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NEW OR LITTLE-KNOWN TIPULIDÆ
(DIPTERA).—LXXXV. ORIENTAL-AUS-
TRALASIAN SPECIES.

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

At this time I am continuing the survey of the rich Tipulid fauna of eastern and south-eastern China. Most of the included species are from the mountainous interior of Fukien Province, where they were taken in the Kuatun District by Mr. Joseph Fu. Additional materials similarly from Fukien were taken by Professor Tsing-chao Maa and by Mr. Hsiu-fu Chao, the latter a Teaching Fellow in our Department of Entomology. Some further species are from Kwangtung Province, some of which were purchased by me from Dr. Ernest R. Tinkham, others sent for study from the Lingnan University Collection by Dr. J. Linsley Gressitt. I express my continued thanks to the above mentioned entomologists for this appreciated co-operation. Except where indicated to the contrary, the types of the novelties herein described are preserved in my personal collection.

Ctenacroscelis astarte, sp. n.

Male.—Length about 27 mm. wing 34 mm.; antenna about 4.1 mm.

Allied to *clavipes* Edwards, differing especially in important details of structure of the male hypopygium.

Antennæ with basal flagellar segments cylindrical, only the outer three or four weakly produced on the ventral face. Front and anterior vertex ochreous, the posterior part of vertex darkened; no dark spot above antennal base. Mesonotal præscutum with four stripes, the darker margins broad; mediotergite light grey pruinose, only the narrow lateral borders and the posterior margin darkened. Darkened femoral tips conspicuous but not markedly dilated; tips of tibiæ merely infuscated. Wings with the darkened base including the prearcular field with the exception of cell 2nd *A* and all but the outer ends of cells *R* and *M*, the latter with a whitened area just before *m-cu*; obliterative area relatively large and conspicuous, most distinct before stigma but continued backward into the base of cell *M*₃. Venation;

m-cu distinctly shorter than the distal section of *Cu*₁, cell *M*₄ correspondingly deep. Abdomen with the median tergal pale stripe very faintly indicated, becoming obsolete by the third segment. Male hypopygium with the tergite longer and narrower than in *clavipes*, the caudal margin with a V-shaped notch of nearly the same outline as either tergal lobe; setal tufts on sides of tergite weak and inconspicuous, the tips of the setæ extending caudad to just beyond the ends of the lobes. Outer dististyle having the general outline of *clavipes* but much smaller. Inner dististyle without apical spines or points and without a conspicuous basal swelling on the lower face, present in *clavipes*; setæ of lower face of style more numerous and less modified. Eighth sternite with unusually conspicuous setal brushes on caudal margin.

Hab. China (Fukien).

Holotype, ♂, Yao-tao, May 6, 1945 (ex *Chao*).

Nephrotoma citricolor, sp. n.

General coloration of mesonotum opaque yellow, the præscutum with three orange stripes that are poorly differentiated against the ground; antennal scape light yellow, flagellum black; head orange, without a distinct occipital brand; wings with a weak brownish tinge, cell *Sc* and the stigma a little darker brown; abdominal tergites yellow, conspicuously patterned with brown; male hypopygium with lateral lobes of tergite very broad and low basistyle with an unequally bilobed blackened structure on mesal face; inner dististyle blackened, the beak slender, dorsal and posterior crests lacking; gonapophysis small and simple.

Male.—Length about 12 mm.; wing 12 mm.; antenna about 4 mm.

Frontal prolongation of head light yellow, narrowly infuscated above; nasus elongate, brown, tufted with black setæ. Antennæ (male) relatively long, approximately one-third the wing; scape light yellow, pedicel obscure orange, flagellum black; flagellar segments moderately incised, a little longer than the verticils. Head orange yellow, paler yellow on front; a restricted brown area on either side of the weakly notched vertical tubercle adjoining the eye; occipital brand not indicated.

Pronotum yellow. Mesonotum opaque yellow, the præscutum with three orange stripes that are poorly differentiated against the ground; posterior sclerites of notum yellow, the centres of the scutal lobes patterned with brown; mediotergite with paired brown spots at posterior end. Pleura pale yellow, variegated with more orange areas on the anepisternum, ventral sternopleurite and ventral meron. Halteres dusky, the base of stem restrictedly yellow, the knob a trifle darker. Legs with coxæ and trochanters yellow; femora yellow, the tips weakly darkened; tibiæ pale brown or yellowish brown; tarsi passing into brown; claws (male) toothed. Wings with a weak brown tinge, cell *Sc* and the stigma a little darker brown; veins brown, *Sc* more yellowed. Stigmal trichia relatively numerous. Venation: *Sc* relatively long, *Sc*₂ ending about opposite one-fifth the length of *Rs*, the latter straight, oblique; petiole of cell *M*₁ about one-third *m*; *m-cu* on *M*₄ shortly beyond origin.

Abdominal tergites yellow, conspicuously patterned with dark brown, the area on the basal segment smallest, on the succeeding segments virtually covering the posterior of the segments with the exception of the lateral borders; basal rings paler; basal sternites light yellow; subterminal segments darkening into a ring; hypopygium yellow. Male hypopygium with the tergite transverse, the lateral lobes very broad and low, blackened, separated at the midline only by a linear notch; mesal portion of lobe a trifle produced into a low knob, the outer margins of lobes evenly rounded. Mesal face of basistyle with an unequally bilobed blackened structure adjoining the tergite. Outer dististyle moderately long, narrowed to the obtuse tip, the outer third with a concentration of short black setæ. Inner dististyle blackened; beak slender, lower beak obtuse; no dorsal or posterior crests. Gonapophyses small and simple, subtending the ædeagus.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 4500 feet, June 9, 1942 (*Joseph Fu*).

The present fly is most nearly allied to species such as *Nephrotoma biarmigera* Alexander, *N. flavonota* Alexander, and some others, all having a blackened armature on the mesal face of the basistyle of the male hypopygium. The present fly differs not only in the details of coloration but especially in the structure of the male hypopygium.

Nephrotoma progne, sp. n.

Mesonotal præscutum yellow with four reddish brown stripes, the surface opaque, the stripes vaguely bordered by darker brown; lateral stripes straight, without lateral spot; antennæ with scape and pedicel yellow, flagellum black; head deep orange, occipital brand triangular, poorly differentiated; wings brownish yellow, stigma brown; abdominal tergites orange, sternites yellow; male hypopygium with caudal border of tergite produced into four spiculose lobes, the outer pair broadly dilated outwardly to appear almost T-shaped; basistyle on mesal face with an unusually stout blackened bilobed structure; inner dististyle with beak long and slender, dorsal crest very high and relatively narrow gonapophyses slightly longer than the ædeagus.

Male.—Length about 14 mm.; wing 12.5 mm.; antenna about 5.2 mm.

Frontal prolongation of head light yellow, a trifle more reddened above; nasus elongate; palpi brown, the terminal segment brownish black. Antennæ with scape and pedicel yellow, flagellum black; flagellar segments with basal enlargements conspicuous, the longest verticils a trifle less than the segments. Head deep orange behind, clear light yellow in front, including the summit of the high vertical tubercle, the latter a little impressed medially; a small brown spot on either side of vertical tubercle adjoining the eye margin; occipital brand triangular, deep orange, not well differentiated from the surrounding ground.

Pronotum rich reddish brown medially, yellow on sides. Mesonotal præscutum yellow, with four reddish brown stripes, the surface subopaque; intermediate stripes separated by a capillary more shiny pale vitta, the stripes vaguely bordered by darker brown; lateral stripes straight, without a lateral spot; posterior sclerites of notum yellow, variegated with reddish brown, including the scutal lobes, scutellum and central part of mediotergite. Pleura clear light yellow. Halteres with stem brownish yellow, knob slightly more infuscated, especially at base. Legs with coxæ and trochanters clear yellow; femora brownish yellow; tibiæ brown; tarsi black. Wings brownish yellow, the prearcular and costal fields clearer yellow; stigma oval, brown; veins brown, those on the brightened

fields paler. Stigma with about a dozen trichia. Venation: Sc_2 ending just beyond origin of Rs ; cell M_1 exceedingly short-petiolate; cell 1st M_2 rectangular; $m-cu$ at fork of M .

Abdominal tergites orange, sternites yellow. Male hypopygium with the tergite transverse, the caudal margin with four spiculose lobes, the intermediate pair separated by a U-shaped notch; lateral lobes dilated outwardly to appear T-shaped. Basistyle with a blackened bilobed structure on mesal face, this unusually stout, almost circular in outline. Outer dististyle small, the basal part parallel-sided, the tip only slightly produced, obliquely truncated. Inner dististyle with the beak long and slender; dorsal crest very high and relatively narrow, paling into membrane at apex; lower beak rounded. Each gonapophysis appearing as a relatively long flattened blade that is slightly longer than the aedeagus.

Hab. China (Kwangtung).

Holotype, ♂, Aumeishan, Lung Moon District, June 12, 1938 (*H. Tsz*); *ex* Tinkham.

From the various species of *Nephrotoma* having a blackened armature on the mesal face of the basistyle of the male hypopygium, the present fly differs in coloration of the body and particularly in the structure of the hypopygium. Such allied species include *N. biarmigera* Alexander, *N. citricolor*, sp. n., *N. flavonota* Alexander, and *N. medioproducta* Alexander.

Nephrotoma quadrinacrea, sp. n.

Mesonotal præscutum orange yellow with four nacreous stripes that are narrowly bordered by brown, the lateral stripes straight; antennal scape yellow, flagellum black; head orange, the occipital band pale and inconspicuous, scarcely evident against the ground; wings with a weak brownish tinge, cell Sc and the stigma darker brown; abdomen chiefly orange, restrictedly patterned with darker; male hypopygium with the tergal border produced into two broad lobes that are separated only by a small median notch; outer dististyle very elongate; beak of inner dististyle long and slender, dorsal crest very high, outer basal lobe a strong spine that narrows gradually into a needle-like point.

Male.—Length about 11 mm.; wing 11 mm.; antenna about 4 mm.

Frontal prolongation of head light yellow, restrictedly infuscated on sides; nasus elongate, blackish; palpi brown, the third segment somewhat more yellowed. Antennæ (male) moderately long; scape light yellow, pedicel reddish brown, flagellum black; flagellar segments elongate, exceeding their verticils; basal enlargements small. Head orange, with a pale brown spot on either side adjoining the inner margin of eye; vertical tubercle very feebly notched to virtually entire; occipital brand pale and inconspicuous, scarcely evident against the ground.

Pronotum orange. Mesonotal præscutum orange yellow, with four narrow nacreous stripes that are narrowly bordered by brown, the inner margins of the intermediate stripes less distinctly so; lateral stripes straight; remainder of mesonotum yellow, each scutal lobe with two separate nacreous areas that are narrowly bordered with brown, the posterior mark larger; posterior border of mediotergite with two poorly indicated more greyish spots. Pleura yellow, the pteropleurite and meron even paler yellow. Halteres with stem obscure yellow, clearer at base, knob weakly infuscated. Legs with all coxæ and trochanters yellow; femora yellow; tibiæ more brownish yellow; tarsi dark brown to brownish black; claws (male) toothed. Wings with a weak brownish tinge, cell *Sc* and the stigma darker brown; wing-tip a trifle more dusky than remainder of ground; veins brown. About 20 stigmal trichia, all basad of vein R_2 . Venation: *Rs* straight, oblique, a little shorter than R_{2+3} ; petiole of cell M_1 about one-third *m*; *m-cu* on M_4 , basal section of the latter a little shorter than *r-m*.

Abdominal tergites obscure orange, narrowly more infuscated laterally; sternites yellow; subterminal segments weakly infuscated; hypopygium yellow. Male hypopygium with the border of the tergite produced into two broad lobes that are separated only by a small but deep U-shaped median notch; outer lateral angles produced into a strong blackened point, remainder of lobe blackened, with blackened spicules. Outer dististyle very elongate, especially the slender outer third. Inner dististyle with the beak long and slender, the dorsal crest very high; outer basal lobe a strong spine that gradually narrows into a needle-like point. Gonapophysis very small and inconspicuous, subtending the ædeagus.

Eighth sternite with caudal margin entire or virtually so, with very sparse vestiture.

Hab. China (Kwangtung).

Holotype, ♂, Kau-lin San, Lien-p'ing District, altitude 700–900 metres, April 20, 1940 (*J. L. Gressitt*); Lingnan University Collection.

An entirely distinct species, readily told by the somewhat peculiar mesonotal pattern. In its hypopygium characters it most suggests species such as the otherwise very different *Nephrotoma stylacantha* Alexander.

Nephrotoma vesta, sp. n.

Mesonotal præscutum light yellow, with three polished black stripes that are narrowly and indistinctly bordered by more opaque black; mediotergite clear light yellow on anterior two-thirds; antennæ with scape and pedicel orange, flagellum black; wings with a weak dusky suffusion, cell *Sc* and the stigma dark brown; no stigmal trichia; abdominal tergites orange, the posterior borders broadly blackened, subterminal three segments forming a broad ring; male hypopygium with tergite bearing four spiculose lobes; inner dististyle with beak stout, the crests undeveloped.

Male.—Length about 13 mm.; wing 11.5 mm.; antenna about 4 mm.

Frontal prolongation of head yellow, the dorsum, including nasus, restrictedly dark brown; palpi pale brown, the third segment evidently more yellowed. Antennæ with scape and pedicel orange, flagellum black; flagellar segments two to four rather strongly incised, the outer ones less evidently so. Head orange; occipital brand relatively small, suboval, brown; vertical tubercle entire or virtually so.

Pronotum yellow medially, broadly blackened on sides. Mesonotal præscutum light yellow, with three polished black stripes that are narrowly and indistinctly bordered by more opaque black, the central stripe divided on anterior portion by a similar opaque line; lateral stripes straight, with opaque subtending spot; actual lobes black, the median region restrictedly obscure yellow; scutellum black, parascutella yellow; mediotergite clear light yellow, the posterior third with a pair of dark grey areas. Pleura

and pleurotergite yellow, variegated with brownish black, including a major area on the ventral anepisternum and adjoining part of the pteropleurite; a less conspicuous darkening on the ventral sternopleurite and a large area on caudal portion of pleurotergite. Halteres brownish black, the apex of knob a trifle more brightened. Legs with coxæ and trochanters obscure yellow; femora brownish black, on the fore and middle legs with the outer fourth or less paling to obscure brownish yellow, the posterior femora more uniformly darkened; tibiæ brown, tarsi black; claws (male) toothed. Wings with a weak dusky suffusion; cell *Sc* and the stigma dark brown; veins dark brown. No stigmal trichia. Venation: *Rs* oblique, nearly straight, a trifle longer than the basal section of R_{4+5} ; petiole of cell M_1 about one-half *m*; cell 1st M_2 small, rectangular; *m-cu* on M_4 some distance beyond base, vein M_{1+2+3} very short.

Abdominal tergites conspicuously bicoloured, orange, the posterior borders broadly blackened, the areas more or less triangular in outline, the orange colour thus continued posteriorly along the sides, the amount of black increasing on the outer segments; segments six to eight virtually uniformly darkened to form a broad subterminal ring; basal sternites orange; hypopygium yellow. Male hypopygium with the caudal margin of tergite bearing four broad spiculate lobes, the intermediate pair separated by a deep and narrow notch, the lateral lobes with the spinous setæ at apex. Basistyle without a modified lobe on mesal face. Outer dististyle dilated at or before midlength, thence narrowed to the subobtuse apex. Inner dististyle with beak relatively stout, the dorsal and posterior crests not or scarcely evident; outer basal lobe developed as a rounded knob. Gonapophyses appearing as pale, virtually hyaline blades that are shorter than the stout ædeagus. Eighth sternite with caudal margin unmodified.

Hab. China (Kwangtung).

Holotype, ♂, Kau-lin San, Lien-p'ing District, altitude 700–900 metres, April 20, 1940 (*J. L. Gressitt* and *P. K. To*); Lingnan University Collection.

The most similar species is *Nephrotoma makiella* (Matsumura), of Formosa and eastern China, which differs in details of coloration and in the structure of the male hypopygium.

Tipula (Nippotipula) brevifusa nephele, subsp. n.

Male.—Length about 32 mm.; wing 21.5 mm.; antenna about 6 mm.

Generally similar in appearance to typical *brevifusa* Alexander (Western China: Mount Omei, Szechwan), differing chiefly in hypopygial structure. Præscutal interspaces indicated by three capillary obscure yellow lines that separate the four cinnamon brown stripes. Male hypopygium with the median region of tergite produced caudad into a depressed-flattened plate which divides into two slender horns that narrow to acute terminal spines, these more slender and more hairy than in typical *brevifusa*. The elongate rod that arises from the lower face of the tergal plate is but slightly dilated at apex, the sides parallel; in *brevifusa* more broadly expanded into an oval blade. Inner dististyle quite different in the two races, in the present fly with the beak or terminal blade large, narrow, compressed; in typical *brevifusa* the actual beak is reduced to a small apical point.

Hab. China (Fukien).

Holotype, ♂, Shaowu, June 11, 1945 (*Chao*).

Tipula (Schummelia) decembris, sp. n.

Disk of mesonotal præscutum almost covered by four grey stripes that are narrowly margined with brown, the lateral borders of sclerite broadly yellow; mediotergite dark with an obscure yellow central line; antennal flagellum brownish black; femora yellow, the tips narrowly blackened; wings whitish subhyaline, variegated with pale brown clouds; abdominal segments bicoloured; male hypopygium with the caudal margin of tergite very gently emarginate; outer dististyle slender, a little exceeding the inner style; inner dististyle subquadrate in outline, beak small, dorsal crest high.

Male.—Length about 12 mm.; wing 14 mm.; antenna about 4 mm.

Frontal prolongation of head yellow above, darker ventrally; nasus elongate; palpi brown. Antennæ (male) moderately long, as shown by the measurements; scape and pedicel light yellow, flagellum brownish black; flagellar segments with basal enlargements poorly developed; longest verticils subequal to or shorter than the segments.

Head chiefly light yellow, the sides of the posterior vertex more infuscated.

Pronotum above obscure yellow, the sides restrictedly darkened. Mesonotal præscutum with lateral borders broadly yellow, the disk with four grey stripes, the intermediate pair somewhat clearer grey, divided by a dusky median vitta, lateral stripes more broadly margined with brown; posterior sclerites of notum chiefly brown, the mediotergite weakly pruinose, with an obscure yellow central line; pleurotergite chiefly darkened, the dorsal katapleurotergite pale; parascutella darkened. Pleura yellow, conspicuously patterned with brownish grey; dorsopleural membrane chiefly pale yellow. Halteres long, stem obscure yellow, knob infuscated, its extreme tip whitened. Legs with the coxæ pale, sparsely pruinose; trochanters yellow; femora yellow, the tips rather narrowly but conspicuously blackened; tibiæ brownish yellow, the tips narrowly brownish black; tarsi brownish black to black; claws (male) toothed. Wings whitish subhyaline variegated with pale brown clouds to produce a marbled effect, the chief dark areas lying before cord, in outer radial field, and over *m* and adjoining veins; stigma darker brown, conspicuous; the chief pale areas are prestigmal, poststigmal, in outer medial field, across cell 1st M_2 , near outer end of cell M , and as marginal spots at and near ends of the Anal veins, cell *Sc* darkened, cell *C* and the prearcular field yellowed; veins brown. Venation: Sc_2 ending opposite fork of *Rs*; R_{1+2} with trichia; cell M_1 deep, its petiole about one-half longer than *m*; *m-cu* at near midlength of M_{3+4} , long, cell M_4 being approximately twice as wide as at the narrowest point.

Abdominal segments bicoloured, the incisures obscure yellow, broadest on the bases of the segments, the remainder pale brown, darker on sides; outer segments, including hypopygium, chiefly dark brown. Male hypopygium with the caudal margin of ninth tergite very gently emarginate. Outer dististyle slender, of moderate length, a little longer than the inner style, the apex curled. Inner dististyle subquadrate in outline, the beak little developed, the dorsal crest high, subtruncate at apex; disk of style with abundant scattered black setæ, those of the dorsal crest longer and pale in colour.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 1400 feet, December 5, 1942 (*Joseph Fu*).

The most similar described regional species is *Tipula* (*Schummelia*) *cylindrostylata* Alexander, which differs in the coloration of the body and wings, details of venation, and in the structure of the male hypopygium.

Tipula (*Schummelia*) *sophista*, sp. n.

Disk of mesonotal præscutum grey, with three black stripes, the median one in broad front, extensively split posteriorly by a ground line; femora obscure yellow, the tips narrowly blackened; wings subhyaline, conspicuously patterned with various shades of brown; male hypopygium with the tergite large, the caudal margin gently convex, only feebly emarginate medially, the border heavily blackened; outer dististyle short, only about two-thirds as long as the inner style, the latter a large flattened blade, widest across the apex, the beak unusually small.

Male.—Length about 10 mm.; wing 11.5 mm.; antenna about 3.3 mm.

Frontal prolongation of head narrowly yellowish brown above, the remainder darker; nasus long; palpi dark brown. Antennæ (male) of moderate length; scape elongate, yellow narrowly darkened before tip; pedicel yellow, flagellum black; flagellar segments with basal enlargements relatively small, verticils shorter than the segments. Front and region of the low vertical tubercle obscure yellow, the posterior part of head dark brownish grey.

Pronotum brownish yellow, darker brown on sides. Mesonotal præscutum with the disk grey, with three black stripes, the median one broad in front, extensively split posteriorly by a ground line that extends about to midlength of the stripe; humeral and lateral regions of præscutum more buffy; posterior sclerites of notum dark brownish grey, the scutal lobes variegated by more blackened areas. Pleura blackened, sparsely pruinose, the mesepisternum extensively variegated by more reddish areas, the pteropleurite less conspicuously so; dorso-pleural membrane buffy. Halteres with stem pale, knob infuscated. Legs with the coxæ dark grey; trochanters brownish yellow, sparsely pruinose; femora obscure yellow, the tips narrowly blackened; tibiæ and tarsi brownish

black to black; claws (male) toothed. Wings with the restricted ground subhyaline, conspicuously marbled by pale brown, darker brown and whitish subhyaline areas, the darkest markings including the stigma, cell *Sc*, and seams along veins *Cu* and *m-cu*, interrupted by a major whitened area near outer end of cell *M*; the paler brown clouds are chiefly marginal, over the *m* crossvein and at ends of veins *Cu* and *2nd A*; the whitened marks are prestigmal and poststigmal, at origin of *Rs*, across cell *1st M*₂, two marginal areas in cell *1st A* and one in cell *2nd A*; veins brown, restrictedly yellow at arculus, origin of *Rs* and the extreme outer end of cell *Sc*. Venation: *Sc*₂ entering *R*₁ just before fork of *Rs*; *R*₁₊₂ faint but entire; cell *M*₁ deep, its petiole more than twice *m*; *m-cu* before midlength *M*₃₊₄; *m-cu* long and oblique, cell *M*₄ at base fully twice as wide as at its narrowest part.

Abdominal tergites chiefly dark brown, the more proximal ones variegated with obscure yellow on the basal rings; proximal sternites chiefly pale; outer abdominal segments more uniformly dark brown, the genital style more yellowed. Male hypopygium with the tergite large, its caudal margin gently convex, only feebly emarginate at the midline, the border heavily blackened. Ninth sternite with a conical blackened point near the junction with the tergite. Outer dististyle narrow, short, only about two-thirds as long as the inner style. Inner dististyle a large flattened blade, widest across the apex, the beak unusually small; centre of disk of blade with a circular area of strong setæ, totalling about a score in number.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 4500 feet, March 28, 1948 (*Joseph Fu*).

Most similar to *Tipula* (*Schummelia*) *cylindrostylata* Alexander, differing in the coloration, wing pattern, venation and structure of the male hypopygium. The whitened spot at origin of *Rs* readily separates the fly from all other generally similar regional species.

Tipula (*Tipulodina*) *xyris*, sp. n.

Disk of the præscutum chiefly reddish brown, the lateral borders grey pruinose; antennæ (male) relatively long, approximately one-half the wing; legs darkened,

conspicuously patterned with white; wings whitish subhyaline, the wing-tip restrictedly darkened; microtrichia greatly reduced; *Rs* arcuated, shorter than R_{2+3} , placed far before the anterior end of the stigma; cell R_2 large, vein R_3 relatively short and straight; cell 1st M_2 irregularly pentagonal; cell 2nd *A* relatively broad; inner dististyle with the outer basal lobe an irregular blackened rod.

Male.—Length about 15–16 mm.; wing 12.5–13 mm.; antenna about 6.4–6.5 mm.

Frontal prolongation of head pale, sparsely white pruinose; nasus conspicuous; palpi with basal segments brownish yellow, the outer one more infuscated, narrowly reddened at tip. Antennæ (male) relatively long, as shown by the measurements; scape yellow, pedicel pale brown; flagellum weakly bicoloured, the basal enlargement dark brown, the remainder paler, the extreme tips of the segments still paler; segments longer than the verticils, the basal enlargements small. Head above brown, the front white pruinose; a vaguely indicated darker central line on vertex; vertical tubercle not of scarcely developed.

Pronotum infuscated medially, whitened on sides. Mesonotal præscutum with disk chiefly reddish brown, the median grey region in front still more darkened, the lateral borders grey pruinose; scutal lobes brown, scutellum brownish grey, parascutella pale; mediotergite light grey, with a capillary central vitta. Pleura and pleurotergite chiefly whitish grey pruinose; dorsopleural membrane yellow. Halteres with stem brown, knob a trifle darker, the base of stem restrictedly yellow. Legs with coxæ light grey pruinose; trochanters yellow; fore and middle femora brown, with a broad yellowish white ring immediately before tip; tibiæ black, with a comparable white band just before the darkened tip; tarsi black, the outer segments white; posterior femora obscure yellow, the tips broadly black; tibiæ black, with two broad white rings, on basal, the slightly wider outer ring nearly terminal in position; proximal third of basitarsus black, the remainder of tarsi white. Wings whitish subhyaline, the wing-tip brown, chiefly in cell R_3 , slightly involving cell R_2 ; stigma small, darker brown; veins dark brown. Microtrichia of cells, except in the darkened apical spot, virtually lacking. Venation: *Rs* arcuated, shorter than R_{2+3} , far before the anterior end of stigma; cell R_2 large, vein R_3 relatively

short and straight; cell 1st M_2 irregularly pentagonal, the first and second sections of M_{1+2} and the first section of M_3 longest and subequal; cell 2nd A relatively broad.

Abdominal tergites dark brown, obscure yellow laterally, the incisures, especially on the basal rings, more greyish; eighth tergite more brownish black; sternites chiefly grey pruinose, the broad caudal margins more reddish brown. Male hypopygium with the tergite transverse, the caudal margin very weakly convex, the central portion slightly and vaguely more produced, with a concentration of strong black setæ on either side. Outer dististyle broadly triangular in outline. Inner dististyle with the outer basal lobe an irregular blackened rod; third style, or appendage of basistyle, a long slender blackened rod that is gradually narrowed and curved to the acute tip, before apex with a few long delicate setæ.

Hab. China (Fukien).

Holotype, ♂, Changting, June 9, 1940 (*T. Maa*): type returned to Professor Maa. *Paratopotype*, ♂.

The subgenus *Tipulodina* is greatly developed in the Oriental Region. A relatively few species invade the Palæartic, as far north as Japan, northern China and Korea. The present fly is entirely distinct from these regional forms, differing notably in the great reduction of the microtrichia of the wing cells, as described. In this regard the species is more like *Tipula (Tipulodina) amabilis* Alexander, of Java, and *T. (T.) gracillima* Brunetti, of Ceylon, from which it differs further in wing pattern and venation, and in the structure of the male hypopygium.

Tipula (Lunatipula) biaculeata, sp. n.

Mesonotum yellow, the præscutum with three pale brown stripes; antennæ of male relatively long, basal three segments yellow, the succeeding ones weakly bicoloured; legs obscure yellow, the outer segments passing into black; wings brownish yellow, the outer cells a little darker; tip of vein R_{1+2} atrophied; basal abdominal segments yellow, the outer ones infuscated; male hypopygium with the tergite transverse, the caudal margin tridentate, the lateral lobes spinous; gonapophysis consisting of a broadly flattened obtuse outer plate and an inner elongate triangular blade.

Male.—Length about 15 mm.; wing 15.5 mm.; antenna about 6.5 mm.

Frontal prolongation of head obscure yellow, subequal in length to remainder of head; nasus distinct; basal segments of palpi yellow, the outer two infuscated. Antennæ (male) relatively long, as shown by the measurements; basal three segments yellow, succeeding ones weakly bicoloured, the basal swellings slightly more infuscated than the outer portions; segments moderately incised, subequal to the longest verticils. Head brownish grey; vertical tubercle entire.

Mesonotum with the ground yellow; præscutum with three pale brown stripes that are little conspicuous against the ground; posterior sclerites of notum yellow, patterned with pale brown, the markings very inconspicuous. Pleura testaceous yellow, the dorsopleural regions yellow. Halteres with stem yellow, knobs weakly infuscated. Legs with the coxæ testaceous yellow; trochanters yellow; remainder of legs obscure yellow, the femoral tips vaguely more infuscated; tarsi passing through brownish black to black; claws (male) toothed. Wings brownish yellow, the outer cells a little darker; cells *C* and *Sc* more saturated, especially the latter; stigma chiefly yellow, its outer end weakly more infuscated; vague brightenings before and beyond stigma, the latter most evident; oblitative streak across cell 1st M_2 very restricted, barely entering cell M_3 ; veins brownish yellow to pale brown. Venation: Apex of vein R_{1+2} atrophied; *Rs* gently arcuated, about one-fifth longer than *m-cu*; petiole of cell M_1 about twice *m*; cell 1st M_2 irregularly pentagonal, a little longer than broad.

Basal abdominal segments yellow, the outer ones infuscated; hypopygium yellow. Male hypopygium with the tergite transverse, the caudal margin conspicuously tridentate, the lateral lobes produced into slender nearly acute spines that are directed caudad, the slightly more depressed median lobe shorter and broader, its tip obtuse. Outer dististyle long and slender. Inner dististyle with both the beak and lower beak obtuse, blackened; dorsal crest virtually lacking, at its posterior end reduced to low pale membrane; outer basal lobe scarcely developed, appearing as a very small hairy lobe. Basistyle with outer end provided with long yellow setæ. Appendage of ninth sternite pendulous, with a brush of long yellow

setæ that exceeds the appendage in length. Each gonapophysis appearing as a broadly flattened obtuse outer plate and a pair of elongate triangular paler blades that narrow into subacute tips, all longer than the ædeagus. Eighth sternite with caudal margin very gently convex, with relatively few long yellow setæ that are concentrated at and near the midline.

Hab. Chian.

Holotype, ♂, Southern Shensi, June 15, 1936, without more exact data received from Mr. E. Suendon, Shanghai.

Most similar in general appearance to species such as *Tipula* (*Lunatipula*) *manca* Alexander, *T. (L.) pendula* Alexander, *T. (L.) plagiotoma* Alexander, and *T. (L.) terebrina* Alexander, differing from all in the somewhat peculiar structure of the male hypopygium, particularly the tergite and gonapophyses.

Tipula idiopyga, sp. n.

Mesonotal præscutum yellowish grey, almost covered by three brown stripes, the very broad median one margined laterally with dark brown, most evident in front; femora obscure yellow, the tips broadly brownish black; wings cream yellow, conspicuously patterned with brown; vein R_{1+2} entire, suberect; ovipositor of peculiar structure, cerci very short and fleshy, their tips broadly obtuse, hypovalvæ appearing as slender pale rods.

Female.—Length about 10 mm.; wing 12.5 mm.; antenna about 2.5 mm.

Frontal prolongation of head short, infuscated, without nasus; palpi brownish black. Antennæ with scape and pedicel light yellow, flagellum black; flagellar segments relatively long and slender for the female sex; verticils long and conspicuous, exceeding the segments. Head buffy, the vertex weakly variegated with pale brown, including spots on the very broad anterior vertex and a further suffusion on the posterior vertex; anterior vertex nearly six times the diameter of scape.

Pronotum obscure yellow, more darkened on sides. Mesonotal præscutum yellowish grey, almost covered by three brown stripes, the very broad median one margined laterally with dark brown, most evident in front; lateral margins and posterior interspaces of the ground-

colour; pseudosutural foveæ black; posterior sclerites of notum more brownish grey, the scutal lobes with lateral half infuscated, being backward extensions of the lateral præscutal stripes; parascutella dark, mediotergite more heavily pruinose. Pleura and pleurotergite yellow, variegated with brown, the more dorsal spots darker in colour, the ventral areas paler but more extensive. Halteres with stem weakly infuscated, the knob and base of stem restrictedly yellow. Legs with the coxæ weakly darkened basally, pale at tip; trochanters yellow; fore femora obscure yellow, the tips broadly brownish black, the other femora clearer yellow basally; tibiæ and tarsi brownish black to black. Wings pale cream yellow, conspicuously patterned with dark and paler brown; the more restricted darker areas include the stigma, arculus, origin of R_s and the anterior cord; remainder of wing marbled with areas of paler brown and the yellow ground, the latter including a broad band before stigma and a narrower poststigmatal area; pale marginal spots at ends of cells R_5 to 2nd A , there being two such areas in cell 1st A ; cell Cu chiefly pale; veins brown, yellow in the more extensive interspaces before and beyond the stigma. No squamal trichia. Venation: R_s long, about twice $m-cu$; R_{1+2} entire, sub-erect; petiole of cell M_1 about one-half longer than m ; $m-cu$ close to fork of M_{3+4} .

Abdominal tergites conspicuously patterned with greyish brown, the lateral and apical margins broadly yellow, the second tergite with an extensive brownish black area on the sides of the basal half; basal sternites somewhat more uniformly brownish grey, with pale apices; outer segments, including genitalia, more yellowed. Ovipositor of peculiar structure; cerci very short and fleshy, the tips broadly obtuse; hypovalvæ appearing as weak slender pale rods, much shorter than the cerci, gently incurved to the narrowly obtuse tips.

Hab. China (Fukien).

Holotype, ♀, Ta-chu-lan, altitude 4500 feet, October 17, 1947 (*Joseph Fu*).

The present fly is evidently an isolated one whose strict subgeneric position must remain in question until the male sex is discovered. Superficially and especially as regards the wing pattern, it suggests species such as *Tipula bodpa* Edwards.

Limonia (Libnotes) aptata, sp. n.

General coloration yellow, the præscutum with four reddish brown stripes; antennæ dark brown; knob of halteres infuscated; legs yellow, the femora with a brownish black subterminal ring that is about twice as broad as the yellow apex; wings with a weak yellow tinge, the prearcular and costal fields more saturated, with a restricted brown pattern; free tip of Sc_2 lying a short distance basad of vein R_2 ; Rs nearly straight; m less than twice the basal section of M_3 ; abdomen yellow, the tergites with a dark brown triangle, the lateral borders dark brown.

Male.—Length about 11 mm.; wing 16.5 mm.

Rostrum brownish yellow; palpi black. Antennæ dark brown; basal flagellar segments oval, the outer ones more elongate, the terminal segments about one-third longer than the penultimate; longest verticils unilaterally distributed, a single one per segment, on the intermediate portion exceeding the segments in length. Head grey pruinose, restrictedly more fulvous on central portion of anterior vertex; anterior vertex narrower.

Pronotum dark brown, variegated behind the obscure yellow. Mesonotal præscutum with four reddish brown stripes, the intermediate pair more confluent at anterior ends, the surface of the posterior portion grey pruinose; interspaces and region before the lateral stripes more yellowed, humeral region restrictedly yellow; posterior sclerites of notum light grey pruinose, the scutal lobes more infuscated. Pleura obscure yellow, the propleura, basal half of fore coxæ and a narrow area on the ventral anepisternum more infuscated; pleurotergite grey pruinose. Halteres elongate, stem pale, more yellowed at base, knob infuscated. Legs with coxæ yellow, the fore pair with basal half darkened; trochanters yellow; femora yellow with a dark brown or brownish black subterminal ring, the yellow tips about one-half as extensive; tibiæ yellow, the tips narrowly brownish black; tarsi brown. Wings with a weak yellowish tinge, the prearcular and costal fields deeper yellow; a restricted brown pattern, the largest areas at stigma and over the fork of Sc ; exceedingly narrow pale brown seams at cord and outer end of cell 1st M_2 ; tip of vein 2nd A and the axillary border more darkened; veins yellow, darker in the patterned

areas. Venation: Free tip of Sc_2 lying a short distance basad of R_2 ; R_s nearly straight; m less than twice the basal section of M_3 , $m-cu$ about two and one-half times its length beyond the fork of M ; cell *2nd A* relatively narrow, the veins sinuous.

Abdominal tergites yellow, the posterior borders more orange; segments with a dark brown triangle, the points directed backwards; lateral tergal borders dark brown; sternites yellow, the seventh segment weakly more darkened; hypopygium yellow.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 4500 feet, December 15, 1942 (*Joseph Fu*); returned to Professor Maa.

The most similar regional species is *Limonia* (*Libnotes*) *nohirai* (Alexander), which differs in the pattern of the body, legs and wings.

Limonia (*Libnotes*) *tszi*, sp. n.

Mesonotum chiefly yellow, vaguely patterned with darker; pleura yellow, narrowly lined with brown; antennal scape black, flagellum brownish yellow; femora yellow, with a pale brown subterminal ring that is much broader than the yellow tip; wings yellow, the veins with a series of small brown spots, lacking in the cells; a broad and virtually continuous subbasal brown band at near mid-distance between arculus and origin of R_s .

Male.—Length about 14 mm.; wing 17 mm.

Rostrum brownish yellow, darker above; palpi obscure brownish yellow, more darkened outwardly. Antennæ with scape black, pedicel brown, flagellum brownish yellow; segments subcylindrical or gently widened beyond midlength; verticils of outer segments small, placed on the expanded portion and thus at and beyond midlength of the segments. Head with front brownish grey; anterior vertex narrow, not quite as wide as two rows of ommatidia, buffy; posterior vertex infuscated on sides, pale behind.

Mesonotum chiefly yellow, vaguely patterned with darker, the præscutum delicately lined with pale brown. most evident behind, scutal lobes weakly darkened; mediotergite dark brown, pruinose, only the sides narrowly yellow. Pleura yellow, narrowly lined with dark brown, the dorsal stripe long, extending from the cervical region across the dorsal pleurites to beneath the wing-

root; ventral stripe appearing as narrow lines on the dorsal sternopleurite and the ventral meral regions. Halteres with stem yellow, knob infuscated. Legs with the coxæ and trochanters pale yellow; femora yellow, all with a pale brown subterminal ring that is from three to four times as broad at the yellow tip; remainder of legs yellow, the tips of tibiæ more narrowly darkened; outer tarsal segments dark brown. Wings with the ground yellow, the basal and costal regions a little more saturated; veins with a series of small brown spots, these lacking in the cells; a broad and virtually continuous subbasal brown band at near mid-distance between arculus and origin of R_s , not involving cell C ; veins yellow, brown in the clouded areas. Venation: Free tip of Sc_2 some distance beyond R_2 , vein Sc_2+R_{1+2} being nearly as long as R_2 ; tip of R_{1+2} jutting as a spur subequal to the free tip of Sc_2 ; m arcuated, about two and one-half times the basal section of M_3 , its cephalic end at near three-fourths to four-fifths the length of cell 1st M_2 ; $m-cu$ about twice its length beyond the fork of M ; Anal veins convergent.

Abdomen chiefly buffy yellow, the extreme lateral tergal borders infuscated, apparent only on the more proximal segments, the others infolded; caudal margins of segments narrowly more yellowed; hypopygium yellow.

Hab. China (Kwangtung).

Holotype, ♂, Sha-Lo-Shan, Sun Fung District, altitude 2750 feet, July 13, 1938 (*Hai Tsz*); ex Tinkham.

Named for Mr. Hai Tsz, a capable Chinese collector employed by Dr. Ernest R. Tinkham. The species is apparently closest to *Limonia (Libnotes) palæta* Alexander (*punctipennis* de Meijere, preoccupied; see Rec. Indian Mus., xlv., p. 30, 1942), differing in the venation and coloration, especially of the wings.

Limonia (Dicranomyia) junctura, sp. n.

Belongs to the *pulchripennis* group; mesonotal præscutum with three dark brown stripes, the remaining surface black, with areas of grey pruinosity, antennæ brownish black, the flagellar segments with paler bases; femora yellow, the tips broadly brownish black; wings whitish, heavily patterned with brown; five costal areas, their outline generally parallel-sided, much broader than the interspaces, not brightened in the costal cell; outer

radial field almost entirely darkened; cells of posterior half of wing chiefly darkened.

Female.—Length about 8–8.5 mm.; wing 8–8.5 mm.

Rostrum dark brown; palpi black. Antennæ with scape and pedicel brownish black; flagellar segments black with paler bases, to present a weak bicoloured appearance, verticils shorter than the segments. Head dark grey, the anterior vertex clearer grey, somewhat narrower than the diameter of escape.

Mesonotal præscutum with three dark brown stripes, the remaining surface black, with patches of grey pruinosity; scutal lobes black, the median region and centre of the scutellum light grey; sides of scutellum and posterior edges of scutal lobes yellowish brown; postnotum black. Pleura black, pruinose. Halteres with stem white, knob dark brown. Legs with all coxæ black, weakly pruinose; trochanters light brown, darker beneath; femora yellow, the tips rather broadly brownish black, the tibial bases and tips more narrowly darkened; tarsi passing into black. Wings with the whitish ground-colour restricted, much less extensive than the darkened pattern; a series of five costal marks that are generally parallel-sided, much broader than the interspaces, not brightened in the costal cell, the posterior ends almost reaching vein *M* and here a little paler, slightly margined with darker but without brightened centres; outer radial field almost entirely dark, with a white spot beyond R_2 and a more extensive one across the bases of cells R_3 and R_5 and the centre of 1st M_2 ; cells of posterior half of wing chiefly darkened, variegated by pale in the outer ends of cells *Cu*, 1st *A* and 2nd *A*, the area in 1st *A* crossing vein 1st *A* into cell *Cu*; veins dark brown, yellow in the costal interspaces. Venation: *m-cu* from one-third to one-half its own length before the fork of *M*.

Abdomen dark brown, the posterior margins of the segments broadly pruinose.

Hab. China (Fukien), Korea.

Holotype, ♀, Ta-chu-lan, Fukien, altitude 4500 feet, May 30, 1948 (*Joseph Fu*). *Paratype*, ♀, Mount Kongo, Korea, October 18, 1933 (*Jiro Machida*).

Of the rather numerous Asiatic species in the *pulchripennis* group, the present fly is closest to the Japanese *Limonia* (*Dicranomyia*) *shinanoensis* Alexander, which differs in the pattern of the legs and wings and in the

venation. I had formerly referred the Korean specimen to *shinanænsis*, but it is evidently distinct and seems unquestionably to pertain to the present species.

Antocha (Antocha) streptocera, sp. n.

Allied to *indica*; mesonotal præscutum with disk medium brown, the lateral borders broadly light grey; pleura and pleurotergite clear light grey; antennæ of male elongate; male hypopygium with the longest gonapophyses appearing as flattened twisted ribbon-like blades that narrow gradually into acute terminal spines.

Male.—Length about 6 mm.; wing 6.7 mm.; antenna about 1.5 mm.

Rostrum and palpi brown. Antennæ (male) relatively long, nodulose; dark coloured; flagellar segments fusiform, with long outspreading pale verticils at and near mid-length of the segments, the flagellar swellings not as developed as in *indica*. Head light grey, the central portion of vertex infuscated.

Pronotum dark brownish grey, paler grey on sides. Mesonotal præscutum with the disk medium brown, without clearly separated stripes, the lateral borders broadly light grey; posterior sclerites of notum grey, the scutal lobes extensively medium brown. Pleura and pleurotergite clear light grey. Halteres with stem pale, knob weakly infuscated. Legs with coxæ light grey; trochanters obscure yellow; remainder of legs obscure yellow to brownish yellow, the outer tarsal segments passing into black; tarsi with microscopic pale transverse lines; claws (male) toothed. Wings with a greyish tinge, the prearcular and costal fields pale yellow; stigma not or scarcely indicated; veins pale brown, yellow in the more luteous fields. Venation: *Sc* long, *Sc*₁ ending opposite or just beyond the fork of *Rs*; basal section of vein *R*₄₊₅ slightly arcuated, so cell *R*₃ at base is a trifle wider than it is near midlength; *m-cu* about one-third to one-fourth its length before fork of *M*.

Abdomen brown, somewhat darker at base and again on the subterminal segments, the latter forming a weak ring; hypopygium obscure yellow. Male hypopygium with the ninth tergite narrowly transverse, the caudal margin subtruncate to gently sinuous; surface of nearly the caudal half with numerous setæ. Basistyle without lobes or armature. Outer dististyle slender, gently curved,

narrowed to the subacute tip, the outer two-thirds blackened. Inner dististyle long, not dilated at base. Longest gonapophyses appearing as flattened twisted ribbon-like blades that narrow gradually into acute terminal spines.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 4500 feet, May 29, 1948 (*Joseph Fu*).

The present fly is most closely allied to *Antocha* (*Antocha*) *indica* Brunetti, with a wide range in southern and eastern Asia. The two species differ in the structure of the antennæ of the male and in the hypopygia.

Antocha (*Antocha*) *pictipennis*, sp. n.

Thorax almost uniformly reddish brown, very sparsely pruinose, with a narrow transverse line across the scutum between the wing bases; femora pale yellow, the tips broadly black; wings whitish, clouded and washed with darker to produce a weak pattern; *m-cu* unusually far before fork of *M*.

Female.—Length about 6 mm.; wing 6 mm.

Head broken and lost. Thorax almost uniformly pale reddish brown, very sparsely dusted with grey, variegated by a narrow brown line across the cephalic portion of the scutum between the wing bases. Halteres with stem white; knobs broken. Legs with the coxæ and trochanters white; femora pale yellow, the tips broadly black, including about the terminal tenth of the segment or less; tibiæ and tarsi pale yellow, the outer tarsal segments more infuscated. Wings with a whitish tinge, clouded with darker, the most conspicuous area being the stigma which is much larger and more conspicuous than in *nigrbasis*; paler brown washes over cord and outer end of cell 1st *M*₂, *m-cu*, and as even less evident clouds in cell *R* basad of origin of *Rs* and at midlength of outer radial field; veins brown in the clouded portions, pale in the ground areas, *C* and *Sc* chiefly yellow. Venation *m-cu* about one and one-half times its own length before fork of *M*; cell 1st *M*₂ elongate, the second section of vein *M*₁₊₂ nearly four times the basal section.

Abdomen reddish, the caudal borders of the tergites broadly light grey, the sternites more uniformly pale.

Hab. China (Fukien).

Holotype, ♀, Ta-chu-lan, altitude 4500 feet, June 29, 1948 (*Joseph Fu*).

Most nearly related to *Antocha* (*Antocha*) *khasiensis* Alexander and *A. (A.) nigribasis* Alexander, both of which it somewhat closely resembles, differing in details of coloration, especially of the wings.

Antocha (*Antocha*) *angustiterga*, sp. n.

Size small (wing, male, about 4 mm.); thorax chiefly dark grey, the præscutum with more brownish stripes; antennæ short; legs dark brown; wings greyish, the prearcular field whitened; stigma pale brown, inconspicuous; *m-cu* at or shortly before fork of *M*; male hypopygium with the ninth tergite unusually narrow; outer dististyle slender, gradually narrowed to the subacute tip; phallosome complex, the inner gonapophyses appearing as nearly straight rods that narrow into hairlike points, the outer apophyses long-oval flattened blades, with obtuse tips.

Male.—Length about 4-4.2 mm.; wing 4-4.2 mm.; antenna about 0.5 mm.

Female.—Length about 4.5 mm.; wing 4.5 mm.

Rostrum light brown, palpi darker. Antennæ short, dark brown; flagellar segments short-oval, only the outer ones a trifle longer. Head dark grey.

Thorax chiefly dark grey, the disk of the præscutum chiefly occupied by more brownish stripes, the pretergites restrictedly obscure yellow. Pleura dark grey. Halteres with stem pale, knob infuscated. Legs with the coxæ and trochanters yellow, the fore coxæ a little darker; remainder of legs dark brown, the outer tarsal segments black; claws (male) with a single long spine, basal in position. Wings greyish, the prearcular field whitened; stigma pale brown, inconspicuous; veins pale brown whitened in the basal section. Venation: *Rs* long and nearly straight; *m-cu* at or shortly before the fork of *M*, the extreme distance being approximately one-third its own length.

Abdomen, including hypopygium, dark brown. Male hypopygium with the ninth tergite unusually narrow, the greatest length (longitudinal dimension) scarcely one-fifth the transverse width; rather numerous setæ on caudal third, including the slightly produced mid-section. Outer dististyle slender, gradually narrowed to

the subacute tip. Inner dististyle subequal in length, weakly dilated on basal portion, the tip obtuse. Phallosome complex, the inner apophysis appearing as a nearly straight rod that narrows into a very slender hairlike point; outer apophysis appearing as a long-oval flattened blade, the tip obtuse.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 4500 feet, May 30, 1948 (*Joseph Fu*). *Allotopotype*, ♀. *Paratopotype*, ♂.

This fly is superficially somewhat like *Antocha* (*Antocha*) *bifida* Alexander and other similar species, differing from all in the structure of the male hypopygium, particularly the tergite and phallosome.

Hexatoma (*Eriocera*) *ambrosia angustinigra*, subsp. n.

Male.—Length about 10–12.5 mm.; wing 9–12 mm.; antenna about 2.5–2.8 mm.

Female.—Length about 18 mm.; wing 15 mm.

Rostrum and palpi black. Antennæ of male 8-segmented, of female 10-segmented, black throughout, the scape dusted with grey. Head opaque. Præscutum with three polished nacreous stripes, the interspaces velvety black. Femora yellow, the tips very narrowly blackened, the amount subequal on all legs, narrower than in typical *ambrosia*. Wings as in typical *ambrosia* but with cell *C* clearer yellow and cell *R* before the origin of *Rs* distinctly yellowed; the remainder of cells *R* and *M* more suffused with yellow than in the typical form. Abdomen with the nacreous basal rings very broad, the velvety black apices correspondingly narrowed; genitalia of both sexes fiery orange.

Hab. China (Fukien).

Holotype, ♂, Ta-chu-lan, altitude 4500 feet, September 23, 1942 (*Joseph Fu*). *Allotopotype*, ♀, August 27, 1942; returned to Professor Maa.

Hexatoma (*Eriocera*) *celestia maligna*, subsp. n.

Male.—Length about 16 mm.; wing 13 mm.; antenna about 3.5 mm.

Characters as in typical *celestia* Alexander, differing chiefly in details of coloration.

Intermediate præscutal stripes distinct, glabrous, a trifle more greyish than the ground; lateral stripes broader, of the same colour as the interspaces. Femora yellow basally, the tips gradually and much more broadly

blackened than in the typical form, on the fore and middle legs involving about the outer third or fourth of the segment. Wings with the pattern slightly different than in *celestia*; cell *Cu* iniformly darkened, the Anal cells only a little paler than the remainder of ground. Venation: *Rs* shorter, less than twice *R*; *m-cu* close to midlength of M_{3+4} .

Hab. China (Kwangtung).

Holotype, ♂, Summit of Sam Kok Shan, Lung Moon District, June 9, 1938 (*Hai Tsz*); *ex* Tinkham.

Hexatoma (Eriocera) absona, sp. n.

Thorax entirely opaque, the three præscutal stripes a trifle darker than the interspaces, the median one unusually broad; halteres dark brown; legs brown; wings with a weak brownish tinge, the costal region a trifle darker; stigma small; outer veins virtually glabrous; abdomen almost uniformly reddish brown, the segments without glabrous basal rings.

Male.—Length about 12 mm.; wing 11 mm.

Rostrum and palpi light brownish grey, the latter reduced. Antennæ (female) brown, the terminal two or three segments broken; lower face of scape somewhat paler. Head dark grey; vertical tubercle more or less crushed, apparently entire.

Thorax entirely opaque, the three præscutal stripes a trifle darker than the interspaces, the median one unusually broad; vestiture of interspaces sparse, white and inconspicuous; pleura and the posterior sclerites of notum, especially the scutellum, more conspicuously light grey pruinose; dorsopleural membrane dark brown, brightened immediately surrounding the spiracle. Halteres dark brown, base of stem yellow. Legs with the coxæ grey pruinose; trochanters brown; remainder of legs brown brown to dark brown. Wings with a weak brownish tinge, the costal region a trifle darkened; stigma small, very faintly differentiated; veins brown. Veins behind *R* virtually glabrous, even R_5 with only a few scattered trichia. Venation: Sc_1 ending about opposite two-fifths R_{2+3+4} ; Sc_2 a short distance from its tip; R_2 and R_{2+3} subequal, shorter than R_{1+2} ; medial veins faint; cell M_1 lacking; cell 1st M_2 subequal to the distal section of vein M_3 ; *m-cu* about one-third longer than the distal section of Cu_1 , about one-fourth its length beyond the fork of *M*.

Abdomen almost uniformly reddish brown, without glabrous basal rings, genital shield above orange; valves of ovipositor long and slender, the cerci and bases of ovipositor more infuscated.

Hab. China (Kwangtung).

Holotype, ♀, Sam Kok Shan, Lung Moon District, June 16, 1938 (*Hai Tsz*).

Most similar to *Hexatoma (Eriocera) insidiosa* Alexander, differing in the coloration and in the venation and trichiation of the wings.