

## THE DIPTERA OF THE TERRITORY OF NEW GUINEA. V.

### FAMILY TIPULIDAE. PART III.\*

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(Twenty-seven Text-figures.)

[Read 25th November, 1936.]

#### HEXATOMINI.

##### AUSTROLIMNOPHILA FLUXA, n. sp. Fig. 22.

Mesonotal praescutum dark brown on cephalic half, the posterior portion and remainder of mesonotum grey pruinose; fore and middle femora darkened, the tips narrowly yellow; posterior femora and all tibiae yellow; wings tinged with yellow; a restricted brown pattern, including seams to the cord and outer end of cell 1st  $M_2$ , as well as marginal spots at ends of all longitudinal veins excepting  $R_5$  and  $M_1$ ;  $R_s$  square at origin; r-m connecting with  $R_s$  at the fork or nearly so; inner end of cell 1st  $M_2$  arcuated; m-cu beyond midlength of cell 1st  $M_2$ ; abdominal tergites dark brown; sternites yellow, the incisures narrowly infuscated.

♀.—Length about 10 mm.; wing, 9 mm.

Rostrum obscure yellow, darker basally; palpi dark. Antennae with scape dark above, paler beneath; pedicel yellow; flagellum broken. Head dark grey; anterior vertex reduced to a narrow strip.

Pronotum obscure yellow. Mesonotal praescutum dark brown on cephalic half, the colour continued obliquely backward to the suture, leaving the posterior portion of the praescutum grey; posterior sclerites of notum grey pruinose. Pleura dark brown, sparsely pruinose. Halteres elongate, yellow, the knobs infuscated. Legs with the coxae yellow, darker basally; trochanters yellow; fore and middle femora infuscated, the tips narrowly yellow; posterior femora more uniformly yellow; tibiae golden-yellow; tarsi passing into yellowish-brown. Wings (Fig. 22) tinged with yellow, the costal region scarcely more saturated; a restricted brown pattern, distributed as follows: Small brown spots at arculus; origin of  $R_s$ ; cord, the latter extended to the costa at fork of  $Sc$ ; outer end of cell 1st  $M_2$ ; fork of  $M_{1+2}$ ; marginal areas at ends of all longitudinal veins excepting  $R_6$  and  $M_1$ ; veins yellow, darker in the clouded areas. Venation:  $Sc_2$  at tip of  $Sc_1$ ;  $R_s$  square at origin but not angulated; r-m connecting with  $R_s$  at the exact fork or immediately beyond on  $R_5$ , the basal deflection of the latter thus obliterated; inner end of cell 1st  $M_2$  arcuated, r-m being at near midlength of the cell; m-cu beyond midlength of cell 1st  $M_2$ .

Abdominal tergites dark brown, the sternites yellow, the incisures narrowly infuscated; ovipositor with the valves horn-coloured.

Holotype, ♀, Wau, New Guinea, altitude 3,400 feet, 21 December, 1933 (F. H. Taylor).

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\* Continued from these PROCEEDINGS, lxi, 1936, p. 183.

The most closely allied species is *Austrolimnophila intervena* (Skuse) of eastern Australia, which, while having a somewhat similar wing-pattern, has the venation entirely different, especially in the central radial and medial fields.

AUSTROLIMNOPHILA INTERJECTA, n. sp. Fig. 23.

General coloration of mesonotal praescutum dark brown on anterior third, this colour continued laterad and caudad across the posterior thoracic pleura; posterior portion of praescutum and scutum light ashy-grey; antennae yellow, elongate; fore femora darkened; wings cream-yellow, with a heavy, pale brown pattern, including a broad crossband at cord, and conspicuous marginal spots at ends of all longitudinal veins; Rs very strongly angulated at origin.

♀.—Length about 11 mm.; wing, 11 mm.

Rostrum brownish-yellow; palpi yellow. Antennae elongate, yellow; flagellar segments long-cylindrical, with verticils that are much shorter than the segments; outer segments gradually decreasing in length. Head light grey.

Pronotum and propleura light yellow. Mesonotal praescutum with anterior third dark brown, this colour continued laterad and caudad across the humeral and lateral portions of the sclerite, thence passing on to the pleura and including the dorsal pteropleurite and postnotum; posterior portion of praescutum and scutum light ashy-grey, contrasting abruptly with the brown anterior portions of the former; scutellum and mediotergite darker grey, the pleurotergite more brownish-grey. Pleura light yellow. Halteres elongate, darkened basally, the outer ends of stem and the knob more yellow. Legs with the coxae yellow, the surface very sparsely pruinose; trochanters yellow; fore femora brown, the middle pair more brownish-yellow, somewhat brighter on distal half; posterior femora yellow; tibiae and tarsi yellow, the terminal segments of the latter darkened. Wings (Fig. 23) light cream-yellow, with a heavy and conspicuous pale-brown pattern, including a broad, complete crossband at the cord, entirely darkening cell 1st  $M_2$  and involving the ends of all cells on both sides of the cord; a large area at origin of Rs; smaller spots at arculus, fork of  $M_{1+2}$  and as marginal spots, including all longitudinal veins excepting  $R_s$  and  $M_1$ ; veins yellow, darker in the clouded areas. Venation: Rs bent at more than a right angle at origin; elements of anterior cord in oblique alignment, the inner end of cell 1st  $M_2$  more basad; m arcuated, longer than basal section of  $M_3$ ; m-cu at midlength of cell 1st  $M_2$ ; anterior arculus lacking.

Abdomen brown, the lateral portions and bases of sternites restrictedly more blackish. Ovipositor with cerci long and slender, very gently upcurved.

Holotype, ♀, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

The closest allies of the present species are *Austrolimnophila antiqua* (Skuse) and *A. intervena* (Skuse), of eastern Australia, both of which are readily distinguished by the wing-pattern and venation.

EPIPHRAGMA (EPIPHRAGMA) FUSCODISCALIS, n. sp. Fig. 24.

General coloration of mesonotum dark brown; praescutum obscure yellow, with brown stripes; antennae short; legs yellow, the femora with three narrow brown rings, the last subterminal in position; tibiae yellow, with three very narrow, scarcely indicated darker annuli; wings light yellow, with a heavy dark-brown pattern, including a large discal area over anterior cord and cell 1st  $M$ , and a series of marginal spots at ends of all longitudinal veins; male terminalia with a slender erect spine before apex of interbase.

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

Rostrum brown; palpi black. Antennae short, if bent backward not extending beyond pronotum; scape and pedicel dark brown; basal segment of flagellum yellow; succeeding segments dark brown; basal flagellar segments oval, soon passing into elongate, the verticils long and conspicuous, exceeding the segments. Head dark brown.

Pronotum obscure yellow, variegated by dark brown medially and on sides. Mesonotal praescutum obscure yellow, with a complete median brown stripe and indications of incomplete lateral areas on cephalic portion; scutal lobes dark brown, the median area narrowly pollinose; scutellum and postnotum dark brown. Pleura dark brown, vaguely and restrictedly marked with obscure yellow. Halteres yellow, the knobs weakly darkened. Legs with the fore coxae yellow, the middle and posterior coxae dark brown; trochanters yellow; femora yellow, each with three narrow dark-brown rings that are a little narrower than the yellow interspaces, the last dark ring subterminal and a trifle more extensive than the pale apex; tibiae yellow, with three very narrow and scarcely evident dark rings, the most distinct a very narrow subbasal annulus, the outermost a nearly terminal darkening; tarsi yellow, the outer segments weakly infuscated. Wings with the ground-colour light yellow, with a heavy solid, brown pattern, including a large discal area that completely covers cell 1st  $M_2$  and adjoining cells, reaching the costal border as a seam on the anterior cord; large and conspicuous brown spots at ends of all longitudinal veins, larger in the anal field, where additional marginal clouds occur at mid-distance between the veins in both cells 1st A and 2nd A; additional dark brown areas at arculus, origin of Rs, cells M and Cu, and as a large circular area at fork of  $M_{1+2}$ ; interpolated pale-brown clouds of lunate form encircle the supernumerary crossvein in cell C and the marginal area at  $R_{1+2}$ ; veins yellow, darker in the clouded areas. Costal fringe moderately long. Venation: m longer than basal section of  $M_3$ , arcuated; m-cu about its length beyond fork of M.

Abdominal tergites chiefly infuscated, scarcely variegated by brighter areas; terminalia yellow. Male terminalia (Fig. 24) with the lobes of the tergite, 9t, narrow. Interbase, i, bearing a pale erect spine on mesal face a little more than its own length back from tip of rod.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

The only Australasian species with a somewhat similar, solidly darkened wing-pattern are *Epiphragma* (*Epiphragma*) *hebridensis* Alexander (New Hebrides) and *E. (E.) meridionalis* Alexander (south-eastern Australia), both of which differ conspicuously in the details of pattern of the wings and legs.

#### EPIPHRAGMA (EPIPHRAGMA) GLORIOLA, n. sp.

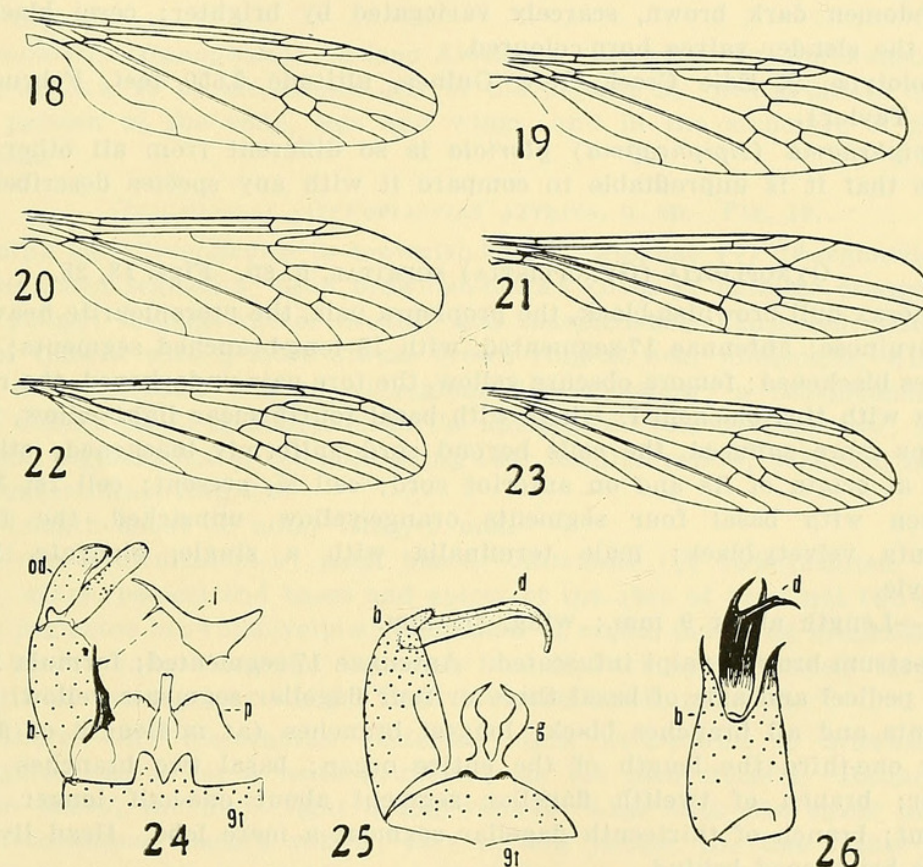
General coloration reddish-brown, the praescutum with darker brown stripes; antennae bicoloured; femora and tibiae yellow, each with two black rings; wings pale yellow, with a heavy dark-brown pattern, the areas solid and chiefly costal in distribution; a series of yellow spots near distal ends of outer medial, cubital and anal cells; m-cu at near two-thirds the length of cell 1st  $M_2$ .

♀.—Length about 12 mm.; wing, 11 mm.

Rostrum brown; palpi black. Antennae relatively elongate; scape and pedicel light brown; basal segment of flagellum yellow, weakly darkened at base; succeeding flagellar segments bicoloured, the basal portion black, the outer end yellow, the latter colour involving about one-half the sclerite on the basal segments

but becoming more restricted on outer segments; terminal segments uniformly darkened; verticils shorter than the segments. Head brown.

Pronotum brown. Mesonotal praescutum reddish-brown, variegated with darker brown, including three stripes that are confluent behind to involve most of disk; humeral region with a brownish area; lateral border of sclerite before the suture brownish-black; scutal lobes brownish-black, the median area abruptly yellow; scutellum yellow, parascutella dark; mediotergite almost uniformly brownish-black. Pleura brownish-black, variegated by somewhat paler areas that include the dorsopleural region and a broad diffuse ventral stripe extending from behind the fore coxae to the pleurotergite. Halteres elongate, pale, the apex of knob obscure yellow. Legs with the coxae and trochanters brownish-black; femora yellow, with two black annuli, placed at near midlength and before apex, these dark rings subequal in area to the alternate yellow bands; indications of a third, more basal darkening appear on the upper surface of sclerite only; tibiae yellow,



Text-figs. 18-26.

- 18.—*Gynoplistia* (*Gynoplistia*) *scimitar*, n. sp., venation.
  - 19.—*Gynoplistia* (*Gynoplistia*) *attrita*, n. sp., venation.
  - 20.—*Gynoplistia* (*Gynoplistia*) *luteoannulata*, n. sp., venation.
  - 21.—*Trentepohlia* (*Mongoma*) *nigrescens*, n. sp., venation.
  - 22.—*Austrolimnophila* *fluxa*, n. sp., venation.
  - 23.—*Austrolimnophila* *interjecta*, n. sp., venation.
  - 24.—*Epiphragma* (*Epiphragma*) *fuscodiscalis*, n. sp., male terminalia.
  - 25.—*Gynoplistia* (*Gynoplistia*) *scimitar*, n. sp., male terminalia.
  - 26.—*Gynoplistia* (*Gynoplistia*) *luteoannulata*, n. sp., male terminalia details.
- a, aedeagus; b, basistyle; d, dististyle; i, interbase; id, inner dististyle; od, outer dististyle; p, phallosome; t, tergite.

with two dark rings, a narrower subbasal one and a broad ring at and beyond midlength of the segment; tarsi brown, passing into brownish-black. Wings pale yellow, more saturated in prearcular and costal regions; a very heavy dark-brown pattern, the areas solid and chiefly costal in distribution, placed at arculus; origin of Rs; at supernumerary crossvein in cell C; a major band from costa along anterior cord to fork of M; tips of radial veins; other dark areas at outer end of cell 1st  $M_2$ , fork of  $M_{1+2}$  and m-cu; distal ends of all outer medial, cubital and anal cells paler brown, before their margins enclosing a small, pale-yellow spot, these larger and more extensive in the anal field; in cell 2nd A this latter appears as a streak for almost the length of the cell; paler brown washes in costal field, one before and one beyond the area at origin of Rs; cell  $R_4$  darkened except at outer end; veins brown, luteous in the yellow areas. Venation: Supernumerary cross-vein in cell C opposite the fork of Rs; m-cu at near two-thirds the length of the narrow cell 1st  $M_2$ ; m and basal section of  $M_3$  subequal; cell  $M_1$  exceeding twice its petiole.

Abdomen dark brown, scarcely variegated by brighter; cerci blackened at bases, the slender valves horn-coloured.

Holotype, ♀, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

*Epiphragma* (*Epiphragma*) *gloriola* is so different from all other regional species that it is unprofitable to compare it with any species described to this date.

GYNOLISTIA (GYNOLISTIA) SCIMITAR, n. sp. Figs. 18, 25.

Thorax dull brownish-black, the propleura pale, the pteropleurite heavily light-grey pruinose; antennae 17-segmented, with 13 long-branched segments; knobs of halteres blackened; femora obscure yellow, the fore pair undarkened, the remaining femora with tips blackened; wings with basal fourth clear light-yellow, the outer portions more suffused, the cells beyond cord uniformly blackened; still darker seams at origin of Rs and on anterior cord; cell  $M_1$  present; cell 1st  $M_2$  small; abdomen with basal four segments orange-yellow, unmarked, the remaining segments velvety-black; male terminalia with a single, elongate, blade-like dististyle.

♂.—Length about 9 mm.; wing, 8.2 mm.

Rostrum brown; palpi infuscated. Antennae 17-segmented; formula 2+2+11+2; scape, pedicel and axis of basal three or four flagellar segments yellow, the outer segments and all branches black; longest branches (at midlength of flagellum) nearly one-third the length of the entire organ; basal two branches long and slender; branch of twelfth flagellar segment about one-half longer than the segment; branch of thirteenth flagellar segment a mere lobe. Head liver-brown, a little brightened behind.

Prothorax and mesothorax almost uniform dull brownish-black, the praescutum a little brightened on humeral portion; propleura, surrounding the anterior spiracle, extensively obscure yellow; pteropleurite heavily pruinose with light grey, the mesepisternum thus appearing as a darkened girdle between the pale propleura and the pteropleurite. Halteres with the base of stem yellow, becoming more obscure outwardly, the knob blackened. Legs with the coxae brownish-black, the surface light-grey pruinose, more conspicuously so on fore and hind coxae; fore trochanters brown, the middle and hind pair black; femora obscure yellow, the fore pair undarkened, the middle and hind femora with conspicuously blackened tips; tibiae and tarsi black. Wings (Fig. 18) with basal fourth clear light-yellow,

beyond this point suffused with blackish, more brightened before stigma; cells beyond cord uniformly darkened; cell Sc, an area at origin of Rs and a broad seam at anterior cord darker brown; veins black, clear yellow in the flavous basal areas. A series of macrotrichia on vein R<sub>5</sub>, but vein R<sub>4</sub> without such setae; medial field and all veins posterior to it, glabrous. Venation: Cell 1st M<sub>2</sub> relatively small, with m-cu just beyond one-third its length; cell M<sub>1</sub> subequal in length to its petiole; vein 2nd A rather strongly sinuous.

Abdomen with basal four segments orange-yellow, immaculate; succeeding segments and terminalia velvety-black. Male terminalia (Fig. 25) with the caudal margin of tergite, 9t, bearing two low rounded tubercles. Basistyle, b, slender, terminating in a fleshy, finger-like lobe that is delicately setuliferous. A single long, blade-like dististyle, d, that is only a little shorter than the basistyle, gradually narrowed to the decurved point. Gonapophyses, g, simple, each appearing as a narrow blade, the apex acute and spinous.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

*Gynoplistia* (*Gynoplistia*) *biróana* Alexander, likewise from north-eastern New Guinea, appears to be the closest ally of the present fly, which differs especially in the pattern of the body, legs and wings, and in the structure of the male terminalia.

GYNOPLISTIA (GYNOPLISTIA) ATTRITA, n. sp. Fig. 19.

Thorax dark liver-brown to brownish-black; antennae (♀) 16-segmented, with seven branched segments; head brownish-black; knobs of halteres orange-yellow; femora yellow, the tips rather broadly and conspicuously blackened; middle and posterior femora with a more diffuse brown ring at near midlength; wings pale yellow, the prearcular and costal regions deeper yellow; a conspicuous brown pattern, chiefly costal in distribution, the apical band relatively narrow; abdomen with basal segment black, the succeeding four tergites yellow, darkened laterally; a black subterminal ring.

♀.—Length about 10 mm.; wing, 9 mm.

Rostrum brownish-black; palpi black. Antennae (♀) 16-segmented; formula 2+2+5+7; scape, pedicel and bases and apices of the axes of proximal two or three flagellar segments brownish-yellow; remainder of organ, including branches, black; longest branch (about flagellar segments four or five) approximately three times the length of the segment itself. Head brownish-black, polished.

Prothorax and mesothorax uniformly dark liver-brown to brownish-black, unvariegated except for a weak pruinosity on the pleurotergite. Halteres with the stem dusky, the knob light orange-yellow. Legs with the coxae brownish-black; trochanters obscure yellow; fore femora yellow, the tips rather broadly and conspicuously black; middle and hind femora with tips similarly and subequally blackened, and at near midlength with indications of a broader but more diffuse infuscated ring, more evident on the posterior legs; fore and middle tibiae black, the posterior pair somewhat more brownish-black on basal portion; tarsi black. Wings (Fig. 19) pale yellow, the prearcular and costal fields deeper and more saturated yellow; a conspicuous brown pattern, as follows: Arculus and humeral cross-vein; origin of Rs; a band from stigma across cord, narrowed posteriorly and becoming a mere seam on m-cu; wing-tip abruptly darkened, its proximal edge about on a level with the fork of M<sub>1+2</sub>; a brown wash along vein Cu and in proximal half of cell Cu, culminating in a darkened spot at near two-thirds the length of vein 1st A; a darkened cloud at bend of vein 2nd A;

most of longitudinal veins in the interspaces very narrowly and insensibly seamed with brown; veins dark, yellow in the luteous areas. Numerous macrotrichia on veins  $R_4$  and  $R_5$ ; in medial field restricted to outer portion of vein  $M_1$ . Venation: Vein  $R_4$  long, cell  $R_3$  at margin very extensive; cell 1st  $M_2$  relatively large, with m-cu about its own length beyond the fork of  $M$ ; cell  $M_1$  longer than its petiole; m-cu moderately sinuous.

Abdomen with basal segment black; tergites two to five, inclusive, yellow, darkened laterally; sternites two to five more obscure yellowish-brown; subterminal segments black; genital shield of ovipositor obscure orange. Ovipositor with cerci yellow, slender, gently upcurved.

Holotype, ♀, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

Somewhat similar in general appearance to *Gynoplistia* (*Gynoplistia*) *fulviceps* Walker, of north-western New Guinea, but differing widely in all details of coloration of body, legs and wings. The brightened knobs of the halteres separate the species from almost all other regional members of the genus.

GYNOLISTIA (GYNOLISTIA) LUTEOANNULATA, n. sp. Figs. 20, 26.

General coloration coal-black; head deep blue; antennae 16-segmented, with ten branched segments; legs black, the femora with a broad conspicuous yellow ring before tips; wings with the ground-colour of the basal cells greyish-white, the cells beyond cord uniformly darkened; a restricted darker pattern at arculus; a narrow cross-band at origin of  $R_s$  and on anterior cord; cell  $M_1$  lacking; vein 2nd A very strongly sinuous; male terminalia with the basistyle bispinous at apex; dististyle single, terminating in three long spines.

♂.—Length about 6 mm.; wing, 6 mm.

Rostrum and palpi black. Antennae 16-segmented, black throughout; formula 2+2+8+4; longest branches (at near midlength of organ) about one-third the length of the entire antenna; branch of tenth flagellar segment short, about as long as the segment; terminal segment a trifle longer than the penultimate. Head deep blue.

Mesonotum black, the surface subnitidous; postnotum weakly pruinose. Pleura pruinose. Halteres with stem black, the knobs broken. Legs with coxae black, pruinose; trochanters black; femora black, with a broad conspicuous yellow ring before tips; on the posterior legs this annulus includes more than one-fourth the total length of the segment; tibiae and tarsi black. Wings (Fig. 20) with the ground-colour of cells basad of cord greyish-white, beyond the cord and in costal field uniformly suffused with blackish; darker areas at arculus and as cross-bands at origin of  $R_s$  and along anterior cord, the former nearly complete but narrow, the latter much wider; veins brownish-black. Anterior branch of  $R_s$  with a single trichium close to  $R_2$ ; veins  $R_4$  and  $R_5$  with almost complete series of trichia; medial veins glabrous. Venation:  $R_{2+3+4}$  very short; cell  $M_1$  lacking; vein 2nd A very strongly sinuous.

Abdomen short, black, including the terminalia. Male terminalia (Fig. 26) with the caudal margin of tergite convex, produced medially into a small subacute point. Basistyle, *b*, at apex produced into a lateral and a mesial spinous point, both slender and blackened. Dististyle, *d*, terminating in three blackened spines. Gonapophyses, *g*, appearing as straight spatulate blades, the tips broadly obtuse. Aedeagus slender, shorter than the apophyses.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

The closest ally of the present fly is *Gynoplistia* (*Gynoplistia*) *perjucunda* Riedel (New Guinea), which differs conspicuously in the coloration of the body, legs and wings, and in the number of antennal segments.

## ERIOPTERINI.

## CONOSIA IRRORATA (Wiedemann).

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

1 ♀, Wau, New Guinea, altitude 3,400 feet, 21 December, 1933 (F. H. Taylor).

## TRENTEPOHLIA (MONGOMA) NIGRESCENS, n. sp. Fig. 21.

General coloration almost uniformly dark brown; antennae black throughout; halteres blackened; legs long and slender, posterior tarsi about equal in length to the femora; legs brownish-black, only the terminal tarsal segments paler; wings with a faint blackish tinge; Rs shorter than  $R_{2+3+4}$ .

♂.—Length about 7 mm.; wing, 8 mm.

Rostrum brown; palpi obscure yellow. Antennae black throughout; flagellar segments long-oval, with numerous verticils, the longest subequal in length to the segments. Head brownish-black.

Mesonotum almost uniformly dark brown, the scutellum a trifle paler. Pleura dark brown, the sternopleural region a little paler. Halteres blackened. Legs brownish-black, only the terminal tarsal segments paling to brownish-white or dirty-white; legs long and slender, the posterior tibiae a trifle longer than the femora, the latter subequal in length to the tarsi; legs without specially modified armature. Wings (Fig. 21) with a nearly uniform, faintly blackish tinge; stigma ill-delimited, a trifle darker; veins dark brown. Costal fringe (♂) short. Venation: Rs shorter than  $R_{2+3+4}$ ;  $R_2$  just before fork of  $R_{3+4}$ ; vein  $R_3$  moderately oblique, cell  $R_2$  at margin about one-fourth cell  $R_3$ ; cell 1st  $M_2$  moderately long; inner ends of cells  $R_5$  and  $M_3$  about in transverse alignment; m-cu close to fork of M; apical fusion of veins  $Cu_1$  and 1st A slight.

Abdominal tergites and terminalia brownish-black; basal sternite obscure yellow, the succeeding sternites passing through brown to brownish-black.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

By means of keys to the regional species of *Trentepohlia*, the present fly runs to *Trentepohlia* (*Mongoma*) *brevipes* Alexander, a very different fly having short tarsi and with the venational details quite distinct.

## GONOMYIA (LIPOPHLEPS) NIGRIDORSATA, n. sp. Figs. 27, 33.

Belongs to the *sulphurella* group; mesonotal praescutum and scutum polished black; pleura black, with a longitudinal grey stripe; halteres dusky; legs black; wings almost uniformly tinged with dusky; vein  $R_3$  present, erect; male hypopygium with the armature of the tergite spinous; dististyle bearing a long slender spine.

♂.—Length about 4 mm.; wing, 4.5 mm. ♀.—Length about 4.5 mm.; wing, 5 mm.

Rostrum reddish; palpi black. Antennae black throughout; flagellar segments long-oval, in male with the usual very elongate verticils. Head black, dark-grey pruinose.

Pronotum and lateral pretergites yellowish-white. Mesonotal praescutum, together with the scutal lobes, entirely polished black, median region of the scutum grey pruinose; scutellum yellow, the parascutella black; mediotergite

black, the cephalic portion grey pruinose. Pleura black, with a longitudinal grey stripe extending from behind the fore coxae to the base of abdomen; dorso-pleural membrane dull black. Halteres dusky. Legs with the fore coxae black, the remaining coxae brownish testaceous; trochanters dark brown; remainder of legs black. Wings (Fig. 27) almost uniformly tinged with dusky, the stigma not or scarcely differentiated; veins brownish-black. Venation:  $Sc_1$  ending about opposite one-fourth the length of the long Rs, the latter subequal to  $R_{2+3+4}$ ; vein  $R_3$  present, erect, without trichia.

Abdominal tergites brownish-black; sternites yellow. Male terminalia (Fig. 33) with the tergal armature consisting of strong spines or spinous setae. Lobe of basistyle, *b*, flattened, with abundant setae on mesial face, including a longer brush at apex. Dististyle, *d*, single, symmetrical on the two sides, bearing a long curved spine; rostral portion of style slender, terminating in a powerful fasciculate seta, with other strong setae on disk of style. Phallosome, *p*, consisting of two pale flattened rods, the distal third of each narrowed, the tips gently divergent.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor). Allotopotype, ♀.

*Gonomyia* (*Lipophleps*) *nigradorsata* is very different from the other regional members of the *sulphurella* group, as *G. (L.) nubeculosa* (de Meijere), *G. (L.) pallidosignata* Alexander and *G. (L.) perreducta* Alexander, in the conspicuous coloration of the body, and in the structure of the male terminalia.

GONOMYIA (LIPOPHLEPS) NIGRIDORSATA PLEUOSTRIATA, n. subsp.

Characters entirely as in the typical form, differing only in the very different coloration of the thoracic pleura. Pleura, including dorso-pleural region and pleurotergite, yellow, with a relatively narrow, dark-brown, longitudinal line extending from the fore coxae to above the posterior coxae.

Holotype, ♀, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

GONOMYIA (LIPOPHLEPS) ACUS, n. sp. Figs. 28, 34.

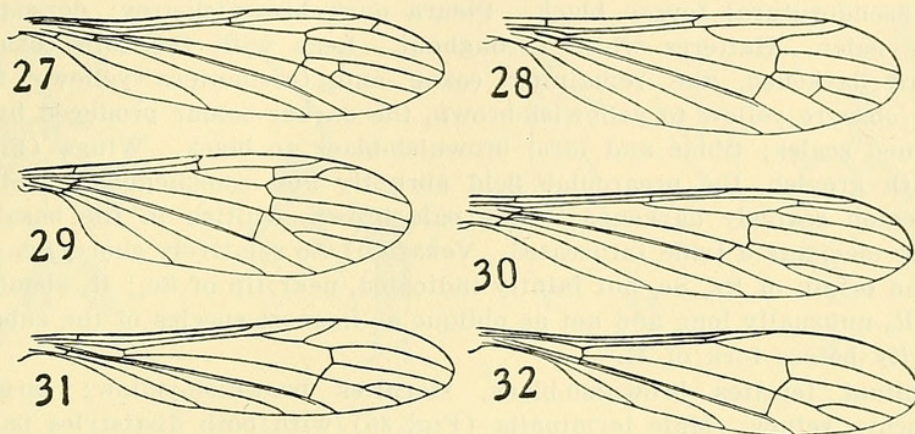
General coloration of mesonotum dark brown; scutellum and postnotum brightened; thoracic pleura striped longitudinally with brownish-black and yellow; legs black; wings almost uniformly suffused with greyish, the stigmal area very faintly darker;  $Sc_1$  ending opposite origin of Rs; basal deflection of  $R_5$  long; abdominal tergites brownish-black, the caudal borders very narrowly yellow; male terminalia with the outer dististyle a long aciculate spine from an expanded base; phallosome a densely hairy column, terminating in two slender black spines that are microscopically spinulose at base.

♂.—Length about 3.6 mm.; wing, 4.2 mm.

Rostrum and palpi black. Antennae black, the scape a little brightened above; flagellar verticils very long and conspicuous. Head chiefly infuscated.

Pronotum and anterior lateral pretergites white. Mesonotal praescutum and scutum uniform brown; scutellum obscure yellow; mediotergite black, obscurely brightened beyond the base, the apical portion broadly dark. Pleura striped longitudinally with yellow and brownish-black; dorsal pleurites, including the pleurotergite, obscure yellow; a broad pale-yellow stripe from behind the fore coxae to beneath the halteres, bordered both above and beneath by blackish. Halteres yellow, the knobs weakly darkened. Legs with the coxae blackened, the posterior pair restrictedly paler at apices; trochanters yellow; remainder of legs

black. Wings (Fig. 28) almost uniformly suffused with greyish, the stigmal area very faintly and diffusely darker; veins pale brown, the anterior cord darker; prearcular veins and Cu more yellow. Venation:  $Sc_1$  ending opposite origin of  $R_s$ ,  $Sc_2$  near its tip; basal deflection of  $R_s$  long, subequal to m; cell 1st  $M_2$  closed; m-cu shortly before fork of M.



Text-figs. 27-32.

- 27.—*Gonomyia* (*Lipophleps*) *nigridorsata*, n. sp., venation.  
 28.—*Gonomyia* (*Lipophleps*) *acus*, n. sp., venation.  
 29.—*Erioptera* (*Empeda*) *albidibasis*, n. sp., venation.  
 30.—*Erioptera* (*Meterioptera*) *sziladyi* Alexander, venation.  
 31.—*Toxorhina* (*Ceratocheilus*) *fumipennis*, n. sp., venation.  
 32.—*Toxorhina* (*Toxorhina*) *suttoni*, n. sp., venation.

Abdomen brownish-black, the surface sparsely pruinose; caudal borders of the tergites very narrowly obscure yellow; on sternites, the borders are much less distinctly brightened; terminalia light brown. Male terminalia (Fig. 34) with the dististyles apical in position, the outer one, *od*, expanded beyond the narrow base, thence produced into a long, very slender, needle-like point; inner style short and broad, with numerous setae, including two fasciculate bristles at outer apical angle. Phallosome, *p*, consisting of a pale, densely hairy column that terminates in a pair of slender black spines, each of the latter with microscopic spinulae on upper margin near bases, the tips acute, long and slender.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

*Gonomyia* (*Lipophleps*) *acus* is allied to *G. (L.) kertésziana* Alexander (north-eastern New Guinea), differing most evidently in the venation and in the structure of the male terminalia.

#### ERIOPTERA (*EMPEDA*) *ALBIDIBASIS*, n. sp. Figs. 29, 35.

General coloration grey, the mesonotum unmarked; antennae black, the first flagellar segment yellow; halteres white throughout; femora obscure yellow to yellowish-brown, provided with setae and flattened scales; wings tinged with greyish, the prearcular field abruptly whitened;  $Sc$  short,  $R_s$  long; abdominal tergites brownish-black, the terminalia of male small; dististyles entirely pale, the outer one unequally bifid, its inner arm shorter and more slender than the outer.

♂.—Length about 2.5–2.6 mm.; wing, 3.2–3.4 mm. ♀.—Length about 3.8–4 mm.; wing, 4–4.2 mm.

Rostrum and palpi black. Antennae short in both sexes; scape and pedicel black; basal flagellar segment somewhat enlarged, yellow to obscure yellow; remainder of flagellum black; longest verticils much exceeding the segments and unilaterally distributed. Head dark grey.

Pronotum and pretergites white. Mesonotum almost uniformly dark-grey, the margin of praescutum before the pseudosuture restrictedly yellow; tuberculate pits and pseudosutural foveae black. Pleura dark brownish-grey; dorso-pleural membrane paler. Halteres white throughout. Legs with the fore coxae and trochanters darkened, the remaining coxae and trochanters yellow; femora uniformly obscure yellow to yellowish-brown, the darker colour produced by setae and flattened scales; tibiae and tarsi brownish-black to black. Wings (Fig. 29) tinged with greyish, the prearcular field abruptly and conspicuously whitened; stigmal region scarcely darkened; veins pale brown, whitish in the basal area, the arcular elements a trifle infuscated. Venation: Sc relatively short, Sc<sub>1</sub> ending just beyond origin of Rs, Sc<sub>2</sub> but faintly indicated, near tip of Sc<sub>1</sub>; R<sub>2</sub> about equal to R<sub>2+3+4</sub>; R<sub>3</sub> unusually long and not as oblique as in most species of the subgenus; m-cu shortly before fork of M.

Abdominal tergites brownish-black, sternites brownish-yellow; terminalia small, obscure yellow. Male terminalia (Fig. 35) with both dististyles pale, the outer one, *od*, entirely glabrous, simply but deeply bifid, the outer arm relatively wide, the inner arm shorter and unusually slender, its tip obliquely truncated. Inner dististyle, of about the same conformation and size as the outer arm of the outer style, provided with a few microscopic setulae at apex.

Holotype, ♂, Aramaiti, Papua, altitude about 6,000 feet, July, 1935 (K. J. Clinton). Allotype, ♀, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor). Paratopotype, 1 ♂, with holotype; paratype, 1 ♀, Maini, New Guinea, altitude 6,300 feet, July, 1935 (K. J. Clinton).

*Erioptera (Empeda) albidibasis* belongs to the group of the subgenus that includes species having a short Sc and an unusually long vein R<sub>3</sub>; femora uniformly coloured, without suddenly blackened tips, and provided not only with setae but also with flattened scales; male terminalia small, the dististyles entirely pale, the outer style bifid. In this group, the closest described ally is *E. (E.) lunensis* Alexander (Mindanao), which differs most evidently in the distinct male terminalia.

#### ERIOPTERA (ERIOPTERA) LUNICOLA Alexander.

*Philippine Journ. Sci.*, xlviii, 1932, 630-631.

Known from Luzon and Mindanao. A small series of what certainly appears to be the same species from Maini, Papua, altitude about 6,300 feet, July, 1935 (K. J. Clinton), and Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

The male terminalia are very similar to the condition found in the Philippine types, except that the spine on the inner dististyle is a little shorter and slightly less curved. The basal segments of the flagellum are paler than in the types.

#### ERIOPTERA (METERIOPTERA) SZILADYI Alexander. Fig. 30.

*Philippine Journ. Sci.*, liv, 1934, 468-469.

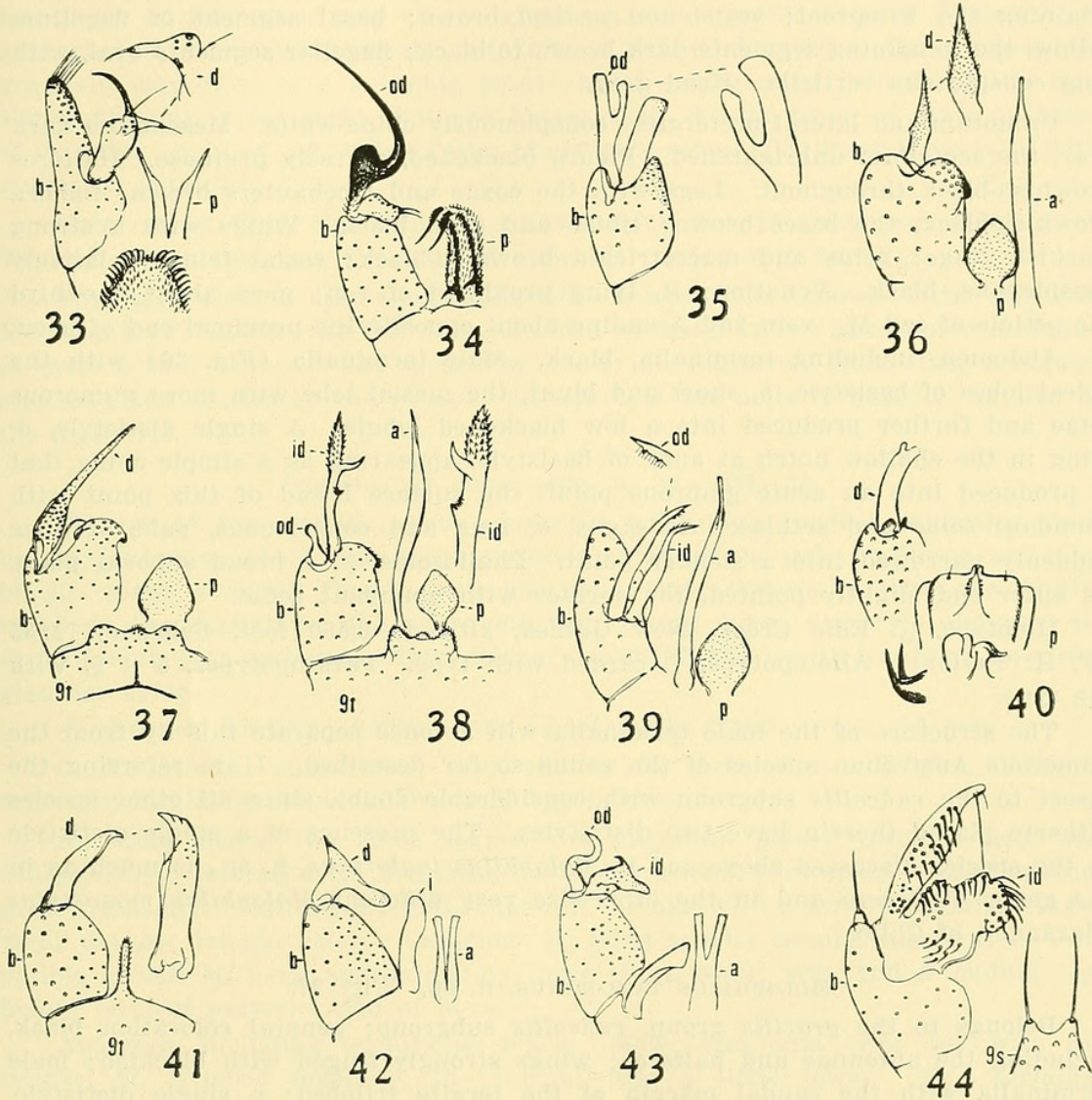
The type, a male, was from Sattelberg, Huon Peninsula, north-eastern New Guinea, collected in late September, 1898, by the late Ludwig Biró.

A second specimen is from Wau, New Guinea, altitude 3,400 feet, 18 December, 1933 (F. H. Taylor). This individual is somewhat larger than the type (length

about 5 mm.; wing, 5.5 mm.), but otherwise very similar. The wing-venation is shown (Fig. 30).

*MOLOPHILUS UNISTYLUS*, n. sp. Fig. 36.

Belongs to the *gracilis* group, *ruficollis* subgroup; general coloration dark grey, the pronotum and pretergites china-white; antennae short, the first flagellar



Text-figs. 33-44.

- 33.—*Gonomyia* (*Lipophleps*) *nigradorsata*, n. sp., male terminalia.  
 34.—*Gonomyia* (*Lipophleps*) *acus*, n. sp., male terminalia.  
 35.—*Erioptera* (*Empeda*) *albidibasis*, n. sp., male terminalia.  
 36.—*Molophilus unistylus*, n. sp., male terminalia.  
 37.—*Molophilus taylorinus*, n. sp., male terminalia.  
 38.—*Molophilus concussus*, n. sp., male terminalia.  
 39.—*Molophilus aterrimus*, n. sp., male terminalia.  
 40.—*Tasiocera papuana*, n. sp., male terminalia.  
 41.—*Tasiocera tarsalba*, n. sp., male terminalia.  
 42.—*Toxorhina* (*Ceratocheilus*) *fumipennis*, n. sp., male terminalia.  
 43.—*Toxorhina* (*Toxorhina*) *suttoni*, n. sp., male terminalia.  
 44.—*Styringomyia spinicaudata*, n. sp., male terminalia.  
 a, aedeagus; b, basistyle; d, dististyle; i, interbase; id, inner dististyle; od, outer dististyle; p, phallosome; s, sternite; t, tergite.

segment yellow; halteres and legs brownish-black; wings with a strong blackish tinge; male terminalia with a single dististyle, lying in the notch of the low apical lobes of basistyle; phallosomic plate with abundant setae.

♂.—Length about 3.8–4.2 mm.; wing, 4.5–5 mm. ♀.—Length about 4.2–4.5 mm.; wing, 4.5–5 mm.

Rostrum and palpi black. Antennae short, if bent backward not or scarcely attaining the wing-root; scape and pedicel brown; basal segment of flagellum yellow, the remaining segments dark brown to black; flagellar segments oval, with long conspicuous verticils. Head grey.

Pronotum and lateral pretergites conspicuously china-white. Mesonotum dark grey, the scutellum unbrightened. Pleura blackened, sparsely pruinose. Halteres brownish-black throughout. Legs with the coxae and trochanters brown; femora brownish-black, the bases brown; tibiae and tarsi black. Wings with a strong blackish tinge; veins and macrotrichia brownish-black; costal fringe relatively conspicuous, black. Venation:  $R_2$  lying proximad of r-m; m-cu about one-third the petiole of cell  $M_3$ ; vein 2nd A ending about opposite the proximal end of m-cu.

Abdomen, including terminalia, black. Male terminalia (Fig. 36) with the apical lobes of basistyle, *b*, short and blunt, the mesial lobe with more numerous setae and further produced into a low blackened lobule. A single dististyle, *d*, lying in the shallow notch at apex of basistyle, appearing as a simple spine that is produced into an acute glabrous point, the surface basad of this point with abundant setae and setulae. Aedeagus, *a*, long and conspicuous, pale, at apex suddenly narrowed into a slender point. Phallosome, *p*, a broad suboval plate, its outer end slightly pointed, the surface with abundant setae.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor). Allotopotype, ♀, carded with type. Paratopotypes, 5 ♂ ♀, with the type.

The structure of the male terminalia will at once separate this fly from the numerous Australian species of the genus so far described. I am referring the insect to the *ruficollis* subgroup with considerable doubt, since all other species hitherto placed therein have two dististyles. The presence of a single dististyle in the species discussed above and in *Molophilus taylorinus*, n. sp., is much as in the genus *Tasiocera* and in the otherwise very different *Molophilus monostylus* Alexander, of Chile.

#### MOLOPHILUS TAYLORINUS, n. sp. Fig. 37.

Belongs to the *gracilis* group, *ruficollis* subgroup; general coloration black, including the antennae and halteres; wings strongly tinged with blackish; male terminalia with the caudal margin of the tergite trilobed; a single dististyle, appearing as an elongate simple rod, the base dilated and provided with abundant long erect setae.

♂.—Length about 2.8–3 mm.; wing, 3.5–4 mm.

Rostrum and palpi black. Antennae black throughout, short, if bent backward not attaining the wing-root; flagellar segments oval, with conspicuous verticils. Head black, sparsely grey pruinose.

Thorax entirely black, very sparsely pruinose. Halteres black throughout. Legs with the coxae black; trochanters dark brown; remainder of legs brownish-black. Wings with a strong blackish tinge, the veins even darker coloured; macrotrichia black. Venation:  $R_2$  in transverse alignment with r-m, or even slightly proximad of this point; petiole of cell  $M_3$  relatively short, only about

one-half longer than m-cu; vein 2nd A ending about opposite the posterior end of m-cu.

Abdomen, including terminalia, black. Male terminalia (Fig. 37) with the caudal margin of tergite, *9t*, conspicuously trilobed, the median lobule smaller and with shorter, more dense setae than the laterals. Basistyle, *b*, with the only developed lobe (ventral) terminating in a small obtuse darkened lobule, the remainder of lobe with long coarse setae. A single well-developed dististyle, *d*, appearing as a simple elongate rod from a dilated base, the distal two-thirds gradually narrowed to a subacute point; basal enlargement provided with very abundant, long, erect setae that are longer than the diameter of style at point of insertion; apex of rod with a group of elongate setae. Phallosomic plate, *p*, with numerous setulae.

Holotype, ♂, Wau, New Guinea, altitude 3,400 feet, 18 December, 1933 (F. H. Taylor). Paratopotypes, 2 ♂, one of which is carded with the type.

This very distinct species of *Molophilus* is named in honour of the collector, Mr. Frank H. Taylor, who has done so much to make known the Dipterous fauna of eastern New Guinea. The species is readily distinguished from other generally similar black species by the peculiar structure of the male terminalia, notably of the dististyle.

*MOLOPHILUS CONCUSSUS*, n. sp. Fig. 38.

Belongs to the *gracilis* group, *ruficollis* subgroup; general coloration dark brown; antennae short, the basal segment of flagellum pale; halteres and legs black; wings strongly tinged with blackish; male terminalia with the tergite trilobed; two dististyles, the outer one very small; inner dististyle elongate, its distal fourth with scabrous points, at near two-thirds the length bearing a powerful glabrous spine.

♂.—Length, 3.5 mm.; wing, 4 mm. ♀.—Length, 4 mm.; wing, 4.5 mm.

In its general appearance, very similar to *Molophilus unistylus*, differing especially in the structure of the male hypopygium.

Antennae black, the basal segment of flagellum paler; verticils long and conspicuous. Coloration of mesonotum and pleura more brownish, without distinct grey pruinosity. Halteres dark throughout. Wings with a strong blackish tinge; veins darker; trichia black. Venation: *R*<sub>2</sub> lying shortly beyond the level of r-m; petiole of cell *M*<sub>3</sub> long, approximately three times m-cu; vein 2nd A ending just before level of posterior end of m-cu.

Abdomen, including terminalia, black. Male terminalia (Fig. 38) with the tergite, *9t*, trilobed medially, the central lobe a little lower. Two terminal dististyles, the outer, *od*, very small, scarcely one-fourth the length of the inner style, *id*; the latter elongate, its distal fourth with scabrous points; at near two-thirds the length bearing a powerful glabrous spine, at near one-third the length with a small conical point that bears several spinulae in its axil. Aedeagus, *a*, long and conspicuous. Phallosomic plate, *p*, more or less heart-shaped or suboval, the surface with microscopic setulae.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor). Allotopotype, ♀, carded with type.

*Molophilus concussus*, while very similar in its general appearance to *M. unistylus*, n. sp., is entirely different in the structure of the male terminalia. The possibility exists that the female carded with the type of *M. concussus* and referred to above as allotopotype of this species in reality pertains to *M. unistylus*.

*MOLOPHILUS ATERRIMUS*, n. sp. Fig. 39.

Belongs to the *gracilis* group, *ruficollis* subgroup; general coloration deep velvety-black, the pronotum and lateral pretergites china-white; knobs of halteres white; wings blackish, the prearcular field abruptly white; male terminalia with two simple dististyles of approximately equal shape and size.

♂.—Length about 3.2–3.5 mm.; wing, 4–4.5 mm. ♀.—Length about 4 mm.; wing, 5 mm.

Rostrum and palpi black. Antennae black throughout, of moderate length, if bent backward extending to a short distance beyond the wing-root; flagellar segments oval. Head black.

Pronotum and lateral pretergites pure china-white. Mesonotum entirely and uniformly deep velvety-black, the humeral region of praescutum more polished. Pleura, including propleura and pleurotergite, deep velvety-black. Halteres with basal half of stem blackened, the outer half pale, the knobs white. Legs entirely black. Wings with a strong blackish tinge, the prearcular field abruptly white; veins brown, very pale in the prearcular field; macrotrichia black. Costal fringe relatively long and conspicuous. Venation:  $R_2$  lying opposite or just before level of r-m; petiole of cell  $M_3$  about two and one-half times m-cu; vein 2nd A relatively short, ending distinctly before level of m-cu.

Abdomen, including terminalia, black. Male terminalia (Fig. 39) with apical lobe of basistyle, *b*, unarmed. Two dististyles of approximately similar length and shape, both slender and simple, the tips acute; outer style, *od*, before tip with two or three small tubercles or spines and several long erect setae; inner style, *id*, more curved on distal fourth, with long setae on outer margin before apex. Aedeagus, *a*, elongate. Phallosomic plate, *p*, oval, the surface with abundant setulae.

In the female, the amount of white on the pronotum and pretergites is more restricted, the knobs of halteres more yellowish-white, and the prearcular cells only insensibly brightened. Valves of ovipositor yellowish horn-colour.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor). Allotopotype, ♀. Paratopotype, ♂, carded with type; 1 separate ♂.

The deep black colour, white knobs of halteres, china-white pronotum and pretergites, pale wing-bases, and structure of the male terminalia, readily separate the present fly from the very numerous species of the genus now known from the Australasian region.

*TASIOCERA PAPUANA*, n. sp. Fig. 40.

General coloration pale brown; antennae pale, especially the apical pedicels; legs black; male terminalia with the dististyle apical in position, relatively stout and straight; phallosome complex, appearing as a depressed pale plate that terminates in a small median point; a pair of strong black spines near base of phallosome.

♂.—Length about 3 mm.; wing, 4 mm.

Rostrum and palpi brown. Antennae (♂) elongate, as normal for the sex in this genus, fully one-half longer than body; flagellar segments chiefly pale, especially the apical pedicels. Head pale brown.

Thorax, including pleura, almost uniformly pale-brown. Halteres dusky, the knobs blackened. Legs with the coxae and trochanters brownish testaceous; remainder of legs black, including all tarsi. Wings subhyaline, the veins only a trifle darker than the ground-colour; trichia brown; costal fringe long and conspicuous; anal fringe very long.

Abdomen pale brown. Male terminalia (Fig. 40) with the dististyle, *d*, terminal in position, relatively stout and straight, the extreme tip broken in type; before the apical point a small obtuse knob. Phallosome, *p*, very complex, as usual in the genus, appearing about as figured, consisting of a depressed pale plate, the apex of which is further produced into a small obtuse median point, around and cephalad of which are some powerful setae. A pair of powerful black spines, as illustrated, are distinctive of this species in comparison with the numerous Australian and New Zealand species now described.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

Among the rather numerous species of *Tasiocera* in eastern Australia, including Tasmania, that have the dististyle of the male terminalia apical in position (including *axillaris* Alexander, *bipennata* Alexander, *bucephala* Alexander, *caudifera* Alexander, *dicksoniae* Alexander, *dorrigenis* Alexander, *gracillicornis* Skuse, *nodulifera* Alexander, *otwayensis* Alexander and *taylori* Alexander), the present fly differs conspicuously in the structure of the terminalia, especially of the dististyle and phallosome.

*TASIOCERA TARSALBA*, n. sp. Fig. 41.

General coloration dark brown; wings with vein 2nd A apparently lacking, at most represented by a thickening of the axillary border far basad of the level of the arculus; male terminalia with a slender, finger-like lobe on caudal border of the apparent tergite; dististyle apical in position, relatively slender.

♂.—Length about 2.6 mm.; wing, 3.3 mm.

Rostrum and palpi brown. Antennae brownish-black throughout; in male, longer than body, as in the genus. Head brown.

Mesonotum dark brown, the pleura a little paler. Halteres black throughout. Legs with the coxae and trochanters testaceous-brown; femora and tibiae brownish-black, the tarsi snowy-white, only the bases a trifle infumed; ground-colour of tibiae chiefly pale but with dark vestiture. Wings with a uniform dusky tinge; veins dark brown; trichia black. Venation:  $R_{2+3+4}$  present as a short element; inner end of cell  $R_5$  lying more basad than cell  $R_4$ ; inner end of cell 1st  $M_2$  strongly arcuated, with m-cu at the fork of M; vein 2nd A apparently lacking, evident only as a thickening of the axillary border that ends far before the level of the arculus.

Abdomen, including terminalia, black. Male terminalia (Fig. 41) with the caudal margin of the apparent tergite, *9t*, produced into a slender, finger-like median lobe that is covered with delicate setulae. Dististyle, *d*, apical, relatively slender, at apex more narrowed and gently decurved to the subacute tip.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

*Tasiocera tarsalba* is readily distinguished from all other described members of the genus by the snowy-white tarsi. The tail-like extension of the caudal border of the apparent tergite of the male terminalia is somewhat as in *T. caudifera* Alexander (New South Wales) yet quite different in its conformation and vestiture.

*TOXORHINA (CERATOCHEILUS) FUMIPENNIS*, n. sp. Figs. 31, 42.

Mesonotal praescutum brownish-yellow, darker medially; head light grey, with a conspicuous rectangular blackened area on vertex; legs black; wings with a strong brownish tinge; anterior branch of  $R_s$  moderately oblique, gently sinuous;

cell  $M_2$  open; abdominal tergites brownish-black, the terminal sternites paler brown; male terminalia with a single dististyle that is produced into an acute spinous point on its outer margin before midlength.

♂.—Length, excluding rostrum, 3.5–4 mm.; wing, 5–5.6 mm.; rostrum, 3.3–3.7 mm.

Rostrum black. Antennae black throughout. Head light grey, with a very conspicuous, rectangular black mark extending from the occiput to the anterior vertex, touching the inner margins of eyes at the latter point.

Cervical region brownish-black. Mesonotal praescutum rich brownish-yellow to fulvous, more infuscated medially and behind but without distinct or evident stripes; scutal lobes dark brown, the median area paler; posterior sclerites of mesonotum brown. Dorsal pleurites and membrane infuscated, the ventral sclerites brownish-yellow. Halteres obscure yellow, the knobs darkened. Legs with the fore coxae darkened, remaining coxae and all trochanters yellow; remainder of legs black. Wings (Fig. 31) with a strong and almost uniform brown tinge; veins brownish-black. Costal fringe moderately long and dense; numerous macrotrichia on veins  $Rs$ ,  $R_5$ ,  $M_{1+2}$  and  $M_3$ ; no trichia on anterior branch of  $Rs$ . Venation: Anterior branch of  $Rs$  moderately oblique, gently sinuous; cell  $M_2$  open; m-cu at fork of  $M$ .

Abdominal tergites brownish-black, the sternites and terminalia somewhat paler brown. Male terminalia (Fig. 42) with a single dististyle,  $d$ , that is apical in position, the rostral portion produced into a spatulate blade, the heel portion produced into an acute blackened spine. Branches of the aedeagus,  $a$ , about equal in length to the interbasal plates,  $i$ .

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor). Paratopotype, ♂.

The only close regional ally of the present fly is *Toxorhina* (*Ceratocheilus*) *birói* Alexander (north-eastern New Guinea), which differs conspicuously in the coloration of the body and wings; the venation, especially the erect anterior branch of  $Rs$ ; and the entirely distinct male terminalia.

#### TOXORHINA (TOXORHINA) TRILINEATA, n. sp.

General coloration grey, the praescutum with three conspicuous, dark brown stripes; scutellum dark brown, its posterior border more reddish-brown; legs brownish-black; wings greyish, the prearcular field light yellow;  $Sc$  short,  $Sc_1$  ending some distance before origin of  $Rs$ ; cell  $M_2$  open; abdominal tergites uniformly dark brown, sternites obscure brownish-yellow.

♀.—Length, excluding rostrum, about 6 mm.; wing, 6 mm.; rostrum about 4.7 mm.

Rostrum unusually long, black. Antennae black throughout. Head dark grey, clearer grey on anterior vertex and posterior orbits.

Cervical sclerites and pronotum dark brown. Mesonotal praescutum grey, with three conspicuous dark-brown stripes that are entirely separate from one another; posterior interspaces slightly more infumed; scutal lobes dark brown, the median area paler; scutellum dark brown, its posterior border more reddish-brown; mediotergite clear grey. Pleura grey, the posterior sclerites somewhat more infumed. Halteres pale, the knobs weakly darkened. Legs with the fore coxae dark grey, the remaining coxae obscure yellow; trochanters brownish-yellow, darkened at tips; remainder of legs brownish-black. Wings almost uniformly tinged with greyish, the prearcular field light yellow; veins dark brown.

Venation: Sc short, Sc<sub>1</sub> ending some distance before origin of Rs, the distance on costa nearly equal to r-m; cell M<sub>2</sub> open; m-cu just beyond fork of M.

Abdominal tergites uniformly dark brown, the sternites obscure brownish-yellow, the subterminal segments more darkened. Ovipositor with genital shield darkened, the long slender cerci horn-coloured.

Holotype, ♀, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor).

*Toxorhina* (*Toxorhina*) *trilineata* is entirely different from the only other regional species, *T. (T.) suttoni*, n. sp.

*TOXORHINA (TOXORHINA) SUTTONI*, n. sp. Figs. 32, 43.

Mesonotum black, the humeral region of praescutum yellow, the lateral borders more velvety-black; pleura yellow; knobs of halteres infuscated; legs black; wings with a dusky tinge; Sc<sub>1</sub> ending a short distance beyond origin of Rs; abdominal tergites dark brown, sternites yellow, in the male with the subterminal two segments dark brown; male terminalia yellow, with two dististyles, the outer a slender, strongly sigmoid blade.

♂.—Length, excluding rostrum, about 4.2–4.5 mm.; wing, 5–5.6 mm.; rostrum, 3.3–3.5 mm. ♀.—Length, excluding rostrum, about 6 mm.; wing, 6 mm.; rostrum about 3.8 mm.

Rostrum black. Antennae black throughout. Head grey, more blackish or blackish-grey on the posterior vertex, the front and orbits light grey.

Cervical region and pronotum yellow. Mesonotum black, the humeral region of the praescutum yellow; lateral borders of praescutum and scutum more velvety-black; median region of scutum and the scutellum more brownish. Pleura entirely yellow. Halteres pale, the knobs infuscated. Legs with the coxae yellow, the fore coxae weakly infuscated on outer faces; trochanters yellow; remainder of legs black. Wings (Fig. 32) with a rather strong dusky tinge; veins black. Venation: Sc<sub>1</sub> ending a short distance beyond origin of Rs; cell M<sub>2</sub> open; m-cu at or shortly before fork of M.

Abdominal tergites dark brown; sternites yellow, the subterminal two segments in male dark brown; terminalia yellow. Male terminalia (Fig. 43) with two dististyles, the outer, *od*, a slender, strongly sigmoid, flattened blade, the tip acute. Inner dististyle, *id*, broader, at near midlength on outer margin with a small curved spine. Interbases appearing as pale blades, the apices obliquely truncated. Arms of aedeagus, *a*, relatively short.

Holotype, ♂, Edie Creek, New Guinea, altitude 6,550 feet, February, 1935 (F. H. Taylor). Allotopotype, ♀, carded with type. Paratopotype, ♂.

I take very great pleasure in naming this distinct species of *Toxorhina* in honour of Professor Harvey Sutton, to whom I express my indebtedness for many favours in the past. The species is very different from *T. (T.) trilineata*, n. sp., in all diagnostic features listed above.

*STYRINGOMYIA SPINICAUDATA*, n. sp. Fig. 44.

General coloration pale testaceous-brown, the mesonotum without distinct markings; flagellum pale yellow throughout; femora yellow, the fore and middle pair with two scarcely indicated dark rings, the posterior pair quite immaculate; wings with a strong uniformly yellow tinge, immaculate; male terminalia with the outer dististyle expanded, the surface with numerous long black spines.

♂.—Length about 5.5 mm.; wing, 4 mm.

Rostrum pale brown, palpi a little darker. Antennae with scape and pedicel dark brown; flagellum pale yellow throughout. Head pale testaceous-brown, setae unmodified.

Pronotum whitish. Mesonotum almost uniform pale testaceous-brown to yellowish-brown, without evident markings and with normal setae. Pleura testaceous yellow. Halteres pale, the knobs weakly dusky. Legs with the coxae and trochanters yellow; femora yellow, the fore and middle pair with very faint indications of darker rings, the posterior femora entirely immaculate; tibiae yellow, the tips and a narrow ring before midlength pale brown; tibiae yellow, the tips of the individual segments very insensibly darkened. Wings with a strong, uniformly yellow tinge, immaculate; veins slightly deeper yellow than the ground but pale and ill-delimited. Costal fringe very long and conspicuous. Venation: Anterior branch of Rs oblique; cell 2nd  $M_2$  short-petiolate; m-cu more than its own length beyond fork of M; vein 2nd A simple.

Abdomen yellow; caudal borders of segments narrowly darkened; terminalia yellow. Male terminalia (Fig. 44) with apex of tenth tergite broadly obtuse, with abundant golden setae. Ninth sternite, 9s, broad at apex, rather deeply emarginate, the outer lateral setae not especially modified. Basistyle, *b*, terminating in a single, relatively short spine from a swollen base. Dististyle complex, the outer arm expanded, its surface with more than thirty long black spines that extend distad almost to outer end of arm; more of these long slender spines grouped at extreme base of arm; inner arm, *id*, a broadly flattened plate, having an irregular outline, the surface, and especially the margin, with unusually long black spines, the outer peripheral ones very long, several of them strongly curved and bent.

Holotype, ♂, Wau, New Guinea, altitude 3,400 feet, 18 December, 1934 (F. H. Taylor).

*Styringomyia spinicaudata* belongs to the group of species with entirely immaculate wings, such species centring about *S. flava* Brunetti. From all these species, none of which had been reported previously from the Australasian Region, the present fly is distinguished by the immaculate posterior femora, and, especially, the structure of the male terminalia, notably of the dististyle.

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Alexander, Charles P. 1936. "The Diptera of the territory of New Guinea. V. Family Tipulidae. Part III." *Proceedings of the Linnean Society of New South Wales* 61, 322–340.

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