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THE GENUS *PARADRINO* FROM JAPAN AND THE INDO-AUSTRALASIAN REGION (DIPTERA: TACHINIDAE)[1]

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Abstract. The Japanese and Indo-Australasian species of *Paradrino* are revised. Five new species are described and illustrated: *P. longicornis,* n. sp. (Kyushu and Ryukyus, Japan), *P. atrisetosa,* n. sp. (Malaya, Malaysia), *P. assimilis,* n. sp. (Sabah, Malaysia), *P. laxifrons,* n. sp. (Sarawak, Malaysia), and *P. fijiana,* n. sp. (Viti Levu, Fiji). Male and female genitalia of *P. laevicula* are described and illustrated for the first time. A key to the Japanese and Indo-Australasian species of the genus is provided.

Paradrino was first proposed by Mesnil (1949a) for an African species, *Sturmia halli* Curran, as a subgenus of the genus *Drino* Robineau-Desvoidy. More recently it has been treated as a full genus distinct from *Drino* s. str. (Thompson 1966; Crosskey 1967, 1973, 1976, 1980; Guimarães 1971). *Paradrino* has 3 described species, *P. halli* (Curran) from Africa, *P. laevicula* (Mesnil) from the Indo-Australasian Region, and *P. solitaris* Thompson from Trinidad. *Paradrino laevicula* was originally described from Formosa (Mesnil 1951) and later recorded from various localities in the Oriental and Australian regions (Crosskey 1973, 1976). In the course of study on the Japanese and Oriental Tachinidae, I have found 5 new species of the genus from Japan (Kyushu and Ryukyus), Malaysia (Malaya, Sabah and Sarawak), and Fiji (Viti Levu), which closely resemble each other and also the widespread species *P. laevicula.* Descriptions of the new species are given below. The male and female genitalia of *P. laevicula* are described and illustrated for the first time.

Paradrino Mesnil belongs to the ovoviviparous group of the subfamily Goniinae [tribe Eryciini sensu Mesnil (1975a, 1975b)]. Though Mesnil (1949a, 1949b, 1951) placed *Paradrino* in the genus *Drino* s. lat., the Old World species of *Paradrino* do not correspond to *Drino* in Mesnil's revised keys to genera of Eryciini (1975a, 1975b) and seem instead to be closely related to *Phryxe* Robineau-Desvoidy. In support of this, the male and female genitalia of these species resemble those of *Phryxe.*

MATERIAL AND METHODS

Material has been studied from the following collections: American Museum of Natural History, New York (AMNH); Bernice P. Bishop Museum, Honolulu (BPBM); Biological Laboratory, College of General Education, Kyushu University, Fukuoka (BLKU); British Museum (Natural History), London (BMNH); Institut für Pflanzen-

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2. Biological Laboratory, College of General Education, Kyushu University, Ropponmatsu, Fukuoka, 810 Japan.

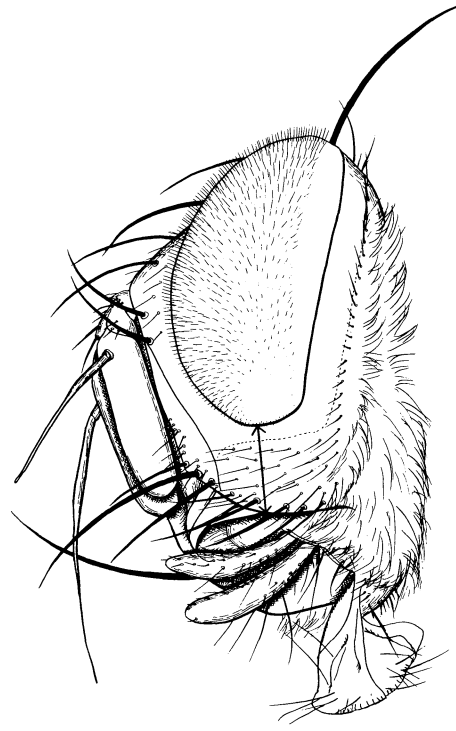

FIG. 1. Male head of *P. laevicula*, showing horizontal position of the gena.

schutzforschung, Eberswalde (IPF); International Rice Research Institute, Los Baños (IRRI).

Measurements were made in a similar manner to Crosskey (1967, p. 43, fig. 1–4), except that the gena and parafacial were measured at their widest point in their respective horizontal positions (Fig. 1), not in the position of head profile. Eye height was measured at its widest point in the position of head profile. Abbreviations for the chaetotaxy of the thorax and legs follow those used by Crosskey (1973).

Genus **Paradrino** Mesnil

Paradrino Mesnil, 1949a: 8, 35 (as subgenus of *Drino*). Type-species: *Sturmia halli* Curran, 1939 (AMNH), by monotypy.

The Japanese and Indo-Australasian species of *Paradrino* share the following combination of characters.

♂♀. *Head.* Eye hairy; outer vertical seta undeveloped in both sexes; 2 reclinate orbital setae; 2 proclinate orbital setae in ♀, none in ♂; ocellar seta strong, inserted behind anterior ocellus; 2 postocellar setae; 2 postvertical setae; parafacial bare; vibrissa nearly level with lower margin of face; facial ridge with not more than several fine hairs on its lower ⅓; 3rd antennal segment

long, at least 3.5 × as long as 2nd; arista bare, 2nd segment 2–3 × as long as wide, 3rd segment thickened on basal ⅓; palpus yellow; proboscis short; labella large; occiput flat. *Thorax.* 4 humeral setae, of which 3 basal setae form a straight line; 3+3 *ac*; 3+4 *dc*; 1+3 *ia*; propleuron and mediotergite bare; propleural seta very fine and hairlike; barette at most with 1–2 fine hairs on its anterior portion; 2+2, rarely 2+1, *stpl*; lower calypter closely abutted to scutellum, outer margin markedly bent downwards; scutellum with 1 pair each of basal, lateral, subapical, and apical setae (apical setae upturned and crossed), and 1 pair of discal setae. *Wing.* Tegula and basicosta black; 2nd costal sector bare ventrally; basal node of wing vein R_{4+5} with several fine hairs dorsally and ventrally. *Legs.* Hind coxa bare posterodorsally; fore tibia with 2 *p* setae; midtibia with 1 *ad*, 2 *pd* and 1 *v* setae. *Abdomen.* Middorsal excavation of syntergum 1+2 extending to its posterior margin; venter of ♂ abdomen without sexual hair-patches.

♂ *genitalia.* 6th tergum broadly divided into 2 hemitergites; 6th sternum articulated with synsternum 7+8 on left side and widely separated from it on right side; 6th spiracle in membrane below 6th hemitergite; synsternum 7+8 with many hairs; cerci in lateral view weakly narrowed on its apical portion; surstylus with several long or very long hairs on apical portion; epiphallus present; dorsal arms of hypandrium fused with each other on middorsal portion, dorsally encircling base of aedeagus; pregonite and postgonite long.

♀ *genitalia.* 6th sternum longitudinally divided into 2 hemitergites or entire; 7th tergum always divided into 2 hemitergites; 7th sternum narrowed distally, apex rounded and free from intersegmental membrane; 8th tergum represented by small hemitergites; 8th sternum present; supraanal plate small, without hair.

Remarks. In the structure of the male genitalia, the Old World species of *Paradrino,* including the type-species, are very characteristic in having the dorsal arms of the hypandrium medially fused (Fig. 2D). This condition is not found in *Drino* s. lat., such as *Palexorista* Townsend, *Drino* s. str., *Isosturmia* Townsend, *Weingaertneriella* Baranov, and *Zygobothria* Mik. A similar condition of the hypandrium is rather rarely found in members of the ovoviviparous Eryciini sensu Mesnil (1975a, 1975b), but I have found it also in *Sisyropa* Brauer & Bergenstamm, *Phryxe* and some members of *Carcelia* Robineau-Desvoidy s. lat. Though these 3 genera are placed in different tribes or subtribes in the present practical higher classification of the Tachinidae, it is possible that they are in fact closely related to each other, judging from this derived character state.

The genus *Paradrino* seems to be closely related to *Phryxe,* judging from the structure of the hypandrium, the long apical hairs on the surstylus and shape of the distiphallus. The female genitalia of this genus also more closely resemble those of *Sisyropa, Phryxe,* and *Carcelia* than those of *Drino* s. lat.

Paradrino laevicula (Mesnil) Fig. 1, 2, 3A, 4A–B

Drino (*Paradrino*) *laeviculus* Mesnil, 1951: 197. Holotype ♂, Koshun, Kankau, Formosa (IPF).

This species was originally described from 2 females from Formosa. I have examined some 50 specimens from Sri Lanka, Malaysia, Indonesia, the Philippines, Papua New Guinea, Australia, and New Caledonia, in addition to the type-specimen. The previously undescribed male differs from the female as follows.

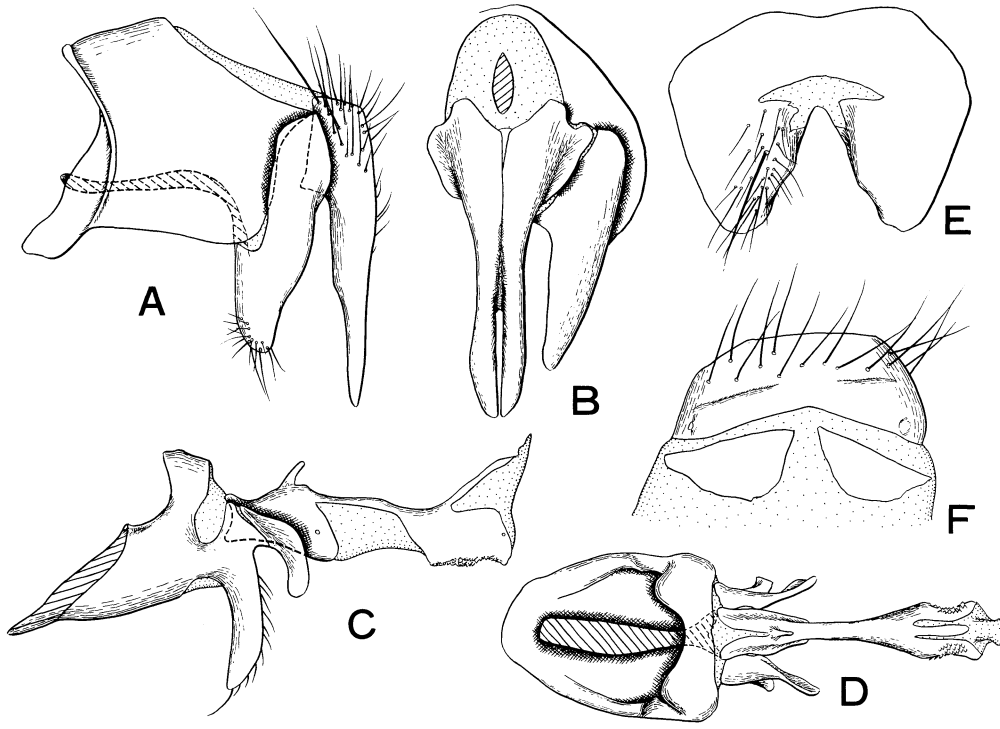

FIG. 2. Male genitalia of *laevicula*: **A,** epandrium, cerci, and surstylus in lateral view; **B,** same in dorsal view; **C,** hypandrium, pre- and postgonites, and aedeagus in lateral view; **D,** same in dorsal view, showing fused dorsal arms of the hypandrium; **E,** 5th sternum in ventral view; **F,** 6th hemitergites and synsternum 7+8 in dorsal view.

♂. Vertex 0.22–0.25 of head width (0.26–0.27 in ♀); proclinate orbital seta absent; 3rd antennal segment about 5× as long as 2nd; palpus about 4/5 as long as 3rd antennal segment; claws and pulvilli elongate, those of fore leg distinctly longer than 5th tarsomere; hairs on abdomen finer and denser than in ♀, suberect to erect, especially on middorsal portion. *Genitalia.* Posterior lobe of 5th sternum occupying posterior 3/5 of sternum, with many hairs; cerci narrow and long, in dorsal view weakly widened on apical 1/6, cerci narrowly separated from apical 1/3 to apex, in lateral view nearly straight; surstylus distinctly shorter than cerci, in lateral view gradually narrowed to apex, with several rather long hairs on apical portion; pregonite long, with a row of fine hairs on posterior margin, of which apical hair is longest; postgonite about 1/2 as long as pregonite; basiphallus about 1.5× as long as wide; epiphallus short and slender; distiphallus widened at apex.

♀ *genitalia.* Sixth tergum about 2/5 as long as 5th tergum, entire or narrowly and longitudinally divided into 2 hemitergites, with several strong hairs on posterior portion; 6th sternum about 2/3 as long as 5th sternum, with many hairs on posterior 1/2; intersegmental membrane between 6th and 7th segments distinctly shorter than 6th sternum; 7th tergum about 1.5× as long as 6th tergum, narrowly and longitudinally divided into 2 hemitergites, in lateral view hemitergite evenly narrowed posteriorly, about 1.5× as long as high, with fine hairs on posterior

⅓; 7th sternum about 1.5× as long as 6th sternum, with a narrow midventral membranous incision sometimes present on anterior ½, strongly narrowed posteriorly; 8th tergum of weakly sclerotized small hemitergites, without hair; 8th sternum very small, V-shaped in ventral view; supraanal plate very small, without hair; cercus short, widened posteriorly.

Hosts. *Amyna punctum* Fabricius (Lepidoptera, Noctuidae); *Ostrinia furnacalis* Guenée (Lepidoptera, Pyralidae) (new record). For hosts in Australia see Crosskey (1973).

Distribution. Sri Lanka, Nepal (after Crosskey 1976), Malaysia (Malaya, after Crosskey 1976; Sabah), Formosa, Indonesia (Sulawesi, Lombok), Philippines (Luzon, Panay), Papua New Guinea (New Guinea, New Britain, Bougainville), Australia (Queensland), New Caledonia.

Specimens examined. SRI LANKA: 1♂, Karunegala, 23.III.1933, ex larva of *Amyna punctum* (J.C. Hutson) (BMNH). FORMOSA: 2♀ (holotype & 1♀), 7.VIII.1912 (H. Sauter) (IPF). MALAYSIA: Sabah: 1♂, Tenompok, Mt Kinabalu, 2.XI.1958 (T.C. Maa) (BPBM). INDONESIA: Lombok: 1♀, Suranadi, 100 m, 19–21.XII.1973 (H. Kurahashi) (BLKU); Sulawesi: 1♀, Noongan, 50 km S of Menado, 2–10.XII.1973 (Kurahashi) (BLKU). PHILIPPINES: Luzon I: 2♀, Mt Maquilling, 6–7.I.1976 (S. Shinonaga & H. Shima) (BLKU); 1♀, Mt Maquilling, 23.X.1975 (Kurahashi) (BLKU); Panay I: 1♀, Iloilo Prov, Bo. Bagumbayan, 2 km NW of Tigbauan, 14°41′N, 122°24′E, 14.I.1977 (A.T. Barrion) (IRRI); 1♂,1♀, Batangas Prov, Bo. Cale, 7 km NW of Tagbauan, 14°07′N, 121°06′E, 20.XI.1978, ex *Ostrinia furnacalis* larva (Barrion) (IRRI). PAPUA NEW GUINEA: 1♀, Kokoda, 1200 ft [3600 m], IX–X.1933 (L.E. Cheesman) (BMNH); 1♀, Zanay, 1130 m, to Goroka, 800 m, 29.I.1978 (R. Kano) (BLKU); 1♂, Morobe Prov, Wau, 15–20.X.1961, light trap (J. Sedlacek) (BPBM); 1♂,2♀, Wau, 23–31.XII.1973 (Shima) (BLKU); 1♀, Wau, 5–17.I.1974 (Shinonaga) (BLKU); 1♂,1♀, Wau, 17.XII.1981 (Shinonaga) (BLKU). AUSTRALIA: 1♀, Queensland, 1903 (BMNH). PNG: N SOLOMON IS: 1♀, Bougainville I, Kieta, 60–500 m, 20.I.1978 (Kurahashi) (BLKU). NEW CALEDONIA: 2♂, Hienghene, 21–22.II.1978 (Shima) (BLKU); 10♂,1♀, Col de Petchecara, 15 km W of Thio, 19.II.1978 (Shima) (BLKU); 9♂, Col de Petchecara, 25.II.1978 (Shima & Kurahashi) (BLKU); 3♂,3♀, Col d'Amieu, 20 km SW of Canara, 24.II.1978 (Shima & Shinonaga) (BLKU).

Paradrino longicornis Shima, **new species** Fig. 3B, 4C–D, 7A, 8A, 9A

♂. *Head.* Yellowish pollinose on parafrontal and upper ⅓ of parafacial; lower ⅔ of parafacial and postorbit yellowish white pollinose; face and occiput white pollinose; antenna and arista brown-black. Vertex about 0.25 of head width; interfrontal area widened anteriorly, subequal in width to parafrontal at middle; parafacial 1.3–1.4× as long as parafrontal in profile, narrowed below, about ½ as wide as 3rd antennal segment at midheight; gena 0.18–0.20 of eye height. Parafrontal with dense and fine hairs; length of inner vertical seta about ½ of eye height; 2 subequally long reclinate orbital setae, about ⅔ as long as inner vertical seta; ocellar seta subequal in length to reclinate orbital seta; 6–8 frontal setae, upper 2–3 fine, lowest seta inserted well below base of arista, nearly level with upper ⅓ of parafacial; facial ridge sometimes with fine hairs on lower ⅓. Antenna long and wide, falling slightly short of lower margin of face; 3rd segment 7.0–7.5× as long as 2nd and 3.5–4.0× as long as wide. Arista slightly longer than 2nd and 3rd antennal segments combined. Palpus about ⅔ as long as 3rd antennal segment. *Thorax.* Black in ground color, apex of scutellum slightly yellowish brown; dorsum grayish yellow pollinose, with 5 longitudinal vittae, middle vitta narrow on prescutum and median 3 vittae fused with each other on anterior ¾ of scutum; pleura thinly grayish white pollinose. Distance between bases of subapical scutellar setae only slightly wider than that between basal and subapical setae of same side. *Wing.* Hyaline; lower calypter pale yellowish white. Second costal sector about ⅘ as long as 3rd and subequal in length to 4th; bend of vein M_1 rather gently curved; vein M_1 from discal crossvein to bend about 2× as long as distance between

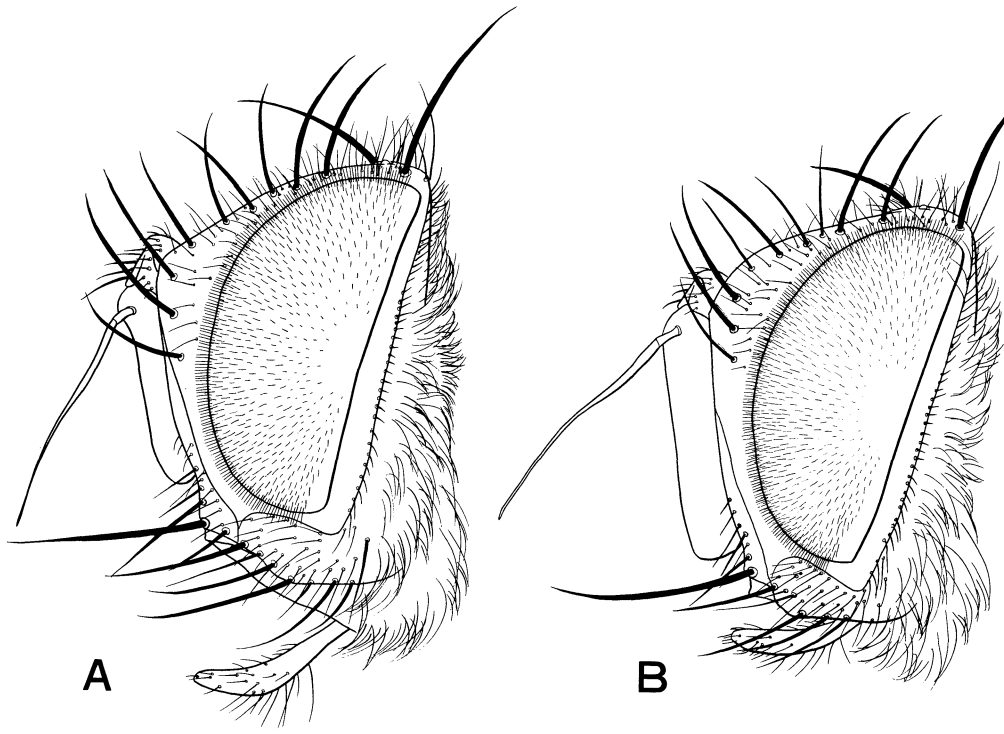

FIG. 3. Male head in profile: **A,** *laevicula*; **B,** *longicornis*.

bend and wing margin; in specimens from Ryukyus (and holotype), vein R_1 sometimes dorsally with a few fine hairs on apical ⅓. *Legs.* Black, pulvilli dull whitish yellow. Hind tibia with a regular row of *ad* setae, which are not very closely set and of which middle one is strongest. *Abdomen.* Black in ground color, anterolateral portion of 3rd tergum narrowly reddish; dorsum rather thinly whitish yellow pollinose on anterior ⅖ of 3rd, ½ of 4th and ⅔ of 5th terga; middorsal longitudinal vitta distinct on 3rd to 5th terga; venter evenly whitish pollinose. Hairs on dorsum dense and suberect, strong and erect on middorsal portion of 3rd and 4th terga; 3rd and 4th terga each with 2 irregularly set rather fine median discal setae; 5th tergum with rows of discal and marginal setae. *Genitalia.* Resembling those of *P. laevicula,* but differing as follows. Cerci distinctly shorter, in dorsal view more strongly widened towards apex; surstylus in lateral view only slightly shorter than cercus, more weakly narrowed to apex, apical portion with denser hairs; pregonite with a row of equally long hairs; apex of distiphallus narrowly lobed on upper portion.

♀. Differing from ♂ as follows. Vertex about 0.30 of head width; interfrontal area slightly narrower than parafrontal at middle; 2 proclinate orbital setae, anterior seta slightly longer than posterior seta and reclinate orbital seta; 3rd antennal segment about 5.5 × as long as 2nd; palpus about ⅘ as long as 3rd antennal segment; claws and pulvilli short, fore claw and pulvillus shorter than 5th tarsomere; hairs on abdominal dorsum recumbent and slightly stronger than in ♂, median discal setae more distinct on 3rd and 4th terga than in ♂. *Genitalia.* Resembling those of *P. laevicula* but differing as follows. Hairs on 6th tergum and sternum finer and sparser;

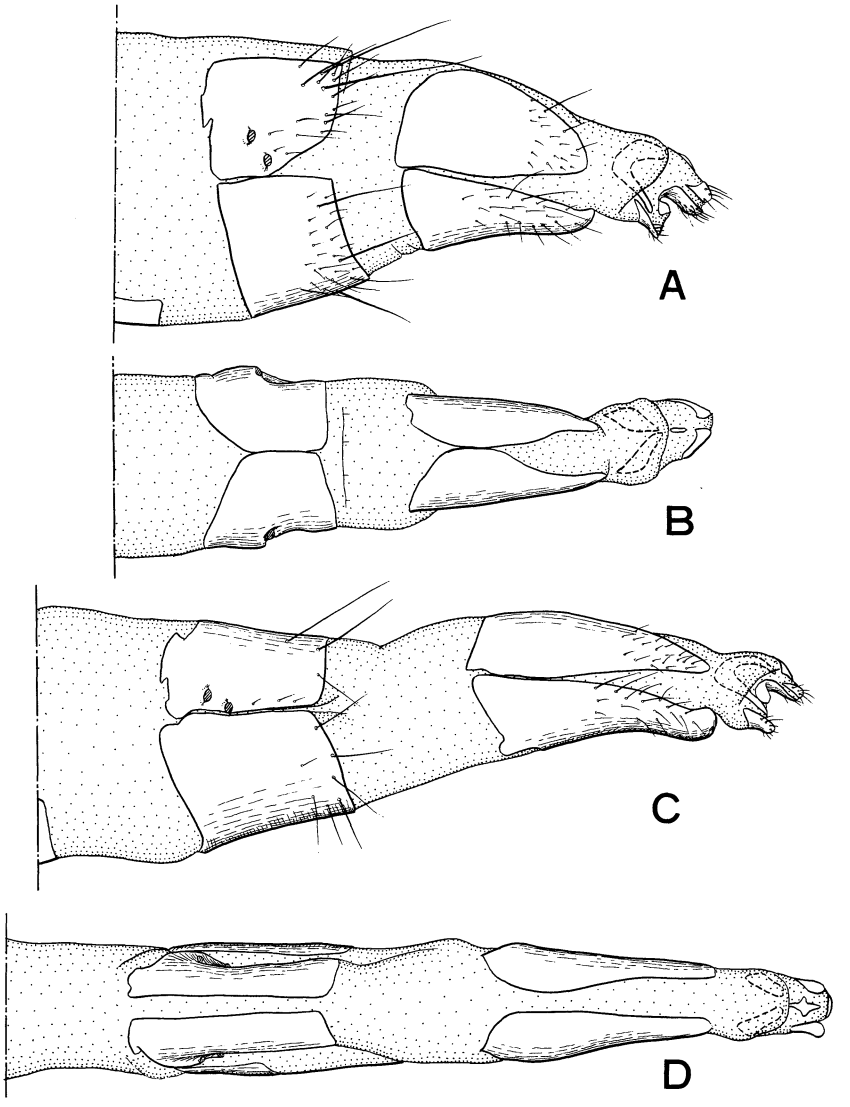

FIG. 4. Female genitalia of *laevicula* (A, B) and *longicornis* (C, D); **A, C,** lateral view; **B, D,** dorsal view.

6th hemitergite longer, about 2× as long as wide; intersegmental membrane between 6th and 7th segments longer; 7th hemitergite longer, about 2.5× as long as wide in lateral view; 7th sternum more strongly rounded apically; membranous incision on anteroventral portion of 7th sternum broader; supraanal plate broader.

Body length, 4.1–6.9 mm; wing length, 3.3–5.2 mm.

Distribution. Japan (Kyushu, Ryukyus).

Hosts. *Libythea celtis* Laicharting (Lepidoptera, Libytheidae); *Narathura bazalus turbata* Butler; *N. japonica* Murray (Lepidoptera, Lycaenidae); *Catopsilia* sp.; *Pieris rapae crucivora* Boisduval (Lepidoptera, Pieridae).

Holotype ♂, RYUKYU IS: Okinawa I: Henoki, 26.IV.1976 emerged, ex *Libythea celtis amamiana* pupa (H. Takana) (BLKU). Paratypes. JAPAN: Kyushu: 3♂, Fukuoka City, Minami Park, 11.VI.1975 emerged, ex *Narathura japonica* larvae (H. Takahashi); 1♂,2♀, Fukuoka, Mt Tachibana, 29.X–4.XI.1976, yellow pan trap (K. Yamagishi); 1♂, Mt Tachibana, 5–11.XI.1978, yellow pan trap (Yamagishi); 2♂, Kagoshima City, Terayama Park, 10.V.1964 host coll., 28–31.V.1964 emerged, ex *Narathura bazalus turbata* larvae (K. Hashimoto). RYUKYU IS: Okinawa I: 2♂,1♀, same data as holotype; 2♀, same loc. and host as holotype, 27.IV.1976 emerged (Tanaka); 1♂, same loc. as holotype, 25.III.1976 emerged, ex *Libythea celtis amamiana* pupa (Tanaka); 1♂, Naha, Shuri, Ishiminecho, 25.V.1975 emerged, ex *Catopsilia* sp. (Tanaka); 1♂,1♀, Taminato, 18.II.1979 host pupa coll., 30.III.1979 emerged, ex *Pieris rapae crucivora* pupa (Tanaka) (BLKU, BPBM, BMNH).

Other specimens examined. JAPAN: 1♂ (wings not expanded), Fukuoka, Minami Park, 9.VI.1973 emerged, ex *Narathura japonica* larva (T. Shirôzu); 1♂ (wings not expanded), same loc. and host as preceding, 11.VI.1975 emerged (Takahashi); 1♂ (teneral), Kagoshima Pref., Yakushima, Yudomari, 25.IV.1972 host coll., 19.V.1972 emerged, ex *Libythea celtis celtoides* prepupa (Y. Sako).

Remarks. This species closely resembles *P. laevicula* but may be easily distinguished from it by the longer 3rd antennal segment and short but distinct median discal setae on the 3rd and 4th abdominal terga.

Paradrino atrisetosa Shima, **new species** Fig. 5A, 7B, 8B, 9B

♂. Closely resembling *P. laevicula*, but differing as follows. Head dull yellowish pollinose, face whitish; vertex about 0.29 of head width; gena about 0.30 of eye height (at most 0.25 in *P. laevicula*); parafacial subequal in length to parafrontal in profile; upper occiput with a row of fine black hairs; 2nd antennal segment reddish brown on apical ½, 3rd segment about 4.5× as long as 2nd, apex weakly rounded on upper portion; palpus about ⅘ as long as 3rd antennal segment; scutum rather thinly dull yellowish gray pollinose, with 5 longitudinal vittae, middle vitta narrow; lower calypter brownish. *Genitalia.* Surstylus in lateral view rather narrow, not strongly narrowed to apex, with several rather short hairs; pregonite with 3–4 hairs on apical portion, apical hair long and curved; upper distal portion of distiphallus not projected posteriorly.

Body length, 7.5 mm; wing length, 6.3 mm.

♀. Unknown.

Distribution. Malaysia (Malaya).

Holotype ♂, MALAYSIA: Malay Penin.: Selangor, Bukit Kutu, 3500 ft [1050 m], 19.IV.1926 (H.M. Pendlebury) (BMNH).

Remarks. This species is peculiar among members of this genus in having black setulae behind the postocular row. The male genitalia of this species resemble those of *P. longicornis*.

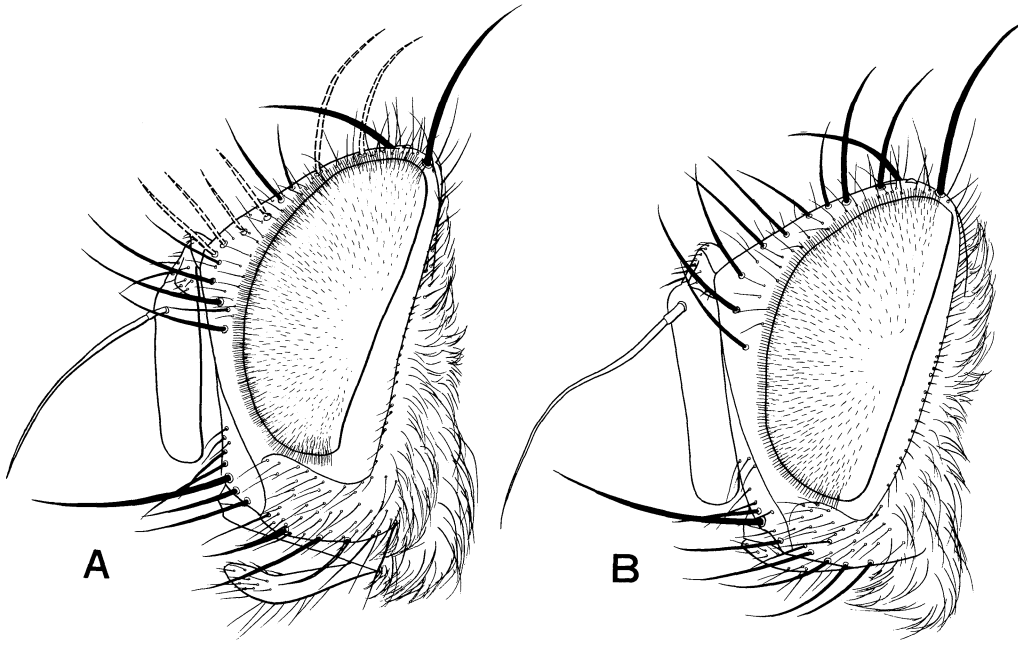

FIG. 5. Male head in profile: **A,** *atrisetosa*; **B,** *assimilis.*

Paradrino assimilis Shima, **new species** Fig. 5B, 7C, 8C, 9C

♂. Closely resembling *P. longicornis* but differing as follows. Vertex 0.26–0.27 of head width; parafacial about 1.2× as long as parafrontal in profile; parafacial ⅔ as wide as 3rd antennal segment; gena about 0.23 of eye height; 3rd antennal segment 6.4–6.8× as long as 2nd, 3.5× as long as wide; palpus about 4/7 as long as 3rd antennal segment; distance between bases of subapical scutellar setae slightly less than that between basal and subapical setae of same side; abdominal hairs sparser than in *P. longicornis,* without median discal seta on intermediate terga. *Genitalia.* Cerci in dorsal view not widened towards apex, in lateral view curved at basal ¼; surstylus in lateral view weakly curved ventrally, with several rather long hairs on apical portion; distal membranous portion of distiphallus slender.

Body length, 5.8–6.2 mm; wing length, 4.8–5.1 mm.

♀. Unknown.

Distribution. Malaysia (Sabah).

Holotype ♂, MALAYSIA: SABAH: Quoin Hill, Tawau, Cocoa Research Stn, 22.VIII.1962 (Y. Hirashima) (BPBM 13,086). Paratype: 1♂, same loc. and collector as holotype, 3.X.1962 (BPBM).

Other specimen examined. 1♂ (teneral), same loc. and collector as holotype, 7.IX.1962 (BPBM).

Remarks. In general facies this species most closely resembles *P. longicornis.* The

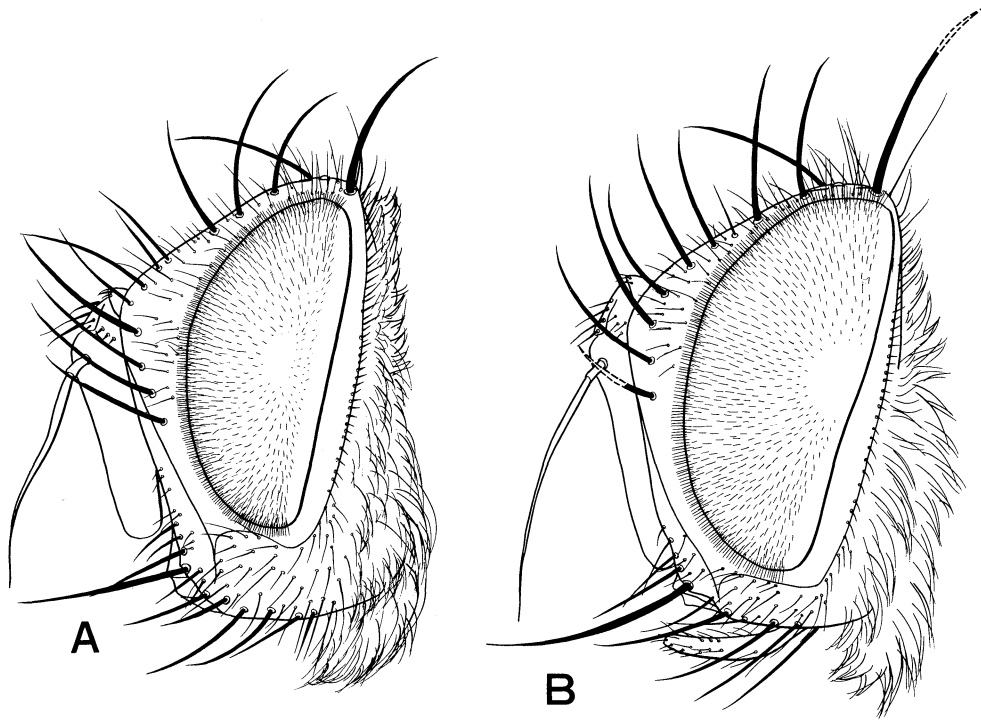

FIG. 6. Male head in profile: **A,** *laxifrons*; **B,** *fijiana*.

male genitalia also resemble those of *longicornis* but differ in having a weakly curved surstylus with long hairs apically.

Paradrino laxifrons Shima, **new species** Fig. 6A, 7D, 8D, 9D

♂. Resembling *P. laevicula*, but differing as follows. Head dull yellowish pollinose, face rather whitish; vertex wide, about 0.31 of head width; parafacial only slightly narrower than 3rd antennal segment at midheight; gena about 0.30 of eye height; parafacial subequal in length to parafrontal in profile; 3rd antennal segment about 5× as long as 2nd and about 4× as long as wide; palpus only slightly shorter than 3rd antennal segment; distance between bases of subapical scutellar setae only about ⅔ as wide as that between basal and subapical setae of same side; thorax dull yellowish gray pollinose; prescutum with 4 longitudinal vittae, scutum with 3 broad vittae, each vitta as broad as area between 2 inner vittae of prescutum; wing distinctly infuscated; lower calypter brownish; abdominal dorsum dull yellowish white pollinose on anterior ⅓ of 3rd tergum and ½ of 4th and 5th terga. *Genitalia.* Resembling those of *P. fijiana*; cerci in dorsal view slender, not widened towards apex; surstylus in lateral view evenly narrowed to apex; apex of distiphallus with upper slender lobe.

Body length, 9.1 mm; wing length, 8.1 mm.

♀. Unknown.

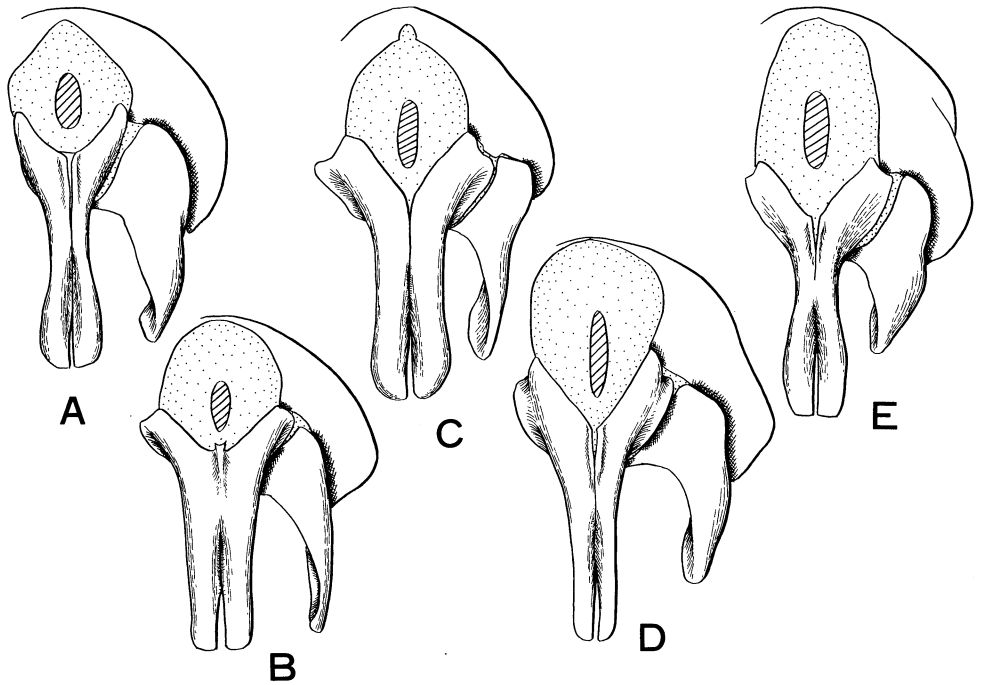

FIG. 7. Epandrium, cerci, and surstylus in dorsal view: **A,** *longicornis*; **B,** *atrisetosa*; **C,** *assimilis*; **D,** *laxifrons*; **E,** *fijiana*.

Distribution. Malaysia (Sarawak).

Holotype ♂, MALAYSIA: SARAWAK: Mt Dulit, 4000 ft [1200 m], moss forest, 26.X.1932 (B.M. Hobby & A.W. Morre, Oxford University Expedition, B.M. 1933-254) (BMNH).

Remarks. This species is distinctive in having a very wide vertex and gena. The male genitalia resemble those of *P. fijiana* in having a wide surstylus with long apical hairs.

Paradrino fijiana Shima, **new species** Fig. 6B, 7E, 8E, 9E

Closely resembling *P. laevicula* but differing as follows.

♂. Head white pollinose; parafrontal slightly grayish, about ⅘ as long as parafacial in profile (in *P. laevicula* at most ⅚); interfrontal area 1.6–1.7× as wide as parafrontal at middle; upper frontal setae slightly weaker than lower ones; 3rd antennal segment about 6× as long as 2nd, about 4.5× as long as wide; palpus about ⅔ as long as 3rd antennal segment; thorax including scutellum black in ground color, grayish white pollinose; abdomen bluish gray pollinose on anterior ⅓ of 3rd, ½ of 4th, and ⅔ of 5th terga; middorsal longitudinal vitta distinct on 3rd and 4th terga. *Genitalia.* Cerci short and stout, in dorsal view rather strongly widened to apex; surstylus short, distinctly narrowed posteriorly, apical ½ nearly triangular in form, with many

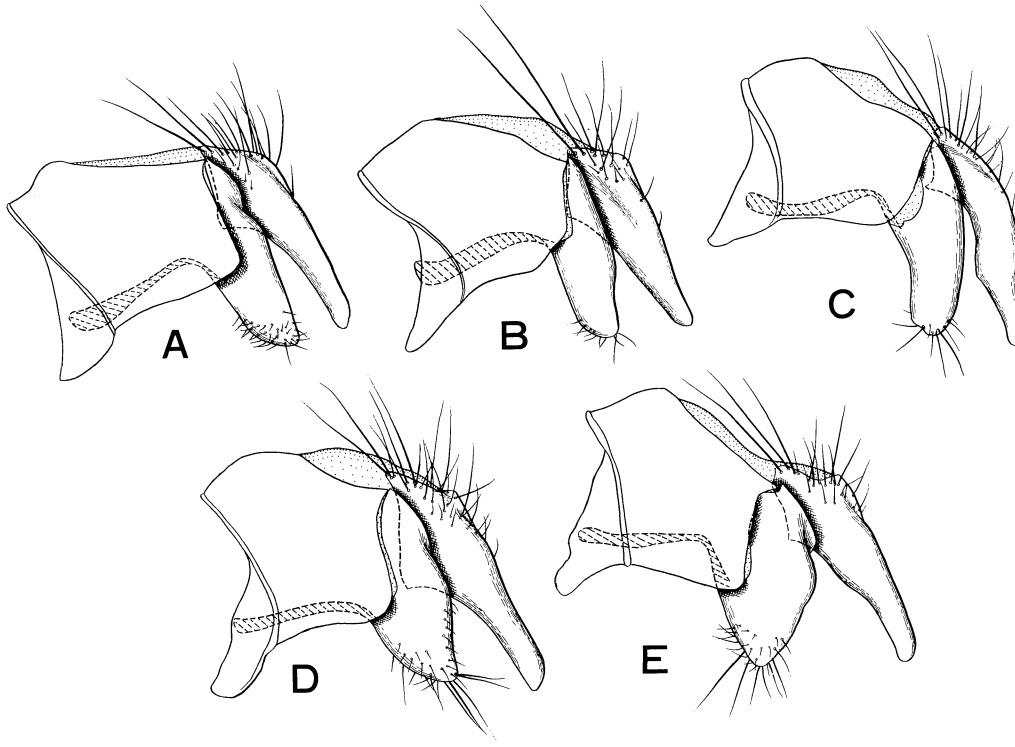

FIG. 8. Epandrium, cerci, and surstylus in lateral view: **A,** *longicornis*; **B,** *atrisetosa*; **C,** *assimilis*; **D,** *laxifrons*; **E,** *fijiana*.

long hairs on apical portion; postgonite shorter and wider than in *P. laevicula*; epiphallus short; apex of distiphallus not widened.

♀. Head whitish pollinose, upper parafrontal pale yellowish white pollinose; upper frontal setae slightly finer than lower setae; parafacial longer than in *P. laevicula* as in ♂; 3rd antennal segment about 5× as long as 2nd; palpus about ¾ as long as 3rd antennal segment; thorax entirely black in ground color, pollinosity on dorsum faintly tinged yellowish; abdomen whitish pollinose on dorsum of anterior ½ of 3rd and 4th terga and on ⅔ of 5th; middorsal portion of intermediate terga with erect and rather strong hairs. *Genitalia.* 6th tergum narrowly divided into 2 hemitergites; 6th sternum subequal in length to intersegmental membrane between 6th and 7th segments; 7th sternum about 1.3× as long as 6th sternum.

Body length, 6.9–7.0 mm; wing length, 5.9–6.2 mm.

Distribution. Fiji (Viti Levu).

Holotype ♂, FIJI: Viti Levu: Rakiraki, 0–200 m, 3.III.1978 (H. Shima) (BPBM 13,087). Paratype: 1♀, FIJI: Viti Levu: Mt Victoria, 1000 m, 4–6.III.1978 (H. Kurahashi) BLKU).

Remarks. In general facies this species very closely resembles *P. laevicula*, but may be distinguished from it by its blackish body with white pollinosity, longer 3rd an-

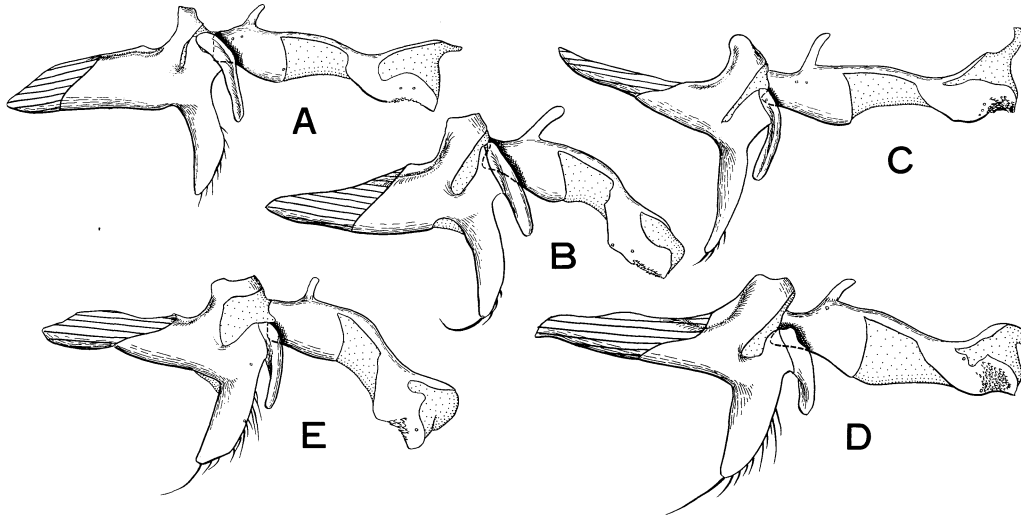

FIG. 9. Hypandrium, pre- and postgonites, and aedeagus in lateral view: **A,** *longicornis*; **B,** *atrisetosa*; **C,** *assimilis*; **D,** *laxifrons*; **E,** *fijiana*.

tennal segment, and longer parafacial. The male genitalia are similar to those of *P. laxifrons,* but the cerci are distinctly wider apically and the surstylus is much broader.

KEY TO JAPANESE AND INDO-AUSTRALASIAN SPECIES OF *Paradrino*

1. Third and 4th abdominal terga without median discal setae; 3rd antennal segment less than 7× as long as 2nd in ♂ 2
   Third and 4th abdominal terga each with 2 fine but distinct median discal setae; 3rd antennal segment 7.0–7.5× as long as 2nd in ♂, 5.5× in ♀ . . . . . **longicornis, n. sp.**
2. Upper occiput without black setulae behind postocular row; 2nd antennal segment brownish black 3
   Upper occiput with a row of fine black setulae behind postocular row; 2nd antennal segment reddish on apical ½; vertex rather wide, about 0.29 of head width; head dull yellowish pollinose . . . . . **atrisetosa, n. sp.**
3. Vertex narrow, at most 0.27 of head width in ♂, gena at most ¼ of eye height; head whitish or yellowish pollinose; lower calypter at most pale yellowish 4
   Vertex wide, about 0.31 of head width in ♂; gena wide, about 0.30 of eye height; head dull yellowish pollinose; lower calypter brownish . . . . . **laxifrons, n. sp.**
4. Third antennal segment 6–7× as long as 2nd in ♂, about 5× in ♀[3] 5
   Third antennal segment about 5× as long as 2nd in ♂, 3.5–4.0× in ♀ . . . . . **laevicula**
5. Third antennal segment 6.4–6.8× as long as 2nd in ♂; scutellum reddish yellow on apical portion; abdomen whitish yellow pollinose on anterior portion of each tergum (♂) . . . . . **assimilis, n. sp.**
   Third antennal segment at most 6× as long as 2nd in ♂, 5× in ♀; scutellum entirely black; abdomen bluish gray (♂) or whitish (♀) pollinose . . . . . **fijiana, n. sp.**

3. ♀ *assimilis* unknown.

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