

From the ANNALS AND MAGAZINE OF NATURAL HISTORY,
Ser. 12, vol. ii. p. 178, March 1949.

NEW OR LITTLE-KNOWN TIPULIDÆ (DIPT.).
—LXXXIII. ORIENTAL-AUSTRALASIAN
SPECIES.

Published June 1949.

New or little-known Tipulidæ (Diptera).—LXXXIII. Oriental-Australasian Species. By CHARLES P. ALEXANDER, Ph.D., F.R.E.S., University of Massachusetts, Amherst, Massachusetts, U.S.A.

THE materials discussed at this time are all from eastern and southeastern China, most of the specimens having been secured in Kwangtung and Hainan by Dr. J. Linsley Gressitt and assistants, and in the Province of Fukien, chiefly by Mr. Hsiu-fu Chao, Mr. Joseph Fu, and Professor Tsing-chao Maa, under conditions described below. One further species is based on materials in the Musée Heude, Shanghai, received some years ago from the late Père Octave Piel.

Particular attention is now being devoted to the Tipulidæ of the high mountains along the Kiangsi-Fukien border, called the Sia-Ya-Lin, or in their northern portion, the Bohea Hills. Of special interest is the restricted mountain block lying chiefly in Chung-an Hsien that is referred to in the present and subsequent papers as Kuatun or Kua-tun (Kaotên, Quaten), at 27° 65' N. Lat., 117° 65' E. Long. This particular area includes what are evidently the highest and most rugged mountains in all Eastern China, and it is believed that a detailed study of the Tipulidæ will aid in clarifying the somewhat involved problems of distribution in this particular region. As described by Pope (1931 : 410), in referring to the Province of Fukien : "The deeply indented coast, a result of subsidence, is no less rugged and hilly than the interior, though here the low mountains are broken up by plains. Proceeding inland, the mountains increase and the plains diminish until, along the western border, high, steep ranges almost completely intercept transportation. It is here that peaks rise to more than 7000 feet and sparsely settled, primæval forests abound. These western ranges arise from a plateau about 1200 feet above sea-level."

An important paper by Cheng and Li (1940) summarizes the zoological interests and activities in the Kuatun District, beginning with the arrival in 1873 of Père Armand David, who stressed chiefly the vertebrate fauna of this

at that time wholly unknown region. J. D. La Touche, working on birds, collected on Kuantun between 1896 and 1898 and during the period trained some of the local Chinese, particularly the Tang family. C. H. Pope (1929, 1931), collecting amphibia and reptiles, was in the Kuantun District between June 12 and July 20, 1925, and April 25 and September 3, 1926. Apparently the earliest general entomological collections were made by Mr. Johanne Klapperich, of the Reichmuseum Alexander Koenig, Bonn, Germany, between April 1937 and July 1938, a total of about 375 collecting days, during which some 160,000 insect specimens were secured. Here again Klapperich was greatly aided by certain efficient Chinese collectors who had been trained by the earlier zoologists. Klapperich was in the vicinity of Kuantun between January 1 and June 25, 1938. A summary of his trip is given by von Jordans and Niethammer (1940). Between 1938 and 1945, Fukien Christian University, located in Foochow, was obliged by conditions of war to move to inland Fukien and re-located at Shaowu, southwest of Kuantun. During this period very extensive collections were made by certain members of the Staff in Biology, including Dean T. H. Cheng, Professor T. C. Maa, Mr. Hsiu-fu Chao, and others. It has been my great privilege to have studied the Tipulidæ of the Klapperich Collection (Alexander, 1940) and more recently the very much more extensive series of Tipuloidea taken by Professor Maa, Mr. Chao, and others, particularly the skilful Chinese collector, Mr. Joseph Fu. The types of the novelties described in this series of papers are in my personal collection of these flies except where indicated to the contrary; those sent by Professor Maa will be returned to him for eventual inclusion in the insect collection of the Academia Sinica. The species sent by Dr. Gressitt will be deposited in the Lingnan University Collection, Canton. I am particularly indebted to Mr. Hsiu-fu Chao, Teaching Fellow in our Department of Entomology, for aid in assembling references, translations, and especially for the gift of many specimens of Fukien Tipulidæ.

From the various only too brief descriptions, particularly that of Klapperich (von Jordans and Niethammer, 1940: 106-108), Kuantun may be described as comprising rugged

mountains, covered with extensive and in part continuous forests of mixed hardwoods and conifers, the latter including fir and pine, with much bamboo. The undershrubs include especially species of *Rhododendron*. The mountain summits are in part covered with grass that grows to a height of nearly two feet or even higher. Tea plantations are scattered throughout the forests. Winter temperatures often drop below freezing and snowfalls are not uncommon. There is a most unfortunate lack of agreement as to the altitude of Kuatun, particularly the summit, commonly called Mount David. The recent Chinese workers indicate the maximum height as being 1980 metres or 6490 feet. A still higher peak of the Sia-Ya-Lin Range just north of the Fukien-Kiangsi interprovincial highway is Hwangkongnanshan, whose altitude is given by Maa as 2106 metres or 6910 feet. Klapperich, while being provided with an altimeter, gives an altitude up to about 3000 metres or about 9845 feet, which seems certainly far too high and, unfortunately, has been widely cited in the now numerous papers based on his 1937-38 collections.

The number of zoological novelties already described from the Kuatun District is astonishing. Pope (1931) records 62 vertebrates, excluding fish, that were originally described from the region:—mammals, 15; birds, 27 (La Touche gives 39), reptiles, 14; amphibia, 6. The number of new species of insects already described is very large and will unquestionably be vastly increased during the coming years. The fauna and flora of the Kuatun District show an almost perfect mixing of Palæartic and Oriental elements. As stated by Pope (1931), "it would be hard to find another place possessing such a complete mixture of Amphibia representing two of the major faunistic divisions of the world." While very many of the species, particularly those from the higher altitudes, are still known only from this general region, there are numerous further species that likewise occur in Formosa and the same or still other species in the mountains of southwestern China. A small number of forms, including the genus *Macgregoromyia* cited later in this report, show a relationship with Luzon while not having been found to this date in Formosa (a distribution pattern discussed by Gressitt, 1936).

The references cited above are as follows :—

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- GRESSITT, J. L. 1936. "Notes on collecting in Formosa." The Entomological World (Tokyo), iv, pp. 711-727.
- JORDANS, ADOLF VON, and NIETHAMMER, GÜNTHER. 1940. "Eine Vogelausbeute aus Fukien." Verh. Orn. Ges. Bay., 22, Heft i, pp. 98-136, 5 pls.
- POPE, CLIFFORD H. 1929. "Notes on Reptiles from Fukien and other Chinese provinces." Bull. Amer. Mus. Nat. Hist., lviii, pp. 335-487, 19 figs., 2 maps.
- . 1931. "Notes on Amphibians from Fukien, Hainan, and other parts of China." *Ibid.*, lxi, pp. 397-632, 39 figs., 1 map, 10 pls.

Longurio (Longurio) chaoianus, sp. n.

Size large (abdomen of female 30 mm.); mesonotum obscure orange, the præscutum with four black stripes, the intermediate pair only narrowly separated; wings broad, pale brown, patterned with darker brown; *Rs* short and arcuated, only a little longer than R_{2+3} ; basal abdominal tergites yellow, the outer ones passing into black; sternites yellow, each with two linear median black dashes.

Female.—Length about 35 mm.; wing 21 mm.; abdomen alone about 30 mm.; antenna about 1.6 mm.

Frontal prolongation of head yellow; palpi brown, the terminal segment a trifle longer than the combined second and third segments. Antennæ with basal five segments yellow, the remainder passing into brown; outer flagellar segments elongate-cylindrical, with long conspicuous verticils. Head uniformly pale yellow, slightly more orange behind; anterior vertex about three times the diameter of the scape.

Pronotum light brown, variegated with brownish black. Mesonotal præscutum obscure orange, with four black stripes, the intermediate pair separated only by a capillary median vitta, ending far before the suture; lateral stripes crossing the suture and covering the outer two-thirds or three-fourths of the scutal lobes, the broad median region of the scutum and the scutellum yellow; postnotum yellow with a restricted darkening over the cephalic

portion. Pleura chiefly infuscated, the dorsal pteropleurite more obscure yellow; a more blackened spot on the pteropleurite below the wing root and vague other markings closer to the same spot. Halteres brownish yellow, the knob weakly darkened. Legs with the fore coxæ obscure yellow, the remaining coxæ with their outer faces strongly infuscated; trochanters yellow, more or less patterned with darker, especially the posterior pair; femora yellowish brown, the tibiæ and tarsi gradually passing into black. Wings broad, the ground-colour pale brown, more suffused along the costal border and in the bases of cells *R* and *M*; stigma small, dark brown, conspicuous; paler brown clouds along *Rs*, over the anterior cord, along vein *Cu* in cell *M*, and on *m-cu*; veins beyond cord less evidently seamed with brown; a broad pale brown wash in cell 1st *A* adjoining vein 2nd *A*; veins brown. Venation: *Rs* short and arcuated, only a little longer than R_{2+3} ; *m* subequal to or longer than petiole of cell M_1 ; cell 2nd *A* broad.

Abdomen elongate, as shown by the measurements; basal tergites yellow, on the sixth and succeeding segments passing through brown to brownish black; sternites yellow, each with two linear black median areas, one on each ring, the latter separated by unusually distinct transverse impressions.

Hab. China (Fukien).

Holotype, ♀, Ta-chu-lan, altitude 1500 metres, June 30, 1943 (*Joseph Fu*).

I am very pleased to name this striking species for Mr. Hsiu-fu Chao, at this time a graduate student and teaching fellow at the University of Massachusetts. Among the described regional species, the fly is most similar to *Longurio* (*Longurio*) *fulvus* Edwards, of Formosa and eastern China, differing especially in the large size, elongate abdomen, and in the coloration, particularly of the thoracic dorsum.

Tipula (*Nobilitipula*) *fuiana*, sp. n.

Mesonotum yellow, the præscutum with three clear grey stripes that are bordered by black, the central stripe further split by a capillary blackened vitta; antennæ with scape and pedicel yellow, flagellum black; wings with a brownish yellow tinge; stigma brown; abdomen black,

the basal segments yellowed, lateral tergal borders light grey; valves of ovipositor unusually short and blunt.

Female.—Length about 13 mm.; wing 14.5 mm.; antenna about 3 mm.

Frontal prolongation of head short, yellow; palpi light brown. Antennæ with the scape and pedicel light yellow, flagellum brownish black, the extreme base of the first flagellar segment restrictedly yellow; flagellar segments subcylindrical, the basal swellings only slightly indicated; verticils conspicuous, exceeding the segments in length. Head light yellow.

Pronotum yellow, very vaguely more darkened medially. Mesonotal præcutum yellow with three clear light grey stripes that are bordered by black, the lateral borders of the central stripe heavily so, the lateral margins of the outer stripes very narrow; central stripe further divided by a capillary blackened line; remainder of mesonotum yellow, each scutal lobe with two virtually confluent grey areas that are narrowly bordered by black, the latter colour continued backward to the base of the scutellum; scutellum with a narrow dusky central vitta; medio-tergite with a pair of grey spots on posterior border. Pleura of the unique type crushed, apparently uniformly light yellow; pleurotergite weakly darkened ventrally. Halteres yellow. Legs with the coxæ and trochanters yellow; femora brown, the tips broadly blackened, their bases more yellowed; tibiæ brown, the tips narrowly blackened; tarsi black, the proximal end of basitarsi slightly paler. Wings with a brownish yellow tinge, the prearcular field and costal cell a trifle more saturated; cell *Sc* dark; stigma oval, brown; wing tip and posterior border, with a further seam along outer half of vein *Cu*, paler brown; a narrow brown seam over the anterior cord; veins brown. Venation: *Sc*₂ ending shortly before the fork of *Rs*, the latter arcuated; cell *M*₁ deep, its petiole less than one-half *m*; *m-cu* on *M*₄ shortly beyond origin.

Abdominal tergites one to three yellowed laterally, dark brown medially, the succeeding tergites black, only the reduced genital segments light brown; tergites four to seven, inclusive, with light grey lateral borders; basal sternites yellow, the outer ones blackened, grey pruinose, the caudal margins very narrowly yellow. Ovipositor

with both cerci and hypovalvæ unusually short and blunt.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 1500 metres, May 19, 1942 (*T. C. Maa and Joseph Fu*); type returned to Professor Maa.

I am very pleased to name this interesting fly for Mr. Joseph Fu, most efficient collector of insects and other natural history specimens. The subgenus *Nobilitipula* Alexander (Diptera of Connecticut, p. 239; 1942) had been known hitherto only from two species in the eastern United States and Canada. Of these, the present fly is closest to *Collaris* Say, differing in details of coloration and in the structure of the ovipositor.

Tipula (Oreomya) mauiana, sp. n.

Size large (wing, 29 mm. or more); mesonotal præscutum obscure yellow, with four light grey stripes; pleura light grey pruinose, with a broad dorsal brown stripe; antennæ yellow; legs brownish yellow, the outer tarsal segments darkened; wings yellow, very restrictedly patterned with brown; abdomen yellow, the tergites trivittate with brown; male hypopygium with the tergite large, the lateral lobes expanded, the outer angle of each further narrowed into a pale hairy lobe; dististyles two, the outer a flattened clavate blade, the inner style expanded at apex into a transverse head.

Male.—Length about 24–26 mm.; wing 29–30 mm.; antenna about 5.5–5.7 mm.

Female.—Length about 34–36 mm.; wing 33–37 mm.; antenna about 5 mm.

Frontal prolongation of head yellow, grey pruinose on dorsal half, more infuscated beneath; nasus distinct; palpi brownish black. Antennæ yellow, the basal swellings of the segments scarcely darker, inconspicuous; verticils slightly longer than the segments. Head fulvous, the orbits more pruinose; vertical tubercle narrow, entire.

Pronotum obscure yellow, weakly bilobed. Mesonotal præscutum chiefly covered with four light grey stripes, the restricted obscure yellow interspaces with long pale erect pale setæ; a nearly continuous capillary dark brown vitta extending from near the cephalic portion of the præscutum to near the posterior border of the mediotergite, widest on the præscutum; posterior sclerites of

notum chiefly light grey. Pleura light grey ventrally, with a conspicuous dorsal brown stripe extending from the cervical region to the root of the halteres. Halteres elongate, stem yellow, knob infuscated. Legs with the coxæ light grey pruinose; trochanters yellow; remainder of legs brownish yellow, the outer tarsal segments darker brown to brownish black; spur formula 1-2-2; claws (male) toothed. Wings yellow, very restrictedly patterned with brown, including small spots at origin of *Rs*, basal section of M_{1+2} , basal section of M_3 , fork of M_{1+2} , and a spot at near midlength of cell *Cu*; extreme tips of veins R_3 to 1st *A*, inclusive, with even less evident darkenings; veins yellow, darker in the patterned areas. Squama naked; veins beyond cord with abundant trichia. Venation: *Rs* long, about two-thirds longer than the unusually long *m-cu*; R_{1+2} preserved; M_{3+4} unusually long, its basal section longer than the first section of M_{1+2} ; *m-cu* some distance before fork of M_{3+4} ; petiole of cell M_1 longer than *m*, in cases twice as long; cell M_4 unusually broad, *m-cu* and the distal section of Cu_1 subequal in length or the latter a trifle longer.

Abdomen chiefly obscure yellow, the tergites trivittate with brown, in male the median stripe very narrowly broken into linear streaks that narrow posteriorly, in female this stripe more nearly continuous; lateral stripes broader and continuous, the extreme lateral borders greyish; basal sternites clear yellow, the outer ones, with the hypopygium, more brownish yellow. Ovipositor with the valves long and slender, especially the nearly straight cerci, these a little dilated and obtuse at tips. Male hypopygium with the tergite large, the lateral lobes expanded, the outer lateral angle of each further produced into a narrow pale hairy lobe; median notch of tergite with a low lobe at base. Outer dististyle a flattened clavate blade, its obtuse apex narrowly blackened. Inner dististyle dilated basally, thence narrowed, at apex expanded into a transverse blade or head, one end of which is obtuse, blackened, the opposite end narrowed and upcurved into a small black point. Eighth sternite relatively large, its caudal margin produced into a small obtuse lobe, this and the ventral surface back from it with long yellow setæ.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 1500 metres, November 23, 1942 (*T. C. Maa and Joseph Fu*); type returned to Professor Maa. *Allotopotype*, ♀, November 29, 1942. *Paratopotypes*, 1 ♂, 1 ♀, December 7-12, 1942; 1 ♀, altitude 5000 feet, December 28, 1940 (*Joseph Fu*).

This striking late-season species is named for Professor Tsing-chao Maa, who collected many rare and interesting Tipulidæ in the Kuantun District. The most similar species is *Tipula (Oreomyza) livii* Alexander, which agrees in the general coloration of the body and wings, differing conspicuously in the structure of the male hypopygium, particularly of the dististyles. I had referred *livii* to the subgenus *Oreomyza* Pokorny and continue to place these two isolated species in this group though without certainty. It is possible that they may later be referred to *Bellardina* Edwards (*Sinotipula* Alexander).

Macgregoromyia fohkienensis, sp. n.

Mesonotal præscutum with three confluent brown stripes, the broad lateral borders yellow; pleura yellow pollinose, variegated with brown; legs black; wings with a weak brownish tinge, patterned with darker brown, including a major spot over the anterior cord; *Rs* short, arcuated, lying shortly before the level of the slightly shorter *r-m*; *R*₁₊₂ chiefly atrophied, the outer end recurved, narrowing the cell; cell 1st *M*₂ strongly pointed at outer end, with *m* very short to obliterated.

Female.—Length about 10 mm.; wing 12 mm.

Frontal prolongation of head light brown, brighter above; palpi light brown. Antennæ short; scape and pedicel light yellow, flagellum black, the base of the first segment yellow, flagellar segments cylindrical, the verticils very small. Head buffy behind, the broad anterior vertex darker; posterior orbits more yellowed.

Pronotum brown, yellow pollinose. Mesonotal præscutum with three confluent brown stripes, the broad lateral borders yellow; posterior sclerites of notum dark brown, the parascutella still darker. Pleura chiefly yellow pollinose, variegated with brown, including a major area on the ventral anepisternum and an anterior extension on to the propleura; ventral sternopleurite darkened; dorsopleural membrane light yellow. Halteres elongate,

dark brown, the extreme base of stem yellow. Legs with the coxæ yellow pollinose; trochanters yellow; remainder of legs black. Wings with a weak brownish tinge, the wing tip and posterior border more heavily darkened; stigma oval, brownish black; a brown seam along cord, expanded into a spot over the anterior cord; a seam along vein *Cu*, virtually all in the medial field; cells *C* and *Sc*, with the prearcular field, infuscated; whitish prestigmal and poststigmal spots; veins brownish black. Venation: *Sc* long, *Sc*₂ ending far beyond the fork of *Rs*; *Rs* short, arcuated, lying shortly before the level of the slightly shorter *r-m*, the latter about one-half its length before the fork of *Rs*; *R*₁₊₂ chiefly atrophied, represented by a basal spur and a subatrophied apex that swings basad and cephalad to touch the free tip of vein *Sc*₂, closing cell *Sc*₂ or virtually so; cell 1st *M*₂ strongly pointed at outer end, with *m* very short or obliterated by the touching or short fusion of veins *M*₁₊₂ and *M*₃; *m-cu* a short distance before fork of *M*₃₊₄; cell 2nd *A* relatively narrow.

Abdominal tergites dark brown, the lateral borders before the tips paler; sternites yellow, the extreme bases narrowly darkened; cerci long and slender, horn-yellow.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 1500 metres, May 29, 1948 (*Joseph Fu*); Alexander Collection through Chao.

This is the first record for the genus in eastern China. There are three further species in western China, two in northern Luzon and one in the Malay Peninsula. The present fly is most nearly allied to *Macgregoromyia celestia* Alexander, of western China, differing in all details of coloration and venation.

Dolichopeza (Sinoropeza) multiseta, sp. n.

Mesonotum dark brown, the præscutum with a more brownish yellow central stripe; antennæ and legs dark brown throughout; wings with a strong brownish tinge, stigma and costal border darker brown; restricted brown seams along the cord and outer emdial veins; outer cells of wing with numerous macrotrichia; *Rs* short, subequal to the basal section of *R*₄₊₅; male hypopygium complex, especially the tergite and inner dististyle.

Male.—Length about 11 mm.: wing 11 mm.; antenna about 4.5 mm.

Frontal prolongation of head short, dark brown; palpi pale brown. Antennæ dark brown throughout; flagellar segments cylindrical, the verticils basal, shorter than the segments. Head dark brown.

Pronotum testaceous yellow medially, darker on sides. Mesonotum dark brown, the præscutum with a broad more brownish yellow central stripe that is narrowed behind; mediotergite slightly pruinose. Pleura dark reddish brown. Halteres infuscated, the base of stem restrictedly pale. Legs with coxæ brown; trochanters slightly paler; remainder of legs dark brown. Wings with a strong brownish tinge, the costal border slightly darker brown; stigma dark brown; restricted brown seams over cord and the outer veins; veins brown. Numerous macrotrichia in outer wing cells from R_2 to $2nd\ M_2$, inclusive, in cells R_2 and R_3 extending almost to the bases of the cells. Venation: Bs short, subequal to the basal section of R_{4+5} ; R_{2+3} represented by a spur that is nearly twice as long as R_2 ; cell $2nd\ M_2$ about three times its petiole; $m-cu$ a little more than twice the last section of vein M ; cell $2nd\ A$ widest at near midlength.

Abdomen, including hypopygium, dark brown; sternites six and seven with well-developed pockets, the setæ of their lateral margins directed inward. Male hypopygium complex. Ninth tergite produced into two slightly divergent finger-like lobes with numerous short setæ at apex; a median blackened lobe terminating in several acute points; on ventral surface of tergal plate with an unequally trifid blackened shelf, the median lobe longest. Outer dististyle a slender lobe that bears a rounded knob on margin at near midlength. Inner dististyle very complex, produced into various lobes, including at least three separate appendages additional to the major compressed beak, one of the outer blades bearing three or four strong spines; third appendage ventral, appearing as a pendulous spine.

Hab. China (Fukien).

Holotype, ♂, Kuatun near Ta-chu-lan, June 10, 1944 (Joseph Fu); Alexander Collection through Chao.

The most similar regional species is *Dolichopeza* (*Sinoropeza*) *paucisetosa* Alexander, which differs markedly in the great reduction in number of macrotrichia in the wing cells. The male sex of this latter fly is still

unknown and will probably provide other strong specific characters when discovered.

Dolichopeza (Nesopeza) adela, sp. n.

Size relatively small (wing, female, 8.5 mm.); mesonotum almost uniformly obscure brownish yellow, the pleura even clearer yellow; legs brown, the outer fourth of tibiæ and all the tarsi snowy white; wings subhyaline, the outer cells a trifle more darkened; stigma oval, brown; Sc_2 ending about opposite two-thirds the length of Rs , the latter nearly twice the basal section of R_{4+5} ; vein R_3 long and straight; medial forks relatively short.

Female.—Length about 11 mm.; wing 8.5 mm.

Frontal prolongation of head yellow; palpi brown. Antennæ with scape brown, the pedicel and basal flagellar segments somewhat paler; outer flagellar segments broken; flagellar segments elongate-cylindrical, with long verticils that are shorter than the segments. Head brownish yellow. Pronotum pale brown. Mesonotum almost uniformly obscure brownish yellow, the præscutum with vague indications of a capillary darker line but otherwise unmarked. Pleura testaceous yellow. Halteres elongate, stem pale, knob infuscated. Legs with the coxæ and trochanters yellow; femora pale brown, the bases narrowly yellow; tibiæ brown, the tips broadly white, involving about the distal fourth; tarsi snowy white. Wings subhyaline, the outer cells a trifle more darkened than the basal ones; stigma oval, brown, its proximal end at fork of Rs ; veins brown. No macrotrichia in cells of wing. Venation: Sc_2 ending about opposite two-thirds to three-fourths the length of Rs , the latter nearly twice the basal section of R_{4+5} , free tip of Sc_2 about one-half R_1 beyond it; R_3 long and straight, about twice R_{2+3} ; medial forks relatively short, cell M_1 subequal to its petiole; $m-cu$ about four-fifths its own length before the fork of M ; cell 2nd A moderately wide.

Abdominal tergites brown, variegated with paler on sides; sternites yellow.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 1500 metres, August 16, 1945 (*Joseph Fu*); Alexander Collection through Chao.

In its general appearance, the present fly is most similar to species such as *Dolichopeza (Trichodolichopeza)*

fabella Alexander and *D. (T.) sparsihirta* Alexander, which have macrotrichia in the apical cells of wing. It differs from other small regional members of the subgenus, such as *D. (Nesopeza) incisuralis* Alexander and *D. (N.) leucocnemis* Alexander in the coloration of the body and wings and in the details of venation.

Dolichopeza (Nesopeza) lohfauiensis, sp. n.

Size very small (wing, male, 6.5 mm.); mesonotum light cinnamon brown, unpatterned; femora obscure yellow, the tips narrowly dark brown, the remainder of legs whitened; wings with a strong brown tinge, the prearcular and costal regions even darker; stigma brown with a vague brightening before it; medial forks relatively shallow; abdominal segments bicoloured; male hypopygium with the caudal border of the ninth tergite trilobed, the blackened lateral lobes extended caudad into stout spines.

Male.—Length about 7.5 mm.; wing 6.5 mm.; antenna about 2.2 mm.

Rostrum and palpi brown. Antennæ (male) moderately long, approximately one-third the wing; scape and pedicel light brown, basal flagellar segment yellow, the remainder brown; flagellar segments long-cylindrical, verticils short. Head above light brown; anterior vertex broad.

Mesonotum light cinnamon brown, not or scarcely patterned; pleura somewhat darker brown. Halteres infuscated, the base of stem restrictedly yellow. Legs with the coxæ brown; trochanters obscure yellow; femora obscure yellow, the tips narrowly and abruptly dark brown. remainder of legs yellowish white to white. Wings with a strong brownish tinge, the prearcular and costal regions even darker; stigma oval, still darker brown; a vague brightening before stigma, the poststigmatal pale area not indicated; veins brown. Venation: *Rs* arcuated, a little less than twice *m-cu*; medial forks relatively shallow, cell *M*₁ subequal in length to its petiole; *m-cu* about four-fifths its own length before fork of *M*; cell 2nd *A* moderately narrow.

Abdomen bicolorous, the segments brown, each with a yellow central ring that is subequal in extent to the darkened base or apex, this pale annulus clearest at near

midlength of abdomen, more obscured on the basal and outer segments; hypopygium dark brown. Male hypopygium with the caudal border of tergite trilobed, the conspicuous lateral lobes blackened or sclerotized, the outer angle of each produced farther caudad into a stout spinous point; ventral face of lobes darkened and set with small blackened pegs; median tergal lobe low and obtuse. Outer dististyle long and narrow, parallel-sided, the tip obtuse. Inner dististyle with the beak produced, the apex obliquely truncated, the lower apical angle blackened and sclerotized into a triangular tooth. Eighth sternite extensive, the median surface more or less carinate, the caudal margin bilobed, each lobe provided with long coarse setæ.

Hab. China (Kwangtung).

Holotype, ♂, Loh-fau-shan, near Canton, altitude 4200 feet, July 25, 1937; in Musée Heude. *Paratopotype*, ♂.

The present fly is very distinct in the unusually small size and in the structure of the male hypopygium, particularly the tergite. Superficially it suggests species like *Dolichozeza* (*Trichodolichozeza*) *fabella* Alexander and *D. (T.) sparsihirta* Alexander, which have sparse macrotrichia in the outer wing cells.

Dolichozeza (*Nesozeza*) *magnisternata*, sp. n.

Belongs to the *costalis* group; size small (wing, male, 8 mm.); general coloration of mesonotum dark brown, the præscutum with three more obscure yellow stripes; pleura variegated with brown and obscure yellow; femora and tibiæ white, tipped with black; wings pale greyish, the costal border broadly brown, bordered internally by white; medial forks shallow; male hypopygium with the tergite trilobed, blackened, the median lobe low; eighth sternite very conspicuous, in slide mounts projecting caudad beyond the other elements, each lateral angle produced into a stout lobe, the intervening margin with two small setiferous lobes, one on either side of the median line.

Male.—Length about 7–7.5 mm.; wing 8–8.5 mm.; antenna about 2.6–2.8 mm.

Frontal prolongation of head and palpi dark brown. Antennæ moderately long, about one-third the wing; scape dark brown, pedicel somewhat paler; flagellum obscure yellow, the outer segments passing into pale

brown; flagellar segments very long, with short sparse verticils. Head brown; anterior vertex relatively narrow, less than three times the diameter of scape.

Pronotum brown. Mesonotal præscutum dark brown, with three more obscure yellow stripes; posterior sclerites of notum more uniformly darkened, sparsely pruinose. Pleura variegated brown and obscure yellow, the dorso-pleural membrane and pteropleurite being of the pale colour, the latter sparsely pruinose; anepisternum darker than the dorsal sternopleurite. Halteres elongate, stem yellow, knob blackened. Legs with the coxæ brown; trochanters whitened; femora pale yellowish white, the tips broadly blackened, preceded by narrow more whitened area; tibiæ white, the tips very narrowly blackened; tarsi white. Wings with a greyish ground, the costal border broadly and irregularly brown, as in the group, the dark areas bordered posteriorly by white; the dark border sends spurs to *M* opposite origin of *Rs* and along cord to beyond *r-m*; veins pale, darker in the infuscated areas. Venation: *Rs* long and spurred; inner ends of cells *R*₃ and *R*₅ in transverse alignment; medial forks shallow; cell *M*₁ a little shorter than its petiole; *m-cu* nearly three-fourths its length before fork of *M*; cell 2nd *A* relatively broad.

Abdominal tergites chestnut, the posterior borders narrowly darkened, brightened medially before the dark margins; sides of basal half of tergites more greyish pruinose, of posterior half infuscated; basal sternites concealed by the tergites, the outer ones bicoloured; hypopygium dark brown. Male hypopygium with the tergite transverse, its caudal margin trilobed, blackened; median lobe low, obtusely rounded, smooth; lateral lobes oblique, the surface roughened by microscopic tubercles. Apex of basistyle produced into a globular lobe, with a few long setæ. Inner dististyle compressed, the beak moderately produced, the apex obliquely truncated, narrowly blackened; lower beak a blackened spinous point. Eighth sternite very conspicuous, projecting caudad beyond the other elements of the hypopygium; each outer lateral angle produced caudad into a stout lobe; intervening space subtruncate, on either side of median line with a further small compressed lobule bearing a mat of short coarse setæ; setæ abundant on disk of sternite,

fewer on the lateral lobes, the broad median area pale, membranous, with microscopic setulæ arranged in small groups, with subequal clear spaces between.

Hab. China (Kwangtung, Fukien).

Holotype, ♂, Lung-tau Shan, Kukong District, Kwangtung, at summit, altitude 1200 metres, June 8, 1947 (*J. L. Gressitt and T. S. Lam*). *Paratypes*, 4 ♂♂, Ta-chu-lan, Fukien, altitude 1500 metres, May 27-29, 1948 (*Joseph Fu.*)

From other similar regional species, including *Dolichopeza* (*Nesopeza*) *geniculata* Alexander and *D. (N.) subgeniculata* Alexander, the present fly differs chiefly in the structure of the male hypopygium, particularly on the eighth sternite.

Cylindrotoma fokiensis, sp. n.

Closely allied to *taiwania*; general coloration black; wings with a weak brownish tinge, the costal border a little darkened; vein *Cu*₁ bent strongly caudad at outer end, narrowing cell *Cu*.

Female.—Length about 7 mm.; wing 7.2 mm.; antenna about 1.7 mm.

Rostrum and palpi brown. Antennæ (female) short, 14-segmented; flagellar segments cylindrical; antennæ light brown, the outermost segments darker. Head with the front and anterior vertex behind the antennal bases depressed, pruinose; remainder of posterior portion of head black, the surface sparsely pruinose.

Thorax black, the præscutal interspaces coarsely punctured, the stripes smooth; scutal lobes smooth, the remainder of mesonotum and pleura with similar conspicuous punctures, these lacking on the ventral sternopleurite; dorsopleural membrane yellow. Halteres brown, base of stem yellow. Legs with coxæ brown, punctured; trochanters yellow; remainder of legs yellow, the tips of femora and tibiæ narrowly and inconspicuously darkened; outer tarsal segments infuscated. Wings with a weak brownish tinge; the costal border narrowly darker brown; veins medium brown. Numerous macrotrichia on outer radial and medial branches, as well as a series on outer half of *Rs*. Venation: *Sc*₁ ending about opposite three-fourths the length of the long *Rs*, the latter in direct alignment with *R*₄₊₅; *r-m* and *R*₂₊₃ interstitial; vein *R*₃ nearly

twice as long as R_{2+3} ; Cu_1 deflected strongly caudad, narrowing cell Cu .

Basal segments of abdomen dark brown, the outer ones more yellowish brown, the pleural membrane yellow. Ovipositor buffy yellow; cerci oval in outline.

Hab. China (Fukien).

Holotype, ♀, Ta-chu-lan, altitude 1500 metres, April 24, 1944 (*Joseph Fu*); Alexander Collection through Chao.

The present fly is closest to *Cylindrotoma taiwania* (Alexander) of the mountainous sections of Formosa and eastern China (Chekiang). It differs especially in slight details of venation, especially the approximation of veins Cu_1 and 1st A . In the various specimens of *taiwania* before me, cell M_4 at wing margin is not more than three times as extensive as cell Cu whereas in the present fly it is from five to six times as wide. It is possible that more material may show the present insect to be only sub-specifically distinct.

Liogma brunneistigma, sp. n.

Thorax almost uniformly black, the surface subnitidous; antennæ (male) with the flagellar segments strongly serrate; wings weakly tinged with brown, the oval stigma dark brown, conspicuous; cell 1st M_2 elongate, subequal to the distal section of vein M_{1+2} ; male hypopygium with the lobe of basistyle short and with relatively few setæ.

Male.—Length about 12–13 mm.; wing 9–10 mm.

Rostrum very short, obscure yellow; palpi dark brown. Antennæ with the scape brown, pedicel a trifle paler; basal flagellar segments obscure yellow with the apex of the pectination darker; outer segments uniformly dark brown; flagellar segments beyond the first strongly serrate, the lobe approximately one-half the length of the segment or slightly longer. Head dull black, sparsely pruinose; anterior vertex broad.

Thorax black, smooth and subnitidous; præscutal longitudinal impressions well marked behind; dorso-pleural membrane buffy. Halteres infuscated, base of stem restrictedly paler. Legs with all coxæ black, sparsely pruinose; trochanters yellow; femora and tibiæ obscure yellow, their tips rather narrowly infuscated, more broadly so on the femora; tarsi brown, passing into darker brown. Wings with a weak brownish tinge, the oval

stigma dark brown, conspicuous; veins pale to medium brown. Venation: Sc_1 ending some distance beyond level of fork of R_s , Sc_2 very close to the fork level; $r-m$ obliterated by fusion of veins R_{4+5} and M_{1+2} ; cell 1st M_2 elongate, subequal to the distal section of vein M_{1+2} ; $m-cu$ about one-third to one-fifth its length beyond the fork of M ; cell 2nd A broad.

Abdomen dark brown to brownish black, including hypopygium. Male hypopygium with the lobe of the basistyle shorter than in *serraticornis*, the setæ strong but relatively few in number. Dististyle shorter and stouter, narrowed on the outer third, the tip obtuse. Gonapophyses with the heads microscopically roughened or papillose, not smooth as in *brevipecten*.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 1500 metres, May 2, 1944 (*Joseph Fu*). *Paratopotypes*, ♂♂.

The most similar species in eastern Asia is *Liogma serraticornis* Alexander, of Japan, which has the degree of antennal serration much as in the present fly. The two species differ in relatively slight characters of structure and colour, as indicated in the diagnosis.

Diogma brevifurca, sp. n.

Mesonotum reddish yellow, the præscutum with four black stripes; pleura and pleurotergite uniformly yellow; antennæ short, the flagellar segments with long verticils; wings narrow; Sc_1 ending beyond the level of $r-m$; R_{2+3} shorter than vein R_3 ; $m-cu$ at or close to fork of M ; male hypopygium with the ædeagus broad, forking into two very short arms, their tips obliquely truncated.

Male.—Length about 13 mm.; wing 10 mm.; antenna about 1.6 mm.

Rostrum very short, pale yellow; palpi dark brown. Antennæ (male) short, as shown by the measurements; scape and pedicel pale yellow, flagellum dark brown; flagellar segments passing through suboval to elongate-cylindrical, with very long verticils, the outer segments progressively more elongate. Head above obscure yellow, the centre of the posterior vertex broadly blackened.

Pronotum obscure yellow. Mesonotal præscutum reddish yellow with four black stripes, the intermediate pair narrow, converging behind, separated by a reddish median

vitta of approximately equal width; lateral præscutal stripes broader; posterior sclerites of notum prædich brown, the scutal lobes and the scutellum patterned with black; surface of mesonotum without sculpturing, subnitidous. Pleura and pleurotergite uniformly yellow. Halteres with stem obscure yellow, knob dark brown. Legs with all coxæ and trochanters pale yellow; femora yellow, the tips brownish black, the amount subequal on all legs, involving about the distal eighth to tenth of the segment; tibiæ very pale brown, the tips very narrowly blackened; tarsi passing into black. Wings narrow, pale brown, the small oval stigma very slightly darker brown; veins brown. Venation: *Sc* relatively long, *Sc*₁ extending some distance beyond *Sc*₂ and ending beyond the level of *r-m*; *R*₂₊₃ distinctly shorter than vein *R*₃; basal section of *R*₄₊₅ fully three times *r-m*; *m-cu* at or only a short distance beyond the fork of *M*; cell 2nd *A* narrow.

Abdomen elongate, yellowish brown, with a narrow black subterminal ring; hypopygium obscure yellow. Male hypopygium small. Ninth tergite with the lateral lobes low, darkened, with sparse setæ. Basistyle simple. Dististyle a small simple lobe, the proximal half a little swollen, the outer portion more slender, at its tip with microscopic roughenings and numerous punctures. Phallosome a compact mass; ædeagus broad, forking into two very short arms, their tips obliquely truncate; arms less than one-half of the ædeagus alone.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 1500 metres, September 15, 1943 (*Joseph Fu*); Alexander Collection through Chao.

The only other described regional species of the genus is *Diogma glabrata megacauda* (Alexander), of Japan and Korea. This differs conspicuously from the present fly in the coloration, broad wings, and especially in the very different male hypopygium. From its general appearance, I believe that the fly described as *Phalacrocera minuticornis* Alexander, from southwestern China, known at present only from the female sex, will likewise be found to fall in *Diogma*. It is unfortunate that most of the *Cylindrotomine* genera of crane-flies are best differentiated on male hypopygial characters and there appear to be no correlated differences in the females. As Edwards has suggested, it is not improbable that the

various Holarctic genera, as at present recognized, will later be relegated to subgeneric rank. Such genera include *Cylindrotoma* Macquart, *Triogma* Schiner, *Liogma* Osten Sacken, *Diogma* Edwards, and *Phalacroceræ* Schiner. The present fly is distinguished from the above-mentioned *minuticornis* by details of coloration and venation.

Limonia (Limonia) thanatos, sp. n.

General coloration dark brown; antennæ with proximal flagellar segments enlarged, with short abrupt necks; outer segments elongate-cylindrical, with very long verticils; legs brown; wings with a strong brownish tinge, vaguely patterned with still darker brown; Sc_1 ending about the opposite midlength of R_s ; male hypopygium with the rostral prolongation of the ventral dististyle a long slender rod that is more than one-half the length of the dorsal dististyle; rostral spines two, arising from a common basal tubercle that is placed at the base of the prolongation.

Male.—Length about 8 mm.; wing 8 mm.; antenna about 1.6 mm.

Rostrum very reduced, black; palpi black. Antennæ black, the apex of scape pale; scape short; proximal seven or eight flagellar segments enlarged, both the base and apex more or less constricted to form short necks; on outer segments the basal narrowings become less conspicuous; verticils very long; outer flagellar segments elongate-cylindrical, the terminal segment longest. Head dark brown; anterior vertex very broad, approximately four times the diameter of scape.

Pronotum brown, the posterior lateral portions somewhat darker. Mesonotum almost uniformly dark brown, the usual præscutal interspaces indicated by very slightly darker lines; scutellum darker brown. Pleura brown. Halteres brownish black throughout. Legs with the coxæ brownish yellow; trochanters yellow; remainder of legs brown, the outer two tarsal segments darker; claws (male) long and slender, each with a long appressed spine beyond midlength and with a larger more erect one near base. Wings with a strong brownish tinge, the stigma and very vague seams at cord and origin of R_s slightly darker brown; veins brown. Venation: Sc moderately long, Sc_1 ending about opposite midlength of R_s , Sc_2 near its

tip; R_s angulated and very short-spurred at origin; free tip of Sc_2 and R_2 in approximate transverse alignment; cell 1st M_2 subequal in length to the distal section of vein M_3 ; $m-cu$ just before the fork of M ; vein 2nd A sinuous, the cell moderately wide.

Abdomen, including hypopygium, brown. Male hypopygium with the caudal margin of the ninth tergite produced into two rounded lobes, each with a group of long black setæ. Basistyle with the ventromesal lobe long and conspicuous. Dorsal dististyle a nearly straight slender rod, the apex suddenly curved and narrowed to the acute tip. Ventral dististyle oval, fleshy, the rostral prolongation a long slender sclerotized rod that is more than one-half as long as the dorsal dististyle; rostral spines at base of prolongation, each from a short basal tubercle which, in turn, unite into a stout common base. Gonapophyses broad, narrowed gradually into a blackened spine that is strongly curved at tip.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 1500 metres, June 10, 1944 (*Joseph Fu*); Alexander Collection through Chao.

The most similar described regional species include *Limonia* (*Limonia*) *basispina* Alexander, *L. (L.) koxinga* Alexander, and *L. (L.) monacantha* Alexander, all of which differ strikingly in the structure of the male hypopygium, as well as in details of coloration, venation and structures of the antennæ and legs.

Limonia (*Limonia*) *hainaniana*, sp. n.

Mesonotum anteriorly brownish yellow, with a slightly darker brown central stripe, the posterior sclerites of notum pale brown; pleura yellow ventrally, the dorsal portion with a dark brown longitudinal stripe; legs brown; wings with a weak brownish tinge, the subcircular stigma darker brown; veins vaguely seamed with darker, to produce a more or less distinct streaked appearance; male hypopygium with the tergite narrowed outwardly, the apex obtuse; ventral dististyle small, in total size only about one-third that of the basistyle, rostral prolongation slender, with a tiny spine from a large basal tubercle in the axil; gonapophyses with mesal apical lobe blackened, the slightly bent apex obtuse; ædeagus broad, the openings on the sides subtended by small triangular points that are directed laterad.

Male.—Length about 4.5 mm.; wing 4.8 mm.

Rostrum black, paling to yellow at tip; palpi black. Antennæ black throughout; flagellar segments oval, verticils inconspicuous. Head dark brown; anterior vertex reduced to a very narrow line.

Pronotum chestnut brown. Mesonotal præscutum and sides of scutal lobes brownish yellow, with indications of a slightly darker brown central præscutal stripe; posterior sclerites of notum pale brown. Pleura with a narrow but very conspicuous dark brown longitudinal stripe, the dorsopleural region and broad ventral pleurites yellow. Halteres infuscated. Legs with all coxæ and trochanters light yellow; remainder of legs brown, the femoral bases restrictedly paler. Wings with a weak brownish tinge, the subcircular stigma darker brown; veins narrowly and vaguely bordered by pale brown to produce a more or less distinct streaked appearance, this especially distinct along the cord and vein *Cu*; veins brown. Venation: *Sc* long, *Sc*₁ ending about opposite three-fourths *Rs*, *Sc*₂ near its tip; *R*₂ and free tip of *Sc*₂ both pale, in transverse alignment; cell 1st *M*₂ nearly equal in length to distal section of vein *M*₃; *m-cu* at fork of *M*, subequal to distal section of *Cu*₁; anal veins convergent basally.

Abdominal tergites dark brown; basal sternites brown, their outer ends paling to yellow, outer segments and hypopygium more uniformly darkened. Male hypopygium with the tergite narrowed outwardly, the apex obtuse, with about 20 setæ grouped at and near apex. Basistyle relatively large, the ventromesal lobe basal in position, broadly rounded. Dorsal dististyle with its basal portion long, exceeding two-thirds the remainder, thence narrowed to the acute tip. Ventral dististyle small, its total area scarcely one-third that of the basistyle; rostral prolongation slender, tipped with two long, slightly unequal setæ; a single microscopic rostral spine from a basal tubercle, placed at the extreme base of the prolongation. Gonopophysis with mesal apical lobe blackened, stout-based, narrowed to the slightly bent obtuse tip. Aedeagus broad, the apex narrowly concave, with the genital openings at the sides, subtended by small triangular points that are directed laterad and slightly cephalad.

Hab. China (Hainan).

Holotype, ♂, Nam-kio, Paoting District, altitude 140 metres, February 25, 1947 (*J. L. Gressitt*).

This fly is a member of the group that includes species such as *Limonia* (*Limonia*) *quantilla* Alexander, *L. (L.) thetica* Alexander, *L. (L.) erichtho* Alexander, and others, all of small size and having the male hypopygium of the same general type, as described above. The present fly differs in the pattern of the wings, details of body coloration, and in slight differences in the structure of the male hypopygium.

Hexatoma (*Hexatoma*) *seticornis*, sp. n.

Close to *mediocornis*; mesonotum dark grey, the lateral præscutal borders clearer grey; antennæ (male) 7-segmented, there being a distinct terminal button; flagellar segments one and two subequal in length or the first a very little longer; flagellar segments with erect bristly setæ, these persisting almost to the outer end of the fourth flagellar segment.

Male.—Length about 5·5–5 mm.; wing 5·5–6 mm.; antenna about 3·8–4 mm.

Female.—Length about 5·5–5 mm.; wing 5·5–6 mm.; antenna about 1 mm.

Rostrum short, dark brown, palpi long and conspicuous, dark brown, the terminal segment blackened. Antennæ (male) relatively long, exceeding half the length of wing, dark brown throughout; flagellar segments one and two subequal in length or the first a very little longer, about two-thirds the length of the third, the latter shorter than the fourth; a small subglobular terminal seventh segment; flagellar segments long-cylindrical, with conspicuous erect bristly setæ, these persisting almost to the outer end of the fourth flagellar segment. In *mediocornis*, the second flagellar segment is distinctly longer than the first and approximately three-fourths the length of the third; no terminal globular segment; vestiture of fourth segment sparse, not evident beyond about the proximal three-fifths of segment. Head dark grey; anterior vertex broad.

Mesonotal præscutum dark grey, the lateral borders clearer grey; posterior sclerites of notum more pruinose. Pleura brownish black, sparsely pruinose; dorsopleural region buffy brown. Halteres with stem pale, knob weakly darkened. Legs with the coxæ brownish black; trochanters brownish yellow; remainder of legs black, the

femoral bases obscure yellow. Wings with a weak brownish tinge, unpatterned; veins pale brown. Veins, except *C*, without trichia; only a few scattered trichia on vein Sc_2+R_1 . Venation: Sc_1 ending a short distance before fork of *Rs*, Sc_2 near its tip; R_2 about one-half R_3+4 , the fork of the latter thus very short, veins R_3 and R_4 divergent, the former oblique; outer medial branches very faint to subevanescent.

Abdomen dark brown, sparsely pruinose; male hypopygium large.

Hab. China (Fukien).

Holotype, ♂, Yun-an, at lantern, May 25, 1940 (*T. C. Maa*); type returned to Professor Maa. *Allotopotype*, ♀, pinned with type. *Paratopotypes*, 1 broken ♂, 2 ♀♀, July 6, 1940 (*T. C. Maa*); Alexander Collection.

This fly is very close to *Hexatoma (Hexatoma) medio-cornis* Alexander, of southeastern China (Kwangtung), differing almost solely in the antennal characters as compared above.

Hexatoma (Eriocera) canescens, sp. n.

Thorax, including pleura, grey, the præscutum with three somewhat darker grey stripes; antennæ (male) short, 7-segmented; femora black, only the extreme bases yellow; wings yellowed, the veins very narrowly and vaguely seamed with brown to produce a weak pattern; macrotrichia of veins sparse; vein R_2 oblique, at fork of R_{2+3+4} , subequal to R_{1+2} ; veins R_{2+3+4} and R_3 subequal; M_{3+4} and M_4 subequal; *m-cu* close to fork of *M*; abdomen black, the surface sparsely pruinose; hypopygium large, black.

Male.—Length about 9 mm.; wing 9 mm.; antenna about 2 mm.

Rostrum brownish black; palpi black. Antennæ relatively short, as shown by the measurements, 7-segmented, dark brown; first flagellar segment subequal to segments two and three combined, two very short, only about two-thirds segment three; flagellar segment four subequal to three, the terminal button-like seventh segment partly fused with it, indicated only by a partial suture; first three flagellar segments with numerous strong setæ along ventral surface, on the fourth segment these

much more delicate. Head dark grey; vertical tubercle relatively large, entire.

Thorax, including pleura, grey, the præscutum with three somewhat darker grey stripes, the median one broad, entire; scutal lobes patterned with two similar dark areas; dorsopleural membrane chiefly obscure; pretergites more blackened, shiny; præscutal vestiture black, of moderate length, relatively sparse, erect or slightly retrorse; meron light grey. Halteres with stem obscure yellow, knob dark brown. Legs with the coxæ grey pruinose; trochanters brown; only a single femur (hind) remains, this black with the extreme base yellow. Wings with the ground yellow, the veins very narrowly and vaguely seamed with brown to produce a weak pattern; stigma small, of the same brown colour; extreme apical wing margin darkened; veins brown, *Sc* and *R* more brownish yellow. Macrotrichia of veins very sparse, behind R_1 with a restricted series on distal section of R_5 . Venation: Sc_1 ending just before midlength of R_{2+3+4} ; vein R_2 oblique, at fork of R_{2+3+4} , subequal to R_{1+2} ; R_{2+3+4} and R_3 subequal; basal section of R_5 short, about one-half $r-m$; cell M_1 lacking; M_{3+4} subequal to M_4 ; $m-cu$ close to fork of M ; vein 2nd *A* weakly sinuous.

Abdomen black, the surface weakly pruinose, the surface subnitidous, without differentiated basal rings. Hypopygium large, black.

Hab. China (Kwangtung).

Holotype, ♂, Lo-kong-tung, near Canton, April 28, 1948 (*J. L. Gressitt*); Lingnan University, Canton.

The most similar described species are *Hexatoma* (*Eriocera*) *omei* *n. sp.* Alexander and *H. (E.) to* Alexander, which differ in the coloration of the body and appendages and in slight details of venation.

Cryptolabis (*Bæoura*) *trihastata*, sp. n.

Allied to *semicineta*; thoracic notum almost uniformly dark grey, the scutellum chiefly obscure orange; pretergites and dorsopleural membrane yellow; legs brownish black, the vestiture short; wings with a weak greyish tinge, the prearcular and costal fields more whitened; cell 2nd *A* broad; abdomen, including hypopygium, brownish black; male hypopygium with the dististyle diagnostic, its outer end an elongate triangle, separated from the

body of the style by a more narrowed neck ; lower margin of style with a small lobe, posterior crest of main body expanded ; phallosome appearing as three long rods, the apophyses a little longer and more bladelike than the ædeagus.

Male.—Length about 4 mm. ; wing 4.5 mm.

Rostrum brown ; palpi dark brown. Antennæ brown, the enlarged pedicel brownish black. Head dark grey.

Thoracic notum almost uniformly dark grey, the præscutum with vague indications of two darker intermediate stripes ; posterior border of scutellum obscure orange ; pleura lighter grey ; pretergites and dorsopleural membrane yellow. Halteres infuscated. Legs with coxæ dark brown ; trochanters brownish yellow ; remainder of legs brownish black ; vestiture of legs very short and inconspicuous. Wings with a weak greyish tinge, the prearcular and costal fields more whitened ; veins brown. Venation : *m-cu* just beyond one-third the length of M_{3+4} ; cell 2nd *A* broad.

Abdomen, including hypopygium, brownish black. Male hypopygium with the dististyle of characteristic structure, the outer end an elongate triangle, separated from the body of style by a narrowed portion, on lower edge of body with a smaller lobe ; posterior crest of style expanded, the disk with about four strong setæ. Phallosome very conspicuous, appearing as three long acicular rods, including an outer pair of slightly more flattened blades, with a more slender, slightly shorter rod that is presumably the ædeagus, this narrowing to a needlelike point.

Hab. China (Fukien).

Holotype, ♂, Shaowu, October 8, 1945 (*Hsiu-fu Chao*) ; Alexander Collection. *Paratopotype*, ♂.

Very distinct from the now rather numerous species of the subgenus in Asia. It is allied to *Cryptolabis* (*Bæoura*) *semicincta* Alexander, differing from this and from all other regional species in the structure of the male hypopygium, especially the dististyle and phallosome.

Styringomyia kwangtungensis, sp. n.

Mesonotum and dorsopleural region infuscated, the ventral pleurites yellow ; femora obscure yellow, with vague indications of two incomplete darker rings that are

broken beneath, remainder of legs yellow; wings with a weak brownish tinge, entirely unpatterned, vein *2nd A* simple; abdomen brownish yellow, without evident pattern; male hypopygium with the apical lobe of tergite a transverse oval cushion that is densely covered with pale setæ; basistyle with two modified outer bristles; intermediate dististyle a more or less triangular cushion or plate bearing numerous long recurved black bristles; phallosome chiefly pale, the outer end with two reflexed blackened ridges or carinæ.

Male.—Length about 6 mm.; wing 4.5 mm.

Rostrum and palpi medium brown. Antennæ chiefly light brown or yellowish brown, including the scape. Head above light brown; setæ of vertex slender, normal.

Mesonotum and dorsopleural region infuscated, sparsely pruinose, the ventral pleurites and sternum yellow. Halteres pale, the apex of knob a little darkened. Legs with the coxæ and trochanters reddish yellow; femora obscure yellow, with vague indications of two incomplete darker rings, broken beneath; remainder of legs yellow, the last tarsal segment brownish black. Wings with a weak brownish tinge (not yellow, as in various other somewhat similar species), only the prearcular and costal regions more yellowed; no dark pattern; veins pale yellowish brown. Venation: Anterior branch of *Rs* oblique; cell *2nd M*₂ narrowly sessile; vein *2nd A* simple, the cell relatively narrow.

Abdomen chiefly brownish yellow, the disks of the segments clearer yellow, without evident pattern. Male hypopygium with the apical lobe of the ninth tergite a transverse oval pale cushion that is densely covered with pale setæ. Ninth sternite relatively broad, at apex with two strong setæ that are separated from one another by more than three times the diameter of their punctures. Basistyle with two modified bristles, the slightly more curved outer one from a more slender basal tubercle. Outer dististyle slender, more expanded near end, the terminal seta very long. Intermediate dististyle a more or less triangular cushion with numerous long recurved black bristles, the more basal ones longer. Inner dististyle with the distal end narrowed, the outer margin with a more or less double row of long black setæ, the cephalic or lower margin with a similar row of six or seven setæ, the

outer pair on the more produced angle of the style. Phallosome chiefly pale, the outer end with two reflexed blackened ridges or carinæ.

Hab. China (Kwangtung).

Holotype, ♂, Lung-tau Shan, altitude 600 metres, Yiu village above Tsokokwan, June 10, 1947 (*J. L. Gressitt*); Lingnan University, Canton.

In its entirely unpatterned wings, the present fly agrees with *Styringomyia angustipennis* Alexander, *S. flava* Brunetti, *S. kempiana* Alexander, *S. luteipennis* Alexander, *S. montina* Alexander, and *S. thetis* Alexander, all of which have the wings clearer yellow and the male hypopygia, of the known species, quite distinct. The larger *S. princeps* Alexander, still known only from the female sex, differs evidently in size and coloration.