

**UNDESCRIBED SPECIES OF JAPANESE TIPULIDAE
(DIPTERA). PART II**

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UNDESCRIBED SPECIES OF JAPANESE TIPULIDAE (DIPTERA). PART II *

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The initial part under this general title was published in the Transactions of the Shikoku Entomological Society, Vol. 6, Pars 1, September 1958. At this time I am discussing further materials that were taken in Honshu by Dr. Kintaro Baba, with fewer species from Honshu collected by Toshio Mishima and others from Shikoku and Kyushu by Syuti Issiki and Syusiro Ito in 1950, 1951 and 1952. I express my sincere thanks to all of the above for these interesting species of crane flies.

Macgregoromyia babana sp. nov.

Size relatively large (wing over 13 mm); mesonotum and pleura gray, praescutum with three dark brown stripes; antennae with scape and pedicel light yellow, flagellum black; legs very long; wings with a brownish tinge, stigma darker brown, oval; male hypopygium with the inner dististyle generally semioval in outline, the outer margin with a low glabrous flange that anteriorly terminates in a small blackened spine; aedeagus at base very strongly bent, terminating in a slender black spine.

♂.- Length about 10-11 mm; wing 13.5-14.5 mm; antenna about 3.8-4 mm.

♀.- Length about 14 mm; wing 14 mm.

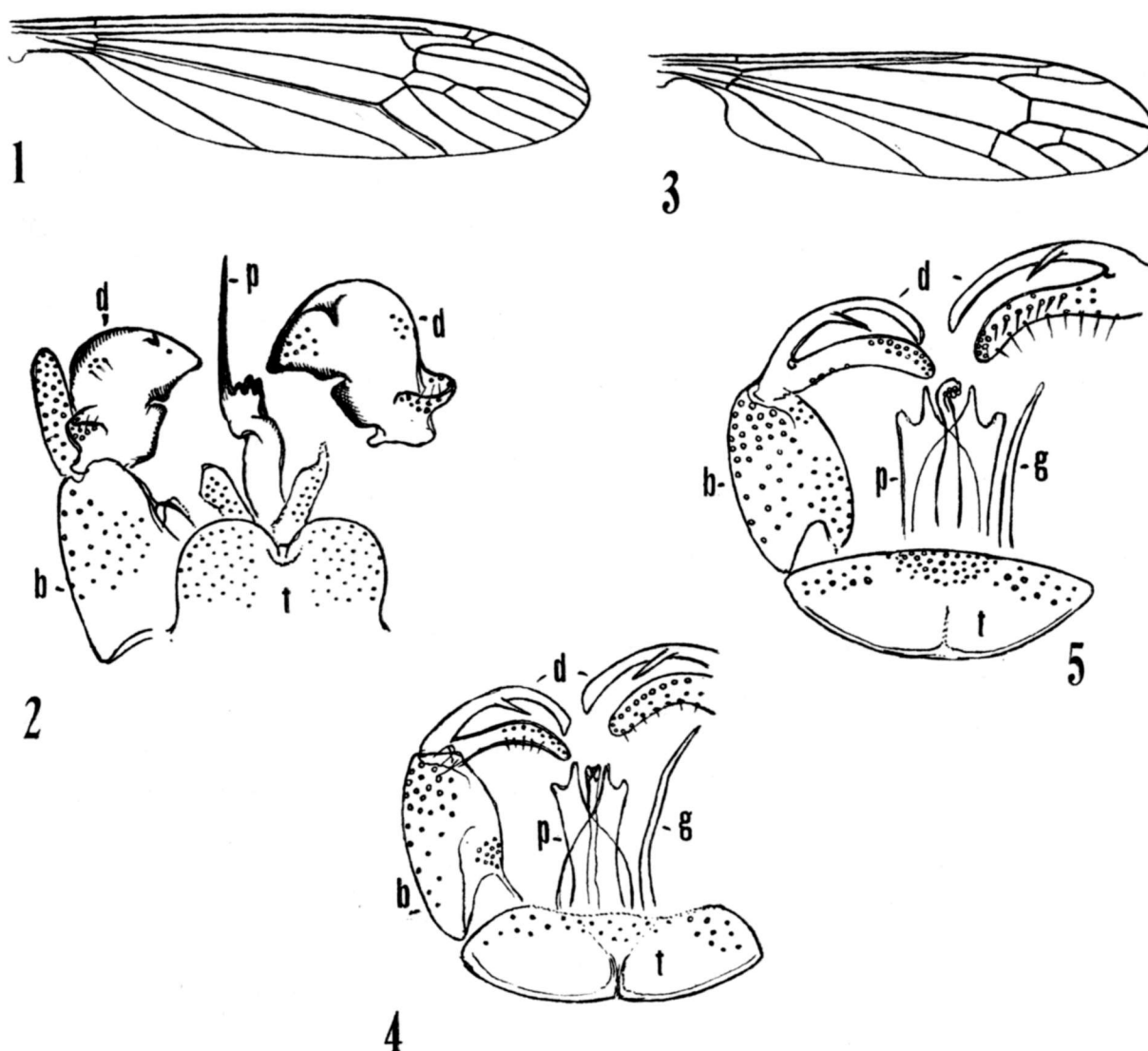
Frontal prolongation of head testaceous yellow above, including the elongate nasus, darker on sides and beneath; palpi dark brown. Antennae with scape and pedicel light yellow, flagellum black; antenna of moderate length, nearly one-third the wing; flagellar segments with basal enlargements small, verticils very short. Head light gray, posterior vertex darker, brownish gray; anterior vertex broad.

Pronotum light gray, more infuscated medially. Mesonotal praescutum gray with three dark brown stripes that are best indicated by slightly darker margins, the interspaces likewise infuscated so the entire disk appears brown; pseudosutural foveae small, subcircular, black; scutal lobes dark brown, the central area, with the scutellum and postnotum light gray. Pleura clear light gray; dorsopleural membrane yellow.

* Contribution from the Entomological Laboratory, University of Massachusetts.

Halteres elongate, stem yellow, knob infuscated. Legs with coxae light gray, fore pair slightly more infuscated basally; trochanters yellow; remainder of legs very long and slender, brown, tips of femora narrowly more blackened; claws of male small, simple. Wings (Fig. 1) with a brownish tinge, cells *C* and *Sc* slightly darker; stigma oval, dark brown; a small brown cloud over anterior cord; veins brown. Venation: *Rs* short, subequal to *r-m*, the latter at or just before fork of *Rs*; cell *M*₁ deep, its petiole in cases four times as long as *m*.

Abdominal tergites chiefly brown, lateral borders paler; segment two patterned with darker brown centrally and as a crossband at near midlength, sides obscure yellow; outer segments, including hypopygium, more uniformly darkened. Male hypopygium (Fig. 2) small but massive. Ninth tergite, *t*, transverse, posterior border with two low very obtuse to subtruncate lobes that are separated by a narrow emargination; two darkened membranous flaps on ventral surface. Outer dististyle, *d*, short



Figs. 1-5. 1 and 3, Venation; 2, 4 and 5, Male hypopygium.

1-2, *Macgregoromyia babana* sp. nov.; 3-4, *Antocha* (*Antocha*) *subdentifera* sp. nov.; 5, *Antocha* (*Antocha*) *dentifera* Alexander.

b, basistyle; *d*, dististyle; *g*, gonapophrophysis; *p*, phallosome; *t*, ninth tergite.

and stout, apex obtuse; inner style roughly semioval in outline, both the beak and lower beak very short, blackened, outer margin with a low darkened glabrous flange, the anterior end of which is produced into a short black spine; at base of style on outer margin with a collarlike flange provided with numerous coarse setae. Phallosome, *p*, dilated at base, bent strongly dorsad and finally caudad, terminating in a slender straight blackened spine.

Holotype, ♂, Kurokawa, Echigo, Honshu, July 8, 1954 (Baba). Allotopotype, ♀, pinned with type. Paratopotypes, ♂ ♀, July 8-13, 1954.

This interesting species is named for Dr. Kintaro Baba to whom I am indebted for many Japanese Tipulidae and who has greatly increased our knowledge of the crane flies of Honshu. The fly is quite distinct from the three other regional members of the genus, being most similar to *Macgregoromyia itoi* Alexander and *M. shikokuana* Alexander, differing evidently in the distinctive structure of the male hypopygium.

Tipula (Pterelachisus) seticellula glabricellula subsp. nov.

♂.— Length about 16.5-17 mm; wing 16.5-18.5 mm; antenna about 4.4-4.7 mm.

Generally similar to typical *seticellula* Alexander, differing most evidently in the great reduction to total loss of macrotrichia in the wing cells. In the holotype these trichia are lacking. Correlated characters in the male hypopygium are found in the inner dististyle, particularly the outer basal lobe which appears as a broadly flattened blade that forms a scooplike structure, its apex slightly produced. In typical *seticellula* this lobe is a simple flattened blade, elongate-oval in outline, tip narrowly obtuse, the surface with scattered trichia.

Holotype, ♂, Inadake, Kyushu, 600 meters, May 16, 1952 (Issiki-Ito). Paratype, ♂, Sugeoi, Shikoku, June 4, 1950 (Issiki-Ito).

A specimen from Mount Tsurugi, Awa, Shikoku, taken June 5, 1950 by Issiki and Ito has a few trichia in the outer wing cells, almost all in cell *R*₃.

Antocha (Antocha) subdentifera sp. nov.

Close to *dentifera* (wing of male 4 mm or less); general coloration gray, praescutum with three broad dark brown stripes; rostrum yellow; antennae short; male hypopygium with tergite narrowly transverse, setae relatively sparse, including those of the central third; gonapophysis slender, the apical point long-extended, tip acute.

♂.— Length about 3.2-3.5 mm; wing 3.5-4 mm; antenna about 0.5-0.6 mm.

Rostrum yellow, palpi brown. Antennae dark brown throughout, short; flagellar segments oval, the terminal one slightly longer than the penultimate. Head brownish gray.

Praescutum chiefly dark brown, lateral borders gray, disk with three dark brown stripes that are confluent or virtually so, posterior sclerites chiefly dark brown. Pleura dark brown. Halteres with stem pale, the large knob dark brown. Legs with coxae and trochanters testaceous, fore coxae more darkened; remainder of legs pale brown, outer tarsal segments slightly darker; claw of male with a single long subbasal

spine. Wings (Fig. 3) grayish subhyaline, prearcular field whitened; veins pale brown. Macrotrichia of outer veins sparse and scattered, including a series on outer half of each of R_{4+5} and M_{1+2} . Venation: R_2 very faint to virtually atrophied; $m-cu$ before fork of M , in cases to about one-third its length.

Abdomen brown, subterminal segments darker brown to form a broad ring. Male hypopygium (Fig. 4) much as in *dentifera* in the conspicuous spine of the outer dististyle, differing in various details. Ninth tergite, t , narrowly transverse, posterior border generally truncate but membranous and the outline difficult to determine; cephalic margin less convex than in *dentifera*; setae of disk relatively sparse and scattered, including the central area. Outer dististyle, d , with the lateral spine shortly beyond midlength. Gonapophysis, g , slender, apical points long-extended, tips acute.

In *dentifera* (Fig. 5) cephalic border of ninth tergite, t , more convex; setae of disk more numerous, especially a concentrated group on central third. Outer dististyle, d , with spine at or just before midlength. Gonapophysis, g , with extreme tip pale, less produced.

Holotype, ♂, Kurokawa, Echigo, Honshu, September 20, 1954 (Baba). Paratopotype, ♂, August 18, 1954.

This very small member of the genus undoubtedly is close to the larger *Antocha* (*Antocha*) *dentifera* Alexander, differing especially in the size and in details of hypopygical structure, particularly the tergite and gonapophyses.

Orimarga (*Orimarga*) *setilobata* sp. nov.

Size medium (wing of male about 6.5 mm); general coloration of head and thorax gray; rostrum, palpi and antennae black; halteres pale yellow; legs brown; wings subhyaline, prearcular and costal fields slightly more yellowed, $m-cu$ lying unusually far basad, its course if projected crossing R_s at near the basal third; male hypopygium with a conspicuous setiferous lobe on mesal face of basistyle near proximal end; inner dististyle stout, with conspicuous setae.

♂. — Length about 6 mm; wing 6.3–6.5 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments oval, longer than their verticils. Head gray.

Thorax gray, praescutum with indications of intermediate slightly darker stripes. Halteres pale yellow. Legs with coxae and trochanters reddish yellow; remainder of legs brown, in cases the femoral tips slightly darker. Wings (Fig. 7) subhyaline, the prearcular and costal fields a trifle more yellowed; veins pale brown, more yellowed in the brightened areas. Venation: Sc_1 ending nearly opposite fork of R_s , Sc_2 a short distance removed; R_{1+2} about twice R_2 ; cell M_3 moderately deep; M_{2+3} shorter than M_4 ; $m-cu$ unusually far basad, if projected crossing R_s at near the basal third.

Abdomen dark brown. Male hypopygium (Fig. 10) with central region of tergite, t , with two small oval setiferous areas at the midline. Basistyle, b , broadly expanded mesally on proximal half and here with brushes of dense black setae. Outer dististyle, d , long and slender, narrowed gradually to the acute tip; inner style fused at base with outer, nearly as long and much stouter, distal half with conspicuous black setae,

fewer on proximal part. Armature of phallosome, *p*, including three pairs or sets of blades or spines, about as figured.

Holotype, ♂, Kurokawa, Echigo, Honshu, June 28, 1954 (Baba). Paratopotype, ♂.

Although it is similar in its general appearance to other regional members of the genus the present fly is well distinguished by the basal position of *m-cu* and especially in the very distinct male hypopygium, particularly the vestiture of the basistyle and inner dististyle. The most similar such species include *Orimarga* (*Orimarga*) *pruinosa* Alexander and *O. (O.) yakushimana* Alexander.

Orimarga (Orimarga) stenotes sp. nov.

Size small (wing of male about 5.5 mm); general coloration of thorax dark gray; wings unusually long and narrow, macrotricha of veins sparse, *Sc* relatively short, *Sc*₁ ending about opposite two-thirds *Rs*, basal deflection of *R*₄₊₅ very short, less than *M*₃₊₄, *m-cu* far basad, about opposite one-third *Rs*, cell 2nd *A* narrow; male hypopygium with basistyle short and stout, unmodified; dististyles long and slender, especially the outer; phallosome unusually simple, inner apophyses short, tips pale and membranous.

♂. — Length about 6–6.3 mm; wing 5.3–5.6 mm.

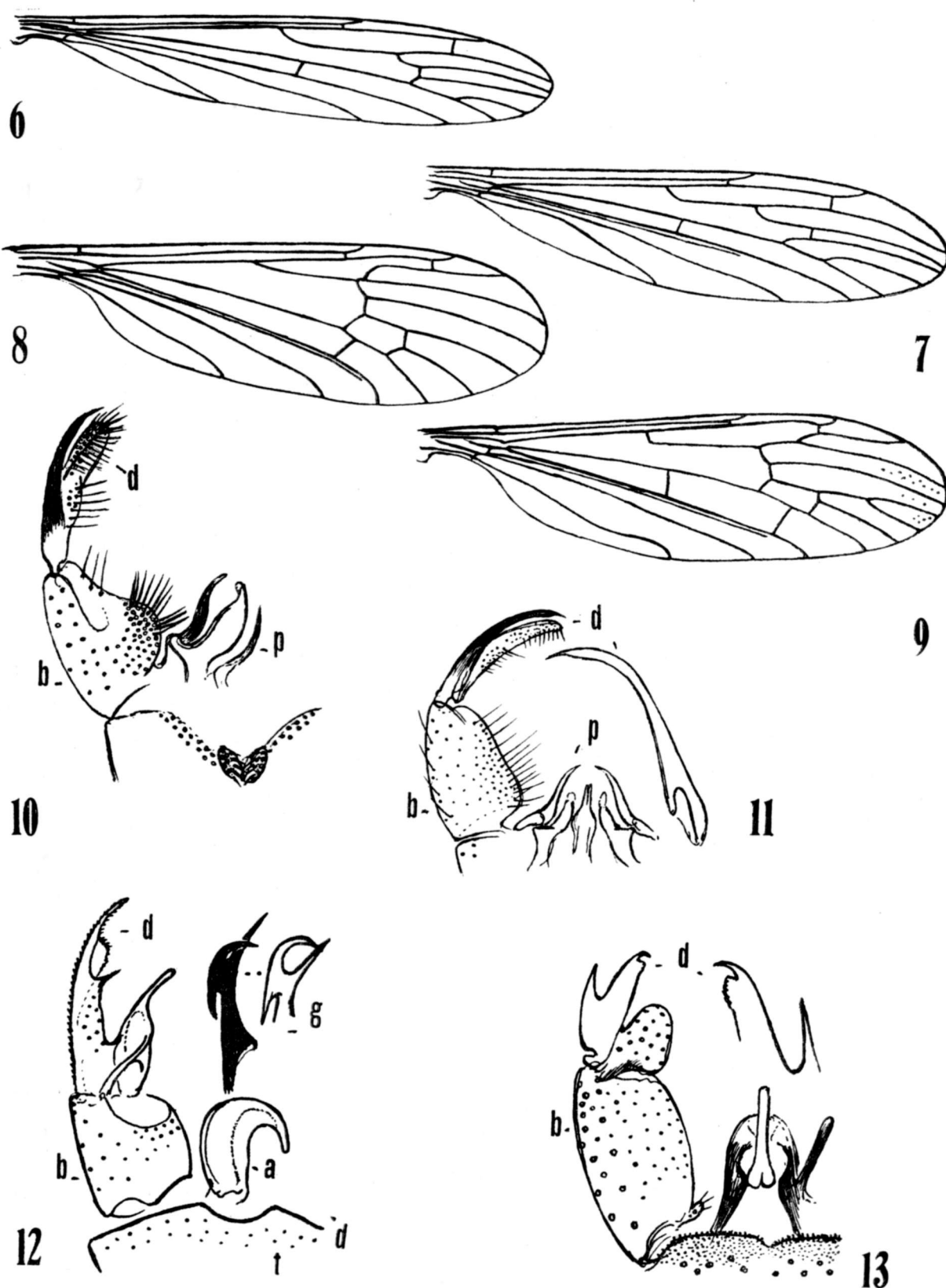
Rostrum, palpi and antennae black; flagellar segments oval. Head dark gray.

Thoracic dorsum dark gray, posterior sclerites slightly paler, praescutum with indications of a still darker central stripe. Pleura lighter gray. Halteres pale yellow. Legs with coxae and trochanters testaceous yellow; remainder of legs yellowish brown to pale brown, outer tarsal segments brownish black. Wings (Fig. 6) unusually long and narrow; coloration faintly grayish, prearcular and costal fields more yellowed; veins pale brown, yellowed in the brightened fields. Macrotrichia of veins sparse, restricted to a very limited number at ends of veins *R*₃ to *M*₃ inclusive. Venation: *Sc* relatively short, *Sc*₁ ending about opposite two-thirds *Rs*, *Sc*₂ a short distance from tip; *R*₁₊₂ variable in length, from subequal to *R*₂ to about twice this length, free tip of *Sc*₂ lacking; *Rs* very long in proportion to the basal deflection of *R*₄₊₅, the latter shorter than *M*₃₊₄; cell *M*₃ relatively shallow, *M*₃₊₄ slightly longer than *M*₄; *m-cu* far basad, if projectad forward intersecting *Rs* at or before the basal third; cell 2nd *A* narrow.

Abdomen, including hypopygium, dark brown. Male hypopygium (Fig. 11) with basistyle, *b*, relatively short and stout, without modified lobes, setae of mesal face long and delicate. Dististyles, *d*, long and slender, especially the outer style, subequal in length to the basistyle, narrowed into a nearly straight terminal spine; inner style narrow, with normal pale setae. Phallosome, *p*, unusually simple, inner apophyses short, tips pale and membranous; aedeagus very small and slender, apex pale.

Holotype, ♂, Yoshigahira, near Mount Sumon, Echigo, Honshu, 600 meters, June 25, 1954 (Baba). Paratopotype, ♂.

Orimarga (Orimarga) stenotes is most readily told from other regional species, including *O. (O.) pruinosa* Alexander, *O. (O.) setilobata* sp. nov., and *O. (O.) yakushimana* Alexander, by the shape and venation of the wings, especially the very short basal section of *R*₄₊₅.



Figs. 6-13. 6-9, Venation; 10-13, Male hypopygium.

6 and 11, *Orimarga (Orimarga) stenotes* sp. nov.; 7 and 10, *Orimarga (Orimarga) setilobata* sp. nov.; 8 and 12, *Limnophila (Prionolabis) kunimiana* sp. nov.; 9 and 13, *Limnophila (Eloeophila) mishimai* sp. nov.

a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; p, phallosome.

Limnophila (Prionolabis) kunimiana sp. nov.

Allied to *liponeura*; general coloration black, sparsely pruinose; halteres white; legs black, femoral bases narrowly yellow, more extensively so on fore pair; wings faintly tinged with brown, prearcular field yellowed; male hypopygium with caudal border of tergite very shallowly emarginate; gonapophysis bearing three spines, the axial one nearly straight, beyond midlength produced forward into a strong curved spine and backward into a shorter point.

♂.— Length about 5.5 mm; wing 6.5 mm; antenna about 1 mm.

Rostrum black, sparsely pruinose; palpi black. Antennae black throughout, 16-segmented; flagellar segments oval, the outer ones shorter than their verticils; terminal segment longer than the penultimate. Head black, with a sparse pruinosity; anterior vertex broad.

Thorax black, sparsely pruinose. Halteres white. Legs with coxae and trochanters black, sparsely pruinose; remainder of legs black, femoral bases narrowly yellow, most extensive on fore pair where about the proximal tenth is included, scarcely apparent on posterior femora. Wings (Fig. 8) weakly tinged with brown, prearcular field yellowed, stigma barely indicated; veins brown, those at wing base yellowed. Venation: Sc_1 ending opposite fork of R_s , Sc_2 a short distance from its tip; R_{2+3+4} very short, less than one-half the basal section of R_5 ; cell M_1 lacking; $m-cu$ at from about one-third to one-fourth vein M_{3+4} .

Abdomen, including hypopygium, black. Male hypopygium (Fig. 12) with the tergite, t , transverse, caudal border very shallowly emarginate, lateral angles not produced. Outer dististyle, d , a scabrous darkened blade that bears a single slender spine on mesal face at near two-thirds the length; inner style dilated on more than basal half, outer part slender. Gonapophysis, g , distinctive, as shown, bearing three spines, the axial one nearly straight, beyond midlength with a powerful arm that is produced forward into a longer curved spine and backwards into a shorter straight point. Aedeagus, a , only moderately flattened.

Holotype, ♂, Kunimidake, Kyushu, 1500–1700 meters, May 24, 1952 (Issiki-Ito).

The present fly is most nearly allied to *Limnophila (Prionolabis) liponeura* Alexander, differing most evidently in hypopygial structure, particularly the gonapophyses.

Limnophila (Eloeophila) mishimai sp. nov.

Allied to *kintaro*; mesonotum and pleura almost uniformly dark brown; legs obscure yellow; wings tinged with brownish yellow, washed and clouded with darker brown; abdomen brownish black, hypopygium more brownish yellow; male hypopygium with outer dististyle terminating in a small curved hook, with an obtuse weakly toothed lobe in its axil.

♂.— Length about 6.5–7 mm; wing 6.8–7.5 mm; antenna about 1.6–1.9 mm.

Rostrum and palpi black. Antennae with scape and pedicel brown, flagellum paler brown; flagellar segments long-oval, with a dense white pubescence and long verticils. Head dark brown.

Pronotum dark brown. Mesonotum almost uniformly dark brown, praescutum without distinct pattern; posterior border of scutum, mediotergite and posterior part of pleurotergite paler. Pleura uniformly dark brown. Halteres with stem whitened, knob

more yellowed. Legs with coxae pale, fore and middle pairs weakly more darkened basally, trochanters yellow; remainder of legs obscure yellow, tips of femora not or scarcely darker, terminal tarsal segments pale brown. Wings (Fig. 9) tinged with brownish yellow, prearcular field clearer yellow; a darker brown pattern that includes relatively large areas at *h*, at one-fourth the length of *Sc*, origin of *Rs*, fork of *Sc*, stigma, and tip of vein *R*₃; smaller and less conspicuous clouds over cord, outer end of cell 1st *M*₂, the supernumerary crossvein in cell *M* and apices of Anal veins; veins beyond level of origin of *Rs* seamed with pale brown, restricting the ground; veins pale brown, darker in the clouded areas, yellowed at wing base and in costal interspaces. A central series of macrotrichia in cells *R*₄, *R*₅ and outer end of *M*₁. Venation: *m-cu* beyond midlength of cell 1st *M*₂.

Abdomen brownish black, hypopygium brownish yellow. Male hypopygium (Fig. 13) with posterior border of tergite subtruncate, gently emarginate at midline, the very low lobes with abundant setulae and sparse scattered setae. Basistyle, *b*, simple, the cephalic median part with a small pale setiferous lobe. Outer dististyle, *d*, blackened, glabrous, terminating in a small curved hook, with an obtuse roughened or weakly toothed lobe in its axil; outer margin of style with a large subappressed spinelike lobe; inner style pale, obtuse, with coarse setae. Phallosome, *p*, with each gonapophysis a small club with simple apex; not appearing unequally bilobed, as in *kintaro*.

Holotype, ♂, On-take, Honshu, July 14, 1958 (Mishima). Paratopotype, ♂, with the type.

The most similar regional species is *Limnophila* (*Eloeophila*) *kintaro* Alexander which differs especially in the yellowed wings with the darkened pattern very restricted and in slight details of the male hypopygium.

Molophilus (*Molophilus*) *pictitibia* sp. nov.

Size relatively large (wing of female 5 mm); general coloration black, including the antennae; halteres pale yellow; femora brownish black outwardly, yellow at bases, tibia pale yellow, base and apex narrowly dark brown; wings with a strong blackish suffusion.

♀.— Length about 5 mm; wing 5 mm.

Rostrum and palpi black. Antennae with scape and pedicel black, flagellum dark brown; flagellar segments oval. Head black.

Throax entirely black. Halteres pale yellow. Legs with coxae black, trochanters reddish brown; femora brownish black with approximately the proximal half yellowed; tibia very pale yellow, the narrow base and slightly more extensive apex dark brown; tarsi brownish black, basitarsi slightly more brightened. Wings with a strong blackish suffusion, veins and macrotrichia darker. Venation: Petiole of cell *M*₃ approximately three times the relatively short *m-cu*; vein 2nd *A* ending about opposite one-third the length of the petiole.

Abdomen black; cerci horn yellow, slender, strongly upcurved.

Holotype, ♀, Kunimidake, Kyushu, 900 meters, May 24, 1952 (Issiki-Ito).

Other dark colored regional members of the genus include *Molophilus* (*Molophilus*) *albohalteratus* Alexander, *M. (M.) daimio* Alexander and *M. (M.) nocticolor* Alexander, all of which have the coloration of the legs different, particularly the tibiae.