

# NEW OR LITTLE-KNOWN TIPULIDÆ FROM EASTERN ASIA (DIPTERA), XXXVIII<sup>1</sup>

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## THREE PLATES

The species of crane flies described in this paper were taken in Szechwan Province, western China, by Mr. Tsen Bao-chi, native collector for the Reverend Mr. George M. Franck, who likewise secured a portion of the material. Mr. Tsen's collections were taken at various altitudes on Mount Omei between June 5 and 13, 1937, and indicate a rich and varied spring fauna as occurring on these mountains. I express my deep indebtedness to Messrs. Franck and Tsen for the opportunity of studying this interesting collection. The types of the included novelties are preserved in my extensive series of these flies. I am including a single species of the allied family Trichoceridæ.

## TRICHOCERIDÆ

**TRICHOCERA APPENDICULATA** sp. nov. Plate 1, fig. 1; Plate 2, fig. 25.

Large (wing, male, 8 millimeters); general coloration black; halteres very long, stem yellow, knob dark; legs dark brown; wings slightly tinged with brown, with a slightly darker brown cloud on r-m; abdomen, including hypopygium, black; male hypopygium with dististyle profoundly bifid, the two arms subequal in length, the outer slenderer; from the apparent ninth sternite arises a long, depressed appendage, jutting caudad to opposite or beyond level of other structures of hypopygium.

*Male*.—Length, about 7 millimeters; wing, 8.

Rostrum and palpi black. Antennæ brownish black throughout, moderately long, if bent backward extending to some distance beyond base of abdomen. Head black.

Thorax uniformly blackened. Halteres remarkably long and slender, if bent backward extending to nearly opposite outer end of second abdominal segment; stem yellow, knob small, brownish black. Legs dark brown. Wings (Plate 1, fig. 1)

<sup>1</sup>Contribution from the entomological laboratory, Massachusetts State College.

with a slight brown suffusion; a vague, slightly darker brown cloud on r-m; veins pale brown. Macrotrichia of veins relatively short. Venation:  $Sc_2$  shortly before midlength of  $R_s$ ; basal section of  $R_5$  very short, r-m correspondingly lengthened; petiole of cell  $M_1$  a little shorter than second section of vein  $M_{1+2}$ .

Abdomen, including hypopygium, black. Male hypopygium with dististyle (Plate 2, fig. 25, *d*) profoundly bifid at near midlength; stem stout, outer arm much slenderer, its outer surface with scattered coarse setæ, inner or mesal face with long delicate setæ; inner arm or lobe about equal in length to outer, more flattened, especially at near midlength, apex gradually narrowed into a slender point, extreme tip curved; distal half of arm pale, lower margin with a series of 15 to 18 small setæ. Gonapophyses of moderate length. From what appears to be the ninth sternite, but which cannot be definitely recognized from the unique slide type, projects a depressed, dark-colored lobe, narrower at base, gently widened outwardly, median area further produced into a narrower lobe that is densely provided with coarse black setæ; lateral shoulders of appendage with very long coarse setæ that jut caudad to beyond level of median lobe.

*Habitat*.—China (Szechwan).

Holotype, male, Kwanhsien, altitude 3,500 feet, December, 1936 (*Franck*).

*Trichocera appendiculata* is very distinct from all described members of the genus. The remarkable structure, apparently borne by the last abdominal sternite, is unique among the species so far described.

## TIPULIDÆ

### TIPULINÆ

**TANYPTERA ANTICA** sp. nov. Plate 1, fig. 2.

Small (wing, male, under 10 millimeters); general coloration black, thorax and first abdominal tergite roughened alutaceous; halteres yellow throughout; legs reddish, fore tibiæ with a broad white ring before tips; wings strongly suffused with brown, base more yellowish; stigma subcircular, darker brown; cell 1st  $M_2$  small, pentagonal; abdominal tergites broadly black medially, reddish yellow on sides.

*Male*.—Length, about 12 millimeters; wing, 9.5; antennæ, about 4.

Frontal prolongation of head black, with dense yellow setæ; palpi pale brown, outer segments darker. Antennæ black, pedicel reddish brown; antennæ moderately long, if bent backward extending about to halteres; basal flagellar branches moderately long, longest (about flagellar segment seven or eight) about one and one-half as long as segment; unpaired branch about one-half length of paired branches. Head black, subnitidous.

Thoracic dorsum black, surface only faintly nitidous, interspaces with conspicuous yellow setæ; surface of usual præscutal stripes faintly alutaceous; scutellum and postnotum more conspicuously roughened. Pleura and pleurotergite dull black, surface conspicuously roughened, alutaceous. Halteres pale yellow. Legs with coxæ dull black, with a dense white pubescence; trochanters pale yellow; fore femora reddish brown, narrowly yellow at base; fore tibiæ brownish black, with a broad white ring before narrow darkened tip, this ring occupying about one-third total length of tibia; fore tarsi passing through dark brown to black; middle and posterior femora reddish, tibiæ and tarsi more obscure yellow, terminal segments infuscated. Wings (Plate 1, fig. 2) with a strong brown suffusion, prearcular field, cells Sc and Cu<sub>1</sub>, and base of cell 2d A, more yellowish; stigma subcircular, darker brown; a weak dark cloud on anterior cord; pale oblitative areas before stigma, across end of Rs and involving base of cell 1st M<sub>2</sub>; veins dark brown, more yellowish in brightened areas. Venation: Tips of Sc<sub>1</sub> and free tip of Sc<sub>2</sub> atrophied; R<sub>1+2</sub> entire, suberect; Rs short, arcuated; veins of outer radial field short; cell M<sub>1</sub> about three times its petiole, latter longer than m; cell 1st M<sub>2</sub> small, pentagonal; vein M<sub>4</sub> bent strongly backward, so cell M<sub>3</sub> at margin considerably wider than cell M<sub>3</sub>.

Basal abdominal tergite dull black, alutaceous; succeeding tergites broadly black medially, reddish yellow on sides, subterminal segments and hypopygium black; sternites reddish yellow.

*Habitat.*—China (Szechwan).

Holotype, male, Mount Omei, Chu Lao Tong Temple, altitude 6,500 feet, June 12, 1937 (*Tsen*).

*Tanyptera antica* is readily told from other small species in eastern Asia, such as *T. angustistyla* Alexander, by the dull alutaceous surface of the thorax and basal abdominal tergite, the broad white ring on the fore tibia, yellow halteres, and details of venation, as the entire R<sub>1+2</sub>.

DICTENIDIA GLABRATA sp. nov. Plate 1, fig. 3.

General coloration polished yellow, præscutum and scutal lobes chiefly polished black; antennal flagellum brownish black; pronotum and pleura yellow; posterior legs not conspicuously enlarged or hairy; tibiæ black, with a narrow white ring near base; wings faintly yellow, sparsely patterned with brown, including tip and a complete but narrow band at cord; cells of wing without macrotrichia; abdominal tergites brownish yellow, trivittate with black; basal sternites with a median black stripe.

*Female*.—Length, about 16 millimeters; wing, 12.

Frontal prolongation of head brownish yellow, nasus conspicuous; palpi with basal segment brown, remainder black. Antennæ (female) apparently 11-segmented, outer flagellar segments short, crowded, more or less consolidated; scape and pedicel pale yellow, flagellum uniformly brownish black. Front yellow, broad anterior vertex polished black; genæ and occiput obscure yellow.

Pronotum uniformly yellow. Mesonotal præscutum almost covered by three polished black stripes, restricting ground color to narrow obscure yellow intermediate lines; scutal lobes similarly blackened, median area, together with posterior sclerites of notum, obscure polished yellow. Pleura, including dorso-pleural membrane and pleurotergite, yellow. Halteres with stem and base of knob dusky, apex of knob yellow. Legs with coxæ and trochanters yellow; fore and middle femora almost uniformly obscure brownish yellow, apex scarcely darker; tibiæ brown, tips brownish black; tarsi black; posterior legs longer and more powerful than the others but not so markedly so as in *D. formosana*, *D. pictipennis*, and *D. luteicostalis* among the species in eastern Asia; legs not conspicuously hairy; posterior femora obscure yellow, tips narrowly but conspicuously blackened, preceded by a similarly narrow, clearer yellow ring; tibiæ black with a narrow white ring placed a little more than its own length beyond base; tarsi black. Wings (Plate 1, fig. 3) with a faint yellow tinge, prearcular and costal portions deeper yellow; a restricted brown pattern, as follows: A narrow band at cord, completely traversing wing from stigma to posterior margin; wing tip narrowly darkened, involving cells  $R_2$  to  $M_1$ , inclusive; a linear brown streak in center of cell R, more widened in basal portion, extending beyond origin of Rs which is likewise slightly clouded; veins black, including those in brighter costal



portion. Cells of wing without macrotrichia, as in *inæquiptinata*. Venation: Rs more than twice m-cu; petiole of cell  $M_1$  subequal to m.

Abdominal tergites obscure brownish yellow, beyond first segment with three narrow black stripes, median broader than laterals; extreme caudal borders on either side of median stripe clearer yellow; sternites brownish yellow, basal and intermediate segments blackened medially; subterminal segments and genital shield polished black; cerci horn-yellow.

*Habitat*.—China (Szechwan).

Holotype, female, Mount Omei, altitude 5,000 feet, June 5, 1937 (*Tsen*).

The only described species of *Dictenidia* without macrotrichia in the outer cells of wing is *D. inæquiptinata* Alexander, of the high mountains of Formosa. In its wing pattern the present fly is most like the genotype, *D. bimaculata* (Linnæus), of the northern Palæarctic region, which differs from *glabrata* in the apically pilose wings and in the very different leg pattern. The latter character is much like that of many species of *Pselliophora* Osten Sacken, but the present fly is a true *Dictenidia*. In an earlier report under this general title,<sup>2</sup> I have indicated the increasing difficulties in the generic separation of the females of the *Ctenophoraria*.

Since the above was written, a male specimen has come to hand that I believe represents this sex of the present fly. It differs from the description given, as follows:

Head above yellow, with a transverse band across the anterior vertex, this marking trilobed across anterior border. Antennæ (male) with branches elongate, distal branch a little slenderer than basal branch and ranging from two-thirds to three-fourths as long. Præscutum with three separate black stripes, laterals crossing suture and covering centers of scutal lobes. Wings unmarked except for the brownish black stigma, a broad brown seam on anterior cord, and a narrower brown seam on m-cu. Petiole of cell  $M_1$  shorter than m. Abdominal tergites trivittate, the median stripe narrower on cephalic portion; fifth and succeeding segments uniformly blackened.

Allotype, male, Pehlütting (White Deer Mountain), altitude 6,000 feet, July 11, 1937 (*Franck*).

<sup>2</sup> Philip. Journ. Sci. 60 (1936) 167, 168.

## LIMONIINÆ

## LIMONIINI

## LIMONIA (LIMONIA) IMPROVISA Alexander.

*Limonia (Limonia) improvisa* ALEXANDER, Philip. Journ. Sci. 51 (1933) 535, 536.

The types were taken from the China-Tibet border at high altitudes. One male, White Cloud Temple, Mount Omei, altitude 9,000 feet, June 12, 1937 (*Tsen*). This specimen is larger than the types (male, length, about 11 millimeters; wing, 14) with the wing pattern heavier, especially the major dark areas at cord, origin of Rs, and beyond the arculus.

## LIMONIA (LIMONIA) PERBEATA sp. nov. Plate 1, fig. 4; Plate 2, fig. 26.

General coloration of thorax uniformly polished black; antennæ black, outer flagellar segments progressively lengthened; halteres elongate, knobs very weakly darkened; legs with fore coxæ black, remaining coxæ and all trochanters yellow; fore femora with outer end extensively blackened, posterior femora with tips narrowly so; tibiæ obscure yellow; wings yellowish subhyaline, with a restricted brown pattern, including all of cell C; vein Sc short, Rs spurred at origin; male hypopygium with dististyle produced into a long yellow beak; gonapophyses with mesal-apical lobes dark brown, broad; ædeagus terminating in two divergent points.

*Male*.—Length, about 6.5 millimeters; wing, 8.

Rostrum and palpi black. Antennæ black throughout; basal flagellar segments short-oval, with short apical necks; outer segments becoming more elongate, last about one and one-half as long as penultimate; verticils of outer segments subequal in length to segments themselves. Head dark gray; anterior vertex narrow, about two-thirds diameter of scape.

Thorax uniformly polished black. Halteres elongate, pale yellow, knobs very weakly darkened. Legs with fore coxæ brownish black, remaining coxæ light yellow; trochanters yellow; femora yellow basally, tips blackened, very broadly so on fore-legs where only about proximal fourth is yellow; posterior femora yellow, with about distal ninth darkened; remainder of legs obscure yellow, outer tarsal segments passing into brownish black; claws with a single slender basal spine, about one-third as long as claw itself. Wings (Plate 1, fig. 4) yellowish subhyaline, restrictedly patterned with brown; cell C uniformly darkened, cell Sc darkened on basal half; brown seams at fork

of Sc, origin of Rs, R<sub>2</sub>, cord, and outer end of cell 1st M<sub>2</sub>; veins brownish yellow, somewhat darker in clouded areas, paler at wing base. Venation: Sc short, Sc<sub>1</sub> ending about opposite one-third length of Rs, Sc<sub>2</sub> at its tip; Rs angulated and spurred at origin, spur nearly as long as basal section of Rs; free tip of Sc<sub>2</sub> nearly three times R<sub>2</sub>; m-cu at fork of M.

Abdomen, including hypopygium, dark brown. Male hypopygium (Plate 2, fig. 26) with tergite, 9t, transverse, caudal margin straight. Dististyle, *d*, with body small, subequal to ventromesal lobe of basistyle, beak long-produced, yellow beyond base. Gonapophyses, *g*, with mesal-apical lobes darkened, broad, outer margin weakly roughened, apical spine short. Ædeagus, *a*, pale, at apex produced into two divergent points, surface with numerous microscopic spines that are directed outwardly.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*).

In general appearance similar to *Limonia* (*Limonia*) *anthracina* (Alexander) but entirely distinct, being most nearly allied to the almost uniformly yellow species *L. (L.) omniflava* Alexander, likewise from western China. In the black body coloration and restrictedly patterned wings the present fly bears a noteworthy superficial resemblance to *Limonia* (*Dicranomyia*) *lethe* sp. nov., *Limnophila* (*Prionolabis*) *carbonis* sp. nov., and *Elephantomyia* (*Elephantomyia*) *carbo* sp. nov., all from Mount Omei.

**LIMONIA (DICRANOMYIA) TSENI** sp. nov. Plate 1, fig. 5; Plate 2, fig. 27.

General coloration of mesonotum brownish yellow, pollinose; pronotum and cephalic half of præscutum with a narrow brownish black median stripe; femora yellow, tips narrowly brownish black; wings grayish subhyaline, stigma pale brown, inconspicuous; male hypopygium with caudal margin of tergite bearing a bilobed plate; basistyle with ventromesal lobe large, complicated by outgrowths and brushes; dorsal dististyle suddenly narrowed at tip; ventral dististyle with rostral region bifid; base of rostral prolongation with a slender arm, tipped with setæ.

*Male*.—Length, 7.5 to 8.5 millimeters; wing, 8.2 to 9.5.

Rostrum brown; palpi black. Antennæ with scape and pedicel black, flagellum brown; flagellar segments oval, terminal segment slightly longer than penultimate. Head blackish, sparsely pruinose.

Pronotum dark brown medially, yellow on sides. Mesonotum brownish yellow, pollinose, præscutum with a narrow brownish black median stripe that becomes obsolete at near midlength of sclerite. Pleura brownish yellow, pollinose. Halteres elongate, stem pale, knob dark brown. Legs with coxæ and trochanters yellow; femora yellow, tips rather narrowly brownish black, the amount subequal on all legs; tibiæ brownish yellow, tips very narrowly darkened; tarsi black; claws with a single long basal spine. Wings (Plate 1, fig. 5) faintly grayish subhyaline; stigma pale brown, inconspicuous; veins brown. Venation:  $Sc_1$  ending shortly beyond origin of Rs,  $Sc_2$  a little removed from its tip; Rs more than twice basal section of  $R_{4+5}$ ; m-cu just beyond fork of M.

Abdominal tergites dark brown, sternites paler; hypopygium chiefly dark, ventral dististyle pale. Male hypopygium (Plate 2, fig. 27) very complex in structure, especially basistyle, *b*, and ventral dististyle, *vd*, general structure somewhat as in *grahamiana* but with the details quite distinct. Ninth tergite, *9t*, broadly transverse, caudal margin bearing a median projection that divides into two divergent lobes, separated by a narrow incision. Basistyle, *b*, with ventromesal lobe very broad and flattened, in the axil bearing a long pale lobe tipped with numerous setæ and flattened spines, with other hair brushes at base. Dorsal dististyle a gently curved rod, abruptly narrowed at apex into a straight spine. Ventral dististyle, *vd*, of moderate size, pale, fleshy; rostral prolongation stout, bifid, outer arm slender, tufted with setæ; lower arm truncated at apex, with a few setæ, including two stouter pendant setæ; rostral spines two, of moderate size, placed close together on face of rostrum at near midlength. From base of style, cephalad of prolongation, with a slender sclerotized arm, tipped with setæ. Gonapophyses, *g*, with mesal-apical lobe relatively slender, smooth.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*). Paratopotype, male, June 5, 1937.

The nearest described ally of the present fly is *Limonia* (*Dicranomyia*) *grahamiana* Alexander, of western China and Tibet, which differs in details of coloration, as the conspicuous wing stigma, and in the structure of the male hypopygium, especially the tergite and dististyles.



LIMONIA (DICRANOMYIA) LETHE sp. nov. Plate 1, fig. 6; Plate 2, fig. 28.

General coloration polished black; femora yellow, tips brownish black; wings yellow, costal and prearcular portions clearer yellow; a sparse dark pattern, including seams on cord, outer end of cell 1st  $M_2$  and along vein Cu;  $Sc_1$  terminating a short distance beyond origin of Rs; male hypopygium with a single rostral spine.

*Male*.—Length, 6.8 to 7 millimeters; wing, 7.2 to 7.5.

*Female*.—Length, about 8 millimeters; wing, 8.5.

Rostrum and palpi black. Antennæ with scape brown; pedicel obscure yellow; flagellum black. Head blackish gray; anterior vertex narrow, about one-half diameter of scape.

Thorax polished black throughout. Halteres pale yellow. Legs with fore and middle coxæ blackened, apex of latter pale, posterior coxæ yellow; trochanters yellow; femora yellow, tips brownish black, moderately wide and subequal on all legs; tibiæ obscure yellow, tips very narrowly darkened; basitarsi obscure yellow, remaining segments brown. Wings (Plate 1, fig. 6) yellow, costal and prearcular portions clearer yellow; a restricted brown pattern, including oval stigma, very narrow seams along cord and outer end of cell 1st  $M_2$ , and a wider seam on central portion of vein Cu in cell M; veins beyond cord and all of Cu except for base brown, remaining veins light yellow. Venation: Sc long for a member of the subgenus,  $Sc_1$  ending about opposite one-sixth length of Rs,  $Sc_2$  at tip; free tip of  $Sc_2$  and  $R_2$  in transverse alignment; cell 1st  $M_2$  shorter than veins beyond it; m-cu at fork of M.

Abdomen, including hypopygium, black. Male hypopygium (Plate 2, fig. 28) with caudal margin of tergite, 9t, with a deep V-shaped notch, lobes obtusely rounded. Dorsal dististyle sickle-shaped. Ventral dististyle, *vd*, small, its extent less than that of basistyle, subcircular to short-oval in outline; rostral prolongation powerful, beyond rostral spine narrowed and terminating in an acute blackened point; rostral spine single, from a scarcely developed tubercle, subequal in length to prolongation itself. Gonapophyses, *g*, with mesal-apical lobe slender, blackened. *Ædeagus*, *a*, relatively narrow.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, Chu Lao Tong Temple, altitude 6,500 feet, June 6, 1937 (*Tsen*). Allotopotype, female. Paratopotype, male.

In its general appearance, especially the polished black color of the thorax, and in the structure of the male hypopygium, as the single rostral spine of the ventral dististyle, the present fly suggests members of the *morio* group, but I am not entirely convinced that it belongs there. It is very distinct from all described regional species of *Dicranomyia*, especially in the unusually long Sc, wing pattern, and structure of the male hypopygium.

**ANTOCHA (ANTOCHA) FLAVIDIBASIS** sp. nov. Plate 1, fig. 7.

General coloration light gray, præscutum with four stripes that are confluent or nearly so; antennæ black throughout; halteres with dark-brown knobs; femora brown, tibiæ and tarsi brownish black; wings pale gray, prearcular field conspicuously light yellow; stigma not or scarcely indicated; abdominal tergites dull black, sternites more grayish.

*Female*.—Length, about 8.5 millimeters; wing, 9.

Rostrum brown; palpi black. Antennæ black throughout; flagellar segments oval, outer segments more elongate. Head brown, front and anterior vertex, together with narrow posterior orbits, light gray, the two colors separated by a narrow darker line.

Pronotum and mesonotum light gray, disc of præscutum chiefly covered by four confluent or virtually confluent stripes; scutal lobes similarly darkened. Pleura gray. Halteres yellow, knobs dark brown. Legs with coxæ gray; trochanters black; femora brown, tibiæ and tarsi brownish black. Wings (Plate 1, fig. 7) tinged with pale gray, prearcular region clear light yellow, conspicuous; stigma not or scarcely differentiated against ground; veins pale brownish yellow, clear luteous in prearcular field. Venation:  $R_2$  in transverse alignment with r-m; m-cu about one-fourth its length before fork of M.

Abdominal tergites dull black, sternites more grayish; genital shield blackened; cerci horn-colored, short but strong.

*Habitat*.—China (Szechwan).

Holotype, female, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*).

*Antocha (Antocha) flavidibasis* is one of the largest species so far discovered. It is equal in size to *A. (A.) nebulipennis* Alexander, likewise from western China and the Tibet border, differing in the clear wings, without pattern, and with the base abruptly light yellow. The black antennæ, dark legs, and pale wing veins furnish additional characters that separate the fly from near relatives.

**ANTOCHA (ANTOCHA) NEBULIPENNIS IMMACULATA** subsp. nov. Plate 2, fig. 29.

*Male*.—Length, about 6 millimeters; wing, 7.

Differs from the typical form in the small size, unpatterned wings, and details of structure of the male hypopygium.

Antennæ (male) with scape obscure yellow, remaining segments black; flagellar segments oval, clearly delimited; antennæ relatively long, if bent backward ending a short distance before wing root. Mesonotum light gray, with three pale-brown stripes, broad median stripe very vaguely and indistinctly divided by a pale vitta. Halteres with stem obscure yellow, knob dark brown. Legs black. Wings whitish subhyaline, prearcular field yellow; stigma very small, indistinct; veins dark, vaguely bordered with darker, vein C paler. Venation: Rs very long, approximately three times R alone; cell 1st M<sub>2</sub> narrow; m-cu about one-third its length before fork of M.

Abdomen dark brown, pruinose; hypopygium dark. Male hypopygium (Plate 2, fig. 29) with the tergite, 9*t*, conspicuously bilobed, contour of lobes about same as that of median notch. Apex of basistyle, *b*, only moderately produced. Outer dististyle, *od*, blackened, apex narrowed but not abruptly so, as in typical form. Gonapophyses appearing as straight acicular spines.

*Habitat*.—China (Szechwan).

Holotype, male, Mcunt Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*).

The present fly is told from *Antocha (Antocha) flavidibasis* sp. nov. by the nature of the thoracic pattern and the darkened wing veins that contrast markedly with the ground.

#### PEDICIINI

**DICRANOTA (RHAPHIDOLABIS) PRÆCISA** sp. nov. Plate 1, fig. 8; Plate 2, fig. 30.

General coloration gray, præscutum with four darker brown stripes; halteres dark brown, base of stem yellow; legs dark brown; wings subhyaline, ill-defined stigma pale brown; Rs weakly to strongly angulated at near midlength; R<sub>2</sub> oblique, close to tip of R<sub>1</sub>; male hypopygium with caudal margin of tergite bearing two slender lobes; interbase a flattened plate with serrated margin; basistyle terminating in two lobes; dististyle a flattened mitten-shaped plate.

*Male*.—Length, about 6 millimeters; wing, 7.2.

*Female*.—Length, 7 to 7.5 millimeters; wing, 7.5 to 8.5.

Rostrum dark gray; palpi black. Antennæ black throughout, 15-segmented; flagellar segments beyond elongate basal segment oval. Head dark gray.

Mesonotum dark gray pruinose, with four darker brown stripes, intermediate pair very narrowly separated by a pale vitta; scutal lobes darkened. Pleura gray. Halteres dark brown, stem yellow basally. Legs with coxæ darkened; remainder of legs dark brown, femoral bases restrictedly paler. Wings (Plate 1, fig. 8) subhyaline, ill-defined stigma pale brown; veins pale brown. Venation: Rs weakly to strongly angulated at near midlength;  $R_2$  oblique, close to tip of  $R_1$ ; cell  $M_1$  variable in length, from about one-third to approximately two-thirds as long as cell  $M_3$ .

Abdomen dull black, pruinose; hypopygium brownish yellow. Male hypopygium (Plate 2, fig. 30) with the tergite,  $9t$ , produced into two slender parallel lobes, each clothed at apex and on lateral face with long setæ; median area of caudal margin between lobes produced into a very low triangular glabrous point. Basistyle,  $b$ , with interbase,  $i$ , a flattened plate, widest at near midlength, inner edge with a series of about a dozen retrorse teeth, beginning at apex, largest just beyond midlength of plate, becoming smaller toward base, last merely crenulate; outer margin before apex with four or five similar erect teeth. Basistyle,  $b$ , with two apical lobes that are provided with short spinous setæ. Dististyle,  $d$ , single, appearing as a flattened, mitten-shaped plate, with several coarse marginal setæ and fewer smaller punctures scattered over disc.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*). Allotopotype, female. Paratopotypes, 2 females.

The nearest relative is *Dicranota (Rhaphidolabis) biloba* Alexander, likewise from western China, including Mount Omei, which differs conspicuously in the structure of the male hypopygium.

DICRANOTA (AMALOPINA) SIMPLEX sp. nov. Plate 1, fig. 9; Plate 2, fig. 31.

Belongs to the *flaveola* group; general coloration whitish, including legs, halteres, and antennæ; wings whitish, with a very restricted dark pattern that involves only veins; no supernumerary crossvein in cell  $R_1$ ; cell 1st  $M_2$  closed; terminal abdominal segments (male) darkened; interbase of hypopygium dilated at apex into a compressed blade.

*Male*.—Length, 5.5 to 6 millimeters; wing, 6.5 to 7.

*Female*.—Length, about 6 to 6.5 millimeters; wing, 7 to 7.5.



Rostrum and palpi white. Antennæ white throughout, short, if bent backward not quite reaching wing root. Head whitish.

Thorax uniformly pinkish white or yellowish white, sparsely dusted with white. Halteres white. Legs white, femoral tips in cases vaguely a little darker; terminal tarsal segments darkened. Wings (Plate 1, fig. 9) whitish; veins pale, variegated by very restricted darkened areas that are confined to actual veins, including *h*; arculus; origin of *Rs*; *Sc*<sub>2</sub>; cord; fork of *R*<sub>2+3+4</sub>; *R*<sub>2</sub>, and outer end of cell 1st *M*<sub>2</sub>. Venation: No supernumerary crossvein in cell *R*<sub>1</sub>; cell 1st *M*<sub>2</sub> closed.

Abdomen pale, brownish white; hypopygium and subterminal segment brown. Male hypopygium (Plate 2, fig. 31) with general conformation much as in *dicranotoides*. Dististyle, *d*, long, slender, with setæ of various lengths at and near tip. Lateral tergal arms, *9t*, appearing as slender sinuous rods, tips narrowly obtuse. Interbase, *i*, much shorter, tips expanded into compressed blades.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*). Allotopotype, female, June 5, 1937. Paratopotypes, several males and females, June 5 and 12, 1937.

By my key to the Japanese species of *Amalopina*<sup>3</sup> the present fly runs to *D. (A.) fumicosta* Alexander, of Formosa, a very different fly. In its general appearance the new species is most like *D. (A.) dicranotoides* (Alexander) which is readily distinguished by the presence of a supernumerary crossvein in cell *R*<sub>1</sub> of the wings.

**DICRANOTA (AMALOPINA) HYALIPENNIS** sp. nov. Plate 1, fig. 10.

Belongs to the *elegantula* group; thorax uniformly pale whitish; fore and middle femora black, remainder of legs whitened; wings hyaline, unmarked except for a darkening of veins comprising cord and origin of *Rs*; *Sc*<sub>2</sub> shortly before origin of the long *Rs*, latter subequal to *R*; *R*<sub>2</sub> transverse, longer than *R*<sub>1+2</sub>.

*Sex* ?—Wing 6 millimeters.

Rostrum brown; palpi black. Antennæ broken. Front and anterior vertex darkened, pruinose; occiput yellow.

Thorax uniformly pale whitish or pinkish white. Halteres with stem pale, knob broken. Legs with all coxæ and trochanters pale yellow; fore and middle femora black, remainder of

<sup>3</sup> Philip. Journ. Sci. 56 (1935) 358, 359.

legs white, only terminal tarsal segments a trifle infused. Wings (Plate 1, fig. 10) hyaline, unmarked except for slightly infuscated origin of Rs and cord, remaining veins pale yellow. Venation:  $Sc_2$  a distance before origin of Rs about equal to three times its own length; Rs long, arcuated at origin, subequal to vein R;  $R_2$  transverse, longer than  $R_{1+2}$ ;  $R_{2+3+4}$  about twice basal section of  $R_5$ ; outer medial forks relatively deep; m-cu about one-third its length beyond fork of M.

Abdomen broken.

*Habitat*.—China (Szechwan).

Holotype, Sex?, Mount Omei, Chu Lao Tong Temple, altitude 6,500 feet, June 6, 1937 (Tsen).

*Dicranota* (*Amalopina*) *hyalipennis* is readily separated from all previously described members of the *elegantula* group by the nearly hyaline wings, with distinct venational details. The known species of this group may be separated as follows:

*Key to the known species of the elegantula group.*

1. Mesonotum distinctly patterned, with a dark median præscutal stripe and paired dark stripes from suture caudad, leaving centers of scutum, scutellum, and mediotergite pale ..... 2.  
Mesonotum uniformly pale. .... 4.
2. Wings nearly clear (Eastern Himalayas to Malay Peninsula).  
*D. (A.) elegantula* (Brunetti).  
Wings distinctly patterned with brown, including a marginal series of spots at ends of longitudinal veins. (*gibbera* group) ..... 3.
3. Wings (male) broad, widest opposite end of vein 2d A (Japan).  
*D. (A.) gibbera gibbera* (Alexander).  
Wings (male) narrow, of approximately equal width along central third of wing (northern Japan).  
*D. (A.) gibbera karafutonis* (Alexander).
4. Wing markings greatly reduced, restricted to veins comprising origin of Rs and cord; Rs subequal to vein R before  $Sc_2$  (western China).  
*D. (A.) hyalipennis* sp. nov.  
Wings with a large darkened area at cord, reaching costa anteriorly; all longitudinal veins with small darkened marginal spots; Rs nearly twice as long as vein R before  $Sc_2$  (western China).  
*D. (A.) megaplagiata* Alexander.

All species of the *elegantula* group have the legs pale with exception of the femora of the fore and middle legs, which are abruptly and uniformly blackened.

HEXATOMINI

**OXYDISCUS (OXYDISCUS) REDUCTUS** sp. nov. Plate 1, fig. 11; Plate 2, fig. 32.

General coloration of mesonotum and pleural almost uniformly dark brown; halteres infuscated; femora yellow, tips abruptly

blackened; wings weakly infuscated, prearcular and broad costal portion light cream-yellow; a restricted but clearly defined brown pattern; macrotrichia of cells reduced in number;  $R_2$  some distance before fork of  $R_{3+4}$ ; cell  $M_1$  present, about one-half its petiole; m-cu at near midlength of cell 1st  $M_2$ ; male hypopygium with styli terminal in position.

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

Rostrum testaceous yellow; palpi black. Antennæ brownish black throughout, 16-segmented; beyond basal three or four, flagellar segments becoming elongate, almost setaceous; verticils exceeding segments in length. Head brown.

Mesonotum almost uniformly dark brown, surface polished, lateral portions of præscutum and scutum a little paler. Pleura almost uniformly dark brown. Halteres infuscated, base of stem narrowly yellow. Legs with coxæ yellowish testaceous; trochanters yellow; femora yellow, tips rather narrowly and abruptly blackened, amount subequal on all legs; tibiæ and basitarsi yellow, extreme tips very narrowly and insensibly darkened; outer tarsal segments infuscated. Wings (Plate 1, fig. 11) with ground color weakly infuscated, prearcular and broad costal portions light cream-yellow; anal cells a little paler than ground; a restricted but very distinct brown pattern, arranged as follows: Arculus, origin of Rs, stigma, cord, outer end of cell 1st  $M_2$  and fork of  $R_{3+4}$ ; veins pale brown, more flavous in brightened areas. Wings widened opposite termination of vein 2d A, this presumably a sexual character. Macrotrichia of cells reduced in number when compared with *issikina*, restricted to outer portions of outer radial and medial cells and in the stigmal darkening (shown in figure by stippling). Venation:  $Sc_1$  ending shortly before fork of Rs,  $Sc_2$  slightly removed from its tip; Rs weakly angulated at origin;  $R_2$  some distance before fork of  $R_{3+4}$ ; cell  $M_1$  about one-half its petiole; m-cu at near midlength of cell 1st  $M_2$ ; vein and cell 2d A elongate (at least in male).

Abdomen dark brown, lateral borders narrowly more blackened; hypopygium dark. Male hypopygium (Plate 2, fig. 32) with styli terminal, basistyle not produced at apex. Outer dististyle, *od*, uniformly blackened, apex unequally bispinous, lower spine longer and more curved; on mesal margin before apex with a broadly triangular point.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, Flying Bridges Temple, altitude 2,800 feet, June 11, 1937 (*Tsen*).

*Oxydiscus* (*Oxydiscus*) *reductus* is most nearly allied to *O.* (*O.*) *issikina* (Alexander), of Formosa, which, while generally similar in coloration, has the macrotrichia of the wing cells much more extensive, including the cells beyond the cord and involving the outer end of cell R. It should be noted here that the name *Adelphomyia* as formerly interpreted will have to be replaced by *Oxydiscus* de Meijere. Edwards has examined the holotype specimen of the genotype of *Adelphomyia*, *A. helvetica* Bergroth, and finds it to be a synonym of *Limnophila punctum* (Meigen). As a consequence, *Tricholimnophila* Alexander will fall as a synonym of *Adelphomyia* Bergroth (in the genus *Limnophila* Macquart) while *Oxydiscus* will become the valid name for the group under consideration.

EPIPHRAGMA (EPIPHRAGMA) SULTANA sp. nov. Plate 1, fig. 12; Plate 2, fig. 33.

General coloration grayish pruinose; antennæ (male) relatively elongate; basal two flagellar segments fused, orange, remaining segments black; halteres long, pale brown; femora chiefly blackened, bases narrowly yellow; a narrow yellow subterminal ring; tibiæ and tarsi darkened; stigma darkened; basal abdominal tergites reddish brown, trivittate with darker, outer segments and hypopygium more uniformly darkened; male hypopygium with interbase elongate.

*Male*.—Length, 11 to 12 millimeters; wing, 12 to 13; antennæ, 3.9 to 4.

*Female*.—Length, about 11.5 to 13 millimeters; wing, 12 to 13.

Rostrum grayish black; palpi black. Antennæ (male) relatively elongate, as shown by measurements; scape and pedicel black; basal flagellar segment orange, succeeding segments black; flagellar segments cylindrical, with verticils that are shorter than the segments; basal flagellar segment evidently resulting from the partial fusion of two segments, the antennæ being 15-segmented; terminal segment about one-half as long as penultimate. Head dark gray, center of vertex and occiput more reddish, more or less variegated with brown.

Mesonotum chiefly gray to yellowish gray pruinose, variegated with brown, including humeral region, lateral præscutal border and four narrow stripes on posterior third of præscutum; scutal lobes darkened. Pleura gray, variegated with more blackish areas, including an irregular longitudinal stripe and the ventral sternopleurite. Halteres relatively elongate, pale brown. Legs with coxæ brownish yellow; trochanters obscure yellow; femora chiefly blackened, bases narrowly yellow, with a narrow yellow



subterminal ring; extreme femoral tips more or less brightened; remainder of legs dark brown to brownish black, tarsi more or less brightened by yellow pubescence. Wings (Plate 1, fig. 12) with ground color pale yellow, variegated by the usual pale-brown pattern of the genus, dark areas narrowly bordered by still darker brown; pattern intricate, with all markings more or less interconnected; stigma solidly dark brown, occupying both sides of vein  $R_2$ ; veins brownish yellow, darker in the patterned areas. Venation: Supernumerary crossvein in cell C transverse;  $R_{2+3+4}$  subequal to or a little longer than  $R_{2+3}$ ; cell 1st  $M_2$  large, with m-cu shortly before midlength.

Basal abdominal tergites reddish brown, trivittate with darker, on outer segments ground color more uniformly darkened; caudal borders of segments narrowly light gray; hypopygium yellow; basal sternites more uniformly yellow, narrowly bordered posteriorly with gray, outer sternites more uniformly pruinose; hypopygium black. Male hypopygium (Plate 2, fig. 33) with the interbase, *i*, very long and slender, exceeding length of basistyle.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*). Allotype, female, Mount Omei, summit, altitude 11,000 feet, June 9, 1937 (*Tsen*). Paratopotypes, males and females, with the types, June 5 and 12, 1937.

*Epiphragma* (*Epiphragma*) *sultana* may be told from other regional species of the genus by the leg pattern, the yellowish ground color of the wings, and by the elongate antennæ and halteres.

**LIMNOPHILA (PRIONOLABIS) CARBONIS** sp. nov. Plate 1, fig. 13; Plate 2, fig. 34.

General coloration polished black; halteres yellow; legs obscure yellow, femoral tips broadly, tibial apices more narrowly, darker; wings grayish subhyaline, patterned with brown; cell  $M_1$  lacking; m-cu oblique, at near one-third length of cell 1st  $M_2$ ; male hypopygium with tergite deeply emarginate; both dististyles simple.

*Male*.—Length, about 6.5 millimeters; wing, 7.8.

Rostrum and palpi black. Antennæ 16-segmented brownish black; flagellar segments oval; verticils subequal in length to the segments. Head black.

Thorax uniformly black. Halteres relatively long, pale yellow throughout. Legs with coxæ and trochanters black; femora obscure yellow, tips broadly darker, the amount subequal on

all legs; tibiæ and basitarsi pale, tips narrowly darkened; remaining tarsi dark brown. Wings (Plate 1, fig. 13) grayish subhyaline, patterned with brown, including cell C, intermediate portion of cell Sc, a broad seam along vein Cu, seams along cord and outer end of cell 1st  $M_2$ , a spot at origin of Rs, and stigma; broad, vaguer seams along veins beyond cord; prearcular field more yellow; veins pale brown, a trifle darker in clouded areas; veins of prearcular field and vein M light yellow. Venation:  $Sc_1$  ending nearly opposite fork of  $R_{2+3+4}$ ,  $Sc_2$  near its tip, about opposite fork of Rs;  $R_{2+3+4}$  short, less than  $R_2$ ; cell  $M_1$  lacking; m-cu oblique, at near one-third length of cell 1st  $M_2$ .

Abdomen, including hypopygium, black. Male hypopygium (Plate 2, fig. 34) with caudal margin of tergite,  $9t$ , deeply and narrowly emarginate, lobes slender, densely setuliferous. Outer dististyle,  $od$ , with a large subglobular fleshy lobe at base, sclerotized portion simple, narrowed to a gently curved apex, surface with coarse setæ. Inner dististyle,  $id$ , simple. Gonapophyses,  $g$ , appearing as slender pale blades, tips curved, apices obtusely rounded.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, summit, altitude 11,000 feet, June 9, 1937 (*Tsen*).

*Limnophila (Prionolabis) carbonis* is quite distinct from the other regional species of the subgenus that have the body coloration polished black and cell  $M_1$  lacking. The heavily patterned wings and structure of the male hypopygium provide excellent specific characters.

**ELEPHANTOMYIA (ELEPHANTOMYIA) CARBO** sp. nov. Plate 1, fig. 14; Plate 2, fig. 35.

General coloration black, including thorax and abdomen; head dark gray; halteres pale yellow; legs black, femoral bases broadly yellow, tarsi paling to yellow; wings yellow, heavily patterned with brown, including a broad seam at cord.

*Male*.—Length, excluding rostrum, 6.5 to 8 millimeters; wing, 8 to 9.5; rostrum, 5 to 6.2.

Rostrum only a little shorter than remainder of body, black throughout, including palpi. Antennæ black, scape slightly pruinose, pedicel reddish brown; basal two flagellar segments fused, there being twelve subcylindrical segments beyond fusion segment; outer flagellar segments with long conspicuous verticils. Head dark gray; anterior vertex relatively narrow, about as wide as diameter of scape.

Thorax uniformly black, surface subnitidous. Halteres uniformly pale yellow. Legs with coxæ black; trochanters obscure yellow; femora black, bases conspicuously yellow, narrowest (about proximal sixth) on forelegs, broadest on posterior legs (about proximal fourth); tibiæ black; proximal portion of basitarsi brownish black, remainder of tarsi paling to obscure yellow. Wings (Plate 1, fig. 14) with ground color yellow, prearcular cells brighter yellow; a rather heavy brown pattern, including cell C; stigma; broad seams along cord and outer end of cell 1st  $M_2$ ; a broad seam along vein Cu, on proximal portion involving cell Cu, on distal two-thirds involving cell M; posterior wing margin, from tip back to axilla darkened; cells beyond cord somewhat darker than those in basal portion of wing, especially in paratype; veins brown, M chiefly yellow; prearcular veins bright yellow. Venation:  $Sc_1$  ending shortly beyond fork of Rs,  $Sc_2$  at its tip; branches of Rs generally parallel throughout their length, cell  $R_2$  thus wider than  $R_3$ ; upper branch of sector more or less sinuous, especially in paratype; cell 1st  $M_2$  large, rectangular, m-cu at near one-third to one-fourth the length.

Abdomen, including hypopygium, black. Male hypopygium (Plate 2, fig. 35) with mesal face of basistyle with abundant setæ. Outer dististyle slender, sinuous, at apex with two unequal teeth, the larger tooth strongly decurved. Penefilum, *pf*, conspicuous.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*). Paratopotype, male.

*Elephantomyia* (*Elephantomyia*) *carbo* is entirely different from the other described Asiatic species of the genus. The intense black color of the thorax and abdomen, in conjunction with the heavily patterned wings, readily distinguishes the species.

#### ERIOPTERINI

**CRYPTERIA LUTEIPENNIS** sp. nov. Plate 1, fig. 15; Plate 3, fig. 36.

General coloration clear gray; fusion segment of flagellum elongate, about equal in length to the succeeding five segments taken together and evidently formed by fusion of five segments; halteres yellow; legs light brown to brownish yellow, outer tarsal segments brownish black to black; wings narrow, tinged with pale yellow; cell 1st  $M_2$  narrow, its greatest width about one-half the length; m-cu close to or before fork of M; vein 2d

A relatively short, ending some distance before level of m-cu; male hypopygium with inner dististyle much compressed, flattened.

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

*Female*.—Length, 6 to 6.5 millimeters; wing, 6 to 6.5.

Rostrum and palpi black. Antennæ black throughout; nine flagellar segments beyond elongate fusion segment which thus evidently comprises five segments and is about equal in length to the succeeding five segments combined; verticils subequal in length to segments, verticils of fusion segment sparse. Head light gray; eyes small; vertex broad.

Thorax clear light gray, without evident stripes or other markings. Halteres yellow. Legs with coxæ gray; trochanters light brown; remainder of legs light brown to brownish yellow, tibiæ and tarsi brownish black to black. Wings (Plate 1, fig. 15) narrow, with a uniform pale-yellow tinge, costal region more saturated; veins yellow. Venation: Vein  $R_{2+3}$  running close to  $R_1$ , narrowing distal third of cell  $R_1$ ; vein  $R_2$  lacking; cell 1st  $M_2$  narrow, its greatest width about one-half its length; petiole of cell  $M_1$  variable, from one and one-half to two times m; m-cu close to or a short distance before fork of M; vein 2d A relatively short, ending some distance before level of m-cu, cell narrow.

Abdominal tergites brownish black, sternites brown, their caudal margins darker; hypopygium black. Male hypopygium (Plate 3, fig. 36) with basistyle, *b*, elongate; mesal face on basal half slightly expanded, provided with a slender hair pencil. Outer dististyle, *od*, slender, simple, apex acute; before apex on distal fourth with a series of microscopic appressed teeth. Inner dististyle, *id*, broadly compressed, extensive. Gonapophyses, *g*, appearing as slightly curved blackened spines. Ovipositor with cerci elongate, horn-yellow.

Habitat.—China (Szechwan).

Holotype, male, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*). Allotopotype, female. Paratopotypes, several of both sexes.

*Crypteria luteipennis* is closest to *C. claripennis* (Brunetti), of the eastern Himalayas.<sup>4</sup> The type of *claripennis* was examined by Edwards who describes it as being very close to, if not identical with, the genotype of *Crypteria limnophiloides* Bergroth,

<sup>4</sup> Rec. Indian Mus. 8 (1913) 153, 154; 15 (1918) 324, fig. *d* (venation); 26 (1924) 302.



of northern Europe. Compared with the present fly, this latter species has the hypopygium quite different, and further has the fusion segment of the antennal flagellum much shorter, a little longer than the succeeding three flagellar segments combined.

**GONOMYIA (LIPOPHLEPS) PARVISPINOSA** sp. nov. Plate 1, fig. 16; Plate 3, fig. 37.

General coloration brownish gray, variegated with yellow, including a well-defined pleural stripe; legs black; wings pale brown, variegated with yellow;  $Sc_1$  ending some distance before origin of  $R_s$ ; abdominal segments dark brown, caudal borders conspicuously yellow; male hypopygium with outer dististyle a gently curved black rod, outer margin with microscopic appressed teeth, at base of style with a small black spine directed distad.

*Male*.—Length, about 3 millimeters; wing, 3.5.

Rostrum yellow; palpi black. Antennæ with scape and unusually large pedicel yellow above, darker beneath; flagellum black; verticils of basal flagellar segments unusually long. Head large, yellow, with a grayish trilobed area in center of vertex; occiput darkened.

Pronotum and broad lateral pretergites light sulphur yellow. Mesonotal præscutum, scutum, and base of scutellum dark brownish gray, posterior border of scutellum obscure yellow; mediotergite dark, with a transverse V-shaped yellow marking at near midlength. Pleura dark brownish gray, with a conspicuous pale yellow longitudinal stripe extending from and including fore coxæ, passing beneath root of halteres to abdomen; dorsopleural membrane more or less yellow. Halteres yellow, base of knob a trifle obscured. Legs with coxæ pale, fore coxæ light yellow, as described; trochanters testaceous; remainder of legs black, femoral bases restrictedly paler. Wings (Plate 1, fig. 16) variegated pale brown and pale yellow, the latter including cells C and  $Sc$ , together with areas before and beyond brown stigma; subhyaline areas in cells before and beyond cord; veins brown, brightened in yellow areas. Venation:  $Sc$  short,  $Sc_1$  ending some distance before origin of  $R_s$ ,  $Sc_2$  close to its tip; m-cu shortly before fork of M.

Abdominal segments bicolored, dark brown, caudal borders conspicuously yellow, more obscure on sternites. Male hypopygium (Plate 3, fig. 37) with outer dististyle, *od*, a gently curved black rod, outer margin with microscopic appressed teeth; at base a small, gently curved black spine, directed outward or distad. Inner dististyle, *id*, with spine relatively long and slend-

er, exceeding height of style itself. Phallosome not evident in the only available hypopygium.

*Habitat.*—China (Szechwan).

Holotype, male, Mount Omei, Flying Bridges Temple, altitude 2,800 feet, June 11, 1937 (*Tsen*). Paratopotype, 1 broken male.

In the general structure of the male hypopygium the present fly is closest to *Gonomyia* (*Lipophleps*) *luteimarginata* Alexander and *G. (L.) flavocostalis* Alexander. In the former species the basal spine of the outer dististyle is not directed outwardly but is recurved basad, while the structure of the inner style is quite distinct; in *flavocostalis* the details of structure of both dististyles are entirely distinct, while the legs are not uniformly darkened, the femora being narrowly ringed with brown before apex.

**GONOMYIA (GONOMYIA) PRINCIPALIS** sp. nov. Plate 1, fig. 17; Plate 3, fig. 38.

Large (wing, male, over 6 millimeters); general coloration yellow and black; rostrum orange; antennæ black throughout; scutellum yellow; dorsal pleura with an incomplete dark stripe on propleura and anepisternum; halteres pale yellow; wings strongly tinged with brownish yellow; Sc long, m-cu a short distance beyond fork of M; male hypopygium with both dististyles bifid; phallosome complex, with two blackened apophyses.

*Male.*—Length, about 5.5 millimeters; wing, 6.5 to 6.8.

*Female.*—Length, about 6.5 millimeters; wing, 7.

Rostrum orange; palpi black. Antennæ black, relatively long, if bent backward extending to wing root or shortly beyond; flagellar segments elongate. Front orange; posterior portion of head dark gray.

Pronotum and lateral pretergites light sulphur yellow. Mesonotal præscutum with disc dull blackish gray, humeral region yellow, the broad lateral margins more obscure yellow; scutal lobes blackish gray, median area restrictedly obscure yellow; scutellum chiefly yellow, parascutella dark; mediotergite dark, sparsely pruinose, cephalic-lateral portions light yellow. Pleura yellow, with a narrow, abbreviated, dark-brown, longitudinal stripe extending from cervical region across ventral propleura and anepisternum; pteropleurite and pleurotergite yellow; ventral sternopleurite and meron more reddish brown. Halteres pale yellow. Legs with coxæ and trochanters yellow; remainder of legs brown, terminal tarsal segments darker. Wings (Plate 1, fig. 17) with a strong brownish yellow tinge, prearcular field and costal border clear light yellow; less distinct yellow borders

to veins, broadest and most conspicuous along veins Cu and 2d A; stigma scarcely differentiated against ground; veins light brown, yellow in luteous areas. Venation: Sc relatively long, Sc<sub>1</sub> ending opposite one-third to nearly midlength of Rs, Sc<sub>2</sub> near tip; basal section of R<sub>5</sub> short to obliterated, longer in female; veins R<sub>3</sub> and R<sub>4</sub> strongly divergent, cell R<sub>3</sub> at margin thus very wide; m-cu a short distance beyond fork of M.

Abdominal tergites dark brown, lateral borders broadly yellow, caudal margins very narrowly and inconspicuously so; sternites reddish yellow, caudal margins yellow; hypopygium yellow. Male hypopygium (Plate 3, fig. 38) with apical lobe of basistyle, *b*, relatively stout, about one-half as long as style. Outer dististyle, *od*, conspicuously bifid, the longer outer arm with numerous setæ; inner arm dilated into a dark blade. Inner dististyle, *id*, bearing a long basal arm that is nearly as long as outer style; at near midlength split into two long, acute, appressed spines. Phallosome, *p*, complex, as shown by figure, with two blackened apophyses, one strongly sinuous; apex of ædeagus a long straight spine.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, White Cloud Temple, altitude 9,000 feet, June 5, 1937 (*Tsen*). Allotopotype, female, June 12, 1937. Paratopotypes, 2 males, Chu Lao Tong Temple, altitude 6,500 feet, June 6, 1937 (*Tsen*).

*Gonomyia* (*Gonomyia*) *principalis* is readily told from all other regional species by the large size and by the structure of the male hypopygium.

GONOMYIA (IDIOCERA) INSIDIOSA sp. nov. Plate 1, fig. 18; Plate 3, fig. 39.

General coloration gray, præscutum with two intermediate brown stripes; pseudosutural foveæ black; antennæ black, pedicel yellow; pleura with a pale-yellow longitudinal stripe; halteres infuscated; legs brown; wings pale yellow, restrictedly patterned with brown; stigma dark brown; Sc<sub>1</sub> ending about opposite one-third length of Rs, Sc<sub>2</sub> before origin of Rs; veins R<sub>1+2</sub> and R<sub>3</sub> close together at margin; m-cu about one and one-half times its length before fork of M; male hypopygium with three dististyles, intermediate one bifid, the two arms very unequal; inner dististyle simple; ædeagus a slender rod with slightly decurved apex.

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

Rostrum and palpi black. Antennæ with scape dusky above, yellow beneath; pedicel yellow; flagellum uniformly black; flagellum 13-segmented, basal segment short-oval, outer seg-

ments more elongate. Head light gray, paler in front; anterior vertex with a dusky central spot.

Pronotum darkened medially, pale yellow on sides. Mesonotal præscutum gray, with two intermediate brown stripes, poorly indicated in front, more divergent and well-defined behind; pseudosutural foveæ black, conspicuous; scutum gray, centers of lobes darker; scutellum dull orange, restrictedly darker at base; postnotum gray. Pleura dark gray with a pale-yellow longitudinal stripe, extending from behind fore coxæ, widened behind. Halteres infuscated, base of stem restrictedly yellow. Legs with fore coxæ blackened, remaining coxæ paler, more or less variegated with yellow; trochanters yellow, fore pair darker; remaining legs brown, outer segments darker. Wings (Plate 1, fig. 18) with a pale-yellow tinge, costal border a little more saturated; stigma short-oval, dark brown, conspicuous; cord and m-cu narrowly dark brown, produced by a darkening of the veins only; veins chiefly pale, outer medial branches a little darker. Venation: Sc relatively short, Sc<sub>1</sub> ending about opposite one-third length of Rs, Sc<sub>2</sub> far from its tip, a short distance before origin of Rs; R<sub>3</sub> nearly erect, close to R<sub>1+2</sub> at margin; vein R<sub>4</sub> long, gently curved; cell 2d M<sub>2</sub> longer than its petiole; m-cu about one and one-half times its length before fork of M.

Abdominal tergites dark brown, extreme caudal margins of individual segments yellow; basal sternites a little paler in central portions; hypopygium brown. Male hypopygium (Plate 3, fig. 39) with ventral lobe of basistyle, *b*, moderately produced, obtuse at apex. Three dististyles, the intermediate, *md*, bifid; outer style, *od*, broad at base, gradually narrowed to an acute black spinous apex, immediately before tip with three or four long setæ; intermediate style, *md*, with outer arm about four times as long as spurlike inner arm; inner style, *id*, a small simple rod, with three or four setæ along length, with other smaller setæ at apex. Ædeagus, *a*, a slender straight rod, extreme tip decurved.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, Flying Bridges Temple, altitude about 2,800 feet, June 11, 1937 (*Tsen*).

*Gonomyia (Idiocera) insidiosa* is very different from all described species, the relatively simple structure of the dististyles being diagnostic. In this regard, it comes closest to the otherwise entirely different *G. (I.) reticulata* Alexander.



GONOMYIA (IDIOCERA) OCTAVIA sp. nov. Plate 1, fig. 19; Plate 3, fig. 40.

General coloration light gray; antennæ with scape and pedicel white, flagellum black; halteres infuscated; legs pale brownish yellow; wings yellowish subhyaline, restrictedly patterned with dark brown, including small stigma and dark seams at origin of Rs and along cord; Sc short, Sc<sub>1</sub> ending a little beyond origin of Rs, Sc<sub>2</sub> far from its tip; R<sub>3</sub> nearly perpendicular, R<sub>4</sub> strongly arcuated; m-cu about its own length before fork of M; male hypopygium with four dististyles on either side, three slender and simple, the fourth widely expanded into a flattened scoop; ædeagus with extreme tip decurved.

*Male*.—Length, about 4.5 millimeters; wing, 5.2.

Rostrum brownish black, palpi black. Antennæ with scape and pedicel white, flagellum black; flagellar segments oval, verticils exceeding segments in length. Head gray, front yellow.

Pronotum and lateral pretergites yellow. Mesonotum light gray, præscutum with four very scarcely darker, poorly indicated brown stripes, laterals even less distinct; pseudosutural foveæ pale; humeral and lateral portions of præscutum obscure yellow; posterior margin of scutellum and extreme lateral margins of mediotergite obscure yellow. Pleura chiefly obscure yellow, dorsopleural region darker. Halteres infuscated. Legs with coxæ and trochanters pale; remainder of legs pale brownish yellow, terminal tarsal segments darker. Wings (Plate 1, fig. 19) yellowish subhyaline, restrictedly patterned with dark brown, including the small, short-oval stigma and narrow seams at origin of Rs, along cord and on m-cu, the latter best shown by the darkened veins; remaining veins chiefly yellow. Venation: Sc short, Sc<sub>1</sub> ending just beyond origin of Rs, Sc<sub>2</sub> far from its tip; Rs long, arcuated; vein R<sub>3</sub> nearly perpendicular, without trichia; distance on costa between tips of veins R<sub>1+2</sub> and R<sub>3</sub> about one-half length of latter; vein R<sub>4</sub> strongly arcuated, with trichia throughout its length; cell 2d M<sub>2</sub> subequal to its petiole; m-cu about its own length before fork of M.

Abdominal tergites dark brown, sternites and hypopygium paler. Male hypopygium (Plate 3, fig. 40) with four dististyles or primary branches thereof; longest style, *md*, appearing as a flattened scooplike blade that is extended into a long straight spinous point, on inner margin of blade with a blackened fingerlike lobe; other dististyles all subequal in length, slender and simple, the outermost, *od*, glabrous, curved at apex into an acute

blackened point; intermediate style glabrous, most slender; innermost style simple, with scattered setæ, the tip an acute spine. Ædeagus, *a*, weakly constricted at near midlength, extreme tip decurved.

*Habitat.*—China (Szechwan).

Holotype, male, Mount Omei, Flying Bridges Temple, altitude about 2,800 feet, June 11, 1937 (*Tsen*).

The nearest ally is *Gonomyia (Idiocera) shantungensis* Alexander, which differs very conspicuously in the structure of the male hypopygium and in the details of wing pattern and venation.

**CRYPTOLABIS (BÆOURA) PERDUCTILIS** sp. nov. Plate 1, fig. 20; Plate 3, fig. 41.

General coloration of thorax dark brown; wings light gray, costal border and prearcular region conspicuously whitened; male hypopygium with dististyle exceedingly long and slender, before basal third bearing a flattened, paddlelike, lateral blade; ædeagus long and setoid in appearance.

*Male.*—Length, about 4 millimeters; wing, 4.3 to 4.4.

Rostrum brown; palpi brownish black. Antennæ brownish black. Head dark brown.

Thoracic dorsum almost uniformly dark brown, præscutum unstriped; scutellum not or scarcely brightened. Pleura dark. Halteres dusky, stem a little paler. Legs with coxæ and trochanters yellow; remainder of legs chiefly pale brown, inconspicuously hairy. Wings (Plate 1, fig. 20) light gray, costal border and prearcular region conspicuously whitened; a more or less distinct darker area crossing wing at cord; veins pale brown, light yellow in the white areas. Venation:  $R_{2+3+4}$  a trifle longer than  $R_{2+3}$  or  $R_2$ ; *m-cu* before midlength of  $M_{3+4}$ ; vein 2d A sinuous on distal third.

Abdomen brown, hypopygium more yellowish. Male hypopygium (Plate 3, fig. 41) with dististyle, *d*, exceedingly long and slender, sinuous, gradually narrowed to a needlelike point, just before basal third bearing a flattened, paddlelike, lateral blade. Arms of tergite, *9t*, appearing as glabrous flattened blades. Ædeagus, *a*, with basal portion slightly dilated, apical portion long-produced, unusually slender.

*Habitat.*—China (Szechwan).

Holotype, male, Mount Omei, Flying Bridges Temple, altitude about 2,800 feet, June 4, 1937 (*Tsen*). Paratopotype, male, June 11, 1937.

*Cryptolabis (Bæoura) perductilis* is entirely different from all species hitherto made known. In the produced dististyle and ædeagus it is closest to *C. (B.) dicladura* Alexander, of Hainan, yet quite distinct.

**ORMOSIA BEATIFICA** sp. nov. Plate 1, fig. 21.

General coloration dark brown; antennal flagellum black; halteres and legs uniformly light yellow; wings light yellow, heavily and handsomely patterned with brown, including seams along cord,  $M_3$ , and Cu; outer radial field faintly infumed.

*Female*.—Length, about 5.5 millimeters; wing, 6.

Rostrum brown; palpi brownish black. Antennæ with scape and pedicel dark brown; flagellum black; flagellar segments long-oval, verticils of basal segments elongate. Head brown.

Thorax almost uniformly dark brown, with conspicuous yellow vestiture. Halteres uniformly pale yellow. Legs with coxæ brown; trochanters obscure yellow; remainder of legs uniformly light yellow. Wings (Plate 1, fig. 21) light yellow, heavily and very handsomely patterned with brown; prearcular and costal fields more saturated yellow; stigma large, dark brown; smaller brown spots at origin of  $R_s$ ,  $Sc_2$ , and tips of all longitudinal veins; broad paler brown washes along cord and as seams the entire length of veins  $M_3$  and Cu, and on distal half of vein 2d A; entire outer radial field weakly infumed; veins yellow, darker in clouded areas. Macrotrichia of cells abundant (represented in figure by stippling). Venation: Vein  $R_3$  rather strongly upcurved at tip; vein 2d A moderately sinuous.

Abdomen dark brown, caudal borders of sternites narrowly and inconspicuously paler.

*Habitat*.—China (Szechwan).

Holotype, female, Mount Omei, Chu Lao Tong Temple, altitude 6,500 feet, June 5, 1937 (*Tsen*).

*Ormosia beatifica* is readily told from all regional species in the uniformly light-yellow legs and conspicuously patterned wings. It apparently belongs to the *similis* group, but this cannot be affirmed in the absence of the male sex.

**ORMOSIA DEFESSA** sp. nov. Plate 1, fig. 22; Plate 3, fig. 42.

Belongs to the *similis* group; general coloration gray; antennæ (male) relatively long, if bent backward extending about to middistance between roots of wings and halteres; halteres yellow; legs dark, tibiæ with yellow vestiture; wings brownish yellow, restrictedly patterned with darker;  $R_2$  at or shortly beyond

fork of  $R_{2+3+4}$ ; male hypopygium with outer gonapophysis sinucus, outer margin with several teeth, surface with coarse scattered setæ; inner apophyses appearing as flattened plates, outer mesal angle produced into a spinous point.

*Male*.—Length, 4 to 4.3 millimeters; wing, 4.6 to 5.

Rostrum black; palpi brownish black. Antennæ black throughout, relatively long, if bent backward extending about to middistance between roots of wings and halteres; flagellar segments long-oval, with a dense white pubescence; more basal segments with unusually long verticils, at midlength of flagellum becoming much shorter, on outer segments much shorter than segments alone. Head dark gray, vestiture yellow.

Thorax gray, præscutum without clearly delimited stripes, vestiture yellow. Halteres short, pale yellow, stem short, knob large. Legs with coxæ dark; trochanters obscure yellow; femora dark brown; tibiæ brighter, color produced by yellow pubescence; tarsi dark brown. Wings (Plate 1, fig. 22) tinged with brownish yellow, restrictedly patterned with darker, including stigma, a seam along cord and a darkened area at fork of  $M_{1+2}$ ; veins yellow, darker in clouded areas; macrotrichia of cells (indicated in figure by stippling) chiefly yellow, darker in clouded areas. Venation:  $R_2$  at or shortly beyond fork of  $R_{2+3+4}$ , in latter case  $R_{2+3}$  thus very short; outer radial branches only slightly upcurved at tips; m-cu at fork of M.

Abdomen, including hypopygium, dark brown. Male hypopygium (Plate 3, fig. 42) with outer dististyle, *od*, flattened, squamulose, as in the group. Gonapophyses heavily blackened, outer pair, *og*, slender, sinuous, outer margin with a series of more than a dozen small teeth, with a few more obtuse teeth on inner margin near apex; surface of apophysis with abundant long setæ; inner apophyses, *ig*, shorter, appearing as flattened plates, narrowest at base, a little expanded outwardly, outer mesal angle produced into a spinous point.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, Chu Lao Tong Temple, altitude 6,500 feet, June 6, 1937 (*Tsen*). Paratopotype, male.

*Ormosia defessa* is apparently closest to *O. tenuispinosa* Alexander, likewise from western China, differing especially in the shorter antennæ of the male and in the structure of the male hypopygium, notably of the gonapophyses.



**ERIOPTERA (ERIOPTERA) JUVENILIS** Alexander. Plate 3, fig. 43.

*Erioptera (Erioptera) juvenilis* ALEXANDER, Philip. Journ. Sci. 50 (1933) 157, 158.

The type, a unique female, was from the Japanese Alps, Honshiu, Japan, taken August 8, 1931, by Jiro Machida. What appears to be unquestionably the same species is from Mount Omei, western China, collected at White Cloud Temple, altitude 9,000 feet, and at the summit, altitude 11,000 feet, from June 5 to 12, 1937, by Tsen.

Male hypopygium (Plate 3, fig. 43) with outer dististyle, *od*, a simple blackened rod, gradually narrowed to acute tip. Inner dististyle, *id*, exceeding one-half length of outer, at apex with an erect or slightly recurved spine; outer margin of basal half with a low flange. Gonapophyses, *g*, appearing as smooth blackened incurved horns, on inner margin of basal half produced into an acute spine.

Allotype, male, Mount Omei, Szechwan, White Cloud Temple, altitude 9,000 feet, June 12, 1937 (*Tsen*).

**ERIOPTERA (ILISIA) DICHROA** sp. nov. Plate 1, fig. 23; Plate 3, fig. 44.

General coloration gray; basal segments of antennæ yellow; halteres pale yellow throughout; femora brown, tips darker brown; remainder of legs dark brown; wings bicolored, yellow, stigma, veins beyond cord, and a conspicuous seam on vein Cu brown; cell 1st  $M_2$  closed; abdomen, including hypopygium, black; male hypopygium with both gonapophyses slender and of nearly equal diameter, outer pair appearing as slender black spines.

*Male*.—Length, 4.7 to 5 millimeters; wing, 5.6 to 6.

Rostrum dark gray; palpi black. Antennæ with scape dark brown; pedicel light brown; basal flagellar segments yellow, outer segments infuscated. Head gray.

Pronotum obscure yellow. Mesonotum almost uniformly clear gray; præscutal stripes not or scarcely darker; mesal edges of disc of scutal lobes a little darker; scutellum more blackened. Pleura gray. Halteres pale yellow throughout. Legs with fore coxæ dark brown, remaining coxæ paler, especially posterior pair; trochanters obscure yellow; femora brown, tips darker brown; remainder of legs dark brown. Wings (Plate 1, fig. 23) clear light yellow, including veins; stigma, a seam along vein Cu, cord, and most of veins beyond latter brown, producing

a bicolored appearance; central portions of outer radial veins, vein  $M_{3+4}$  and basal portion of vein  $M_4$  yellow. Venation: Cell 1st  $M_2$  larger than in *postrema*,  $M_4$  being less than twice length of  $M_{3+4}$ .

Abdomen, including hypopygium, brownish black. Male hypopygium (Plate 3, fig. 44) with outer arm of outer dististyle, *od*, relatively short and stout, coarsely toothed; inner arm relatively stout. Outer gonapophyses, *g*, appearing as slender black spines; inner apophyses slender, their thickness subequal to diameter of base of spine of outer apophyses, yellow throughout, distal fourth with delicate setulæ.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, Chu Lao Tong Temple, altitude 6,500 feet, June 5, 1937 (*Tsen*). Paratopotype, male.

The nearest ally is *Erioptera (Ilisia) postrema* Alexander, which is readily told by the unicolorous wings and by the structure of the male hypopygium, as discussed elsewhere in this report.

**ERIOPTERA (ILISIA) POSTREMA** Alexander. Plate 3, fig. 45.

*Erioptera (Ilisia) postrema* ALEXANDER, Philip. Journ. Sci. 60 (1936) 350, 351.

The type was a unique female from Mount Omei. I now possess four further specimens, including the male sex, likewise from White Cloud Temple, Mount Omei, altitude 9,000 feet, taken June 12, 1937, by Mr. Tsen Bao-chi.

The male is quite like the female in all details of coloration. Male hypopygium (Plate 3, fig. 45) when compared with that of *dichroa* (Plate 3, fig. 44) shows the outer arm of the outer dististyle, *od*, slenderer, with very small inconspicuous teeth; inner arm unusually slender. Outer gonapophyses, *g*, appearing as very slender, almost setiform spines; inner apophyses much stouter, their diameter at least four times the thickness of the spine of the outer appendage, the surface with microscopic setulæ.

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

Allotype, male, White Cloud Temple, Mount Omei, altitude 9,000 feet, June 12, 1937 (*Tsen*).

**MOLOPHILUS (MOLOPHILUS) FURIOSUS** sp. nov. Plate 1, fig. 24; Plate 3, fig. 46.

Belongs to the *gracilis* group and subgroup; general coloration black, anterior lateral pretergites restrictedly yellow; antennæ short, black throughout; halteres infuscated, knobs slightly more yellowish; legs black, femoral bases restrictedly obscure

yellow; wings strongly tinged with blackish, prearcular region restrictedly yellow; male hypopygium with ventral lobe of basistyle unusually large and flattened, with an acute blackened spine at base; outer dististyle a simple curved rod; inner dististyle bifid at apex.

*Male*.—Length, 3.8 to 4 millimeters; wing, 4.5 to 5.

*Female*.—Length, about 5 millimeters; wing, 5.2.

Rostrum and palpi black. Antennæ short, black throughout; flagellar segments oval. Head black.

Thorax uniformly black, surface subnitidous; anterior lateral pretergites restrictedly yellow. Halteres infuscated, knobs slightly more yellow. Legs black, femoral bases narrowly obscure yellow, most conspicuous on middle and posterior legs. Wings (Plate 1, fig. 24) relatively narrow, strongly suffused with blackish; prearcular field restrictedly yellow; veins and macrotrichia brownish black. Venation:  $R_2$  and r-m about in transverse alignment; petiole of cell  $M_3$  about three times m-cu; vein 2d A relatively long, ending beyond m-cu.

Abdomen, including hypopygium, black. Male hypopygium (Plate 3, fig. 46) with ventral lobe of basistyle, *vb*, unusually large and flattened, at its base with an acute blackened spine, directed mesad. Outer dististyle, *od*, a simple curved rod, tip acute. Inner dististyle, *id*, a little shorter, strongly curved, beyond midlength split into two long spines, one a little longer than the other. *Ædeagus* long and slender.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, Chu Lao Tong Temple, altitude 6,500 feet, June 6, 1937 (*Tsen*). Allotopotype, female. Paratopotypes, 5 males, June 5 and 6, 1937 (*Tsen*).

In its black coloration and, especially, the structure of the male hypopygium, the present fly is very distinct from all regional allies.

**MOLOPHILUS (MOLOPHILUS) UNICLAVATUS** sp. nov. Plate 3, fig. 47.

Belongs to the *gracilis* group and subgroup; general coloration dark brown; legs brown; wings subhyaline, base restrictedly more yellow; male hypopygium with a single dististyle, appearing as a powerful black rod, gently curved, at apex abruptly narrowed into a strong spine, the latter with numerous coarse setæ surrounding its base.

*Male*.—Length, about 2.8 millimeters; wing, 3.7.

*Female*.—Length, about 3.2 millimeters; wing, 3.7.

Rostrum and palpi brown. Antennæ broken. Head dark gray.

Thorax uniformly dark brown. Halteres uniformly suffused with dusky. Legs brown, trochanters a little paler. Wings subhyaline, base restrictedly more yellow; veins yellow, trichia brown. Venation:  $R_2$  lying some distance basad of level of r-m; petiole of cell  $M_3$  long, about three times m-cu; vein 2d A ending just before level of proximal end of m-cu.

Abdomen, including hypopygium, dark brown. Male hypopygium (Plate 3, fig. 47) with ventral lobe of basistyle, *b*, produced into a long conical point, tip obtuse, with setæ to apex. A single dististyle, *d*, appearing as a powerful rod, gently curved, at apex abruptly narrowed into a strong spine, latter at base surrounded by numerous coarse black setæ; inner margin of style back from terminal spine with a linear series of strong tubercles, each tipped with a microscopic bristle. Ædeagus slender.

*Habitat*.—China (Szechwan).

Holotype, male, Mount Omei, Chu Lao Tong Temple, altitude 6,500 feet, June 5, 1937 (*Tsen*). Allotopotype, female.

*Molophilus uniclavatus* is readily distinguished from all known species of the genus by the structure of the male hypopygium. The only other regional species having a single dististyle is *Molophilus trifilatus* Alexander, of Japan, which is in every other respect a very different fly.



## ILLUSTRATIONS

[*a*, Aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *id*, inner dististyle; *ig*, inner gonapophysis; *md*, intermediate dististyle; *od*, outer dististyle; *og*, outer gonapophysis; *p*, phallosome; *pf*, penefilum; *t*, 9th tergite; *vb*, ventral lobe of basistyle; *vd*, ventral dististyle.]

### PLATE 1

- FIG. 1. *Trichocera appendiculata* sp. nov., venation.  
2. *Tanyptera antica* sp. nov., venation.  
3. *Dictenidia glabrata* sp. nov., venation.  
4. *Limonia* (*Limonia*) *perbeata* sp. nov., venation.  
5. *Limonia* (*Dicranomyia*) *tсени* sp. nov., venation.  
6. *Limonia* (*Dicranomyia*) *lethe* sp. nov., venation.  
7. *Antocha* (*Antocha*) *flavidibasis* sp. nov., venation.  
8. *Dicranota* (*Rhaphidolabis*) *præcisa* sp. nov., venation.  
9. *Dicranota* (*Amalopina*) *simplex* sp. nov., venation.  
10. *Dicranota* (*Amalopina*) *hyalipennis* sp. nov., venation.  
11. *Oxydiscus* (*Oxydiscus*) *reductus* sp. nov., venation.  
12. *Epiphragma* (*Epiphragma*) *sultana* sp. nov., venation.  
13. *Limnophila* (*Prionolabis*) *carbonis* sp. nov., venation.  
14. *Elephantomyia* (*Elephantomyia*) *carbo* sp. nov., venation.  
15. *Crypteria luteipennis* sp. nov., venation.  
16. *Gonomyia* (*Lipophleps*) *parvispinosa* sp. nov., venation.  
17. *Gonomyia* (*Gonomyia*) *principalis* sp. nov., venation.  
18. *Gonomyia* (*Idiocera*) *insidiosa* sp. nov., venation.  
19. *Gonomyia* (*Idiocera*) *octavia* sp. nov., venation.  
20. *Cryptolabis* (*Bæoura*) *perductilis* sp. nov., venation.  
21. *Ormosia beatifica* sp. nov., venation.  
22. *Ormosia defessa* sp. nov., venation.  
23. *Erioptera* (*Ilisia*) *dichroa* sp. nov., venation.  
24. *Molophilus* (*Molophilus*) *furiosus* sp. nov., venation.

### PLATE 2

- FIG. 25. *Trichocera appendiculata* sp. nov., male hypopygium, styli.  
26. *Limonia* (*Limonia*) *perbeata* sp. nov., male hypopygium.  
27. *Limonia* (*Dicranomyia*) *tсени* sp. nov., male hypopygium.  
28. *Limonia* (*Dicranomyia*) *lethe* sp. nov., male hypopygium.  
29. *Antocha* (*Antocha*) *nebulipennis immaculata* subsp. nov., male hypopygium.  
30. *Dicranota* (*Rhaphidolabis*) *præcisa* sp. nov., male hypopygium.  
31. *Dicranota* (*Amalopina*) *simplex* sp. nov., male hypopygium.  
32. *Oxydiscus* (*Oxydiscus*) *reductus* sp. nov., male hypopygium.  
33. *Epiphragma* (*Epiphragma*) *sultana* sp. nov., male hypopygium.  
34. *Limnophila* (*Prionolabis*) *carbonis* sp. nov., male hypopygium.  
35. *Elephantomyia* (*Elephantomyia*) *carbo* sp. nov., male hypopygium.

## PLATE 3

- FIG. 36. *Crypteria luteipennis* sp. nov., male hypopygium.  
37. *Gonomyia* (*Lipophleps*) *parvispinosa* sp. nov., male hypopygium.  
38. *Gonomyia* (*Gonomyia*) *principalis* sp. nov., male hypopygium.  
39. *Gonomyia* (*Idiocera*) *insidiosa* sp. nov., male hypopygium.  
40. *Gonomyia* (*Idiocera*) *octavia* sp. nov., male hypopygium.  
41. *Cryptolabis* (*Bæoura*) *perductilis* sp. nov., male hypopygium.  
42. *Ormosia defessa* sp. nov., male hypopygium.  
43. *Erioptera* (*Erioptera*) *juvenilis* Alexander, male hypopygium.  
44. *Erioptera* (*Ilisia*) *dichroa* sp. nov., male hypopygium.  
45. *Erioptera* (*Ilisia*) *postrema* Alexander, male hypopygium.  
46. *Molophilus* (*Molophilus*) *furiosus* sp. nov., male hypopygium.  
47. *Molophilus* (*Molophilus*) *uniclavatus* sp. nov., male hypopygium.

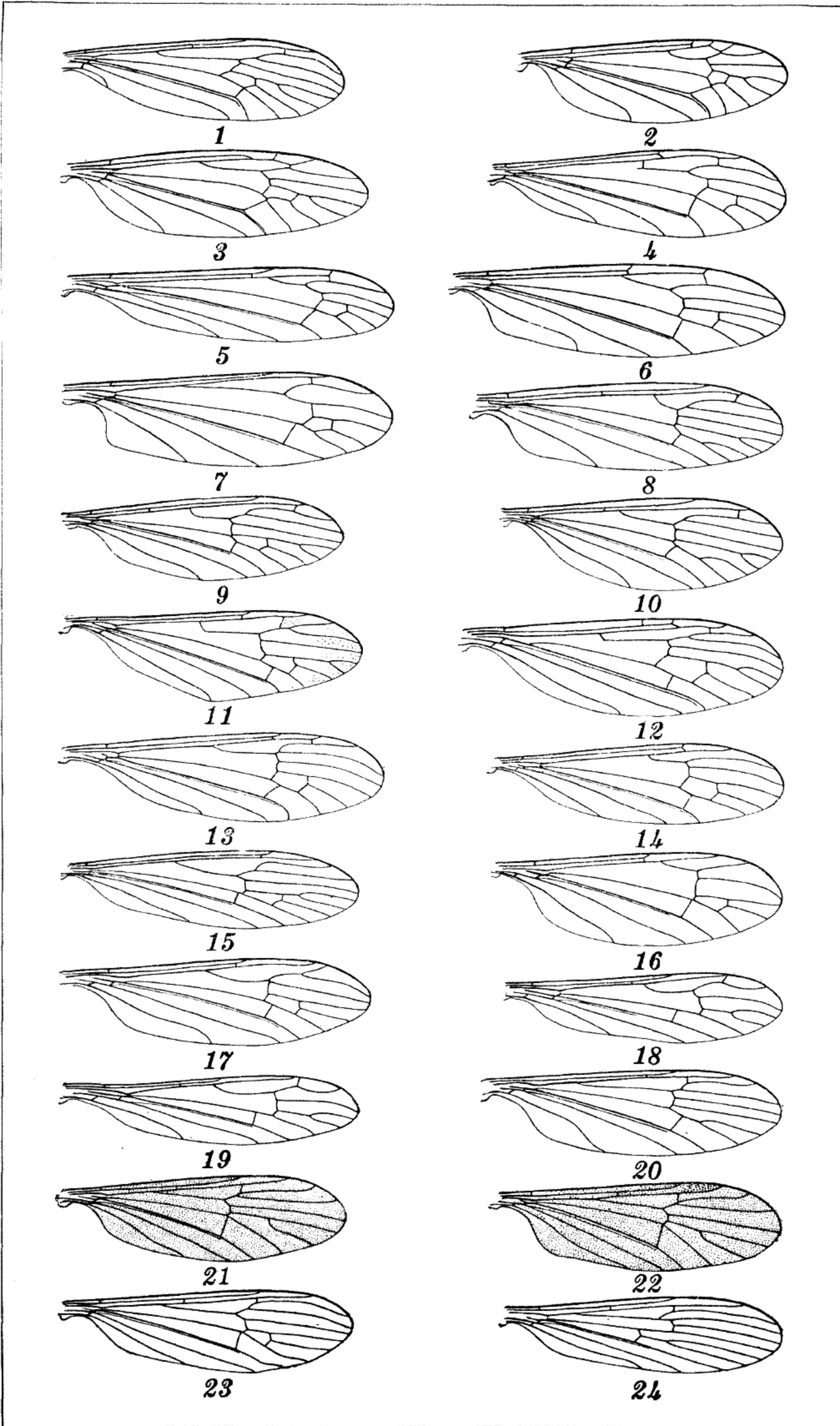


PLATE 1.

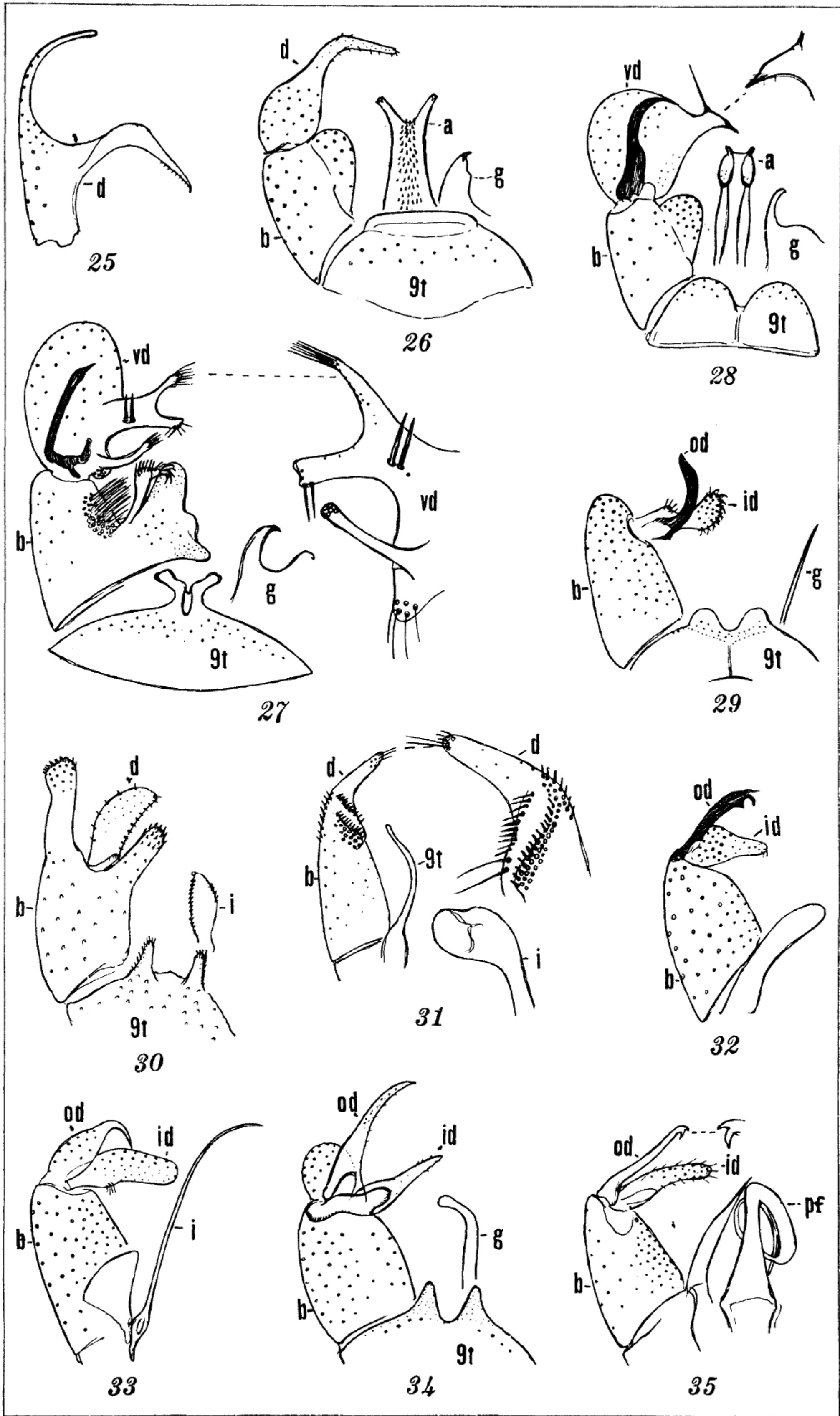


PLATE 2.



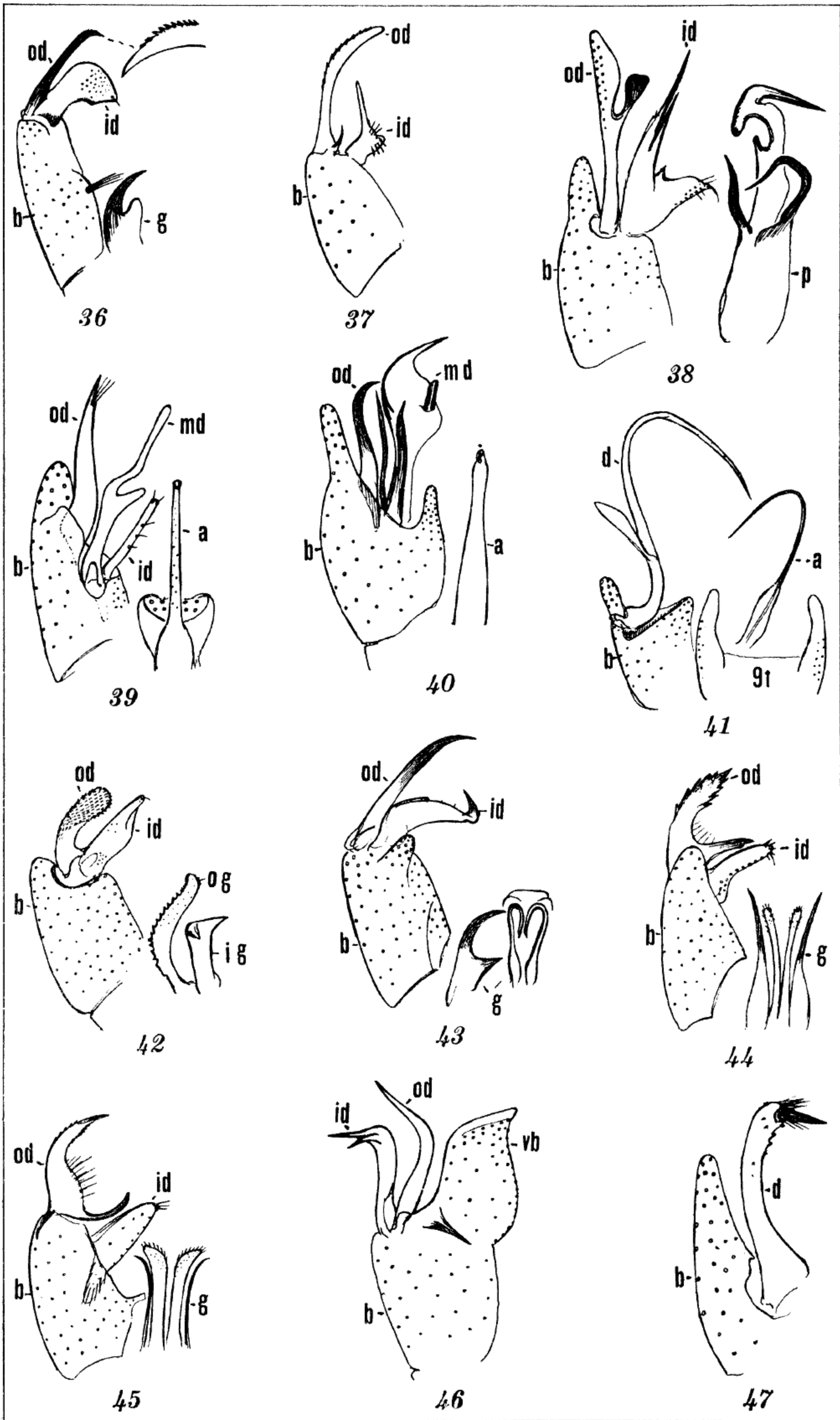


PLATE 3.