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Description of a New Species of *Rivellia* (Diptera, Platystomatidae) from Japan

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Abstract *Rivellia itoi* n. sp. is described from Honshu, Japan, and the male and female terminalia are illustrated.

Key words: *Rivellia*; Platystomatidae; new species; Japan.

Up to the present, the following six species of *Rivellia* ROBINEAU-DESVOIDY have been recorded from Japan: *alini* ENDERLEIN (FREY, 1964), *apicalis* HENDEL (KOIZUMI, 1957), *asiatica* HENNIG (FREY, 1964), *basilaris* (WIEDEMANN) (COQUILLET, 1898), *cladis* HENDEL (HENDEL, 1914), and *yaeyamaensis* HARA (HARA, 1989). In this paper, I describe an additional new species of the genus from Japan.

The terminology here used is that of McALPINE (1981).

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Rivellia itoi n. sp.

(Figs. 1–19)

Description (male and female). Body blackish brown, without colored metallic reflections. Legs blackish brown; all tarsi tawny, darkened apically. Wing hyaline, with dark brown marking (Fig. 3); c hyaline except at basal fourth; transverse band over apex of Sc widely separated from longitudinal stripe on basal part of br, and extending into br posteriorly; transverse band over r-m extending near or to CuA₁ posteriorly, at level of R₄₊₅ slightly wider than length of r-m, and distinctly approaching to transverse band over dm-cu posteriorly; apical band extending from apical fifth of fifth section of C to apex of M. Calypteres white. Halter yellow, darkened basally. Abdomen with first+second syntergite brownish laterally. Hairs on body dark to blackish brown.

Head (Fig. 1). Head capsule 0.71–0.76 times as long as high. Gena 0.16 times as high as head capsule. Occiput in profile deeply concave on upper part. Inner vertical bristle about 2/3 as long as outer vertical one. Front-orbital bristles

subequal in size. Antenna (Fig. 2): First flagellomere 2.2–2.6 times as long as thick, with dorsal margin almost straight in lateral view. Clypeus not pruinulent, 0.22–0.24 times as high as head capsule.

Thorax. Postpronotal bristle strong. Posterior dorsocentral bristle distinct. Scutum with a distinct bristle located anterolaterally to posterior dorsocentral bristle. Wing (Fig. 3) 3.5–3.6 mm in length; fifth and sixth sections of C in proportion of 1.6–1.8: 1.0; second and third sections of M in proportion of 1.0: 0.48–0.57; ultimate section of M and dm-cu in proportion of 2.2–2.6: 1.0.

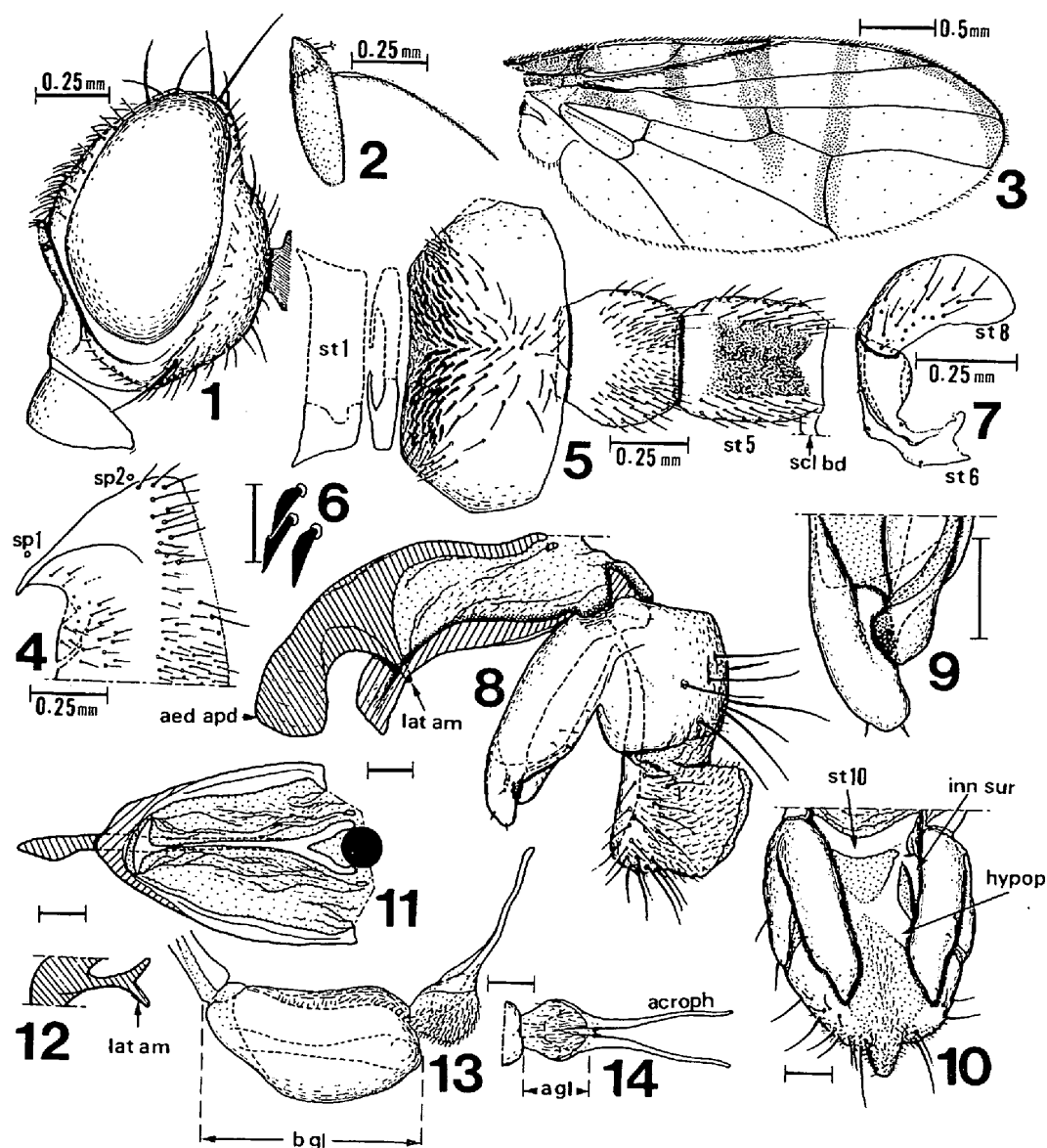
Male abdomen and terminalia. First to fifth tergites with sparse rugulae, not pruinulent, with hairs all over (Fig. 4); ratio of lengths of third to fifth as 1.0: 1.0: 1.2. First to fifth sternites (Figs. 5–6): First and second distinctly shortened; third very large, occupying the opposite area to posterior half of first+second syntergite and third tergite together; third spinulose anteromedially; fifth with dense microscopic hairs medially. Tergite and sternite of fifth segment connected with each other at their posterolateral corners by weakly sclerotized transverse bands. Sixth sternite somewhat broadened at right (Fig. 7). Epandrium longer than cercus (Fig. 8). Apical projection of outer surstylus stout (Figs. 8–9). Inner surstylus fused basally with tenth sternite and hypoproct (Fig. 10). Hypandrium without lateral sclerites (Fig. 11). Lateral arms of aedeagal apodeme fused with each other except at apices (Fig. 12). Glans (Figs. 13–14): Apical part on outside mostly membranous, with fine pubescence ventrally; acrophallus about 2/3 as long as basal sclerotized part of glans, narrowing apically. Hypoprocts fused with each other anteriorly (Fig. 10).

Female abdomen and terminalia. First to fifth tergites as in male, but differing as follows, apart from usual sexual differences: Posterolateral part of first+second syntergite and lateral part of fifth tergite without distinct hairs but with sparse microscopic hairs (Fig. 15); ratio of lengths of third to fifth tergites as 0.81–0.86: 1.0: 0.57–0.63. First to fifth sternites (Fig. 16) each wider than long; third widest; fifth with lateral margins somewhat converging posteriorly. Fifth spiracle situated near median line on dorsal side of abdomen (Fig. 17). Spermatheca small (about 50 μ m in thickness), hemispherical or subconical (Fig. 18). Spermathecal duct not thickened basally (Fig. 19).

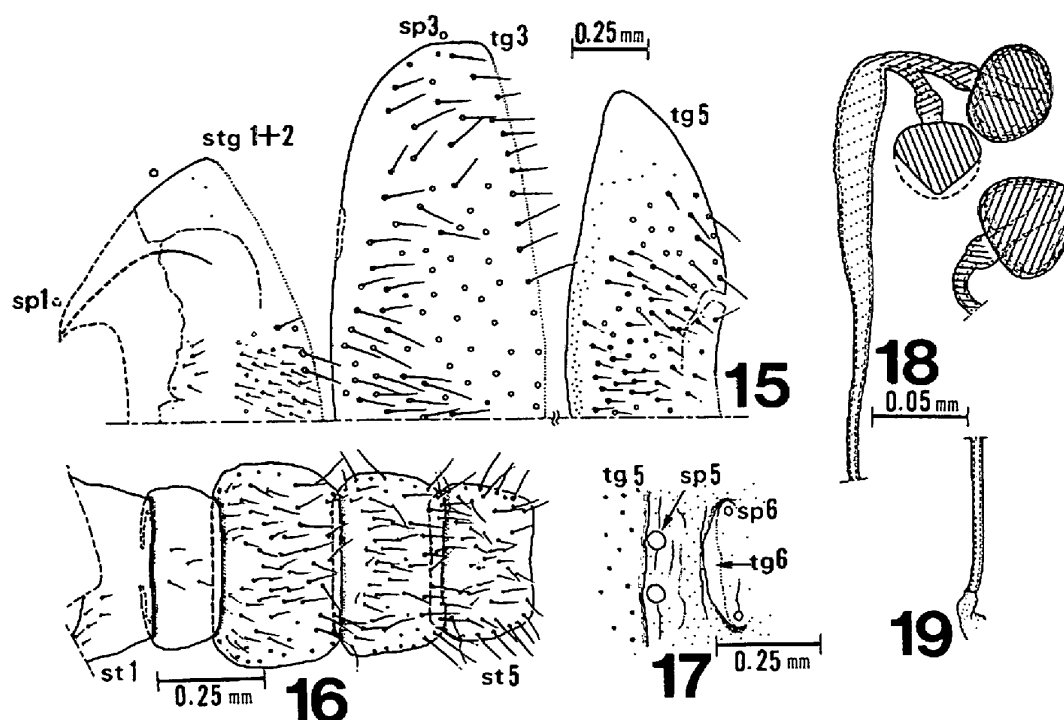
Distribution. Japan (Honshu).

Material examined. Holotype: ♂ labelled “JAPONIA, HONSHU I.” and “ISE [=Mie Pref.], Osugidani, 13. vi. 1952, Syusiro Ito”. Paratypes: 1 ♀, same data as holotype; 1 ♀, same data as holotype, but date, 9. vi. 1952. The types are deposited in the Entomological Laboratory, University of Osaka Prefecture, Sakai.

Remarks. *Rivellia itoi* n. sp. resembles *R. basilaroides* HENDEL from China, *R. frugalis* COQUILLET from Ceylon, *R. sumbawana* HENNIG from Indonesia, and *R. yaeyamaensis* HARA from the Ryukyus, Japan, in the blackish brown body, the blackish brown legs (but tarsi tawny basally), and the following features of wing marking: Mark over apex of Sc widely separated from mark on basal part of br;



Figs. 1–14. *Rivellia itoi* n. sp., male, holotype. — 1, Head in lateral view; 2, left antenna in inside view; 3, right wing; 4, first + second syntergite of abdomen; 5, first to fifth abdominal sternites; 6, spines of third abdominal sternite; 7, sixth to eighth abdominal sternites; 8, terminalia in lateral view (aedeagus omitted); 9, right surstylus in inside view; 10, posterior part of terminalia in anterior view; 11, hypandrium in ventral view; 12, lateral arms of aedeagal apodeme in anterolateral view; 13, glans in lateral view; 14, apical part of glans in ventral view. All scales refer to 0.05 mm unless otherwise indicated. Abbreviations: a gl—apical part of glans; acroph—acrophallus; aed apd—adeagal apodeme; b gl—basal part of glans; hypop—hypoproct; inn sur—inner surstylus; lat am—lateral arm of aedeagal apodeme; scl bd—weakly sclerotized transverse band extending between posterolateral corners of tergite and sternite of fifth segment; sp—spiracle; st—sternite.



Figs. 15–19. Female abdomen of *Rivellia itoi* n. sp. — 15, First to third and fifth tergites; 16, first to fifth sternites; 17, fifth and sixth spiracles; 18, spermathecae; 19, basal part of spermathecal duct. Abbreviations: sp—spiracle; st—sternite; stg—syntergite; tg—tergite.

transverse bands over crossveins r-m and dm-cu well developed respectively, and separated from each other; and cell c mostly hyaline. Several undescribed Asian species which I have examined also possess these features. *Rivellia itoi* is, however, distinguished from them by the combination of the following characters: Body without colored metallic reflections; clypeus not pruinose; a stripe present on the basal half of cell br; transverse band over apex of vein Sc extending posteriorly near or to vein M; transverse band over crossvein r-m not extending posteriorly beyond vein CuA₁; mark on r₂₊₃ fused with transverse band on wing apex to form a long apical band; halter yellow; third abdominal sternite of male very large, spinulose anteromedially; in female, posterolateral part of first+second syntergite and lateral part of fifth tergite without distinct hairs.

This species is named in honor of Professor Emeritus S. Ito, University of Osaka Prefecture.

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