

MUSÉE HEUDE

NOTES D'ENTOMOLOGIE CHINOISE

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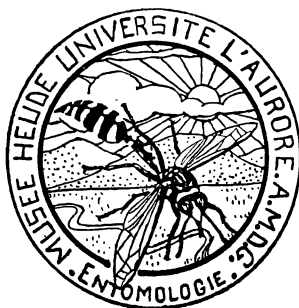
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NEW OR LITTLE-KNOWN TIPULIDÆ FROM EASTERN CHINA

PART III.

by

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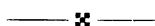
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I wish to express my deep thanks to the Reverend Father OCTAVE PIEL for the opportunity of studying a further extensive series of *Tipulidae* contained in the collection of the Musée Heude, Shanghai, China.

In the two preceding parts under this general title, the various species from eastern China contained in the Musée Heude were numbered consecutively. The same policy has been followed in the present instalment, with those species already recorded in earlier parts being indicated by their previous figure in parenthesis. The three parts prepared to this date include the following numbers:

- Part I (*Tipulinae*) Species 1 — 21, inclusive;
- Part II (*Cylindrotominae*, *Limoniinae*) Species 22 — 44;
- Part III (*Ptychopteridae*, *Tipulidae*) Species 45 — 72.

It is believed that a continuation of this same policy in succeeding papers will be very helpful in keeping to date the records of species of *Tipulidae* in the Musée Heude collection. I have included with these records of *Tipulidae* the single species of the closely allied family *Ptychopteridae*. The types of all novelties and the uniques are preserved in the Musée Heude.

The majority of the species discussed herewith are from Mogan Shan and Tien-mu-shan, mountains in northern Chekiang, that evidently support a rich and varied crane-fly fauna that will well repay a detailed and systematic study when conditions permit.

PTYCHOPTERIDÆ.

45. *Ptychoptera bellula* ALEXANDER.

1937. *Ptychoptera bellula*, ALEXANDER, Philippine Journ. Sci., 63: 367-368.

One male, Mogan Shan, May 29, 1936 (O. PIEL.).
Slightly larger than the types (Hong San, southern Kiangsi):
Wing of male 8 mm.

TIPULIDÆ.

TIPULINÆ

46. *Ctenophora perjocosa* sp. n.

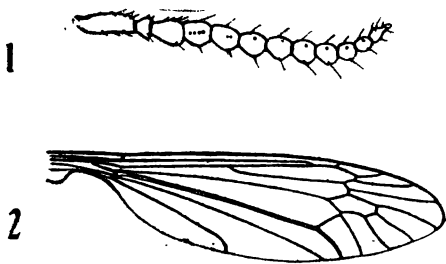
Allied to *pselliophoroides*; antennae (female) yellow throughout, the flagellar segments short and crowded; mesonotal praescutum with four conspicuous black stripes, the intermediate pair forming the lateral borders of a broader reddish median vitta; lateral stripes similarly variegated black and reddish; scutellum brownish yellow; pleura yellow, conspicuously variegated with black; halteres uniformly yellow; legs orange yellow, the posterior femora with a narrow brown subterminal ring, posterior tibiae with alternating yellow or white and brown rings; wings tinged with yellow, with a darkened area centering at the base of cell R_5 ; R_s very long; cell M_1 broadly sessile; abdominal segments orange, conspicuously variegated with black and sulphur yellow.

Male. — Length about 20 mm.; wing, 13 mm,

Female. — Length about 18-20 mm.; wing, 13-17 mm.;
antenna about 2-2.2 mm,

Frontal prolongation of head short, yellow; nasus very broad and quadrate in outline; palpi with basal two segments obscure yellow, third segment dark brown, terminal segment

black. Antennae of female (Fig. 1) orange-yellow; flagellar segments short and crowded, the terminal (thirteenth) reduced to a tiny brown thimble-like structure that is partly fused with the preceding segment; verticils of segments subspinous. Head yellow, with a conspicuous black transverse band across the anterior vertex between the eyes, a little widened at the midportion; occiput dusky.



***Ctenophora perjocosa* sp. n.**

Fig. 1. Antenna of female.

Fig. 2. Wing.

Pronotum yellow. Mesonotal praescutum obscure yellow with four black stripes, the intermediate pair long and narrow, forming the lateral borders of a wider reddish median vitta; lateral stripes paling to reddish on posterior and lateral portions, leaving an oval black nucleus at their anterior end; humeral border narrowly darkened; suture blackened, polished; scutum yellow, each lobe with two black areas, the more posterior one much larger; scutellum yellow to brownish yellow; mediotergite pale yellow, the central portion with a broad pale brown triangle with its point directed cephalad. Pleura yellow, variegated with blackish areas, including a narrow line on the propleura, and conspicuous spots on ventral anepisternum, ventral sternopleurite and ventral meron; pleurotergite almost uniformly yellow. Halteres uniformly obscure yellow. Legs with the coxae and trochanters yellow; fore and middle legs orange-yellow, the tips of the basitarsi and the remainder of tarsi black; posterior legs longer and more conspicuous; femora orange-yellow with a brown spot or barely complete ring before the subequal apex; tibiae with about the basal fifth yellow, followed by a slightly dilated, pale

brown ring that is provided with abundant black setae; on distal half of tibiae with a broad whitish ring before the subequal brown apex; posterior tarsi colored as on other legs; tibial spurs very long and conspicuous, black. Wings (Fig. 2) tinged with pale yellow, the prearcular and costal portions more saturated yellow; stigma brownish yellow, inconspicuous; a pale brown discal wash beyond cord, centering in cells R_5 , $1st\ M_2$, and bases of M_1 and $2nd\ M_2$, more diffuse outwardly; veins brown, more yellow in the flavous portions. Venation: R_s long to very long, approximately three times $m-cu$; R at point of union with Sc_2 lying very close to costal border so the free tip of Sc_2 is very short; all radial branches slightly upcurved at margin, M_1 decurved so cell R_5 is wider at margin than are the adjoining cells; cell M_1 broadly sessile; cell $1st\ M_2$ pointed at base; $m-cu$ on M_4 just beyond fork.

Abdominal tergites orange, handsomely variegated with brown and yellow areas; basal tergite with posterior border narrowly blackened; second and third tergites with inverted T-shaped black areas, the crossbar nearly apical, the stem not or barely reaching the preceding segment in front; fourth and succeeding tergites with a subbasal black crossband, with a narrow median stem to the posterior border, the lateral posterior portions light sulphur yellow, on the outer segments the coloration more obscure; outermost segments almost uniformly reddish orange; sternites two and three yellow, each with a narrow black posterior ring, on succeeding three or four sternites with a less clearly delimited dark ring beyond midlength, the posterior border sulphur yellow. Ovipositor with cerci relatively small and straight.

Habitat. — China (Chekiang).

Holotype, female, Tien-mu-shan, July 25, 1936 (O. PIEL.).

Allotype, male in poor condition, Mogan Shan, May 24, 1936 (O. PIEL.). Paratopotype, female, June 17, 1936 (O. PIEL.).

The nearest ally of the present fly is *Ctenophora pselliophoroides* ALEXANDER, of southeastern China, which differs conspicuously in the coloration of the body, and less evidently in the pattern of the wings and legs.

47. *Pselliophora xanthopimplina* ENDERLEIN.

1921. *Pselliophora xanthopimplina*, ENDERLEIN, Zool. Anzeig., 52: 224 (April 8, 1921).

1921. *Pselliophora quadrivittata*, EDWARDS, Ann. Mag. Nat. Hist., (9) 7: 377 (April 1921).

Tien-mu Shan, June 6-24, 1936; May 31, 1937 (O. PIEL.).

As indicated in another paper, I am uncertain as to which of the above names for this species has priority.

48. *Dictenidia luteicostalis longisector* ALEXANDER.

1940. *Dictenidia luteicostalis longisector*, ALEXANDER, Philippine Journ. Sci.,

T'ien-mu Shan, July 27, 1936 (O. PIEL.); paratype.

49. *Dictenidia stalactitica* ALEXANDER.

1940. *Dictenidia stalactitica*, ALEXANDER, Philippine Journ. Sci.,

Tien-mu Shan, June 10, 1936 (O. PIEL.). The antennal branches are slightly shorter and the outer dististyle of the male hypopygium a trifle shorter than the type (from the high mountains of western Fukien).

50. *Tanyptera antica* ALEXANDER.

1938. *Tanyptera antica*, ALEXANDER, Philippine Journ. Sci., 66: 310-311.

Tien-mu Shan, June 10, 1936 (O. PIEL.); 1 male.

(3) *Longurio (Longurio) fulvus* EDWARDS.

1916. *Longurio fulvus*, EDWARDS, Ann. Mag. Nat. Hist., (8) 18: 262.

Tien-mu Shan, June 11, 1936 (O. PIEL.).

51. *Ctenacroscelis clavipes* EDWARDS.

1921. *Ctenacroscelis clavipes*, EDWARDS, Ann. Mag. Nat. Hist., (9) 8: 111.

Tien-mu Shan, July 16, 1936, 1 male; June 1, 1937, 1 female (O. PIEL.). Moka Shan, May 30-31, 1936 (O. PIEL.).

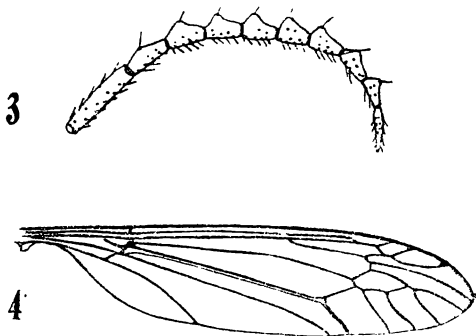
52. *Ctenacroscelis calliergon* sp. n.

Belongs to the *serratus* group; general coloration of mesonotum dark brown, the praescutum with four dark gray stripes that are heavily bordered by blackish; antennae 12-segmented, the flagellar segments in both sexes strongly produced beneath; pleura yellowish white, heavily striped longitudinally with yellowish brown and darker brown; femora yellow, the tips blackened; wings grayish white, heavily patterned with brown; abdomen brownish black, with more or less distinct reddish brown sublateral stripes.

Male. — Length about 25 mm.; wing, 31 mm.; antenna about 3.5 mm.

Female. — Length about 34 mm.; wing, 28 mm.

Frontal prolongation of head grayish brown; nasus short and stout; palpi brownish black. Antennae (Fig. 3) short, 12-segmented, brown throughout; intermediate flagellar segments with ventral face very strongly produced into a triangular lobe which is tipped with a strong seta; longest dorsal verticils a little shorter



Ctenacroscelis calliergon sp. n.

Fig. 3. Antenna of male.

Fig. 4. Wing.

than the segments; terminal segment elongate, narrowed to the subacute apex. Head brownish gray, the simple vertical tubercle clearer gray, with a brown median line; posterior orbits pruinose.

Pronotum brown medially, paling to whitish yellow on sides. Mesonotal praescutum almost covered by four dark gray stripes that are heavily bordered by blackish, the interbases dark brown to reddish brown; lateral and humeral portions of praescutum more yellowish brown; scutum gray, the lobes variegated with darker gray; scutellum dark gray, the parascutella paler, brownish yellow; mediotergite brownish gray on cephalic half, clearer gray on posterior portion, with a capillary median brown vitta that is somewhat wider on the posterior half. Pleura yellowish white pruinose, heavily striped longitudinally with brown, including a broad, dorsal, yellowish brown stripe extending from the cervical region across the propleura, anepisternum dorsal pteropleurite and central pleurotergite, the dorsal portion of the last paling to brownish yellow; a ventral darker brown stripe, including the ventral sternopleurite and the meron; dorsopleural membrane light yellow. Halteres with knob dark brown, stem a little paler. Legs relatively short and stout in both sexes; coxae brown, gray pruinose; trochanters brownish yellow; femora obscure yellow, the tips rather broadly and conspicuously blackened; tibiae obscure yellow, the tips narrowly black; tarsi brownish yellow, passing into black. Wings (Fig. 4) grayish white, heavily and handsomely patterned with brown, including major areas in the postarcular region; across the outer ends of cells *R* and *M*, the latter with a pale center; the area continues to the margin as a broad seam along vein *Cu*; beyond the cord, the entire radial field is darkened, with the exception of a whitish spot at proximal end of stigma; the posterior edge of this outer darkening includes vein *m* and the inner portions of cells *M*₁ and 2nd *M*₂; a conspicuous brown seam along vein 2nd *A*, expanded at wing-margin; cells *C* and *Sc*, especially the

latter, clearer yellow; veins yellow, scarcely darkened in the clouded portions. Venation: R_3 relatively short, strongly arcuated; vein R_{4+5} only moderately decurved, ending just before wing-tip; R_s long, about twice $m-cu$; petiole of cell M_1 short, subequal to or longer than the distal section of M_{3+4} .

Abdomen brownish black, the tergites with more or less distinct reddish brown, sublateral stripes, the surface pruinose; lateral borders of the tergites narrowly more reddish brown; hypopygium brownish black, pruinose. Male hypopygium relatively small and compact; tergite chiefly blackened. Ovipositor with cerci very slender, horn-brown.

Habitat. — China (Chekiang).

Holotype, male, Tien-mu-shan, June 10, 1936 (O. PIEL.).

Allotopotype, female, June 18, 1936 (O. PIEL.).

I am referring this species to the *serratus* group chiefly on the basis of the serrate antennae. It differs from the characters of the group in the presence of a single strong seta at apex of each ventral prolongation of the flagellar segments, and in the heavily patterned wings. It may perhaps be better considered as representing a distinct group within the genus. The handsomely patterned wings readily serve to separate it from all other regional species.

53. *Tipula* (*Nippotipula*) *sinica* ALEXANDER.

1935. *Tipula* (*Nippotipula*) *sinica*, ALEXANDER. Philippine Journ. Sci., 57: 92-94.

T'ien-mu Shan, April 19, 1937 (O. PIEL.); 1 female.

Mokan Shan, April 25-30, 1936 (O. PIEL.).

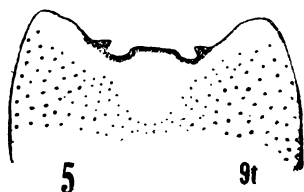
54. *Tipula* (*Schummelia*) *angustiligula mokanensis* subsp. n.

Male. — Length about 13 mm.; wing, 14.5 mm.; antenna about 5 mm.

Female. — Length about 20 mm.; wing, 18 mm.

Characters as in typical *angustiligula* ALEXANDER. (Western China: Szechwan), differing especially in the larger size, distinct wing pattern and venation, and in slight details of structure of the male hypopygium, especially of the tergite.

Antennal segments with about three conspicuous basal verticils, these nearly as long as the segments; basal flagellar segments weakly bicolored. Lateral praescutal stripes converging toward the median stripe at their anterior ends, the interspaces thus widened behind. Wings with the dark pattern more conspicuous, especially in the cells beyond the cord, including a major area at and beyond the outer end of cell *1st M*₂. Venation: Petiole of cell *M*₁ elongate, subequal to or much exceeding *m*. Male hypopygium with the structure generally as in the typical form. Ninth tergite (Fig. 5, *9t*) with the lateral lobes produced into blackened spinous points near the base of median incision; median lobe at base of notch lower and wider; setae of disk smaller toward the median region but not forming distinct rows on either side of midline. Styli very similar in the two forms. Fingerlike lobe on mid-ventral line of ninth sternite stouter and darker in color.



***Tipula* (Schummelia)
angustiligula mokanensis
subsp. n.**

(Symbol: *9t*, ninth tergite of male hypopygium).

Fig. 5. Male hypopygium, ninth tergite.

Habitat. — China (Chekiang).

Holotype, male, Moka Shan, May 1, 1936 (O. PIEL.).

Allotopotype, female, May 11, 1936 (O. PIEL.).

55. *Tipula* (Schummelia) *spectata* sp. n.

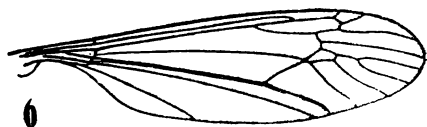
General coloration of mesonotum buffy gray, the praescutum with four poorly delimited gray stripes; basal flagellar segments bicolored; thoracic pleura chiefly gray;

halteres uniformly pale yellow; femora obscure yellow, tibiae and tarsi black; wings yellow, with a heavy brown pattern, chiefly at and beyond the cord; cell 1st M_2 irregularly pentagonal, the veins surrounding it chiefly pale; *m-cu* at fork of *M*; basal abdominal segments yellow, margined laterally and caudally with black, the outer segments uniformly blackened; genital shield yellow; ovipositor with straight, slender cerci.

Female. — Length about 16 mm.; wing, 16 mm.

Frontal prolongation of head light brown, with a sparse pruinosity; nasus distinct; palpi with basal two segments light brown, the terminal two segments paling to yellow. Antennae with scape and pedicel light yellow; basal flagellar segments weakly bicolored, the bases dark brown, the apices brownish yellow; outer segments more uniformly brownish black; longest verticils considerably exceeding the segments in length. Head uniformly pale buffy gray; anterior vertex broad.

Pronotum pale brown. Mesonotal praescutum with the ground buffy, with four poorly delimited brownish gray stripes, the intermediate pair separated by a capillary brown line on more than the cephalic half; lateral stripes distinct, their mesal edges less clearly delimited than the outer ones; setae of interspaces relatively long and abundant, erect; scutum buffy, each lobe with two more infuscated areas; posterior sclerites of notum brownish gray. Pleura chiefly gray, the pleurotergite and meron more testaceous yellow; dorsopleural membrane buffy. Halteres uniformly pale yellow. Legs with the coxae



Tipula (Schummelia) spectata sp. n.

Fig. 6. Wing.

pale, sparsely pruinose; trochanters yellow; femora obscure yellow, the tips very insensibly darkened; tibiae and tarsi black, the fore tibiae a trifle paler. Wings (Fig. 6) strongly

yellow, especially the more saturated prearcular and costal fields; a heavy and conspicuous brown pattern, chiefly at and just before the cord, especially developed as a major subapical area in cell *R*, with a confluent apical one in cell *M*, the latter continued as a broad seam along vein *Cu* in cell *M*₄ to posterior margin; other brown areas on anterior cord, extended distad over the anterior branches of *M* to beyond the fork of *M*₁₊₂; an elongate brown triangle in central portion of outer end of cell *1st A*, not reaching the veins, the narrow point directed basad; a seam on outer half of vein *2nd A*; stigma oval, dark brown; extreme wing-base in squamal region dark brown; other longitudinal veins beyond cord, together with wing apex, very narrowly and insensibly bordered by brown; veins brown, yellow in the flavous prearcular and costal portions. Venation: *Rs* a little longer than the conspicuous *m-cu*; *m* reduced; cell *1st M*₂ small, irregularly pentagonal, with virtually all of the veins comprising it lying in the obliterative field; *m-cu* at fork of *M*, *M*₃₊₄ very short, darkened.

Basal abdominal segments bright yellow sublaterally, the lateral and posterior margins, together with a narrow, broken, median line, brownish black; sixth and succeeding segments uniformly blackened, sparsely pruinose. Ovipositor with genital shield yellow; cerci horn-yellow, straight and slender.

Habitat. — China (Chekiang).

Holotype, female, T'ien-mu Shan, July 20, 1936 (O. PIEL.).

Tipula (*Schummelia*) *spectata* is very distinct from other described members of the subgenus. It is most similar to *T. (S.) variicornis* SCHUMMEL, of the northern Palaearctic region, yet quite distinct in all details of coloration and venation.

56. *Tipula* (*Formotipula*) *vindex* sp. n.

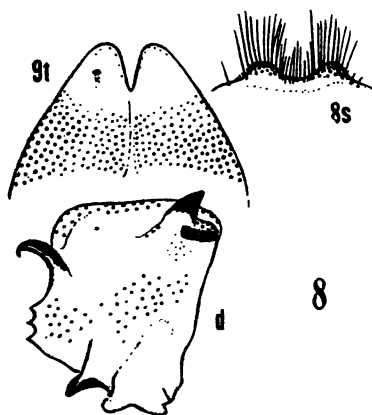
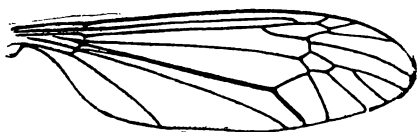
Head, thorax and distal half of abdomen black; praescutum with four scarcely differentiated. more grayish,

glabrous stripes; antennae and halteres black; femora brown, the bases restrictedly paler, the tips and remainder of legs black; wings with a cinereous tinge, stigma small, brown; R_{1+2} entire; cell $1st\ M_2$ relatively long; abdomen with segments two to four orange; male hypopygium with the tergite terminating in two flattened subglabrous lobes with obtusely rounded tips; dististyle bearing a long curved black spine on posterior edge, the margin with two or three coarse blackened teeth.

Male. — Length about 10 mm.; wing, 14 mm.; antenna about 4 mm.

Frontal prolongation of head velvety black; palpi black. Antennae black throughout; verticils subequal in length to the segments. Head velvety black.

Thorax velvety black
the praescutum with
four scarcely differen-
tiated, more grayish
black, glabrous stripes;



Tipula (Formotipula) vindex
sp. n.

(Symbols: Male hypopygium.
9t, ninth tergite; *8s*, eighth
sternite; *d*, dististyle).

Fig. 7. Wing.

Fig. 8. Male hypopygium.
details.

scutellum and mediotergite weakly pruinose. Halteres black. Legs with coxae and trochanters black; femora brown, the bases restrictedly paler, the tips black; remainder of legs black. Wings (Fig. 7) with a dusky or cinereous

tinge; stigma small, oval, brown; veins dark brown. Venation: R_s relatively long, weakly angulated at origin, slightly exceeding $m-cu$; R_{1+2} entire; cell $1st\ M_2$ long, the second section of M_{1+2} approximately twice the basal section; petiole of cell M_1 nearly twice the length of m .

Abdomen with apex of first segment and all of segments two to four, inclusive, reddish orange, with the exception of narrow lateral borders on segments three and four which are blackened; remainder of basal segment and all outer segments, including the hypopygium, velvety black. Male hypopygium (Fig. 8) with the tergite, $9t$, large, narrowed posteriorly, the caudal end terminating in two flattened, subglabrous black lobes with obtusely rounded apices, separated from one another by a narrow V-shaped notch; dorsal and lateral surfaces of tergite back from the lobes with very long, conspicuous, black setae. Dististyle, d , a subquadrate compressed blade, on posterior edge bearing a long curved blackened spine, the margin basad of which bears two or three coarse blackened teeth; beak of style unusually stout but blackened. Eighth sternite, $8s$, large and sheathing, the caudal border with two low rounded lobes that are provided with abundant long black setae, continued across the shallowly emarginate median section of the sclerite.

Habitat. — China (Chekiang).

Holotype, male, T'ien-mu Shan, June 9, 1936 (O. PIEL.).

The most similar described regional species are the subgenotype, *Tipula* (*Formotipula*) *holoserica* (MATSUMURA) of Formosa, and *T. (F.) spoliatrix* ALEXANDER, of the high mountains of western Fukien. Both of the above mentioned species differ from the present fly in the very different structure of the male hypopygium

(6) ***Tipula* (*Yamatotipula*) *poliocephala* ALEXANDER.**

1921. *Tipula poliocephala*, ALEXANDER, Bull. Mus. Hist. Nat., Paris, 1921: 346.

T'ien-mu Shan, April 29, 1937 (O. PIEL.). Moka Shan,
April 24, 1936 (O. PIEL.).

57. *Tipula* (*Yamatotipula*) *nova* WALKER.

1848. *Tipula nova*, WALKER, List Diptera Brit. Mus., 1: 71.

T'ien-mu Shan, April 19, 1937; July 16, 1936 (O. PIEL.).
Moka Shan, April 30, 1936; May 4, 1936; May 21, 1936
(O. PIEL.). Fanyang, April 15, 1936. Wuchow, Kiangsi,
March 22, 1933 (O. PIEL.).

(9) *Tipula* (*Acutipula*) *stenacantha* ALEXANDER.

1937. *Tipula* (*Acutipula*) *stenacantha*, ALEXANDER, Notes
d'Ent. Chinoise, 4, fasc. 1: 7-9.

T'ien-mu Shan, July 23, 1936 (O. PIEL.); 1 male.

58. *Tipula* (*Acutipula*) *phaeoleuca* sp. n.

General coloration gray, the praescutum with four dark brownish gray stripes; scutellum obscure yellow; pleura gray, the katapleurite abruptly light yellow; legs obscure yellow, the tips of femora narrowly and inconspicuously brownish black; wings handsomely patterned with dark brown and white, the latter very extensive, including almost all of cell M , the very broad bases of the outer medial cells and the distal two-thirds of R_5 ; cell $1st\ M_2$ relatively small, the second section of M_{1+2} nearly equal in length to the third section; $m-cu$ before fork of M_{3+4} ; basal abdominal tergites obscure yellow, striped with dark brown, the outer segments more pruinose.

Female. — Length about 25 mm.; wing, 23 mm.; antenna about 3.2 mm.

Frontal prolongation of head brownish gray; nasus conspicuous; palpi brownish black, the terminal segments relatively short. Antennae pale brown, the outer segments darker brown; verticils elongate, subequal to or slightly exceeding the segments. Head yellowish gray in front, more brownish gray on vertex, the occipital region clearer gray; a scarcely evident median brown vitta.

Pronotum brownish gray, with conspicuous setigerous punctures on either side of the clearer brown median line. Mesonotal praescutum pale brownish gray, with four dark brownish gray stripes, the intermediate pair separated by a broad obscure median line; setae of interspaces small and pale, from inconspicuous punctures; median region of scutum obscure yellow, the lobes almost uniformly clear gray; scutellum obscure yellow, with a vague median brown vitta, parascutella gray; mediotergite clear gray on a little more than the anterior half, the posterior portion brown. Pleura gray; dorsopleural membrane buffy brown; pleurotergite gray, the katapleurite abruptly light yellow, well-delimited. Halteres with stem brownish yellow, base of knob brown, apex pale yellow. Legs with the coxae gray; trochanters yellow; femora obscure yellow, the tips narrowly and inconspicuously brownish black; tibiae and basitarsi obscure yellow, the tips very narrowly darkened; remainder of tarsi dark brown. Wings (Fig. 9) with the ground color extensively whitened, heavily patterned with dark brown and brownish yellow, the latter color including cells *C* and *Sc*, together with the proximal end of stigma; the dark brown pattern involves the prearcular field; all of cell *R* with the exception of outer sixth; basal third of cell *R*₁; outer radial field, with the exception of a paler wash in basal half of cell *R*₂ and the white outer two-thirds of cell *R*₅; basal half of cell *Cu* and very broad



Tipula (Acutipula) phæoleuca sp. n.

Fig. 9. Wing.

seams along *m-cu* and distal section of vein *Cu*, the latter involving more than one-half of cell M_4 ; outer ends of outer medial cells, including the distal two-thirds of cells M_1 and *2nd* M_2 , together with the extreme outer ends of M_3 and M_4 ; the white ground remaining thus occupies most of cell *M*; outer end of *R*, with the adjoining portion of R_1 ; cell *1st* M_2 and the extreme bases of outer medial cells, together with the outer end of cell R_5 to margin; anal cells and distal end of *Cu* white; distal end of stigma brown; veins brown, *C*, *Sc*, *R* and *2nd* *A* more yellowish. Squama with trichia. Venation: *Rs* about twice as long as *m-cu*; basal section of R_{4+5} shorter than *r-m*; cell *1st* M_2 unusually small, the second section of M_{1+2} only a trifle longer than the third section (petiole of cell M_1); *m-cu* shortly before fork of M_{3+4} .

Abdomen with the ground color of the more basal tergites obscure yellow, on the sixth and succeeding segments gray; a conspicuous median brown stripe and less evident sublateral ones on segments three to five, inclusive, the gray outer segments less conspicuously patterned; sternites chiefly gray pruinose; cerci very slender.

Habitat. — China (Chekiang).

Holotype, female, T'ien-mu Shan, April 29, 1937 (O. PIEL.).

Tipula (Acutipula) phaeoleuca is most similar to species like *T. (A.) graphiptera* ALEXANDER and *T. (A.) megaleuca* ALEXANDER, especially in the unusually heavy brown wing pattern. It differs conspicuously in the coloration of the body and, especially, of the wings, together with the venation, such as the small cell *1st* M_2 , correspondingly longer petiole of cell M_1 and narrow cell M_4 . In the absence of the male sex, the possibility is not excluded that the present fly may be found to pertain to the subgenus *Yamatotipula* MATSUMURA rather than to *Acutipula* ALEXANDER, where assigned.

(11) *Tipula (Vestiplex) bifida* ALEXANDER.

1921. *Tipula bifida*, ALEXANDER, Bull. Mus. Hist. Nat., Paris, 1921 : 539-540.

T'ien-mu Shan, May 10, 1936 (O. PIEL.); 1 badly broken male.

Moken Shan, May 29, 1936 (O. PIEL.).

59. *Tipula (Oreomyza) famula* ALEXANDER.

1935. *Tipula (Oreomyza) famula*, ALEXANDER, Philippine Journ. Sci., 57 : 123-125.

Mokan Shan, April 27, 1936 (O. PIEL.). One male, very badly broken, without legs or antennae, but the identity is certain.

60. *Tipula (Oreomyza) tetramelania* ALEXANDER.

1935. *Tipula (Oreomyza) tetramelania*, ALEXANDER, Philippine Journ. Sci., 57 : 125-127.

T'ien-mu Shan, July 26, 1936 (O. PIEL.). Hitherto known only from various stations in Szechwan, western China.

CYLINDROTOMINÆ

61. *Triogma nimbiennis* ALEXANDER.

1940. *Triogma nimbiennis*, ALEXANDER, Philippine Journ. Sci.

Mokan Shan, April 24, 1936 (O. PIEL.); 1 paratype male.

The remainder of the type-series from the higher mountains of western Fukien, collected by KLAPPERICH.

LIMONIINÆ

62. *Limonia (Limonia) atrisoma* sp. n.

General coloration black, including virtually the entire thorax; antennae black, the pedicel obscure yellow; flagellar

segments long-cylindrical; femora brownish yellow, the tips black; wings obscure yellow, clouded with brown, stigma large, oval, dark brown; *m-cu* before fork of *M*; abdominal tergites black, the sternites more reddish brown; ovipositor with cerci long, acutely pointed at tips.

Male. — Length about 8 mm.; wing, 9 mm.

Female. — Length about 12 mm.; wing, 11 mm.

Rostrum and palpi black. Antennae with scape black; pedicel obscure yellow; flagellum black, the segments with a dense white pubescence; verticils much longer and more conspicuous in female; flagellar segments long-cylindrical, especially in female. Head heavily gray pruinose, more sparsely so behind.

Pronotum and mesonotum black, subnitidous, only the median region of the scutum narrowly paler; dorso-pleural membrane buffy; meral region restrictedly pale. Pleura black. Halteres dusky, the base of stem restrictedly yellow. Legs with the coxae and trochanters yellow, the former contrasting abruptly with the black pleura; femora brownish yellow, somewhat clearer basally, the tips rather narrowly black, the amount subequal on all legs; tibiae and tarsi black. Wings with the ground color obscure yellow, the large oval stigma dark brown; broad diffuse brown seams along *Rs*, the cord and outer end of cell *1st M*₂, and as a conspicuous seam in cell *M* adjoining vein *Cu*; wing-tip weakly infumed, darker than the ground; prearcular field yellow; veins brown. Venation: *Sc*₁ ending near two-thirds the length of *Rs*, *Sc*₂ longer but placed close to its tip; *m-cu* before fork of *M* at a distance from one-third to one-fourth its own length.

Abdominal tergites black, the sternites more reddish brown; ovipositor with cerci orange horn-color, long and slender, the tips acute, simple.

Habitat. — China (Chekiang).

Holotype, female, T'ien-mu Shan, April 19, 1937 (O. PIEL.).

Allotopotype, a badly broken male.

The nearest allied species are *Limonia* (*Limonia*) *japonica* (ALEXANDER) of Japan, and *L. (L.) atridorsum* (ALEXANDER) of Formosa. The present fly differs conspicuously in the uniformly blackened thorax and in the heavily patterned wings.

63. *Limonia* (*Dicranomyia*) *neopulchripennis* sp. n.

Belongs to the *pulchripennis* group; general coloration yellowish gray, the praescutum with three very extensive black stripes; posterior sclerites of mesonotum black; femora yellow, the tips conspicuously black; extreme base and apex of tibia brownish black; wings whitish, heavily patterned with brown, including a series of five costal areas, the second and third of which have pale centers in cell *C*; veins issuing from cell 1st *M*₂ very short; abdomen black, the posterior borders of the segments narrowly gray; male hypopygium with the tergite narrowly transverse, the caudal margin straight or nearly so, with small inconspicuous lateral tubercles; a single rostral spine.

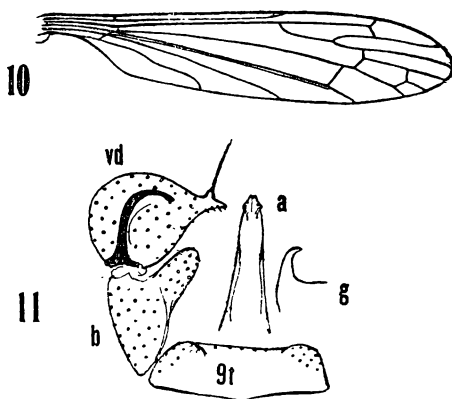
Male. — Length about 6.5-7 mm.; wing, 7-8 mm.

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

Rostrum black, pruinose; palpi black. Antennae with scape and pedicel black; basal flagellar segments paler than the dark brown outer ones, ranging through yellow to light brown; flagellar segments oval. Head light gray, variegated with black; anterior vertex narrow.

Pronotum black, on sides variegated with gray. Mesonotal praescutum with the ground color yellowish gray, restricted to the humeral and lateral portions; the usual three praescutal stripes black, confluent behind or virtually so, the posterior interspaces obscured; posterior sclerites of notum black, the median area of scutum yellowish gray. Pleura extensively gray, variegated on ventral anepisternum, ventral sternopleurite and meron with black areas. Halteres with stem yellow, knob black. Legs with the coxae and

trochanters black; femora yellow, the tips extensively and conspicuously blackened, the amount subequal on all legs and including about the distal sixth or seventh; tibiae yellow, the narrow base and apex brownish black, only about one-fourth as extensive as the femoral tip; basal two tarsal segments obscure yellow, the outer ones passing into black. Wings (Fig. 10) whitish, heavily and handsomely patterned with brown, including a series of five costal areas, the last apical; first costal area above arculus; second and third with pale centers in cell *C*; fourth area solid, at stigma; apical darkening with pale spots in outer medial field and in end of cell *R*₅; extensive but paler brown areas at ends of veins *Cu*, 1st *A*, 2nd *A* and in axillary region, these somewhat paler in their centers than on margins; cell *M* entirely washed with pale brown; veins yellow, darker in the patterned areas. Venation: *Sc*₁ ending opposite origin of *R*s; *m-cu* about one-third its length before fork of *M*; veins issuing cell 1st *M*₂ very short.



Limonia (Dicranomyia) neopulchripennis
sp. n.

(Symbols: Male hypopygium, *a*, aedeagus; *b*, basistyle; *g*, gonapophysis; *t*, ninth tergite; *vd*, ventral dististyle).

Fig. 10. Wing.

Fig. 11. Male hypopygium.

Abdomen black, the posterior borders of the segments very narrowly gray, the remainder of surface, especially of the sternites, vaguely pruinose; hypopygium black. Male hypopygium (Fig. 11) with the tergite, 9t narrowly transverse, the caudal margin straight or virtually so, with

small, inconspicuous, lateral lobes. Basistyle, *b*, with conspicuous ventromesal lobes. Dorsal dististyle a curved sickle, the extreme tip subobtuse. Ventral dististyle, *vd*, relatively small, its area not much greater than that of the basistyle; rostral prolongation small and slender, with a single rostral spine from a slightly enlarged base, the spine long and erect, more than one-half longer than the entire prolongation. Gonapophyses, *g*, with the mesal-apical lobe relatively slender, slightly curved at tip.

Habitat. — China (Chekiang, Kiangsi).

Holotype, male, T'ien-mu Shan, July 26, 1936 (O. PIEL.).

Allotopotype, female. Paratopotype, 1 male. Paratype, 1 male, Kuling, northern Kiangsi, August 7, 1935 (O. PIEL.).

There are now known several Asiatic species belonging to the *pulchripennis* group. Among these, the present fly is most nearly allied to *Limonia* (*Dicranomyia*) *subpulchripennis* ALEXANDER, of western China, differing especially in the structure of the male hypopygium, notably the ninth tergite.

64. *Limonia* (*Dicranomyia*) *rectidens* ALEXANDER.

1934. *Limonia* (*Dicranomyia*) *rectidens*, ALEXANDER, Philippine Journ. Sci., 54: 323-324.

T'ien-mu Shan, July 26, 1936 (O. PIEL.).

(30) *Dicranoptycha phallosomica* ALEXANDER.

1937. *Dicranoptycha phallosomica*, ALEXANDER, Notes d'Ent. Chinoise, 4, fasc. 5: 71.

T'ien-mu Shan, July 27, 1936 (O. PIEL.).

(32) *Pseudolimnophila inconcussa* (ALEXANDER.)

1913. *Limnophila inconcussa*, ALEXANDER, Can. Ent., 45: 313.

Wuchow, Kwangsi, October 25, 1932 (O. PIEL.).

65. *Dactylolabis gracilistylus* ALEXANDER.

1926. *Dactylolabis gracilistylus*, ALEXANDER, Philippine Journ. Sci., 31: 372-373.

Mokan Shan, May 1 and 3, 1936 (O. PIEL.). The type locality is northern Chekiang, south of Ningpo.

66. *Dactylolabis mokanica* sp. n.

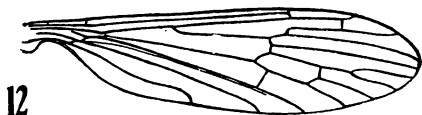
General coloration dark gray, the mesonotal praescutum darker; coxae blackened on basal portions, the apices broadly obscure yellow; femora yellowish brown, the tips narrowly brownish black; wings whitish subhyaline, heavily patterned with dark brown; stigmal area enlarged and dilated in male; *m-cu* before fork of *M*.

Male. — Length about 9 mm.; wing, 12 mm.

Female. — Length about 6.5 mm.; wing, 8.5 mm.

Rostrum dark gray; palpi black. Antennae broken. Head dark gray.

Pronotum dark gray. Mesonotal praescutum with the ground color dark gray, with still darker colored stripes that virtually cover the disk; scutal lobes darkened; posterior sclerites of notum blackened, sparsely pruinose. Pleura dark gray, the dorsopleural membrane more buffy. Halteres uniformly pale yellow. Legs with the coxae brownish black on basal portions, the distal half or less obscure yellow; trochanters yellow; femora yellowish brown, the tips narrowly brownish black, the amount subequal on all legs; tibiae obscure brownish yellow; tarsi dark brown. Wings (Fig. 12) whitish subhyaline, heavily patterned with dark brown; cells *C* and *Sc*, with the stigma, pale yellow, the latter darkened at either end; other brown areas



Dactylolabis mokanica sp. n.

Fig. 12. Wing.

as follows: Postarcular; origin of R_s ; along cord and outer end of cell $1st\ M_2$; marginal clouds at ends of all longitudinal veins, smallest at R_4 , R_5 and M_1 , where they are more or less confluent to form a single cloud, largest at $2nd\ A$; a cloud at fork of M_{1+2} ; cell $2nd\ A$ more or less clouded at midlength; vein R_5 seamed with brown; veins brown, slightly if at all darker in the patterned areas, Sc more yellow. Stigmal field in male enlarged and more conspicuous than in female, with the costal border slightly dilated at this point; costal setae abundant but relatively short. Venation: $m-cu$ about two-thirds its length beyond fork of M ; petiole cell M_1 several times the length of m .

Abdomen, including hypopygium, brownish black.

Habitat. — China (Chekiang).

Holotype, male, Mogan Shan, April 30, 1936 (O. PIEL.).

Allotopotype, female.

Dactylolabis moganica is quite distinct from *D. diluta* ALEXANDER, of Japan, the only other regional member of the genus having distinctly patterned wings. The heavy brown wing markings are much as in several other European and North American members of the genus, including the genotype, *D. montana* (OSTEN SACKEN). The discrepancy in size of the sexes and the weak sexual dimorphism, as evidenced by the increased extent of the stigma in the male, are likewise duplicated in other species of the genus, reaching their culmination in the eastern Nearctic *D. peme-tica* ALEXANDER.

67, *Hexatoma* (*Eriocera*) *pieliana* sp. n.

Belongs to the *spinosa* group; general coloration gray, the praescutum with four conspicuous, dark brown stripes, the intermediate pair broadly separated; legs yellow, the tips of the femora narrowly but conspicuously black, the amount subequal on all legs; wings brownish yellow, cell Sc and the prearcular field clearer yellow; stigma and

restricted seams at cord and along vein *Cu* darker; abdomen yellow, the tergites with a narrow, interrupted, median, brown stripe; genital shield of ovipositor opaque cinnamon brown.

Female. — Length about 31 mm.; wing, 21 mm.; antenna about 7.5 mm.

Rostrum dark brown, pruinose; palpi black. Antennae of moderate length; scape and pedicel dark brown; basal segment of flagellum brownish yellow, the remaining segments brownish black to black; flagellar segments long-cylindrical, the second and third, and the fourth and fifth subequal in length. Head brownish gray, the broad anterior orbits light gray, without setae.

Pronotum brownish gray. Mesonotal praescutum light gray, with four conspicuous dark brown stripes, the intermediate pair separated by a darker gray median vitta that is wider than either stripe; mesal edge of lateral stripe passing into dark gray; lateral praescutal borders clearer gray; scutum gray, each lobe and the cephalic portion of the median area variegated with brown; posterior sclerites of notum gray, the mediotergite with the posterior half more darkened. Pleura gray, the ventral anepisternum, ventral sternopleurite and meron darker brownish gray; dorsopleural membrane buffy brown. Halteres obscure yellow, the knobs dark brown. Legs with the coxae light brown; trochanters brownish yellow; femora yellow, the tips narrowly but conspicuously black, the amount subequal on all legs and involving the distal tenth (fore legs) to twelfth (hind legs); tibiae and basitarsi brownish yellow, the tips very narrowly darkened; remainder of tarsi dark brown. Wings (Fig. 13) with a strong brownish yellow tinge, the prearcular field and cell *Sc* clearer yellow; stigma brown; narrow and diffuse pale brown seams at cord and along vein *Cu*, the latter chiefly in cell *M*; veins yellow to brownish yellow. Venation: R_{2+3+4} shorter than basal section of R_5 , slightly elevated; R_{2+3} subequal to R_3 ; cell M_1 longer

than its petiole; *m-cu* about two-thirds its length beyond fork of *M*.

Abdomen long; tergites orange yellow, with a narrow broken median brown vitta that is interrupted at the posterior borders of the segments; no distinct

blackened impressions on tergites; surface with abundant pale pubescence; sternites orange yellow. Ovipositor with genital shield cinnamon brown, opaque; cerci relatively short and stout, brownish horn color.

Habitat. — China (Chekiang).

Holotype, female, Mogan Shan, June 9, 1937 (O. PIEL.).

This very interesting *Eriocera* is named in honor of the collector of this fine series of *Tipulidae*, the Reverend Father OCTAVE PIEL. The *spinosa* group of the subgenus now includes relatively numerous species in eastern Asia. These are distinguished among themselves chiefly by the length and structure of the male antennae, the body coloration, and the leg pattern, especially of the femora. Among the described species, the present fly is closest to *Hexatoma (Eriocera) aequinigra* ALEXANDER, of eastern Siberia, which differs especially in the pattern of the legs and wings and in the coloration of the abdomen where the tergites are dark brown, narrowly bordered laterally by orange.



Hexatoma (Eriocera) pieliana sp. n.

Fig. 13. Wing.

68. *Hexatoma (Eriocera) davidi* (ALEXANDER).

1922. *Eriocera davidi*, ALEXANDER, Bull. Mus. Hist. Nat., Paris, 1922; 295-296.

T'ien-mu Shan, June 12 — August 1, 1936 (O. PIEL.).

One additional male from Fukien Province, without further data.

(39) **Hexatoma (Eriocera) hilpa** (WALKER).

1848. *Pterocosmus hilpa*, WALKER, List Diptera Brit. Mus., 1: 79.

T'ien-mu Shan, July 11 — August 1, 1936 (O. PIEL.).

(40) **Hexatoma (Eriocera) cantonensis** ALEXANDER.

1937. *Hexatoma (Eriocera) cantonensis*, ALEXANDER, Notes d'Ent. Chinoise, 4, fasc. 5: 85.

T'ien-mu Shan, July 30, 1936 (O. PIEL.).

69. **Hexatoma (Eriocera) tuberculata** ALEXANDER.

1936. *Hexatoma (Eriocera) tuberculata*, ALEXANDER, Philippine Journ. Sci., 61: 130.

Hainan: Yuanmenting, April 8, 1936.

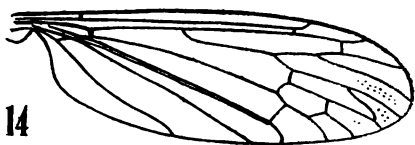
70. **Hexatoma (Eriocera) pterotricha** sp. n.

General coloration of thorax and abdomen intense black, the head fiery orange; antennae with scape and pedicel yellow, flagellum broken; halteres and legs uniformly black; wings with a strong blackish suffusion, the centers of the cells paler; sparse macrotrichia in centers of outer cells, especially in distal portion of cell R_4 ; a supernumerary longitudinal vein or crossvein in outer half of cell R_5 , diving the cell into two sections; abdomen opaque; genital shield obscure reddish brown on basal portion, cerci elongate.

Female. — Length about 15 mm.; wing, 11 mm.

Rostrum dark brown; palpi black. Antennae with scape and pedicel yellow; flagellum broken. Head entirely fiery orange; anterior vertex broad, nearly four times as wide as diameter of scape; vertical tubercle conspicuous, simple.

Pronotum black. Mesothorax entirely black, the surface more or less polished; praescutal setae very restricted. Halteres black throughout, relatively short. Legs black throughout. Wings (Fig. 14) with a strong blackish suffusion, more intense along costal border; the centers of most of the cells with linear paler streaks; veins dark brown. Veins beyond



Hexatoma (*Eriocera*) *pterotricha* sp. n.

cord with abundant macrotrichia, becoming sparse on M_4 ; about 15

Fig. 14. Wing (position of macrotrichia indicated by stippling).

to 20 trichia in distal third or fourth of cell R_4 , with a few additional trichia in cell $2nd R_5$ and $2nd M_2$. Venation: R_2 transverse; a conspicuous longitudinal or oblique vein in cell R_4 , connecting vein R_5 with M_{1+2} , the element provided with abundant trichia, $m-cu$ at near one-third the length of cell $1st M_2$. In one wing of type, there is a short spur of a vein in cell $2nd R_5$, placed its own length beyond the supernumerary element and not indicated in the second wing.

Abdomen black, the surface opaque. Genital shield obscure reddish brown, darkened at outer end; cerci yellowish horn color, darkened basally, relatively long and slender; hypovalvae long and narrow.

Habitat. — China (Kiangsi).

Holotype, female, Kuling, altitude 3250 feet, July 13, 1935 (O. PIEL.).

Hexatoma (*Eriocera*) *pterotricha* is very different from the other Chinese species so far defined. The presence of sparse macrotrichia in the outer cells of the wings marks the fly as being very distinct. Whether or not the extra vein in cell R_5 of the wing will prove to be a characteristic of the species rather than an abnormality remains in question. From its nature and abundant trichia it appears

to represent a supernumerary vein rather than an adventitious element. The intense black coloration, with head abruptly orange, is somewhat suggestive of *H. (E.) rubriceps* (EDWARDS), of Formosa, which otherwise is quite distinct.

ERIOPTERINI.

(43) *Conosia irrorata* (WIEDEMANN).

1828. *Limnobia irrorata*, WIEDEMANN, Aussereur. zweifl. Ins., 1 : 574.

Zikawei, Shanghai, September 9, 1936 (Père STANISLAS SEN). T'ien-mu-shan, July 11 to August 6, 1936 (O. PIEL.). Namfung, March 31, 1936. Tsengtseng, Kwangtung, June 3, 1936 (Père PIERRAT). Hainan Island: Nodda, March 26, 1936; Yuanmentung, April 8, 1936.

71. *Trentepohlia (Mongoma) pennipes* (OSTEN SACKEN).

1887. *Mongoma pennipes*, OSTEN SACKEN, Berliner Ent. Zeitschr., 31 : 204.

Namfung, March 28, 1936.

72. *Gymnastes (Paragymnastes) flavitibia apicata* ALEXANDER.

1940. *Gymnastes (Paragymnastes) flavitibia apicata*, ALEXANDER, Lingnan Sci. Journ., 19,2 : 115.

T'ien-mu Shan, May 24, 1937 (O. PIEL.).