950

UNDESCRIBED SPECIES OF JAPANESE TIPULIDAE (DIPTERA). PART III

By Charles P. Alexander

Amherst, Massachusetts, U. S. A.

Reprinted from

the Transactions of the Shikoku Entomological Society

Vol. 10, Nos. 3-4, November, 1970

四國昆蟲學會會報

Transactions of the Shikoku Entomological Society

Vol. 10 November, 1970 Nos. 3-4

UNDESCRIBED SPECIES OF JAPANESE TIPULIDAE (DIPTERA). PART III[1)]

By Charles P. Alexander

Amherst, Massachusetts, U. S. A.

The preceding part under this general title was published in the Transactions of the Shikoku Entomological Society, Vol. 10, No. 2, March 1969. In the present paper I am considering species of Tipulidae that were collected in Honshu by Dr. Kintaro Baba and Mr. Toshio Mishima, to both of whom I express my deepest thanks for cooperation in making known the Japanese crane flies. In addition to the novelties here described I am discussing three further species that involve new synonymies and distributional records.

Limonia (*Dicranomyia*) *melanacaena* sp. nov.

Belongs to the *punctulata* group; general coloration, including the wings, much as in *poli*; wings with cell M_2 open by atrophy of the basal section of M_3; male hypopygium with mesal apical lobe of gonapophysis extended into a very long slender blackened spine.

♂.- Length about 6 mm; wing 6.8 mm; antenna about 1.2 mm.

Rostrum and palpi dark brown. Antennae with scape and pedicel dark brown, flagellum paler; proximal flagellar segments short-oval, the outer ones longer, slightly exceeding their verticils. Head dark brown.

Pronotal scutum brown, scutellum yellowed. Mesonotal praescutum brown, sparsely pruinose, with slightly darker intermediate stripes that are separated by a capillary central ground line; scutum dark brown, median area and centers of lobes paler brown; scutellum brown basally, posterior border broadly light yellow; postnotum brown. Pleura brown, sparsely pruinose. Halteres elongate, whitened, knobs tinged with brown. Legs with coxae brown, tips narrowly yellowed; trochanters yellow; femora yellow, slightly more darkened outwardly, tip narrowly yellowed; remainder of legs yellow, outer tarsal segments brown. Wings(Fig. 1) very pale gray

1) Contribution from the Entomological Laboratory, University of Massachusetts.

with a restricted pale brown pattern that includes a series of about six spots in cell *C*; stigma subcircular, pale brown; other darkenings over cord and at fork of M_{1+2}; slightly darker spots at arculus, before midlength of *M*, on costa beyond the stigma, and with two spots in cell *1st A* contiguous with vein *2nd A*; further small, very pale clouds at ends of longitudinal veins; wing apex narrowly more whitened; veins brownish yellow, darker in the patterned areas. Macro-trichia on longitudinal veins beyond cord, including *Rs*, lacking on *M* and the Anal veins. Venation: Sc_1 ending just before origin of *Rs*; cell M_2 open by atrophy of basal section of M_3; *m-cu* immediately before fork of *M*.

Abdominal tergites dark brown, sternites pale brown medially, lateral margins darker brown. Male hypopygium (Fig. 4) with the tergite, *t*, long, posterior border narrowly emarginate to form two broadly rounded lobes provided with abundant long setae. Basistyle, *b*, about one-half as large as the ventral dististyle, the ventromesal lobe with very long setae. Dorsal dististyle, *d*, a stout curved rod, the apex a long spine; ventral style with rostral prolongation very slender, with a single long straight spine that is slightly longer than the rostrum beyond it. Gonapophysis, *g*, with mesal-apical lobe black, very long and slender, narrowed very gradually to a sharp point. Aedeagus with the narrow darkened line elongate.

Holotype ♂, Kurokawa, Echigo, Honshu, May 22, 1955 (Baba); Baba No. 403.

There are several related regional members of the *punctulata* group, the most similar being *Limonia* (*Dicranomyia*) *poli* Alexander, of eastern Asia. This has cell *1st* M_2 closed and with the gonapophyses of the hypopygium bidentate. The present fly is unique in this group of species in the open cell M_2 of the wings, as described. The condition is identical in both wings of the type and is presumed to represent a normal condition.

Limonia (*Dicranomyia*) *mishimana* sp. nov.

General coloration of thorax yellowish brown, pleura slightly darker; palpi black, apparently two-segmented; antennae with flagellar segments strongly narrowed at either end; head blackened, the broad anterior vertex silvery; legs medium brown; wings almost uniformly light brown, *Sc* and *Rs* long, the latter exceeding its anterior branch; male hypopygium with the dorsal dististyle a stout nearly straight rod, ventral style with rostral prolongation very long and slender, spines two, at extreme base, from slightly unequal tubercles.

♂.- Length about 6.5 mm; wing 7 mm; antenna about 2 mm.

Rostrum very short, brownish black; palpi black, very short, apparently two-segmented, the enlarged base darker than the reduced second segment. Antennae brown; first flagellar segment subglobular, succeeding segments more elongate, narrowed at either end, terminal segment very long, about one-half more than the penultimate. Head blackened posteriorly, the broad anterior vertex light silvery, about two and one-half times the diameter of the scape.

Pronotum light yellowish brown. Mesonotum slightly darker yellowish brown, virtually unicolorous, pleura slightly darker brown. Halteres with stem dark brown, base narrowly yellowed, knob brownish black. Legs with coxae and trochanters

yellow; remainder of legs medium brown; claws long and slender, the outer spine needle-like. Wings (Fig. 2) almost uniformly light brown, stigma reduced to a narrow darker cloud at R_2; veins light brown. Venation: *Sc* long, Sc_1 ending about one-fourth the length of *Rs*, Sc_2 near its tip; *Rs* very long, exceeding its anterior branch, angulated and short-spurred close to origin; cell *1st* M_2 subequal to the longest vein beyond it; *m-cu* shortly before fork of *M*.

Abdomen light brown. Male hypopygium (Fig. 5) with posterior border of ninth tergite, *t*, very shallowly emarginate to virtually straight, thickened margins broad; setae long but sparse, the outer major ones about six in number. Basistyle, *b*, long, ventromesal lobe stout. Dorsal dististyle, *d*, a stout nearly straight rod, apex scarcely narrowed; ventral style only about one-third the area of the basistyle; rostral prolongation very long and slender, nearly equal in length to remainder of style, narrowed very gradually to the obtuse apex; rostral spines at extreme base of prolongation, long and slender, from conspicuous basal tubercles, the outer one more than twice as large as the inner. Gonapophysis, *g*, with mesal-apical lobe long and slender. Aedeagus narrow, genital tubes contiguous or virtually so.

Holotype ♂, Ontake, Hida, Honshu, July 6, 1959 (Mishima); Mishima No. 16.

The species is dedicated to Mr. Toshio Mishima who has added materially to our knowledge of the Japanese crane flies. It is quite distinct from other regional species and possesses several puzzling features. The broad light silvery anterior vertex suggests the condition found in the subgenus *Melanolimonia* Alexander, while the two-segmented palpi are much as in the otherwise entirely distinct *Limonia* (*Dicranomyia*) *ventralis* (Schummel) of northern Europe and Asia (synonym, *perserotina* Alexander, from Ompo, North Korea; Trans. r. Ent. Soc. London, 95: 240-241; 1945). The long slender rostral prolongation of the ventral dististyle of the hypopygium is much as in *L.* (*D.*) *gracilirostris* Alexander, of western China which is entirely distinct in all other regards.

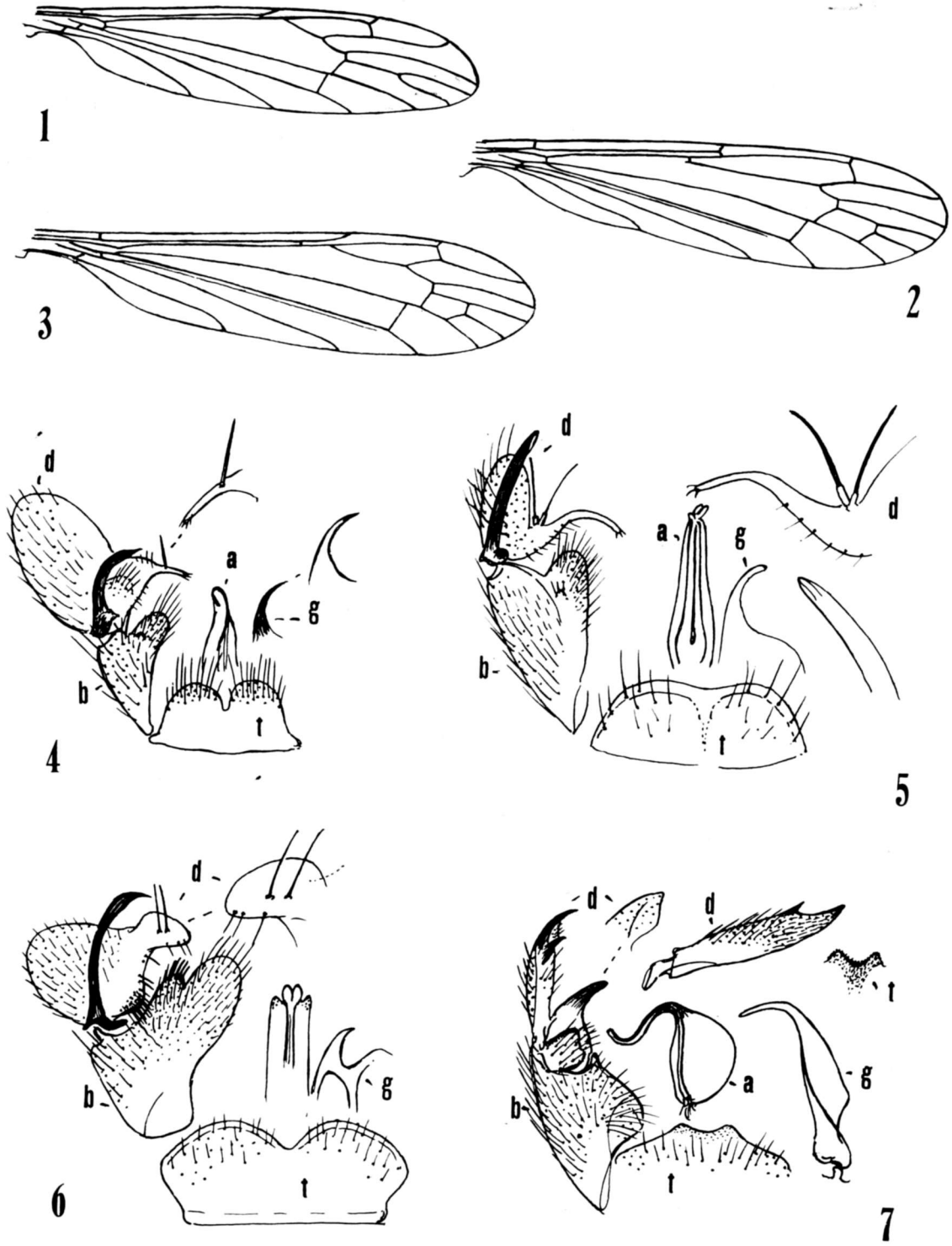
Limonia (*Dicranomyia*) *ontakeana* sp. nov.

Allied to *handlirschi*; general coloration of mesonotum yellow, patterned with brown, pleura brownish gray; legs yellow, femora virtually unpatterned; wings yellowed, especially the prearcular and costal fields, including the veins, stigma very pale brown; male hypopygium with face of rostral prolongation of the ventral dististyle with two long spines.

♂.- Length about 5.5 mm; wing 6.5 mm.

Rostrum and palpi dark brown. Antennae brown; proximal flagellar segments short-oval to subglobular (outer segments broken). Head brown.

Pronotal scutum brown, obscure yellow in sides, scutellum and pretergites clearer yellow. Mesonotal praescutum obscure yellow with three vaguely darker stripes, central one obsolete on posterior half; posterior sclerites of notum brownish gray. Pleura brownish gray, propleura and dorsopleural region more yellowed. Halteres with stem yellow, knob dark brown. Legs with fore coxae and trochanters brownish yellow, remaining coxae dark brown, trochanters yellowed; remainder of legs yellowed, femora with a very vague scarcely evident pale brown subterminal ring,



Figs. 1–7. 1–3, Venation; 4–7, Male hypopygium.

1 and 4, *Limonia* (*Dicranomyia*) *melanacaena* sp. nov.; 2 and 5, *Limonia* (*Dicranomyia*) *mishimana* sp. nov.; 3 and 6, *Limonia* (*Dicranomyia*) *ontakeana* sp. nov.; 7, *Limnophila* (*Prionolabis*) *inopis* sp. nov.

a, aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *t*, ninth tergite.

most distinct on fore legs; outer tarsal segments darker; claws very long and slender, without projections beyond the extreme base. Wings (Fig. 3) yellowed, prearcular and costal fields clear light yellow; stigma scarcely evident, very pale brown; veins light brown, yellowed in the brightened fields. Venation: Sc_1 ending shortly beyond origin of *Rs*, Sc_2 far retracted, as shown; *m-cu* about one-fourth its length before fork of *M*.

Abdomen, including the hypopygium, yellowed. Male hypopygium (Fig. 6) with the tergite, *t*, transverse, posterior border with a V-shaped emargination. Basistyle, *b*, with ventromesal lobe very large, in area subequal to body of style, above conspicuously emarginate to form two unequal lobes, the smaller one with spinoid setae at apex. Dorsal dististyle, *d*, slightly enlarged outwardly, at apex narrowed into a long slender spine; ventral style smaller in area than the basistyle; rostral prolongation compressed-flattened, the two long spines on face at near midlength. Gonapophysis, *g*, with mesal-apical lobe narrowed to the acute tip.

Holotype ♂, Ontake, Hida, Honshu, July 13, 1958 (Mishima); Mishima No. 21.

The closest relative of the present fly is *Limonia* (*Dicranomyia*) *handlirschi* (Lackschewitz), described from Bohemia, Czechoslovakia, now known also from northern Europe. Other less similar species include *L.* (*D.*) *nielseniana* Alexander, of western North America and various others in the Himalayas. This species differs from *handlirschi* in coloration of the body, legs and wings but the hypopygial structure is very similar in the two flies.

Austrolimnophila (*Archilimnophila*) *unica* (Osten Sacken)

Limnophila unica Osten Sacken; Mon. Diptera North America, 4: 205–206; 1869 (United States of America).

Limnophila unicoides Alexander; Philippine Jour. Sci., 24: 574–575; 1924 (Northern Japan).

Austrolimnophila (*Archilimnophila*) *unicoides*. - Ishida, Sci. Rept. Hyogo Univ. Agr., Nat. Sci. 4, no. 1, xii: 4; 1959.

Limnophila prolixicornis Lundström (as Bergroth); Acta Soc. Fauna et Flora Fennica, 29, no. 8: 26–27; 1907; auct. Tjeder (Finland; northern Scandinavia).

Now known to be widespread virtually throughout the entire northern Holarctic region.

Japan (Honshu): Lake Ozenuma, on border between Iwashiro and Kotsuke, 6595 feet, July 25, 1923 (Teiso Esaki). Ontake, Hida, July 26, 1959 (Toshio Mishima); Mishima No. 41. These records are the most southerly as presently known in eastern Asia.

Limnophila (*Eloeophila*) *hidana* sp. nov.

Thoracic dorsum brownish yellow, pruinose, praescutum with four brownish gray stripes; antennal flagellum and halteres yellow; legs yellow, tips of femora brown; wings pale yellow, with a conspicuous brown pattern that is restricted to the vicinity of the veins, the costal areas much smaller than the interspaces; no trichia in wing cells; abdominal tergites brown, sternites more bicolored, brownish yellow, apices brown.

♀.- Length about 7.5 mm; wing 7.5 mm; antenna about 1.3 mm.

Rostrum and palpi brownish black. Antennae with scape and pedical brown, sparsely pruinose, flagellum yellow; flagellar segments oval, outer ones more elongate, shorter than their verticils. Head brown, light gray pruinose.

Pronotum light brown, scutum slightly darker. Mesonotal praescutum brownish yellow, sparsely pruinose, with four poorly differentiated darker brownish gray stripes, pseudosutural foveae dark brown; posterior sclerites slightly more yellowed. Pleura light brown, dorsopleural membrane yellow. Halteres light yellow. Legs with coxae brownish yellow. trochanters yellow; remainder of legs yellow, tips of femora brown, of tibiae very narrowly darkened, outer tarsal segments pale brown. Wings (Fig. 8) pale yellow, including the costal border; a relatively conspicuous brown pattern that is restricted to the veins, including a series of seven costal darkenings that are much smaller than the interspaces, the third at origin of *Rs*, not reaching *C*, behind ending at near mid-width of cell *R*; additional brown seams at arculus, cord, outer end of cell *1st* M_2, fork of vein M_{1+2}, at supernumerary crossvein in cell *M*, and as a series of marginal spots at ends of all longitudinal veins, smallest and barely indicated on R_5, the single area at *2nd A* largest; veins light yellow, brown in the patterned areas. No macrotrichia in wing cells. Venation: *Rs* square and short-spurred at origin; *m-cu* at near one-third to two-fifths M_{3+4}.

Abodominal tergites dark brown, sternites more bicolored, bases obscure brownish yellow to clearer yellow, the slightly narrower apices brown. Ovipositor with cerci very long, pale yellow at tips, bases of hypovalvae brownish black.

Holotype ♀, Ontake, Hida, Honshu, July 27, 1959 (Mishima); Mishima No. 37.

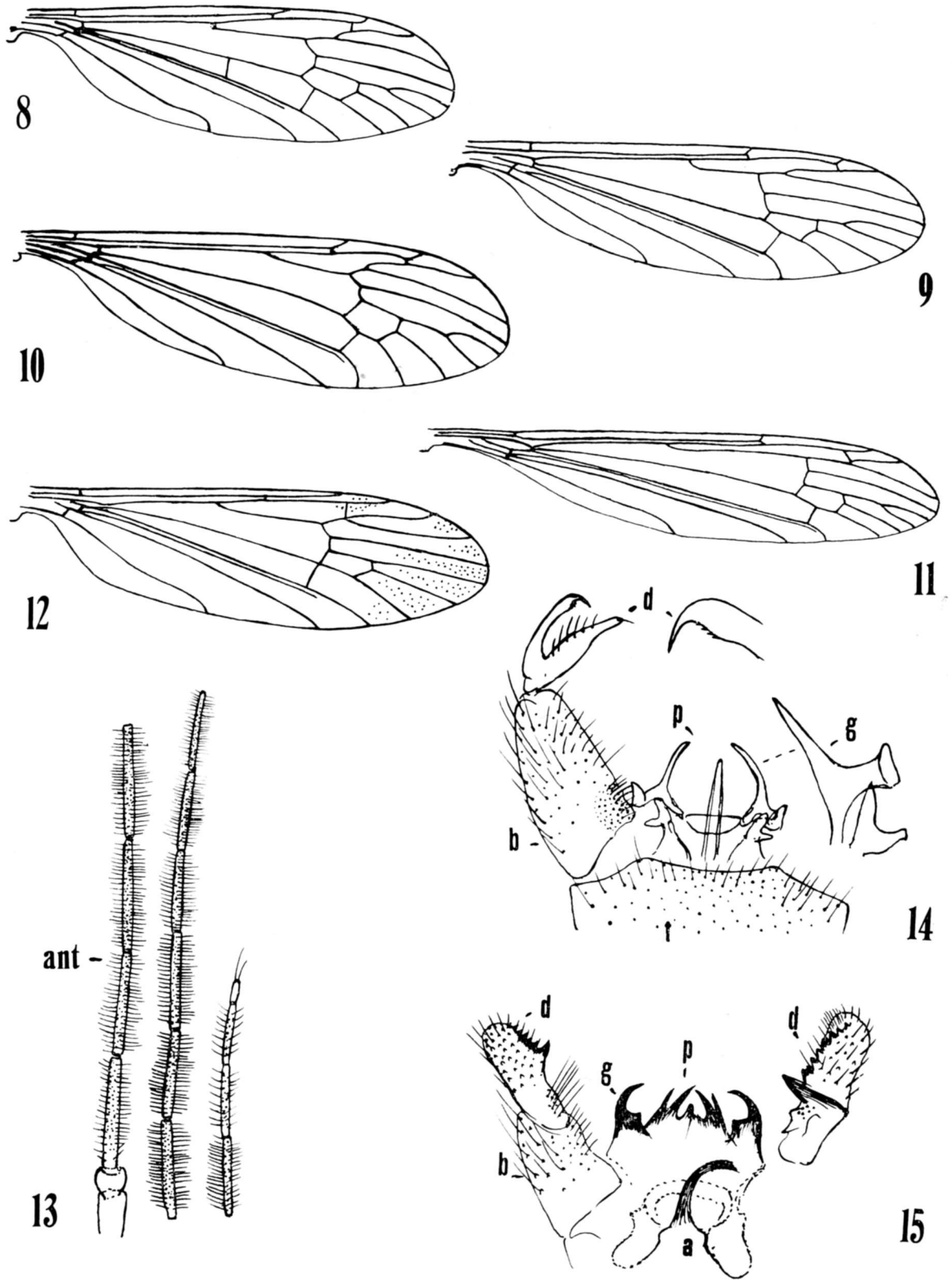
The Japanese members of the subgenus include four species where the darkened wing pattern is restricted to the vicinity of the veins, these including *Limnophila (Eloeophila) kintaro* Alexander and *L. (E.) mishimai* Alexander which are distinct in the wing pattern and in having macrotrichia in the outer radial wing cells. The remaining species, *L. (E.) subaprilina* Alexander and *L. (E.) ussurica* Alexander, are more distinct in the wing pattern, the former having two darkened areas in the Anal cells, the subterminal one being larger than the spot at end of vein *2nd A*. The latter species has the wings very weakly patterned and with the hypopygial structure quite distinct, being very close to the western Palaearctic *L. (E.) trimaculata* (Zetterstedt) with which it may prove to be identical.

Limnophila (Phylidorea) celaena sp. nov.

General coloration of thorax brownish black, pleura gray pruinose; antennal flagellum light brown; halteres yellow; legs yellow, tips of femora and tibiae brown; wings light brown, prearcular and costal fields yellow, stigma pale brown; ovipositor with cerci yellow, basal shield and hypovalvae blackened.

♀.- Length about 8-8.5 mm; wing 7.5-8 mm; antenna about 1.7-1.75 mm.

Rostrum black, sparsely pruinose; palpi brown, terminal segment black. Antennae with scape and pedicel dark brown, flagellum light brown; flagellar segments oval, subequal in length to their verticils. Head brown, sparsely pruinose to appear opaque; anterior vertex broad, the eyes correspondingly small.



Figs. 8–15. 8–12, Venation; 13, Male antenna; 14 and 15, Male hypopygium.

8, *Limnophila* (*Eloeophila*) *hidana* sp. nov.; 9, *Limnophila* (*Phylidorea*) *celaena* sp. nov.; 10, *Limnophila* (*Prionolabis*) *inopis* sp. nov.; 11, 13, 14, *Pilaria hypermeca* sp. nov.; 12, 15, *Ormosia* (*Scleroprocta*) *hexacantha* sp. nov.

a, aedeagus; *ant*, male antenna; *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *p*, phallosome; *t*, ninth tergite.

Pronotum brownish black, pruinose. Mesonotal praescutum and scutum chiefly polished brownish black; scutellum brownish black, posterior border narrowly yellowed; postnotum paler brown. Pleura blackened, conspicuously gray pruinose. Halteres light yellow. Legs with coxae brown, sparsely pruinose, trochanters brown; fomora and tibiae yellow, tips brown, much narrower on the latter; proximal tarsal segments brownish yellow, the outer ones brown. Wings (Fig. 9) light brown, prearcular and costal fields light yellow, especially the former; stigma pale brown, inconspicuous; veins brown, those in the brightened fields light yellow. Longitudinal veins beyond cord with trichia, sparsely present also on *Rs* and outer end of *M*, lacking or virtually so on the medial veins that comprise cell *1st* M_2 excepting M_{3+4}; no trichia on *1st A* and only one or two on *2nd A*. Venation: Sc_1 ending nearly opposite fork of *Rs*, Sc_2 near the tip and slightly longer; petiole of cell M_1 about twice *m*, *m-cu* from about midlength to two-thirds M_{3+4}.

Abdomen almost uniformly liver brown. Ovipositor with cerci yellw, hypovalvae and basal shield blackened.

Holotype ♀, Ontake, Hida, Honshu, July 13, 1958 (Mishima). Paratopotype ♀, pinned with type; Mishima No. 32.

The most similar species is *Limnophila* (*Phylidorea*) *yamamotoi* Alexander, of northern Honshu, distinguished by the clear yellow antennal flagellum, the yellow legs and wings, and the trichiation of the wing veins. The male sex remains unknown in both of these species and when discovered may indicate that they do not belong to *Phylidorea* in the strict sense.

Limnophila (*Prionolabis*) *inopis* sp. nov.

Size medium (wing of male to 9 mm); general coloration of thorax almost uniformly brownish black, subopaque by a sparse pruinosity; antennae 13-segmented; halteres unusually long, light yellow; femora obscure yellow, tips pale brown, the amount subequal on all legs; wings brownish yellow, prearcular and costal fields clear light yellow, disk with a vague clouded pattern, cell M_1 present; male hypopygium with tergal lobe shallowly emarginate; outer dististyle slender, outer part narrow and inconspicuous, apex with a single subterminal spine, apice of inner dististyle and gonapophysis subacute.

♂.- Length abut 7.5-8.5 mm; wing 8-9 mm; antenna about 1.2-1.3 mm.

Rostrum and palpi black. Antennae 13-segmented. dark brown to brownish black; flagellar segments oval, subequal to their longest verticils, terminal segment about one-third longer than the penultimate. Head black, dusted with light gray; anterior vertex broad, nearly four times the diameter of the scape.

Pronotal scutum dull black, scutellum more reddened. Mesothorax almost uniformly brownish black, very sparsely pruinose to appear subopaque; dorsopleural membrane darkened. Halteres unusually long, light yellow, apex of knob slightly more darkened. Legs with all coxae brownish black, trochanters yellowish brown; femora obscure yellow, tips rather broadly pale brown, the amount subequal on all legs; tibiae brownish yellow, slightly darker at outer ends; tarsi light brown. Wings (Fig. 10) brownish yellow, prearcular and costal fields clear light yellow; stigma and

vague clouds at origin of *Rs*, cord and outer end of cell *1st* M_2 slightly darkened; veins light brown, clear yellow in the brightened fields. Longitudinal veins beyond cord with trichia, including also the outer two-thirds of *Sc* and sparsely on outer ends of basal section of Cu_1 and *2nd A*, in cases lacking on *Rs* and *1st A*, very sparse when present. Venation: Cell M_1 present, subequal in length to its petiole; *m-cu* at or near midlength of M_{3+4}.

Abdomen brownish black. Male hypopygium (Fig. 7) with the tergal lobe, *t*, very shallowly emarginate in the type, narrower and somewhat deeper in paratype (as shown in subfigure at right). Outer dististyle, *d*, narrow, outer part very slender and inconspicuous, apex a sclerotized point, with a single longer and more pointed subterminal spine, inner style dark, simple, narrowed gradually to the subacute or narrowly obtuse tip. Gonapophysis, *g*, a narrow blade that narrows very gradually to the subacute apex.

Holotype ♂, Yokomura, Mino, Honshu, April 28, 1958 (Mishima). Paratype ♂, Sakauchi, Mino, May 4, 1958; Mishima Nos. 31, 43.

Only a few of the rather numerous species of *Prionolabis* in Japan have the antennae 13-segmented and with cell M_1 of the wings present, these including *Limnophila* (*Prionolabis*) *imanishii* Alexander and *L.* (*P.*) *luteibasalis* Alexander, and, in some cases, *L.* (*P.*) *yamamotana* Alexander, where the number of flagellar segments appears to vary because of the partial fusion of certain segments, in cases to as low as 13. Of the above, both species are subapterous in the female sex and it is possible that this condition likewise exists in the present fly; *luteibasalis* in the male sex has the tergal lobe of the hypopygium with three lobules, and with the dististyles and gonapophysis distinct. The male sex of *imanishii* remains unknown to me; the type female was found by K. Imanishi at Bogoya, in Toyama, Honshu, walking on snow on August 4, 1928 and sent to me for determination by Dr. Tokunaga.

Pilaria hypermeca sp. nov.

General coloration of mesonotum fulvous, posterior sclerites and the pleura yellow; antennae of male very long, about two-thirds the wing, flagellar segments long-cylindrical with erect delicate setae over virtually the whole surface; in male *Rs* very long, exceeding three times R_{2+3+4}.

♂.- Length about 9 mm; wing 8 mm; antenna about 5.2 mm.

♀.- Length about 10 mm; wing 7.8 mm; antenna about 2.3 mm.

Rostrum and palpi light brown, terminal palpal segment slender. Antennae (Fig. 13) brown; in male very long, about two-thirds the wing, in female about one-half this length; flagellar segments in male very long-cylindrical, vestiture over the entire segment except at the incisures, long, delicate, pale bown, the longest about twice the diameter of segment, terminal segment about one-fourth the penultimate, with two long nearly apical setae; in female with relatively few very long dark setae, the longest fully twice the segment, remaining vestiture microscopic. Head brown, anterior vertex much darker.

Mesonotal praescutum and scutum fulvous, scutal lobes restrictedly more darkened; posterior sclerites of notum and the pleura clearer yellow. Halteres with stem

whitened, knob pale brown. Legs with coxae and trochanters light yellow; femora and tibiae darker yellow, slightly darker apically, outer tarsal segments dark brown. Wings (Fig. 11) narrow, brownish yellow, stigma very faintly more darkened; veins brown. Male without trichia in stigmal region, female with about 15 such trichia, in both cells *C* and R_1. Venation: In male, as shown, with *Rs* very long, exceeding three times R_{2+3+4}, in female somewhat shorter; *m-cu* at or just beyond midlength of M_{3+4}.

Abdomen elongate; tergites brown, sternites light yellow. Male hypopygium (Fig. 14) as shown.

Holotype ♂, Kurokawa, Echigo, Honshu, 400 meters, June 17, 1955 (Baba); Baba No. 442. Allotopotype ♀, July 14, 1955.

The most similar regional species is *Pilaria melanota* Alexander which differs evidenly in the much shorter antennae in the male, with shorter darker vestiture, and in the venation where *Rs* only slightly exceeds twice the length of R_{2+3+4}. It is possible that the female here discussed may be incorrectly associated with the type male since there are some rather conspicuous differences, as described.

Ormosia (*Ormosia*) *fascipennis* (Zetterstedt)

Erioptera fascipennis Zetterstedt; Ins. Lapponica, Diptera, p. 831; 1838.
Ormosia (*Ormosia*) *fascipennis*.- Edwards, Trans. Soc. British Ent., 5, part 1: 133; 1938.
Ormosia (*Ormosia*) *ontakeana* Alexander; Ann. Ent. Soc. America, 40: 367-368; 1947.

The discovery of the male sex of this species in Japan shows that the species described as *ontakeana* is a synonym of the northern Palaearctic *fascipennis*, as listed above.

Ontake, Hida, July 26, 1959 (Mishima); Gamata, Hida, October 8, 1958 (Mishima); Mishima No. 72.

In the absence of male specimens it is possible that the Gamata materials, represented only by females, may not pertain to this species but the identification appears to be correct.

Ormosia (*Scleroprocta*) *hexacantha* sp. nov.

General coloration of thorax black, subnitidous; legs dark brown to brownish black; wings whitened, prearcular and costal fields light yellow, a darkened seam over vein *Cu*; macrotrichia of wing cells very restricted, including only the outer fourth of wing; male hypopygium with dististyle fleshy, inner face with small spines; phallosome a conspicuous depressed-flattened plate, its posterior border with six spinous points.

♂.- Length about 5.5 mm; wing 6 mm; antenna about 1.3 mm.

♀.- Length about 6.5-7 mm; wing 6.5-6.8 mm.

Rostrum, palpi and antennae black. Head dark gray.

Pronotum large, black, heavily pruinose. Mesothorax uniformly black, subnitidous, dulled only by a very sparse pollinosity; dorsopleural membrane slightly paler brown. Halteres light yellow. Legs with coxae and trochanters black; remainder of

legs dark brown to brownish black, femoral bases slightly paler. Wings (Fig. 12) whitened, prearcular and costal fields light yellow, including the veins; stigma and a seam along vein *Cu* to near the *m-cu* crossvein brown, involving the base of cell *Cu* and much of the posterior border of cell *M*; veins light brown, except as described. Macrotrichia of cells greatly reduced in number and restricted in location, as shown by the stipplings in figure, these including a few in the stigma and others in outer ends of cells R_3 to M_4, more extensive in the posterior cells. Macrotrichia on longitudinal veins beyond cord, before this on *R* and sparsely on outer ends of vein Cu_1 and the Anals, lacking on veins *Sc*, *Rs* and *M*. Venation: R_2 close to radial fork; vein R_3 slightly upcurved at outer end, cell R_3 at margin fully as extensive as cell R_2; cell *1st* M_2 rectangular; *m-cu* at or close to fork of *M*; vein *2nd A* gently sinuous.

Abdomen brownish black. Male hypopygium (Fig. 15) apparently with a single dististyle, *d*, appearing as an elongate-oval darkened fleshy structure, outer half slightly more expanded, inner border with a flange that is provided with a row of about seven or eight teeth or spines, the bassl one larger and blacker, the remainder weak and smaller; body of style with numerous setigerous tubercles that bear long setae. Phallosome, *p*, appearing as a depressed-flattened central plate, on either side with three spines, the most lateral one larger and slightly incurved, the others more approximated, straight, the innermost longer and stouter; aedeagus a relatively long simple rod, base expanded, outer end curved.

Holotype ♂, Hirugano, Mino, Honshu, May 3, 1959 (Mishima); Mishima No. 74. Allotopotype ♀, pinned with type. Paratopotype ♀, pinned with type. Paratype, a broken ♀, Yôrô, Mino, April 19, 1959 (Mishima); Mishima No. 67.

The most similar Japanese species is *Ormosia* (*Scleroprocta*) *cinctifer* Alexander, which while generally similar, differs in important features, the most important being the phallosome of the male hypopygium. The trichiation of the wing cells in *cinctifer* is similar, these being restricted to the outer cells but more numerous and more widely distributed. Other species with the dististyle generally as in these two species include, in Europe, the subgenotype, *danica* Nielsen, and also *sororcula* (Zetterstedt), and in eastern North America, *apicalis* (Alexander) and *innocens* (Osten Sacken). A second group of species that apparently are referrable to this subgenus include *Ormosia fascipennis* (Zetterstedt), *O. hallahani* Alexander, the Japanese *O. cata* Alexander, *O. deprava* Alexandar, and *O. prava* Alexander, and some others. Where the immature stages are known all of these have the somewhat noteworthy type of larva illustrated by Bangerter for *fascipennis* (Konowia, 9: 98–101, fig. 8; 1930) and by Alexander for *innocens* (Crane-flies of New York, 2: 956–957, figs. 404–406; 1920), which, while still unreared, appears to have been associated correctly.

Ormosia ducalis Alexander

Ormosia ducalis Alexander; Philippine Jour. Sci., 67: 162–163, fig. 24 (wing), fig. 43 (male hypodygium); 1938.

Hitherto known only from the unique tyep male from northern Korea. A male

from Ontake, Hida, Honshu, July 15, 1958, taken by Mishima; Mishima No. 71.

This specimen is smaler than the type (Length about 5.5 mm; wing 6 mm) but from the very distinctive male hypopygium is identical. The speciles is very isolated and the subgeneric position cannot be affirmed at this time.