAN, *obscura* OLIVIER, *texasiana* JOHNSON, and *quadrifasciata* BELLARDI, all of which are determined by Dr. M. T. JAMES) by the courtesy of Drs. M. T. JAMES and W. J. TURNER. In *quadrifasciata* antennal flagellum may be 6-segmented and has last segment blunt at apex.

*Labostigmina* seems to be a representative of Odontomyiini, although JAMES (1965 a) placed this genus in the Stratiomyini.

#### Key to species of *Orthogoniocera* known from Japan

1. Abdominal terga 2–4 and head entirely dark brownish to blackish; tibia wholly dark brownish to blackish or almost so; antennal segment 1 (measured along mid-inner surface) over 3 times as long as wide; vein  $M_3$  entirely absent ..... 2
- Abdominal terga 2–4 with postero-lateral, narrow yellowish (or reddish) brown bands; in ♀, each of (1) upper face, (2) front, and (3) area between lateral ocellus and eye with yellowish or reddish brown spot which is absent on (2) and (3) and becomes small on (1) in ♂; tibia yellowish (or reddish) brown; antennal segment 1 (measured along mid-inner surface) less than 3 times (2.1–2.5 times) as long as wide; base of vein  $M_3$  present .....  
.....sp. (=probably *filipjewi* PLESKE)
2. Eye bare in both sexes; postero-lateral part of abdominal terga 2–5 densely covered with golden yellow recumbent pile in both sexes; mesonotum and scutellum in ♀ without erect pile; hind tarsal segment 4 in ♂ conspicuously asymmetrical .....*hirayamae*
- Eye sparsely pilose in both sexes; recumbent pile on postero-lateral parts of abdominal terga 2–5 sparser in ♂ and sparser and paler in ♀; mesonotum and scutellum in ♀ with erect pile in addition to recumbent one; hind tarsal segment 4 in ♂ normal in shape (when ♂ specimen described below is a true *shikokuana*) .....*shikokuana*

#### *Orthogoniocera hirayamae* (MATSUMURA)

(Figs. 1A–B, 2A, 3)

*Odontomyia hirayamae* MATSUMURA, 1916, Thous. Ins. Jap. Addit. 2: 364. Type-locality: Harima (Hyogo Pref.), Honshu, Japan.

*Male.* Head: Head and its appendages are dark brownish to blackish but membranous area of mid-lower face and some parts of proboscis are brownish, and they are covered with pale yellowish pile which is absent on mid-lower face, median part of upper face, frontal triangle near eye, antennal flagellum, and basal part of proboscis, is long on frontal triangle, lateral part of face, cheeks, and inner part of occiput, is short and recumbent on (1) upper part of frontal triangle, (2) occiput and cheeks near eye, and (3) antennal segments 1–2 [pile on (1) is sometimes robbed off], and becomes brownish to blackish in front before median ocellus; eye practically bare; in mid-lower face, inner margin of lateral chitinous part very short haired; height of head (including ocellar triangle) from a lateral view 1.1 length of head from a lateral view and 0.7–0.8 total width of head from a direct frontal view; width of one eye at greatest point from a direct frontal view 1.3–1.4

distance from antenna to median ocellus, 0.9 width of face at lowest portion from a direct frontal view, and 1.2 width of front just above antenna; distance from lowest margin of face to antenna 1.4–1.5 distance from antenna to median ocellus and 1.6–1.7 length of mid-upper face which is 0.6 width of face at upper margin of mid-lower face; ocellar triangle as wide as long; width of vertex between uppermost corners of eyes 2.4–2.6 distance from lateral ocelli to line drawn between uppermost corners of eyes which is 0.6 length of ocellar triangle; antenna 2.1 times as long as distance from antenna to median ocellus; relative length of antennal segments 1, 2, 3, 197(194–200): 100: 398(375–420) and their relative width 41(40–41): 50(50): 50(50); structural characters are based on 2 specimens.

Thorax: Dark brownish to blackish; spines on scutellum and often posterior margin of scutellum yellowish brown; lower part of pteropleura, humeral and posterior calli may have a reddish brown tinge; thorax clothed with long, erect, pale yellowish pile which is absent on anterior part of mesopleura (except anterior and upper regions), lower part of pteropleura, posterior part of metapleura, sub- and postscutellum, and which is intermixed with shorter and recumbent one on mesonotum, scutellum, sterno-, and hypopleura (hypopleura has no long and erect pile); pleura, sub-, and postscutellum with pale gray pollen (or minute pile); haltere is yellowish brown and its stem may be somewhat darker; spine-like process (measured along outer surface) 0.4–0.6 times as long as scutellum (along mid-line) in 2 specimens measured.

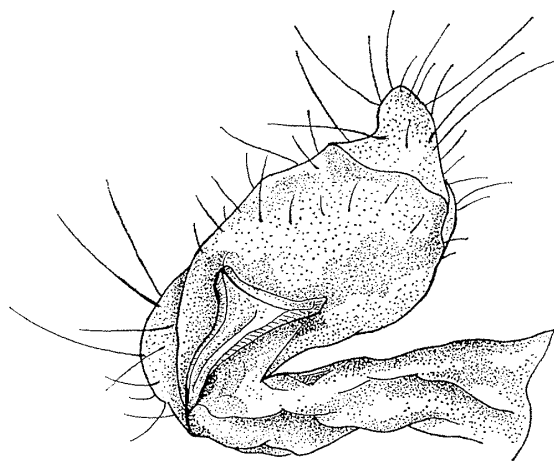


Fig. 3. Proboscis (lateral view) of *Orthogoniocera hirayamae* MATSUMURA, ♂.

Leg: Dark brownish to blackish, but ventral surface of tarsus and whole surface of hind tarsal segment 1 (or 1–2) largely yellowish brown or reddish brown; coxa and femur with pale yellowish pile which is longer and erect on posterior surfaces of fore and mid femora and is largely absent on posterior surface of hind femur; coxa with pale gray pollen; hind tarsal segment 4 asymmetrical and its anterior (or outer) surface conspicuously longer; relative length of segments



(excluding coxa and trochanter) of fore leg 296(291–300): 281(277–284): 100: 52(50–53): 38(37–38): 20(19–20): 52(50–53), of mid leg 331(319–343): 331(330–331): 118(113–123): 55(53–56): 31(30–31): 17(16–17): 50(50), of hind leg 363(356–370): 346(344–347): 163(159–167): 60(56–63): 37(33–41): 22(22): 52(50–53) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1–3, 55(53–56): 39(37–41); 25(?–25): 22(?–22): 19(?–19) (tarsal segment 1, 0.16, segment 2, 0.4, segment 3, 0.45 times as wide as long) (based on 2 specimens).

**Wing:** Membrane almost hyaline but stigma and subcostal cell yellowish brown to brownish; vein  $M_3$  entirely lacking;  $M_1$ ,  $M_2$ , and  $M_4$  ending rather far before wing margin and not strongly curved; relative length of A, B, C, D, E+F, G, H, 20(18–22): 100: 89(88–89): 40(35–44): 134(133–135): 60(59–61): 23(22–24) and that of W, X, Y+Z, 119(111–126): 100: 289(274–304), X 1.5–1.7 times as long as C, petiole of anal cell (up to wing margin) 0.5–0.6 times as long as vein between 2nd basal and 5th posterior cell, and discal cell 0.2 times as long as distance between discal cell and wing apex (based on 2 specimens).

**Abdomen:** Dark brownish to blackish; posterior part of sternum 5 and that of tergum 5 yellowish brown; venter and tergum 1 with pale gray pollen (or minute pile); tergum 5 (except anterior margin), posterior border of tergum 4, and posterolateral parts of terga 2–4 (each of which is connected or nearly so with preceding segment) densely covered with golden yellow recumbent pile, and remainder of terga 2–4 short, recumbent black haired; tergum 1, tergum 2 (except posterolateral part), and posterior part of tergum 4 (except lateral part) with erect, pale yellowish pile which is long on tergum 2; venter with pale or pale yellowish recumbent pile which becomes suberect on sternum 1; abdomen 1.0–1.2 times as wide as long (based on 2 specimens).

**Genitalia:** Not examined.

**Length:** Body 11–12 mm; wing 9; fore basitarsus 0.75–0.8.

**Female.** Similar to ♂ except as follows: Head: Pile on head is paler and shorter than in ♂ and recumbent but that on cheeks, palpus, and proboscis is erect and that on face and lower front may be suberect; (1) a large area above and beside antenna (except a part along transverse suture), (2) a region before, and (3) that beside ocellar triangle are bare and from (3), which is connected with eye, a bare line extends to cerebrale; pile on cheeks is longer than in rest of head; width of one eye at greatest point from a direct frontal view 0.6–0.7 distance from antenna to median ocellus, 0.4–0.5 width of face at lowest portion from a direct frontal view, and 0.4–0.5 width of front just above antenna; width of front just above antenna 1.2–1.4 that at median ocellus; ocellar triangle 0.9–1.0 times as wide as long and 0.2–0.3 times as wide as front at median ocellus; width of vertex between uppermost corners of eyes 0.9–1.0 width of front at median ocellus; greatest length of postocular rim at upper occiput 0.8–1.1 length of ocellar triangle; antenna 2.3–2.4 times as long as distance from antenna to median ocellus; relative length of antennal segments 1, 2, 3, 184(173–206): 100: 368(345–394) and

their relative width 40(36–47): 46(45–47): 54(53–55); structural characters are based on 3 specimens.

Thorax: Pile on thorax is all recumbent except for that on pro- and meta-pleura which is erect.

Leg: Hind tarsal segment 4 normal in shape; relative length of segments of fore leg 294(284–307): 288(281–297): 100: 55(52–59): 35(34–37): 19(16–21): 52(48–55), of mid leg 338(329–348): 345(332–362): 126(123–131): 58(55–62): 37(35–38): 19(16–21): 52(48–55), of hind leg 377(368–386): 362(348–372): 178(174–183): 68(65–72): 40(39–41): 21(19–24): 56(52–59) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1–3, 60(58–62): 43(42–45): 30(29–31): 24(23–26): 20(19–21) (tarsal segment 1, 0.17, segment 2, 0.35, segment 3, 0.5 times as wide as long) (based on 3 specimens).

Wing: Stigma and subcostal cell dark brownish; costal-, 1st and 2nd basal-, discal cell, and their narrow surrounding darker (this may be true of ♂ but is distinct in ♀); relative length of A, B, C, D, E+F, G, H, 35(33–38): 100: 141(120–163): 60(55–69): 159 (145–181): 83(65–100): 24(22–25), and that of W, X, Y+Z, 150(124–183): 100: 346(280–428), X 0.8–1.0 times as long as C, petiole of anal cell (up to wing margin) 0.4–0.6 times as long as vein between 2nd basal and 5th posterior cell (based on 3 specimens).

Abdomen: Golden yellow recumbent pile is present on tegum 1 except lateral part and sometimes on posterior margins of terga 2–3; erect pile may be confined to lateral part of tergum 1 and antero-lateral part of tergum 2; pile on sternum 1 may be more recumbent than in ♂; abdomen 0.9–1.1 times as wide as long (based on 3 specimens).

Length: Body 12–14 mm; wing 9.5; fore basitarsus 0.7–0.8.

*Distribution.* Japan (Honshu, Shikoku).

*Specimens examined.* Honshu (2 ♂♂): 1 ♂, Nishitanimura, Yabu-gun, Tajima, 11. vi. 1951, A. NAGATOMI (KAU); 1 ♂, Okayama City, 8. v. 1957, K. KOIZUMI (KAU). Shikoku (3 ♀♀): 1 ♀, Mt. Ishizuchi, 10. vi. 1950, S. ITO (UOP); 1 ♀, Omogo-kei, 1. vi. 1969, T. EDASHIGE (EU); 1 ♀, Fujinouchi, Ehime Pref., 20. v. 1973, S. KINOSHITA (EU).

*Orthogoniocera shikokuana* sp. nov.

(Figs. 1C–D, 2B)

This species is closely related to *hirayamae* but may be distinguished from the latter as shown in the key (couplet 2).

MIYATAKE (1965 b) figured this species as *hirayamae*.

*Female.* Similar to *hirayamae* except as follows: Head: Pile on front, ocellar triangle, vertex, face, and inner occiput longer and more erect; pile on eye sparse but distinct; area beside ocellar triangle may be haired near eye and bare line extending to cerebrale may be absent (these may be true of *hirayamae*); relative length

of antennal segments 1, 2, 3, 215(200–230): 100: 459(417–500) and their relative width 60(50–70): 64(58–70): 69(63–75) (based on 2 specimens).

Thorax: Mesonotum and scutellum covered with erect pile in addition to recumbent one; meso- and pteropleura with chiefly erect pile.

Leg: Relative length of segments (excluding coxa and trochanter) of fore leg 312(310–314): 300(290–310): 100: 57(57): 41(38–43): 22(19–24): 57(?–57), of mid leg 352(?–352): 362(?–362): 129(?–129): 62(?–62): 38(?–38): 24(?–24): 62(?–62), of hind leg 403(400–405): 386(376–395): 186(?–186): 81(?–81): 52(?–52): 24(?–24): 67(?–67) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1–3, 67(67): 46(43–48): 33(?–33): 29(?–29): 24(?–24) (tarsal segment 1, 0.18, segment 2, 0.35, segment 3, 0.45 times as wide as long) (based on 2 specimens).

Wing: Relative length of A, B, C, D, E+F, G, H, 37(33–40): 100: 124(107–140): 64(60–67): 154(147–160): 80(73–87): 24(20–27), and that of W, X, Y+Z, 188(161–215): 100: 404(339–469), and X 0.6–1.1 times as long as C (based on 2 specimens).

Abdomen: Yellowish brown posterior part of tergum 5 and that of sternum 5 are smaller than in *hirayamae* but these parts may be variable in extent; pile on tergum 5, middle part of tergum 1, postero-lateral parts of terga 2–4, and posterior border of tergum 4 is paler and sparser than in *hirayamae* and may be not golden yellow and some of these hairs are suberect; pile on sternum 1 suberect; erect pile may be present in mid-anterior part of tergum 2 (this may be true of *hirayamae*); abdomen 0.8–1.0 times as wide as long (based on 2 specimens).

Length: Body 9–10 mm; wing 7.5; fore basitarsus 0.5.

There is 1 ♂ (Omogokei, Iyo, 18. v. 1953, K. Sasaki) which may belong to this species. This specimen is similar to *hirayamae* except as follows: Head (except antenna and median chitinous part of mid-lower face), thorax, abdominal venter, and basal portion of femur are yellowish brown to brownish but this coloration is probably not original but faded.

Head: Pile on eye distinct; height of head (including ocellar triangle) from a lateral view 1.0 length of head from a lateral view; width of one eye at greatest point from a direct frontal view 1.1 distance from antenna to median ocellus, 0.8 width of face at lowest portion from a direct frontal view, and 0.9 width of front just above antenna; distance from lowest margin of face to antenna *not measured*; ocellar triangle 0.9 times as wide as long; distance from lateral ocelli to line drawn between uppermost corners of eyes *not measured*; antenna 1.8 times as long as distance from antenna to median ocellus; relative length of antennal segments 1, 2, 3, 156–100–306 and their relative width 34–41–47; structural characters are based on 1 specimen.

Leg: Hind tarsal segment 4 normal in shape; relative length of segments of fore leg 308–288–100–54–38–25–54, of mid leg 346–333–117–58–38–21–54, of hind leg 375–350–158–67–42–21–54 and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1–3, 58–42–29–25–23 (tarsal segment 1, 0.18, seg-

ment 2, 0.4, segment 3, 0.55 times as wide as long) (based on 1 specimen).

Wing: Relative length of A, B, C, D, E+F, G, H, 27-100-87-33-133-60-7 and that of W, X, Y+Z, 135-100-347, and X 1.3 times as long as C (based on 1 specimen).

Abdomen: Yellowish brown posterior part of tergum 5 and that of sternum 5 are smaller than in *hirayamae* but these parts may be variable in extent; golden yellow recumbent pile on terga 2-5 are sparser than in *hirayamae* and this pilose area in each of terga 2-4 may not be connected with preceding segment; erect pale yellowish pile is present on almost whole surface of tergum 4; at least some of black hairs on terga 3-4 longer and more erect than in *hirayamae*.

Genitalia: Not examined.

Length: Body 9.5 mm; wing 8; fore basitarsus 0.6.

*Distribution.* Japan (Shikoku).

Holotype: ♀, Kitagawa-mura, Kochi Pref., 30. v. 1954, K. KOJIMA (KU).

Paratype: 1 ♀, Omogokei, Iyo, 17. v. 1953, T. EDASHIGE (EU).

*Orthogoniocera* sp. (=probably *filipjewi* PLESKE)

(Fig. 2C)

The specimens (1 ♂, 3 ♀♀) described below appear almost to fit the original description of "*Eulalia (Catatasina) filipjewi* PLESKE (1928, *Konowia* 7: 70; based on 1 ♂, 1 ♀ collected from "prov. Littorale de la Sibérie orientale").

*Male.* Head: Head and its appendages dark brownish to blackish, but mid-upper part of upper face (=a small part just below antenna), lateral chitinous part of mid-lower face (at least its upper-inner part), and 2nd segment of palpus yellowish brown to reddish brown; membranous part of mid-lower face and some parts of proboscis brownish; head and its appendages covered with pale pile which is absent on mid-lower face except for lower portion of lateral chitinous part, median part of upper face, lateral part of frontal triangle, and antennal flagellum, is long on cheeks, inner occiput, vertex, and face (especially its lateral part), is shorter and recumbent on occiput and cheeks along eye margin, upper part of frontal triangle, and antennal segments 1-2; pile on eye pale in color and dense; height of head (including ocellar triangle) from a lateral view 1.2 length of head from a lateral view and 0.7 total width of head from a direct frontal view; width of one eye at greatest point from a direct frontal view 1.6 distance from antenna to median ocellus, 0.9 width of face at lowest portion from a direct frontal view, and 1.8 width of front just above antenna; distance from lowest margin of face to antenna 1.6 that from antenna to median ocellus and 1.7 length of mid-upper face which is 0.5 width of face at upper margin of mid-lower face; ocellar triangle 1.1 times as wide as long; width of vertex between uppermost corners of eyes about 4 times distance from lateral ocelli to line drawn between uppermost corners of eyes which is 0.4 length of ocellar triangle; antenna 1.5 times as long as distance from antenna to median

ocellus; relative length of antennal segments 1, 2, 3, 133-100-411 and their relative width 56-72-78; structural characters are based on 1 specimen.

**Thorax:** Dark brownish to blackish; in scutellum posterior margin and spines are yellowish brown to reddish brown and in mesonotum humeral and posterior calli may have a yellowish brown to reddish brown tinge; thorax covered with pale, long, erect pile which is absent on lower part of pteropleura, posterior part of metapleura, sub-, and postscutellum; mesopleura wholly pilose and concave part not bare (pile on hypopleura shorter and recumbent); mesonotum and scutellum intermixed with short, recumbent pile which becomes golden yellow in certain lights; pleura, sub- and postscutellum may have pale gray pollen; haltere is yellowish brown but its base may be darkened; spine-like process (measured along outer surface) 0.4 times as long as scutellum (along mid-line) in 1 specimen measured.

**Leg:** Yellowish brown, but coxa, trochanter, ventral surface of fore femur (except basal portion and apex), apical portions (except apices) of mid and hind femora, tarsal segments 2-5 and apical part of basitarsus (in tarsus ventral surface may be tinged with yellowish brown) dark brownish to blackish; coxa and femur with pale pile which is long on posterior surfaces of fore and mid femora and which is largely absent on posterior surface of hind femur; relative length of segments (excluding coxa and trochanter) of fore leg 271-254-100-42-29-?-?, of mid leg 308-329-121-50-29-21-50, of hind leg 350-342-150-63-38-25-58 and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1-3, 54-38-29-25-21 (tarsal segment 1, 0.19, segment 2, 0.4, segment 3, 0.55 times as wide as long) (based on 1 specimen).

**Wing:** Membrane almost hyaline; stigma, area above stigma, subcostal cell, and apical portion of costal cell tinged with brownish to dark brownish; base of vein  $M_3$  present;  $M_1$ ,  $M_2$ , and  $M_4$  ending distinctly before wing margin and not strongly curved; relative length of A-H, 29-100-79-43-64-57-50-29, and that of W, X, Y+Z, 79-100-167, X 3 times as long as C, petiole of anal cell (up to wing margin) 0.6 times as long as vein between 2nd basal and 5th posterior cell, and discal cell 0.15 times as long as distance between discal cell and wing apex (based on 1 specimen).

**Abdomen:** Dark brownish to blackish; venter often wholly or partially tinged with yellowish brown; postero-lateral band (which is elongate and may be variable in extent) of terga 2-4 and posterior margin of tergum 5 yellowish brown; pile on abdomen is damaged in specimen on hand but it appears to be at least chiefly pale or pale yellowish in color, recumbent on venter (except middle portion of sternum 1), at least partly erect or suberect on each tergum and long on sides of tergum 1 and antero-lateral part of tergum 2.

**Genitalia:** Not examined.

**Length:** Body 9.5 mm; wing 8; fore basitarsus 0.6.

**Female.** Similar to ♂ except as follows: Head: Head with following yellowish brown to reddish brown parts: a median stripe which is nearly extending to antenna

and to ocellar triangle, is separated by a median thin line, may be broader at lower portion, and may be often obsolete at upper or intermediate portion; a spot which may be separated from ocellar triangle and eye and is slightly extending to cerebrale; a band along lower eye margin which may be often obsolete; an area below antenna which is much larger than in ♂ but is widely separated from eye; mid-lower face as in ♂ (lateral chitinous part often wholly yellowish brown); pile on front, vertex, upper face, and inner part of upper occiput shorter than in ♂ and that on eye shorter and sparser than in ♂, pile on upper face (except area around antenna) chiefly recumbent; a large part above and beside antenna bare but areas just beside antenna and along transverse suture pilose; width of one eye at greatest point from a direct frontal view 0.9–1.0 distance from antenna to median ocellus, 0.5 width of face at lowest portion from a direct frontal view, and 0.5–0.6 width of front just above antenna; width of front just above antenna 1.4–1.5 that at median ocellus; distance from lowest margin of face to antenna 1.6–1.7 that from antenna to median ocellus and 1.7–1.8 length of mid-upper face; ocellar triangle 1.1–1.2 times as wide as long and 0.3–0.4 times as wide as front at median ocellus; width of vertex between uppermost corners of eyes 0.9–1.0 width of front at median ocellus; greatest length of postocular rim at upper occiput 0.3–0.5 length of ocellar triangle; antenna 1.9 times as long as distance from antenna to median ocellus; relative length of antennal segments 1, 2, 3, 159(144–178): 100: 542(517–567) and their relative width 69(67–72): 83(78–89): 81(78–83); structural characters are based on 3 specimens.

Thorax: Erect pile on mesonotum and scutellum much shorter than in ♂; meso- and sternopleura are intermixed with shorter and recumbent pile (this may be true of ♂) and concave part of mesopleura may have no erect pile; spine-like process (measured along outer surface) 0.3–0.4 times as long as scutellum (along mid-line) in 3 specimens measured.

Leg: Trochanter sometimes yellowish brown (this may be true of ♂); dorso-apical portions of mid and hind femora often wholly or partly not darkened (this may be true of ♂); relative length of segments of fore leg 299(277–324): 290(277–310): 100: 52(45–57): 34(27–38): 24(23–24): 63(59–67), of mid leg 353(327–381): 382(364–405): 132(127–138): 65(64–67): 43(41–48): 26(23–29): 65(59–71), of hind leg 393(377–410): 393(368–419): 185(177–200): 80(77–86): 47(45–52): 32(32–33): 66(64–71) and in hind leg from a lateral view relative width of femur, tibia, and tarsal segments 1–3, 69(64–76): 46(41–52): 35(32–38): 28(25–33): 26(23–29) (tarsal segment 1, 0.2, segment 2, 0.3–0.4, segment 3, 0.5–0.55 times as wide as long) (based on 3 specimens).

Wing: Relative length of A-H, 39(33–45): 100: 130(113–164): 58(53–64): 80(69–91): 76(67–91): 71(60–91): 38(33–44), and that of W, X, Y+Z 111(93–120): 100: 244(217–259), X 1.5–1.7 times as long as C, petiole of anal cell (up to wing margin) 0.5–0.6 times as long as vein between 2nd basal and 5th posterior cells, and discal cell 0.2 times as long as distance between discal cell and wing apex (based on 3 specimens).

Abdomen: Pile on abdomen shorter than in ♂; pile on terga 2-4 (except for lateral parts of terga 2-4 and posterior margin of tergum 4 or 3-4) black (this may be true of ♂); dorsum (except for tergum 1 and antero-lateral part of tergum 2) without erect pile; abdomen 0.9-1.1 times as wide as long in 3 specimens measured.

Length: Body 8.5-9.5 mm; wing 8-9; fore basitarsus 0.5-0.55.

*Distribution.* Japan (Hokkaido, Honshu).

*Specimens examined.* *Hokkaido*: 1 ♂, Misumi, Sapporo, 30. v. 1964, S. UMEZAWA (KAU); 1 ♀, Sapporo, 3. vi., S. KUWAYAMA (KAU); 1 ♀, Sapporo, 23. v. 1954, S. TAKAGI (HU). *Honshu*: 1 ♀, Okayama City, 5. v. 1955, K. KOIZUMI (KAU).

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### 日本昆虫学会交換図書追加

(1977年8月31日現在)

アルファベット順配列, 冒頭 OS ナンバーは交換相手先コード, 小文字 abc... は交換雑誌種類を示す. 末尾+記号は交換継続中, ビリオドは中止または終刊を示す.

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OS 79 *Vieraea* (Tenerife), Vol. 3 (1974)+

なおこれら以外の交換図書一覧は 45 巻 1 号に掲載してある.

(図書幹事)