

MUSÉE HEUDE

NOTES D'ENTOMOLOGIE CHINOISE

15 Mai, 1937

Vol. IV, Fasc. 5.

NEW OR LITTLE-KNOWN TIPULIDÆ FROM EASTERN CHINA

PART II.

By

CHARLES P. ALEXANDER

MASSACHUSETTS STATE COLLEGE



CHANG-HAI
UNIVERSITE L'AURORE
223, Avenue Dubail

NEW OR LITTLE-KNOWN TIPULIDÆ
FROM EASTERN CHINA

PART II.

BY

CHARLES P. ALEXANDER

MASSACHUSETTS STATE COLLEGE

The first part under this general title was published in the *Notes d'Entomologie Chinoise** and included species of the subfamily Tipulinæ. In the present instalment I am recording species belonging to the subfamilies Cylindrotominæ and Limoniinæ, bringing the annotated total of included species for the two papers to 44. Representatives of all these species, together with the types of the novelties, are preserved in the collection of the Musée Heude. As before, I express my deepest thanks to the Reverend Father Octave PIEL for his appreciated interest in collecting these often neglected flies. The majority of the species discussed at this time were taken at Kuling, on Mount Lushan, in northern Kiangsi. In order to complete the data in certain cases, I have included further records from Hong San, a mountain in southeastern Kiangsi, based on specimens collected in 1936 by Mr. J. LINSLEY GRESSITT.

CYLINDROTOMINÆ

22. *Cyttaromyia taiwania* Alexander.

1929. *Cyttaromyia taiwania*, Alexander, Philippine Journ. Sci., 40: 522-524.

The species is not uncommon in the mountains of Formosa but had not been recorded from elsewhere.

* Musée Heude, Notes d'Entomologie Chinoise, Vol. IV, Fasc. 1.

One female, Chusan, Chekiang, April 22, 1931 (O. PIEL).

The reference to the genus *Cyttaromyia* still remains questionable since virtually all specimens taken since the discovery of the type lack the supernumerary crossvein in cell R_5 of the wings, diagnostic of the genus. However, the species scarcely seems to belong to *Cylindrotoma*, to where it would run by means of existing keys.

LIMONIINÆ

LIMONIINI

23. *Limonia* (*Geranomyia*) *kiangsiana* sp. n.

General coloration brownish gray; antennæ black throughout, short, the basal flagellar segments subglobular; mesonotal præscutum with three leaden stripes, the posterior interspaces blackened; pleura gray; wings weakly infumed, sparsely patterned with dark brown; dark area at tip of *Sc* widely separated from that at origin of *Rs*; male hypopygium with the ventral dististyle large and fleshy; rostral spines subequal, of moderate length, arising from a common tubercle; gonapophyses with the concave margin conspicuously toothed.

Male.—Length, excluding rostrum, about 6 mm.; wing, 6.5 mm.; rostrum, about 1.8 mm.

Female.—Length, excluding rostrum, about 7 mm.; wing, 7 mm.; rostrum, about 2.6 mm.

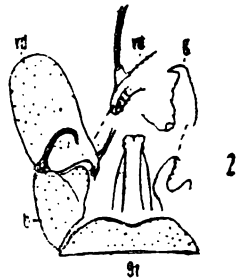
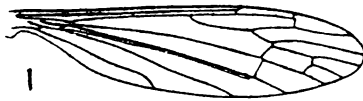
Rostrum short, especially in male, black throughout. Antennæ black throughout, relatively short; basal flagellar segments subglobular, thence passing through short-oval to oval; terminal segment a trifle longer than the penultimate. Anterior vertex reduced to a narrow strip, light gray, the color continued back onto the posterior vertex as a median vitta; remainder of vertex grayish brown.

Pronotum brown, brightened laterally. Mesonotal præscutum chiefly covered by three leaden stripes, the humeral region lighter gray, the posterior interspaces narrowly blackened; scutal lobes leaden gray, their mesal edges narrowly darker; central portion of scutum vaguely brightened, with a dark median vitta; scutellum broad, brownish gray, parascutella reduced in size; mediotergite dark gray. Pleura gray; dorsopleural membrane obscure yellow. Halteres dusky, the stem brightened. Legs with the

coxæ and trochanters yellow; remainder of legs brown, the terminal two tarsal segments brownish black. Wings (Fig. 1) with a weak brown tinge, restrictedly patterned with dark brown, distributed as follows: Supernumerary crossvein in cell *Sc*; origin of *Rs*; fork of *Sc*; stigma, cord and outer end of cell *1st M*₂; tip of vein *R*₃; veins dark, brighter in the prearcular field. Venation: *Sc* long, *Sc*₁ ending about opposite four-fifths the length of the relatively

long *Rs*; free tip of *Sc*₂ lying immediately before the level of *R*₂; basal section of *R*₄₊₅ relatively long, reducing *r-m*; cell *1st M*₂ long, a little exceeding vein *M*₁₊₂ beyond it; *m-cu* close to fork of *M*.

Abdominal tergites dark brown, the caudal margins narrowly paler; basal sternites yellow, the outer ones more obscured. Male hypopygium (Fig. 2) with the tergite,



Limonia (Geranomyia) kiangsiana sp. n.

(Symbols: 9r, ninth tergite of male hypopygium; b, basistyle; g, gonapophysis; vd, ventral dististyle).

Fig. 2. Wing.

Fig. 1. Male hypopygium, dorsal aspect.

9t, transverse, the caudal margin very shallowly emarginate. Ventral dististyle, *vd*, large and fleshy, its rostral prolongation small, pendant, on outer margin at near midlength with a conspicuous tubercle that bears the two rostral spines; these spines subequal in length, slender, a little longer than the total extent of the prolongation. Gonapophysis, *g*, with the concave margin of the mesal-apical lobe conspicuously toothed.

Habitat. — China (Kiangsi).

Holotype, male, Kuling, altitude 3250 feet, August 9, 1935 (O. PIEL), Allotopotype, female.

In its general appearance, both of the body-coloration and wing-pattern, the present fly bears a rather close resemblance to *Limonia (Geranomyia) atrostriata* (Edwards), of Formosa, differing very conspicuously in the structure of the male hypopygium, notably of the ventral dististyle and the gonapophyses. In the present species, the wing-pattern is a little more extensive than in *atrostriata*.

24. ***Limonia (Dicranomyia) immodestoides*** (Alexander).

1919. *Dicranomyia immodestoides*, Alexander, Ann. Ent. Soc. America, 12: 327-328.

Widely distributed in Eastern Asia. One male, Kuling, Kiangsi, altitude 3250 feet, July 15, 1935 (O. PIEL).

25. ***Limonia (Dicranomyia) depauperata*** (Alexander).

1919. *Dicranomyia depauperata*, Alexander, Ent. Mag., Kyoto, 3: 122.

Widely distributed in Eastern Asia. One male, Kuling, Kiangsi, altitude 3250 feet, July 31, 1935 (O. PIEL).

26. ***Limonia (Dicranomyia) subtristis*** (Alexander).

1924. *Dicranomyia subtristis*, Alexander, Philippine Journ. Sci., 24: 542-543.

Widely distributed in Eastern Asia. One male, one female, Kuling, Kiangsi, altitude 3250 feet, August 6 and 18, 1935 (O. PHEL.).

27. *Limonia (Dicranomyia) lassa* sp. n.

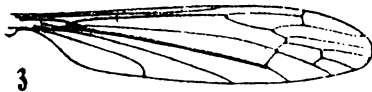
General coloration yellow, the præscutum indistinctly darkened in front; pronotum and cervical region elongate; halteres pale, the knobs weakly darkened; legs long, yellow, the terminal two or three tarsal segments darkened; wings narrow, yellow, with a sparse brown pattern; Sc_2 far from the tip of Sc_1 ; cell $1st M_2$ long, subequal to vein M_{1+2} beyond it; male hypopygium with the rostral prolongation of the ventral dististyle short and stout, bispinous.

Male. — Length, about 7.5 mm.; wing, 7.5 mm.

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

Rostrum short, testaceous; palpi brown. Antennæ chiefly pale testaceous yellow, the outer segments a little darker; flagellar segments short-oval, the outer ones somewhat more elongate. Head brownish yellow, the front and orbits more silvery; head somewhat narrowed behind.

Cervical region and pronotum unusually developed, elongate, brownish yellow. Mesonotum relatively gibbous, yellow, the anterior portion of præscutum indistinctly darker medially. Pleura yellow. Halteres pale, the knobs very weakly darkened.



Limonia (Dicranomyia) lassa sp. n.

Fig. 3. Wing.

Legs unusually long; coxæ and trochanters pale yellow; remainder of legs yellow, the terminal two or three tarsal segments darkened. Wings (Fig. 3) long and narrow, yellow, handsomely patterned with brown; stigma yellowish brown, darker at either end, confluent with a brown seam on cord; dark clouds at origin of R_s and along outer end of cell $1st M_2$; wing-tip narrowly clouded; axillary region vaguely

darkened; veins yellow, darker in the clouded areas. Venation: Sc_1 ending opposite origin of R_s , Sc_2 far removed from its tip, at near three-fifths the distance between arculus and origin of R_s ; R_s about three times the basal section of R_{4+5} ; cell $1st\ M_2$ relatively long, about equal in length to vein M_{1+2} beyond it; $m-cu$ at fork of M ; cell $2nd\ A$ unusually wide.

Abdomen obscure brownish yellow, including the hypopygium; in female, the median region of the tergites a little darker. Male hypopygium of type badly broken. Basistyle small, the ventro-mesal lobe simple. Dorsal dististyle a strongly curved, slender rod. Ventral dististyle large and fleshy, the rostral prolongation short and stout, with two spines of moderate length, placed close to the tip.

Habitat. — China (Kiangsi).

Holotype, male, Kuling, altitude 3250 feet, August 9, 1935 (O. PIEL). Allotopotype, female.

Limonia (Dicranomyia) lassa is quite distinct from the other regional species of the subgenus. The most similar of these species is *L. (D.) sparsa* (Alexander), of Saghalien, which differs in the coloration of the præscutum and in the pattern of the legs and wings. The arrangement of markings on the wings of the present fly should render its identification simple.

28. ***Limonia (Dicranomyia) fullowayi*** (Alexander).

1915. *Dicranomyia fullowayi*, Alexander, *Canad. Ent.*, 47: 79-80.

Wide-spread throughout Eastern Asia and the adjacent islands.

Two females, Kuling, Kiangsi, altitude 3250 feet, July 31 and August 18, 1935 (O. PIEL).

29. ***Limonia (Rhipidia) pulchra septentrionis*** (Alexander).

1913. *Rhipidia pulchra septentrionis*, Alexander, *Canad. Ent.*, 45: 201, fig. 1; 206-207.

Widely-distributed in Eastern Asia. One male, Zô-sè, Kiangsu, at light, June 21, 1930 (O. PIEL). Two males, Kuling, Kiangsi, altitude 3250 feet, August 9 and 18, 1935 (O. PIEL).

30. **Dicranoptycha phallosomica** sp. n.

General coloration of mesonotal præscutum reddish brown, the humeral and lateral portions pruinose; thoracic pleura pale, with a conspicuous, dark brown, dorsal stripe; legs bright yellow, the extreme tips of femora dark brown; wings fulvous-yellow, the prearcular and costal portions clear luteous; cell *1st M*₂ small, about equal in length to *Rs*; male hypopygium large and complex, the eighth sternite produced into paired flattened lobes; outer dististyle slender; phallosome large and complex, its outer portion paired, more or less lyriform.

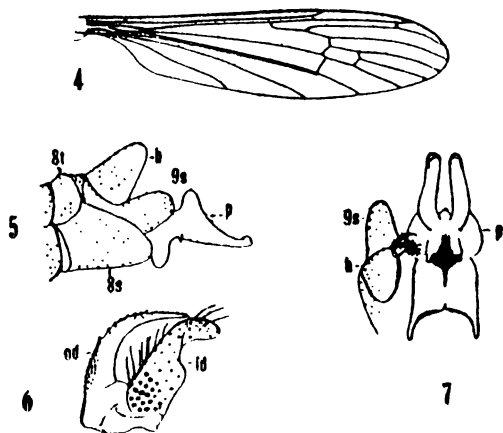
Male. — Length, about 8.5-9.5 mm.; wing, 9-10 mm.

Female. — Length, about 10-12 mm.; wing, 10-11 mm.

Rostrum brown; palpi brownish black. Antennæ with the scape and pedicel yellow; basal flagellar segments obscure yellow, the outer segments darker. Head with the central area of vertex fulvous-yellow, the posterior orbits and occipital region more pruinose.

Mesonotal præscutum with the disk chiefly covered by three nearly confluent reddish brown stripes, the humeral and lateral portions light gray pruinose; median area of præscutum more darkened behind; posterior sclerites of mesonotum brown, sparsely pruinose, the scutellum paler. Pleura yellow, sparsely pruinose, with a conspicuous, dark brown, longitudinal stripe extending from the cervical region, crossing the dorsal propleura, anepisternum and pteropleurite onto the pleurotergite; dorsopleural membrane pale. Halteres chiefly pale. Legs with the coxæ and trochanters yellow; remainder of legs bright yellow, the extreme tips of the femora and the outer two tarsal segments

dark brown. Wings (Fig. 4) with a strong fulvous-yellow tinge, the prearcular and costal regions clear luteous; veins yellow, a trifle brighter in the costal portions. Venation: Cell $1st M_2$ relatively small, subequal in length to Rs ; $m-cu$ about one-third its length beyond the fork of M .



Diceranoptycha phallosomica sp. n.

(Symbols: *b*, basistyle; *id*, inner dististyle; *od*, outer dististyle; *p*, phallosome; *s*, sternite; *t*, tergite).

Fig. 4. Wing.

Fig. 5. Male hypopygium, lateral aspect.

Fig. 6. Male hypopygium, dististyles.

Fig. 7. Male hypopygium, dorsal aspect, showing phallosome.

Abdominal tergites brownish yellow, darker laterally; subterminal segments dark brown; hypopygium yellow. Male hypopygium (Fig. 5) relatively large; the tergite, $9t$, and sternite, $9s$, fused into a continuous narrow ring; lobes of the ninth sternite further produced ventrad and caudad into flattened obtuse lobes; tergal region narrowly transverse, its caudal margin not or scarcely emarginate. Dististyles (Fig. 6) small, the outer style, *od*, unusually slender, its outer margin with small spinulæ on basal half and coarser pale teeth on distal portion; setæ of inner style, *id*, long and conspicuous. Phallosome (Fig. 7, *p*) large

and complex, the outer portion paired, more or less lyriform, each arm obtuse and deeply split at apex.

Habitat. — China (Kiangsi).

Holotype, male, Kuling, altitude 3250 feet, July 15, 1935 (O. PIEL). Allotopotype, female, July 27, 1935. Paratopotypes, 4 females, July 15—August 2, 1935 (O. PIEL); paratypes, several males and females, Hong San, altitude 3000 feet, June 24, 1936 (J. L. GRESSITT).

Dicranoptycha phallosomica differs notably from all described regional species in the coloration, especially of the thoracic pleura, and in the peculiar structure of the male hypopygium. The most similar species would seem to be *Dicranoptycha formosensis* Alexander, of Formosa, but the resemblance is not particularly close.

PEDICINI

31. *Nipponomyia kulingensis* sp. n.

General coloration yellow, the mesonotum with eleven small black spots; legs yellow, the tips of tibiae and the basal tarsal segments narrowly and weakly darkened; wings with the usual yellow costal stripe; costal cell with black spots not arranged as transverse dashes; *m* very oblique; abdomen with marginal black dashes on intermediate tergites and sternites.

Female. — Length about 14 mm.; wing, 11 mm.

Rostrum yellow; basal segment of palpus yellowish brown, the remainder dark brown. Antennæ 15-segmented, yellow; flagellar segments suboval. Head pale yellow.

Pronotum light yellow. Mesonotum more testaceous yellow, with a group of eleven small black spots, arranged as follows: A transverse series of four behind midlength of præscutum; a median one at suture; two on each scutal lobe; one on each parascutellum. Pleura pale yellow.

Halteres yellow. Legs yellow, the extreme tips of tibiæ and basal three tarsal segments weakly darkened; outer two tarsal segments brown. Wings (Fig. 8) very pale yellow, the usual bright yellow longitudinal stripe in the subcostal and anterior radial fields reaching the wing-tip; this stripe set off by black spots in cell *C* and linear dashes along



Nipponomyia kulingensis sp. n.

Fig. 8. Wing.

its caudal border in the radial field; dark costal markings irregular in outline, not forming transverse dashes, as is common in the genus; a pale brown seam along cord and another along *m* and adjoining veins, extending cephalad to the fork of *Rs*; outer portion of yellow costal stripe weakly bordered both above and below by pale brown; veins pale yellow, a little darker in the patterned areas. Venation: *m* very oblique in position; basal section of vein *M*₂ and distal section of *M*₃ subequal or the former longer.

Abdomen yellow, the intermediate tergites and sternites with linear black marginal dashes. Ovipositor with unusually long cerci.

Habitat.—China (Kiangsi).

Holotype, female, Kuling, altitude 3250 feet, August 18, 1935 (O. PIEL).

By my key to the known species of *Nipponomyia* Alexander (Philippine Journ. Sci., 56: 551-552; 1935), the present fly runs to couplet 3 where it disagrees with all species beyond this point in the nature of the blackened costal wing markings. The nearest relative seems to be *Nipponomyia novem-punctata* (Senior-White), of Assam, which has the costal markings arranged as transverse dashes and with the tips of the femora and tibiæ blackened. The present fly is very different from the four species of the genus hitherto known from Japan and China.

HEXATOMINI

32. **Pseudolimmophila inconcussa** (Alexander).

1913. *Limmophila inconcussa*, Alexander, Canad. Ent., 45: 208, fig. 2; 313-314.

Widely-distributed in Eastern Asia. One broken specimen, Chusan, Chekiang, April 21, 1931 (O. PIEL).

32. **Limmophila (Limmophila) varicornis** Coquillett.

1898. *Limmophila varicornis*, Coquillett, Proc. U. S. Nat. Mus., 21; 304.

Wide-spread in Eastern Asia. One male, Kuling, Kiangsi, altitude 3250 feet, July 28, 1935 (O. PIEL). One female, Zi-ka-wci, Kiangsu, April 18, 1920 (O. PIEL).

34. **Limmophila (Elæophila) parapriline** sp. n.

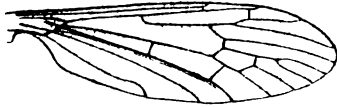
Allied to *apriline*; mesonotal præscutum dark brown, with three more yellowish brown stripes; femora yellow, the tips narrowly dark brown; wings brownish yellow, heavily patterned with brown, the areas restricted to the vicinity of the veins; last marginal dark area at end of vein 2nd A; abdomen brownish black, the lateral and caudal margins of the segments deeper black.

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

Rostrum and palpi black. Antennæ with the scape and pedicel dark; basal flagellar segments obscure yellow, the outer segments darker; flagellar segments oval, becoming more elongate outwardly, the verticils exceeding the segments in length. Head brown.

Pronotum brown. Mesonotal præscutum with the ground-color dark brown, the three stripes paler, more yellowish brown; posterior interspaces narrow and ill-defined, wider and more distinct at the suture; scutum yellowish brown, the centers of the lobes vaguely darkened; scutellum

and mediotergite yellowish brown, the latter more darkened behind. Pleura brownish black. Halteres obscure yellow, the knobs darkened. Legs with the coxæ black; trochanters brownish yellow; femora yellow, the tips narrowly dark brown, the amount subequal on all legs; tibiæ and tarsi yellow, the tips of the segments very insensibly to scarcely darkened. Wings (Fig. 9) with a brownish yellow tinge,



Limnophila (*Elæophila*)
paraprillina sp. n.

Fig. 9. Wing.

heavily patterned with brown, the areas all of large size and restricted to the vicinity of the veins, distributed much as in *aprilina*; a series of seven costal areas, the first at *h*; third at origin of *Rs*; fourth at tip of *Sc*,

continued caudad and becoming confluent at *r-m* with a similar seam from the stigma, the two forming a Y-shaped figure at the cord; sixth and seventh areas small, at ends of veins *R*₃ and *R*₄, respectively; dark spots along cord, outer end of cell *1st M*₂, fork of *M*₁₊₂, on the supernumerary crossvein in cell *M*, at base of cell *Cu* and as a marginal series on all the longitudinal veins excepting *R*₅, the last dark area being at the end of vein *2nd A*; a dusky wash covers most of cells *R*₄ and *R*₅; axillary region narrowly darkened; veins pale brown, darker in the clouded areas. Venation: Supernumerary crossvein in cell *M* nearly opposite origin of *Rs*.

Abdomen brownish black, the lateral and caudal margins deeper black; discal portions of sternites somewhat paler.

Habitat.—China (Kiangsi).

Holotype, female, Kuling, altitude 3250 feet, July 31, 1935 (O. PIEL). Paratopotype, female, July 28, 1935.

The nearest allied regional species is the Japanese *Limnophila* (*Elæophila*) *subaprillina* Alexander, which differs

in the details of body-coloration and the wing-pattern. It should be noted that the last dark marginal area in *subaprilina* is in the outer end of cell *2nd A*, some distance basad of the end of vein *2nd A*, whereas in the present fly it is at the end of the vein. *L. (E.) suenisoni* Alexander, of Eastern China, is very different, having abundant dark dots scattered over the wing-surface, additional to the major brown areas.

35. **Hexatoma (Hexatoma) kiangsiana** sp. n.

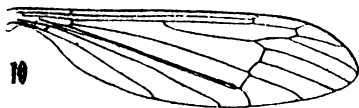
General coloration black, the posterior sclerites of the mesonotum and the pleura heavily gray pruinose; antennæ (male) 8-segmented, black throughout; second flagellar segment short, only about one-third the length of the first; halteres and legs black, the femoral bases restrictedly yellow; wings strongly tinged with blackish; stigma small, oval, darker brown; R_2 subequal to R_{2+3} ; abdomen, including hypopygium, black.

Male. — Length, about 7 mm.; wing, 7.3 mm.; antenna, about 2 mm.

Rostrum and palpi black, the latter 4-segmented, long and conspicuous. Antennæ (male) 8-segmented, black throughout; first flagellar segment nearly three times the length of the second; third segment about twice the length of the second; fourth segment about one-half longer than the third; last two flagellar segments short, subequal in length, each about one-half the length of the second flagellar segment. Head black, sparsely pruinose; vertical tubercle weakly emarginate.

Thorax black, the præscutal interspaces weakly pruinose, the three stripes more polished; scutellum and postnotum more heavily pruinose. Pleura black, heavily gray pruinose. Halteres black throughout. Legs with the coxæ heavily gray pruinose; trochanters black; femora black, only the bases narrowly obscure yellow; remainder

of legs black. Wings (Fig. 10) with a strong blackish tinge; stigma small, oval, darker brown; veins brownish black.



Hexatoma (*Hexatoma*)

kiangslana sp. n.

Fig. 10. Wing.

Veins beyond cord, excepting R_{1+2} , R_2 and distal section of Cu_1 , with strong trichia. Venation: Sc_1 ending opposite fork of the long R_s , Sc_2 at its tip; R_s subequal in length to R ; R_{1+2} a little longer than

either R_2 or R_{2+3} ; $m-cu$ close to fork of M .

Abdomen, including hypopygium, intense black, the surface subnitidous.

Habitat.—China (Kiangsi).

Holotype, male, Kuling, altitude 3250 feet, July 7, 1935 (O. PHEL).

The only other generally similar regional species of the subgenus is the Japanese *Hexatoma* (*Hexatoma*) *japonica* Alexander (Insec. Inscit. Menst., 10: 185-186; 1922). This differs in the smaller size, shorter antennæ, with the second flagellar segment only about one-half the length of the first, the more nearly entire vertical tubercle, pale halteres and legs, lack of a stigmal wing spot, and other characters.

36. *Hexatoma* (*Eriocera*) *sycophanta* sp. n.

Belongs to the *chirothecata* group; general coloration orange, the præscutum and scutum polished black; antennæ (male) nearly twice as long as the body, 7-segmented; flagellar segments without spinous armature; halteres black; fore femora chiefly black, remaining femora yellow, the tips narrowly black; wings strongly tinged with brownish yellow, sparsely patterned with brown; R_{2+3+4} more than twice R_{2+3} ; cell *1st* M_2 long-rectangular.

Male. — Length, about 12 mm.; wing, 11 mm.; antenna, about 23 mm.

Rostrum very short, testaceous-yellow; palpi brownish black. Antennæ (male) nearly twice as long as the body, 7-segmented; scape, pedicel and basal two flagellar segments yellow, the remainder passing into brown; scape large and tumid; flagellar segments one to four progressively lengthened, the last abruptly smaller; segments long-cylindrical, with scattered verticils along the length and a shorter abundant erect pale pubescence; no cog-like spines on segments, as common in species of this genus with elongate antennæ. Head deep orange.

Pronotum black. Mesonotal præscutum and scutum polished black, virtually glabrous; posterior portion of scutal lobes, scutellum and the mediotergite much paler, brown to yellowish brown. Pleura yellowish brown, the propleura, anepisternum and dorsopleural membrane darker; a velvety-black spot on dorsal anepisternum, just before wing-root. Halteres black. Legs with the coxæ obscure brownish yellow, the fore coxæ a trifle darker; trochanters obscure yellow, the fore pair longer; fore femora almost uniformly black, the bases narrowly yellow; remaining femora obscure yellow or brownish yellow, the tips very narrowly blackened, the amount subequal on both middle and hind pairs; tibiæ and basitarsi brown, the tips



Hexatoma (Eriocera)
sycophanta sp. n.

Fig. 11. Wing.

narrowly blackened; remainder of tarsi black. Wings (Fig. 11) with a strong brownish yellow suffusion, the prearcular region and cell *Sc* more infused; a restricted brown pattern, arranged as follows: Origin of *Rs*; stigma;

cord and outer end of cell *1st M*₂; wing-tip in cells *R*₂ to *R*₅, inclusive, narrowly darkened; veins brown, somewhat darker in the infuscated areas. Veins beyond cord with

numerous trichia. Venation: R_s of moderate length, subequal to R and about in longitudinal alignment with R_{2+3+4} , the latter more than twice as long as R_{2+3} ; R_{2+3} a little longer than R_{1+2} ; cell *1st* M_2 rectangular, about as long as or a little shorter than vein M_{1+2} beyond it; *m-cu* at near one-third to one-half the length of cell *1st* M_2 , subequal to the distal section of vein Cu_1 ; vein *2nd* A moderately sinuous.

Abdomen orange, only the lateral margins of the more basal tergites with small and inconspicuous dark lateral spots; hypopygium orange; no differentiated basal rings on segments.

Habitat.—China (Kiangsi).

Holotype, male, Kuling, altitude 3250 feet, July 15, 1935 (O. PIEL).

The nearest regional allies are *Hexatoma (Eriocera) kolthoffi* Alexander and *H. (E.) masakii* Alexander, both of which differ conspicuously in the details of coloration, especially of the body and wings, and in the venation, especially of the radial and medial fields. It should be noted that in *masakii* all femora are similarly patterned, the degree of dark coloring on the fore pair being equal to that of the other legs.

Hexatoma (Eriocera) kolthoffi was described from a specimen taken in Kiangsu Province, in September, by Kolthoff. The unique female type is in the Natural History Museum in Stockholm and the description has not yet appeared in press. In order to make the name available in conjunction with the description of the present species, a brief diagnosis of *kolthoffi* is supplied.

Female.—Length, about 12 mm.; wing, 8.5 mm.

General coloration black, the head conspicuously bright yellow; halteres and legs black; wings with a strong

blackish suffusion, more intense along costal border; macrotrichia on the radial and most of the medial veins beyond cord; cell M_1 lacking.

Abdomen brownish black, the lateral margins of the tergites narrowly deeper black; ovipositor with basal shield black; cerci elongate, light yellow.

37. *Hexatoma (Eriocera) pieli* sp. n.

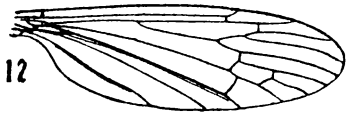
Belongs to the *chirothecata* group; general coloration black; antennæ (male) 7-segmented, relatively elongate, exceeding one-half the length of the body; wings with a strong and almost uniform brownish black suffusion, the costal portion more intense; almost all longitudinal veins beyond cord with abundant macrotrichia; R_{1+2} very long, about one-third longer than R_{2+3+4} ; cell M_1 lacking; cell 1st M_2 and 2nd M_2 subequal in length; *m-cu* beyond fork of M ; abdomen uniformly black.

Male. — Length, about 8.5 mm.; wing, 8 mm.; antenna, about 4.8 mm.

Rostrum and palpi black, the latter long and conspicuous. Antennæ (male) 7-segmented; scape and pedicel black; basal flagellar segment brownish black at proximal end, paler outwardly; succeeding segments brownish yellow; first flagellar segment a little shorter than the remaining flagellar segments combined, with scattered erect verticils, in addition to a short dense pale pubescence; flagellar segments two to four gradually decreasing in length; terminal segment reduced to a thimble-shaped structure; all segments with scattered verticils. Head velvety black; vertical tubercle entire.

Thorax entirely velvety black. Halteres black. Legs with the coxæ and trochanters black; femora dark brown; remainder of legs paler brown. Wings (Fig. 12) with a strong and almost uniform brownish black suffusion, the costal portion a little more intense; veins brownish black. Abun-

dant macrotrichia on all longitudinal veins beyond cord, with the exception of the distal section of Cu_1 . Venation: Sc_1 ending beyond midlength of R_{2+3+4} , Sc_2 not far from its tip: R_{1+2} very long, about a third longer than R_{2+3+4} ;



Hexatoma (Eriocera) piell sp. n.

Fig. 12. Wing.

R_2 variable, from a little shorter than R_{2+3} to only one-half this length; cell 1st M_2 narrow, subequal in length to cell 2nd M_2 ; cell M_1 lacking; $m-cu$ arcuated a little more than one-third

its length beyond the fork of M .

Abdomen uniformly black, without differentiated color on the basal rings.

Habitat.—China (Chekiang).

Holotype, male, Chusan, May 13, 1931 (O. PIEL).

I take unusual pleasure in dedicating this very distinct fly to the collector, the R. P. Octave PIEL, to whom we are chiefly indebted for the recent great increase in our knowledge of the Tipulidæ of the Provinces of Eastern China. By EDWARDS'S key to the Old World species of *Eriocera* (Ann. Mag. Nat. Hist., (9) 8: 70-78; 1921), the present fly runs to couplet 37, disagreeing with all species beyond this point and with all other forms described subsequently to this date. The uniform black color of the body, strongly suffused wings and moderately elongate antennæ readily separate the fly from all other small-sized species of the subgenus.

38. *Hexatoma (Eriocera) regina* sp. n.

Belongs to the *nepalensis* group; general coloration black; antennæ black throughout; legs black, only the tibiæ somewhat paler; wings dark brown, the costal border conspicuously bright yellow; a narrow white discal area before cord; numerous macrotrichia on outer radial veins, more restricted on distal portion of vein M_{1+2} ; R_s more

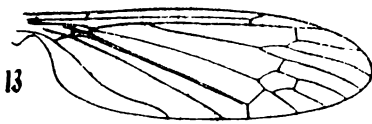
than twice the length of R ; R_2 transverse; $m-cu$ at or beyond midlength of lower face of cell $1st M_2$; abdomen black, the basal rings of the tergites broadly nacreous; hypopygium black; genital shield of female fiery orange.

Male.—Length, about 13-14 mm.; wing, 11-12 mm.; antenna, 3.5 mm.

Female.—Length, about 22 mm.; wing, 15.5 mm.; antenna, 5.2 mm.

Rostrum and palpi black. Antennæ black throughout, 8-segmented in male, 11-segmented in female; flagellar segments cylindrical, gradually decreasing in length outwardly; in male, flagellar segments two and three subequal, the terminal segment about one-half the penultimate; in female, the terminal segment and the fourth from the last subequal, both a little longer than the subequal penultimate and antepenultimate segments. Head velvety black, with coarse black setæ; vertical tubercle small and relatively inconspicuous.

Thorax opaque velvety black; setæ black, long and erect, but relatively sparse on the præscutal interspaces. Halteres black. Legs black, only the tibiæ a very little paler on their basal portions. Wings (Fig. 13) dark brown, the



Hexatoma (Eriocera) regina sp. n.

Fig. 13. Wing.

costal border, including cell C beyond h , Sc and extreme base of Sc_1 , and the adjoining narrow portions of cells R and R_1 bright yellow; a narrow but conspicuous white discal area before cord, extending from vein R_1 to Cu_1 , widest in cell R ; veins dark, paler in the brightened areas. In the female, a number of paler streaks in the centers of most of the cells; anal cells more grayish than the ground, except along the veins. Numerous macrotrichia on outer radial veins, lacking on

Media, except for a restricted series on distal end of vein M_{1+2} and occasionally on M_4 . Venation: R_s unusually long, exceeding twice the length of R ; R_{2+3+4} and basal section of R_5 subequal; R_2 transverse, about equal to or shorter than R_{2+3} ; cell M_1 lacking; cell 1st M_2 short, irregularly pentagonal in outline, shorter than the veins beyond it; $m-cu$ at or beyond midlength of the lower face of cell 1st M_2 .

Abdomen black, the basal rings broadly nacreous or polished, greatly restricting the opaque black apices; the latter occupies about the distal third or fourth of the individual segment; hypopygium black. Genital shield of ovipositor fiery orange; cerci long and slender, orange, their bases somewhat darker.

Habitat. — China (Kiangsi).

Holotype, male, Kuling, altitude 3250 feet, August 6, 1935 (O. PIEL). Allotopotype, female, August 10, 1935. Paratopotype, male, with the type.

Hexatoma (Eriocera) regina is most nearly related to species such as *H. (E.) ambrosia* Alexander and *H. (E.) celestia* Alexander, both of southeastern China. It is most similar to the former species, differing in the uniformly opaque mesonotum and in the details of wing-venation and pattern.

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

1848. *Pterocosmus hilpa*, Walker, List Dipt. British Mus., 1: 79.

1921. *Eriocera hilpa*, Edwards, Ann. Mag. Nat. Hist., (9) 8: 76.

Described from Hong-kong. One male, Yué-wan-kiai, Ningkwo, Anhwei, July 1, 1920. One male, two females, Chusan, Chekiang, February 11 and 12, 1931 (O. PIEL); May 23, 1931 (O. PIEL).

In one of these specimens, R_2 is slightly more oblique than is usual for this species. I am considering the Japanese *Hexatoma (Eriocera) alboguttata* (Matsumura) as being distinct from *hilpa*.

40. *Hexatoma (Eriocera) cantonensis* Alexander.

1937. *Hexatoma (Eriocera) cantonensis*, Alexander, Philippine Journ. Sci., (in press).

The type-series was from the White Cloud Mountain, Canton, China.

One male, Kuling, Kiangsi, altitude 3250 feet, August 27, 1935 (Monteil), was added to the original description as paratype.

41. *Hexatoma (Eriocera) pyrrhopyga* Alexander.

1933. *Hexatoma (Eriocera) pyrrhopyga*, Alexander, Philippine Journ. Sci., 52: 162-163.

Male. — Length, 20 mm.; wing, 19 mm.

Female. — Length, 21 mm.; wing, 17 mm.

The female sex has not been described. It is somewhat smaller than the male but otherwise conforms closely to the characters of the species. Antennæ broken, but with at least ten segments, the basal eight segments yellow, the last abruptly brownish black. Genital shield obscure orange, with elongate, orange-horn-colored valves.

One male, one female, Yué-wan-kiai, Ningkwo, Anhwei, China, July 12-13, 1920.

The species is closely allied to the larger *Hexatoma (Eriocera) praelata* Alexander, of Macao, southeastern China. In the present fly, the male hypopygium and preceding segment is orange instead of black.

42. *Hexatoma (Eriocera) posticata* sp. n.

Belongs to the *mesopyrrha* group; general coloration black; antennæ (female) 11-segmented, the terminal segment twice the length of the penultimate; only the posterior legs are left, the posterior femora and tibiæ yellow, the tips narrowly and abruptly black; wings yellow, with the apex

and an incomplete band at about one-third the wing-length brown; abdomen black, the bases of the tergites more nacreous, most extensively so on tergite two; genital segment of ovipositor fiery orange.

Female. — Length, about 21 mm.; wing, 19 mm.; antenna, about 6 mm.

Rostrum and palpi black. Antennæ (female) 11-segmented; scape and pedicel black, the latter more reddish at apex; basal three flagellar segments yellow, the remainder passing into black; flagellar segments gradually decreasing in length outwardly, the last segment about twice the penultimate. Head black, the posterior genæ more pruinose; vertical tubercle simple.

Pronotum piceous. Mesonotal præscutum with four stripes, the intermediate pair glabrous, narrowly bordered by velvety black; lateral stripes more uniformly velvety black; humeral and lateral portions of the præscutum slightly more pruinose; vestiture of præscutum relatively short and sparse; posterior sclerites of mesonotum uniformly black, the scutellum with conspicuous erect black setæ; mediotergite glabrous. Pleura black. Halteres black. Legs with the coxæ black; fore trochanters reddish brown,



Hexatoma (Eriocera)
posticata sp. n.

Fig. 14. Wing.

the remaining trochanters black; all legs broken excepting one posterior leg; femora yellow, the apex narrowly (2.5 mm. or about the outer fifth or sixth) and abruptly blackened; tibiæ yellow, the tip narrowly

(about the distal tenth) black; tarsi broken. Wings (Fig. 14) bright yellow, crossbanded with brown; the yellow includes the prearcular and anal fields, excepting the extreme wing-base; cells *C* and *Sc*, together with a broad, complete and well-defined crossband chiefly before cord; the dark bands include cells *R* to *Cu*, *1st A* and *2nd A*; outer band with

its inner end clearly delimited; veins brown, yellow in the luteous areas. Venation: R_{2+3+4} subequal to or a little longer than R_{2+3} .

Abdomen black, the bases of the tergites more nacreous, most extensive on tergite two, decreasing in amount outwardly, the polished appearance scarcely evident on tergites seven and eight; genital segment and ovipositor fiery-orange; cerci long and slender.

Habitat. — China (Chekiang).

Holotype, female, Tien-mou-chan, August 5, 1933.

Hexatoma (Eriocera) posticata is amply distinct from the other regional members of the *mesopyrrha* group in the unbrightened abdomen, in conjunction with the pattern of the legs and wings. The other species without orange coloration on the basal and intermediate abdominal tergites (*H. (E.) kelloggi* Alexander and *H. (E.) muiri* Alexander) both have the femora brownish black and the wing-pattern quite different, without brightened color in the bases of the anal cells.

ERIOPTERINI

43. *Conosia irrorata* (Wiedemann).

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

1880. *Conosia irrorata*, van der Wulp, Tijdschr. voor Ent., 23: 159-161, pl. 10, figs. 5-7.

Very widely distributed throughout the tropical and subtropical regions of the Old World. One female, Shanghai, Kiangsu, September 17, 1930 (O. PIEL); one broken specimen, Chusan, Chekiang, May 12, 1931 (O. PIEL).

44. *Erioptera (Ilisia) tenuisentis* Alexander.

1930. *Erioptera (Ilisia) tenuisentis*, Alexander, Philippine Journ. Sci., 42: 79-80.

Known hitherto only from the mountains of Formosa and from Szechwan, western China.

One female, Kuling, Kiangsi, altitude 3250 feet, August 10, 1935 (O. PIEL).

