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**STUDIES ON THE TIPULIDAE OF CHINA (DIPTERA)**  
**II. New or little-known Crane-flies from southeastern China**

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**STUDIES ON THE TIPULIDAE OF CHINA (DIPTERA)**  
**II. New or little-known Crane-flies from southeastern China**

By CHARLES P. ALEXANDER

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The first part under this general title was published in the Lingnan Science Journal, Vol. 11:505-508, November 1932. In the present instalment I wish to discuss some interesting material received through the continued friendly interest of my friend, Professor William E. Hoffmann, derived from various sources but chiefly from the Province of Kwangtung including Hainan Island. The types of the novelties herewith described are eventually to be returned to the Lingnan Natural History Survey and Museum, but acting on the suggestion of Professor Hoffmann, Director of the Museum, I am retaining this material for the present, while returning the duplicate series to Canton. I wish to express my deep thanks to Professor Hoffmann, Mr. Ernest R. Tinkham and Mr. F. K. To, collectors of almost all of the species discussed. Our knowledge of distribution of the Tipulidae of the various provinces of eastern China is still very incomplete and it is especially gratifying to have available for study a collection of the importance of the present one.

**Tipulinae**

1. **Ctenophora pselliophoroides** n. sp. (fig. 1)

General coloration yellow, the mesonotum variegated with brown; antennae (male) elongate, the branches long and slender, the outer pair about two-thirds the length of the basal pair; basal branches with conspicuous spinous setae, additional to the erect vestiture; wings yellow, prearcular, costal and stigmal regions deeper yellow; *Rs* long, about three times *m-cu*; cell *M*<sub>1</sub> broadly sessile; male hypopygium with the dististyle terminating in a slender curved spine.

*Male*.—Length, about 16 mm.; wing, 13 mm.; antenna, about 6.2 mm.

Frontal prolongation of head reddish, short and stout; nasus very broad, the apex subtruncate to feebly emarginate; palpi with basal segment yellowish-brown, remainder black. Antennae elongate; scape and pedicel yellow; axis of basal seven flagellar segments yellow, especially on outer portion, the base more infuscated to blackened, the outer segments with the axis uniformly blackened; all branches black; flagellar branches elongate, on outer segments the outer pair about two-thirds as long as the basal pair; on second

flagellar segment, outer branches about one-half the basal ones; branches clothed with coarse erect setae, the basal branches with additional stout yellow spinous setae, especially strong and conspicuous on branches of second flagellar segment where they total seven or eight in number, scattered over the whole length of the branch; on outer segments, these spines longer and more bristle-like but still very conspicuous. Head reddish, the anterior vertex with a broad black transverse band connecting the eyes behind the antennal fossae; head with coarse black setae.

Pronotum yellow. Mesonotal praescutum obscure yellow with three more brownish stripes that are rather poorly defined; scutum obscure yellow, each lobe with an oblique line, converging behind to scutellum, the lateral depressed areas of scutal lobes blackened; scutellum dull black; mediotergite yellow, with a median brown triangle, the point directed cephalad. Pleura yellow, the anepisternum darker; pleurotergite yellow, with a brown spot on posterior border. Halteres with stem yellow, knob weakly darkened. Legs reddish-yellow, the outer tarsal segments blackened. Wings (fig. 1) yellow, prearcular field and cells *C* and *Sc*, especially the latter, deeper yellow; stigma deep yellow, the posterior border darker; veins dark brown. Venation: *Rs* long, approximately three times *m-cu* and longer than the distal section of vein  $R_{4+5}$ ; cell  $M_1$  broadly sessile.

Abdominal tergites reddish-yellow, the more basal segments narrowly ringed with blackish; intermediate tergites with a heavy vestiture of yellow setae; hypopygium large, reddish, the tergal lobes black. Hypopygium of the dried type with the tergite massive, the large lateral lobes separated by a very deep and narrow median incision. Dististyle reddish, the dorsal end terminating in a slender curved spine jutting into the tergal notch. From the apex of the basistyle jut caudad conspicuous yellow lobes fringed with long yellow hairs that appear to be microscopically roughed or feebly branched, the lobes irregularly bilobed, the lower or mesal lobe directed mesad.

*Hab.* China (Kwangtung).

*Holotype*, ♂, Keung Tin Heung, Lien District, July 13-14, 1934 (F. K. To).

I prefer to place the present fly in *Ctenophora* rather than in *Pselliophora* because of the great length of *Rs* and the markedly unequal flagellar branches. However, in the long antennae and the slenderness of the branches, the fly strongly suggests species of *Pselliophora*, whence the specific name. The most similar species is the Japanese *Ctenophora septentrionalis* (Alexander) which lacks the modified spines on the basal flagellar branches and has a very different hypopygium.

2. **Pselliophora ardens** (Wiedemann)

1821. *Ctenophora ardens* Wiedemann, Dipt. exot. 1: 20.

Female, Hainan Island, Tai-pin-ts'uen, Lam-ka-heung, Lai-mo-ling (mountain range), Kiung-shan District, April 28-30, 1935 (F. K. To).

Female, Kwangtung, Shek Pik, Lan-tau Island, near Hong Kong, August 12, 1934 (Y. W. Djou).

I cannot separate these specimens from authentic Javan material.

3. **Pselliophora bifasciipennis** Brunetti

1911. *Pselliophora bifasciipennis* Brunetti, Rec. Indian Mus. 6: 241-242.

1916. *Pselliophora sackeni* Edwards, Ann. & Mag. Nat. Hist. (8)18: 257.

1916. *Dictenidia Horikawæ* Matsumura, Thousand Ins. Japan, Add. 2: 449-450.

1921. *Pselliophora compta* Enderlein, Zool. Anzeig. 52: 220-221.

KWANGTUNG: Wui Tung, July 27, 1933 (M. H. Cheng; Cheng Men Hao), male. Honam Island, P'an-yu District, Canton, September 27, 1931 (W. E. Hoffmann), female.

4. **Pselliophora sternoloba** n. sp. (fig. 2, 6)

General coloration orange; antennae yellow, the terminal three segments and all branches black; halteres yellow, the knobs weakly darkened; femora yellow, the tips weakly darkened; posterior tibiae with about the basal third yellowish-white, the remainder darker yellow; wings yellow with a major dark brown subapical area, lying chiefly in outer radial field; basal abdominal tergites with caudal borders narrowly blackened; male hypopygium with the eighth sternite produced into a conspicuous prow-shaped median lobe, the outer portion densely clothed with short black setae.

*Male*.—Length, about 17 mm.; wing, 15 mm.; antenna, about 7 mm.

Frontal prolongation of head, with the nasus, uniformly yellow; palpi with basal three segments yellow, the terminal segment dark brown. Antennae long; main axis of basal ten segments yellow, the outer segments and all branches black; branches elongate, with delicate erect white setae. Head orange.

Thoracic dorsum uniformly orange; praescutum glabrous; outer portions of scutum, laterad of lobes and cephalad of parascutella with a dense brush of brownish-yellow setae; a more sparse group on lateral portion of scutal lobes above the wing-root; scutellum with straggly long yellow setae; mediotergite with a group of yellow setae on either side. Pleura yellow, glabrous. Halteres yellow, the knobs weakly darkened. Legs with the coxae and trochanters yellow; femora yellow, the tips weakly darkened; tibiae brownish-yellow, the tips darker; tarsi passing into dark brown; posterior tibiae with

about the basal third yellowish-white, the remainder darker yellow. Wings (fig. 2) yellow, the prearcular and costal portions more saturated; a conspicuous subapical brown area in outer radial field, occupying more than the basal half of cells  $R_3$  and  $R_4$  and adjoining portions of cells  $R_2$ , 1st  $M_2$  and  $M$ , together with the contiguous stigma; axilla infuscated; veins brown, yellow in the more saturated flavous portions. Venation:  $R_s$  arcuated, a little longer than  $m-cu$ ; cell  $M_1$  narrowly sessile; cell 1st  $M_2$  pointed at outer end.

Abdomen orange, the caudal borders of tergites one to three, inclusive, narrowly blackened; subterminal sternites more or less blackened; hypopygium orange. Male hypopygium (fig. 6) with the eighth sternite projecting in a long prow-shaped or boat-shaped lobe, the outer portion densely set with short black setae; ventral surface of lobe with pale membrane, the apex broadly obtuse and feebly notched; on the more basal and lateral portions, the setae are longer,

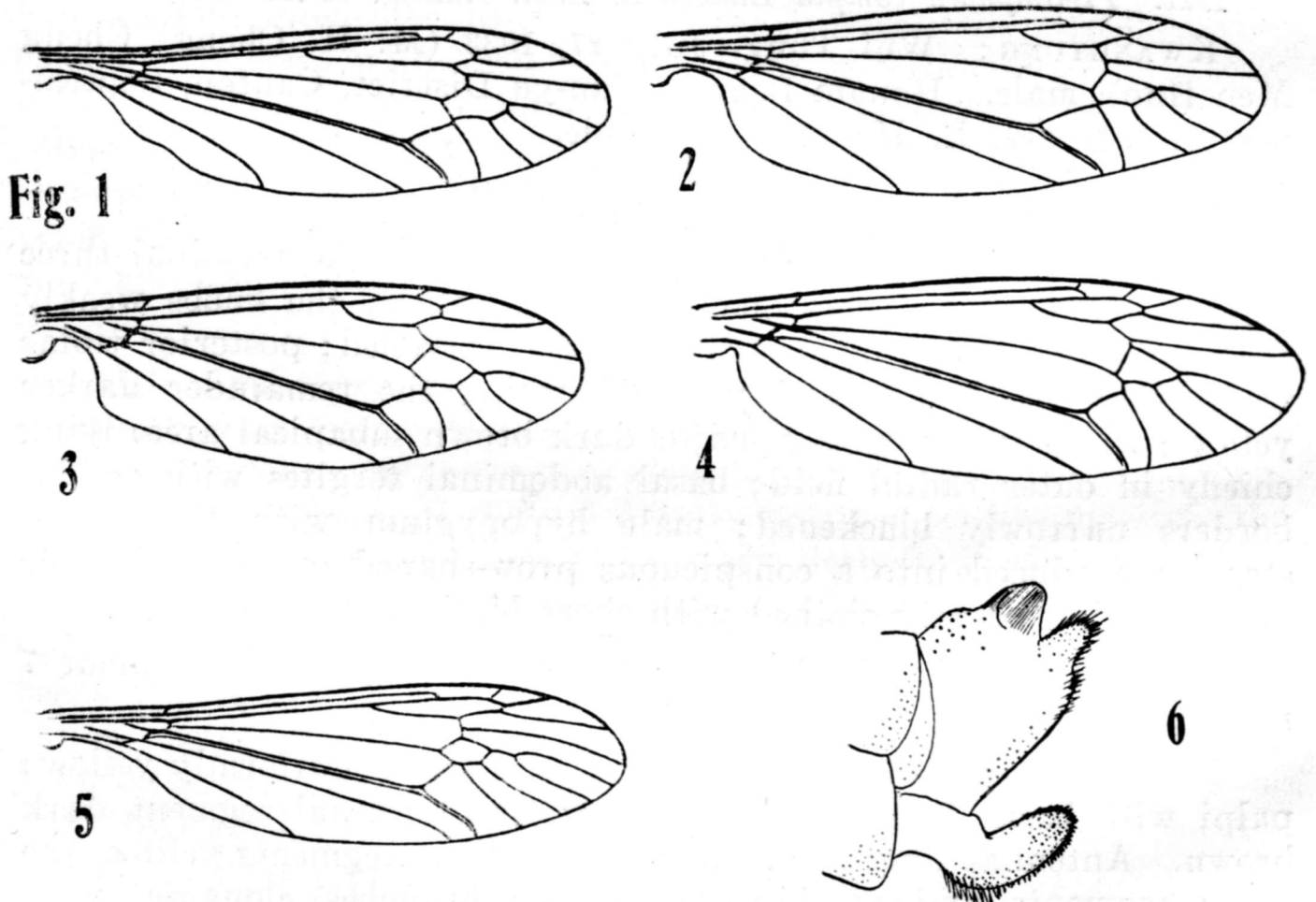


Fig. 1, *Ctenophora pselliophoroides* n. sp., venation; fig. 2, *Pselliophora sternoloba* n. sp., venation; fig. 3, *P. fuscolimbata* n. sp., venation; fig. 4, *P. jubilata* n. sp., venation; fig. 5, *Tipula (Orcomyza) clinata* n. sp., venation; fig. 6, *Pselliophora sternoloba* n. sp., male hypopygium, lateral aspect.

golden-yellow. Ninth segment short-cylindrical, tilted at an angle to remainder of abdomen. Ninth tergite extensive, heavily blackened, the median portion profoundly incised, the margins polished, glabrous. What appears to represent the mesal edge of the dististyle juts caudad and dorsad from the genital chamber as an acute black spine, the bases close together, the tips divergent; remainder of dististyle appearing as obtuse rounded lobes, with dense brushes of golden yellow setae.

*Hab.* China (Hainan Island).

*Holotype*, ♂, Tai-pin-ts'uen, Lam-ka-heung, Lai-mo-ling (mountain range), Kiung-shan District, April 22-30, 1935 (F. K. To).

*Pselliophora sternoloba* is most nearly related to the Japanese *P. galeata* Alexander, which has the eighth sternite somewhat similarly produced but is otherwise quite distinct. This condition of the sternite represents the maximum production of the segment so far discovered in the genus.

5. ***Pselliophora fuscolimbata*** n. sp. (fig. 3)

General coloration velvety black; abdominal segments two and three, with parts of four, reddish-orange; halteres and legs black, at least the posterior tibiae with white subbasal rings; wings weakly darkened, all veins and the outer border conspicuously margined with darker brown.

*Female*.—Length, about 23 mm.; wing, 16 mm.

Frontal prolongation of head short, black; nasus elongate; palpi black. Antennae with scape and pedicel black; flagellum broken. Head dull velvety black.

Thorax uniformly dull velvety black; setae of praescutal interspaces small and sparse. Halteres black throughout. Legs black; only a single leg (posterior) remains, this with a narrow, dirty white tibial ring about its own width beyond base. Wings (fig. 3) with the ground-color weakly darkened, all veins with broad, conspicuous, darker brown seams, least distinct on vein *2nd A*; apical border of wing similarly margined with brown; cells *Sc*, *Cu<sub>1</sub>* and the small narrow stigma darker brown; veins pale brown. Venation: *R<sub>2</sub>* perpendicular or even directed slightly basad; vein *R<sub>1</sub>* in stigmal area deflected strongly toward costa; vein *R<sub>3</sub>* shorter and less extended than in *præfica* or its subspecies *fenestrella*; cell *M<sub>1</sub>* short-petiolate.

Abdomen with basal tergite velvety black; tergites two and three, together with basal and apical rings of tergite four, reddish-orange; the corresponding sternites similarly colored, except the darkened posterior border of sternite four; remainder of abdomen, including genital shield, velvety black.

*Hab.* China (Hainan Island).

*Holotype*, ♀, Tai-pin-ts'uen, Lam-ka-heung, Lai-mo-ling (mountain range), Kiung-shan District, April 16-19, 1935 (F. K. To).

The present fly has the wing-pattern almost exactly like that of *Pselliophora præfica fenestrella* Alexander, of the island of Samar, Philippines. The latter fly differs conspicuously in the uniform black color of the body. As is the case in several allied forms, it is virtually certain that the wing-pattern of the male of the present fly

will be found to differ from the female in being more uniformly darkened, though presumably the centers of at least some of the cells will be found to be pale.

6. *Pselliophora jubilata* n. sp. (fig. 4)

General coloration black, only the second and third abdominal segments restrictedly orange; wings brown, the prearcular and costal regions darker brown; a broken white crossband before cord; other whitish areas before cord, including the broad axilla; basal section of vein  $M_4$  long.

*Female*.—Length, about 19 mm.; wing, 14 mm.

Frontal prolongation of head black; nasus stout; palpi black. Antennae with scape and pedicel black; flagellum broken. Head black

Thorax uniformly black, the surface opaque; setae of praescutal interspaces very sparse and small, those of scutellum long and conspicuous. Halteres black. Legs black; tibiae with a narrow white subbasal ring, slightly wider on the tibiae than on the middle; posterior legs broken. Wings (fig. 4) with the ground-color brown, the prearcular and costal regions, with the stigma, darker brown; a broken whitish crossband before cord, including separate areas before stigma in cells  $R$  and  $R_1$ , in outer end of cell  $M$  and a smaller area in cell  $Cu$ ; axilla broadly whitened, including nearly the basal half of cell *2nd A* and the restricted adjacent portions of cells  $Cu$  and *1st A*; a small spot in cells  $R$  and  $M$  beyond arculus; a white area in cell *1st A* near vein *2nd A*; centers of cells  $R_3$  to *2nd A*, inclusive, together with cells  $R$  and  $M$ , slightly paler than their margins, this presumably a character of the female sex only; veins brown,  $R_3$  pale yellow where traversing the discal band. Venation:  $R_3$  relatively long, considerably exceeding  $R_5$ ;  $r-m$  short; cell  $M_1$  narrowly sessile; basal section of  $M_4$  long; cell  $M_3$  relatively long, narrower at margin than at base.

Abdomen dull velvet black, segments two and three chiefly orange; outer segments with coarse erect setae on median portion near margin; genital shield black.

*Hab.* China (Kwangtung).

*Holotype*, ♀, Yam Na Shan, about 50 li SE-E. of Ping Chuen, Mei District, September 13-18, 1933 (F. K. To).

*Pselliophora jubilata* is allied to *P. hoppo* Matsumura, differing in the coloration of the body and wings, with the whitish color of the latter restricted to the cells basad of the cord. The pale wing-markings are definitely white, not light yellow as in *P. bifasciipennis* Brunetti.

7. **Tipula (Yamatotipula) nova** Walker

1848. *Tipula nova* Walker, List Dipt. Brit. Mus 1: 71.

Wide-spread in eastern and southern Asia.

KWANGTUNG: White Cloud Mt., Canton, March 19, 1933, April 22, 1934 (E. R. Tinkham), May 21, 1933 (Y. T. Feng). Shiu-chow, K'uh-kiang District, March 26, 1933 (T. Y. Chue). Ting Wu Shan, Kao-yao District, April 6-7, 1934 (E. R. Tinkham). Honam Island, Canton, P'an-yu District, April 8, 1936 (E. R. Tinkham).

FUKIEN: Yen-ping, Nan-ping District, June, July 1933 (D. C. Ngu).

8. **Tipula (Oreomyza) clinata** n. sp. (fig. 5)

Allied to *arisanensis*; mesonotum dark, sparsely pruinose; praescutum with three reddish-brown stripes; outer flagellar segments uniformly darkened; halteres dark; femora obscure yellow, the tips narrowly dark brown; wings brown, variegated with cream-yellow areas, including an incomplete band beyond stigma;  $R_{1+2}$  entire;  $m-cu$  at near two-thirds the length of  $M_{3+4}$ ; abdominal tergites brownish-black, the caudal-lateral margins paler; genital segment black.

*Female*.—Length, about 11 mm.; wing, 10.5 mm.

Frontal prolongation of head brown, darker beneath; nasus distinct; palpi brownish-black. Antennae with scape and pedicel obscure yellow; basal flagellar segments brownish-yellow, outer segments uniformly dark brown to brownish-black. Head dark brown in central portion, variegated near orbits with obscure yellow.

Pronotum gray, variegated with brown. Mesonotal praescutum with the ground-color dark, weakly pruinose, with three dark reddish-brown stripes: posterior sclerites of notum brown, the surface sparsely pruinose. Pleura brown, the dorsopleural region more obscure yellow; pleurotergite heavily gray pruinose on ventral protuberance. Halteres dark brown, the base of stem restrictedly yellow. Legs with the coxae brownish-gray; trochanters obscure yellow; femora obscure yellow, the tips narrowly dark brown; tibiae obscure yellow, the tips darkened; tarsi black. Wings (fig. 5) with the ground-color brown, conspicuously variegated by small cream-yellow areas, including an incomplete band beyond stigma; pale spots in all major cells basad of cord; cells  $C$  and  $Sc$  uniformly brownish-yellow; bases of cells  $R$  and  $M$  darkened, followed by a large common pale area; centers of outer medial cells less distinctly pale; veins brown. Venation:  $R_{1+2}$  entire, with sparse trichia; cell  $M_1$  deep;  $m-cu$  some distance before fork of  $M_{3+4}$  so the second section of this vein is about one-third to two-fifths the basal section.

Abdominal tergites chiefly dark brown or brownish-black, the basal segment paler; caudo-lateral borders of tergites broadly paler;



sternites brown; genital segment black. Cerci relatively slender, margins smooth.

*Hab.* China (Kwangtung).

*Holotype*, ♀, Loh Fau Shan, Wa Shau T'oi, altitude 800 feet, August 15, 1933 (E. R. Tinkham).

*Tipula (Oreomyza) clinata* is similar and apparently allied to *T. (O.) arisanensis* Edwards, of the higher mountains of Formosa. The general appearance and venation, especially the position of *m-cu*, is characteristic of a small group of *Oreomyza* in Eastern Asia. The present fly is well-distinguished from other small species of this group by the details of venation and by the more variegated wing-pattern.

#### 9. *Nephrotoma sinensis* (Edwards)

1916. *Pachyrrhina sinensis* Edwards, Ann & Mag. Nat. Hist. (8) 18: 268-269.

Widely-distributed in China.

KWANGTUNG: Honam Island, Canton, P'an-yu District, May 23, 1934 (K. C. Yeung), May 4, 1932 (Chung Hang), May 14, 1934 (E. R. Tinkham).

### Cylindrotominae

#### 10. *Stibadocerella omeiensis* Alexander

1936. *Stibadocerella omeiensis* Alexander, Phil. Jour. Sci. 60:335-336.

Described from Mount Omei, Szechwan, western China.

One somewhat teneral male that cannot be differentiated from the type. Loh Fau Shan, Kwangtung, Big Pool, altitude about 2800 feet, July 22, 1935 (E. R. Tinkham). This is the first record of a member of this genus from southeastern China.

### Limoniinae

#### 11. *Limonia (Libnotes) lantauensis* n. sp. (fig. 7)

Belongs to the *forcipata* group; general coloration of thorax reddish-brown, the pronotum and cephalic end of praescutum narrowly blackened; basal flagellar segments yellow, remainder of antennae dark; knobs of halteres dark; legs dark brown, the femoral bases yellow; wings yellow, the base and prearcular region light yellow, the veins conspicuously seamed with brown; *Rs* gently arcuated, exceeding twice the basal section of  $R_{4+5}$ ; *m-cu* close to fork of *M*; male hypopygium with the tergite deeply notched medially; rostral spines very unequal; mesal apical lobes of gonapophyses long and slender.

*Male*.—Length, about 5.5 mm.; wing, 6.5 mm.

*Female*.—Length, about 7—7.5 mm.; wing, 6.5—7 mm.

Rostrum black, sparsely pruinose; palpi black. Antennae with scape dark brown; pedicel brown; basal flagellar segments yellow, the outer segments passing into brown; flagellar segments oval, with long verticils. Head dark brown, sparsely pruinose; anterior vertex reduced to a linear light gray strip that is less than twice the diameter of a single row of ommatidia.

Pronotum narrowly brownish-black above, more reddish on sides. Mesonotum reddish-brown, the praescutum with ill-defined more reddish stripes, the cephalic portion of the median stripe deepening to black. Pleura reddish-brown. Halteres with stem obscure yellow, the knobs infuscated. Legs with the coxae and trochanters reddish-brown; remainder of legs dark brown, the femoral bases obscure yellow. Wings (fig. 7) with the ground-color yellow, the prearcular field and costal border clear light yellow; a relatively conspicuous brown pattern, as follows: subcircular stigma; narrow but conspicuous seams along veins  $R_s$ , cord, all longitudinal veins beyond cord, tip of 1st  $A$  and all but basal portion of 2nd  $A$ ; cell  $Cu_1$ , between the branches of  $Cu$ , even more broadly and conspicuously darkened; wing-tip narrowly infumed; veins yellow, darker in the infuscated portions. Venation:  $Sc$  long,  $Sc_1$  ending beyond the fork of  $R_s$ ,  $Sc_2$  some distance from its tip;  $R_s$  relatively long, gently arcuated, exceeding twice the basal section of  $R_{4+5}$ ; free tip of  $Sc_2$  and  $R_2$  in transverse alignment; cell 1st  $M_2$  rectangular, a little longer than vein  $M_3$  beyond it;  $m-cu$  just beyond fork of  $M$ , longer than the distal section of  $Cu_1$ ; Anal veins divergent.

Abdomen obscure yellow or brownish-yellow, sternites more or less darkened; restricted dark lateral spots at the incisures; hypopygium yellow. Male hypopygium with the tergite deeply notched medially; apex of each lobe with about three very strong setae; shorter additional setae, chiefly along the caudal margin. Basistyle smaller than the ventral dististyle. Rostral spines very unequal in size, the outer about one-half longer than the inner and much stouter; a group of small setae on face of style near base of the prolongation. Gonapophyses with mesal-apical lobe long and slender, the apex blackened. Cerci slender, tips simple.

*Hab.* China (Kwangtung).

*Holotype*, ♀, Lan-tau Island, near Hong Kong, August 7-9, 1934 (W. E. Hoffmann). Allotopotype, a broken ♂, with type. Paratopotype, ♀, Tung Chung, Lan-tau Island, August 7, 1934 (Y. W. Djou).

By Edwards's key to the species of *Libnotes* (Jour. Fed. Malay St. Mus. 14:74-80, 1928), the present fly runs to *Limonia* (*Libnotes*) *indica* (Brunetti). The species is quite distinct from *indica*, *forcipata* (de Meijere) or from any of the numerous species more recently defined.

12. **Nipponomyia kulingensis** Alexander

1937. *Nipponomyia kulingensis* Alexander, Notes d'Entomologie Chinoise, Musee Heude, Shanghai, vol. 4, fasc. 5: 73-74.

The type, a female, was from Kuling, collected August 18, 1935, by the Reverend Mr. Octave Piel. One broken specimen of uncertain sex in the present series is from this same locality, July 23-26, 1933 (Y. W. Djou).

13. **Pseudolimnophila inconcussa** (Alexander)

1913. *Limnophila inconcussa* Alexander, Can. Ent. 45: 313-314.

Wide-spread in eastern Asia. KWANGTUNG: Wui-tung, Lingnan Agricultural Experiment Station, Chung-shan District, March 9-12, 1935 (H. Fung).

14. **Hexatoma (Eriocera) toi** n. sp. (fig. 8)

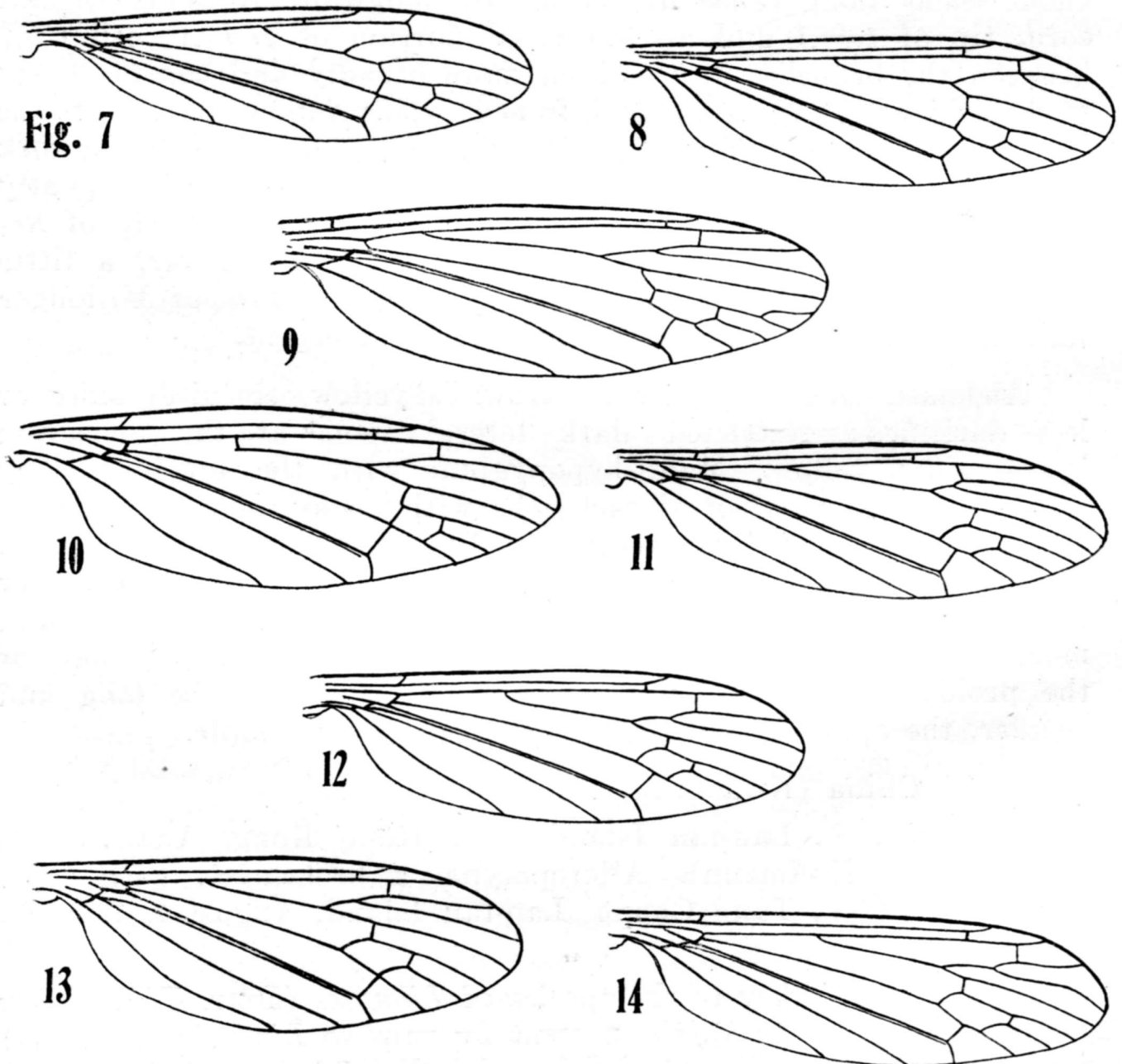


Fig. 7, *Limonia (Libnotes) lantauensis* n. sp., venation; fig. 8, *Hexatoma (Eriocera) toi* n. sp., venation; fig. 9, *H. (E.) longiradialis* n. sp., venation; fig. 10, *H. (E.) scalator* n. sp., venation; fig. 11, *H. (E.) tinkhami* n. sp., venation; fig. 12, *H. (E.) hoffmanni* n. sp., venation; fig. 13, *H. (E.) monoleuca* n. sp., venation; fig. 14, *H. (E.) bifenestrata* n. sp., venation.

General coloration gray, the praescutum with three subnitidous black stripes; halteres and legs black; wings brown; costal border darker brown; stigma very small, dark brown; macrotrichia on outer longitudinal veins;  $R_2$  shortly before fork of  $R_{3+4}$ ; cell 1st  $M_2$  rectangular, subequal in length to vein  $M_3$  beyond it.

*Female*.—Length, about 13 mm.; wing, 10.2 mm.

Rostrum and palpi black. Antennae with scape and pedicel black; flagellum broken. Head dull gray; vertical tubercle bifid at summit.

Mesonotal praescutum gray, with three subnitidous black stripes; posterior sclerites of notum gray, the scutal lobes a little darkened; mesonotal setae relatively long and conspicuous but sparse. Pleura dark, gray pruinose. Halteres black. Legs black throughout. Wings (fig. 8) with a brown tinge, cells  $C$  and  $Sc$ , with the anterior prearcular field, darker brown; stigma very small, oval, still darker brown, appearing as a seam on vein  $R_1$  before the union of  $R_2$ ; some of the longitudinal veins narrowly and insensibly bordered by darker; veins brown, those of outer medial field paler. Trichia of costal fringe abundant; numerous trichia on outer radial veins and on anterior branch of  $M$ , lacking on the more posterior veins. Venation:  $R_s$  a little longer than  $R$ ;  $R_{2+3+4}$  longer than  $R_3$ ;  $R_2$  shortly before fork of  $R_{3+4}$ ; cell 1st  $M_2$  rectangular, subequal to vein  $M_3$  beyond it;  $m-cu$  at near one-fifth the length of cell 1st  $M_2$ , longer than  $m-cu$ .

Abdomen black, the surface subnitidous; genital shield abruptly orange; ovipositor with very long slender cerci.

*Hab.* China (Hainan Island).

Holotype, ♀, Sam-kwong-ts'uen, Lam-wan-tung (Loi territory), Kiung-shan District, August 5-6, 1935 (F. K. To).

I take pleasure in naming this distinct fly in honor of the collector, Mr. F. K. To, who was largely instrumental in building up the series of Tipulidae discussed at this time. 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 *Hexatoma* (*Eriocera*) *nigrina* (Riedel) of Formosa, which differs in the larger size, coloration of the body and wings, and in the details of venation, as the position of  $R_2$  beyond the fork of  $R_{2+3+4}$  and the broader cell 1st  $M_2$ .

15. ***Hexatoma* (*Eriocera*) *longiradialis*** n. sp. (fig. 9)

Mesonotal praescutum with the ground-color dull gray, with four polished blue-black stripes that are narrowly bordered by velvety black; scutal lobes similarly colored; antennae (female) 11-segmented, black to brownish-black; halteres and legs black; wings strongly tinged with reddish-brown; macrotrichia on outer radial veins;  $R_s$  long, exceeding twice the length of  $R$ ;  $R_{1+2}$  and  $R_{2+3+4}$  subequal in length; cell  $M_1$  present;  $m-cu$  at or beyond midlength

of lower face of cell 1st  $M_2$ ; abdomen black, the entire surface polished black or nacreous, without opaque bands; genital segment opaque orange.

*Female*.—Length, about 20 mm.; wing, 13 mm.

Rostrum and palpi black. Antennae (female) 11-segmented; scape black, pedicel and flagellum brownish-black; first flagellar segment a little shorter than the succeeding two combined; fifth and succeeding flagellar segments shorter. Head dark gray, with long erect black setae; vertical tubercle conspicuous, simple.

Pronotum dark gray. Mesonotal praescutum with the ground-color dull gray, with four polished blue-black stripes that are narrowly bordered by velvety black; setae of praescutal interspaces relatively short; scutal lobes polished blue-black; scutellum and postnotum black, sparsely pruinose, with conspicuous black setae. Pleura dull black, sparsely pruinose. Halteres short, black throughout. Legs black. Wings (fig. 9) strongly tinged with reddish-brown, cell  $Sc$ , especially in prearcular field, light yellow; cell  $Cu$  slightly infumed, especially on basal portion; veins brownish-yellow to yellow. Costal setae abundant; macrotrichia on outer radial veins, on outer medial veins sparse and restricted to outer sections of veins  $M_1$  and  $M_2$ . Venation:  $Rs$  long, exceeding twice the length of  $R$ , on one wing (as figured) slightly longer than on the other;  $R_{1+2}$  subequal to  $R_{2+3+4}$ ;  $r-m$  variable, from oblique (as figured) to shorter and transverse; cell  $M_1$  present;  $m-cu$  at or beyond midlength of lower face of cell 1st  $M_2$ .

Abdomen relatively long, black, the entire surface polished, without opaque bands. Genital shield opaque orange.

*Hab.* French Indo-China (WNW. Tonkin).

*Holotype*, ♀ Laokay, August 12-13, 1934 (E. R. Tinkham).

By Edwards's key to the Old World species of *Eriocera* (l.c.), the present fly runs to couplet 35, where it disagrees with both alternatives in the uniformly polished or nacreous abdomen. Otherwise the species runs to *Hexatoma (Eriocera) lygropis* (Alexander), of Formosa, an entirely different fly.

#### 16. *Hexatoma (Eriocera) rufipennis* (Alexander)

1925. *Eriocera rufipennis* Alexander, *Encycl. Ent., Diptera*, 2: 87-88.

The type, a unique male, was from Canton.

*Allotype*, ♀, White Cloud Mountain, Canton, P'an-yu District, June 11, 1933 (E. R. Tinkham).

*Female*.—Length, about 24 mm.; wing, 16 mm.

Characters as in male, differing as follows: Antennae (female) 12-segmented, brown. Vertical tubercle conspicuous, entire. Praescutal stripes and scutal lobes shining black rather than blue-black;

setae of interspaces moderately long. Venation:  $R_{2+3+4}$  somewhat shorter than in the type but the proportions existing between  $R_{2+3+4}$  and the basal section of  $R_5$  about the same;  $M_{1+2}$  in alignment with  $M_2$ ,  $M_1$  arched at origin; cell 1st  $M_2$  shorter than in the type. Abdomen elongate, black, the caudal margins of the segments more opaque black than the more polished blue-black basal rings; genital shield orange; cerci elongate.

17. **Hexatoma (Eriocera) kelloggi** Alexander

1932. *Hexatoma (Eriocera) kelloggi* Alexander, Phil. Jour. Sci. 49: 123-124.

The type was from Foochow, Fukien Province. Additional specimens representing both sexes. KWANGTUNG: Lung Ping Hui, Lien District, May 15, 1934 (F. K. To). Yuet Loi Hui, about 40 li NW. of Ping Chuen, Mei District, July 19-29, 1933 (F. K. To). Yam Na Shan, about 50 li SE-E. of Ping Chuen, Mei District, September 1-5, 1933 (F. K. To). Canton, White Cloud Mountain, P'an-yu District, May 29, 1934, June 11, 1933 (E. R. Tinkham).

FUKIEN: Kuliang Mountain, Foochow, Min-how District, July 6-29, 1932 (S. B. Tang).

These specimens are somewhat larger than the type (*Male*.—Length, 19-20 mm.; wing, 17-17.5 mm. *Female*.—Length, about 22 mm.; wing, 18 mm.). Genital shield (female) orange.

The relation of *kelloggi* to the earlier described *Hexatoma (Eriocera) muiri* Alexander (Proc. Hawaiian Ent. Soc. 5: 255, 1923), from Macao, is still uncertain. While generally similar in many respects, the yellow crossband on the wing of *muiri* is much more distinct and well-delimited by the strongly darkened basal half of the wing. Both species have the legs and abdomen uniformly blackened, thus differentiating them from the other large regional species of the *mesopyrrha* group, as *praelata* Alexander, *pyrrhopyga* Alexander and *posticatu* Alexander.

18. **Hexatoma (Eriocera) scalator** n. sp. (fig. 10)

General coloration velvety black; center of vertex reddish; scutellum orange; abdomen conspicuously dilated, tergites two to six, inclusive, with broad transverse orange bands; antennae, halteres and legs black throughout; wings broad, blackish; cell  $M_1$  lacking, *m-cu* at fork of  $M$ .

*Female*.—Length, about 22 mm.; wing, 18 mm.; antennae, about 4.4 mm.

Rostrum and palpi black. Antennae (female) 11-segmented, black throughout; first flagellar segment a little shorter than the succeeding two combined; outer segments gradually decreasing in length and diameter; terminal two segments subequal. Head black, the central region of the posterior vertex extensively dull reddish;

vertical tubercle trilobed, the median lobe lying a little more cephalad than the laterals.

Pronotum black. Mesonotal praescutum and scutal lobes deep velvety black; vestiture short and very sparse; median region of scutum posteriorly and the scutellum dull orange, parascutella black; postnotum black. Pleura uniform deep velvety black. Halteres short, black. Legs black throughout. Wings (fig. 10) broad on basal two-thirds, the outer end more narrowed; costal cell dilated; wings strongly suffused with blackish; veins darker. Costal setae abundant; macrotrichia on all outer veins of radial field, on distal section of vein  $M_{1+2}$  and on outer half of vein  $M_3$ . Venation:  $R_s$  angulated at origin, about one-half longer than  $R$ ;  $R_{2+3+4}$  shorter than basal section of  $R_5$ ;  $R_{1+2}$  about one-half longer than  $R_{2+3+4}$ ; cell  $M_1$  lacking;  $m-cu$  at fork of  $M$ , nearly twice as long as the distal of  $Cu_1$ .

Abdomen conspicuously widened, viewed from above noticeably wider than the thorax; tergites black, segments two to six with broad, conspicuous, orange bands, the caudal margins remaining narrowly black; sternites uniformly black; surface of abdomen opaque, without shining or nacreous rings; genital shield of ovipositor velvety black; cerci long and slender, horn-colored, upcurved.

*Hab.* China (Kwangtung).

*Holotype*, ♀, White Cloud Mountain, Canton, P'an-yu District, May 6, 1934 (E. R. Tinkham).

The nearest ally is *Hexatoma (Eriocera) platysoma* Alexander (China: Szechwan), which has the abdomen similarly dilated, at least in the male sex, differing conspicuously in the pattern of the abdomen, where tergites one to four, inclusive, are orange. *H. (E.) abdominalis* Alexander (China: Kiangsi) is more distantly allied.

#### 19. *Hexatoma (Eriocera) chrysomela* (Edwards)

1931. *Eriocera chrysomela* Edwards, Ann. & Mag. Nat. Hist. (9)8:88-89.

This exceptionally beautiful *Eriocera* was described from Hong Kong (Bowring, 1861).

KWANGTUNG: White Cloud Mountain, Canton, P'an-yu District, May 27, 1934 (E. R. Tinkham). Loh Fau Shan, Wa Shau T'oi, altitude 800 feet, June 30, 1934 (E. R. Tinkham).

#### 20. *Hexatoma (Eriocera) tinkhami* n. sp. (fig. 11)

General coloration dull velvety black, the praescutum with three glabrous nacreous stripes, the centers of the scutal lobes similarly colored; antennae, halteres and legs uniformly black; wings brownish-black, the anal cells paler; a conspicuous transverse discal white area before cord, extending from vein  $R$  nearly to wing-margin in cell  $Cu$ ; veins beyond cord with numerous trichia;  $R_2$  slightly oblique;  $R_{2+3+4}$  short,  $R_{1+2}$  long; outer radial cells deep;

abdominal tergites velvety black, segments two to seven, inclusive, with narrow nacreous glabrous rings; genital shield of ovipositor orange.

*Female*.—Length, about 16-17 mm.; wing, 13-13.5 mm.

Rostrum and palpi black. Antennae (female) black throughout, 10-segmented; segments gradually shortening; setae of moderate length. Head dull grayish-black, with long coarse black setae.

Pronotum dull black, more reddish behind. Mesonotal praescutum with the ground-color dull velvety black, with three glabrous nacreous stripes; setae of interspaces abundant, erect, black; posterior sclerites of mesonotum dull velvety black, the centers of the scutal lobes polished nacreous. Pleura, including the dorsopleural membrane, dull black. Halteres black. Legs black throughout; coxae and trochanters with long black setae. Wings (fig. 11) with the ground-color brownish-black, the Anal cells paler, gray, broadly more brownish along vein *2nd A*; a conspicuous transverse white discal area lying before cord, extending from vein *R* almost to wing-margin in cell *Cu*, slightly narrowed at either end; a small yellowish spot in cell *Sc*<sub>1</sub> distad of *Sc*<sub>2</sub>; veins brownish-black, more yellowish in the white discal area. Numerous trichia on all longitudinal veins beyond cord. Venation: *Sc*<sub>1</sub> ending opposite the slightly oblique *R*<sub>2</sub>; *Rs* about one-half longer than *R*; *R*<sub>2+3+4</sub> short, less than one-half the basal section of *R*<sub>5</sub>; *R*<sub>1+2</sub> long, about one-half *Rs*; outer radial cells deep; *R*<sub>2</sub> at margin fully twice as wide as *R*<sub>3</sub>; *m-cu* at three-fourths to four-fifths the length of the lower face of cell *1st M*<sub>2</sub>.

Abdominal tergites velvety black, with relatively narrow, nacreous, glabrous rings on segments two to seven, inclusive; sternites dull black; eighth segment and genital shield orange. Ovipositor with valves long and slender, especially the cerci.

*Hab.* China (Kwangtung).

*Holotype*, ♀, Loh Fau Shan, Grand Gorge, altitude about 3000 feet, August 8, 1933 (E. R. Tinkham). *Paratopotype*, ♀, Big Pool, altitude about 2600 feet, August 7, 1933 (E. R. Tinkham).

I am very pleased to be able to dedicate this fine species to the collector, Mr. Ernest R. Tinkham, who has added greatly to our knowledge of the distribution of the Tipulidae in southeastern China. The fly is conspicuously different from the now numerous species that center about *Hexatoma (Eriocera) hilpa* (Walker). The nature of the glabrous praescutal stripes, wing-pattern and venation distinguish the species from all other regional members of the subgenus.

## 21. *Hexatoma (Eriocera) hoffmanni* n. sp. (fig. 12)

Allied to *hilpa*; general coloration black, the praescutum virtually covered by polished black stripes; antennae (male) relatively long, with unusually long coarse verticils; halteres and legs



black throughout; wings dark brown, Anal cells more grayish; an oblique yellow band virtually crosses the wing from the end of vein  $Sc_1$  into the outer end of cell  $Cu$ ; more obscure yellow areas that are freckled with brown lie before and beyond origin of  $R_s$  and at basal third of cell  $M$ ;  $R_{2+3+4}$  and basal section of  $R_5$  subequal, shorter  $R_{1+2}$ ;  $m-cu$  at near midlength of cell 1st  $M_2$ ; abdomen with segments broadly nacreous at base, the outer third of the segments velvety black; genital shield of female orange.

*Male*.—Length, about 9-10 mm.; wing, 11-12 mm.; antenna, about 5 mm.

*Female*.—Length, about 16 mm.; wing, 13 mm.

Rostrum and palpi black. Antennae relatively long, especially in male, as shown by the measurements; 7-segmented in male, 11-segmented in female; flagellar segments with unusually long coarse verticils, especially in male; on the fifth and sixth segments these verticils are from one-third to one-fourth the length of the segments; besides the long verticils, the entire segments are covered with a short erect white pubescence. Head dull black; vertical tubercle low to scarcely evident.

Mesonotum opaque black, the praescutum virtually covered by three polished black stripes that are narrowly bordered by opaque black, the narrow posterior interspaces polished but with long erect setae; centers of scutal lobes polished; posterior sclerites of notum more opaque; scutellum with abundant long erect setae. Pleura dull black. Halteres black. Legs black throughout. Wings (fig. 12) dark brown, the Anal cells more grayish; an oblique yellow band virtually crosses the wing, beginning at costa near end of vein  $Sc_1$ , terminating in outer end of cell  $Cu$ , narrowest where it traverses  $R_s$ ; less distinct yellow areas that are speckled with brown lie before and beyond origin of  $R_s$  and at basal third of cell  $M$ ; veins dark, more yellowish in the discal band. Outer radial veins with trichia; a few on outer end of vein  $M_{1+2}$ , lacking on other veins beyond cord. Venation:  $Sc_1$  relatively short, ending opposite fork of  $R_{2+3+4}$ ;  $R_s$  relatively short, about one-third longer than  $R$ ;  $R_{2+3+4}$  and basal section of  $R_5$  subequal, a little less than  $R_{1+2}$ ; cell  $M_1$  lacking;  $m-cu$  at near midlength of cell 1st  $M_2$ .

Abdominal segments with bases broadly glabrous and nacreous, the caudal borders more narrowly opaque black; genital shield in female orange; hypopygium black.

*Hab.* China (Kwangtung).

*Holotype*, ♀, Shek Mun Kap, Lan-tau Island, near Hong Kong, August 15, 1934 (Y. W. Djou). *Allotype*, broken ♂, Hong Kong Island, summer of 1933 (W. E. Hoffmann). *Paratype*, a broken ♂, Lin Wa Toi, Lan-tau Island, August 10, 1934 (Y. W. Djou).

This interesting species is named in honor of Professor William E. Hoffmann, in grateful recognition of his continued co-operation

in making known the rich Tipulid fauna of southern and eastern China. The fly is quite distinct from those members of the subgenus that are allied to *hilpa* and have the praescutal stripes polished. The unusually long antennal verticils and the narrow oblique yellow discal fascia distinguish the species from all such allied forms.

22. **Hexatoma (Eriocera) davidi** (Alexander)

1922. *Eriocera davidi* Alexander, Bull. Mus. d'Hist. Nat. Paris, for 1922: 295-296.

One female, Loh Fau Shan, Kwangtung, altitude 3800-4000 feet, August 12, 1933 (E. R. Tinkham). The mesonotum is uniformly opaque velvety black, with delicate but conspicuous erect setae on praescutal interspaces, scutum and scutellum. Genital shield of female fiery orange.

23. **Hexatoma (Eriocera) tuberculata** Alexander

1936. *Hexatoma (Eriocera) tuberculata* Alexander, Phil. Jour. Sci. 61: 130-131.

The types of this distinct fly were from various stations in Hainan, collected by Mr. J. Linsley Gressitt. Several additional specimens from different Hainan localities.

Tai-ping-lam-ts'uen, back of Lai-mo-ling (mountain range), Ting-an District, June 11-12, 1935 (F. K. To). Tai-tsing-lam-ts'uen, back of Lai-mo-ling, Ting-an District, June 13-16, 1935 (F. K. To). Cheung-kon-ts'uen, Ka-luk-kon, 18 miles east of Naam-fung, Kiung-shan District, March 29-31, 1935 (F. K. To). Tai-pin-ts'uen, Lam-ka-heung, Lai-mo-ling, Kiung-shan District, May 17-18, July 22, 1935 (F. K. To). Faan-da, 9 miles south of Nodoa, Tan District, July 10-11, 1932 (F. K. To). Hau-ying-ts'uen, 5 miles SE. of Nodoa, Lin-kao District, August 1-6, 1932 (F. K. To).

24. **Hexatoma (Eriocera) cantonensis** Alexander

1938. *Hexatoma (Eriocera) cantonensis* Alexander, Phil. Jour. Sci., (*in press*).

Described from specimens taken at various stations in Kwangtung and Kiangsi Provinces. Additional Kwangtung records: Loh Fau Shan, Big Pool, altitude about 2600 feet, August 7, 1933 (E. R. Tinkham). Tung Chung, Lan-tau Island, near Hong Kong, August 16-19, 1934 (Y. W. Djou). Shek-mun-kap, Lan-tau Island, August 15, 1934 (Y. W. Djou).

25. **Hexatoma (Eriocera) monoleuca** n. sp. (fig. 13)

General coloration dark reddish-brown; head and thorax with long coarse erect setae; antennal flagellum uniformly brown; halteres and legs brown; wings brown, with a small whitish hyaline discal area in outer ends of cells *R* and *M*; *R*<sub>2</sub> transverse; *R*<sub>s</sub> in direct alignment with *R*<sub>5</sub>; *m-cu* at outer end of cell 1st *M*<sub>2</sub>; genital shield of ovipositor orange.

*Female*.—Length, about 13 mm.; wing, 10 mm.

Rostrum and palpi reddish-brown. Antennae brown, the flagellar segments not bicolored, as in *hirtithorax*. Head brown; vertical tubercle entire; head with unusually long and abundant dark setae.

Mesonotum dark reddish-brown, the praescutum with an intermediate pair of lighter reddish stripes, the usual lateral stripes less distinct; setae of praescutal interspaces abundant, long and erect; scutellum with conspicuous setae; mediotergite nearly glabrous. Pleura reddish-brown. Halteres dark brown. Legs reddish-brown, the outer tarsal segments darker. Wings (fig. 13) relatively short and broad, light brown, the Anal cells a trifle paler; a small whitish hyaline discal area occupying the outer ends of cells *R* and *M*, barely invading cell *R*<sub>1</sub>, its outer edge at fork of *R*<sub>5</sub>; veins brown, *M* more yellowish in the discal area. Venation: *Sc*<sub>1</sub> ending opposite the faintly indicated, transverse *R*<sub>2</sub>; *h* oblique; *R*<sub>5</sub> relatively short, in direct longitudinal alignment with *R*<sub>5</sub>; *R*<sub>2+3+4</sub> short, only a little more than one-half the basal section of *R*<sub>5</sub>; outer Medial veins faint; *m-cu* at extreme outer end of cell 1st *M*<sub>2</sub>, subequal to the distal section of *Cu*<sub>1</sub>; cell 2nd *A* narrower than in *hirtithorax*.

Abdomen reddish-brown, the intermediate tergites darker, especially medially; basal rings not conspicuously nacreous but glabrous or virtually so; genital shield orange.

*Hab.* China (Hainan Island).

*Holotype*, ♀, Hau-ying-ts'uen, 6 miles SE. of Nodoa, Lin-kao District, July 27-28, 1932 (F. K. To).

The nearest relative is *Hexatoma (Eriocera) hirtithorax* Alexander, likewise from Hainan Island, which differs in the intense velvety black coloration, distinct wing-pattern and venation, and the intensely blackened genital shield of the ovipositor. It is possible that the present fly may be discolored and that in living specimens the color of the body and appendages may be darker than above described.

## 26. *Hexatoma (Eriocera) bifenestrata* n. sp. (fig. 14)

General coloration black, the mesonotal praescutum opaque gray, with four narrow, dull blackish stripes; antennae (male 8-segmented); halteres and legs black; wings brown, the Anal cells paler; two large whitish discal areas forming an irregular band before cord, separated from one another by dark color along *R*<sub>5</sub>; a tiny yellow spot at wing-tip; *R*<sub>2+3+4</sub> longer than *R*<sub>1+2</sub> or basal section of *R*<sub>5</sub>; cell *R*<sub>3</sub> at margin subequal in extent to cell *R*<sub>2</sub>; cell 1st *M*<sub>2</sub> longer than any of the veins beyond it; abdomen with bases of segments broadly bluish nacreous, the apices narrowly velvety black.

*Male*.—Length, about 14 mm.; wing, 11 mm.; antenna, about 3 mm.

Rostrum and palpi black. Antennae (male) 8-segmented; scape and pedicel brownish-black, flagellum paler brown; flagellar segments gradually decreasing in length and diameter outwardly. Head dull black, sparsely pruinose; vertical tubercle small, simple, with smaller raised areas in front of it.

Pronotum blackish-gray. Mesonotal praescutum opaque gray, with four narrow, more blackish, opaque stripes; intermediate pair narrowly separated by a gray line, ending some distance before suture; setae of interspaces long and conspicuous; posterior sclerites of notum blackened. Pleura black. Halteres black, the stem paler. Legs black. Wings (fig. 14) strongly suffused with brown, the Anal cells paler, except for a broad seam along vein *2nd A*; two whitish discal areas, a small one in cell  $R_1$  and a larger area in outer ends of cells  $R$  and  $M$ , extending from  $R_s$  across the outer end of vein  $M$  to beyond midwidth of cell  $M$ ; a tiny yellow apical spot in extreme ends of cells  $R_3$  and  $R_4$ ; veins brown, yellow in the major discal area. Macrotrichia on outer branches of  $R$ , more sparse on the posterior veins, lacking on  $M$  and  $Cu$ . Venation:  $R_s$  relatively short, about one-fifth longer than  $R_1$ , a little arched before mid-length;  $R_{2+3+4}$  about twice the basal section of  $R_5$ ;  $R_{1+2}$  about two-thirds  $R_{2+3+4}$ ;  $R_2$  subequal to  $R_{2+3}$ , transverse; veins  $R_3$  and  $R_4$  diverging widely at outer ends so cell  $R_3$  at margin is subequal to or a little wider than cell  $R_2$ ; cell *1st M*<sub>2</sub> elongate, exceeding the veins beyond it; *m-cu* at about two-thirds the length of the cell, a little longer than the distal section of  $Cu_1$ .

Abdomen relatively long, the bases of the segments broadly nacreous, with bluish reflexions, the caudal borders more narrowly velvety black, this becoming a little wider on the outer segments; outermost segments and hypopygium uniformly black.

*Hab.* China (Hainan Island).

*Holotype*, ♂, Hau-ying-ts'uen, 5 miles SE. of Nodoa, Lin-kao District, August 1-3, 1932 (F. K. To).

A very distinct species. By Edwards's key to the species of *Eriocera* (l.c.), it runs to couplet 105, including *Hexatoma (Eriocera) selene* (Osten Sacken) and *H. (E.) leucotela* (Walker), entirely different flies.

## 27. *Conosia irrorata* (Wiedemann)

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

Very widely distributed over the Palæotropical Regions.

KWANGTUNG: Loh Fau Shan, Grand Gorge, altitude about 3000 feet, August 8, 1933 (E. R. Tinkham). Honam Island, Canton, P'an-yu District, May 21, 1935 (W. E. Hoffmann), November 21, 1933 (E. R. Tinkham), September 28, 1936 (F. K. To). Wui-tung,

Lingnan Agricultural Experiment Station, Chung-shan District, March 9-12, 1935 (H. Fung). Yaoshan, mountain range, Lien District, April 24-26, 1934 (F. K. To).

## 中國大蚊科之研究 (雙翅目)

### II. 中國東南部之新大蚊及其鮮經研究之品種

亞力山大著

美國士得色朱沙麻大學

(摘要)

本文首節見民國廿一年之嶺南科學季刊第十一卷第五〇五至五〇八頁。此節發表華產大蚊共二十七種。計屬 *Tipulinae* 亞科者九種，中以 *Ctenophora pselliophoroides*, *Pselliophora sternoloba*, *P. fuscolimbata*, *P. jubilata*, 及 *Tipula (Oreomyza) clinata*. 爲新種。屬 *Cylindrotominae* 亞科者僅一種；惟屬 *Limoniinae* 亞科者則有十七種，中以 *Limonia (Libnotes) lantauensis*, *Hexatoma (Eriocera) toi*, *H. (E.) longiradialis*, *H. (E.) scalatcr*, *H. (E.) tinkhami*, *H. (E.) hoffmanni*, *H. (E.) monoleuca*, 及 *H. (E.) bifenestrata*. 爲新種。