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DESCRIPTIONS OF TWO NEW SPECIES OF HORSE FLIES FROM JAPAN (DIPTERA: TABANIDAE)

MAMORU WATANABE*

Department of Parasitology, Institute of Medical Science, University of Tokyo, Shiroganedai, Minato-ku, Tokyo

and HIROSI TAKAHASHI

Hayamiya 1-chome, Nerima-ku, Tokyo

The present article deals with two new Tabanid species, of which one belongs to the genus *Atylotus* and the other to *Tabanus*. The holotypes and paratypes are preserved in the collection of the Entomological Laboratory, Tokyo University of Agriculture.

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Atylotus sawadai n. sp.

A small, black and brown species. Frons usually without callus. Abdomen black with brown lateral markings on terga 1-2.

Female. Length 12-13 mm. Eyes ochreous with a narrow black band in dried specimens. Frons yellowish gray pollinose, with a vestigial median callus at times absent, and with a few black hairs on the lateral sides. Frons wide, parallel-sided, about two and a half times as high as basal width. Subcallus grayish black pollinose, its middle part somewhat tinged with brown. Face bicolored, covered with pollen, gray on upper and lateral sides, grayish brown on central and under parts. Face furnished with grayish brown hairs. Antennae pale brown, scape thickly covered with grayish yellow pollen. Scape and pedicel furnished with short black hairs. Basal portion of flagellum with an obtuse dorsal process furnished with a few short black hairs on its apex. Second palpal segment pale yellowish brown, rather stout at base, tapering to apex, furnished with rough short black hairs.

* Present address: Institute of Hygiene and Medical Microbiology of Toyama. Ote-machi 1-15, Toyama City, Toyama Pref.

Mesonotum including scutellum olive gray pollinose, without stripe, but the posterior part of mesonotum and scutellum darker than anterior half. Humeral callus and pre-alar callus concolorous with mesonotum. Pleura, sternum and fore coxae yellowish gray with long white hairs. Wing hyaline; veins blackish brown; vein R_4 without appendix. Halteres blackish brown with pale knob. Legs brown, basal 1/2 of middle femur and basal 3/4 of hind femur black, both segments covered with yellow pollen on its basal half; hairs black. Hind tibial fringe black.

Abdomen black, furnished with a pair of brown lateral markings on terga 1-2, a pair of yellow-haired sublateral markings on anterior part of each tergum 2 to 4, and a yellow-haired median triangle on each tergum 2 to 5 (sometimes indistinct by wear of the hair). Hind marginal bands of terga narrow but distinct, yellow-haired. Venter yellowish black pollinose.

Type series. Holotype (female) and 2 female paratypes, Sude, Amamioshima, Kagoshima Pref., April 17, 1968, coll. M. Watanabe; 10 female paratypes, Sokaru, Amamioshima, Kagoshima Pref., April 26, 1968, coll. M. Watanabe.

This species is quite similar to *A. angusticornis* Loew in the shape of the frons, but its dark brown halter, colouration of the abdomen and blackish femur serve to separate it from the latter. The specimens of this new species were mostly collected at the seaside.

Tabanus sasai n. sp.

A medium, olive gray species; abdomen with a distinct olive-gray stripe; frons broad with a bottle-shaped callus.

Female. Length 19 mm. Eyes bare, black in dried specimen. Frons olive-gray pollinose, occasionally has a look of black under a certain incidence of light; broad, about 3 and half times as high as basal width, broadest at middle, slightly narrowed at base and vertex; a Δ -shaped black marking appears near the top of median callus under a certain incidence of light. Basal callus large, ovate, brownish black, scarcely connected with subcallus. Median callus linear, combined with basal callus, forming together the shape of a bottle. Subcallus yellowish black pollinose. Face and genae slate-gray. Genae furnished with long white hairs. Antennae dark reddish brown, with black apical annulations. Scape and pedicel furnished with

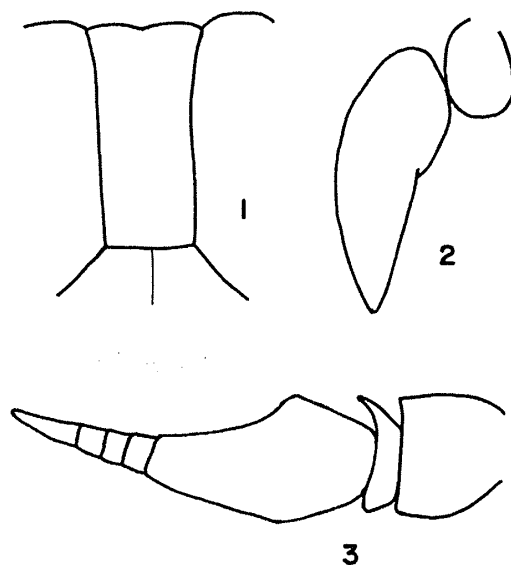


Fig. 1. *Atylotus sawadai* n. sp., ♀: 1, frons; 2, maxillary palpus; 3, antenna.

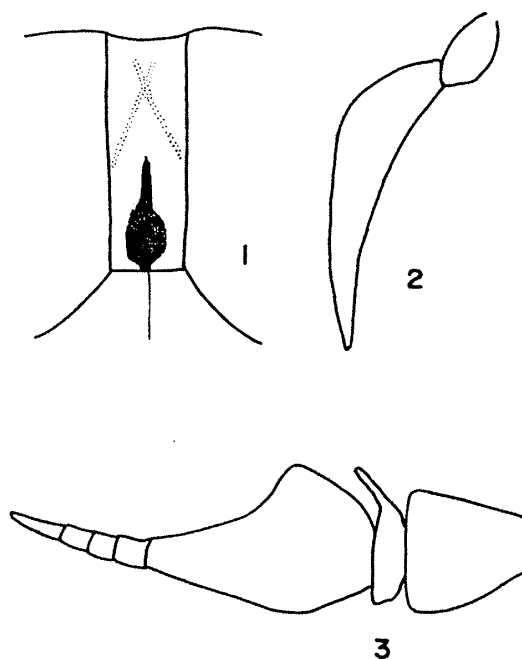


Fig. 2. *Tabanus sasai* n. sp., ♀: 1, frons; 2, maxillary palpus; 3, antenna.

thick black hairs. Basal portion of flagellum reddish brown at basal half, and black at apical half; dorsal process produced at middle of basal portion, distinct, but not pointed, furnished with a few short black hairs on its apex; annulated portion of flagellum slender and pointed, divided into four annulations. Second palpal segment slender, slightly curved, pale brown, furnished with short black hairs at its outer surface and with pale yellow hairs at inner surface.

Mesonotum including scutellum thickly covered with olive-yellow pollen and same coloured hairs, mixed with a few black hairs, bears 3 indistinctly yellow stripes on the anterior half. Humeral and prealar calli dirty yellow pollinose. Pleura, sternum and fore coxae thickly covered with pale dirty yellow pollen and furnished with a few long white

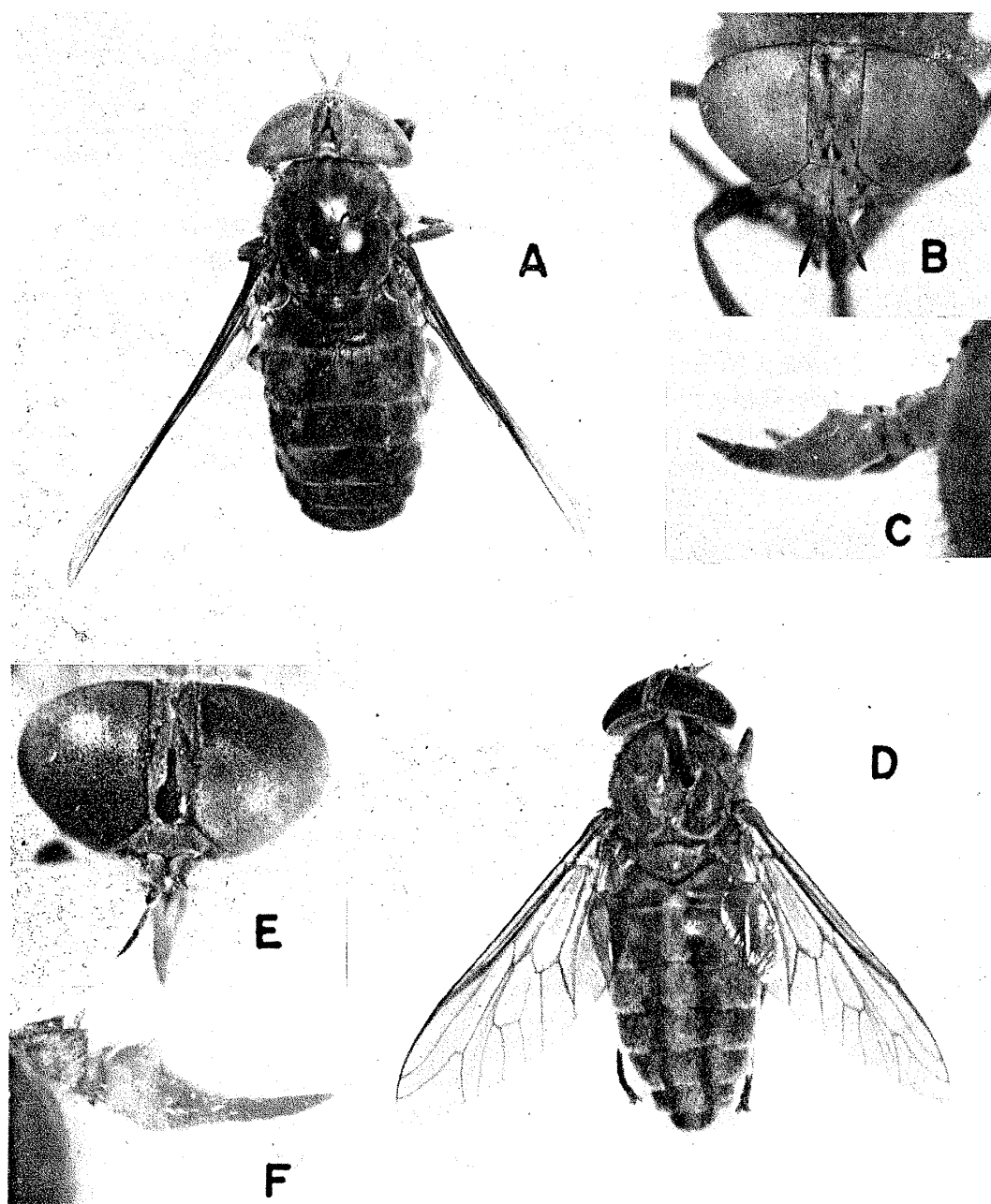


Fig. 3. *Atylotus sawadai* n. sp., ♀ (paratype): A, body; B, face; C, antenna. *Tabanus sasai* n. sp., ♀ (holotype): D, body; E, face; F, antenna.

hairs. Wing hyaline, veins pale brown, vein R_4 without appendix. Halteres pale brown. Legs entirely brown, densely covered with pale yellow hairs. Hind tibial fringe double, black, quite distinct. Tarsi entirely covered with black hairs.

Abdomen thickly covered with olive-yellow pollen and hairs, with a pair of submedian black stripes which are widened behind on the outer margin on the basal 4 terga but almost straight on the inner margin, demarcating a distinct broad olive-yellow median stripe. Venter entirely yellow black pollinose, pale yellow haired.

Type series. Holotype (female). Shionasu, Kojima, Kurashiki City, Okayama Pref., June 26, 1967, coll M. Watanabe (dry ice trap).

This species is quite different from the known Tabanid species from eastern Asia by its olive-gray body and distinct median stripe of the abdomen. It seems to be allied to *T. aurotestaceus* Walker, but the frons is far broader than in the latter.

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A NEW SPECIES OF THE COLPODES COMPLEX FROM THE RYUKYUS (COLEOPTERA, CARABIDAE)

AKINOBU HABU

Laboratory of Insect Identification and Taxonomy, National Institute of
Agricultural Sciences, Nishigahara, Kita-ku, Tokyo-114

Agonum (*Metacolpodes* ?) *ishigakiense* sp. nov. [Togebane-mori-hirata-gomimushi]

Description. Length 8.5~8.7 mm. Width 3.6 mm.

Black, shiny, elytra metallic blue; head somewhat reddish under spotlight, with a faint bluish tinge, labrum dark reddish brown, mandibles reddish brown, palpi blackish brown, partly not blackish but reddish, apical area of apical segment yellowish, antennae reddish brown, segment 1 except basal area, and subapical area of segments 2 to 4 dark to blackish (segment 2 of holotype hardly dark), segments 5 to 9 or 10 also somewhat dark at subapical area, pronotum with a bluish tinge more distinct than on head though less than on elytra, faintly brownish on lateral explanate areas at apical one-third to one-half, femora and tibiae black, femora slightly bluish, tarsi reddish brown, slightly dark in part; ventral side black, slightly reddish on head, pro- and mesothorax, faintly bluish on other parts.

Head weakly convex; dorsal side not punctate; microsculpture isodiametric, but very faint; neck-constriction distinct on lateral sides, shallowly extending onto dorsal side; temporae short, well oblique behind eyes, not tumid; posterior supraorbital setae a little separated from eyes, fully before level of posterior margin of eyes, interspace of anterior supraorbital setae only slightly narrower than interspace of posterior supraorbital setae; eyes fully large, well convex, ventral margin reaching buccal fissures; frontal impressions faint, extending onto clypeus; antennae extending beyond shoulders, segment 2 with a single seta at apex on ventral side, segment 4 one and one-seventh times as long as segment 3; apical segment of maxillary palpi a little longer than penultimate segment; tooth of mentum well pointed, simple.

Pronotum weakly convex, widest a little behind one-third, one and one-fourth times as wide as head, one and one-half times as wide as long (in holotype and paratype, width of pronotum/width of head=1.26, 1.24, width of pronotum/length of pronotum=1.51, 1.54,