

UNDESCRIBED SPECIES OF CRANE-FLIES FROM NEW  
GUINEA IN THE SOUTH AUSTRALIAN MUSEUM  
(DIPTERA; TIPULIDAE)

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I AM much indebted to the Director and Trustees of the South Australian Museum for the opportunity to study a collection of Tipulidae made in the Torricelli Mountains in North-east New Guinea. This small but interesting series of flies has added several new species to those known from the island, the types being preserved in the South Australian Museum. The collection was made by the distinguished collector and explorer, Miss Lucy Evelyn Cheesman, whose paper, "The Border Mountains and Torricelli Range of Northern New Guinea," *Geographical Journal*, 1941, p. 170, ff, should be consulted.

Subfamily TIPULINAE.

PTILOGYNA Westwood, 1835.

PTILOGYNA CHEESMANÆ sp. nov.

General coloration of mesonotum and pleura dark brown, the postnotum more yellowed; antennae (female) with seven simply branched segments, the longest branch approximately one-half the length of the segment; wings light brown, the costal border darker; vague yellow areas beyond arculus, over origin of  $R_s$ , along the cord and in the base of cell  $R_2$ ; vein  $R_1$ , entering  $R_{2+3}$  some distance before the fork of the latter, so vein  $R_{1+2+3}$  is subequal to vein  $R_1$ ; veins  $R_{4+5}$  and  $M_{1+2}$  extensively fused.

♀ Length, about 13 mm.; wing, 12.3 mm.; antenna, about 2 mm.

Frontal prolongation of head dark fulvous brown; nasus lacking; palpi black. Antennae (female) 13-segmented, short; proximal four or five segments obscure yellow, the succeeding segments and all branches black; flagellar segments two to eight, inclusive, with a single short branch, longest on segments three to five, on outer segments becoming progressively shorter, that of segment eight a mere tubercle; longest branch approximately one-half the segment or a trifle more; outer three segments simple, nine and ten relatively short, subequal, the terminal one nearly twice as long, slender. Head above dark fulvous, somewhat darker on central portion; anterior vertex between eyes high and compressed.

Pronotum brown. Mesonotal praescutum largely destroyed by insect pests, the posterior third dark brown, somewhat more pollinose on the interspaces but not distinctly striped; scutum and scutellum dark brown or brownish black; mediotergite paling to obscure yellow, pleurotergite with the anapleurotergite brown, the katapleurotergite paler. Pleura chiefly dark brown, including the dorsopleural membrane. Halteres uniformly dark brown. Legs with the coxae and trochanters brown; femora brown, restrictedly yellow at base; the apex somewhat more intensely blackened; tibiae and tarsi brown to dark brown. Wings with the ground colour light brown, very vaguely patterned with obscure yellow markings, especially near the wing base beyond the areulus; at origin of *Rs*; along cord extending from vein *R* virtually to the posterior border at *Cu*<sub>1</sub>, more distinct over the anterior cord; a small spot in base of cell *R*<sub>2</sub>; prearcular field and cells *C* and *Sc* to the region of the stigma darker brown, the colour thence continued as a slightly paler darkening to the wing tip; veins brown, not brightened in the yellowed areas. Venation: *Sc*<sub>1</sub> atrophied; *Sc*<sub>2</sub> entering *R* just beyond one-third the length of *R*<sub>2+3</sub>; *Rs* very long, about two and one-half times *R*<sub>2+3</sub>; free tip of *Sc*<sub>2</sub> distinctly preserved but pale; *R*<sub>1</sub> entering *R*<sub>2+3</sub> some distance before fork, so *R*<sub>1</sub> is subequal in length to *R*<sub>1+2+3</sub>; inner end of cell *R*<sub>2</sub> pointed; *R*<sub>4+5</sub> extensively fused with *M*<sub>1+2</sub>, as in the genus, the fusion subequal to the basal section of *M*<sub>1+2</sub>, the second section of the latter a little shorter; *m* from two to four times the basal section of vein *M*<sub>2</sub> and a little shorter than the basal section of *M*<sub>3</sub>; *m-cu* on *M*<sub>4</sub> shortly beyond origin; vein 2nd *A* straight.

First abdominal tergite brownish black; tergites two to four, inclusive, brownish fulvous, the posterior margin broadly, the lateral borders more narrowly blackened; outer tergites more uniformly darkened; first sternite dark brown, the second fulvous; succeeding sternites more brownish fulvous, with dark margins; outer sternites more uniformly blackened. Ovipositor with the valves elongate, nearly straight, yellowish horn colour.

Holotype, ♀, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman).

I take unusual pleasure in naming this fly for the collector, Miss Lucy Evelyn Cheesman, who has added so materially to our knowledge of the insect fauna of many of the Pacific Islands. The present fly is quite distinct from the two species hitherto made known, including the genotype, *Ptilogyna ramicornis* (Walker), widespread and common in eastern Australia, and the smaller *P. minima* Alexander, still known only from Melville Island, off the coast of Arnhem Land in the Northern Territory of Australia. The new insect differs conspicuously from the genotype in coloration and in the structure of the antennae, the flagellar segments bearing a single short branch in the female sex instead of

two unequal branches as in *ramicornis*. I have no information on the antennae of the female sex of *P. minima* which differs in all respects of coloration from the present fly.

Undoubtedly the antennae of the male of this new species will be found to conform to the striking flabellate type found in *Ptilogyna* Westwood and *Phacelodocera* Enderlein, which will probably have to be considered as representing subgenera, with *Ptilogyna* the oldest name. In conjunction with the fact that the antennae of the female of this new species are simply pectinate whereas in *ramicornis* they are bipectinate, it may be stated that such a difference is undoubtedly of specific value only. In allied groups, such as *Plusiomyia* Skuse, of Australia and New Caledonia, and *Ozodicera* Macquart, of tropical America, the degree of branching of the antennae in both sexes varies within surprisingly wide limits and the structure of this organ cannot be used safely in the definition of generic or subgeneric groups.

The present record is the first for any of the primitive Tipulinae having branched antennae in the Pupuan Subregion. Attention should be called to the recent discovery of two striking new species of *Phacelodocera* in the island of New Caledonia.

CTENACROSCELIS Enderlein, 1912.

CTENACROSCELIS PERCONTRACTUS sp. nov.

Size relatively small (wing about 25 mm.); disk of praescutum with four brownish grey stripes, the lateral borders and interspaces dark brown; flagellar segments with the lower face slightly produced; verticle tubercle low, with a dark brown spot; femora yellow, the tips blackened; wings brownish yellow, restrictedly patterned with darker; cell  $R_3$  strongly constricted before midlength.

♂ Wing, 24.5 mm.; antenna, about 3.2 mm.

♀ Length, about 29 mm.; wing, 26.5 mm.

Frontal prolongation of head cinnamon brown above, somewhat darker on sides; nasus long and conspicuous; palpi brown, the incisures restrictedly pale; terminal segment short, black. Antennae with scape brownish yellow, pedicel yellow, flagellum brown; flagellar segments with the lower face slightly produced, somewhat more so in the type. Head above light brown behind, more brownish yellow in front, the low vertical tubercle with a dark brown spot; anterior vertex nearly three times as wide as the diameter of scape.

Pronotum brown above, paler on sides. Mesonotum discoloured, its pattern describable in general terms only; disk of praescutum with four brownish grey stripes, the lateral pair clearer grey; borders of all stripes and the interspaces

darker brown; humeral region of praescutum restrictedly yellow; each scutal lobe with two grey areas, the remainder dark brown; scutellum brownish grey, with a central brown line; mediotergite buffy grey; the narrow posterior border and a capillary median line darker. Pleura with the dorsopleural region buffy yellow, below which is a brown longitudinal stripe extending from the cervical region backward, becoming obsolete at the pteropleurite; ventral pleurites grey (type) or more yellowed (allotype), the sternopleurite patterned with darker, especially in the type. Halteres dark brown, the base of stem narrowly yellow. Legs with the coxae yellowish grey, patterned with brown, very distinctly so in the type, nearly obsolete in the allotype; femora yellow, the tips broadly blackened; tibiae and tarsi yellow, the latter darker at tips. Wings relatively narrow, the ground colour brownish yellow, restrictedly patterned with darker, including cells *C* and *Sc* and the outer radial field in cells *Sc*<sub>2</sub>, *R*<sub>2</sub> and *R*<sub>3</sub>; stigma and a conspicuous seam over *m-cu* and distal section of vein *Cu* darker brown; obliterative streak on anterior cord restricted in area; veins brown, more yellowed in the obliterative field. Venation: Cell *R*<sub>3</sub> strongly constricted before midlength, at the narrowest point a little more than one-third as wide as it is across the subbasal portion; *m-cu* at near one-third the length of *M*<sub>3+4</sub>.

Abdominal tergites dark reddish brown, with indications of still darker brown median and sublateral stripes, the lateral borders narrowly dark brown; sternites dark brownish grey.

Holotype, ♀, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman). Allotopotype, a broken ♂.

Superficially the present fly is most like *Ctenacroscelis umbrinus* (Wiedeman), differing conspicuously in the structure of the antennae, details of coloration, and the unusually constricted cell *R*<sub>3</sub> of the wings.

CTENACROSCELIS ILLEX sp. nov.

Size large (wing, male, 36 mm.); mesonotal praescutum with three dark grey stripes that are bordered by brown; pleura yellow, variegated by brown areas; femora brownish yellow, the tips dark brown, preceded by a clearer yellow ring; wings long and narrow, restrictedly patterned with brown; male hypopygium with the tergal lobes short, nearly truncate, the median area with a broad furrow; inner dististyle long and slender, the outer half a long blade that terminates in a decurved beak.

♂ Length, about 28 mm.; wing, 36 mm.; antenna, about 3.9 mm.

Frontal prolongation of head a little shorter than the remainder, light brown; nasus elongate; basal three palpal segments brown, paler at the incisures, the terminal segment dark brown. Antennae with the flagellar segments almost cylindrical, not or scarcely produced. Head above dark fulvous brown, still



darker medially; vertical tubercle low, with two impressed longitudinal lines that divide the tubercle into three parts.

Pronotum brown. Mesonotal praescutum with three dark grey stripes that are more or less distinctly bordered by brown, the intermediate pair barely divided by a narrow darker grey area; posterior interspaces buffy grey, the lateral borders and anterior interspaces broadly dark brown; suture pale yellow, especially on the scutal side; each scutal lobe with two dark grey areas that are vaguely bordered by brown, the posterior portion of scutum infuscated; scutellum and mediotergite very pale yellow, the latter more pruinose on posterior half, the caudal border dark brown, with indications of a capillary brown median vitta extending cephalad almost to the anterior border; pleurotergite light grey. Pleura light yellow or yellowish grey, variegated by brown areas, especially large and distinct on the propleura, dorsal anepisternum and ventral sternopleurite; dorsopleural membrane yellow, its borders and especially the anterior end more infuscated. Halteres with stem infuscated, its base yellowed, the knob vaguely brightened. Legs with the coxae yellowish grey, the fore pair more patterned with brown; trochanters yellow; femora brownish yellow, the tips conspicuously dark brown, preceded by a slightly narrower clearer yellow ring; tibiae and tarsi orange; claws with a low obtuse knob shortly before midlength. Wings long and relatively narrow, with a strong brown tinge, restrictedly patterned with darker brown, especially in the prearcular field, at arculus, along posterior cord, in stigmal region, and at end of vein *2nd A*; narrower and less conspicuous seams over outer end of cell *1st M*<sub>2</sub> and adjoining veins; veins brown. Venation: *Rs* about equal in length to second section of vein *M*<sub>1+2</sub>; *m-cu* at midlength of vein *M*<sub>3+4</sub>; petiole of cell *M*<sub>1</sub> about two-thirds *m*.

Abdomen with tergites dark reddish brown, with a darker brown sublateral stripe; lateral borders narrowly grey; posterior margins of segments very narrowly darkened; narrow basal rings more glabrous and shiny; basal sternites yellow, the intermediate ones chiefly concealed; subterminal segments extensively more darkened; hypopygium variegated brown and obscure yellow. Male hypopygium with the lateral lobes short, nearly truncate, the broad median area depressed and not provided with the abundant short setae that cover most of the remainder of tergite. Outer dististyle broadly flattened, truncated at apex, the entire surface with very abundant delicate setulae but with very few scattered pale setae. Inner dististyle long and slender, the basal third more dilated and provided with setae, those of the lower expanded portion longer and more conspicuous; at near midlength the style is constricted, thence dilated into a blade that narrows gradually to the slightly decurved beak.

Holotype, ♂, Torricelli Mountains, altitude 200-1,000 feet, January, 1939 (Cheesman).

The most similar species is *Ctenacroscelis conspicabilis* (Skuse) which differs in the coloration and in the structure of the antennae and male hypopygium.

TIPULA Linnaeus, 1758.

TIPULA (PAPUATIPULA) OBEDIENS sp. nov.

General coloration of mesonotal praescutum buffy grey with four clearer grey stripes that are narrowly bordered by brown; antennae short, flagellar segments conspicuously bicoloured, yellow, with darkened bases; femora brownish yellow, the tips more infuscated; wings brownish grey, cells *C* and *Sc* light brown, the stigma darker brown; *m-cu* close to midlength of  $M_{3+4}$ ; male hypopygium with the outer dististyle narrowed outwardly, tipped with several spines, with a larger spinous point on ventral surface back from apex.

♂ Length, about 16–17 mm.; wing, 15–16.3 mm.; antenna, about 3–3.1 mm.

♀ Length, about 21–22 mm.; wing, 16–17 mm.

Frontal prolongation of head light brown or brownish yellow; nasus distinct; palpi with the first segment light brown, the remainder dark brown, the incisures pale; terminal segment more reddened apically. Antennae short; basal three segments yellow, the remainder bicoloured, dark brown basally, the outer portion yellow, the amount of the latter colour becoming less on the outer segments; verticils long and conspicuous; basal swellings scarcely developed. Head above buffy, patterned with brown on the posterior vertex, including a central marking and more extensive postocular areas; vertical tubercle low and simple.

Pronotum light brown, narrowly darkened medially and more extensively on sides. Mesonotal praescutum buffy grey, with four clearer grey stripes that are narrowly bordered by brown, the lateral pair more extensively suffused; posterior sclerites of notum yellow, the scutal lobes patterned with brownish grey areas that are more or less bordered by brown. Pleura light grey, patterned with darker, most conspicuously so on the ventral sternopleurite. Halteres with stem yellowish brown, clear basally, the knobs more darkened. Legs with the coxae brownish grey; trochanters whitish yellow; femora brownish yellow, the tips more infuscated; remainder of legs light brown; claws (male) elongate, bidentate, with two teeth, basal and medial in position. Wings brownish grey, cells *C* and *Sc* light brown; stigma long and narrow, darker brown; a very narrow dark marginal seaming in outer radial field; anterior cord narrowly bordered by brown; veins brown. Venation:  $R_{1+2}$  entirely atrophied; vein  $R_3$  straight, in alignment with  $R_{2+3}$ , the latter nearly twice  $Rs$ ; *m-cu* close to midlength of  $M_{3+4}$ , about as long as  $Rs$ ; cell *2nd A* relatively wide.

Basal abdominal tergite grey; remainder of abdomen chiefly brown or reddish brown; the sternites somewhat paler, especially in male. Male hypopygium with the tergite produced into two blackened lobes, the surface with microscopic

blackened spines. Outer dististyle a long lobe, narrowed to the apex that bears several spinous points, one lower surface before apex with a stronger spine. Inner dististyle with the main body a flattened blade, narrowed to the obtuse beak, the subapical beak darkened and similarly obtuse; at base of inner dististyle with a flattened lobe that narrows to a slightly curved blackened point, the surface back from tip with dense erect setulae. Aedeagus blackened, conspicuous. Ovipositor with cerci slender, straight or with the tips slightly decurved.

Holotype, ♂, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman). Allotopotype, ♀. Paratopotypes, 1 ♂, 2 ♀♀.

This fly is most similar to *Tipula* (*Papuatipula*) *divergens* de Meijere and *T. (P.) meijercana* Alexander (*dentata* de Meijere, preoccupied), both of southwestern New Guinea. It differs in the details of coloration of the thorax and appendages and in the structure of the male hypopygium, especially the styli.

*TIPULA (PAPUATIPULA) SURCULARIA* sp. nov.

Antennae with flagellar segments bicoloured, brownish black basally, the stems yellow; wings greyish yellow, the prearcular and costal fields strongly yellowish fulvous; outer dististyle relatively narrow, terminating in a blackened point; at base of inner style with a short, stout blackened lobe.

♂ Length, about 15 mm.; wing, 17 mm.; antenna, about 3 mm.

Frontal prolongation of head relatively long, somewhat shorter than the remainder, yellow above, the sides and the nasus a little darker; palpi with the basal segments brownish yellow, the third one darker, terminal segment chiefly black. Antennae with basal three segments yellow, succeeding segments bicoloured, their basal portions brownish black, the remainder yellow, the amount of dark increasing slightly on the outer segments but the bicolourous nature persisting to the reduced terminal segment; basal enlargements poorly indicated; longest verticils a little less than the segments. Head brownish grey, paler in front, with a narrow brown vitta extending from between the antennal bases to the occiput; vertical tubercle low.

Pronotum pale yellow. Mesonotal praescutum and scutum concealed in mounting; scutellum and postnotum greyish testaceous. Pleura and pleurotergite more whitened, without pattern. Halteres elongate, stem pale brown, knob a little more darkened. Legs with the coxae whitened; trochanters pale yellow; all legs detached and glued to the specimen; basal portions almost uniformly brownish yellow, the tarsal segments somewhat darker. Wings greyish yellow, the prearcular and costal fields even more yellowed. Venation: *Rs* short, about two-thirds *m-cu*; *R*<sub>1+2</sub> entirely atrophied; *R*<sub>3</sub> longer than *R*<sub>2+3</sub>; inner end of cell 1st *M*<sub>2</sub> pointed; *m-cu* at near two-thirds the length of *M*<sub>3+4</sub>; petiole of cell *M*<sub>1</sub> longer than *m*; cell 2nd *A* relatively narrow.



Basal abdominal tergites testaceous brown, darker laterally, on the fourth and succeeding segments becoming darker brown, the posterior borders narrowly pale; basal sternites more uniformly yellow, with paler posterior borders; subterminal three segments more uniformly dark brown, with pale borders; hypopygium chiefly yellow. Male hypopygium with the caudal margin of the ninth tergite having a relatively narrow U-shaped notch, the lateral lobes densely margined with microscopic blackened spinulose points, those immediately back of this border sparse but larger and stronger, merging behind with the more normal setae. Outer dististyle relatively narrow, arcuated, terminating in a short blackened spinous point. Inner dististyle with the beak relatively stout, very slightly decurved, the lower beak more blackened, the margin microscopically erenulated; at base of style with a short stout blackened lobe that extends laterad into an acute point.

Holotype, ♂, Torricelli Mountains, altitude 200-1,000 feet, January, 1939 (Cheesman).

This fly differs from *Tipula* (*Papuatipula*) *divergens* de Meijere and *T. (P.) meijereana* Alexander, especially in the structure of the male hypopygium.

*TIPULA* (*INDOTIPULA*) *SERRITERGATA* sp. nov.

Allied to *vilis*; general coloration of praescutum obscure orange, the four olive-yellow stripes barely distinguishable; flagellar segments binodose; wings yellowish, the cells beyond cord more infuscated, cell *Sc* brown; cell *2nd A* very narrow; male hypopygium with the upper margin of the tergal blades microscopically toothed; outer dististyle weakly bilobed; inner dististyle with the outer basal lobe stout, at apex with a shallow emargination to appear bilobulate.

♂ Length, about 15 mm.; wing, 17 mm.; antenna, about 3.3 mm.

♀ Length, about 18 mm.; wing, 17 mm.

Frontal prolongation of head brownish yellow; nasus very long and slender; palpi brownish yellow, the terminal segment passing into brown. Antennae with the scape and pedicel obscure yellow; flagellum black; flagellar segments strongly binodose, as common in various species of the group, the outer enlargement becoming more triangular and conspicuous on the outer segments; verticils very long. Head above brownish grey, paler behind; a capillary more blackish median stripe; posterior orbits beneath light grey.

Pronotum brown. Mesonotal praescutum with the ground obscure orange or brownish orange, the four stripes barely distinguishable against the ground, slightly more olive yellow; setae of the praescutal interspaces very delicate, pale; scutum olive-yellow; posterior sclerites of notum more orange yellow, the parascutella and pleurotergite more infuscated; scutellum with very vague indications of a paler central line. Pleura chiefly yellow, the propleura and anepisternum



restrictedly patterned with darker. Halteres dark brown, the base of stem restrictedly yellow. Legs with the coxae testaceous brown; trochanters yellow; femora yellowish brown, the tips very gradually passing into darker; tibiae light brown; tarsi brownish black; last tarsal segment at base of lower surface with a pencil of setae; claws (male) bidentate; spur-formula 0-0-1. Wings with a yellowish ground, more infuscated beyond cord; prearcular field and cell *C* more yellowed, cell *Sc* infuscated; stigma and adjoining cells more strongly darkened; veins brown. Venation: *Rs* and *m-cu* subequal;  $R_{1+2}$  strongly preserved, cell  $R_2$  small; petiole of cell  $M_1$  shorter than *m*; cell 1st  $M_2$  narrow, pentagonal, the proximal end produced basad; cell 2nd *A* very narrow.

Basal abdominal tergites reddish brown, on about the third and succeeding segments dark brown, the caudal margins vaguely brightened; sternites orange-yellow, the outermost segments and hypopygium more infuscated. Ovipositor with cerci long and slender, very slightly decurved, the narrowly obtuse tips pale. Male hypopygium with the tergite and sternite fused, the basistyle completely cut off by a suture. Region of tergite produced into two blackened blades or lobes; viewed from above, these separated by a broad U-shaped or quadrate notch, the surface of mesal face with a fringe of coarse reddish setae; viewed from the side the blades appear much deeper, the inner margin microscopically toothed, the ventral outer angle produced into a sharp tooth, the ventral cephalic portion a rounded lobe or knob. Region of ninth sternite produced ventrad into a small fingerlike lobe. Outer dististyle conspicuously expanded outwardly, unequally bilobed at apex, the shorter inner lobe with stouter and more dense black setae. Inner dististyle with the beak relatively slender, the lower beak a rounded black knob; outer basal lobe a stout pale lobe that is shallowly emarginate at tip to form two bluntly obtuse lobes. Gonapophyses appearing as very broadly flattened plates, the tips obtuse, subtending the very slender aedeagus; the latter, just before apex on either side, produced into a small point to produce a crosslike appearance.

Holotype, ♂, Torricelli Mountains, altitude 200-1,000 feet, January, 1939 (Cheesman). Allotopotype, ♀.

*Tipula* (*Indotipula*) *serritergata* is allied to various other Oriental species of the subgenus that centre about *T. (I.) vilis* Walker, differing most evidently in the structure of the male hypopygium, particularly the tergite and inner dististyle.

SCAMBONEURA Osten Sacken, 1882.

SCAMBONEURA NIGRODORSALIS sp. nov.

Mesonotum polished black, the postnotum chiefly yellow; pleura yellow; antennae (male) elongate; head yellow, posterior vertex with a delicate reddish brown vitta; wings whitish hyaline, cell *Sc* pale brown; stigma dark brown;

anterior cord strongly bowed; basal abdominal tergites patterned with yellow, blue-black and opaque black; outer abdominal segments dull orange to chestnut brown.

♂ Length, about 12.5–13 mm.; wing, 12–12.5 mm.; antenna, about 6.5 mm.

♀ Length, about 15–16 mm.; wing, 13 mm.

Frontal prolongation of head clear light yellow; nasus yellow, the tip darkened, with long black setae; palpi yellow, the outer third or fourth of the terminal segment infuscated. Antennae (male) elongate, as shown by the measurements; scape dark brown, pedicel obscure brownish yellow; flagellum black, the apices of the more proximal segments more or less brightened, in cases rather distinctly so; flagellar segments elongate-subcylindrical, the basal enlargements very small; verticils less than one-third the length of the segments. Head light yellow; posterior vertex with a delicate reddish brown vitta, narrowed to a point on the low vertical tubercle, becoming more diffuse behind; no occipital brand.

Pronotum infuscated, the scutum very narrowly more brightened behind. Mesonotal praescutum and scutum almost uniformly shiny black, with vague bluish reflections; scutellum somewhat more brownish black or dark brown; median region of scutum vaguely brightened; mediotergite clear light yellow, restrictedly darkened behind; pleurotergite very light yellow, the posterior portion weakly infuscated. Pleura light yellow, the dorsal anepisternum and posterior portion of dorsopleural membrane vaguely more infuscated. Halteres brownish black, the extreme base of stem brightened. Legs with the coxae and trochanters light yellow, the fore coxae, in cases, a trifle more darkened; femora obscure brownish yellow, tibiae darker, tarsi passing into brownish black or black; claws (male) toothed and with sparse but very conspicuous setae. Wings whitish hyaline, cell *Sc* pale brown; stigma and adjacent region dark brown but very small and correspondingly inconspicuous; veins black, those in the prearcular field brown. Venation: Anterior cord very strongly bowed, in degree about as in *subfaceta*; veins at outer end of stigma very atrophied and crowded, with no trace of a basal spur of  $R_{1+2}$ ; vein  $R_3$  lying close to the margin, narrowing the cell; outer medial forks deep.

Abdominal tergites handsomely patterned; basal segment blackened, obscure yellow on sides; second segment orange on basal half, polished blue-black on posterior ring, the posterior portion of both the yellow and blackened portions narrowly bordered by opaque velvety black, on the former microscopically impressed; on tergites three to five the pattern is similar, with the amount of yellow becoming reduced; lateral borders of tergite five, as well as segments six to eight, light chestnut brown to dull orange, the base of tergite six extensively blackened; sternites and hypopygium light chestnut brown to dull orange. Male

hypopygium with the posterior border of tergite convexly rounded, on either side of the midline below the border with a flattened lobe; on ventral margin back from this lobe with a coarsely toothed blackened plate and a few microscopic blackened peglike or conical setae. Outer dististyle broad basally, narrowed at apex into a slender lobe. Inner dististyle with the beak and outer portion heavily blackened, the former slender. Apex of gonapophysis much expanded into a triangular blade. Appendage of ninth sternite a subquadrate setiferous cushion.

Holotype, ♂, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman). Allotopotype, ♀. Paratopotypes, 6 ♂♂.

Although the genus *Scamboneura* had been recorded from New Guinea, no species had been described. The present fly is very different from the other Australasian species, especially in venation, being closest to *Scamboneura subfaceta* Alexander, of northern Celebes, but differing in all details of coloration.

### Subfamily LIMONIINAE.

#### Tribe Lechriini.

LECHRIA Skuse, 1890.

LECHRIA ALBIDIPES sp. nov.

Size large (wing, female, over 10 mm.); general coloration of mesonotum yellow, variegated with black, most intensely so on the cephalic portion of the praescutum; thoracic pleura yellow, striped longitudinally with black; femora dark brown, tibiae and tarsi whitened; wings yellowed, the costal border narrowly dark brown; wing margin and veins narrowly bordered by paler brown; cell 1st  $M_2$  very long and narrow, with *m-cu* just beyond midlength; basal sections of veins  $M_{1+2}$  and  $M_{3+4}$  longer than the stem of vein  $M$ .

♀ Length, about 9 mm.; wing, 10.3 mm.

Rostrum dark brown; palpi black. Antennae with the scape yellow, pedicel and flagellum black; flagellar segments cylindrical, the extreme incisures pale; verticils shorter than the segments. Head uniformly dark coloured.

Pronotum blackened in front, the posterior portion abrupt light yellow. Mesonotum yellow, the cephalic third of the praescutum intensely and conspicuously blackened, the colour continued laterad as a narrow line over the humeri and on to the dorsopleural region; scutal lobes less intensely darkened; mediotergite chiefly blackened, the sides and a capillary median line more yellowed; pleurotergite more extensively yellow. Pleura yellow, conspicuously variegated with brownish black, including a spot below the wing root; a narrow stripe

extending from the cervical region backward across the ventral anepisternum and dorsal sternopleurite; a broader stripe on ventral sternopleurite. Halteres yellow, knob slightly darkened, the tip obscure yellow. Legs with the coxae and trochanters obscure yellow; femora uniformly dark brown; tibiae abruptly whitened, a little more obscured beyond the base; basal three tarsal segments similarly whitened, the terminal two segments abruptly blackened. Wings with the ground colour yellow, the costal border narrowly dark brown, involving cells *C* and *Sc*, with the elongate stigma, the latter restricted to cell *C*; wing margin and most of the veins narrowly bordered by paler brown, scarcely affecting the general pattern; prearcular field yellow; veins dark brown. Venation: *r-m* nearly its own length before the fork of *Rs*; cell *1st M*<sub>2</sub> of unusual length, subequal to vein *M*<sub>3</sub> beyond it; basal sections of veins *M*<sub>1+2</sub> and *M*<sub>3+4</sub> almost equal in length of the latter slightly shorter, both longer than the stem of vein *M*; *m-cu* about opposite *r-m*, placed just beyond midlength of cell *1st M*<sub>2</sub>; basal section of *M*<sub>3+4</sub> a little longer than the second section; *m* longer than the basal section of vein *M*<sub>3</sub>; vein *2nd A* straight, the cell relatively narrow; anterior arculus lacking; posterior arculus joining *M* at a right angle.

Abdominal tergites dark brown, the lateral portions yellow; sternites yellow, variegated laterally and posteriorly with dark brown. Ovipositor with the valves horn-yellow, darker basally; cerci slender, very gently upcurved.

Holotype, ♀, Torricelli Mountains, altitude 200-1,000 feet, January, 1939 (Cheesman).

*Lechria albidipes* is readily told from all other described species by the large size, pattern of the body, legs and wings, and especially by the venation, as the unusually long cell *1st M*<sub>2</sub>. Among such species it is possibly nearest *L. leucopeza* de Meijere, of Java, but the resemblance is not close. This is the first record of either the genus or tribe in New Guinea.

### Tribe Limoniini

LIMONIA Meigen, 1803.

LIMONIA (LIBNOTES) ELISSA sp. nov.

Allied to *eboracensis*; mesonotal praescutum chiefly covered by three confluent dark brown stripes, the posterior sclerites of notum dark, more or less pruinose, especially the postnotum; head grey; legs brown; wings pale brownish yellow, conspicuously crossbanded with pale brown, including a broad complete band at cord; cell *1st M*<sub>2</sub> small, about as long as *Rs*; abdomen reddish brown; male hypopygium with the rostral spines four, blunt at tips.

♂ Length, about 9 mm.; wing, 10.5 mm.



Rostrum reddish brown; palpi black. Antennae with scape and pedicel black, the former sparsely pruinose; flagellum broken. Head grey, the posterior vertex a trifle infuscated; anterior vertex reduced to a narrow line.

Pronotum brown. Mesonotal praescutum chiefly covered by three confluent dark brown stripes, the humeral and lateral portions greyish pruinose; posterior sclerites of notum dark brown, more or less pruinose, especially the mediotergite; pleurotergite heavily pruinose. Propleura, basal half of fore coxae, and most of mesepisternum dark brown, the mesepimeron and metapleura in part pale. Halteres with stem brownish yellow, knobs broken. Legs with the coxae reddish brown, sparsely pruinose, the fore pair darker; trochanters obscure yellow; remainder of legs brown, the femoral bases restrictedly obscure yellow. Wings with the ground pale brownish yellow, conspicuously banded with pale brown, including a broad complete band at cord, its outer margin virtually straight, the inner margin slightly convex; wing-tip somewhat paler brown; basal cells even less evidently clouded; more distinct but smaller pale brown areas in cell *Sc* before the origin of *Rs*, at origin of *Rs*, and over *R*<sub>2</sub> and adjoining veins; veins yellow, darker in the patterned areas. Venation: *Sc*<sub>1</sub> ending nearly opposite fork of *M*<sub>1+2</sub>, *Sc*<sub>2</sub> near its tip; *Rs* straight, oblique; free tip of *Sc*<sub>2</sub> and *R*<sub>2</sub> in transverse alignment; outer radial and medial veins all generally parallel to one another and all only moderately decurved; cell 1st *M*<sub>2</sub> small, about as long as *Rs*; *m* and basal section of *M*<sub>3</sub> in virtual transverse alignment; *m-cu* beyond midlength of cell 1st *M*<sub>2</sub> anal veins convergent at bases.

Abdomen reddish brown, the hypopygium somewhat more yellowed. Male hypopygium with the caudal margin of tergite virtually convex, with a small median notch. Paired setae of tubercle of ventral dististyle very long; rostral spines apparently four, blunt at tips.

Holotype, ♂, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman).

The present fly is most similar to *Limonia* (*Libnotes*) *eboracensis* Alexander, of New Britain, differing especially in the body and wing coloration, and in the venation. By Edwards' key to the then known species of *Libnotes* (1928), the species runs, more or less, directly to *L. (L.) aurantiaca* (Dolleschall) and allies, disagreeing in all details of coloration.

#### Subgenus DAPANOPTERA Osten Sacken, 1881.

Ten species of these striking crane-flies had previously been characterized, all but one having been described from Dutch New Guinea, and from certain of the islands to the westward in Wallacea, including Mysol (Misool) and Burn (Boeroe). The single remaining species is the distinct *Limonia* (*Dapanoptera*)

*richmondiana* (Skuse), known from Queensland and northern New South Wales. No species had been recorded previously from New Guinea eastward of the longitude of Hollandia (Humboldt Bay), so the occurrence of four species in north-east New Guinea, as herewith recorded, is somewhat noteworthy.

Kertész and all later writers have credited the subgenus *Dapanoptera* to Westwood, 1881, but it is now evident that this is incorrect and that the group was first defined by Osten Sacken. It appears that about 1880 Westwood submitted a specimen of this subgenus to Osten Sacken for his opinion and the latter's notes and discussion for forthcoming definition of the new group were submitted to Westwood, who incorporated them in his 1881 paper, but clearly credited the subgenus to Osten Sacken. The latter's own first definition of *Dapanoptera* did not appear until 1887 (Berlin. Entomol. Zeitschr., 31: 179).

#### A KEY TO THE PAPUAN SPECIES OF DAPANOPTERA.

1. Wings brown at base and apex, with a complete yellow band at near mid-length .. .. . 2  
Wings without a central yellow band that completely crosses the disk .. 6
2. Wing apex broadly dark brown or black so the white stigmal spot is at near midlength of the darkening .. .. . 3  
Wing apex more narrowly darkened so the white stigmal spot is at or close to its inner margin .. .. . 4
3. Thorax grey, the praescutum before the suture with two dull black longitudinal stripes; halteres white; femora chiefly yellow, the tips darkened. (New Guinea Humboldt Bay, north-east New Guinea.)  
*meijereana* Alexander (*pulchra* de Meijere, preocc.)  
Thorax dark reddish brown to almost black; halteres with stem black, knob pale yellow; legs entirely black. (New Guinea: Humboldt Bay.)  
*carolina* Edwards
4. Abdomen with base and apex blackened, the intermediate segments yellow. (New Guinea: Manokwari.) .. .. . *latifascia* (Walker)  
Abdomen black, without yellow pattern .. .. . 5
5. Halteres entirely black; basal dark band of wing broad. (Mysol; New Guinea: Manokwari) .. .. . *auroatra* (Walker)  
Halteres with whitened knobs; basal dark band of wing narrower (apical wing band slightly invading cell 1st  $M_2$ ; *m-cu* at midlength of cell 1st  $M_2$ ). (South-west New Guinea: Noord River.) .. .. . *fascipennis* (de Meijere)
6. Wings with white spots additional to the stigmal one; supernumerary cross-vein far beyond the outer end of cell 1st  $M_2$ , only about twice its length from the apical border .. .. . 7  
Wings with only the white stigmal spot; supernumerary cross-vein close to the outer end of cell 1st  $M_2$ , usually only about its own length beyond the cell .. .. . 8

7. Posterior wing border conspicuously sinuous or emarginate; disk with several white spots. (New Guinea: Manokwari.) . . . *plenipennis* (Walker)  
Posterior wing border even and normal; a single white supplementary spot; this located at the supernumerary cross-vein. (New Guinea: South-west.)  
*versteegi* (de Meijere)
8. Thorax dull black, the pleura with a yellowish white spot beneath the halteres; abdomen black, segments two and three yellow; wings blackish brown, with several small darker spots; basal half of wing posteriorly, including cells 1st *A*, 2nd *A* and the outer portions of *M* and *Cu* with an extensive brownish yellow area that reaches vein *M* in front, bordered by a very irregular dusky line; halteres with brown stem and yellow knob. (Buru; New Guinea: Dutch New Guinea, north-eastward to the Torricelli Mountains.) . . . . . *perdecora* (Walker) (*lorentzi* de Meijere)  
Thorax reddish brown or reddish yellow, unpatterned; abdomen uniformly darkened . . . . . 9
9. Thorax almost uniformly dark reddish brown, the abdomen dark brown or brownish black; stigmal white spot not bordered by brown; stem of halteres infuscated. (North-east New Guinea.) . . . . . *torricelliana* sp. nov.  
Thorax and abdomen dull reddish yellow to light yellow; stigmal white spot narrowly bordered by brown; stem of halteres pale, at least on basal half 10
10. Thorax and abdomen dull reddish yellow; wings opaque, dull whitish yellow, tinged with brown; stigmal white spot narrowly bordered by brown; vein *C* on apical half brown, posterior margin of wing with a weaker darkened border; halteres yellowish white. (South-west New Guinea: Noord River.)  
*candidata candidata* Alexander (*pallida* de Meijere, preocc.)  
Thorax and abdomen light yellow; wings fulvous yellow, the outer half a little more infuscated; stigmal white spot encircled by dark brown; halteres with stem yellow, darkened outwardly, the knob again light yellow. (North-east New Guinea.) . . . . . *candidata opulenta* subsp. nov.

LIMONIA (DAPANOPTERA) MEIJEREANA Alexander.

Torricelli Mountains, January, 1939 (Cheesman).

LIMONIA (DAPANOPTERA) PERDECORA (Walker).

Torricelli Mountains, January, 1939 (Cheesman).

LIMONIA (DAPANOPTERA) TORRICELLIANA sp. nov.

General coloration of thorax dark reddish brown; antennal scape and pedicel brown, basal flagellar segments obscure brownish yellow; anterior vertex (male) a little wider than the diameter of scape; halteres with stem infuscated; knob yellow; femora yellow, the tips more infuscated; wings with a strong yellowish brown suffusion, the base narrowly more blackened; cells *Cu* and the Anal cells somewhat clearer yellow than the remainder of ground; white stigmal spot not

margined with darker; no dark spots on wing; *Rs* about three times the basal section of  $R_{4+5}$ ; vein *2nd A* almost evenly convex; abdomen brownish black.

♂ Length, about 7–8 mm.; wing, 10.5–12 mm.

Rostrum and palpi black. Antennae with scape and pedicel brown; basal flagellar segments obscure brownish yellow, the outer four or five a little more infuscated; basal segments oval, the outer ones subcylindrical; longest verticils unilaterally arranged, subequal in length to the segments. Head in front light silvery, behind brownish black with a more sparse grey pruinosity; central portion of posterior vertex with an elongate more blackish spot; anterior vertex (male) a little wider than the diameter of scape.

Thorax almost uniformly dark reddish brown, variegated with slightly more yellowed areas, including the pronotal scutellum, region of the suture, central portion of scutum behind and much of the scutellum; dorsopleural membrane brownish black. Halteres with stem infuscated, knob yellow. Legs with the coxae and trochanters concolourous with the pleura; femora yellow, becoming more infuscated on the outer third, most intensely so at the tips; tibiae and tarsi brown; claws (male) with a major outer spine and about four smaller teeth nearer base. Wings with a strong yellowish brown suffusion, the base, to just beyond the level of arculus, more blackened; just beyond this dark area in cells *cu*, *1st A* and *2nd A* the membrane more yellowed, merging gradually with the ground, not demarked by clear-cut infuscations as in *perdecora*; white stigmal spot conspicuous, virtually obliterating the included veins, not margined with darker; no dark spots on wings; veins reddish brown, darker in the basal infuscated band; membrane adjoining the veins very narrowly and insensibly brightened. Venation: *Rs* arcuated, about three times the basal section of  $R_{4+5}$ ; cell *1st M*<sub>2</sub> elongate, a little longer than the distal section of vein *M*<sub>3</sub>; supernumerary crossvein its own length beyond the fork of *M*; Anal veins gradually diverging, *2nd A* almost evenly convex.

Abdomen, including hypopygium, dark brown or brownish black, the posterior borders of the more proximal segments a little more reddened.

Holotype, ♂, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman). Paratopotype, ♂, in poor condition; Alexander Collection.

I would regard this species as being most nearly allied to *Limonia* (*Dapanoptera*) *perdecora* (Walker), from which it differs conspicuously in the coloration of the body and wings. The latter are not completely crossbanded with yellow, as is the case in the various species that centre about *auroatra* (Walker).

LIMONIA (DAPANOPTERA) CANDIDATA OPULENTA subsp. nov.

General coloration of thorax and abdomen light yellow, the praescutum and scutal lobes with slightly more fulvous yellow areas; antennae with the flagellar



segments brown, vaguely paler at their bases; anterior vertex reduced to a narrow strip; halteres yellow, the stem dark brown at outer end; femora yellow, the tips narrowly dark brown; wings with a strong fulvous yellow ground, the outer half a trifle more infuscated; a very restricted brown pattern, including a complete border to the white stigmal spot; *Rs* elongate, exceeding four times the basal section of  $R_{4+5}$ ; cells *1st M*<sub>2</sub> longer than any of the veins beyond it; abdomen fulvous yellow, the hypopygium dark brown.

♂ Length, about 12 mm.; wing, 16.5 mm.

Rostrum and palpi black, the former a trifle longer than the scape. Antennae with scape brownish black; pedicel dark brown; flagellar segments brown, their bases narrowly and vaguely paler; segments cylindrical or nearly so, longer than the verticils; terminal segment strongly narrowed on apical third. Head dark grey, the occipital region restrictedly obscure yellow; eyes large, reducing the anterior vertex to a narrow strip, the latter a trifle elevated, the posterior vertex immediately behind with a narrow groove.

Pronotum dark orange in front, paling to yellow behind. Thorax almost uniformly light yellow, the four praescutal stripes and the areas on the scutal lobes a trifle more fulvous yellow, only slightly differentiated from the ground. Halteres relatively long, stem yellow, darkened outwardly, just before the light yellow knob becoming dark brown. Legs with the coxae and trochanters light yellow; femora brownish yellow, somewhat clearer yellow at base, the tips narrowly dark brown; tibiae and tarsi dark brown to brownish black; claws (male) with six or seven small denticles basad of the outer spine. Wings with a strong fulvous yellow ground, the outer half a little more infuscated than the yellow proximal portion; a very restricted darker brown pattern, including the prearcular field, a small postarcular area, and spots at origin of *Rs* and fork of *Sc*; white stigmal spot small but conspicuous, encircled by dark brown; wing margin from shortly before apex back to cell *2nd A* narrowly margined with brown, narrower and more intense near apex, more diffuse behind; no other darkenings on wing disk beyond the level of vein *R*<sub>2</sub>, excepting very vague clouds over *m* and the supernumerary crossvein; veins yellow, inconspicuous against the ground, not darkened in the spots at *Rs* and *Sc*; in the whitened stigmal area the veins very pale and scarcely visible. Venation: *Rs* elongate, exceeding four times the basal section of  $R_{4+5}$ ; supernumerary crossvein about its own length beyond *m*; cell *1st M*<sub>2</sub> elongate, longer than any of the veins beyond it and more than one-half longer than the distal section of vein *M*<sub>3</sub>; basal section of *M*<sub>3</sub> a little less than twice *m*; *m-cu* about one and one-half times its own length beyond the fork of *M* or just beyond one-third the length of the lower face of cell *1st M*<sub>2</sub>; vein *2nd A* slightly extended.

Abdominal tergites fulvous yellow, sternites clearer yellow; hypopygium, including the ninth tergite, dark brown.

Holotype, ♂, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman).

The present fly is considered as being a race of *Limonia* (*Dapanoptera*) *candidata* Alexander (*pallida* de Meijere, preoccupied), described from the Noord River (Lorentz River) district of south-western New Guinea.

### Tribe Hexatomini

LIMNOPHILA Macquart, 1834.

PAPUAPHILA subgen. nov.

Characters generally as in *Limnophila*, that is, with cell  $R_3$  of wings present and deep, cell  $M_1$  present; anterior arcus preserved. Antennae 13-segmented. Wings with *m-cu* near the inner end of cell 1st  $M_2$  or a short distance beyond the fork of  $M$ ; vein 2nd  $A$  unusually short, somewhat as in *Trichocera* but not as strongly curved. Ovipositor with cerci very long and slender.

Type of subgenus: *Limnophila selectissima* (Walker). Mysol.

Other included species are *Limnophila apicalis* de Meijere, of south-western New Guinea; *L. contingens* (Walker), of north-western New Guinea; *L. euchroma* (Walker), of Gilolo (Halmahera), and *L. terminalis* (Walker), of north-western New Guinea. All of the species described by Walker were taken by Alfred Russel Wallace.

In 1921, the late Dr. Fred. W. Edwards, of the British Museum, wrote me that the various Walker species above listed differed from all other described species of *Limnophila* and that he intended to propose for them a new generic group. This was never done and it seems advisable to erect the group at this time. I am giving it subgeneric ranking, with the realization that the accession of more materials may well result in elevating it to generic status. Undoubtedly, the group will be found to be a very characteristic one in the Papuan subregion.

Concerning the subgenotype, *selectissima*, the following supplementary notes on the type were sent to me by Edwards. Venation:  $R_s$  ending in cell  $R_2$ , that is, cell  $R_3$  sessile;  $R_2$  at midlength of anterior branch of  $R_s$ , that is, veins  $R_{2+3}$  and  $R_2$  subequal;  $R_{1+2}$  one and one-half times vein  $R_2$  alone; *m-cu* a little beyond the base of the short cell 1st  $M_2$ .

It may be noted that both van der Wulp and Kertész place *Limnobia trisignata* Walker in the genus *Limnophila*, but from the rather satisfactory description it seems certain that this is a *Limonia* and probably a member of the subgenus *Libnotes*. Unfortunately, I have no notes by Edwards on this species nor did he include it as being a *Libnotes* in his discussion of the Oriental-Australasian species of this group (Journ. Fed. Malay States Mus., 1928: 74–80).

*LIMNOPHILA* (*PAPUAPHILA*) *FUSCOABDOMINALIS* sp. nov.

General coloration of thorax light yellow, restrictedly patterned with reddish brown, including three poorly indicated praescutal stripes; pseudosutural foveae large and conspicuous; legs brown, excepting the obscure yellow femoral bases; wings suffused with brown;  $R_{2+3+4}$  about one-half as long as the basal section of  $R_5$ , in direct longitudinal alignment with  $R_s$ ; abdominal tergites obscure yellowish brown, patterned with darker brown, especially the outer segments; ovipositor with very long slender valves.

♀ Length, about 7.5 mm.; wing, 8 mm.

Rostrum and palpi brownish black. Antennae 13-segmented; scape and pedicel light brown, flagellum dark brown to brownish black; flagellar segments subcylindrical, a little dilated at near midlength; verticils long and conspicuous, the longest a little exceeding the segments in length. Head black, sparsely pruinose.

Pronotum obscure yellow, with a brown median line; both the scutum and the scutellum relatively large and massive. Mesonotum light yellow, restrictedly patterned with reddish brown, including three poorly indicated praescutal stripes, the central one narrower and more deeply coloured in front; pseudosutural foveae brownish black, large and conspicuous; tuberculate pits apparently lacking; centres of scutal lobes more or less darkened; median region of scutum and scutellum with brown areas; mediotergite almost uniformly yellow, vaguely patterned with darker near the middle of anterior portion. Pleura and pleurotergite chiefly obscure yellow. Halteres with stem yellowish brown, knob darker brown. Legs with the coxae brown; trochanters more brownish yellow; femora obscure yellow basally, the remainder of legs passing into brown; tibial spurs distinct. Wings with a brownish suffusion, the base and the stigma vaguely to scarcely darker; veins brown. Beyond cord all outer radial branches with abundant short trichia;  $M_1$  and  $M_2$  with fewer trichia. Venation;  $Sc_1$  ending nearly opposite the fork of  $R_{2+3+4}$ ,  $Sc_2$  a little removed from its tip, nearly opposite the fork of  $R_s$ ;  $R_s$  in longitudinal alignment with  $R_{2+3+4}$ , the latter only about one-half as long as the more arcuated basal section of  $R_5$ ; cell  $M_1$  from about one and one-half to nearly twice its petiole;  $m-cu$  subequal to the distal section of  $Cu_1$ , only a short distance beyond the fork of  $M$ ; vein 2nd  $A$  short, gently curved to the margin; anterior areolus preserved.

Abdominal tergites obscure yellowish brown, variegated with darker brown, more extensively so on the basal and apical tergites, the intermediate ones somewhat more brightened; sternites more uniformly yellow, the lateral borders narrowly infuscated; pleural membrane, terminal segment and genital shield dark brown. Ovipositor with the cerci orange-yellow, of unusual length and

slenderness, about equal in length to the combined four tergites preceding the genital shield.

Holotype, ♀, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman).

The nearest relative of the present fly seems to be *Limnophila* (*Papuaphila*) *apicalis* de Meijere, which differs especially in the coloration of the body and legs.

ELEPHANTOMYIA Osten Sacken, 1859.

ELEPHANTOMYIA (ELEPHANTOMYODES) HYALIBASIS sp. nov.

Thorax almost uniformly obscure brownish yellow, the mesonotum with short but abundant erect setae; rostrum long, exceeding one-half the length of the wing; anterior vertex very narrow; wings with a strong brownish tinge, the costal border narrowly dark brown, the colour continued distad nearly to the wing tip; cell *M* in prearcular field clear hyaline, contrasting with the darkened costa; abdomen more or less bicoloured, black, with broad obscure yellow basal rings, only the eighth segment uniformly darkened; hypopygium yellow.

♂ Length, excluding rostrum, about 6 mm.; wing, 7.5 mm.; rostrum, about 4.5 mm.

Rostrum black, exceeding one-half the length of wing. Antennae black throughout; verticils very long. Head dark grey; anterior vertex very narrow, only about as wide as two rows of ommatidia, the eyes correspondingly large.

Thorax almost uniformly obscure brownish yellow; mesonotal praescutum and scutum with numerous but short, erect bristly setae, with somewhat fewer of these on posterior half of mediotergite. Pleura testaceous yellow, the anterior pleura more darkened. Halteres with stem pale brown, knob brownish black. Legs with all coxae brownish yellow; trochanters yellow; a single detached leg is affixed to the tab and may not belong to this specimen, as the setae are differently arranged than in other members of the subgenus; in this leg the tibiae and tarsi are uniformly blackened. Wings with a strong brownish tinge, the costal border, including cells *C* and *Sc*, as far distad as the termination of vein *R*<sub>5</sub> dark brown; very narrow to scarcely evident dark seams at origin of *Rs*, *R*<sub>2+3+4</sub> and over the remainder of cord; cell *M* in prearcular field clear hyaline, contrasting conspicuously with the darkened costal portion; veins brown. Venation: *Rs* relatively long, exceeding in length cell 1st *M*<sub>2</sub>, square at origin; vein *R*<sub>2+3+4</sub> perpendicular at origin, bent at virtually a right angle, thence nearly parallel to vein *R*<sub>1+2</sub>, the portion of the cell above it uniformly darkened; cell 1st *M*<sub>2</sub> large, rectangular, subequal to or a little longer than the distal section of vein *M*<sub>1+2</sub>; *m-cu* nearly its own length beyond the fork of *M* and nearly as long as the distal section of vein *Cu*<sub>1</sub>; cell 2nd *A* narrow, more widened before midlength.



Abdomen more or less bicoloured, the first segment pale, the succeeding ones black, with broad basal rings of obscure yellow, only the eighth segment uniformly darkened; hypopygium brownish yellow.

Holotype, ♂, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman).

Among the described regional species, the present fly agrees most nearly with *Elephantomyia* (*Elephantomyodes*) *tayloriana* Alexander, of New Britain, despite the black body coloration and distinctive wing pattern of the latter. The hyaline droplet before the arculus is noteworthy.

### Tribe Eriopterini.

TRENTEPOHLIA Bigot, 1854.

TRENTEPOHLIA (MONGOMA) PRAESULIS sp. nov.

General coloration dark brown; legs dark brown, with more than the distal fourth of at least the middle tibiae snowy white and moderately enlarged; tarsi white, the proximal third of the basitarsi infuscated; wings whitish subhyaline;  $R_{3+4}$  long, subequal to  $R_2$ ;  $m-cu$  before the fork of  $M$ .

♂ Length, about 6 mm.; wing, 7 mm.

Rostrum pale brown; palpi black. Antennae dark brown throughout; flagellar segments long-cylindrical, with numerous normal setae but without specially modified verticils. Head dark grey; anterior vertex reduced to a narrow strip.

Pronotum brown. Mesonotum chiefly dark brown, the humeral region of praescutum and lateral portions of the scutal lobes obscure yellow. Pleura brownish yellow. Halteres short, infuscated, the base of stem narrowly yellow. Legs with the coxae and trochanters yellow, the fore coxae somewhat darker; femora and tibiae dark brown, the genna not brightened; a single complete (middle) leg remains; distal fourth or more of tibiae snowy white, dilated, approximately twice as thick as the central portion of the sclerite, the vestiture snowy white; tarsi white, with nearly the proximal third of the basitarsi infuscated. Wings whitish subhyaline, the extreme tip vaguely infuscated; stigmal darkening very restricted, lying between veins  $Sc$  and  $R$ ; veins brown. Venation:  $R_{1+2}$ ,  $R_2$  and  $R_{3+4}$  all subequal; cell  $R_3$  relatively short, vein  $R_3$  sinuous; cell 1st  $M_2$  somewhat shorter than vein  $M_4$ ;  $m-cu$  a short distance before the fork of  $M$ ; fusion of veins  $Cu_1$ , and 1st  $A$  relatively extensive, more than one-half  $m-cu$ .

Abdominal tergites dark brown, the lateral borders narrowly yellow; sternites bicoloured, brownish grey, the posterior margins broadly yellow; hypopygium brown.

Holotype, ♂, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman).

The present species is evidently allied to *Trentepohlia* (*Mongoma*) *australensis* (Skuse), of north-eastern Australia, and to *T. (M.) subpennata* Alexander, of the Papuan subregion. The former has the tips of the femora and the bases of the tibiae extensively snowy white; the latter differs in the venation, as the length of vein  $R_{3+4}$  and in the even more strongly dilated apices of the middle tibiae.

TRENTEPOHLIA (ANCHIMONGOMA) ANGUSTICINCTA sp. nov.

General coloration of mesonotal praescutum, scutal lobes and pleura dark brown, the scutellum abruptly yellow; antennae black throughout; tibiae white, with a narrow black ring before midlength, on the posterior tibiae only a little more than one-half as wide as the white base; wings whitish hyaline, unpatterned; cell  $R_5$  a little exceeding its petiole.

♀ Length, about 7.5 mm.; wing, about 7 mm.

Rostrum light brown; palpi black. Antennae black: flagellar segments cylindrical, with verticils that are subequal to or a trifle longer than the segments. Head above dark grey; anterior vertex reduced to a linear strip.

Pronotum concealed. Mesonotal praescutum and scutal lobes dark brown, contrasting with the yellow central portion of the scutum and the scutellum; postnotum weakly infuscated, sparsely pruinose. Pleura dark brown, sparsely pruinose, the posterior pleurites paler. Halteres with stem obscure yellow, knob infuscated. Legs with the coxae more or less infuscated, the bases restrictedly brightened; trochanters obscure yellow; femora dark brown, the bases narrowly white; tibiae white, with a relatively narrow black ring before midlength, broader on the middle legs where it is subequal to the white base, narrower on the posterior tibiae, where it is only a little more than one-half the white base (fore legs broken); remainder of legs white, the terminal two tarsal segments weakly darkened. Wings whitish hyaline, unpatterned, veins brown. Venation: As in the subgenus;  $R_{2+3+4}$  about two and one-half times  $R_2$ , the latter a little longer than  $R_{1+2}$ ; cell  $R_5$  a little exceeding its petiole;  $m-cu$  at fork of  $M$ ; veins  $Cu_1$  and 1st  $A$  narrowly separated at margin, the distance about one-half the basal section of vein  $M_{1+2}$ .

Abdomen filled with eggs and evidently discoloured; dark brown, sparsely pruinose; ovipositor with the genital shield and valves reddish horn colour.

Holotype, ♀, Torricelli Mountains, altitude 200–1,000 feet, January, 1939 (Cheesman).

The present fly is closest to the Oriental *Trentepohlia* (*Anchिमongoma*) *apoicola* Alexander (*niveipes* Edwards, preocc.) which differs chiefly in the darker wings and, especially, in the great increase in black colour on the tibiae.



Alexander, Charles P. 1947. "Undescribed species of crane-flies from New Guinea in the South Australian Museum (Diptera; Tipulidae)." *Records of the South Australian Museum* 8, 585–606.

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