

NEW OR LITTLE-KNOWN TIPULIDÆ FROM EASTERN
ASIA (DIPTERA), XLI

By CHARLES P. ALEXANDER
Of Amherst, Massachusetts

FOUR PLATES

The present report is based on extensive collections of crane flies that were secured in northern Korea (Chosen) by Mr. Alexander Yankovsky. The general conditions under which these collections were made have been discussed in connection with the preceding report under this general title.¹ In 1938 Mr. Yankovsky made very extensive collections at various altitudes in the Seren Mountains, and many of the most interesting species herein described were then taken. I am very greatly indebted to Mr. Yankovsky for his continued interest in collecting these flies. The types of all novelties are preserved in my private collection of the Tipulidæ.

LIMONINÆ

LIMONINI

LIMONIA (LIMONIA) PARVIPPENNIS sp. nov. Plate 1, Fig. 1; Plate 2, Fig. 25.

Allied to *tanakai*; wings very small but not at all degenerate nor with distorted venation; general coloration of thorax yellow, unmarked; antennal flagellum dark brown to black; halteres uniformly pale yellow; femora yellow, tips narrowly but conspicuously blackened; wings brownish yellow, sparsely patterned with darker; m-cu at fork of M; abdomen elongate, caudal borders of second to seventh segments, inclusive, conspicuously banded with brown; terminal two segments uniformly black; ninth tergite of male hypopygium without rounded lateral lobes.

Male.—Length, about 8 millimeters; wing, 5.

Rostrum and palpi black. Antennæ with scape and pedicel obscure yellow; flagellum dark brown to black; flagellar segments oval to long-oval, verticils elongate. Head obscure yellow,

¹ Philip. Journ. Sci. 67 (1938) 129-166.

center of vertex infuscated; anterior vertex wide, approximately two times diameter of scape.

Pronotum brownish black, paling to yellow on sides. Mesonotum and pleura uniformly polished yellow, unmarked. Halteres uniformly pale yellow. Legs yellow; tips of femora narrowly but conspicuously blackened, the amount equal on all legs; tibiae more obscure yellow, tips very narrowly darkened; basitarsi passing through obscure yellow to black; remainder of tarsi black. Wings (Plate 1, fig. 1) unusually small as compared to length of body, much shorter than abdomen but not at all distorted in shape or venation; ground color brownish yellow, prearcular and costal fields clearer yellow; stigma suboval, medium brown; very restricted brown seams at origin of Rs, fork of Sc, cord and outer end of cell 1st M_2 ; a vague dusky wash in cell R; veins pale brown, more luteous in yellow areas. Venation: Sc moderately long, Sc_1 ending shortly before midlength of Rs, Sc_2 longer, ending opposite this point; Rs long, arcuated; cell 1st M_2 about as long as vein M_4 beyond it; m-cu at or close to fork of M; anal veins divergent.

Abdomen unusually long and conspicuous, segments correspondingly lengthened; yellow, caudal borders of second to seventh segments, inclusive, conspicuously brown; eighth segment and hypopygium black. Male hypopygium (Plate 2, fig. 25) with caudal margin of tergite, 9t, with a broad U-shaped notch. Ventromesal lobe of basistyle very low to scarcely developed; setae lacking on cephalic portion of basistyle. Dististyle, *d*, entirely black, broad at base, narrowest just beyond midlength, apex narrowed and prolonged, tip obtuse. Gonapophyses, *g*, with mesal apical lobe long and spinelike, terminating in an acute pale spike, surface back from apex with conspicuous setae. Aedeagus, *a*, broad at base, terminating in two parallel, recurved spines.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 4,000 feet, July 10, 1938 (Yankovsky).

This curious fly is most closely related to *Limonia* (*Limonia*) *tanakai* (Alexander), having the same peculiar type of hypopygium; that is, a single dististyle constricted at near midlength, spinous hairy mesal-apical lobes of gonapophyses, and paired recurved apical spines of aedeagus. The present fly differs conspicuously in several important features, notably the brown

antennal flagellum, unusually small wings and correspondingly lengthened abdomen, m-cu at the fork of M, banded abdominal segments, and in the details of structure of the male hypopygium, as the less extended and expanded apices of the dististyles and the lack of obtusely rounded tergal lobes. The grotesquely small wings and lengthened abdomen give this insect a very peculiar appearance.

LIMONIA (DICRANOMYIA) PARVILOBA sp. nov. Plate 1, fig. 2; Plate 2, fig. 26.

Belongs to the *morio* group and subgroup; male hypopygium with tergal lobes moderately long, separated by a broad notch; basistyle with ventromesal lobe small; dorsal dististyle acute at tip; gonapophyses simple, mesal-apical lobes terminating in subacute to weakly bidentate points.

Male.—Length, about 5 to 5.5 millimeters; wing, 5.8 to 6.5.

Female.—Length, about 6 to 6.5 millimeters; wing, 6 to 7.

Rostrum and palpi black. Antennæ black throughout; flagellar segments passing through oval to long-oval; terminal segment subequal to penultimate. Head with front and broad anterior vertex silvery; posterior part of head black.

Thorax polished black, pleura a little more gray-pruinose. Halteres with stem obscure yellow, knob brownish black. Legs with coxæ black, posterior pair more reddish; trochanters yellow; fore femora black, only narrow bases obscure yellow; remaining femora yellow, tips passing into black, narrowest on posterior pair; tibiæ and tarsi obscure yellow, outer tarsal segments darkened. Wings (Plate 1, fig. 2) with a brownish-yellow tinge, prearcular field clearer yellow; stigma small, brown; veins brown. Venation: Sc ending approximately opposite origin of Rs, Sc₂ some distance from its tip; m-cu close to fork of M.

Abdomen black, intermediate segments broadly ringed with reddish; hypopygium black. Male hypopygium (Plate 2, fig. 26) with tergal lobes, 9t, moderately long, separated by a broad notch that is usually wider than long, in cases with breadth and length subequal. Ventromesal lobe of basistyle, b, small, with coarse marginal setæ. Dorsal dististyle, dd, acute at tip. Ventral dististyle, vd, profoundly divided, as in subgroup; rostrum elongate. Gonapophyses, g, simple, mesal-apical lobe terminating in subacute or weakly bidentate points. Ædeagus, æ, broad, nearly parallel-sided, lateral margins with delicate setulæ, apex abruptly narrowed and set off by square shoulders.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 4,000 feet, July 10, 1938 (Yankovsky). Allotopotype, female, altitude 3,000 feet, July 10, 1938. Paratopotypes, 5 males and females, altitude 3,000 to 4,500 feet, June 30 to July 19, 1938; paratypes, males and females, Ompo, altitude 200 to 500 feet, May 28 to June 9, 1938.

This is the first member of the *morio* subgroup discovered in eastern Asia. Among the described species, including the Nearctic *Limonia* (*Dicranomyia*) *nycteris* (Alexander) and the western Palearctic *L. (D.) caledonica* (Edwards), *L. (D.) morio* (Fabricius), and *L. (D.) styliifera* (Lackschewitz), the present fly is closest to *caledonica*, differing especially in the hypopygial features, such as the unusually small lobe of the basistyle and the structure of the gonapophyses.

LIMONIA (DICRANOMYIA) PARVILOBA PARVINCISA subsp. nov. Plate 2, fig. 27.

Differs from the typical form in the structure of the male hypopygium (Plate 2, fig. 27): notch of ninth tergite, 9t, small, subcircular in outline. Gonapophyses, *g*, with mesal-apical lobe obtuse at tip.

Habitat.—Northern Korea.

Holotype, male, Ompo, altitude 200 feet, May 28, 1938 (Yankovsky).

Allotopotype, female. Paratopotype, male.

LIMONIA (DICRANOMYIA) IMMODESTOIDES (Alexander).

Dicranomyia immodestoides ALEXANDER, Ann. Ent. Soc. America 12 (1919) 327, 328.

Northern Korea, Seren Mountains, altitude 5,000 feet, September 15, 1938 (Yankovsky).

LIMONIA (DICRANOMYIA) TRISTIS (Schummel).

Limnobia tristis SCHUMMEL, Beitr. zur Entomol. (1829) 135.

Northern Korea, Seren Mountains, altitude 3,000 feet, June 15, 1938 (Yankovsky). Very similar to typical material from central Europe. The only difference is that in the male hypopygium of the present fly the most cephalic tubercle on mesal face of basistyle is slightly longer than in European specimens.

ANTOCHA (ANTOCHA) BIFIDA Alexander.

Antocha (Antocha) bifida ALEXANDER, Philip. Journ. Sci. 24 (1924) 564-566.

Northern Korea, Seren Mountains, altitude 3,000 feet, June 30, 1938 (Yankovsky).

ANTOCHA (ANTOCHA) INTEGRÆ sp. nov. Plate 1, fig. 2; Plate 2, fig. 28.

General coloration ocherous, præscutum darkened medially in front; antennal flagellum black; head light gray; halteres with stem pale, knob dark brown; legs long and conspicuous, femora black, with bases restrictedly brightened; wings whitish subhyaline, prearcular field milky white, stigma scarcely differentiated; veins brown, conspicuous against ground; male hypopygium with outer dististyle dilated at apex into a blade, its margin scarcely or but feebly emarginate; aedeagus with subtending apical lobes very pale and hyaline.

Male.—Length, about 6 millimeters; wing, 6.5.

Rostrum yellow; palpi black. Antennæ short; scape and pedicel yellow above, darker beneath; flagellum black; flagellar segments oval, clothed with a conspicuous white pubescence. Head light gray.

Pronotum infuscated medially, yellow on sides. Mesonotum ocherous; præscutum darkened medially in front and in vicinity of pseudosutural foveæ, virtually immaculate behind. Pleura yellow, anepisternum and sternopleurite somewhat more darkened. Halteres with stem pale, knob dark brown. Legs with coxæ testaceous yellow, fore pair darker; trochanters yellow; legs long and conspicuous, femora black, only bases restrictedly brightened; tibiæ and basitarsi light brown, outer tarsal segments dark brown; claws with a single, very slender, subbasal spine. Wings (Plate 1, fig. 3) whitish subhyaline, prearcular field more milky white; stigma scarcely differentiated, pale; veins brown, conspicuous against ground, whitened in prearcular field. Venation: Rs long but still somewhat shorter than in *brevistyla*; cell 1st M_2 more pointed at proximal end.

Abdomen light brown; subterminal segments dark brown; hypopygium brownish yellow. Male hypopygium (Plate 2, fig. 28) with basistyle, *b*, at proximal end on mesal face produced into a small setiferous lobe. Outer dististyle, *od*, strongly curved, at apex dilated into a long triangular head, apex obliquely truncated to very feebly notched, not conspicuously emarginate, as in *brevistyla*. Inner dististyle, *id*, strongly curved, a little dilated on outer half, provided with abundant setæ. Aedeagus, *a*, with subtending apical lobes very pale and hyaline, not appearing as sclerotized oval lobes, as in *brevistyla*.

Habitat.—Northern Korea.

Holotype, male, Ompo, altitude 800 feet, July 13, 1938 (Yankovsky).

Antocha (Antocha) integra is most nearly allied to *A. (A.) brevistyla* Alexander and *A. (A.) sagana* Alexander, agreeing in the general conformation of the dististyles and in the presence of a small setiferous lobe on the mesal face of basistyle. It appears to be closest to *brevistyla*, especially in the long conspicuous legs and the distinct wing veins, differing in the details of structure of the male hypopygium, especially the simple apical blade of the outer dististyle and the feebly sclerotized outer lateral lobes of the *sedeagus*. *A. (A.) sagana* is much smaller, with pale wing veins that are ill-defined against the ground, and with the details of structure of the male hypopygium distinct.

PEDICINI

PEDICIA (NASITERNELLA) HOKKAIDENSIS Alexander.

Pedicia (Nasiternella) hokkaidensis ALEXANDER, Philip. Journ. Sci. 53 (1934) 278, 279.

Northern Korea: Seren Mountains, altitude 3,000 to 4,500 feet, June 17 to 30, 1938 (*Yankovsky*). It seems virtually assured that both *hokkaidensis* and the Nearctic *hyperborea* (*Osten Sacken*) will prove to represent at most geographical races of *varinervis* (*Zetterstedt*).

DICRANOYA (EUDICRANOYA) PERDISTINCTA sp. nov. Plate 1, fig. 4; Plate 2, fig. 29.

General coloration pale yellow; halteres elongate; wings pale yellow, very restrictedly patterned with brown on crossveins and deflections; a supernumerary crossvein in cell R_1 ; R_s angulated to square at origin; cell R_4 long-petiolate, petiole a little more than one-third length of cell; cell 1st M_2 closed; cell M_1 long-petiolate; male hypopygium with dististyle at apex bearing numerous blackened peglike spines.

Male.—Length, about 6 to 7 millimeters; wing, 6 to 7.5; antenna, about 1.

Female.—Length, about 5.5 millimeters; wing, 5.

Rostrum obscure yellow; palpi pale brown. Antennæ yellow, outer flagellar segments weakly infuscated; antennæ 12- to 14-segmented, basal two or three flagellar segments crowded, with ill-defined sutures; outer segments oval, terminal segment smaller than penultimate. Head pale yellow.

Thorax uniformly pale yellow, notum dusted with whitish. Halteres elongate, pale yellow. Legs yellow, tips of femora narrowly and weakly infuscated, tips of tibiæ still more narrowly blackened; tarsi yellow, tips of individual segments narrowly darkened, outer segments uniformly infuscated. In female

femoral tips undarkened. Wings (Plate I, fig. 4) with a pale yellow tinge, very restrictedly patterned with brown, appearing as narrow seams at origin of R_s , Sc_2 , cord, outer end of cell 1st M_2 , R_2 , and supernumerary crossvein in cell R_1 ; veins pale yellow, darkened in clouded areas. Venation: Sc_1 ending opposite or shortly before supernumerary crossvein in cell R_1 ; Sc_2 at near middistance between arculus and origin of R_s ; R_s angulated to square at origin, in cases short-spurred; R_2 oblique, fusion with R , very short; supernumerary crossvein in cell R_1 variable in position, usually just before level of fork of R_{4+5} ; cell R_4 with petiole a little more than one-third length of cell; cell 1st M_2 closed, with $m-cu$ at or very close to fork of M ; petiole of cell M_1 long, from one and one-half to twice length of cell.

Abdomen obscure yellow. Male hypopygium (Plate 2, fig. 29) with dististyle, d , single, pale, expanded outwardly, truncated apex set with numerous peglike spines. Basistyle, b , long; interbasal rod pale, broad at base, narrowed into a long sinuous point. What appear to represent extensions of the tergite, $9t$, are evidently stouter and more powerful submedian horns that gradually narrow to very pale acute points, the expanded subbasal portions with several pale punctures.

Habitat.—Northern Korea.

Holotype, male, Ompo, altitude 200 feet, May 24, 1938 (Yankovsky).

Allotopotype, female, altitude 700 feet, June 9, 1938. Paratopotypes, 3 males, altitude 300 to 700 feet, May 28 to June 9, 1938 (Yankovsky).

The present fly is well-distinguished from the two species of *Eudicranota* hitherto described, *D. (E.) notabilis* Alexander and *D. (E.) pallida* Alexander, of eastern North America, by the venation, especially the long petioles of cells R_4 and M_1 . In the Asiatic fauna the fly is entirely different from all other known species of *Dicranota*.

DICRANOTA (DICRANOTA) YEZOENSIS COREANA *subsp. nov.*

Female.—Length, about 7 millimeters; wing, 8.

Close to typical form. Antennæ 13-segmented; flagellar segments oval, first a little less than twice second; third segment a little smaller than penultimate. Mesonotal præscutum with median stripe virtually entire, with a scarcely evident pale median vitta. Wings with venation much as in *yezoensis*; Sc_2 closer to origin of R_s , distance about three-fourths R alone;

petiole of cell R_2 very short, less than basal section of R_3 ; cell M_3 deeper, $M_{3,4}$ and M_4 subequal. Macrotrichia of veins shorter. Abdominal segments uniformly brownish black, caudal borders not pale.

Habitat.—Northern Korea.

Holotype, female, Seren Mountains, altitude 2,800 feet, June 15, 1938 (Yankovsky).

HEXATOMINI

LEMNOPHILA (ELÆOPHILA) PERSALSA sp. nov. Plate 1, fig. 5; Plate 2, fig. 30.

General coloration dark brownish gray, præscutum with four ill-defined darker brown stripes on posterior half; basal flagellar segments pale; halteres pale yellow; legs yellow, tips of femora narrowly but abruptly black; wings broad, pale cream-yellow, heavily patterned with brown, areas confined to vicinity of veins; male hypopygium with outer dististyle relatively broad, terminating in a slender appressed spine, outer margin on distal half with microscopic teeth.

Male.—Length, about 6.5 to 7.5 millimeters; wing, 7 to 8.

Female.—Length, about 7 millimeters; wing, 7.5.

Rostrum black, pruinose, palpi black. Antennæ with scape and pedicel black; basal two or three flagellar segments yellow, remaining segments passing into brown; flagellar segments long-oval, with conspicuous verticils. Head gray.

Pronotum and mesonotum dark brownish gray, præscutum with four ill-defined darker brown stripes on posterior half, obliterated on anterior portion; pseudosutural foveæ black. Pleura dark brownish gray. Halteres pale yellow. Legs with coxæ light brown, fore pair darker; trochanters obscure yellow; femora yellow, tips narrowly but abruptly blackened, the amount subequal on all legs; tibiæ pale yellow, tips very narrowly darkened; tarsi pale yellow, outer two segments blackened. Wings (Plate 1, fig. 5) broad; ground color pale cream-yellow, heavily patterned with solid dark-brown areas that are restricted to vicinity of veins, including a larger costal series at h, origin of R_s , fork of Sc , and stigma and tips of veins R_3 and R_4 ; dark area at origin of R_s in transverse alignment with other major darkenings at supernumerary cross-vein in cell M and at tip of vein 2d A, forming an almost complete band at this point; no dark marking basad of this band in cell 2d A; other, more restricted, dark areas at cord, outer end of cell 1st M_2 , fork of $M_{1,2}$, and as marginal clouds at ends of longitudinal veins; veins yellow, darker in clouded

areas. Venation: $R_{2,3-4}$ long, in direct alignment with R_3 ; R_2 beyond fork of $R_{2,3-4}$, subequal to $R_{2,3}$; cell 1st M_2 narrow, with $m-cu$ at near one-third length; supernumerary crossvein in cell M opposite or just before origin of R_3 .

Abdomen dark brown, caudal borders of segments still darker; hypopygium dark brown. Male hypopygium (Plate 2, fig. 30) with outer dististyle, *od*, relatively broad, terminating in a slender appressed spine; outer margin on distal half with microscopic teeth, most basal one not or only slightly larger; inner margin on outer third microscopically crenulate or with small obtuse teeth. Inner dististyle entirely pale.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 3,700 feet, June 30, 1938 (Yankovsky). Allotopotype, female. Paratopotypes, 5 males, altitude 3,000 to 3,700 feet, June 17 to July 5, 1938 (Yankovsky).

Limnophila (Elæophila) persalsa is quite distinct from the other regional species of the subgenus. The broad cream-yellow wings, with markings restricted to the vicinity of the veins, and the structure of the male hypopygium, especially of the outer dististyle, furnish strong specific characters.

LIMNOPHILA (ELÆOPHILA) SERENENSIS sp. nov. Plate 1, Fig. 6; Plate 2, Fig. 31.

General coloration brownish gray, præscutum with four brown marks; antennæ short, brownish black throughout; mediotergite gray, posterior border broadly dark brown; femora yellow, tips conspicuously and abruptly blackened; wings whitish subhyaline, with certain cells washed with darker; a conspicuous darker-brown pattern that is confined to vicinity of veins; wings relatively narrow; male hypopygium with lateral spine of outer dististyle appressed.

Male.—Length, about 6 millimeters; wing, 6.6.

Rostrum and palpi black. Antennæ brownish black throughout, relatively short, if bent backward scarcely attaining wing root. Head gray.

Mesonotal præscutum brownish gray, intermediate stripes a little darker, especially two linear dashes at posterior ends; a circular brown spot on either side of intermediate stripes, nearly opposite black pseudosutural foveæ; posterior sclerites of mesonotum dark gray, centers of scutal lobes a little darker; posterior border of mediotergite broadly dark brown. Pleura gray, variegated with dark-brown spots. Halteres pale yellow. Legs with coxæ brown; trochanters brownish

yellow; femora yellow, tips conspicuously and abruptly black, the amount subequal on all legs; tibiae yellow, tips narrowly dark brown; tarsi yellow, terminal segments darker. Wings (Plate 1, fig. 6) whitish subhyaline; certain cells, especially M, Cu, bases of anal cells, and along vein R₂, weakly infumed; a conspicuous darker-brown pattern that is restricted to vicinity of veins, including a series of about seven costal areas, smallest at h, largest at origin of R₂, fork of Sc, and stigma; narrower seams along cord, outer end of cell 1st M₂, supernumerary crossvein in cell M, and fork of M₁₊₂; a marginal series of small spots at ends of veins M₁ to 2d A, inclusive; no dark spot basad of cloud at end of vein 2d A; veins yellow, dark in clouded areas. Wings relatively narrow, not dilated in male. Venation: Cell 1st M₂ relatively small.

Abdominal tergites dark brown, sparsely pruinose; basal portions of sternites variegated by obscure yellow; hypopygium brownish yellow. Male hypopygium (Plate 2, fig. 31) with basistyle, *b*, slender. Outer dististyle, *od*, generally smooth, except at apex; lateral spine appressed; apical spine slender, with microscopic spinulae back from base.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 4,000 feet, October 9, 1937 (*Yankovsky*).

Limnophila (Elæophila) serenensis is most similar to *L. (E.) subaprilina* Alexander, of Japan, agreeing in the general nature of the wing pattern, with all dark areas confined to the vicinity of the veins and without interpolated dots in the interspaces as in the majority of the species in Asia. It differs in the abruptly blackened femoral tips, the pattern of the thorax, and the details of the wing pattern, as the lack of a supplementary dark cloud in cell 2d A. In the European fauna both *L. (E.) maculata* (Meigen) and *L. (E.) submarmorata* Verrall show an unusual range of color forms that have been treated as varieties by Edwards.²

LIMNOPHILA (ELÆOPHILA) SUBAPRILINA YEZOENSIS Alexander.

Northern Korea, Seren Mountains, altitude 2,000 to 4,000 feet, August 8, 1938 (*Yankovsky*). As in typical *subaprilina*, the present fly has a major darkened cloud in cells 1st A and 2d A, lying proximad of the smaller dark area at end of vein 2d A.

² Trans. Soc. Brit. Ent. pt. 1 5 (1938) 1-168, 5 pls., 31 figs.

LIMNOPHILA (ADELPHOMYIA) MACROTRICHIATA Alexander. Plate 1, fig. 7.

Limnophila (Lasiomastix) macrotrichiata ALEXANDER, Ann. Ent. Soc. America 18 (1923) 65, 66.

Northern Korea, Ompo, altitude 300 to 500 feet, June 15 to 23, 1937; May 20 to 29, 1938 (*Yankovsky*). In these specimens the lower lobe of the inner dististyle of the male hypopygium is proportionately a little shorter than the outer lobe than in the holotype specimen (Teshio, Kokkaido, Japan). The wing venation is shown in Plate 1, fig. 7.

LIMNOPHILA (PRIONOLABIS) ACANTHOPHORA Alexander.

Limnophila (Prionolabis) acanthophora ALEXANDER, Philip. Journ. Sci. 67 (1939) 157, 158.

Described from a single male specimen. Numerous further specimens, Seren Mountains, altitude 2,000 to 3,800 feet, June 25 to 30, 1938 (*Yankovsky*). Some male specimens are much smaller than the type (Male, length, about 6.5 to 7.5 millimeters; wing, 8.5 to 9) but are undoubtedly conspecific. The single female specimen taken indicates that this sex is subapterous, as is likewise the case in *L. (P.) imanishii* Alexander, *L. (P.) luteibasalis* Alexander, and *L. (P.) nigritunæ* Tokunaga, all of the main island of Japan. The present fly differs from these others in the relatively larger wings, with accompanying differences in pattern venation.

Female.—Length, about 10 millimeters; wing, 3.5 by 0.7.

Antennæ 16-segmented, dark throughout; basal flagellar segments short, outer segments elongate and comparatively slender; outer three segments subequal. Head black, sparsely pruinose, more heavily so in front. Mesonotum black, surface subnitidous; pleura more heavily pruinose. Halteres broken. Legs with coxæ and trochanters black; remainder of legs black, femoral bases restrictedly yellow. Wings subatrophied, relatively narrow, as shown by the measurements, yet much larger than in other regional species having subapterous females; wings strongly yellow, slightly more brownish yellow outwardly; veins yellow, beyond cord darker and with long coarse setæ; costal fringe unusually long and dense, except at base where setæ are short, pale, and subappressed; costal fringe extending to beyond wing tip. Venation agreeing approximately with that of male but reduced, due to the shape and size of the wings. Abdomen opaque black; ovipositor with elongate valves; cerci brown; hypovalvæ black, more intense basally.

Allotype, female, Ompo, northern Korea, altitude 200 feet, May 29, 1938 (Yankovsky).

LEMNOPHILA YANKOVSKYANA sp. nov. Plate 1, fig. 5; Plate 2, fig. 27.

General coloration polished black; antennæ (male) very long, nearly as long as body; femora black, extreme bases paler; tibiæ brown, tips black; wings brownish yellow, sparsely patterned with brown; cell R_3 sessile or very short-petiolate; cell M_1 lacking; male hypopygium with outer dististyle blackened, profoundly split into two unequal acute spines.

Male.—Length, about 6.5 to 7 millimeters; wing, 7.2 to 8; antennæ, about 6 to 6.2.

Rostrum and palpi black. Antennæ black throughout, elongate, as shown by the measurements, being only a little shorter than entire body; flagellar segments cylindrical, very long; intermediate segments subequal, outer segments gradually shorter; terminal segment about one-third length of penultimate; flagellar segments with abundant, coarse, erect setæ and slightly longer subbasal verticils. Head dull black; anterior vertex wide, approximately three times diameter of scape; anterior vertex with a low tubercle.

Thorax uniformly polished black; præscutal setæ relatively short and small. Halteres with stem obscure whitish, knobs weakly darkened. Legs with coxæ black; trochanters brownish black; femora black, only extreme bases paler; tibiæ brown, tips blackened; tarsi black. Wings (Plate 1, fig. 8) brownish yellow, a little more yellowish on basal and costal portions; stigma oval, pale brown; barely evident dark seams on cord and along outer end of cell 1st M_2 ; veins brown, a little brighter in costal and prearcular fields. Venation: Sc_1 ending shortly before fork of R_s , Sc_2 at its tip, subequal; cell R_3 usually sessile, so R_3 is in direct alignment with R_4 ; in cases with a very short petiole, $R_{2,3,4}$; cell M_1 lacking; m shorter than basal section of M_3 , sometimes very short; $m-cu$ variable in position, usually close to midlength of cell 1st M_2 , in other cases a little before or beyond.

Abdomen, including hypopygium, shiny black. Male hypopygium (Plate 2, fig. 32) with outer dististyle, *od*, blackened, deeply and unequally divided into two long, acute spines, outer spine shorter, apex microscopically tuberculate; inner spine stout. Inner dististyle, *id*, simple, stout and fleshy, narrow tip obtusely rounded.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 5,000 feet, July 10, 1938 (Yankovsky). Paratopotypes, 6 males, altitude 2,500 to 5,000 feet, July 3 to 19, 1938 (Yankovsky).

I take great pleasure in naming this very distinct fly in honor of the collector, Mr. Alexander Yankovsky, who has added vastly to our knowledge of the tipulid fauna of northern Korea. The general appearance of the fly is much like that of a *Prionolabis*, but I hesitate to refer it to this subgenus. It is very different from all other known species in eastern Asia. The western Palearctic *Limnophila longeantennata* Strobl has somewhat similarly lengthened antennæ but is otherwise entirely different.

ERIOPTERINI

RHODOMASTIX (SACANDAGA) NIGROFICATA sp. nov. Plate 3, Fig. 33.

Male.—Length, about 5 to 5.5 millimeters; wing, 6 to 6.5; antennæ, about 1.2.

Female.—Length, about 5.5 to 7.5 millimeters; wing, 6 to 8.

Generally similar to *R. (S.) japonica* Alexander, differing chiefly in the coloration of the legs. Compared with *japonica* the following distinctions are present: Median præscutal stripes distinct, darkened in front, usually entire and with surface faintly nitidous; in occasional specimens median stripe split by a narrow pale median line. Flagellar segments longer, with very long conspicuous verticils. Tips of femora conspicuously blackened, bases and tips of tibiæ more narrowly so; tarsal segments beyond basitarsi passing into brown. Abdominal tergites uniformly yellowish brown to pale brown.

In *japonica* four separate præscutal stripes, surface opaque. Tips of femora and bases and tips of tibiæ not or scarcely darkened. Abdominal tergites weakly bicolored, bases darker than outer portions.

Wings with Sc long, Sc₁ ending about opposite four-fifths length of Rs, Sc₂ some distance from its tip, Sc₁ alone exceeding m-cu; R₃ suberect; R₂₊₃₊₄ and R₄ subequal in length; distance on costa between tips of R₁₊₂ and R₃ subequal to length of latter; m-cu close to midlength of cell 1st M₂. No macrotrichia on R₃; a complete series of trichia on R₄ and usually one or two on distal portion of R₂₊₃₊₄. Male hypopygium (Plate 3, fig. 33) with outer dististyle, od, relatively stout, pale, almost parallel-sided, outer face with numerous

appressed spines, apex a strongly retrose point. Inner dististyle, *id*, short and stout, narrowed to blunt apex. Gonapophyses, *g*, with apical blade moderately dilated.

Habitat.—Northern Korea.

Holotype, male Seren Mountains, altitude 2,500 feet, June 30, 1938 (*Yankovsky*). Allotopotype, female, altitude 4,000 feet, July 10, 1938. Paratopotypes, males and females, altitude 1,800 to 4,000 feet, June 26 to July 10, 1938.

I am not familiar with the male sex of *Rhabdomastix japonica* and so cannot compare the hypopygial characters.

RHABDOMASTIX (SACANDAGA) USURIENSIS Alexander.

Rhabdomastix (Sacandaga) usuriensis ALEXANDER, Proc. U. S. N. M. Art. 4 68 (1925) 13.

Described from eastern Siberia. Northern Korea, Ompo, altitude 200 feet, May 25 to June, 3, 1938; Seren Mountains, altitude 3,000 to 3,500 feet, June 17 to July 3, 1938 (*Yankovsky*).

RHABDOMASTIX (SACANDAGA) SPATULIFERA sp. nov. Plate 1, Fig. 9; Plate 3, Fig. 34.

General coloration dark gray, præscutum without distinct stripes; halteres pale yellow; femora obscure yellow, tips darkened, most extensively so on forelegs; wings broad, grayish, bases narrowly brightened; stigma and a seam behind vein Cu light brown; numerous macrotrichia on most veins beyond cord; Sc₁ ending about opposite two-thirds length of Rs; male hypopygium with apices of gonapophyses expanded into short, broad, yellow blades.

Male.—Length, about 6 millimeters; wing, 7; antennæ, about 1.2.

Rostrum dark gray; palpi black. Antennæ black, of moderate length, if bent backward ending shortly before wing root; flagellar segments passing through oval to elongate, verticils exceeding segments. Head light gray.

Thorax uniformly dark, gray-pruinose, without evident præscutal stripes; scutellum unbrightened. Halteres pale yellow. Legs with coxæ brown, more or less pruinose, especially fore pair; trochanters testaceous yellow; femora obscure yellow, tips darkened, widest on forelegs where about outer two-thirds is included, narrowest on posterior pair; tibiæ obscure yellow, tips narrowly darkened; tarsi dark brown, basitarsi paler. Wings (Plate 1, fig. 9) broad, grayish, base more brightened; stigma and a seam behind vein Cu light brown; veins pale brown, more yellowish in prearcular and costal portions. Ma-

crotrichia on all longitudinal veins beyond cord with the exception of R_3 and basal portion of $R_{2,3,4}$. Venation: Sc_1 ending about opposite two-thirds length of R_3 , Sc_2 near its tip; $R_{2,3,4}$ slightly shorter than R_4 ; R_3 short, suberect; veins issuing from cell 1st M_2 not conspicuously arched, m and basal section of M_3 subequal; $m-cu$ at near one-third length of cell 1st M_2 .

Abdomen dark brown, including hypopygium. Male hypopygium (Plate 3, fig. 34) with outer dististyle, *od*, relatively stout, apex a decurved acute spine. Inner dististyle, *id*, with apex suddenly narrowed into a cylindrical point. Gonapophyses, *g*, at apex expanded into short, broad, yellow blades.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 2,800 feet, July 5, 1938 (Yankovsky). Paratopotype, male, altitude 3,000 feet, July 5, 1938.

Rhabdomastix (Sacandaga) spatulifera is very different from the other described regional species, especially in the general coloration and in the structure of the male hypopygium, notably of the gonapophyses.

RHABDOMASTIX (SACANDAGA) LURIDOIDES sp. nov. Plate 1, fig. 10; Plate 3, fig. 35.

Belongs to the *lurida* group; general coloration dark, scutellum and lateral borders of præscutum obscure yellow; halteres pale yellow; femora yellow, tips broadly blackened, widest on forelegs; wings brownish yellow, proximal half brighter, including veins; vein Sc_2 lacking; R_3 oblique, with macrotrichia over entire length; male hypopygium with gonapophyses unusually long, strongly curved, narrowed to acute blackened points.

Male.—Length, about 5 to 5.5 millimeters; wing, 5.5 to 6.

Female.—Length, about 6 millimeters; wing, 6.

Rostrum black, sparsely pruinose; palpi black. Antennæ with scape and pedicel black, flagellum brownish black; flagellar segments passing through oval to long-oval, longest verticils unilaterally distributed. Head dark gray.

Anterior lateral pretergites light yellow. Thorax black, sparsely pruinose, lateral margins of præscutum and posterior border of scutellum broadly obscure yellow; in female, præscutal interspaces indicated by narrow reddish lines before suture; in cases sides of mediotergite and pleurotergite obscure yellow, in other specimens these more darkened. Pleura chiefly dark, variegated with obscure yellow; dorsopleural membrane obscure yellow. Halteres pale yellow. Legs with

coxæ obscure yellow; trochanters yellow; femora yellow basally, tips brownish black, widest on forelegs where about outer half is darkened, narrowest on posterior femora where about distal seventh is infuscated; tibiæ brownish yellow, tips narrowly darkened; tarsi brownish yellow, passing into dark brown. Wings (Plate 1, fig. 10) brownish yellow, proximal half somewhat clearer yellow; veins brown in outer portions, yellow in basal areas. Numerous macrotrichia on longitudinal veins beyond cord, including entire length of R_3 . Venation: Sc_1 ending nearly opposite fork of R_s , Sc_2 lacking; R_s long, exceeding twice R_{2+3+4} ; R_3 very oblique, as in the group; cell 1st M_2 relatively small, shorter than vein M_4 beyond it; $m-cu$ close to midlength of cell 1st M_2 .

Abdomen black, sparsely pruinose; hypopygium brownish yellow. Male hypopygium (Plate 3, fig. 35) with gonapophyses, g , unusually long, strongly curved, narrowed to long, acute, blackened points.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 4,000 feet, July 19, 1938 (Yankovsky). Allotopotype, female. Paratopotypes, several of both sexes, altitude 3,500 to 5,000 feet, July 10 to August 2, 1938 (Yankovsky).

Allied to the western Palearctic *Rhadomastix* (*Sacandaga*) *lurida* (Loew) and *R. (S.) inclinata* Edwards, differing especially in the structure of the male hypopygium, as the unusually long and slender, curved gonapophyses. Further undescribed member of the group occurs in the Rocky Mountain area of western North America. The strongly oblique R_3 , with macrotrichia throughout its length, together with the loss of vein Sc_2 , as well as the structure of the male hypopygium, as the acutely pointed gonapophyses, mark the group as very distinct.

CRYPTOLABIS (BÆOURA) SEPTENTRIONALIS sp. nov. Plate 1, fig. 11; Plate 3, fig. 36.

Belongs to the *aliena* group; general coloration gray, præscutum with four slightly more blackish stripes; anterior lateral pretergites restrictedly brightened; halteres infuscated; legs black, only femoral bases restrictedly brightened; wings brownish gray, stigma and vague seams on cord and in axillary region darker; male hypopygium with dististyle moderately slender, penis very long and slender.

Male.—Length, about 4 millimeters; wing, 4.5.

Female.—Length, about 4.5 millimeters; wing, 4.5.

Rostrum black, sparsely pruinose. Antennæ short, black throughout. Head light ashy gray.

Pronotum light gray; anterior lateral pretergites restrictedly obscure yellow. Mesonotal præscutum dark gray; lighter on sides, disc with four slightly more blackish stripes; scutum dark gray; scutellum dark basally, apical border broadly orange; postnotum dark gray. Pleura heavily gray-pruinose; dorso-pleural membrane obscure yellow. Halteres infuscated throughout. Legs with coxæ dark gray; trochanters brown; remainder of legs black, femoral bases, especially of posterior legs, obscure yellow. Wings (Plate 1, fig. 11) broad, tinged with brownish gray, prearcular field slightly more yellowish; stigma pale brown, ill-defined but extensive; a vague dark suffusion at cord; axillary region weakly darkened; veins dark brown, brightened in prearcular field, somewhat more intensely darkened along cord. Venation: R_{2+3+4} a little longer than basal section of R_5 ; m-cu shortly before midlength of M_{2+4} ; cell 2d A wide.

Abdomen brownish black, including genitalia of both sexes. Male hypopygium (Plate 3, fig. 36) with ventral lobe of basistyle, *b*, long and conspicuous. Dististyle, *d*, of moderate length and slenderness, sinuous, more dilated on proximal third, central portion with five or six small setiferous tubercles; distal third with numerous, very small, pale punctures; apex obtuse. *Ædeagus*, *a*, terminating in two small pale blades; penis very long and slender.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 3,000 feet, July 16, 1938 (Yankovsky). Allotopotype, female, altitude 4,500 feet, July 16, 1938.

Cryptolabis (Bæoura) septentrionalis is very distinct from the other known regional species of the subgenus. In the very elongate *ædeagus* and penis it resembles *C. (B.) dicladura* Alexander and *C. (B.) perductilis* Alexander, of southern and western China, differing very conspicuously in the structure of the dististyle. This is the most northerly representative of *Bæoura* so far discovered.

ORMOSIA (ORMOSIA) DEVOTA sp. nov. Plate 1, fig. 12; Plate 3, fig. 37.

General coloration gray; antennal flagellum pale brown; halteres obscure yellow; legs brown; wings grayish, stigma a little darker than ground; macrotrichia of cells long and dense; cell 1st M_2 small, closed; m-cu at fork of M; vein 2d A moderately sinuous; male hypopygium with two simple disti-

styles, outer broader, slightly enlarged, and set with dense rows of scales; inner dististyles slender, at apex slightly enlarged and bearing two powerful setæ.

Male.—Length, about 6 millimeters; wing, 6.5; antennæ, about, 1.4.

Rostrum and palpi black. Antennæ moderately long; basal two segments somewhat darker brown than flagellum; outer flagellar segments elongate-cylindrical, with verticils considerably longer than segments and unilaterally distributed. Head gray, with abundant pale pubescence.

Mesonotum gray, central portion of præscutum more brownish gray but without distinct stripes; pubescence of thorax long and pale. Pleura dark gray; a conspicuous group of long yellow setæ on pleurotergite. Halteres obscure yellow. Legs with coxæ dark gray; trochanters brown; remainder of legs brown. Wings (Plate 1, fig. 12) grayish, prearcular field restrictedly yellow; stigma a little darker than ground; cord vaguely seamed with darker; veins brown, trichia a little darker, long, and dense (indicated in figure by stippling). Venation: Sc_2 about opposite midlength of comparatively short straight R_s ; R_2 close to fork of $R_{2,3,4}$; cell 1st M_2 small, closed, shorter than any of veins issuing from it; m-cu at fork of M ; vein 2d A moderately sinuous.

Abdomen dark brown, hypopygium a little brightened. Male hypopygium (Plate 3, fig. 37) with two simple dististyles, outer, *od*, broader, slightly enlarged outwardly, apex with dense rows of flattened scales. Inner dististyle, *id*, subequal in length but slender, at apex with a spinous point on one side; two terminal setæ, one shorter and slenderer, the second long and strong, directed more or less backward. Phallosome, *p*, difficult to describe from the unique slide mount, appearing as two flattened apophyses on either side of an urn-shaped spinulose median structure.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 4,000 feet, July 10, 1938 (Yankovsky).

Ormosia (Ormosia) devota is entirely different from all known species of the genus. From other gray species having cell 1st M_2 closed it differs in the structure of the male hypopygium which somewhat suggests that of species of the *vivitata* group yet is quite distinct. The clavate squamose head of the outer dististyle is much as in species of the otherwise

distinct *similis* group in *Ormosia* and in certain other eriop-
terine groups.

ORMOSIA (ORMOSIA) CATA sp. nov. Plate 1, fig. 13; Plate 3, fig. 38.

General coloration polished black; antennæ black throughout; head gray; anterior lateral pretergites light yellow; thoracic pleura gray-pruinose; femora yellow, tips abruptly blackened, broadest on forelegs; wings with a faint dusky tinge, prearcular and costal portions clear light yellow, stigma brown; R_2 close to base of cell R_3 ; cell 1st M_2 closed, with m-cu close to its inner end; anal veins divergent; male hypopygium with inner dististyle a simple blackened rod; ædeagus slender, terminating in a small sagittate head.

Male.—Length, about 4.5 millimeters; wing, 5.5.

Rostrum and palpi black. Antennæ black throughout, moderately elongate, if bent backward extending approximately to wing root; flagellar segments oval, with a dense white pubescence. Head gray.

Pronotum black, sparsely pruinose; anterior lateral pretergites abruptly light yellow. Mesonotum almost uniformly polished black, præscutum very weakly pruinose on lateral portions; posterior lateral portions of scutal lobes obscure yellow. Pleura black, heavily dusted with gray; dorsopleural membrane dusky. Halteres with stem obscure yellow, knob clear yellow. Legs with coxæ brownish yellow, fore pair somewhat darker; trochanters yellow; femora yellow, tips conspicuously blackened, most extensively so on forelegs where about the distal half is darkened, narrower on other legs, including about outer fifth or sixth; tibiæ obscure yellow, tips darkened; tarsi dark brown. Wings (Plate 1, fig. 13) with a faint dusky tinge, prearcular and costal regions clear light yellow; stigma oval, dark brown; a scarcely evident darkening along vein Cu in cell M; veins dark brown, yellow in flavous portions. Macrotrichia covering almost whole wing surface (indicated in figure by stippling). Venation: R_2 close to fork of $R_{2,3,4}$ and base of cell R_3 ; cell 1st M_2 closed, m-cu close to its inner end; anal veins divergent, 2d A gently sinuous.

Abdomen, black, hypopygium somewhat brightened. Male hypopygium (Plate 3, fig. 38) with the tergal lobes, 9t, small, gently divergent, separated by a U-shaped notch. Basistyle, b, with conspicuous dorsal and ventral lobes. Outer dististyle, od, large, club-shaped, bearing a sclerotized fingerlike rod on mar-

gin. Inner dististyle a slender, simple, blackened rod. What seem to represent gonapophyses, *g*, appear as flattened blades, the outer angle of each produced into an acute spine. *Ædeagus*, *a*, slender, terminating in a small sagittate head, apex obtuse.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 2,800 feet, July 5, 1938 (*Yankovsky*).

Ormosa (Ormosa) cata is very distinct from all described regional species, being most similar to *O. (O.) prava* sp. nov., described below. It is well distinguished by the color of the wings and legs, venation, and the structure of the male hypopygium.

ORMOSIA (ORMOSIA) PRAVA sp. nov. Plate 1, Fig. 14; Plate 3, Fig. 39.

General coloration polished black; halteres with bright yellow knobs; femora black, bases obscure yellow, involving basal third or a little more; wings brownish yellow, costal region clearer yellow; a conspicuous brown pattern including stigma and broad seams at cord and along vein Cu; R_{2+3+4} short, R_{2+3} preserved; cell 1st M_2 closed; m-cu beyond fork of M; anal veins divergent; male hypopygium with inner dististyle a broad blackened plate that is produced laterad into a strong black spine.

Male.—Length, about 6 millimeters; wing, 7; antennæ, about 2.

Female.—Length, about 7 to 7.5 millimeters; wing, 6.5 to 8.

Rostrum and palpi black. Antennæ black throughout; flagellar segments oval. Head dark gray.

Pronotum black; anterior lateral pretergites obscure brownish yellow. Mesonotum polished black, surface not or scarcely pruinose. Pleura black, sparsely dusted with gray; dorsopleural membrane brownish black. Halteres with stem dusky, knob bright yellow. Legs with coxæ black; trochanters reddish brown; femora black, bases obscure yellow, involving proximal third or a little more; tibiæ brownish black to black, both ends somewhat darker; tarsi black. Wings (Plate 1, fig. 14) with ground color brownish yellow, prearcular field and costal region clearer yellow; stigma and broad conspicuous seams at origin of R_s , cord and outer end of cell 1st M_2 , and along vein Cu, dark brown; anal cells washed with somewhat paler brown, especially on basal portions; some of longitudinal veins beyond cord very narrowly seamed with brown; veins coarse, dark brown, more yellowish in brightened costal portions. Macrotrichia of cells abundant, lacking only at wing base (indicated

in figure by stippling). Venation: R_{2+3+4} short to very short, subequal to R_{2+3} , R_2 thus beyond fork of R_{2+3+4} ; cell 1st M_2 closed, varying from short to longer rectangular; m-cu shortly beyond fork of M ; anal veins divergent. In one paratype, on both wings, outer third of distal section of vein M_{1+2} atrophied.

Abdomen black, subnitidous, including hypopygium and genital shield of female; cerci of latter pale yellow to light horn-colored. Male hypopygium (Plate 3, fig. 39) with what appears to be the tergite, 9 σ , narrowly transverse, produced caudad into a broad pale membrane, more sclerotized basal portions with punctures, remainder with only microscopic pubescence. Basistyle, b , with mesal lobe longer and more pointed than outer lobe. Outer dististyle, od , a massive clavate structure whose true extent and conformation is difficult to decide in the type and which is evidently more complex than illustrated, the head with abundant long coarse setæ. Inner dististyle, id , a broad blackened plate, its apex produced laterad into a long, strong, black spine. \mathcal{A} edeagus, a , terminating in two rods that are recurved at tips into short spines. The conspicuous plate-like apophyses of the related *O. cata* seem to have no homologues in this species.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 3,000 feet, July 5, 1938 (Yankovsky). Allotopotype, female, altitude 2,500 feet, June 17, 1938. Paratopotypes, 6 females, altitude 3,000 to 3,200 feet, June 15 to 30, 1938.

The nearest relative is *Ormosia* (*Ormosia*) *cata* sp. nov., which has the general coloration similarly polished black. The present fly differs in the larger size, heavily patterned wings, distinct leg pattern, and especially in the very different male hypopygium.

ORMOSIA (ORMOSIA) DUCALIS Alexander.

Ormosia (*Ormosia*) *ducalis* ALEXANDER, Philip. Journ. Sci. 67 (1938) 162, 163.

This very distinct fly has been known from the unique type. Numerous specimens, Ompo, Northern Korea, altitude 200 to 700 feet, May 18 to 28, 1938; Seren Mountains, altitude 2,500 to 4,200 feet, June 18 to July 3, 1938 (Yankovsky).

ORMOSIA (ORMOSIA) YANKOVSKYI sp. nov. Plate 1, fig. 16; Plate 3, fig. 40.

General coloration pale yellow; antennæ brown; femora and tibiæ yellow, tips narrowly but conspicuously blackened, tarsi uniformly black; wings yellow, veins pale and indistinct; cells

M_2 open by atrophy of m ; male hypopygium with phallosome heavily blackened, asymmetrical.

Male.—Length, about 4 to 4.2 millimeters; wing, 4 to 4.5.

Female.—Length, about 4.5 millimeters; wing, 4.5 to 4.8.

Rostrum brownish testaceous; palpi dark brown. Antennæ brown; flagellar segments oval. Head brown.

Thorax uniformly pale yellow, without clearly defined markings. Halteres pale yellow. Legs with coxæ and trochanters yellow; femora yellow, tips narrowly but abruptly brownish black, the amount subequal on all legs; tibiæ yellow, tips conspicuously blackened, the amount about twice as extensive as femoral darkening; tarsi black. Wings (Plate 1, fig. 15) with a uniform pale yellow tinge, veins a little deeper colored but inconspicuous against ground. Macrotrichia well distributed (indicated in figure by stippling). Venation: Sc short, Sc_1 ending about opposite fork of R_s ; cell R_3 deep; cell M_2 open by atrophy of m ; $m-cu$ close to fork of M ; vein $2d$ A short and nearly straight.

Abdomen, including hypopygium, yellow, tergites a trifle darker. Male hypopygium (Plate 3, fig. 40) with both dististyles simple, pale; outer style slender, surface with microscopic appressed spines. Inner dististyle, *id*, a trifle longer, tip obtuse with a few setæ at apex. Phallosome, *p*, heavily blackened, asymmetrical, including a cylindrical lateral rod with apex obtuse.

Habitat.—Northern Korea.

Holotype, male, Ompo, altitude 200 feet, May 18, 1938 (Yankovsky). Allotopotype, female. Paratopotypes, numerous specimens of both sexes, altitude 100 to 800 feet, May 18 to 29, 1938; paratypes, Seren Mountains, altitude 3,000 to 4,500 feet, June 21 to July 18, 1938 (Yankovsky).

Allied to *Ormosia* (*Ormosia*) *confluenta* Alexander, of Japan, differing conspicuously in the pattern of the legs and in the structure of the male hypopygium, as the heavily blackened phallosome. I take very great pleasure in dedicating this fly to the collector, Mr. Alexander Yankovsky.

ORMOSIA (ORMOSIA) CORNUTOIDES sp. nov. Plate 1, Fig. 15; Plate 3, Fig. 41.

General coloration dark gray; antennæ dark throughout; halteres pale yellow; femora obscure yellow, passing into dark brown; wings pale yellow, stigma brown, conspicuous; vein R_2 close to fork of R_{2+3+4} ; cell M_2 open by atrophy of basal section

of M_3 ; vein 2d A moderately sinuous; male hypopygium with inner margin of outer dististyle produced into a strong spine; inner dististyle conspicuously spinous; gonapophyses appearing as slender yellow rods that are connected with broadly flattened plates subtending ædeagus.

Male.—Length, about 4 to 4.5 millimeters; wing, 4.5 to 5.5; antennæ, about 1 to 1.2.

Female.—Length, about 4.5 to 5 millimeters; wing, 5 to 5.5.

Rostrum and palpi black. Antennæ of moderate length; scape and pedicel black, flagellum dark brown; flagellar segments oval. Head dark gray.

Mesonotum dark gray, unmarked; setæ of præscutal interspaces pale. Pleura dark gray. Halteres pale yellow throughout. Legs with the coxæ and trochanters testaceous yellow; femora obscure yellow basally, passing into dark brown; tibiæ brownish yellow, both ends narrowly darkened; tarsi brownish black. Wings (Plate 1, fig. 16) with a pale-yellow tinge, clearest on prearcular and costal fields; stigma brown, conspicuous; veins brown, yellow in pale areas. Venation: R_2 at or just beyond fork of R_{2+3+4} ; cell M_2 open by atrophy of basal section of vein M_3 ; vein 2d A moderately sinuous.

Abdomen dark brown; hypopygium a trifle brightened. Male hypopygium (Plate 3, fig. 41) with tergite, 9t, a flattened-depressed plate, apical margin gently concave to nearly truncate, surface with microscopic setulæ. Outer dististyle, od, blackened, relatively narrow, inner margin produced into a strong black spine; apex produced into a membranous lobe. Inner dististyle, id, complex, consisting of an outer flattened black plate that is extended into two, or occasionally, three spinous points; at base of plate a further group of three black spines. Phallosome, p, consisting of slender, gently curved, yellow apophyses, acute tips blackened and acute; ædeagus subtended by conspicuous flattened plates.

Habitat.—Northern Korea.

Holotype, male, Ompo, altitude 1,000 feet, May 23, 1938 (Yankovsky). Allotopotype, female. Paratopotypes, 3 females, 1 male, altitude 400 feet, May 19, 1938. Paratype, male, Seren Mountains, altitude 6,000 feet, June 25, 1938 (Yankovsky).

Ormosia (*Ormosia*) *cornutoides* is quite distinct from all other species described from eastern Asia. It is more similar to the western Nearctic *O. (O.) cornuta* (Doane) and *O. (O.) subcornuta* Alexander, yet amply distinct in the structure of the male hypopygium.

ORMOSIA (ORMOSIA) FRAGMENTATA sp. nov. Plate 1, fig. 17; Plate 3, fig. 42.

General coloration dark plumbeous gray, thorax unmarked; halteres pale yellow; legs obscure yellow; wings with a weak brown tinge, large stigma darker brown; R_{2+3} and R_2 subequal, cell R_3 deep; cell M_2 open by atrophy of basal section of M_3 ; male hypopygium with outer dististyle expanded into a triangular blade, truncate outer margin cut into three or four lobes by notches; gonapophyses appearing as slender black rods on either side of an entire depressed median plate.

Male.—Length, about 3.8 to 4 millimeters; wing, 4.5 to 4.7; antennæ, about 1.

Female.—Length, about 5 millimeters; wing, 5.

Rostrum brownish gray; palpi black. Antennæ of moderate length, dark brown; flagellar segments subcylindrical, verticils longer than segments. Head dark gray.

Mesonotum and pleura dark plumbeous gray, without markings. Halteres pale yellow. Legs with coxæ dark brown; trochanters obscure yellow; remainder of legs obscure yellow, terminal tarsal segments darkened. Wings (Plate 1, fig. 17) with a weak brownish tinge, prearcular and costal fields light yellow; stigma large, brown; vague pale-brown washes at cord and along vein Cu; veins brown, brighter in yellow areas. Macrotrichia of cells abundant but arising from small pale punctures (indicated in figure by stippling). Venation: R_{2+3} and R_2 subequal, both about two-thirds R_{2+3+4} ; cell R_3 deep; cell M_1 deep; cell M_2 open by atrophy of basal section of M_3 ; m-cu erect, at fork of M; vein 2d A gently sinuous on distal third.

Abdomen dark brown, hypopygium scarcely brightened. Male hypopygium (Plate 3, fig. 42) with the two dististyles nearly terminal. Outer dististyle, *od*, blackened, expanded into a triangular blade, truncated outer margin cut into three or four lobes with fimbriate margins; surface of style with abundant small black setæ. Inner dististyle, *id*, a little larger, outer margin roughened by scabrous points, apex an irregular blade that is fimbriate by irregular teeth. Phallosome, *p*, appearing as simple black apophyses arising laterally from a broadly depressed, yellow, median plate, caudal margin of the latter entire. Ædeagus very slender, narrowed to an acute point.

Habitat.—Northern Korea.

Holotype, male, Ompo, altitude 150 feet, May 8, 1938 (Yankovsky). Allotopotype, female, altitude 400 feet, May 19, 1938.

Paratopotypes, males and females, altitude 150 to 250 feet, May 7 to 13, 1938; altitude 400 feet, May 19, 1938 (Yankovsky).

Ormosia (*Ormosia*) *fragmentata* is entirely different from all known regional species of approximately similar general appearance. The structure of the male hypopygium is quite distinctive.

ERIOPTERA (ERIOPTERA) BICORNIFER Alexander.

Erioptera (*Erioptera*) *bicornifer* ALEXANDER, Ann. Ent. Soc. America 14 (1921) 116.

Described from the main island of Japan. Northern Korea, Seren Mountains, altitude 1,500 to 2,000 feet, July 16 to August 27, 1938 (Yankovsky).

ERIOPTERA (ERIOPTERA) FUSCOHALTERATA Alexander.

Erioptera (*Erioptera*) *fuscohalterata* ALEXANDER, Proc. U. S. Nat. Mus. Art. 4 68 (1925) 11, 12.

Known hitherto from various stations in eastern Siberia.

Northern Korea, Chonsani, Paiktusan, altitude 3,600 feet, July 13, 1937 (Yankovsky). Seren Mountains, altitude 2,800 to 3,000 feet, June 22 to 30, 1938 (Yankovsky). The male hypopygium of the unique type was defective in the loss of the outer dististyle and may be redescribed as follows: Outer dististyle appearing as a flattened dark-colored blade that narrows to the obtusely rounded apex. Inner dististyle with apical spine provided with numerous setigerous punctures; on outer margin of style, opposite recurved tip of apical spine, with one or two small spines or strong setigerous tubercles. On what appears to be the ninth tergite, on either side, a microscopic sensory peg.

ERIOPTERA (ERIOPTERA) MEDIOFUSCA sp. nov. Plate 1, Fig. 18; Plate 4, Fig. 43.

General coloration brown, præscutum darker medially; pleura dark brown, variegated with obscure yellow; knobs of halteres dark brown; femora brown, bases restrictedly yellow; wings subhyaline, with a weak brown tinge, veins pale brown; male hypopygium with outer dististyle a slender blackened rod, tip acute; inner dististyle with tip recurved, blackened; gonapophyses appearing as simple blackened spines.

Male.—Length, about 5 to 6 millimeters; wing, 5 to 7.

Rostrum and palpi black. Antennæ with basal segments brown, outer segments somewhat paler; flagellar segments elongate, subcylindrical; terminal segments shorter than penultimate. Head brownish gray.

Pronotum dark brown medially, yellow on sides; anterior lateral pretergites yellow. Mesonotal præscutum grayish brown, darker brown medially in front, area delimited by row of setigerous punctures on interspaces; scutal lobes darkened; scutellum dark brown; postnotum reddish brown. Pleura chiefly dark brown, variegated with obscure yellow, especially on ventral sternopleurite and dorsopleural membrane. Halteres with stem yellow, outer end and knob dark brown. Legs with coxæ obscure brownish yellow; trochanters yellow; femora brown to dark brown, bases restrictedly yellow; tibiæ and tarsi brownish yellow, terminal tarsal segments dark brown. Wings (Plate 1, fig. 18) subhyaline, with a weak brown tinge; stigmal region vaguely infuscated; veins yellowish brown to pale brown; macrotrichia dark. Venation: vein 2d A strongly sinuous.

Abdomen dark brown, sparsely pruinose; hypopygium reddish yellow. Male hypopygium (Plate 4, fig. 43) with the tergite, 9t, lacking a specially modified sensory peg. Outer dististyle, od, slender, simple, blackened, tip acute. Inner dististyle, id, with tip strongly recurved, blackened; outer margin at near midlength with a small, more or less developed, chitinized point, in cases a small spine. Gonapophyses, g, appearing as simple blackened spines.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude, 2,500 feet, June 18, 1938 (Yankovsky). Paratopotypes, 10 males, altitude 2,500 to 6,000 feet, June 14 to 25, 1938 (Yankovsky).

Erioptera (Erioptera) mediofusca has the hypopygium very similar to that of *E. (E.) fuscohalterata* Alexander, but the coloration of the body, legs, and wings is quite different. *E. (E.) lutea* Meigen, of Europe, likewise has a hypopygium of somewhat similar structure, especially the inner dististyle, but the outer dististyle is much broader and of different conformation.

ERIOPTERA (ERIOPTERA) HORII Alexander.

Erioptera (Erioptera) horii ALEXANDER, Philip. Journ. Sci. 24 (1924) 583, 584.

Widely distributed in northern Japan. Northern Korea, Ompo, altitude 150 feet, June 7, 1937 (Yankovsky).

ERIOPTERA (ERIOPTERA) SEX-ACULEATA sp. nov. Plate 1, fig. 15; Plate 4, fig. 44.

General coloration, including antennæ, halteres, and legs, pale yellow; wings yellow, veins poorly differentiated against

ground; male hypopygium with both dististyles simple, outer extended into a long straight black spine; gonapophyses of either side bearing three blackened spinous points, most lateral point larger and microscopically roughened.

Male.—Length, about 5 millimeters; wing, 5.8.

Rostrum yellow; palpi pale brown. Antennæ pale brownish yellow, outer segments even paler; flagellar segments with unusually long pale verticils. Head yellow.

Thorax uniformly pale yellow, unmarked. Halteres yellow throughout. Legs yellow, outer tarsal segments a trifle darker. Wings (Plate 1, fig. 19) pale yellow, veins and macrotrichia a trifle darker than ground. Venation: 2d A unusually sinuous.

Abdomen, including hypopygium, yellow. Male hypopygium (Plate 4, fig. 44) with both dististyles simple, long and slender, outer, *od*, slightly more expanded on basal two-thirds, apex a straight black spine; inner style, *id*, a little shorter, tip narrowly blackened. Gonapophyses, *g*, on either side bearing three spines, most lateral spines larger, blackened apex microscopically roughened; inner spines slenderer, tips conspicuously blackened.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 3,500 feet, June 30, 1938 (Yankovsky).

Erioptera (Erioptera) sex-aculeata is quite distinct from the other regional species, especially from all those having the halteres and legs uniformly yellow. The structure of the gonapophyses is quite distinctive of the species.

ERIOPTERA (ILIBIA) ASYMMETRICA Alexander.

Erioptera (Acyphona) asymmetrica ALEXANDER, Canad. Ent. 45 (1913) 289, 290.

Northern Korea, Seren Mountains, altitude 2,000 to 4,500 feet, August 21 to September 15, 1938 (Yankovsky).

ERIOPTERA (ILIBIA) SERENICOLA sp. nov. Plate 1, fig. 26; Plate 4, fig. 45.

General coloration dark gray; halteres pale yellow; femora brownish yellow basally, tips broadly brownish black; tibiæ obscure brownish yellow, both ends more darkened; wings pale yellow, heavily patterned with dark brown; cell 1st M_2 , elongate, closed; male hypopygium with outer dististyle deeply divided into two shell-like blades; inner dististyle entirely pale; each gonapophysis blackened, profoundly but unequally bifid.

Male.—Length, about 5 to 5.5 millimeters; wing, 6.5 to 7.

Female.—Length, about 6 to 6.5 millimeters; wing, 7.5 to 8.

Rostrum dark gray; palpi black. Antennæ (male) moderately long, if bent backward extending about to wing root; basal segments pale brownish yellow, outer five or six flagellar segments darker; flagellar segments long-oval. Head dark gray.

Pronotum dark, anterior lateral pretergites obscure yellow. Mesonotal præscutum dark gray, center of præscutum a little darker; pseudosutural foveæ black. Pleura dark gray; dorso-pleural membrane dark brown. Halteres pale yellow. Legs with coxæ gray; trochanters brown; femora brownish yellow basally, tips broadly brownish black, including distal third or more of segment; tibiæ obscure brownish yellow, bases narrowly, tips more broadly blackened; tarsi dark brown to brownish black. Wings (Plate 1, fig. 20) with ground color pale yellow and a relatively heavy dark-brown pattern, including three major costal areas at origin of R_s , stigma and tip of $R_{1,2}$; cord and outer end of cell 1st M_2 scamed with brown; a marginal series of spots at ends of all longitudinal veins, largest at R_2 and 2d A; small dark clouds at h, arculus, and fork of $M_{3,4}$; a more or less extensive dark seam near midlength of basal section of Cu_1 , in cases including about one-third length of section, in others reduced to small spot; axillary margin in cell 2d A narrowly bordered by dusky; veins yellow, dark brown in clouded areas. Venation: R_s relatively short, only a little longer than R ; Sc_2 only a short distance beyond origin of R_s ; cell 1st M_2 elongate, closed, much exceeding vein $M_{1,2}$ beyond it; vein 2d A straight.

Abdomen, including hypopygium, black. Male hypopygium (Plate 4, fig. 45) with outer dististyle, *od*, deeply divided into two flattened shell-like blades, outer blade a little larger, yellow, with outer margin blackened, inner blade dusky, more obtuse at apex; a further blackened spinous point midlength of style. Inner dististyle, *id*, entirely pale, expanded at base, constricted at midlength, apex a little expanded. Gonapophyses, *g*, profoundly bifid, heavily blackened, outer arm a nearly straight rod, apical third gently incurved, outer margin microscopically serrulate; inner arm about one-half as long and slenderer, very gently curved, tip with a few denticles.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 3,200 feet, June 21, 1938 (Yankovsky). Allotopotype, female, pinned with

type. Paratopotypes, several of both sexes, altitude 2,000 to 3,800 feet, June 15 to July 10, 1938 (Yankovsky).

Erioptera (Ilisia) serenicola is very different from all other described species of the genus. In its wing pattern it more resembles species of the subgenus *Hoplolabis* Osten Sacken, but from the venation must be referred to *Ilisia*.

ERIOPTERA (SYMPLECTA) HYBRIDA (Meigen).

Limonia hybrida MEIGEN, Klass. 1 (1804) 57.

Widespread over the entire northern Palearctic region but not in the Nearctic, as formerly supposed, being there replaced by *E. (S.) cana* (Walker) which ranges as far south as Guatemala and southern Mexico. The following records for *hybrida* greatly extend its recorded range eastward in Asia.

Western China, Kwanhsien, Szechwan, altitude 4,500 feet, August 4, 1930 (*G. M. Franck*). Northern Japan, Abashiri, Hokkaido, August 31, 1922 (*Teiso Esaki*). Northern Korea, Seren Mountains, altitude 3,500 feet, September 14, 1938 (*Yankovsky*). One male specimen from Korea, on one wing only, has a spur of a vein from 2d A to the margin, thus producing the venation of the subgenus *Podoneura* Bergroth.

I am following Edwards³ in using the name *Symplecta* and in relegating it to subgeneric rank under the older genus *Erioptera*. For many years the subgenus had been called *Helobia* St. Fargeau, but *Symplecta* has now been found to be the prior name.⁴

ERIOPTERA (SYMPLECTA) CHOSSENSIS sp. nov. Plate 1, fig. 21; Plate 4, fig. 46.

General coloration gray; antennæ black throughout; mesonotal præscutum with three narrow dark-brown stripes; scutellum gray, with a narrow brown median vitta; postnotum light gray; pleura brownish gray, variegated with yellow on pteropleurite and caudal portion of sternopleurite; knobs of halteres brownish black; legs black, femoral bases brown; wings pale yellowish subhyaline, spotted with brown; Sc₂ at or beyond one-third length of Rs; m about one-half basal section of M₂;

³ Trans. Soc. British Ent. pt. 1 5 (1938) 126.

⁴ *Helobia* St. Fargeau, *Encycl. Method. Ins.* 10 (1828) 585; in the past the date has commonly been given as 1825, in which case it antedated *Helobia* Stephens, III. *Brit. Ent. Mandibulata* (1827) 45, 60, 61, credited by Stephens to Leach. According to Sherborn and others, the actual date of *Helobia* St. Fargeau is 1828, and the name *Symplecta* Meigen must be used, as is done above.

male hypopygium with outer dististyle deeply bifid, arms smooth and blackened; inner dististyle at apex expanded into a small head; gonapophyses smooth, blackened, conspicuously and unequally bispinous at tips.

Male.—Length, about 4.5 to 5 millimeters; wing, 4.5 to 5.

Rostrum and palpi black. Antennæ black throughout, relatively long (male), if bent backward extending nearly to wing root; flagellar segments oval to long-oval. Head light gray; eyes (male) large, anterior vertex narrow.

Pronotum obscure yellow, narrowly dark brown medially. Mesonotal præscutum light brown, humeral and lateral portions yellow; three narrow dark-brown stripes, median stripe nearly complete, lateral pair short, beginning behind transverse black pseudosutural foveæ; scutum brownish gray, each lobe with a dark-brown dash; scutellum light gray, with a narrow brown median vitta; postnotum light gray. Pleura chiefly dark brownish gray, variegated with yellow, including most of pteropleurite and a confluent spot at caudal portion of sternopleurite; dorsopleural membrane dusky. Halteres with stem yellow, knob brownish black. Legs with coxæ brownish yellow; trochanters obscure yellow; femora brown, tips passing into black; tibiæ and tarsi black. Wings (Plate 1, fig. 21) pale yellowish subhyaline; prearcular and costal areas somewhat clearer yellow; a restricted brown pattern, including areas at origin of R_s , Sc_2 , cord, outer end of cell 1st M_2 , tip of $R_{1,2}$, and at supernumerary crossvein in cell R_3 ; smaller and somewhat paler brown areas at end of vein R_2 , at midlength and near tip of 2d A, at margin of midlength of cell 2d A, and postarcular in base of cell M; veins pale brown, darker in clouded areas. Venation: Sc_2 some distance beyond origin of R_s , at or beyond one-third length of vein; supernumerary crossvein in cell R_3 opposite tip of vein $R_{1,2}$; m about one-half basal section of M_2 ; m-cu oblique, about two-thirds its length before fork of M; vein 2d A moderately sinuous.

Abdominal tergites dark brown, sternites somewhat more pruinose, lateral borders restrictedly yellow; hypopygium more yellowish. Male hypopygium (Plate 4, fig. 46) without terminal lobes on basistyle, *b*. Outer dististyle, *od*, deeply bifid, arms smooth and blackened; outer arm a little stouter than inner, especially on basal portion. Inner dististyle, *id*, weakly darkened, at apex expanded into a small head. Gonapophyses, *g*, smooth, blackened, conspicuously bispinous at tips, outer spine much longer than inner or lower one.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 3,000 feet, July 16, 1938 (Yankovsky). Paratopotypes, males and females, altitude 5,000 feet, September 14, 1938 (Yankovsky).

Erioptera (*Symplecta*) *chosensis* is very different from all known species of the subgenus, especially in the structure of the male hypopygium. Insofar as can be judged from a comparison of different sexes only it is apparently closest to *E. (S.) scotica* Edwards, still known only from females taken in Scotland. This latter fly differs in various details of coloration and venation, especially the pattern of the scutellum, and in the distal position of Sc_2 , with the dark areas at origin of R_s and on Sc_2 entirely separate.

ERIOPTERA (EMPEDA) SUBNUBILA sp. nov. Plate 1, Fig. 22; Plate 4, Fig. 47.

General coloration clear light gray; palpi and antennæ black; halteres pale yellow; legs brown, without scales; wings whitish subhyaline, stigma very slightly darker; veins pale; male hypopygium with outer dististyle bifid, stem fully as long as outer branch; both branches sclerotized and somewhat blackened, outer branch bispinous at tip; inner dististyle with apex less pointed than in *cinerascens*.

Male.—Length, about 4 millimeters; wing, 4.5.

Rostrum dark gray; palpi black. Antennæ black. Head light gray.

Pronotum gray; lateral pretergites light yellow. Mesonotum clear light gray, præscutal interpaces differentiated by a slightly more brownish line and by a series of long erect setæ; pseudosutural foveæ linear, black. Pleura gray, including dorsopleural membrane. Halteres pale yellow, knob large. Legs with coxæ testaceous brown, sparsely pruinose; trochanters yellow; remainder of legs brown, terminal tarsal segments more brownish black; legs without scales. Wings (Plate 1, fig. 22) whitish subhyaline, stigma very slightly darker; prearcular and costal regions somewhat more whitened; veins pale brown. Venation: Vein R_3 slightly more arcuated and less oblique than in *cinerascens*; cell M_3 shallower.

Abdomen dark brown, sparsely pruinose; hypopygium a little brightened. Male hypopygium (Plate 4, fig. 47) with the outer dististyle, *od*, bifid, fused basal portion or stem fully as long as outer branch; both branches sclerotized and somewhat blackened; outer branch dilated on basal two-thirds, tip bispinous, before apex with a lateral rounded shoulder. In *cinerascens* all

dististyles are pale, outer branch very short, trispinous at apex. Inner dististyle, *id.*, narrower than in *cinerascens*, apex less pointed.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 3,000 feet, June 17, 1938 (*Yankovsky*).

Erioptera (Empeda) subnubila is closest to the European *E. (E.) cinerascens* Meigen (*nubila* Schummel). It is most readily told by the structure of the male hypopygium. Edwards⁵ considers *Empeda* Osten Sacken and *Gonempeda* Alexander as representing subgenera of the genus *Cheilotrichia* Rossi. I still believe all three represent subgeneric groups in the major genus *Erioptera* Meigen.

MOLOPHILUS (MOLOPHILUS) TRIACANTHUS Alexander.

Molophilus triacanthus ALEXANDER, Philip. Journ. Sci. 53 (1934) 294, 295.

Formerly known only from the mountains of Honshiu, Japan.

Northern Korea, Ompo, altitude 200 to 800 feet, May 8 to 29, 1938 (*Yankovsky*).

MOLOPHILUS (MOLOPHILUS) MONACANTHUS sp. nov. Plate 1, Fig. 23; Plate 4, Fig. 48.

Belongs to the *gracilis* group and subgroup; general coloration black; femora black with about basal third yellow; tibiae obscure yellow, bases and tips darkened; wings with a strong brownish tinge, prearcular and costal portions clearer yellow; male hypopygium with ventromesal lobe of basistyle extensive, produced into a group of short spinous points; outer dististyle a little expanded at apex; phallosomic structure at apex produced into a long straight spine.

Male.—Length, about 4.5 millimeters; wing, 4.8 to 5; antennæ, about 1.

Female.—Length, about 5 millimeters; wing, 5.

Rostrum and palpi black. Antennæ short, dark brown throughout; flagellar segments oval, longest verticils unilaterally arranged and much exceeding segments. Head gray.

Pronotum black, pretergites restrictedly but conspicuously pale yellow. Mesonotum black, very sparsely pruinose to produce a slightly opaque appearance. Pleura dull black, dorsopleural membrane dark brown. Halteres pale yellow, only base of stem weakly infumed. Legs with coxæ and trochanters

⁵ Trans. Soc. British Ent. pt. 1 5 (1938) 119.

black; femora black, bases yellow, including about proximal third; tibiæ obscure yellow, extreme base and wider tip infuscated; tarsi dark brown. Wings (Plate 1, fig. 23) with a strong brown tinge, prearcular and costal fields light yellow; veins and trichia darker brown. Venation: R_2 lying shortly distad of r-m; petiole of cell M_3 approximately three times m-cu; vein 2d A long, ending a short distance beyond m-cu.

Abdomen, including hypopygium, black. Male hypopygium (Plate 4, fig. 48) with dorsal lobe of basistyle short, terminating in a small acute point; ventromesal lobe, *vb*, much broader, inner mesal portion produced into a number of spinous points, including a larger triangular black tooth slightly more basad in position. Outer dististyle, *od*, a nearly straight rod, at apex a little expanded and produced laterad into a point. Inner dististyle, *id*, little shorter, appearing as a slender, nearly straight spine from a slightly expanded base, surface with numerous setæ. Phallosome, *p*, an oval plate, apex produced into a single long, straight, black spine; surface of expanded basal portion with abundant close-set setigerous tubercles to produce a somewhat squamose appearance. *Æ*deagus, *a*, pale yellow, provided with expanded flanges.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 2,800 feet, July 5, 1938 (*Yankovsky*). Allotopotype, female. Paratopotypes, males and females, altitude 1,800 to 3,800 feet, June 10 to July 10, 1938; paratypes, males and females, Ompo, altitude 700 to 1,000 feet, May 23, 1938 (*Yankovsky*).

Molophilus (Molophilus) monacanthus is quite distinct from all other regional black species, differing especially in the structure of the male hypopygium, notably the unispinous phallosomic structure. In its general appearance it is amazingly like the species next considered, *M. (M.) facinus* sp. nov., but the structure of the hypopygium is entirely distinct.

MOLOPHILUS (MOLOPHILUS) FACINUS sp. nov. Plate 4, fig. 49.

Belongs to the *gracilis* group and subgroup; general coloration black, including head, thorax, and abdomen; halteres yellow; femora yellow basally, tips broadly brownish black, widest on fore femora; tibiæ yellow, with both ends narrowly darkened; wings brownish gray, prearcular and costal portions pale yellow; R_s very long; male hypopygium with basistyle terminating in three lobes, mesal lobe longest; two

simple dististyles, outer one nearly straight, its distal half with microscopic spinulæ; inner dististyle a sinuous blackened horn that is extended into a long slender point; phallosomic plate depressed-flattened, apex obtuse, surface with scattered microscopic setulæ.

Male.—Length, about 4 millimeters; wing, 4.5; antennæ, about 1.

Female.—Length, about 5 millimeters; wing, 5.

Rostrum and palpi black. Antennæ with scape and pedicel black, flagellum paler, brownish yellow to brown, outer segments darker; flagellar segments oval, with long verticils. Head black.

Thorax black, surface of præscutum subnitidous. Halteres very pale yellow. Legs with coxæ brownish black to black; trochanters obscure yellow; femora yellow basally, tips broadly brownish black, including about distal half of fore femora and approximately three-fourths of posterior pair; tibiæ light yellow, with each end narrowly darkened; basitarsi brownish yellow, remainder of tarsi black. Wings brownish gray, pre-arcular and costal portions restrictedly pale yellow; veins pale brown, macrotrichia darker. A few scattered setigerous punctures at base of cell R between arculus and origin of Rs. Venation: Rs very long, R correspondingly reduced; R₂ about in transverse alignment with r-m; petiole of cell M₂ nearly four times m-cu; vein 2d A long, gently sinuous.

Abdomen black. Male hypopygium (Plate 4, fig. 49) with basistyle terminating in three lobes, dorsal, *db*, shortest, obtuse and unblackened at apex, provided with setæ to tip; ventral lobe, *vb*, a little longer and stouter, tip obtuse; mesal lobe, *mb*, longest, heavily blackened, terminating in a blackened blade, margin before apex with a small lateral lobe or obtuse spine. Two dististyles, outer, *od*, a slender, nearly straight rod, basal half slightly more dilated but glabrous, distal half narrowed, terminating in an acute spine, surface back from tip with numerous appressed spinulæ. Inner dististyle, *id*, a sinuous blackened horn that narrows to a long, attenuate, acute point. Phallosomic structure a flattened plate, apex obtusely rounded, unarmed, surface with very delicate scattered setulæ. Ædeagus long, relatively slender.

Habitat.—Northern Korea.

Holotype, male, Ompo, altitude 1,000 feet, May 23, 1938 (Yankovsky). Allotopotype, female. Paratopotypes, several of

both sexes, altitude 300 to 1,000 feet, May 19 to June 16, 1938 (Yankovsky).

In the structure of the male hypopygium *Molophilus* (*Molophilus*) *facinus* is very different from the other regional species that have the body coloration intensely black. As indicated under the preceding species, it is very similar to the latter, *M. (M.) monacanthus* sp. nov., yet very distinct.

MOLOPHILUS (MOLOPHILUS) AVIDUS sp. nov. Plate 1, fig. 24; Plate 4, fig. 50.

Belongs to the *gracilis* group and subgroup; general coloration plumbeous; antennæ short, basal segments obscure yellow, outer segments passing into brown; halteres yellow; legs pale yellowish brown, outer segments darker; wings subhyaline, veins a little darker than ground; male hypopygium with dorsal lobe of basistyle produced into two conspicuous curved spines; ventral lobe a small, pale, fingerlike structure; two simple dististyles, longest with appressed spinulæ on distal half; phallosomic plate pale, apex obtusely rounded, surface with abundant microscopic setulæ.

Male.—Length, about 4 millimeters; wing, 4.4 to 4.5.

Female.—Length, about 5 millimeters; wing, 5.4.

Rostrum and palpi brown. Antennæ (male) short, if bent backward not attaining wing root; basal segments obscure yellow, outer segments passing into brown. Head dark gray.

Pronotum brown, obscure yellow behind; anterior lateral pretergites yellow. Mesonotum almost uniformly grayish brown to plumbeous; scutellum obscure brownish yellow to testaceous; postnotum paler brown. Pleura pale brown, dorsal pleurites a little darker. Halteres yellow. Legs with the coxæ and trochanters obscure yellow; remainder of legs pale yellowish brown, terminal tarsal segments dark brown to brownish black. Wings (Plate 1, fig. 24) subhyaline, veins a little darker than ground; costal fringe dark brown, long and dense. Venation: R_2 lying distad of level of r-m; m-cu about one-fourth length of petiole of cell M_3 ; vein 2d A long, gently sinuous.

Abdomen brown, including hypopygium. Male hypopygium (Plate 4, fig. 50) with dorsal lobe of basistyle, *db*, produced into two spines, the outer a conspicuous curved spinous blade, with nearly the apical half prolonged mesad into a straight blackened spine; inner spine of lobe broad-based, terminating in a long slender point; ventral lobe of basistyle, *vb*, proximal in position, unusually slender and entirely pale. Dististyles,

outer, *od*, longest, appearing as a powerful, curved, blackened rod from an expanded base, distal half with appressed spinules, tip acute; inner style, *id*, sinuous, distal half with small punctures. Phallosomic plate, *p*, pale, apex obtusely rounded; surface with abundant microscopic setulæ.

Habitat.—Northern Korea.

Holotype, male, Seren Mountains, altitude 2,500 feet, June 17, 1938 (*Yankovsky*). Allotopotype, female, pinned with type. Paratopotypes, 1 male, 1 female, with types; 1 male, altitude 1,800 feet, June 26, 1938 (*Yankovsky*).

Molophilus (Molophilus) avidus is quite distinct from all other regional species of the genus, differing primarily in the structure of the male hypopygium, notably the bispinous dorsal lobe of the basistyle.

ILLUSTRATIONS

[Legend: a, maleaegae; b, basistyle; d, dististyle; db, dorsal lobe of basistyle; dd, dorsal dististyle; g, gonapophysis; id, inner dististyle; mb, mesal lobe of basistyle; od, outer dististyle; p, phallosome; t, tergite; vb, ventral lobe of basistyle; vd, ventral dististyle.]

PLATE 1

- FIG. 1. *Limonia (Limonia) parvipennis* sp. nov.; venation.
 2. *Limonia (Dicranomyia) parviloba* sp. nov.; venation.
 3. *Antocha (Antocha) integra* sp. nov.; venation.
 4. *Dicranota (Eudicranota) perdistincta* sp. nov.; venation.
 5. *Limnophila (Eliophila) persalea* sp. nov.; venation.
 6. *Limnophila (Eliophila) serenensis* sp. nov.; venation.
 7. *Limnophila (Adelphomyia) macrotrichista* Alexander; venation.
 8. *Limnophila yankovskiyana* sp. nov.; venation.
 9. *Rhabdomastix (Sacandaga) spatulifera* sp. nov.; venation.
 10. *Rhabdomastix (Sacandaga) luridoides* sp. nov.; venation.
 11. *Cryptolabis (Bæoura) septentrionalis* sp. nov.; venation.
 12. *Ormosia (Ormosia) devota* sp. nov.; venation.
 13. *Ormosia (Ormosia) cata* sp. nov.; venation.
 14. *Ormosia (Ormosia) prava* sp. nov.; venation.
 15. *Ormosia (Ormosia) yankovskiyi* sp. nov.; venation.
 16. *Ormosia (Ormosia) cornatoides* sp. nov.; venation.
 17. *Ormosia (Ormosia) fragmentata* sp. nov.; venation.
 18. *Erioptera (Erioptera) mediofusca* sp. nov.; venation.
 19. *Erioptera (Erioptera) sex-aculeata* sp. nov.; venation.
 20. *Erioptera (Ilisia) serenicola* sp. nov.; venation.
 21. *Erioptera (Symplecta) chosonenensis* sp. nov.; venation.
 22. *Erioptera (Empeda) subnubila* sp. nov.; venation.
 23. *Molophilus (Molophilus) monacanthus* sp. nov.; venation.
 24. *Molophilus (Molophilus) avidus* sp. nov.; venation.

PLATE 2

- FIG. 25. *Limonia (Limonia) parvipennis* sp. nov.; male hypopygium.
 26. *Limonia (Dicranomyia) parviloba* sp. nov.; male hypopygium.
 27. *Limonia (Dicranomyia) parviloba parvicincta* subsp. nov.; male hypopygium.
 28. *Antocha (Antocha) integra* sp. nov.; male hypopygium.
 29. *Dicranota (Eudicranota) perdistincta* sp. nov.; male hypopygium.
 30. *Limnophila (Eliophila) persalea* sp. nov.; male hypopygium.
 31. *Limnophila (Eliophila) serenensis* sp. nov.; male hypopygium.
 32. *Limnophila yankovskiyana* sp. nov.; male hypopygium.

PLATE 3

- FIG. 33. *Rhabdomastix (Sacandaga) nigropicata* sp. nov.; male hypopygium.

ILLUSTRATIONS

[Legend: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *db*, dorsal lobe of basistyle; *dd*, dorsal dististyle; *g*, gonapophysis; *id*, inner dististyle; *mb*, mesal lobe of basistyle; *od*, outer dististyle; *p*, phallosome; *t*, tergite; *vb*, ventral lobe of basistyle; *vd*, ventral dististyle.]

PLATE 1

- FIG. 1. *Limonia* (*Limonia*) *parvipennis* sp. nov.; venation.
2. *Limonia* (*Dicranomyia*) *parviloba* sp. nov.; venation.
3. *Antocha* (*Antocha*) *integra* sp. nov.; venation.
4. *Dicranota* (*Eudicranota*) *perdistincta* sp. nov.; venation.
5. *Limnophila* (*Elæophila*) *persalsa* sp. nov.; venation.
6. *Limnophila* (*Elæophila*) *serenensis* sp. nov.; venation.
7. *Limnophila* (*Adelphomyia*) *macrotrichiata* Alexander; venation.
8. *Limnophila* *yankovskiyana* sp. nov.; venation.
9. *Rhabdomastix* (*Sacandaga*) *spatulifera* sp. nov.; venation.
10. *Rhabdomastix* (*Sacandaga*) *luridoides* sp. nov.; venation.
11. *Cryptolabis* (*Bæoura*) *septentrionalis* sp. nov.; venation.
12. *Ormosia* (*Ormosia*) *devota* sp. nov.; venation.
13. *Ormosia* (*Ormosia*) *cata* sp. nov.; venation.
14. *Ormosia* (*Ormosia*) *prava* sp. nov.; venation.
15. *Ormosia* (*Ormosia*) *yankovskyi* sp. nov.; venation.
16. *Ormosia* (*Ormosia*) *cornutoides* sp. nov.; venation.
17. *Ormosia* (*Ormosia*) *fragmentata* sp. nov.; venation.
18. *Erioptera* (*Erioptera*) *mediofusca* sp. nov.; venation.
19. *Erioptera* (*Erioptera*) *sex-aculeata* sp. nov.; venation.
20. *Erioptera* (*Ilisia*) *serenicola* sp. nov.; venation.
21. *Erioptera* (*Symplecta*) *chosenensis* sp. nov.; venation.
22. *Erioptera* (*Empeda*) *subnubila* sp. nov.; venation.
23. *Molophilus* (*Molophilus*) *monacanthus* sp. nov.; venation.
24. *Molophilus* (*Molophilus*) *avidus* sp. nov.; venation.

PLATE 2

- FIG. 25. *Limonia* (*Limonia*) *parvipennis* sp. nov.; male hypopygium.
26. *Limonia* (*Dicranomyia*) *parviloba* sp. nov.; male hypopygium.
27. *Limonia* (*Dicranomyia*) *parviloba parvincisa* subsp. nov.; male hypopygium.
28. *Antocha* (*Antocha*) *integra* sp. nov.; male hypopygium.
29. *Dicranota* (*Eudicranota*) *perdistincta* sp. nov.; male hypopygium.
30. *Limnophila* (*Elæophila*) *persalsa* sp. nov.; male hypopygium.
31. *Limnophila* (*Elæophila*) *serenensis* sp. nov.; male hypopygium.
32. *Limnophila* *yankovskiyana* sp. nov.; male hypopygium.

PLATE 3

- FIG. 33. *Rhabdomastix* (*Sacandaga*) *nigroapicata* sp. nov.; male hypopygium.

- FIG. 34. *Rhabdomastix (Sacandaga) spatulifera* sp. nov.; male hypopygium.
35. *Rhabdomastix (Sacandaga) luridoides* sp. nov.; male hypopygium.
36. *Cryptolabis (Bæoura) septentrionalis* sp. nov.; male hypopygium.
37. *Ormosia (Ormosia) devota* sp. nov.; male hypopygium.
38. *Ormosia (Ormosia) cata* sp. nov.; male hypopygium.
39. *Ormosia (Ormosia) prava* sp. nov.; male hypopygium.
40. *Ormosia (Ormosia) yankovskyi* sp. nov.; male hypopygium.
41. *Ormosia (Ormosia) cornutoides* sp. nov.; male hypopygium.
42. *Ormosia (Ormosia) fragmentata* sp. nov.; male hypopygium.

PLATE 4

- FIG. 43. *Erioptera (Erioptera) mediofusca* sp. nov.; male hypopygium.
44. *Erioptera (Erioptera) sex-aculeata* sp. nov.; male hypopygium.
45. *Erioptera (Ilisia) serenicola* sp. nov.; male hypopygium.
46. *Erioptera (Symplecta) chosenensis* sp. nov.; male hypopygium.
47. *Erioptera (Empeda) subnubila* sp. nov.; male hypopygium.
48. *Molophilus (Molophilus) monacanthus* sp. nov.; male hypopygium.
49. *Molophilus (Molophilus) facinus* sp. nov.; male hypopygium.
50. *Molophilus (Molophilus) avidus* sp. nov.; male hypopygium.

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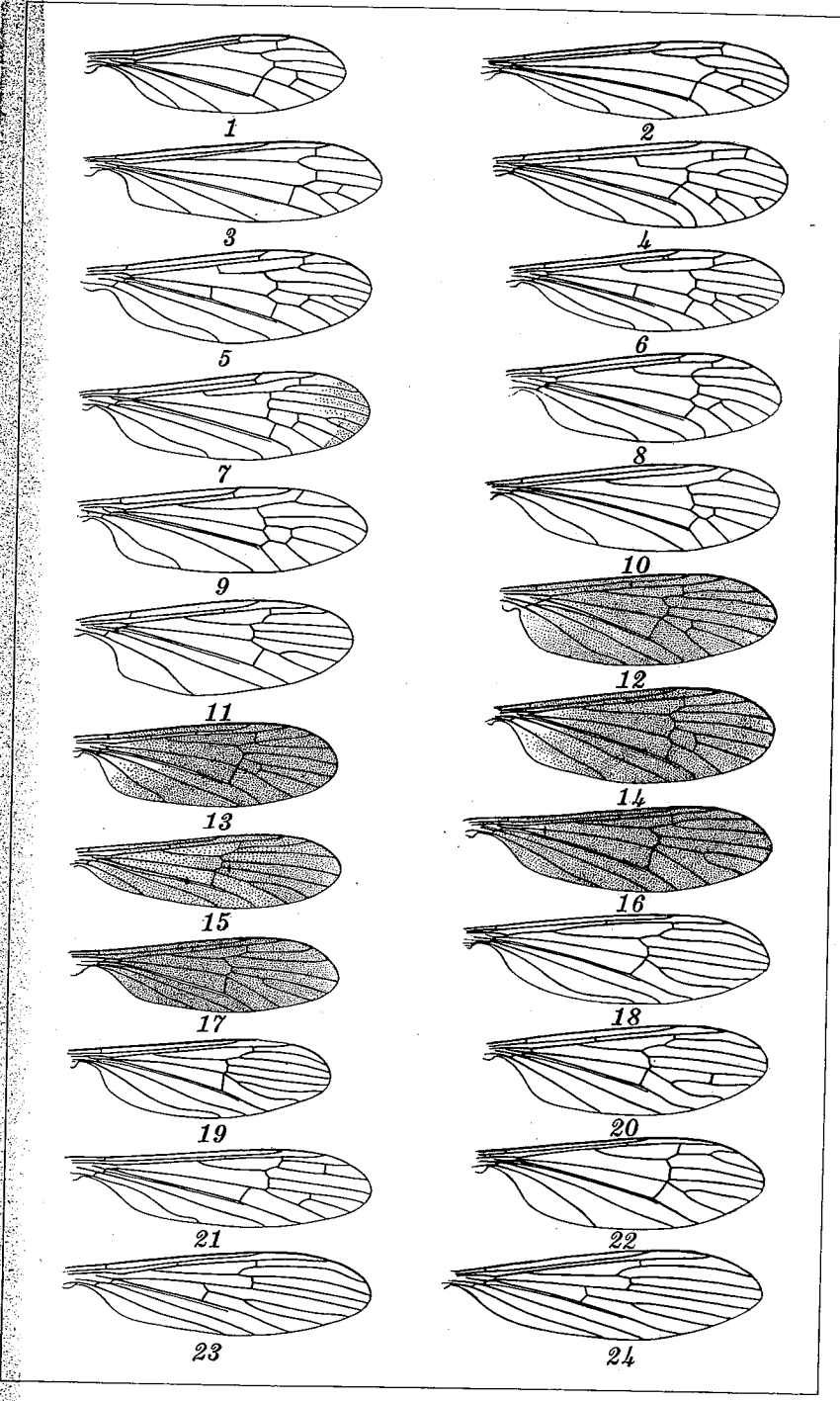


PLATE 1.

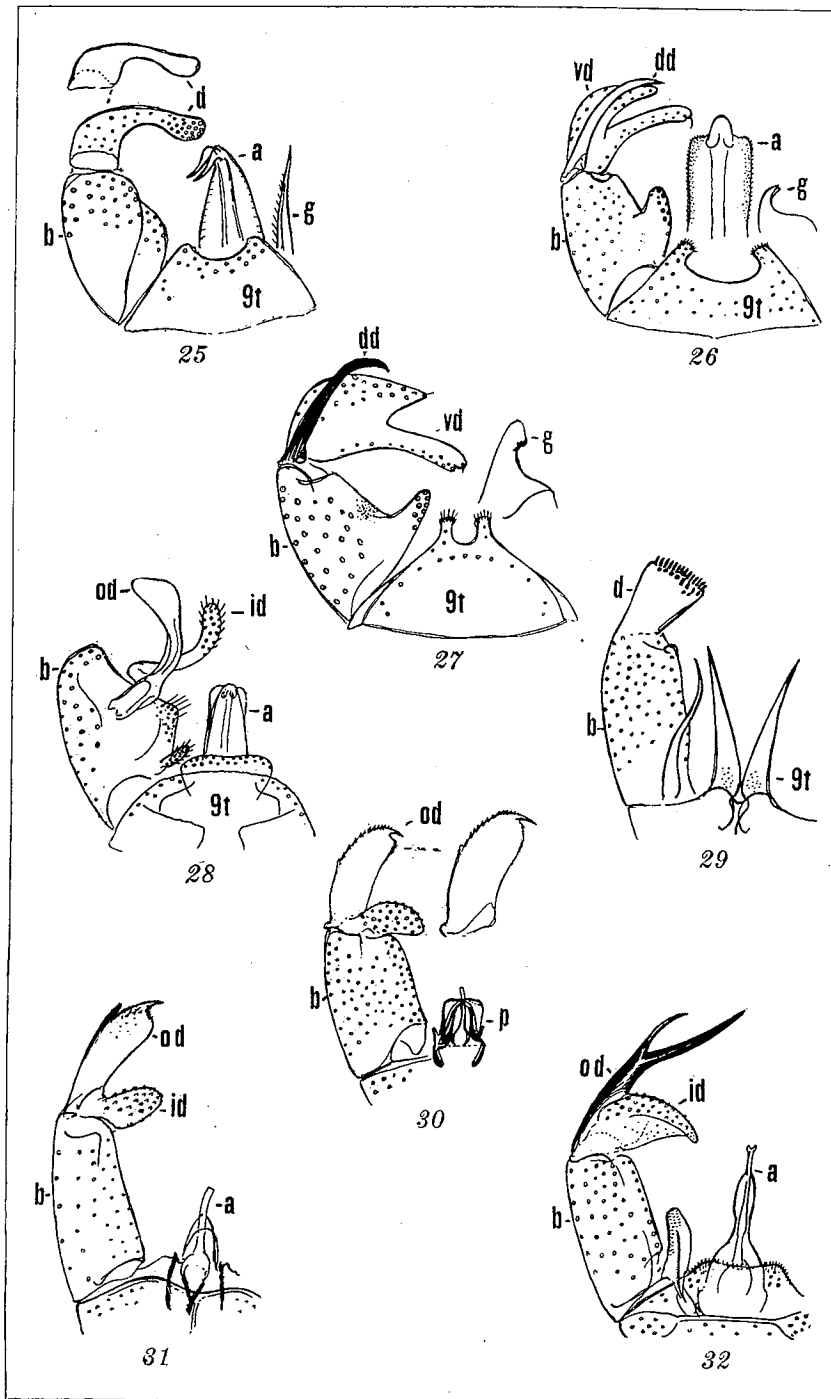


PLATE 2.

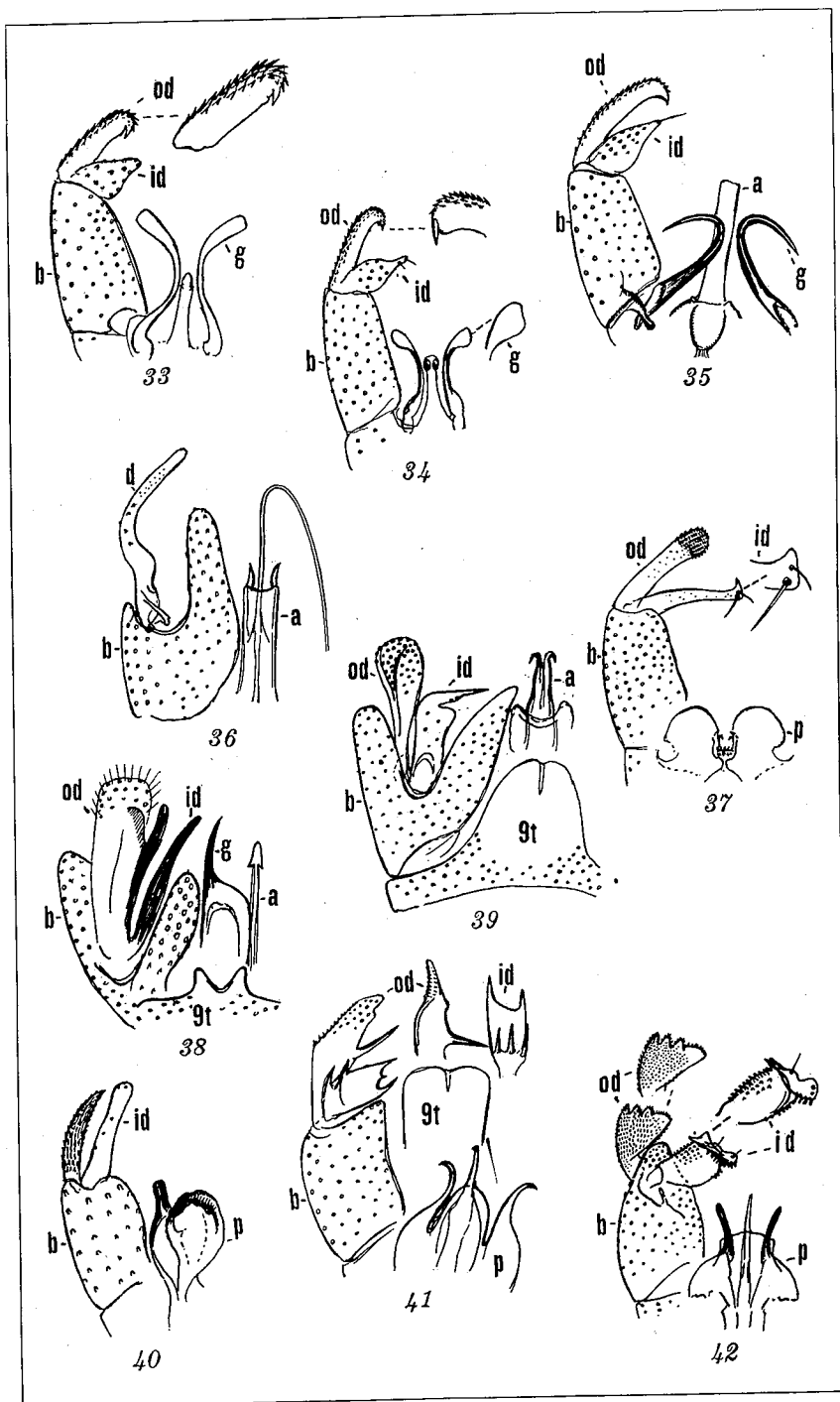


PLATE 3.

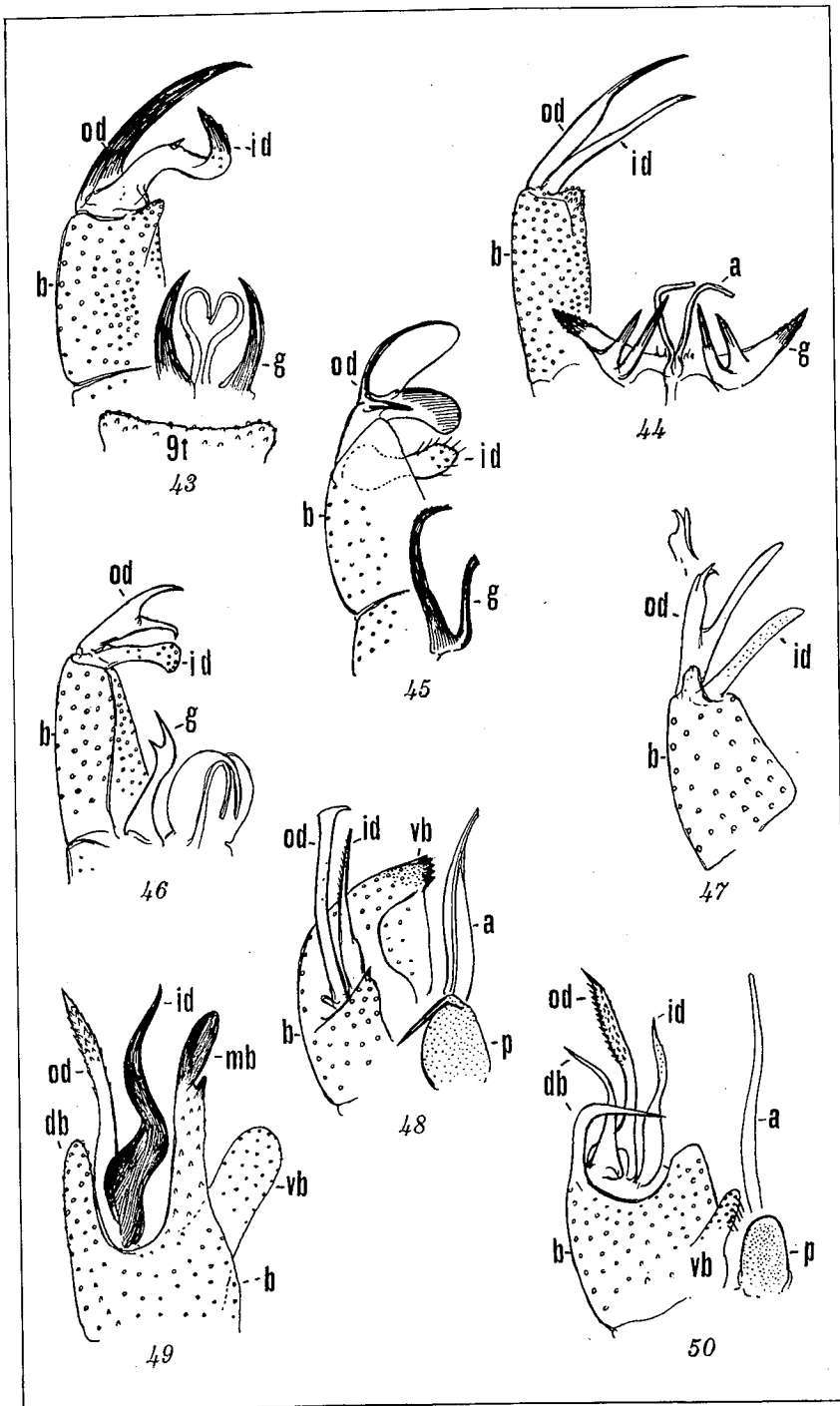


PLATE 4.