

UNDESCRIBED SPECIES OF JAPANESE CRANE-FLIES
(Diptera: Tipulidae)

PART VII

By

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The initial part of this series of papers was published in the *Annals of the Entomological Society of America*, 12:327-348, 1919; the preceding part in the *Annals*, 40:350-371, 1947. In the present report I am construing the limits of the paper as including the former Japanese Empire and am discussing species not only from the main islands of Japan but also from Manchuria, Korea and Formosa. Except where indicated to the contrary the types of the new species are preserved in my personal collection of crane-flies.

For a discussion of conditions in northern Korea where very extensive series of crane-flies were taken by Mr. Alexander M. Yankovsky between 1937 and 1940, a paper by the writer should be consulted.¹ For the itinerary of the Japanese expedition to Manchuria, including Jehol, the report by Tokunaga² may be consulted.

Genus *Tipula* Linnaeus

Tipula (*Yamatotipula*) *nigrolamina* n. sp.

General coloration gray, the praescutum with four inconspicuous darker gray stripes that are faintly margined with darker; nasus lacking; flagellar segments incised; wings with a brownish yellow tinge, only slightly variegated; stigma oval, brown; *Rs* about two and one-half times *m-cu*; male hypopygium with the tergite transverse, the caudal margin produced into two conspicuous obtuse lobes that are provided with black setae; gonapophyses with unusually short stems, the large blades blackened.

Male.—Length, about 15 mm.; wing, 17.5 mm.; antenna, about 4.1 mm.

Frontal prolongation of head relatively long, subequal to remainder of head, black, heavily pruinose, especially on dorsum; nasus lacking; palpi black. Antennae with scape brownish black, pruinose; pedicel dark brown, flagellum black; flagellar segments relatively short, conspicuously incised; longest verticils about as long as the segments; terminal segment nearly one-half as long as the penultimate, slender.

¹Alexander, Charles P. 1945. Undescribed species of crane-flies from northern Korea (Diptera, Tipuloidea). *Trans. R. Ent. Soc. London*, 95: 227-246.

²Tokunaga, Shigeyasu. 1934. Natural science research of the first scientific expedition to Manchoukuo. Sect. 1: 1-76, 391 figs., map; itinerary in English, pp. 45-76.

Head light gray; vertical tubercle developed as a tiny conical protuberance; anterior vertex broad, nearly five times the diameter of scape, the eyes correspondingly small.

Pronotal scutum gray, weakly infuscated medially; scutellum and pretergites yellow. Mesonotal praescutum light gray, with four darker gray stripes that are very inconspicuous against the ground; a capillary dark brown median vitta, the remaining darkened borders less conspicuous but evident; praescutal interspaces very inconspicuous; scutum gray, the lobes with scarcely darkened rings; scutellum gray, variegated with three pale lines, including a median dash; mediotergite clearer gray; pleurotergite gray, the katapleurotergite more yellowed. Pleura gray, the dorsopleural membrane broadly yellow. Halteres with stem obscure yellow, base of knob weakly darkened, the apex again pale. Legs with the coxae light gray; trochanters yellow; femora obscure yellow, the tips very gradually more blackened; tibiae brownish black; tarsi black; claws long, with conspicuous tooth. Wings with a brownish yellow tinge, the cells beyond cord a trifle more darkened; prearcular field and cell *Sc* clearer yellow; stigma oval, brown, its proximal portion somewhat more yellowed; cells beyond stigma a trifle more whitened; obliterative area across cell *1st M*₂ poorly indicated; veins brown, yellow in the flavous fields. Macrotrichia of veins beyond cord conspicuous and relatively abundant. Venation: *Rs* long and nearly straight, about two and one-half times the oblique *m-cu*; *R*₁₊₂ entire; petiole of cell *M*₁ subequal to *m*; *m-cu* on *M*₄ shortly beyond origin of latter.

Abdomen with first tergite dark gray, bordered by yellow; succeeding tergites reddish, with indications of two broken stripes, these very faint and poorly indicated on the more proximal segments, becoming distinct on about the fifth segment; lateral borders of tergites broadly, the caudal margins more narrowly yellow; basal sternites yellow, the outer segments darker and more pruinose; outer segments, including hypopygium, conspicuously blackened. Male hypopygium with the tergite transverse, the caudal margin produced into two conspicuous obtuse lobes that are separated by a smaller rounded notch; vestiture of lobes appearing as abundant long black setae but without spines. Basistyle rather strongly produced caudad so that its apex lies almost as far distad as does the apex of the ninth tergite. Outer dististyle arcuated, dusky, gradually narrowed to the slender obtuse tip. Inner dististyle without conspicuous spines, as in *ompoensis* and some other species, generally triangular in outline, the rostral portion narrowed, its ventral margin produced into a low lobe or flange, with a small blackened point immediately beneath it; no developed outer basal lobe, its position heavily blackened and thickened but not produced. Ninth sternite with the median region broadly membranous behind and bearing a transverse flattened hairy lobe. Gonapophysis appearing as an unusually large blackened blade, more or less mitten-shaped, with the basal stem unusually short. Eighth sternite unarmed.

Habitat: Northern Korea. *Holotype*, ♂, Seren Mountains, altitude 3000 feet, June 26, 1938 (Yankovsky).

Other generally similar species in Japan and Korea include *Tipula* (*Yamatotipula*) *kamikochiensis* Alexander, *T. (Y.) machidai* Alexander, *T. (Y.) ompoensis* Alexander, and *T. (Y.) sempiterna* Alexander. The

present fly differs very conspicuously in the structure of the male hypopygium, especially the tergite, inner dististyle and gonapophysis.

Tipula (Arctotipula) conjuncta conjunctoides n. subsp.

Male.—Length, about 20 mm.; wing, 19 mm.; antenna, about 6 mm. Described from an alcoholic specimen.

Characters as in typical *conjuncta*, differing as follows:

Antennae weakly bicolored, the extreme proximal end of each segment obscure yellow, the remainder dark; distal end of individual flagellar segments not produced, the outer end being narrower than the basal enlargement (compare typical *conjuncta* Alexander, 1925 Encycl. Entomol., Diptera, 2 : 88–89, fig. 2, antenna, and fig. 3, venation).

General coloration of thorax (in alcohol) dark gray, the abdomen chiefly obscure yellow. Legs longer and more slender than in typical *conjuncta*, this probably a sexual character. Wing pattern almost exactly as in *conjuncta*, the veins a little darker. Macrotrichia of veins lacking or virtually so on R_s and its anterior branch, abundant on distal end of vein R_{4+5} and on distal ends of outer medial branches. Venation: Cell R_3 with inner end more pointed, cell R_2 at margin being correspondingly widened, about one-half as extensive as cell R_3 ; inner end of cell 1st M_2 less pointed; cell M_1 much deeper, approximately three times its petiole.

Male hypopygium large and powerfully constructed. Ninth tergite extensive, depressed, the caudal margin with a deep, parallel-sided median notch, the very broad lateral lobes truncated at apex, the outer lateral portion rounded; dorsal surface of tergite with abundant short dense setae. Inner dististyle produced into a very long slender simple beak; entire outer surface of style with coarse setae. Eighth sternite unarmed, without lobes or hair-pencils.

Habitat: Manchuria (Jehol).

Holotype, alcoholic ♂, No. 25, without more specific data. See reference to the Manchoukuo Expedition in introduction to this paper.

Typical *conjuncta* is still known only from the Ussuri District, eastern Siberia. In its general appearance the present fly is very similar and I would have considered the two as being identical if it were not for the structure of the antennae and the venation. In size, and in coloration of the body and wings, the two flies are very similar to one another. They may be separated by the following key:

1. Flagellar segments with outer end slightly produced to form a weak serration; cell M_1 of wings shallow, shorter than its petiole. **conjuncta conjuncta**
- Flagellar segments widest at the basal enlargement, the distal end narrow; cell M_1 deep, approximately three times its petiole. . **conjuncta conjunctoides**

The subgeneric position of *conjuncta* had been held in question (Alexander, Philippine Journ. Sci., 1935, 57 : 85) but its reference to *Arctotipula* Alexander now seems fully justified since the general structure of the male hypopygium is very suggestive of that of *Tipula* (*Arctotipula*) *miyadaii* Alexander, of the Kurile Islands. The species is told from all other now rather numerous members of the subgenus by the fusion of veins R_{4+5} and M_{1+2} , obliterating the *r-m* crossvein.

Tipula (Arctotipula) laterodentata n. sp.

General coloration gray, the praescutum with four darker stripes that are incompletely bordered with darker brown; nasus lacking; antennae black, the more basal flagellar segments with their proximal portions brightened; femora brownish yellow, the tips blackened; claws (male) toothed; wings brownish yellow, restrictedly patterned with darker, including the blackened stigma; basal abdominal tergites reddish, with a broad black central stripe, the first tergite, sternite and outer segments more uniformly dark gray; ninth segment blackened; male hypopygium with outer angle of tergal lobe produced into an acute spine; outer dististyle conspicuously dilated at near midlength; inner dististyle at apex expanded into a blade, the rostral portion glabrous, the upper angle with powerful setae; face of style with a strong blackened spine.

Male.—Length, about 16–17 mm.; wing, 16.5–18 mm.; antenna, about 3.3–3.6 mm.

Frontal prolongation of head moderately long, dark gray, without nasus; palpi black, relatively short, especially the terminal segment. Antennae relatively short, black, the scape and pedicel gray pruinose; bases of proximal four or five flagellar segments restrictedly obscure yellow, the remainder black; flagellar segments subcylindrical, with scarcely indicated basal enlargements, the verticils exceeding the segments. Head gray, the vertex with a broad brown central stripe; eyes relatively small, anterior vertex unusually broad, nearly five times the diameter of scape.

Pronotum gray, somewhat weakly infuscated medially, the scutellum and pretergites obscure yellow. Mesonotum gray, the praescutum with four darker gray stripes, the outer borders of the intermediate pair and the inner margins of the lateral stripes darker brown; each scutal lobe with two brownish gray areas; mediotergite with a central infuscation or short stripe; vestiture of mesonotum relatively long but sparse, almost white. Pleura gray, the dorsopleural membrane buffy yellow, conspicuously variegated on dorsal portion with dark brown. Halteres with stem yellow, knob brownish black. Legs with coxae light gray; trochanters somewhat darker gray; femora brownish yellow, the tips blackened, the amount subequal on all legs but with the posterior pair more fulvous yellow, preceding the darkened portions; tibiae black, the bases restrictedly obscure yellow; tarsi black; claws (male) with strong subbasal tooth. Wings with the ground brownish yellow, restrictedly patterned with darker; prearcular field extensively yellowed; stigma oval, conspicuously blackened; cell *Sc* weakly infuscated; cord and most of the veins beyond it insensibly seamed with darker, most evident over the posterior cord and distal ends of the outer radial cells; veins dark brown, yellow in the prearcular field. No squamal setae; veins unusually glabrous, as is common in the subgenus, beyond the cord with an extensive series over most of the outer section of R_{4+5} . Venation: R_{1+2} entire but short and oblique; R_s relatively long, about two and one-half times *m-cu*; petiole of cell M_1 subequal to *m*; cell *1st* M_2 relatively long and narrow, its inner end more or less pointed.

Basal abdominal tergite gray, the succeeding four tergites conspicuously reddened, with a broad black central stripe that is narrowly

interrupted at the posterior borders of the segments; lateral tergal borders light gray, vaguely bordered internally by more brownish gray; sternites and outer tergites gray, more or less patterned with more reddish areas; ninth segment, excepting the outer dististyle, blackened. Male hypopygium with the lateral lobes of tergite broad, truncated, separated by a deep U-shaped median notch; outer angles of lobes produced into strong chitinized points; ventral surface of mesal angles with a strong blackened chitinized blade or flange; tergite with abundant black setae, on the mesal portions even more dense and conspicuous. Outer dististyle widely dilated at near midlength, its greatest width exceeding one-half the length, the more narrowed apex obtuse. Inner dististyle moderately wide, at apex dilated into a truncated blade, the lower or rostral portion subglabrous, the upper part with about eight or nine powerful setae; face of style with a strong blackened spine.

Habitat: Northern Korea. *Holotype*, ♂, Seren Mountains, altitude 2500 feet, June 15, 1938 (Yankovsky). *Paratopotypes*, 6 ♂♂.

Readily told from the other regional members of the subgenus by the coloration of the body and antennae and especially by the structure of the male hypopygium, particularly the tergite and inner dististyle. The characters of the subgenus and a list of the regional species have been given by the writer in earlier papers (1933, *Philippine Journ. Sci.*, 52 : 410-411; 1935, *idem*, 57 : 116-117). Lackschewitz (1936, *Trav. Inst. Zool. Acad. Sci. URSS*, 4 : 245-312) has attempted to synonymize certain of the Nearctic species of *Arctotipula* described by the writer with other common and widespread Arctic forms, specifically *Tipula* (*Arctotipula*) *aleutica* Alexander with *T. (A.) besselsi* Osten Sacken, the latter the subgenotype, and *T. (A.) alascaensis* Alexander with *T. (A.) ciliata* Lundstrom of Arctic Eurasia. I can affirm that in neither of these instances is the placing in synonymy justified and both species are entirely valid. Actually *besselsi* is very close to the commonest species in Arctic Europe, *T. (A.) salicetorum* Siebke (*nigricornis* Zetterstedt, not Macquart), both having a peculiar blackened sclerotized armature on the ventral surface of the ninth tergite. It is becoming increasingly evident that there are relatively numerous species in the Holarctic Region, some closely interrelated yet nevertheless quite distinct. Attention again may be called to the fact that the northern European *T. (A.) tumidecornis* Lundstrom and the Nearctic *T. (A.) illustris* Doane (*fuscipennis* Loew, 1865, nec Curtis, 1834) are actually species of *Arctotipula* and not members of the genus *Prionocera* Loew, where they have commonly been placed.

***Tipula* (*Arctotipula*) *mediodentata* n. sp.**

Size large (wing, 18 mm.); general coloration gray, the praescutum with four darker brownish gray stripes; nasus elongate; antennae with pedicel obscure yellow, flagellum brownish black; femora yellow, the tips conspicuously blackened; claws (male) toothed; wings brownish yellow, weakly patterned with darker; stigma oval, dark brown, in male with about 25 trichia, glabrous in female; veins beyond cord with numerous trichia; male hypopygium with the tergite narrowed outwardly, the caudal margin with a broad but deep U-shaped median notch, the sides of lobes adjoining the notch produced caudad into

slender setuliferous points; outer dististyle greatly expanded outwardly; inner dististyle with the outer basal lobe a blackened spine, with two further smaller spines on margin; gonapophysis with abundant microscopic tubercles.

Male.—Length, about 16 mm.; wing, 18 mm.; antenna, about 4 mm.

Female.—Length, about 17 mm.; wing, 18 mm.

Frontal prolongation of head relatively short, dark gray; nasus conspicuous, nearly one-half the length of the prolongation, truncated at apex; palpi with basal three segments dark brown, the terminal one pale yellowish brown. Antennae with scape light brown, gray pruinose, pedicel obscure yellow, flagellum brownish black; flagellar segments (male) relatively short, moderately incised, with the basal enlargements becoming well-indicated on the more distal segments; terminal segment more than three-fourths the length of the penultimate; longest verticils slightly exceeding the segments in length. Head light gray, a trifle more infuscated on the broad vertex, particularly in female; vertical tubercle not or scarcely indicated; vestiture of vertex relatively long, blackened.

Pronotum infuscated medially, gray on sides; scutellum and pretergites light yellow. Mesonotum gray, the praescutum with four darker brownish gray stripes, much more distinct and contrasted in female, the stripes entire or with the mesal edges of the intermediate pair slightly more darkened; scutal lobes conspicuously patterned with brownish gray; scutellum broadly dark brown; mediotergite with a much narrower capillary brown central stripe; pleurotergite with the katapleurotergite more infuscated. Pleura gray, somewhat darker on the anepisternum, the dorsopleural membrane broadly light yellow; in female, the membrane more infuscated, especially posteriorly. Halteres obscure yellow, the base of knob restrictedly more darkened. Legs with the coxae gray, with long setae; trochanters yellow; femora yellow, the tips conspicuously blackened, the amount approximately equal on all legs; tibiae and basitarsi light brown, darker at tips, remainder of tarsi black; claws (male) toothed. Wings with a weak brownish yellow tinge, darker beyond cord; prearcular field and cell Sc more yellowed; stigma oval, dark brown, conspicuous, provided with about 25 trichia in male, glabrous in female; narrow pale brown seams on cord and outer end of vein *M*; veins beyond cord and the axillary border less evidently seamed with brown. Squama naked; veins beyond cord with abundant trichia, particularly in radial field, becoming more sparse in the medial field, on *M*₄ only at base. Venation: *Rs* about two and one-half times *m-cu*; *R*₁₊₂ relatively short, pale and with trichia only near origin; in female, vein *R*₃ longer and more extended; second section of *M*₁₊₂ arcuate, widening cell 1st *M*₂; *m* about twice the petiole of cell *M*₁.

Abdomen of male with basal tergite gray, with a brown central spot; succeeding tergites yellow with a broad brownish black median stripe that is broadly interrupted by the yellow posterior borders of the segments, lateral tergal borders paling to gray; sternites gray, the caudal borders narrowly yellow; outer segments, including hypopygium, more uniformly blackened, the outer dististyle conspicuously yellow. In the female, the abdomen is somewhat the same but the gray lateral tergal borders are margined internally by somewhat paler brown, not forming

a distinct sublateral stripe; pleural membrane dark. Ovipositor with the genital shield and the preceding segment dark brown; cerci compressed, yellow, the margins smooth; hypovalvae much deeper, their tips truncated. Male hypopygium with the tergite large, the basal third glabrous, the outer portion with dense black setae; outer and narrowed to give a general convex appearance to the distal portion, the median region with a deep and broad U-shaped notch; sides of notch produced caudad into slender yellow points that are densely setuliferous. Outer dististyle greatly expanded at outer end, appearing generally triangular in outline, the width across the truncated apex exceeding two-thirds the length of the style. Inner dististyle elongate, strongly bent at near midlength; beak more or less truncate, its sides with a conspicuous blackened lateral flange back from the apex; outer basal lobe a short but powerful blackened spine; margin of style basad of this spine with two smaller erect spinous points. Gonapophysis widened outwardly, the tip membranous, the surface with abundant microscopic tubercles.

Habitat: Northern Korea. *Holotype*, ♂, Chonsani, altitude 4300 feet, July 14, 1937 (Yankovsky). *Allotopotype*, ♀, pinned with type. *Paratopotype*, ♀, same data.

Although generally similar to *Tipula* (*Arctotipula*) *laterodentata* n. sp., the present fly is entirely distinct, particularly in the nasus and in the structure of the male hypopygium, as the tergite, both dististyles and the gonapophysis.

***Tipula* (*Acutipula*) *bicompressa* n. sp.**

Allied to *bipenicillata*; size large (wing, male, over 20 mm.); wings yellowish brown, the prearcular and costal fields more yellowed; obliterative band conspicuous; male hypopygium with the median lobe of ninth tergite unusually slender; inner dististyle with the outer beak produced into a bulbous or spatulalike lobe, with a small slender spine near its base; eighth sternite sheathing, on either side of apical portion with a compressed flattened lobe that is densely covered with short setae.

Male.—Length, about 20 mm.; wing, 21 mm.; antenna, about 5.1 mm.

Frontal prolongation of head blackened, sparsely pruinose above at base; nasus elongate; palpi black, incisures restrictedly brightened; terminal segment not exceeding twice the penultimate. Antennae of moderate length; scape and pedicel yellow; first flagellar segment obscure yellow, restrictedly darkened at base; succeeding segments very vaguely bicolored, darkened at base, the stems a trifle paler; outer segments more uniformly dark brown. Head gray; eyes large; anterior vertex relatively narrow, only about one and one-half times the greatest diameter of scape.

Pronotum obscure yellow. Mesonotal praescutum and scutum more brownish gray, the former without clearly defined stripes; scutellum and postnotum more yellow pollinose. Pleura, including dorso-pleural membrane, uniformly yellow. Halteres with stem yellow, knob infuscated. Legs with the coxae and trochanters yellow; remainder of legs elongate; femora and tibiae obscure yellow; the tips very narrowly and inconspicuously darkened; tarsi brown, the outer segments passing into black; claws (male) toothed. Wings with a strong yellowish brown

tinge, the prearcular and costal fields clearer yellow; stigma oval, darker brown; oblitative band along cord conspicuous, entering the base of cell M_3 ; veins dark brown, more yellowed in the brightened fields. Squama with trichia; veins beyond cord without trichia, excepting a restricted series along vein R_{4+5} . Venation: R_{1+2} entire; cell R_2 narrowed at base; m a little exceeding the petiole of cell M_1 ; $m-cu$ a short distance before the fork of M_{3+4} .

Abdomen with basal tergites obscure yellow, the outer ones somewhat more darkened medially; caudal borders of tergites very narrowly, the lateral margins more broadly pale yellow; basal sternites yellow; outer segments passing into black. Male hypopygium with the ninth tergite produced into an unusually slender lobe, the tip entire, densely set with short blackened spines. Outer dististyle relatively small, widest at near midlength, the tip obtuse. Inner dististyle small; beak small and slender, outer beak produced into a bulbous or spatulate lobe, its lower margin further produced into an obtuse flange; between the two beaks with a small straight spine; outer margin of style with abundant erect setae. Eighth sternite sheathing, on either side of the apical portion with a conspicuous longitudinal compressed-flattened lobe that is densely covered with short setae; median space between lobes wide, filled with pale membrane.

Habitat: Northern Korea. *Holotype*, ♂, Puksu Pyaksan, altitude 2500 feet, June 8, 1939 (Yankovsky).

Tipula (*Acutipula*) *bicompressa* is most similar to *T. (A.) bipenicillata* Alexander and *T. (A.) tokionis* Alexander, differing from both particularly in the structure of the male hypopygium, including the tergite, both dististyles, and the eighth sternite.

***Tipula* (*Lunatipula*) *sublimitata atrodeclivis* n. subsp.**

Male.—Length, about 19 mm.; wing, 19 mm.; antenna, about 6.3 mm.

Generally similar to typical *sublimitata* Alexander, of Kamtchatka, differing chiefly in the structure of the male hypopygium, as follows: Ninth tergite with the mesal faces of the tergal lobes heavily blackened and precipitous. Outer dististyle dilated into a slightly flattened blade. Inner dististyle with beak very slender; outer basal lobe a small thumblike lobe. Eighth sternite with the lateral lobes relatively short and stout, blackened, each lobe narrowed outwardly, terminating in an acute sclerotized point, the face and mesal margin with abundant long coarse setae; beneath the lateral lobes and closer to midline with a pair of smaller darkened obtusely pointed lobes. In the typical form, the lateral lobes of the eighth sternite are elongate, decussate across the midline, their tips expanded, blunt.

Habitat: Northern Korea. *Holotype*, ♂, Seren Mountains, altitude 5000 feet, August 2, 1938 (Yankovsky).

Genus *Dicranota* Zetterstedt

***Dicranota* (*Dicranota*) *profunda* n. sp.**

General coloration of thorax brownish yellow, the pleura and posterior sclerites clearer yellow; legs brownish yellow; wings uniformly

pale yellow; R_{2+3+4} long, subequal to or exceeding $m-cu$; cell M_2 open; abdomen brownish yellow, the subterminal segments darkened to form a ring; male hypopygium with the tergite profoundly incised medially, the notch unusually deep and narrow, each lateral lobe further subdivided by a smaller emargination, the intermediate lobules thus formed long and slender.

Male.—Length, about 5–5.5 mm.; wing, 5.5–6 mm.

Female.—Length, about 5.5–6 mm.; wing, 6.3–7 mm.

Rostrum brownish yellow; palpi pale brown. Antennae relatively short; scape yellow, remainder of organ black. Head dark gray, paler behind.

Thorax obscure yellow or brownish yellow, the pleura and posterior sclerites of notum clearer yellow; in cases, the pronotum and praescutum a trifle darker. Halteres with stem yellow, knob weakly infuscated. Legs with the coxae and trochanters yellow; remainder of legs obscure brownish yellow, the outer segments passing into pale brown. Wings uniformly pale yellow; stigma barely indicated; veins pale brown, a little more yellowed in the basal and costal regions. Venation: Sc moderately long, Sc_1 ending about opposite the fork of R_{2+3+4} , Sc_2 shortly before midlength of the distance between arculus and origin of Rs ; supernumerary crossvein in cell R_1 usually present, in cases very faint to lacking; R_{2+3+4} long, subequal to or exceeding $m-cu$; R_2 far distad, nearly perpendicular, longer than R_{1+2} ; basal section of R_5 very reduced to lacking, Rs being in virtual alignment with the second section of the vein; cell M_2 open; $m-cu$ opposite or before midlength of M_{3+4} .

Abdomen with tergites brownish yellow, the posterior borders clearer yellow; sternites clear yellow; subterminal segments more darkened to form a ring; styli of hypopygium obscure yellow. Male hypopygium with the tergite profoundly incised medially, the notch unusually deep and narrow, each lobe further subdivided by a smaller emargination, the intermediate lobules thus formed long and slender, jutting beyond all other parts of the tergite, obtuse at apex and tipped with a few short setae. Basistyle with interbase a broad flattened blade, irregular in outline, widest about opposite midlength, the bulging outer margin with microscopic crenulations or weak serrulations; inner margin of interbase with a short spinous point; extreme apex of basistyle short-pointed, provided with three or four stout spinous setae. Two dististyles, both elongate, the outer cylindrical, with abundant stout setae, those nearest apex stronger and subspinous; inner style about as long, its basal third a little dilated, the outer part a flattened blade with the apex obtusely rounded.

Habitat: Japan (Honshu). *Holotype*, ♂, Funakosi, Iwateken, altitude 100 meters, May 21, 1947 (H. Yamamoto). *Allotopotype*, ♀. *Paratopotypes*, 4 ♂ ♀, pinned with the types.

The most similar regional species is *Dicranota* (*Dicranota*) *nippoalpina* Alexander, of the Japanese Alps, which differs very strikingly in all details of structure of the male hypopygium. The superficially somewhat similar species of the subgenus *Rhaphidolabis*, including *D. (R.) consors* Alexander and *D. (R.) subconsors* Alexander, have entirely distinct male genitalia.

Genus **Paradelphomyia** Alexander**Paradelphomyia (Oxyrhiza) nimbicolor** n. sp.

Thorax almost uniformly dark brown or brownish black; antennae short, black throughout; wings of male widest opposite the termination of vein *2nd A*, strongly suffused with dusky; male hypopygium with the dististyles terminal in position.

Male.—Length, about 5 mm.; wing, 5.3 mm.

Female.—Length, about 6.5 mm.; wing, 6.5 mm.

Rostrum and palpi black. Antennae short, black throughout; proximal two flagellar segments more or less united into a fusion segment; outer flagellar segments long-cylindrical, with long conspicuous verticils. Head black, sparsely pruinose.

Mesonotal praescutum almost uniformly dark brown or brownish black, the remainder of notum a trifle paler. Pleura brownish black. Halteres with stem weakly infuscated, narrowly paler at base, knob dark brown. Legs with coxae and trochanters testaceous; remainder of legs dark brown, the tarsi passing into black; tibial spurs distinct. Wings of male broadest opposite the termination of vein *2nd A*, strongly suffused with dusky, the stigma a little darker brown; wing base a little more yellowed, including the veins; remaining veins brown. Macrotrichia of outer cells relatively abundant, in male from cell R_1 through cell M_3 , in the female even more extensive, into cell M_4 . Venation: Sc_1 ending about opposite the fork of Rs , Sc_2 some distance from its tip, Sc_1 alone subequal to R_{2+3+4} ; R_2 faintly indicated to lacking, when present placed at or before the fork of R_{3+4} ; R_{2+3+4} in virtual longitudinal alignment with vein R_3 ; veins R_3 and R_4 divergent, cell R_3 at margin being nearly twice cell R_2 ; cell M_1 present, about one-half its petiole or slightly more; *m-cu* close to midlength of cell *1st M*₂.

Abdomen brownish black, the hypopygium a trifle paler. Male hypopygium with the dististyles terminal in position; outer style ending in two major slightly curved spines, the subterminal spine erect and nearly straight. Phallosomic region injured in the unique type slide; before this damage occurred, an elongate pale slender rod, presumably the aedeagus, was noted as being present.

Habitat: Japan (Honshu). *Holotype*: ♂, Funakosi, Iwateken, altitude 100 meters, September 26, 1947 (H. Yamamoto). *Allotopotype*, ♀, pinned with type. *Paratopotypes*, 2 ♀ ♀.

The present fly is very distinct from the other regional species in the structure of the male hypopygium, especially the terminal dististyles. In the most similar regional species, *Paradelphomyia (Oxyrhiza) ariana* (Alexander) and *P. (O.) nipponensis* (Alexander), the apex of the basistyle is produced beyond the point of origin of the dististyles as a strong spine. The European members of the subgenus likewise have the dististyles of the hypopygium terminal in position but differ from the present fly in various other regards, including coloration and venation. In its general appearance, the present fly is somewhat more like *ariana* than it is to other regional species.

Paradelphomyia (Oxyrhiza) chosenica n. sp.

Size large (wing, female, over 7 mm.); general coloration black, the

surface obscured by a gray pruinosity; halteres yellow; femora light yellow, the tips narrowly and vaguely darkened; wings brownish yellow, clearer yellow in the prearcular and costal fields; abundant macrotrichia in outer cells of wing; cell M_1 small; *m-cu* at or before midlength of cell 1st M_2 .

Female.—Length, about 8 mm.; wing, 7.5 mm.

Rostrum and palpi black. Antennae with scape, pedicel and basal segment of flagellum black, the remainder broken. Head black, opaque by a gray pruinosity; anterior vertex broad, exceeding three times the diameter of scape.

Prothorax and mesothorax black, the color obscured by a gray pruinosity, heaviest on the lateral portions of the praescutum, scutellum, postnotum and pleura; anterior lateral pretergites obscure yellow. Halteres yellow. Legs with the fore coxae black; middle coxae blackened, the tips pale; posterior coxae obscure yellow; trochanters yellow; femora light yellow, the tips narrowly and vaguely darkened; base of tibiae yellow (broken before midlength). Wings with a strong brownish yellow tinge, the prearcular and costal fields clearer yellow; stigma oval, pale brown; veins brown, clear yellow in the brightened fields. Abundant macrotrichia in apical cells of wing from Sc_2 to 1st A , inclusive, especially numerous in radial and medial cells. Venation: Sc_1 ending about opposite fork of Rs , Sc_2 some distance from its tip, Sc_1 alone about three-fifths R_{2+3+4} ; vein R_1 sinuous near the insertion of vein R_2 ; Rs long; R_{2+3+4} in longitudinal alignment with R_{2+3} ; vein R_2 very faint to nearly obsolete, a little longer than R_{2+3} ; cell M_1 small, about one-third its petiole; *m-cu* at from one-third to nearly opposite midlength of cell 1st M_2 .

Abdomen black, sparsely pruinose. Ovipositor with valves strong, yellowish horn colored.

Habitat: Northern Korea. *Holotype*, ♀, Kankyo Nando, Puksu Pyaksan, altitude 6000 feet, June 30, 1939 (Yankovsky).

The present fly is well-distinguished from all other regional members of the genus of major size. The most similar of such species is *Paradelphomyia (Oxyrhiza) majuscula* (Alexander), of western China. The present fly differs in the details of coloration and venation, as the short Sc_1 , narrower cell R_3 , and the unusually small cell M_1 .

Genus *Archilimnophila* Alexander

Archilimnophila subunicoïdes n. sp.

Allied to *subunica*; antennae (male) relatively short, only about one-third as long as the wing; wings relatively narrow, restrictedly patterned with brown; male hypopygium generally as in *subunica*, the gonapophyses simple

Male.—Length, about 9–10 mm.; wing, 9–10 mm.; antenna, about 3.2–3.3 mm.

Female.—Length, about 10–11 mm.; wing, 10.5–11 mm.

Rostrum gray; palpi brown. Antennae (male) relatively short for a member of the genus, dark brown; flagellar segments elongate, subequal to the verticils. Head gray; anterior vertex broad.

Pronotum gray, the sides of the scutellum obscure brownish yellow. Mesonotum gray, the praescutum with four more blackened stripes, the narrow intermediate pair only narrowly and incompletely separated by a gray vitta; scutal lobes weakly patterned with darker. Pleura gray, somewhat darker on the ventral sternopleurite; dorsopleural membrane buffy yellow to light brown. Halteres with stem obscure brownish yellow, knob more infuscated. Legs with the coxae yellow, more or less pruinose, the fore pair extensively more blackened, the middle pair similarly colored basally; trochanters yellow; fore femora extensively blackened, with about the proximal fourth or fifth yellow; remaining femora yellow, the tips more narrowly blackened; tibiae brownish yellow, the tips darkened; tarsi black. Wings relatively narrow, yellow, the base clearer yellow; a restricted brown pattern, including the stigma and clouds at origin of *Rs*, along cord, outer end of cell 1st *M*₂ and fork of *M*₁₊₂; veins brown, darker in the patterned portions, clear yellow at wing base. Venation: *R*₂₊₃₊₄ from about one-half to nearly two-thirds the strongly decurved *R*₄; cell *M*₁ usually subequal in length to its petiole, in cases a little longer or shorter; *m-cu* at from about one-fourth to beyond one-third the length of cell 1st *M*₂.

Abdomen blackish, gray pruinose, including the hypopygium. Male hypopygium generally as in *subunica* but differing in important details. Outer dististyle a small strongly curved rod, the tip subacute. Inner dististyle with the yellow rostral portion long and slender, on outer margin close to base bearing a stout darkened lobe, its surface microscopically roughened. Each gonapophysis appearing as a slender sinuous blackened rod, very gradually narrowed to the acute tip, without a lateral branch, as in *subunica*.

Habitat: Northern Korea. *Holotype*, ♂, Puksu Pyaksan, altitude 4000 feet, June 5, 1939 (Yankovsky). *Allotopotype*, ♀, altitude 4200 feet, June 4, 1939. *Paratopotypes*, 7 ♂ ♀, altitude 3700–4500 feet, June 3–5, 1939 (Yankovsky).

Archilimnophila subunicoides is most closely related to the northern Nearctic *A. subunica* (Alexander), differing especially in the structure of the male hypopygium, as indicated above. The species is less similar to *A. harperi* (Alexander) and *A. unica* (Osten Sacken). I had formerly placed these flies in the genus *Austrolimnophila* Alexander but now believe that the genus *Archilimnophila* is separable though closely allied.

Genus *Limnophila* Macquart

Limnophila (*Prionolabis*) *clavaria* n. sp.

Size medium (wing, male, about 9 mm.); thorax brownish black, the surface opaque; legs black; wings broad, yellow, restrictedly patterned with darker; cell *M*₁ present but small; male hypopygium with the subtending lobe of the outer dististyle large, dark-colored, the style narrowed to an acute apical point, with a single obtuse lateral denticle; inner dististyle simple, with a blunt lobe at near three-fourths the length; gonapophysis appearing as a small straight darkened club, the tip blunt.

Male.—Length, about 8.5 mm.; wing, 8.8 mm.; antenna, about 1.6 mm.

Rostrum and palpi black. Antennae 16-segmented, black throughout; basal flagellar segments oval, the outer ones more elongate-oval; verticils of outer segments long and conspicuous. Head brown, opaque; anterior vertex broad.

Thoracic dorsum almost uniformly brownish black, the surface opaque by a sparse brownish yellow pollen. Pleura black, sparsely pruinose; dorsopleural membrane dark. Halteres yellow, the knobs a trifle more darkened. Legs with the coxae black, sparsely pruinose; remainder of legs black, the femoral bases very restrictedly brightened. Wings broad, ground color yellow, the prearcular and costal fields somewhat clearer yellow; stigma long-oval, brown; vague paler brown seams over anterior cord, vein R_5 , the entire length of vein Cu and in the axillary portion of cell *2nd A*; veins dark brown, paler in the brighter yellow portions. Venation: Sc_1 ending just before the level of the fork of R_s , Sc_2 at its tip; R_{2+3+4} about three-fifths R_{2+3} ; R_{1+2} a little longer than R_2 ; cell M_1 small, approximately one-half its petiole; $m-cu$ at or just beyond midlength of cell *1st M*₂.

Abdomen, including hypopygium, black, the surface subnitidous, with black setae. Male hypopygium with the central region of the posterior border of the ninth tergite slightly produced and with a broad U-shaped notch, the lobes thus formed conspicuous. Outer dististyle with the subtending lobe large, dark-colored; style gradually narrowed to an acute curved apical point, with at most a single evident lateral denticle; outer margin with very long setae. Inner dististyle simple, the outer fourth slender, at point of narrowing with a blunt lobe, the apex of which is microscopically roughened or tuberculate. Aedeagus compressed-flattened, dark-colored. Gonapophysis appearing as a small straight darkened rod that widens very gradually outwardly, the apex obtusely rounded or weakly notched (in one apophysis of the unique type), the whole structure appearing as a small dusky club.

Habitat: Northern Korea. *Holotype*, ♂, Kankyo Nando, Pukso Pyaksan, Toorisani, altitude 6000 feet, June 22, 1939 (Yankovsky).

Limnophila (Prionolabis) clavaria is quite distinct from all other regional members of the subgenus, differing especially in the structure of the male hypopygium, as the dark-colored clavate gonapophyses. The fly is entirely different from the other species known from the Asiatic mainland.

Limnophila dis n. sp.

Allied to *yankovskiana*; general coloration black, including body and antennae; antennae of male elongate, exceeding one-half the length of wing; femora black, tibiae and tarsi dark brown; wings broad, with a strong blackish tinge; cell R_3 sessile or very short-petiolate; cell M_1 lacking; $m-cu$ at or beyond midlength of cell *1st M*₂; male hypopygium with the outer dististyle a slender straight rod that is very shallowly and unequally bifid at tip, the longer spine being axial, the lateral branch much smaller.

Male.—Length, about 6–6.5 mm.; wing, 7–8 mm.; antenna, about 4.2–4.5 mm.

Rostrum and palpi black. Antennae of male elongate, as shown by the measurements; scape and pedicel black, flagellum dark brown;

flagellar segments apparently only 13 in number, elongate-cylindrical, with long coarse verticils and a shorter but conspicuous erect pubescence. Head dull black.

Thorax black, the surface subnitidous by a sparse pruinosity, pleura more heavily pruinose. Halteres infuscated, the extreme base of stem paler. Legs with the coxae black, very sparsely pruinose; trochanters dark; femora black, tibiae and tarsi dark brown or brownish black, the tips of the segments narrowly more darkened. Wings broad, with a strong blackish tinge; stigma oval, scarcely darker than the ground; scarcely indicated darker seams along the cord; veins brown. Venation: Sc_1 ending opposite fork of R_s , Sc_2 a short distance from its tip; R_s elongate, square and more or less spurred at origin; cell R_3 usually sessile, in cases barely so, with vein R_{4+5} punctiform or very short, in other cases, including the type, with R_{4+5} nearly as long as the basal section of R_5 ; in still other specimens, cell R_3 short-petiolate, with a short element R_{2+3+4} present; vein R_2 faintly indicated, about one-half R_{1+2} ; cell M_1 lacking; $m-cu$ opposite or shortly beyond midlength of cell 1st M_2 ; vein 2nd A moderately sinuous.

Abdomen, including hypopygium, black. Male hypopygium with the tergal region feebly emarginate. Outer dististyle a slender straight rod, very shallowly and unequally toothed at apex, the longer tooth axial, the shorter spine scarcely more than a tubercle, placed on mesal edge some distance from tip; inner dististyle unusually short and squat, the tip slightly decurved, obtuse.

Habitat: Northern Korea. *Holotype*, ♂, Puksu Pyaksan, altitude 5500 feet, June 13, 1939 (Yankovsky). *Paratopotypes*, 10 ♂♂, June 13-23, 1939 (Yankovsky).

Generally similar to *Limnophila yankovskiana* Alexander, likewise from the mountains of northern Korea, agreeing in the black coloration, elongate antennae of male, sessile or subsessile cell R_3 , loss of cell M_1 and other characters, differing in the shorter antennae of male, more blackened wings, with the venational details, particularly of the medial field, distinct, and especially in the structure of the male hypopygium, notably the outer dististyle.

Limnophila pietatis n. sp.

General coloration of thorax reddish yellow, without pattern; antennae (male) elongate, the flagellar segments beyond the first uniformly black; femora yellow, the tips abruptly and very conspicuously blackened; wings with a weak brownish yellow tinge, restrictedly patterned with brown; Sc moderately long, Sc_1 ending before level of fork of R_s ; R_{2+3+4} subequal to R_{2+3} ; abdomen yellow, the anterior lateral angles of both tergites and sternites conspicuously blackened, in male, the outer three segments blackened; male hypopygium with the outer dististyle relatively short, glabrous, the apical outer angle produced into a slender fingerlike point; gonapophysis with seven or eight scattered spines on outer portion.

Male.—Length, about 7 mm.; wing, 6.8 mm.; antenna, about 3.2 mm.

Female.—Length, about 8.5 mm.; wing, 7.5 mm.

Rostrum orange yellow; palpi black. Antennae (male) elongate,

as shown by the measurements; basal three segments yellow, succeeding segments passing through dark brown to black; flagellar segments elongate-subcylindrical, the longest verticils a little shorter than the segments; in addition to the verticils, segments clothed with a dense erect pale pubescence. Head yellow, sparsely pruinose; anterior vertex broad, approximately four times the diameter of scape. In the female referred to this species, the antennae are shorter, the scape blackened; head above much clearer gray.

Entire thorax uniformly reddish yellow, subnitidous, without pattern. Halteres relatively long, stem yellow, knob very slightly darker. Legs with the coxae and trochanters yellow; femora yellow, the tips rather broadly and abruptly black, occupying about the outer seventh or eighth of segment; tibiae paler yellow, the base diffusely infuscated, the tip more narrowly and abruptly blackened; basitarsi and second tarsal segment almost white, the tips darkened; outer tarsal segments brownish black. Wings with a weak brownish yellow tinge, the prearcular and costal fields clear light yellow; a restricted brown pattern, including stigma, a large cloud at origin of *Rs*, cord, outer end of cell 1st *M*₂, and less evidently elsewhere; outer radial cells even less distinctly infuscated; veins brown, yellow in the brightened areas. Venation: *Sc* moderately long, *Sc*₁ ending before fork of *Rs*, *Sc*₂ even longer, opposite this fork; *Rs* elongate, square and in cases, including the type, long-spurred at origin; *R*₂₊₃₊₄ relatively long, about equal to *R*₂₊₃, in direct longitudinal alignment with *Rs*; *R*₁₊₂ and *R*₂ subequal; inner ends of cells *R*₄, *R*₅ and 1st *M*₂ in transverse alignment; cell *M*₁ from one-third to one-half longer than its petiole; cell 1st *M*₂ rectangular, with *m-cu* at from one-third to two-fifths its length; vein 2nd *A* long, generally paralleling the axillary margin of wing.

Abdomen yellow, the anterior lateral angles of both tergites and sternites two to four, with a conspicuous black area that narrows behind, extending to beyond midlength of segment, on the succeeding segments becoming smaller and less evident, more distinct in female; male with terminal three segments black, only the hypopygium partly brightened; in female, the pale color continued virtually to the end, including the genital shield. Male hypopygium with the outer dististyle relatively short, appearing as a gently curved flattened blade, at end with apical outer angle produced into a slender fingerlike point; surface glabrous except for a single strong seta at basal third. Inner dististyle a little shorter, the basal half or more oval, the outer portion more narrowed; surface of style with conspicuous erect setae. Gonapophysis provided with seven or eight conspicuous acute points distributed over the entire head or apical portion.

Habitat: Northern Korea. *Holotype*, ♂, Puksu Pyaksan, altitude 5000 feet, August 21, 1939 (Yankovsky). *Allotopotype*, ♀, pinned with type. *Paratopotypes*, 3 ♂♂, August 9-21, 1939 (Yankovsky).

Very similar in its general appearance to the western Palaearctic *Limnophila glabricula* (Meigen), of which it may prove to represent a race. The dististyles of the male hypopygium are conspicuously shorter than in *glabricula*. Edwards referred *glabricula* to the subgenus *Phylidorea* Bigot but its position here must still be held as questionable.

Genus **Lipsothrix** Loew**Lipsothrix yamamotoana** n. sp.

General coloration dull black; antennae black, relatively long, if bent backwards extending approximately to the wing-root, the flagellar verticils shorter than the segments; femora yellow, the tips brownish black, slightly more extensive on the fore legs where about the outer fifth is included; wings yellowed, the prearcular and costal fields clearer yellow; Sc short, Sc_1 ending about opposite the fork of Rs ; Rs relatively long, exceeding four times R_{2+3+4} , the latter shorter than R_{2+3} ; inner end of cell R_4 lying only a little proximad of the other elements of the anterior cord; $m-cu$ close to the fork of M .

Male.—Length, about 7–7.5 mm.; wing, 8–8.5 mm.; antenna, about 2.1–2.3 mm.

Rostrum and palpi black. Antennae black, relatively long, if bent backward extending approximately to the wing-root; flagellar segments oval, the constrictions between the segments well indicated; verticils shorter than the segments. Head dull black.

Thorax uniformly dull black. Halteres pale yellow. Legs with the coxae and trochanters yellow; femora yellow, the tips brownish black, slightly more extensively so on the fore legs where about the outer fourth or fifth is included; tibiae obscure brownish yellow, the tips narrowly darkened; tarsi brown; claws (male) toothed. Wings with the ground color yellow, the prearcular and costal fields clear light yellow; stigma oval, brown, relatively inconspicuous; veins brown, yellow in the brightened areas, especially at wing base. Venation: Sc short, Sc_1 ending about opposite fork of Rs , Sc_2 at its tip; Rs relatively long, exceeding four times R_{2+3+4} , the latter shorter than R_{2+3} ; R_{1+2} very short; inner end of cell R_4 lying only a short distance proximad of the other elements of the anterior cord; cell 1st M_2 rather short-rectangular; $m-cu$ close to or just beyond the fork of M .

Abdomen, including hypopygium, black, sparsely pruinose.

Habitat: Japan (Honshu). *Holotype*, ♂, Funakosi, Iwateken, altitude 200 meters, May 23, 1947 (H. Yamamoto). *Paratopotype*, ♂, pinned with the type.

I am very pleased to name this distinct fly for the collector, Mr. Hiromu Yamamoto, to whom I am greatly indebted for many interesting Tipulidae from northern Honshu. From other regional members of the genus, including *Lipsothrix tokunagai* Alexander and *L. yakushimae* Alexander, it is readily told by the coloration and by the structure of the antennae and the venation.

Genus **Gnophomyia** Osten Sacken**Gnophomyia (Gnophomyia) acheron** n. sp.

General coloration black; antennae black, the flagellar segments in male relatively long, subcylindrical; wings with a weak blackish tinge, the prearcular field light yellow, stigma not indicated; Sc_1 unusually long; ovipositor with cerci unusually long and slender, gently upcurved; basistyle of male hypopygium with a group of six or seven stout black

setae on mesal face; outer dististyle a long, nearly straight blackened rod, the tip obtuse.

Male.—Length, about 7.5–8 mm.; wing, 7.5–8 mm.; antenna, about 2–2.1 mm.

Female.—Length, about 8 mm.; wing, 8 mm.

Rostrum and palpi black. Antennae black, the scape a little more pruinose; flagellar segments in male relatively long, subcylindrical, longer than the verticils. Head dull black, the anterior vertex broad, heavily dusted with gray.

Thorax black, subopaque, the ventral pleurites more distinctly pruinose. Halteres pale yellow. Legs with the coxae and trochanters black; remainder of legs black, the femoral bases very narrowly yellowed, most evident on the fore legs. Wings with a weak blackish tinge, the prearcular field light yellow; stigma not indicated; veins dark brown. Venation: Sc_1 ending approximately opposite R_2 , Sc_2 nearly opposite the fork of R_s , so Sc_1 is unusually long, subequal to or even exceeding the combined veins R_{2+3+4} and R_{2+3} ; veins R_3 and R_4 extending generally parallel to one another, slightly divergent; cell 1st M_2 shorter than vein M_4 , with *m-cu* at near one-third its length.

Abdomen, including hypopygium, black. Ovipositor with the cerci unusually long and slender, gently upcurved. Male hypopygium with the region of the ninth tergite with a shallow emargination, the lobes very broad, at base of notch with a few short strong spines. Mesal face of basistyle with a group of six or seven stout black setae on mesal face. Outer dististyle a long, nearly straight blackened rod, its tip obtuse. Inner dististyle much smaller, broad at base, the outer half strongly narrowed and upturned, on dorsal face of the enlarged part with a compact group of about eight long black spinous setae. Phallosome massive, subquadrate in outline, the caudal margin very gently emarginate medially.

Habitat: Japan (Honshu). *Holotype*, ♂, Funakosi, Iwateken, altitude 200 meters, May 23, 1947 (H. Yamamoto). *Allotopotype*, ♀. *Paratopotypes*, 6 ♂ ♀.

The only approximately similar regional species is *Gnophomyia* (*Gnophomyia*) *nycteris* Alexander, still known to me only from the female. This differs in the details of coloration and venation and especially in the structure of the ovipositor.

Genus *Ormosia* Rondani

Ormosia (*Ormosia*) *weymarni* n. sp.

Mesonotum brownish gray, the postnotum and pleura yellow; antennae short; halteres with knobs dusky; legs yellowish brown, the tips of the femora and tibiae narrowly darkened; wings grayish yellow, the prearcular and costal fields clearer yellow; macrotrichia of cells long and conspicuous but relatively sparse, more or less restricted to the central portions of the cells; phallosome unblackened.

Male.—Length, about 4–4.2 mm.; wing, 4.4–4.8 mm.

Rostrum and palpi pale. Antennae short, if bent backward extending about to mid-distance to wing root or slightly beyond; scape and

pedicel light brown, flagellum black; flagellar segments oval, the verticils a little exceeding the segments. Head dark gray.

Pronotum obscure yellow. Mesonotal praescutum brownish gray, without clearly defined stripes; scutum and scutellum brownish gray, the postnotum yellow. Pleura obscure yellow. Halteres dusky, the basal half of stem yellow. Legs with the coxae and trochanters yellow; femora yellowish brown, the bases clearer yellow, the apices passing into brown; tibiae obscure yellow, the tips narrowly infuscated; tarsi brownish black. Wings grayish yellow, the prearcular and costal fields clearer yellow; veins pale brown, more yellowed in the brightened costal portions. Macrotrichia of cells relatively long but sparse, lacking in the basal portions of cells *R*, *M* and *Cu*; in the other cells more or less restricted to the central parts of the cells remote from the veins. Venation: *Sc*₁ ending about opposite fork of *Rs*, *Sc*₂ about opposite one-fifth to one-sixth the length of *Rs*; cell *M*₂ open by the atrophy of the basal section of *M*₃; *m-cu* just before the fork of *M*; Anal veins divergent.

Abdominal tergites darkened medially, paler on sides; sternites and hypopygium yellow. Male hypopygium with the outer dististyle relatively small, provided with rows of scabrous blackened points; inner dististyle subequal in length, pale. Phallosome appearing as tumid, entirely unblackened plates that are contiguous on the midline.

Habitat: Manchuria, northern Korea. *Holotype*, ♂, Kaolingtze, Manchuria, May 30, 1941 (received from Michael Weymarn). *Paratype*, ♂, Ompo, northern Korea, altitude 600 feet, May 2, 1938 (Yankovsky).

This interesting fly is named for Mr. Michael Weymarn, to whom I am indebted for many Tipulidae from Manchuria. Despite the different venation, the fly seems closest to *Ormosia* (*Ormosia*) *confluenta* Alexander, of Japan, and *O.* (*O.*) *yankovskyi* Alexander, of northern Korea, both of which have cell *M*₂ of the wings open by the atrophy of *m* and differ further in the color of the body and legs and in the details of structure of the male hypopygium. Other allied species in the northwestern Nearctic fauna include *O.* (*O.*) *absaroka* Alexander, *O.* (*O.*) *flaveola* (Coquillett), and others.

Genus *Molophilus* Curtis

Molophilus (*Molophilus*) *hoplostylus* n. sp.

Belongs to the *gracilis* group; general coloration blackened; antennae of male elongate, approximately two-thirds the body, black throughout; flagellar segments fusiform, with whorls of long erect setae at midlength; wings broad, suffused with blackish; costal fringe long and dense; vein *2nd A* short; male hypopygium with three dististyles, the longest a gently curved black rod with numerous denticles along the face; third dististyle a small fingerlike fleshy lobe that bears numerous very long setae.

Male.—Length, about 5 mm.; wing, 4.8 mm.; antenna, about 3.5 mm.

Rostrum and palpi black. Antennae (male) elongate, as shown by

the measurements, black throughout; flagellar segments fusiform, with whorls of very long erect setae at midlength of the individual segments. Head black.

General coloration of thorax black, probably pruinose in fresh specimens, the unique type discolored; pretergites restrictedly yellow. Halteres black. Legs with the coxae and trochanters brown; remainder of legs dark brown. Wings broad, with a weak blackish tinge; veins and macrotrichia brownish black; costal fringe (male) long and dense. Venation: R_2 in approximate transverse alignment with $r-m$; $m-cu$ less than one-third the length of the petiole of cell M_3 ; vein *2nd A* unusually short, ending some distance before the level of $m-cu$.

Abdomen, including hypopygium, black. Male hypopygium complex; apex of basistyle with a cylindrical dorsal lobe that is provided with long retrorse setae, and a longer ventral lobe that is dilated on the basal two-thirds or more, provided with long erect setae, the apical part slender and glabrous, the tip obtuse. Three dististyles, the longest a gently curved black rod that narrows very gradually into a long straight spine, the margin, especially the lower or concave one, with microscopic denticles, one at near midlength longer; second dististyle nearly as long, straight, the outer third a more slender blackened spine; third dististyle a small fingerlike fleshy lobe that bears numerous very long setae, these longer than the style itself. Phallosomic plate obtuse at tip, the surface with exceedingly microscopic setulae. Aedeagus elongate, subtended by a flange, the apex more or less bilobed.

Habitat: Formosa. *Holotype*, ♂, Musha (Wuse), Telchung District, altitude 1000 meters, August 23, 1947 (J. L. Gressitt); type in the Lingnan University Collection.

The present fly belongs to a subgroup having rather numerous species in the Philippines and elsewhere in southeastern Asia, but to this date with no known representatives in Formosa or northward. The most similar Philippine species include *Molophilus* (*Molophilus*) *bana-haoensis* Alexander, *M. (M.) hispidulus* Alexander, and *M. (M.) injustus* Alexander, all differing from the present fly, and among themselves, in the structure of the male hypopygia.