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A new species of *Thevenetimyia* Bigot (Diptera: Bombyliidae) from Japan

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Cover image: *Thevenetimyia japonica* Evenhuis & Ichige, sp. nov. on flowers of *Malus toringo* (Siebold) (Rosaceae). Photo: K. Ichige.

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A new species of *Thevenetimyia* Bigot from Japan (Diptera: Bombyliidae)[1]

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The genus *Thevenetimyia* Bigot was revised by Hall (1969) who treated all the species known to him at the time. The distribution of the genus at the time (predominantly North American with two Mediterranean species and five from Australia) led him to create two keys to species: Australian and Holarctic. Since then, single new species have been described from Turkey (Hasbenli 2005), Iran (Dils 2009), and Madagascar (Maass *et al.* 2016). First recorded by Ichige (2012, 2014), this paper formally names and describes another new species, *Thevenetimyia japonica*, **sp. nov**. representing the only species of the genus in Japan. The genus is now known from 41 species worldwide.

Materials and Methods

In addition to the specimens collected from Japan, specimens were examined in the Bombyliidae collection of the U.S. National Museum of Natural History (currently housed at the Bishop Museum, Honolulu) and specimens collected by the senior author in the Bishop Museum. The holotype is deposited in OSAKA. Abbreviations for collections (following Evenhuis 2017): BPBM = Bishop Museum, Honolulu, Hawaii, USA; OSAKA = Osaka Museum of Natural History, Osaka, Japan; USNM = United States National Museum, Washington, D.C.). Morphological terminology follows Maass *et al*. (2016).

Taxonomy

Genus ***Thevenetimyia*** Bigot, 1875

Thevenemyia Bigot, 1875: 196. Type species: *Thevenemyia californica* Bigot, 1875, by monotypy.
Thevenetimyia Bigot, 1892: 325 (emendation).

Thevenetimyia japonica Evenhuis & Ichige, **sp. nov**.

(Japanese name: Shirogane-Hoso-Tsuriabu)
(Figs. 1–5)

Types. *Holotype* ♂ and 7 *paratype* ♂♂ from: JAPAN: Tochigi Prefecture, Nikko C., Lake Chuzenji [中禅寺湖], 36.747°N, 139.470°E, 1280 m, 31 May 2017, K. Ichige (OSAKA). *Other paratypes*: JAPAN: Tochigi Prefecture, Nikko C., 1♂, Lake Chuzenji [中禅寺湖], 36.747°N, 139.470°E, 1280 m, 6 Jun 2017, K. Ichige; Tochigi Prefecture: 2♂♂, 1♀, Lake Yunoko [**湯ノ湖**], 36.803°N,

1. Contribution No. 2017-005 to the Pacific Biological Survey.

Figures 1–2. *Thevenetimyia japonica*, dorsal habitus. **1**. Female; **2**. Male.

139.426°E, 1480 m, 29 May 2016, K. Ichige; 1♂, 1♀, same data except 17 Jun 2013; Tochigi Prefecture, Nikko C., 1♀, San'nou-touge [山王峠], 36.816°N, 139.453°E, 1650 m, 24 Jun 2012, K. Ichige. Holotype in OSAKA. Paratypes in BPBM, USNM, and the junior author's collection.

Diagnosis: *Thevenetimyia japonica* is closest in appearance to *T. furvicostata* (Roberts) from Queensland, Australia, but can be easily separated from it by the all black hairs on the occiput in the male (white in *T. furvicostata*), the less sinuous curvature of vein R_4 (sinuous in *T. furvicostata*), the sinuous m-cu closing cell dm (L-shaped in *T. furvicostata*), and the placement of the r-m crossvein at or before the middle of cell dm (r-m crossvein beyond the middle in *T. furvicostata*).

Description

Male. Lengths: Body: 6.5–11.0 mm; wing: 5.5–9.0 mm. *Head:* Black; ocellar tubercle tear-drop shaped, with long black setae. Eyes holoptic. Occiput with long black hairs curved forward apically; mentum with long black hairs adjacent to oral margin, dense long white hairs elsewhere. Antennae black, length subequal to length of head, dusted with gray pollinosity; pollinosity densest on scape and pedicel, diffuse on flagellum. Scape long, cylindrical, length 4 times pedicel, with black setae dorsally and ventrally; pedicel short, cylindrical, slightly wider than scape, short black setae; flagellum bare, 3.5 length of pedicel, lanceolate; style in minute subapical indentation on mesal surface of flagellum. Frons small, triangular, bare; face gray pollinose laterally adjacent to frons, shiny black elsewhere, with long black hairs surrounding oral margin. Clypeus swollen, with black hairs. Palpus two-segmented, half length of proboscis, with sparse gray pollinosity and short black setae. Proboscis black, about two times as long as head; labrum two-thirds length of proboscis.

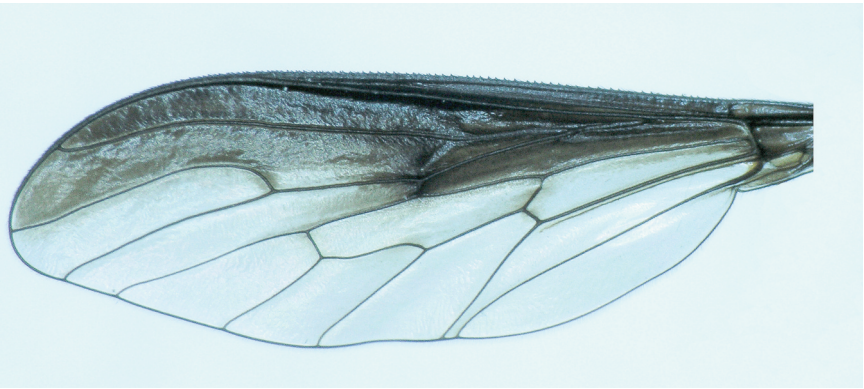

Figure 3. *Thevenetimyia japonica* wing, male.

Thorax: (Figs. 2): Mesonotum and scutellum subshining, with sparse long white hairs dorsally; mesonotum sparsely muricate, minute spines along dorsocentral line, small patches above notopleural area and on post alar callus. Pleura gray, gray pollinose; anepisternum densely covered with long black setae. Anepimeron with admixed long black and white hairs, katepisternum and propleuron with long white setae. Prealar area with three prominent black macrochaetae. Halter stem brown, knob dark brown.

Wing (Fig. 3): hyaline with infuscation in anterior portion; costa denticulate; smoky dark brown to black infuscation filling cells in most of radial field from base of wing to R_4 and just beyond crossvein r-m, small hyaline area just proximal to junction of R_4,, indentation from r-m crossvein to R_{2+3} darkened, making it appear like a crossvein; vein R_4 L-shaped, slightly curved upward at wing margin; crossvein r-m slightly beyond middle of cell dm; crossvein m-cu closing cell dm slightly sinuous; anal cell slightly narrower than anal lobe, narrowly open in wing margin; alula extremely reduced, smoky brown, calypter with dense white setae.

Legs: Coxae dull black with gray pollinosity, with long white hairs. Remainder of legs black, with sparse gray pollinosity and black bristles; apex of tibia with paired thick apical bristles (not true tibial spurs); pulvilli well developed, ellipsoid, almost equal to length of claws.

Abdomen (Fig. 2): Long, slender, cylindrical, subshining black; tergite I with dense yellow-white hairs anterolaterally, black hairs posterolaterally; tergites II–VII with sparse long white hairs; sparse white tomentum on posterior portions of tergites. Sternites brown with white hair.

Male genitalia (Fig. 4): Gonocoxites gray pollinose on basal two-thirds, shiny black on apical one-third, fused, but deeply incised basally and apically, subconical, with long medial process mesoapically; gonostylus length 2.5 times greatest width, blunt, slightly tapering to tip, with numerous microtubercles dorsoapically; epandrium very broad in dorsal view, concolorous with subshining abdominal tergites, with tuft of long thick black hairs at posterolateral angle; cercus very large, subellipsoidal, brown; epiphallus with ventral process almost as long as aedeagal sheath, subtriangular in dorsal view; aedeagal apodeme almost transparent, not melanized, subcircular in shape, with very small lateral rami subbasally.

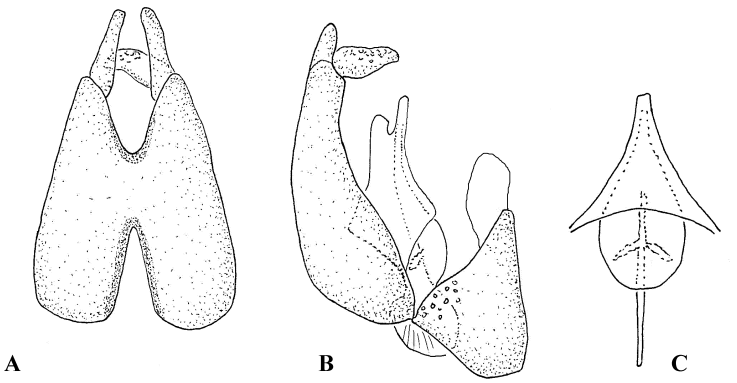

Figure 4. *Thevenetimyia japonica*, male genitalia. **A**. Gonocoxites, ventral view. **B** Genitalia, lateral view. **C**. Epiphallus, dorsal view.

Female (Fig. 1): Lengths: Body: 6.0–6.5 mm; wing: 5.5–6.0 mm. As in male except for following: Eyes dichoptic, separated at vertex by 2.5 times width of ocellar tubercle; frons matte black, gray pollinose above antennae, with sparse long black hairs mesal to eye margin; occiput with white hairs above and along margin of occipital foramen, black hairs elsewhere with sparse white hairs admixed, sparse white tomentum along posterior eye margin; mentum all white pilose. Mesonotum not muricate, mesonotum and scutellum with white tomentum and white hairs; tomentum densest an anterior portion of mesonotum, postalar area, prescutellar area, and posterior margin of scutellum; pleura gray, all white pilose. Wing infuscation not as dark or extensive as in male. Legs much denser white pilose and tomentose. Abdominal tergite I all white pilose; tergites II–VII with white tomentose bands along posterior margins of segments, densest on tergites V–VII; tergites VI–VII with dense black hairs laterally; abdomen appears flared and clubbed apically due to these dense black hairs; tergite VII with strong black bristles along apical margin; sand chamber (viewed ventrally) with bright golden hairs; tergite VIII dorsally with row of 4–5 paired flattened thick dark brown bristles apically (not acanthophorite spines); acanthophorites with row of 9–10 paired acanthophorite spines dark brown, curved apically. Female genitalia not dissected.

Remarks. The discovery of *Thevenetimyia* in Japan is extremely interesting from a zoogeographical standpoint. The genus is extremely disjunct, having been described from North America, Australia, Iran, Greece, North Africa, and Madagascar. It is possible that further collecting may find other species, possibly in eastern Russia, China, Korea, and the Middle East.

Fig. 5. *Thevenetimyia japonica* on flowers of *Malus toringo* (Siebold) (Rosaceae).

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