

New or insufficiently known Australasian Crane Flies. II (Diptera, Tipulidae)

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(With 76 figures)

The preceding paper under this title was published in *Studia Entomologica*, volume 14, in November 1971. In continuing this study I now am treating various species that were taken in New Guinea, the Solomon Islands, and Fiji, the New Guinean materials having been taken chiefly by Evelyn Cheesman in 1938 and 1939; J. Linsley Gressitt in 1955; Lambertus Toxopeus in 1938-1939, and Harry Hoogstraal in 1945. The Cheesman collections had been treated in earlier papers that are listed under the Selected References later in this report but here are figured for the first time. The materials from the Solomon Islands were taken in 1944 by two former students in the Massachusetts State College of that period (now the University), Ashley B. Gurney, now in the Systematic Entomological Laboratory of the United States, Department of Agriculture, Washington, and Robert Staples, of the Department of Entomology, University of Nebraska, Lincoln. Materials from Fiji were taken by Mr. H. Greenwood, Elwood Zimmerman in 1938, and Noël L. H. Krauss in 1971. I am greatly indebted to all of the above for the privilege of studying these important series of specimens. In a subsequent paper now being prepared further species from New Caledonia are discussed and earlier papers by the writer on this subject are included in the list of selected papers.

Selected list of references

- Alexander, C. P. New or little-known Tipulidae from Eastern Asia (Diptera), XX. *Philippine Jour. Sci.*, 54: 433-471, 35 figs.; 1934 (New Caledonia).
- New or little-known Tipulidae (Diptera). LXXVII. Oriental-Australasian species. — *Ann. Mag. Nat. Hist.* (11) 13: 740-767; 1946 (Bibliography).
- The Same, LXXVIII. — *Ibidem*, (11) 14: 256-280; 1947.
- The Same, LXXIX. — *Ibidem*, (11) 14: 388-414; 1947.
- The Same, LXXX. — *Ibidem*, (11) 14: 552-577; 1947.
- The Same, LXXXI. — *Ibidem*, (12) 1: 391-417; 1948.

- The Same, LXXXVIII. — Ibidem, (12) 3: 935-959; 1950.
 - The Same, LXXXIX. — Ibidem, (12) 4: 576-606; 1951.
 - New or little-known Tipulidae from New Caledonia (Diptera). Proc. Hawaiian Ent. Soc., 12: 235-244; 1945.
 - Undescribed species of crane-flies from New Guinea in the South Australian Museum (Diptera; Tipulidae). Records South Australian Mus., 8: 585-606; 1947.
 - New or insufficiently-known crane-flies from New Caledonia (Diptera: Tipulidae). Part I. Ann. Ent. Soc. America, 41: 137-148; 1948.
 - The crane-flies of New Caledonia (Diptera, Tipulidae). Trans. R. Ent. Soc. London, 99: 361-393, 36 figs.; 1948.
 - Undescribed species of Nematocerous Diptera. Part XIII. Bull. Brooklyn Ent. Soc., 58: 133-138; 1963 (New Caledonia).
 - New or insufficiently known Australasian crane flies (Dipt. Tipulidae). Studia Entomologica. 14: 267-318, 50 figs.; 1971.
- Cheesman, Evelyn. The land of the Red Bird, pp. 1-300, 22 figs.; date unknown.
- Six-legged snakes in New Guinea, pp. 1-281, 31 plates, 11 text-figs. (Waigeu and Japen Islands, Northwest New Guinea; Cyclops and Torricelli Ranges, New Guinea, collections 1938-1939).

TIPULINAE

1. *Holorusia illex* (Alexander)

Ctenacroscelis illex Alexander; Rec. South Australian Mus., 8: 588-590; 1947.

Holotype, ♂, Torricelli Mountains, Northeast New Guinea, 200-1,000 feet, January 1939 (Cheesman). Male hypopygium (Fig. 1).

2. *Nephrotoma (Nephrotoma) atrohirsuta* sp. n.

General coloration of thorax orange yellow, praescutum with three broad black stripes, pleura yellowed, patterned with black; thorax and coxae with groups of unusually long black setae, as described; legs appearing brownish black from abundant black setae, outer tarsal segments slightly darker; wings subhyaline, stigma slightly darker, with about 25 trichia; cell M_1 short-petiolate, $m-cu$ beyond base of cell $1st M_2$; proximal abdominal segments dull orange, their posterior borders restrictedly darkened, subterminal segments brownish black, hypopygium chiefly blackened; male hypopygium with posterior border of tergite produced into two oval blackened plates; outer dististyle very long, inner style with dorsal crest very low; eighth sternite with posterior border extended into a yellow blade that is fringed with unusually long dark colored setae.

Male. Length, about 13 mm.; wing, 10.5 mm.; antenna, about 4 mm.

Frontal prolongation of head orange, nasus darkened, with long black setae; palpi long, proximal three segments yellowish brown, the long terminal segment brownish black. Antennae with scape and pedicel brownish black, flagellum paler brown; segments longer than their verticils, basal enlargements poorly developed. Head deep orange, sides of posterior vertex darkened; occipital brand dull brownish black.

Pronotal scutum medially obscure yellow, sides blackened, with dense brushes of long black setae; scutellum black; pretergites darkened above, yellow laterally. Mesonotal praescutum obscure yellow, with three broad black stripes, central area narrowed and reaching the suture behind, interspaces nearly parallel sided; humeral and lateral regions of praescutum with groups of long chiefly blackened setae; scutum obscure yellow, each lobe with a single major blackened area; scutellum, including the parascutella, brownish black, the former convex, with abundant setae; medio-tergite obscure yellow, at midlength with very abundant long black porrect setae, posterior third glabrous, more depressed, pleurotergite chiefly yellowed. Pleura yellow, propleura and anterior border of pteropleurite and meron narrowly blackened, the broad mesepisternum chiefly obscure yellow, including also the middle coxae; propleura and meron with conspicuous setae. Halteres short, dark brown, knob large, obscure yellow. Legs with fore and hind coxae brownish black, mid-coxae paler, as described, all coxae with long black setae; trochanters obscure yellow; remainder of legs appearing dark brown to brownish black from the very abundant blackened setae; claw of male with a slender spine at near midlength. Wings (Fig. 2) subhyaline, stigma slightly darker; veins light brown, the more anterior ones darker; stigmal trichia about 25 in number. Venation: Cell M_1 short-petiolate, about one-fourth m ; $m-cu$ beyond base of cell $1st M_2$, placed on M_4 , this section short, subequal to M_{3-4} .

Abdomen with proximal segments dull orange, their posterior borders restrictedly darkened; subterminal segments brownish black to form a broad ring; hypopygium chiefly blackened, eighth tergite slightly reddened basally, outer dististyle yellowed. Male hypopygium (Fig. 3) with ninth tergite, t , transverse, posterior border convex, on either side of midline with a blackened oval plate, the outer half with numerous spinoid setae, more laterally the plate paler, with a second row of about 10 to 12 smaller spinoid setae or pegs. Outer dististyle, d , very long, broadest at

near one-third the length, thence gradually narrowed; inner style with beak slender, lower beak short and very broad, dorsal crest low. Eighth sternite, 8 s, large, posterior border convex with a median yellow prolongation that is fringed on one margin with numerous dark colored setae, the outer ones long and conspicuous.

Habitat: Netherlands New Guinea (West Irian).

Holotype, ♂, Station 15, Araucaria Camp, altitude 800 meters, March 4, 1939 (Toxopeus); Archbold III Expedition; type in author's collection, through Lieftinck.

This distinct fly is most readily told from regional allies by the unusually conspicuous long black setae on the thorax and coxae, as described. The ninth tergite of the hypopygium is most as in *Nephrotoma boyesi* Alexander, of eastern New Guinea, but all other hypopygial structures are quite distinct. In this latter species vein M_4 originates before cell $1st M_2$ (see Entomological News, 80: 260; 1969).

3. *Nephrotoma (Nephrotoma) augustana* sp. n.

Mesonotal praescutum yellow with three light brown stripes; head yellow, occipital brand small and poorly delimited; wings subhyaline, prearcular and costal fields slightly more yellowed; abdominal tergites brownish yellow, posterior borders very narrowly darkened, sternites more uniformly yellow; male hypopygium with apices of intermediate blades of tergite obtuse; inner dististyle with dorsal crest low and rounded, beak relatively short and stout; eighth sternite with posterior border nearly transverse, median region without setae.

Male. Length, about 11-12 mm.; wing, 9.5-10 mm.; antenna, about 3.5 mm.

Frontal prolongation of head clear light yellow, outer end dorsally very slightly more darkened, including the nasus which is tipped with long black setae; palpi brownish yellow, outer segments, especially the last, darker. Antennae with scape yellow, pedicel slightly darker, without setae; flagellar segments very vaguely bicolored, brownish yellow, basal enlargements slightly darker. Head clear light yellow, sides of posterior vertex narrowly more darkened; vertical tubercle broad, shallowly emarginate; occipital brand unusually small and poorly delimited, pale brown; central area of posterior vertex virtually without setae, these numerous and conspicuous laterally.

Pronotal scutum broadly yellow medially, sides infuscated; scutellum very reduced, pale brown. Mesonotal praescutum yellow with three light brown stripes, laterals straight, not outcurved;

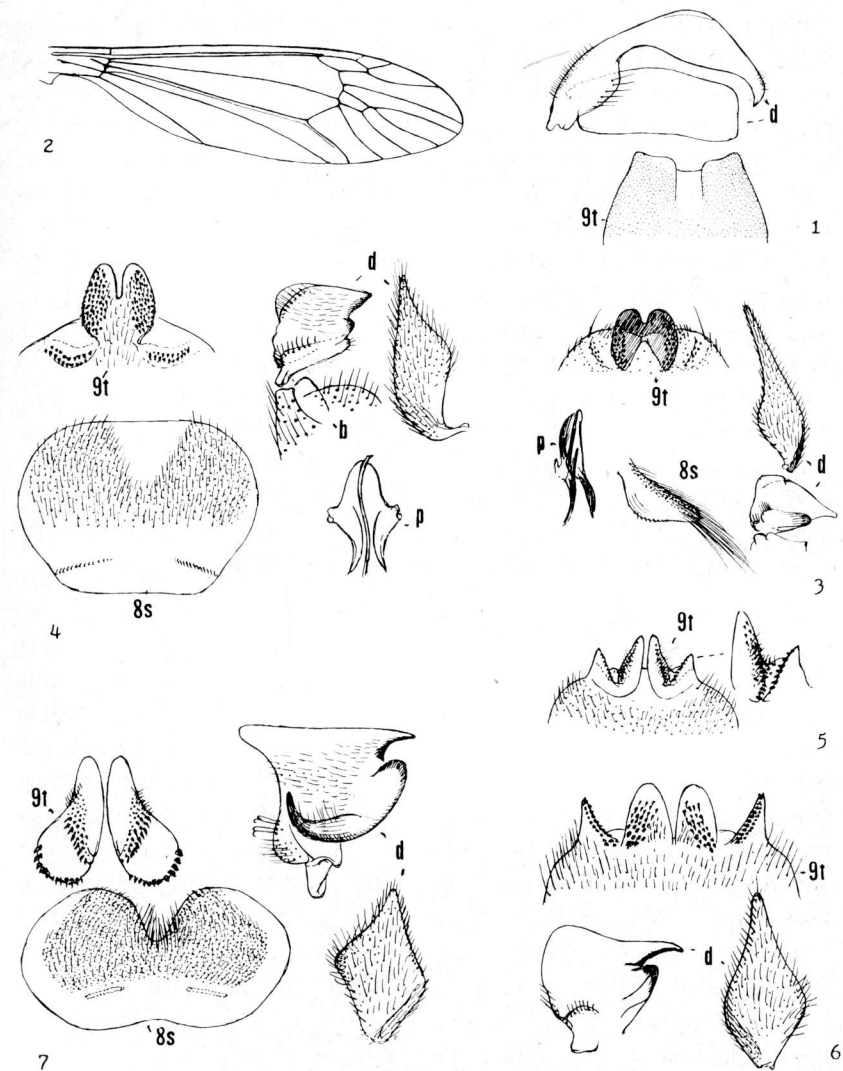


Fig. 1. *Holorusia illex* (Alexander); male hypopygium. — Fig. 2. *Nephrotoma (Nephrotoma) atrohirsuta* sp. n.; venation. — Fig. 3. *Nephrotoma (Nephrotoma) atrohirsuta* sp. n.; male hypopygium. — Fig. 4. *Nephrotoma (Nephrotoma) augustana* sp. n.; male hypopygium. — Fig. 5. *Nephrotoma (Nephrotoma) solomonis guadalcanarana* Alexander; male hypopygium. — Fig. 6. *Nephrotoma (Nephrotoma) solomonis solomonis* Alexander; male hypopygium. — Fig. 7. *Nephrotoma (Nephrotoma) byersina* sp. n.; male hypopygium. — Symbols: b, basistyle; d, dististyle; p, phallosome; s, 8th sternite; t, 9th tergite.

scutum yellow, each lobe with two broadly confluent brown areas; scutellum brownish yellow; postnotum clear light yellow, narrowly brown posteriorly; mesonotum virtually glabrous, mediotergite with very sparse scattered black setae, more numerous on sides behind; pleurotergite light yellow, vaguely darkened posteriorly, surrounding the bases of halteres. Pleura yellow, ventral sternopleurite and most of anepisternum light brown. Halteres with stem brownish yellow, with abundant black setae, base narrowly orange, apex of knob more yellowed. Legs with coxae obscure yellow, trochanters clearer yellow; remainder of legs light brown, apices of femora with dense black setae; claws long and slender, with a short spine at midlength. Wings subhyaline, prearcular and costal fields slightly more yellowed; stigma inconspicuous, pale brown, with about eight trichia; veins light brown, beyond general level of cord with abundant black trichia. Venation: Cell R_2 at margin slightly less extensive than cell R_3 ; cell M_1 broadly sessile, cell $1st M_2$ small; $m-cu$ at base of M_4 , the latter shortly before cord, leaving a very short to punctiform element M_{1-2-3} .

Abdomen (mounted on slide) with tergites brownish yellow, the posterior borders very narrowly darkened, sternites more uniformly yellow; hypopygium brownish yellow. Male hypopygium (Fig. 4) with ninth tergite, t , produced into two flattened median blades, their apices obtuse, provided with abundant spinoid setae, stouter and more crowded near bases; lateral armature with similar stout setae arranged in two rows. Outer dististyle, d , slightly more than twice as long as the greatest width; inner style with beak relatively short and stout, lower beak obtusely rounded; dorsal crest low, outer basal lobe unmodified, the margin with about twelve strong setae. Phallosome, p , with apophyses subatrophied, very reduced. Eighth sternite, $8s$, large, the subbasal impressed line reaching the lateral border or virtually so; posterior border nearly transverse, median region without setae.

Habitat: Solomon Islands.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, APO 716, July 10, 1944 (A. B. Gurney). Paratype, ♂, Empress Augusta Bay, Koromokina River, September 29, 1944 (Robert Staples).

The most similar regional species having the male hypopygium generally as in the present fly is *Nephrotoma solomonis solomonis* Alexander (Fig. 6), and its subspecies, *N. s. guadalcanarana* Alexander (Fig. 5), the hypopygia being shown for comparison. Attention is called

to the characters of the tergite, elongate beak of the inner dististyle, and the emarginate posterior border of the eighth sternite that is provided with long setae. The species of the genus known from the Solomon Islands were keyed in an earlier paper by the writer (Proc. California Acad. Sci. (Fourth Series) 22, no. 1: 3; 1936).

4. *Nephrotoma (Nephrotoma) byersina* sp. n.

General coloration of head and thorax orange and yellow, without conspicuous pattern; occipital brand reduced; wings brownish yellow, prearcular and costal fields more yellowed; abdomen of male with basal five segments orange, of female with borders conspicuously blackened, outer four segments blackened in both sexes; male hypopygium with beak of inner dististyle slender, dorsal crest produced caudad; region of outer basal lobe a strong blackened rod that terminates in an upcurved spine; eighth sternite with posterior border deeply emarginate, with conspicuous black setae.

Male. Length, about 14 mm.; wing, 11.5 mm.; antenna, about 4 mm.

Female. Length, about 16 mm.; wing, 12.5 mm.; antenna, about 3.3 mm.

Frontal prolongation of head yellow above, with a more fulvous line on either side of the midarea; nasus with very long black setae; palpi with basal segment yellow, intermediate pair light brown, terminal segment brownish black. Antennae with scape and pedicel yellow, first flagellar segment brownish yellow, remainder dark brown; flagellar segments moderately incised, longest verticils subequal to the segments. Head orange; vertical tubercle low, virtually entire, without setae; sides of posterior vertex and genae with abundant long black setae; occipital brand very small to subobsolete, light brown.

Pronotum and pretergites orange. Mesonotal praescutum orange yellow with three scarcely differentiated more polished stripes, in the type male variegated by darker flecks; posterior sclerites of notum clearer yellow; setae of scutellum very small and sparse, of mediotergite longer. Pleura light yellow, variegated by orange on ventral sternopleurite, anepisternum and dorsopleural region. Halteres with stem brownish yellow, knob darker brown, apex yellowed. Legs with fore coxae orange, remaining coxae more yellowed; trochanters yellow; remainder of legs obscure yellow, tarsi passing into black; claws of male long and slender, with a conspicuous spur at near midlength; ventral surface with long and conspicuous light brown setae. Wings brownish yellow, prearcular and costal fields and vein Cu yellowed; stigma brown, with about 18 trichia; veins brown except in the brightened fields.

Venation: Cell M_1 in male short-petiolate, sessile in female; vein M_4 forking at the cord, with $m-cu$ shortly beyond its base.

Abdomen of male with basal five segments orange, succeeding segments deep yellow, the borders more orange, segments six to nine brownish black; in female proximal five segments with tergites orange, sternites yellowed, posterior and lateral borders narrowly but conspicuously dull black; succeeding segments black, bases broadly polished to nacreous, margins similarly dull black, pleural membrane brownish black. Male hypopygium (Fig. 7) with lobes of ninth tergite, t , about as shown, the intermediate pair with apices obtuse, basal spinoid setae larger. Outer dististyle, d , short and broad, outer margin at near midlength expanded into a darkened lobe; inner style with beak slender, lower beak broadly obtuse; dorsal crest conspicuous, produced caudad; region of outer basal lobe with a strong blackened rod that terminates in an upcurved spine, basally the structure extended to the lower beak; vestiture about as shown, including four modified setae on outer margin near base of style. Phallosome with gonapophyses atrophied or virtually so. Eighth sternite, $8s$, large, posterior border deeply emarginate, with a concentration of long black setae at base of notch; subbasal transverse impressions relatively short, ending some distance before margin.

Habitat. Solomon Islands.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, along Koromokina River, altitude 45 feet, October 11, 1944 (Robert Staples) — In thick jungle beneath logs on spider web — Staples Allotopotype, ♀, with type.

I dedicate this species to my esteemed friend, Dr. George W Byers, outstanding student of the Tipulidae, Mecoptera, and other groups of insects. From other generally similar and allied species from the Solomons, including *Nephrotoma opima* Alexander and *N. solomonis* Alexander, the present fly is readily told by the hypopygial structure, including especially the inner dististyle. The dorsal crest of the latter is much as in *Nephrotoma boyesi* Alexander, of New Guinea, an otherwise entirely different fly.

5. *Dolichozepe* (*Dolichozepe*) *jobiensis* Alexander

Dolichozepe (*Dolichozepe*) *jobiensis* Alexander; Ann. Mag. Nat. Hist. (11) 14: 392-393; 1947.

Holotype, ♂, Mount Oud, Japen Island, Northern Netherlands New Guinea, altitude 3,500 feet, November 1938 (Cheesman). Male hypopygium (Fig. 8).

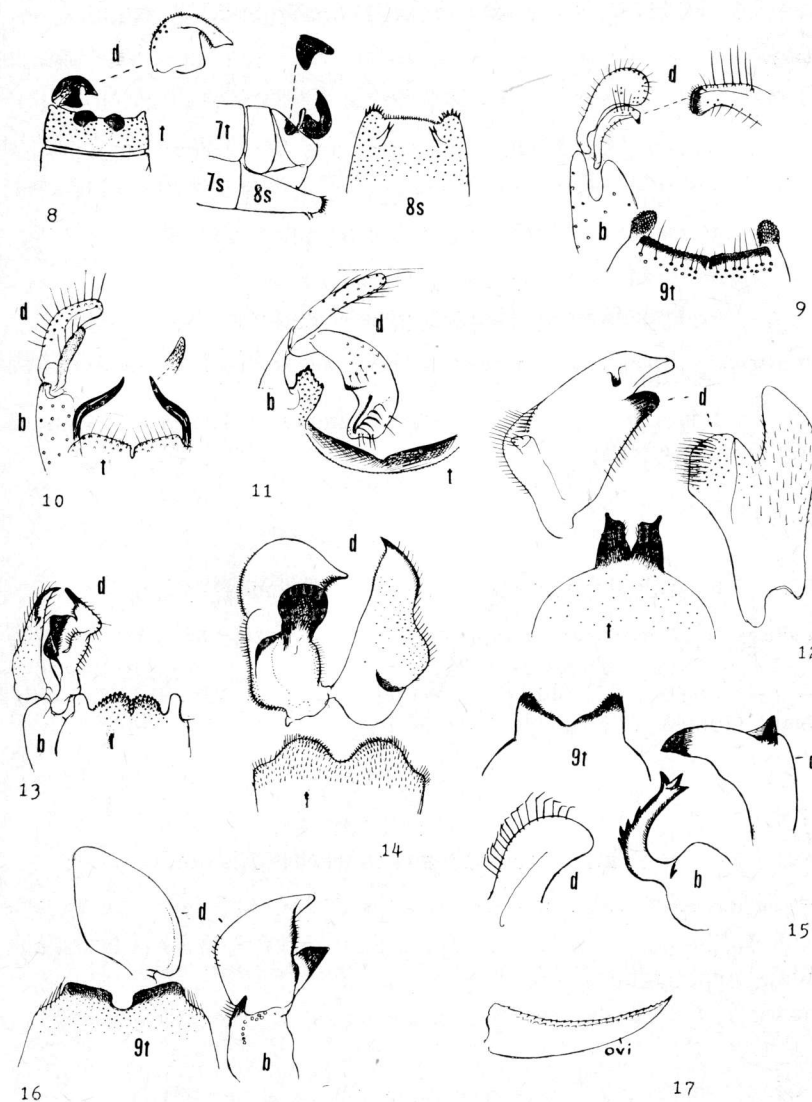


Fig. 8. *Dolichozepe* (*Dolichozepe*) *jobiensis* Alexander; male hypopygium. — Fig. 9. *Dolichozepe* (*Dolichozepe*) *disseminata* Alexander; male hypopygium. — Fig. 10. *Dolichozepe* (*Dolichozepe*) *nephalia* Alexander; male hypopygium. — Fig. 11. *Dolichozepe* (*Dolichozepe*) *nokensis* Alexander; male hypopygium. — Fig. 12. *Tipula* (*Indotipula*) *querella* Alexander; male hypopygium. — Fig. 13. *Tipula* (*Papuatipula*) *artifex* Alexander; male hypopygium. — Fig. 14. *Tipula* (*Papuatipula*) *cyclopica* Alexander; male hypopygium. — Fig. 15. *Tipula* (*Papuatipula*) *nokicola* Alexander; male hypopygium. — Fig. 16. *Tipula* (*Papuatipula*) *pedicoides* Alexander; male hypopygium. — Fig. 17. *Stibadocera papuana* Alexander; female ovipositor. — Symbols: b , basistyle; d , dististyle; ovi , ovipositor; s , 8th sternite; t , 9th tergite.

6. **Dolichopeza (Dolichopeza) disseminata** Alexander

Dolichopeza (Dolichopeza) disseminata Alexander; Rec. Indian Mus., 50: 326; 1952.
Re-naming of *Dolichopeza (Dolichopeza) thysbe* Alexander; Ann. Mag. Nat. Hist., 11 (14): 395-397; 1947, preoccupied by *Dolichopeza (Dolichopeza) thysbe* Alexander, 1938.

Holotype, ♂, Mount Lina, Cyclops Mts. Netherlands New Guinea, March 1936 (Cheesman). Male hypopygium (Fig. 9).

7. **Dolichopeza (Dolichopeza) nephalia** Alexander

Dolichopeza (Dolichopeza) nephalia Alexander; Ann. Mag. Nat. Hist., 11 (14): 397-398; 1947.

Holotype, ♂, Mafulu, Papua, January 1934 (Cheesman). Male hypopygium (Fig. 10).

8. **Dolichopeza (Dolichopeza) nokensis** Alexander

Dolichopeza (Dolichopeza) nokensis Alexander; Ann. Mag. Nat. Hist., 11 (14): 393-395; 1947.

Holotype, ♂, Camp Nok, Waigeu Island, Northern Netherlands New Guinea (Cheesman). Male hypopygium (Fig. 11).

9. **Tipula (Indotipula) querella** Alexander

Tipula (Indotipula) querella Alexander; Ann. Mag. Nat. Hist., (12) 1: 398-399; 1948.

Holotype, ♂, Kokoda, Papua, September 6, 1933 (Cheesman). Male hypopygium (Fig. 12).

10. **Tipula (Papatipula) artifex** Alexander

Tipula (Papatipula) artifex Alexander; Ann. Mag. Nat. Hist., (11) 14: 400-402; 1947.

Holotype, ♂, Mount Tafa, Papua, March 1934 (Cheesman). Male hypopygium (Fig. 13).

11. **Tipula (Papatipula) cyclopica** Alexander

Tipula (Acutipula) cyclopica Alexander; Ann. Mag. Nat. Hist., (12) 1: 396-397; 1948.

Holotype, ♂, Mount Cyclops, North Netherlands New Guinea, March 1936 (Cheesman). Male hypopygium (Fig. 14).

12. **Tipula (Papatipula) nokicola** Alexander

Tipula (Papatipula) nokicola Alexander; Ann. Mag. Nat. Hist., (12) 6: 747-748; 1953.

Holotype, ♂, Mount Nok, Waigeu Island, Northern Netherlands New Guinea, May 1938 (Cheesman). Male hypopygium (Fig. 15).

13. **Tipula (Papatipula) pedicioides** Alexander

Tipula (Acutipula) pedicioides Alexander; Ann. Mag. Nat. Hist., (12) 1: 393-396; 1948.

Holotype, ♂, Mafulu, Papua, January 1934 (Cheesman). Male hypopygium (Fig. 16).

CYLINDROTOMINAE

14. **Stibadocera papuana** Alexander

Stibadocera papuana Alexander; Ann. Mag. Nat. Hist., (11) 14: 256-258; 1947.

Holotype, ♀, Mondo, Papua, January-February 1934 (Cheesman). Female ovipositor (Fig. 17).

LIMONIINAE

Limoniini

15. **Limonia (Atypophthalmus) parvaviculata** sp. n.

General coloration of thorax reddish yellow, pleura with a narrow pale brown longitudinal stripe; legs yellow; wings brownish yellow, stigma subcircular, brown; vein Sc_1 ending about opposite two-thirds Rs ; outer radial veins gently decurved; abdominal segments weakly bicolored, yellow, posterior borders broadly light brown; male hypopygium with tergite very large, posterior border truncate, medially produced into an acute point; basistyle with ventromesal lobe large, outer part with a retrorse brush of long setae; dorsal dististyle a short stout darkened spike, the surface with abundant delicate setulae, ventral style with rostral portion elongate, subequal to remainder of style.

Male. Length, about 6-6.2 mm.; wing, 6.7-7 mm.; antenna, about 1.2-1.3 mm.

Rostrum obscure yellow, palpi light brown. Antennae with scape yellow, remainder light brown; proximal flagellar segments oval, the outer ones more lengthened, with sparse very long black

setae. Head of male with eyes enlarged, as common in the subgenus, the reduced vertex dark brown.

Pronotum very reduced obscure yellow. Mesonotal praescutum and scutal lobes reddish yellow, praescutal interspaces with sparse very long erect setae; scutellum and mediotergite clearer yellow. Pleura yellow, with a narrow dorsal pale brown longitudinal stripe, more expanded anteriorly, becoming obsolete on the pteropleurite. Halteres yellow, knob weakly darkened. Legs with coxae and trochanters light yellow, fore coxae darker; remainder of legs yellow, the outer tarsal segments scarcely more darkened; claws long and slender, with a single very long hairlike spine beyond base. Wings (Fig. 18) brownish yellow, stigma brown, subcircular; veins brown, those of base yellowed. Longitudinal veins beyond general level of origin of *Rs* with trichia. Venation: *Sc*₁ ending about opposite two-thirds *Rs*, *Sc*₂ slightly retracted; outer radial veins gently decurved, *R*₄₊₅ ending shortly beyond wing tip; *m-cu* shortly beyond fork of *M*.

Abdominal segments weakly bicolored, yellow, posterior borders broadly light brown; hypopygium chiefly yellowed. Male hypopygium (Fig. 21) with ninth tergite, *t*, very large, as common in the subgenus, all borders nearly truncate, posterior margin medially produced into a small acute point. Basistyle, *b*, very large, ventromesal lobe larger and longer than body of style, apical part with a retrorse pencil or brush of long setae, more basally with a darkened lobe or flange. What appears to represent the dorsal dististyle, *d*, is a short stout darkened spike, its surface with abundant delicate setulae; ventral style with rostral portion subequal to body of style, enlarged on basal half, outer end slender, gently curved. Gonapophysis, *g*, with mesal-apical lobe slender, apex narrowly obtuse; apex of aedeagus, *a*, about as shown.

Habitat: Solomon Islands.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, along Koromokina River, altitude 45 feet, October 11, 1944 (Robert Staples) — Beneath logs on spider webs in thick jungle. Paratopotype, ♂, Hill 700, altitude 650 feet, December 6, 1944 (Staples) — Under logs on banks of a cascading small stream in jungle — Staples.

The most similar regional species include *Limonia* (*Atypophthalmus*) *goodenoughensis* Alexander, of Goodenough Island, Papua; *L.* (*A.*) *tamborina* Alexander, of North Queensland, and the subgenotype, *L.* (*A.*)

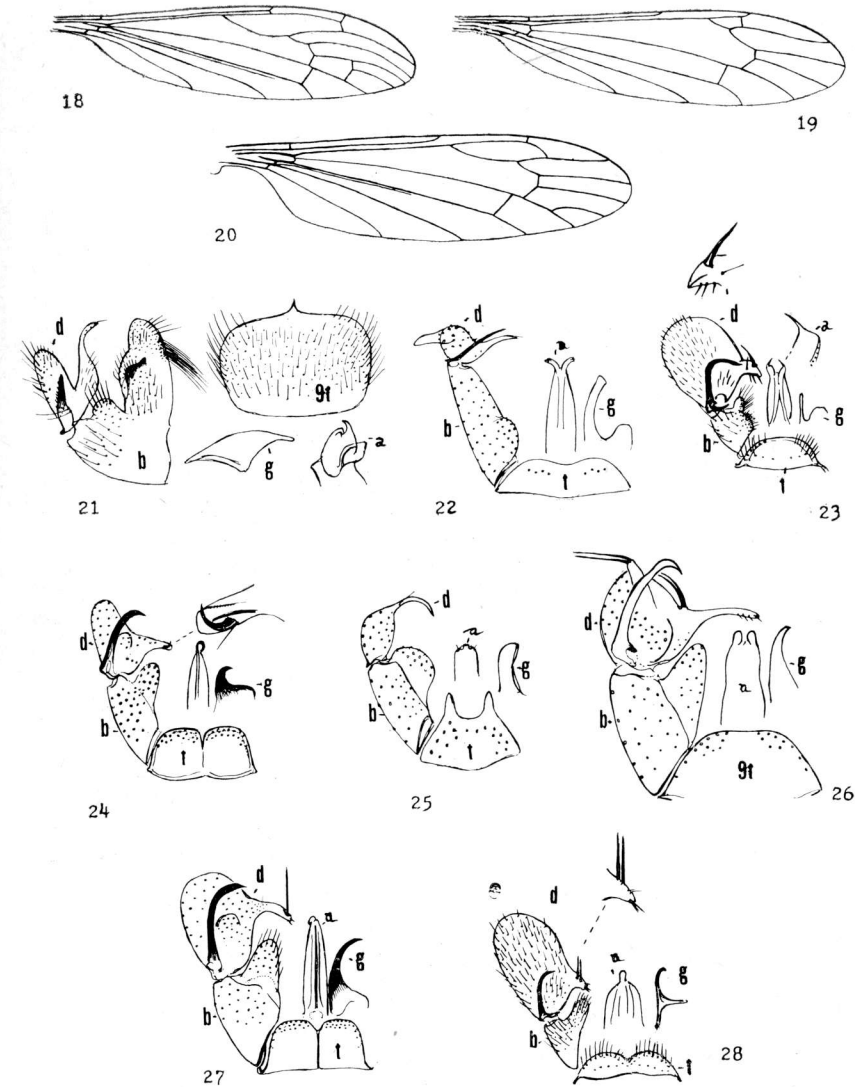


Fig. 18. *Limonia* (*Atypophthalmus*) *parvaviculata* sp. n.; venation. — Fig. 19. *Limonia* (*Nealexandriaria*) *fulvicolor* sp. n.; venation. — Fig. 20. *Limonia* (*Dicranomyia*) *anisota* sp. n.; venation. — Fig. 21. *Limonia* (*Atypophthalmus*) *parvaviculata* sp. n.; male hypopygium. — Fig. 22. *Limonia* (*Dicranomyia*) *alienata* sp. n.; male hypopygium. — Fig. 23. *Limonia* (*Dicranomyia*) *anisota* sp. n.; male hypopygium. — Fig. 24. *Limonia* (*Dicranomyia*) *guttula* (Alexander); male hypopygium. — Fig. 25. *Limonia* (*Limonia*) *dipinax* Alexander; male hypopygium. — Fig. 26. *Limonia* (*Limonia*) *insitiva* Alexander; male hypopygium. — Fig. 27. *Limonia* (*Dicranomyia*) *torpida* Alexander; male hypopygium. — Fig. 28. *Limonia* (*Nealexandriaria*) *fulvicolor* sp. n.; male hypopygium. — Symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *t*, 9th tergite.

umbrata (de Meijere), widespread in the Palaetropics and evidently by means of commerce in various parts of Tropical America. All of these differ among themselves in hypopygial structure and in details of body and wing coloration.

16. *Limonia (Limonia) alienata* Alexander

Limonia (Limonia) alienata Alexander; Ann. Mag. Nat. Hist., (12) 1: 406-407; 1948.

Holotype, ♂, Hollandia, Netherlands New Guinea, January 21, 1945 (Hoogstraal). Male hypopygium (Fig. 22).

17. *Limonia (Dicranomyia) anisota* sp. n.

Allied to *pectinunguis*; mesonotal praescutum obscure yellow with three light brown stripes, pleura yellow with a narrow brown longitudinal stripe extending from cervical region to abdomen; legs dark yellow; wings light brown, veins darker brown; male hypopygium with ventromesal lobe of basistyle small; rostral prolongation of ventral dististyle terminating in an obtuse lobe, the enlarged spine on outer margin longer than the prolongation, narrowed into an acute point.

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

Female. Length, about 5.5 mm.; wing 5 mm.

Rostrum brown, trunklike, elongate, together with the mouthparts only slightly less than remainder of head; palpi black. Antennae light brown; proximal flagellar segments subglobular, outer ones more oval, verticils small. Head with anterior vertex pale brownish yellow, about three times the diameter of scape, posterior vertex slightly darker, with conspicuous setae.

Pronotal scutum brownish yellow, scutellum clear yellow. Mesonotal praescutum obscure yellow with three light brown stripes; scutal lobes light brown, median area and scutellum light yellow; postnotum pale brown. Pleura yellow with a narrow conspicuous brown stripe extending from cervical region to abdomen, passing below the halteres, ventral sternopleurite paler brown. Halteres yellowed. Legs with coxae and trochanters light yellow; remainder of legs darker yellow, dark brown outwardly. Wings (Fig. 20) light brown, veins darker brown. Longitudinal veins beyond general level of origin of *Rs* with trichia, including also the outer ends of Anal veins, especially 2nd *A*. Venation: *Sc*₁ ending shortly before origin of *Rs*; cell *M*₂ open by atrophy of *m*; *m-cu* variable in position, in holotype about one-third its length before fork of *M*, in allotype close to the fork.

Abdominal tergites and hypopygium brown, sternites more yellowed. Male hypopygium (Fig. 23) with ninth tergite, *t*, transverse, posterior border truncate, anterior lateral angles produced, united with the basistyle. Basistyle, *b*, relatively small, its area about one-third the ventral dististyle, ventromesal lobe small, setae long, on mesal face of lobe. Dorsal dististyle, *d*, a strongly curved rod, outer third narrowed into an acute spine; ventral style with rostral prolongation blunt at apex, an enlarged spine on outer margin longer than the prolongation itself, narrowed into an acute point; inner bristle long, at base of prolongation. Gonapophysis, *g*, with mesal-apical lobe a slender straight rod. Aedeagus with each apical lobe extended into a long pale point.

Habitat: Fiji Islands.

Holotype, ♂, Maikelayaga, Kambara, altitude 0-100 meters, February 22, 1971 (Noel Krauss). Allotopotype, ♀, in copula, pinned with type.

Closest to *Limonia (Dicranomyia) pectinunguis* Tokunaga, of Micronesia (Caroline and Marshall Islands), differing especially in hypopygial details, including the smaller ventral dististyle with its rostral prolongation and major spine.

18. *Limonia (Dicranomyia) guttula* (Alexander)

Dicranomyia guttula Alexander; Canadian Entomologist., 47: 80, fig. (wing); 1915.
Limonia (Dicranomyia) sus Alexander; Ann. Mag. Nat. Hist., (12) 3: 942-943; 1950.

Type of *guttula* from Lourenco Marques, Mozambique (Portuguese East Africa); type of *sus* from Hollanda, Netherlands New Guinea, January 21, 1945 (Hoogstraal). Male hypopygium (type of *guttula*) (Fig. 24).

19. *Limonia (Dicranomyia) torpida* Alexander

Limonia (Dicranomyia) torpida Alexander; Ann. Mag. Nat. Hist., (11) 14: 407-408; 1947.

Holotype, ♂, Mafulu, Papua, January 1934 (Cheesman). Male hypopygium (Fig. 27).

20. *Limonia (Geranomyia) longicrinita* sp. n.

General coloration of thoracic notum orange, pleura more yellowed; rostrum approximately one-third the length of wing; legs brownish yellow; wings faintly tinted, unpatterned except for the brown stigma,

central section of costa with a fringe of long erect setae, vein *Sc* long, *Sc*₁ ending about opposite three-fourths *Rs*, cell *1st M*₂ long, male hypopygium with rostral prolongation of ventral dististyle large and complex; gonapophysis with mesal-apical lobe long and nearly straight.

Male. Length, excluding rostrum, about 6 mm.; wing, 6.5 mm.; rostrum, about 2 mm.

Rostrum of moderate length, as indicated, dark brown. Head dark brown, sparsely pruinose, posteriorly more yellowed.

Pronotum small, scutum obscure yellow, darkened anteriorly, scutellum and pretergites light yellow. Mesonotal praescutum almost uniformly brownish orange of rufous, humeral region restrictedly clearer yellow; remainder of notum orange, scutellum more yellowed, especially posteriorly. Pleura yellow. Halteres with stem yellow, knob vaguely more darkened. Legs with coxae orange, trochanters yellow; remainder of legs brownish yellow, tarsi slightly darker. Wings (Fig. 29) subhyaline to very faintly tinted; stigma short-oval, brown; veins brown. Costal fringe of central half of wing very long and conspicuous, longest at and above *Rs*, the longest setae in length exceeding the width of the combined cells *C* and *Sc* (as shown in subfigure). Longitudinal veins beyond general level of origin of *Rs* with short black trichia, including also a few on distal fourth of *2nd A*. Venation: *Sc* long, *Sc*₁ about opposite three-fourths the long *Rs*; cell *1st M*₂ long, subequal to distal section of *M*₁₋₂, gently widened outwardly; *m-cu* at or just beyond fork of *M*.

Abdominal tergites light brown, sternites more yellowed; hypopygium pale. Male hypopygium (Fig. 33) with ninth tergite, *t*, broadly transverse, with both posterior and anterior borders nearly straight. What appears to be the ninth sternite, *s*, consists of a central plate, its apex deeply divided into two lobes provided with abundant black setae. Basistyle, *b*, slightly more than one-half the size of body of ventral dististyle, ventromesal lobe small, placed far distad. Dorsal dististyle, *d*, gently curved to an acute point; ventral style large and fleshy, rostral prolongation large and complex, as shown; rostrum relatively slender, nearly parallel-sided, with two large unequal spines, the outermost strongly curved and narrowed to a slender point, inner spine about one-half as long and more slender (in figure shown separately in two aspects). Gonapophysis, *g*, with mesal-apical lobe long and nearly straight. Aedeagus narrow, apical lobes very small.

Habitat: Solomon Islands.

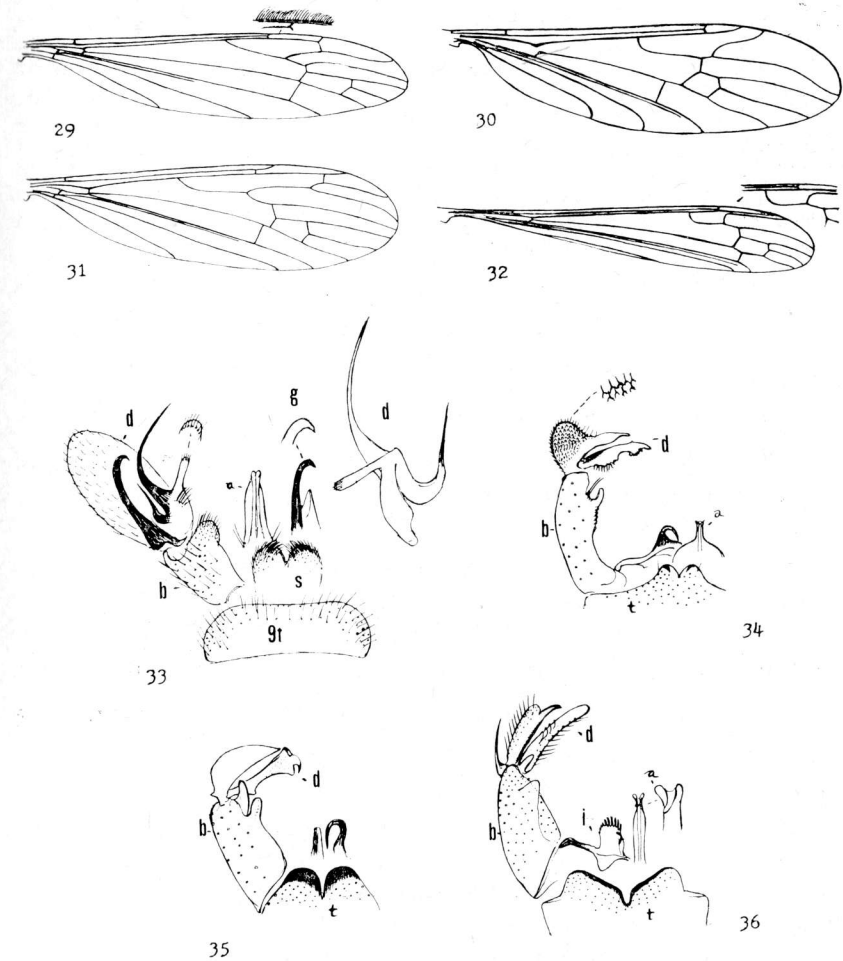


Fig. 29. *Limonia (Geranomyia) longicrinita* sp. n.; venation. — Fig. 30. *Helius (Rhampholimnobia) fenestratus* sp. n.; venation. — Fig. 31. *Taiwanomyia tafana* (Alexander); venation. — Fig. 32. *Elephantomyia (Elephantomyodes) percuneata* sp. n.; venation. — Fig. 33. *Limonia (Geranomyia) longicrinita* sp. n.; male hypopygium. — Fig. 34. *Austrolimnophila (Austrolimnophila) cyclopica* Alexander; male hypopygium. — Fig. 35. *Austrolimnophila (Austrolimnophila) discoboloides* Alexander; male hypopygium. — Fig. 36. *Austrolimnophila (Austrolimnophila) japenensis* Alexander; male hypopygium. — Symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *i*, interbase; *s*, sternite; *t*, 9th tergite.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, in jungle, July 27, 1944 (Ashley B. Gurney).

Other regional species that have the male hypopygium somewhat comparably modified include *Limonia* (*Geranomyia*) *samoana* (Edwards), of Samoa; *L. (G.) tanytrichiata* Alexander, New Guinea; *L. (G.) vitiella* Alexander, Fiji, and probably *L. (G.) vanikorensis* Alexander, of the Santa Cruz Islands, still known only from the female. Of the above the only species with a somewhat comparable costal fringe is *tanytrichiata* which has the wings patterned and showing important differences in the details of hypopygial structure.

21. *Limonia* (*Limonia*) *dipinax* Alexander

Limonia (*Limonia*) *dipinax* Alexander; Ann. Mag. Nat. Hist., (12) 1: 408-410; 1948.

Holotype, ♂, Hollandia, Netherlands New Guinea, April 18, 1945 (Hoogstraal). Male hypopygium (Fig. 25).

22. *Limonia* (*Limonia*) *insitiva* Alexander

Limonia *insitiva* Alexander; Ann. Mag. Nat. Hist., (12) 4: 581-583; 1951.

Holotype, ♂, Kokoda, Papua, June 1933 (Cheesman). Male hypopygium (Fig. 26).

23. *Limonia* (*Nealexandriaria*) *fulvicolor* sp. n.

Size small (wing to about 4 mm.); thorax almost uniformly fulvous; head polished brownish black to black; wings tinged with light brown, veins relatively indistinct, Sc short, Sc_1 far before origin of the short Rs , cell *2nd A* narrow; male hypopygium with tergite conspicuously emarginate, lobes low; ventral dististyle with rostral spines long, subequal, placed close together; gonapophysis small, mesal-apical lobe long and slender, aedeagus broad.

Male. Length, about 3-3.3 mm.; wing 3.8-4.2 mm.; antenna, about 0.6-0.65 mm.

Female. Length, about 3.5-3.8 mm.; wing, 4-4.2 mm.

Rostrum brownish black to black, palpi black. Antennae with scape yellow, remainder black; proximal flagellar segments short-oval, outer ones progressively lengthened, verticils shorter than the segments. Head above brownish black to polished black, beneath and on sides more yellowed.

Thorax almost uniformly fulvous, humeral region of praescutum more yellowed. Halteres with stem yellow to brownish yellow, knob blackened. Legs with coxae and trochanters yellowed; remainder of legs medium to darker brown. Wings (Fig. 19) tinged with light brown, veins relatively indistinct, darker brown. Longitudinal veins beyond general level of cord with trichia, lacking on Cu_1 . Venation: Sc short, Sc_1 ending far before origin of Rs , Sc_2 not evident; Rs very short, slightly exceeding one-half the basal section of R_{4-5} ; $m-cu$ unusually variable in position, from opposite fork of M to some distance before this, in cases to one-half its own length; cell *2nd A* relatively narrow.

Abdominal tergites brown, sternites and hypopygium usually more yellowed. Male hypopygium (Fig. 28) with ninth tergite, t , transverse, posterior border with a deep U or V-shaped emargination, the lobes low. Basistyle, b , small, its area about one-third that of the ventral dististyle; ventromesal lobe conspicuous. Dorsal dististyle, d , a gently curved sickle, narrowed gradually outwardly, apex a long spine; ventral style with rostral prolongation short, tip obtuse; rostral spines long and straight, subequal, inserted close together but not contiguous. Gonapophysis, g , with body unusually small, mesal-apical lobe and slender. Aedeagus broad.

Habitat: Solomon Islands.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, along Koromokina River, September 23, 1944 (Robert Staples) — beneath fallen log on side of gully. Allotopotype, ♀, altitude 40 feet, September 21, 1944 — clinging to roots of banyan. Paratopotypes, several ♂ ♀, September 19-27, 1944, commonly in vicinity of banyans; one ♂, August 1944 (Ashley B. Gurney).

In its general coloration the present fly resembles *Limonia* (*Nealexandriaria*) *carneotincta* (Alexander), of the Malay Peninsula and Singapore, differing in the small size, with darker wings and pale veins, with Rs short and cell *2nd A* narrow.

The subgenus *Nealexandriaria* Alexander was proposed in 1966 (Philippine Journal of Science, 95: 107-108), with 18 species wide-spread in the Oriental and Australasian regions. The various species known from the various Pacific islands include *L. (N.) atromaculata* (Edwards), of Samoa; *L. (N.) ochricapilla* Alexander, Fiji; and *L. (N.) semirufa* (Edwards), New Hebrides. *L. (N.) scolopia* Alexander, of Tonga, is entirely distinct from all the above in hypopygial structure.

24. *Limonia* (subgenus incertum) *dactylolabis* (Alexander)

Limnobia (?) *dactylolabis* Alexander; Ann. Mag. Nat. Hist., (9) 8: 552-553; 1921.

The unique type of this fly was a male, taken at Lautoka, Fiji, April 11, 1920, by H. Greenwood, preserved in the British Museum (Natural History). More recently two female specimens have been secured, both from Viti Levu, Fiji, one at Tholo-i-suva, 500-600 feet, July 31, 1938, by Elwood Zimmerman, the other from the Nausori Highlands, Fiji, at 500-600 meters, October 1, 1970, by Noel Krauss.

The holotype was legless and the distinctive coloration of the legs as shown by the females, is described. Femora and tibiae dark brown, with about the outer tenth of the latter snowy white, this color also including tarsal segments one and two, together with the extreme base of the third segment, forming a very broad white ring, that of the fore leg being about subequal to the darkened remainder of the tibia, on the posterior legs about two-thirds to three-fifths of this darkened part.

In some respects, especially the venation and leg coloration, the fly suggests species of the subgenus *Thrypticomylia* Skuse but the hypopygial structure is more as in typical *Limonia*. The strict subgeneric position of this fly was questioned in the original description and still remains in doubt.

25. *Helius* (*Rhampholimnobia*) *fenestratus* sp. n.

Belongs to the *papuanus* group; size small (wing of female 4.2 mm.); mesonotal praescutum with three chocolate brown stripes, remainder of thorax dark brown to brownish black; femora yellow, apices dark brown, enclosing a relatively broad white ring that is followed by a narrow darkening; wings whitened, with a very heavy reticulated dark pattern, beyond the cord and in cell *1st M*₂ appearing as whitened oval areas surrounded by dark; abdomen dark brown.

Female. Length, including rostrum, about 6.5 mm.; wing, 4.2 mm.; rostrum alone about 0.6 mm.

Rostrum moderately long, brownish black, mouthparts pale. Antennae black, the proximal two flagellar segments testaceous yellow. Head dark gray.

Cervical region black. Pronotum light brown, sparsely pruinose. Mesonotal praescutum with three chocolate brown stripes, in front separated by lines of light gray pollen, behind

the interspaces black or brownish black; posterior sclerites of notum, including scutellum, dark brown. Pleura brownish black. Halteres with stem yellow, knob brownish black. Legs with coxae and trochanters brownish black; femora yellow basally, apex dark brown, enclosing a silvery white ring that is broader than the subterminal darkening, beyond the white annulus with a very narrow blackened ring, the extreme tip pale; tibiae yellow, extreme tips more whitened; tarsi yellow. Wings (Fig. 30) with the ground whitened, prearcular and costal fields more whitened; a very heavy and conspicuous brown reticulated pattern that is only slightly less extensive than the ground; a complete band at cord, with a narrower nearly complete one before origin of *Rs*, interrupted in cell *Cu*; two very heavy solidly darkened areas in cell *R*₃, lacking in cell *R*₁ before the stigmal band; dark areas beyond cord heavy, especially near wing tip, leaving oval whitened ground spots; center of cell *1st M*₂ with a similar relatively small oval pale area; basad of cord and excluding the proximal band the transverse lines narrow; a prearcular darkening behind *h*; veins brown, yellowed in the costal and prearcular interspaces. Macrotrichia on veins *R*₄₋₅, outer section of *M*₁₋₂ and *M*₃. Venation: *Sc* long, *Sc*₁ ending nearly opposite *r-m*; distal section of *Rs* about two-thirds *r-m*; branches of *Rs* strongly divergent, cell *R*₃ at margin very extensive; cell *1st M*₂ small, the veins beyond correspondingly lengthened; *m-cu* about one-half its length before fork of *M*; Anal veins curved strongly into the wing margin. Abdomen dark brown, without clearly evident pattern.

Habitat, Netherlands New Guinea.

Holotype, ♀, Hollandia, January 21, 1945 (Harry Hoogstraal).

The other regional species having an unusually heavy darkened wing pattern and lacking a dark area in cell *R* is *Helius* (*Rhampholimnobia*) *bigeminatus* Alexander which differs evidently in the leg and wing patterns.

Hexatomini

26. *Taiwanomyia tafana* (Alexander)

Troglophila tafana Alexander; Ann. Mag. Nat. Hist., (11) 13: 761-762; 1940.

Holotype, ♂, Mount Tafa, Papua, 8,500 feet, March 1934 (Cheesman). Venation (Fig. 31).

27. **Austrolimnophila (Austrolimnophila) cyclopica** Alexander

Austrolimnophila (Austrolimnophila) cyclopica Alexander; Ann. Mag. Nat. Hist., (11) 13: 743-745; 1946.

Holotype, ♂, Mount Cyclops, Netherlands New Guinea, 7,500 feet, March 1936 (Cheesman). Male hypopygium (Fig. 34).

28. **Austrolimnophila (Austrolimnophila) discoboloides** Alexander

Austrolimnophila (Austrolimnophila) discoboloides Alexander; Ann. Mag. Nat. Hist., (11) 13: 741-743; 1946.

Holotype, ♂, Mount Tafa, Papua, 8,500 feet, March 1934 (Cheesman). Male hypopygium (Fig. 35).

29. **Austrolimnophila (Austrolimnophila) japonensis** Alexander

Austrolimnophila (Austrolimnophila) japonensis Alexander; Ann. Mag. Nat. Hist., (11) 13: 747-748; 1946.

Holotype, ♂, Mount Oud, Northern Netherlands New Guinea, 3,500 feet, November 1938 (Cheesman). Male hypopygium (Fig. 36).

30. **Elephantomyia (Elephantomyodes) percuneata** sp. n.

General coloration of thorax yellow, the mesopleura and sternum extensively dark brown to form a broad girdle; legs dark brown, tarsal segments two and three white; wings weakly suffused, restrictedly patterned with darker brown, cuneiformly narrowed at base, anal angle lacking, cell *2nd A* long and narrow; intermediate abdominal segments bicolored, each yellow with outer half black.

Male. Length, without head, about 7 mm.; wing, 8.5 mm.

Head lost. Mesonotum obscure yellow. Pleura yellow posteriorly, propleura and a broad transverse girdle on mesepisternum brown, the latter extending from the dorsopleural region ventrad, including the sternal region with the exception of a narrow yellow midline. Halteres black, stem long and very slender. Legs with coxae and trochanters yellow; femora dark brown, bases broadly paler; tibiae and basitarsi dark brown, second and third tarsal segments white, outer segments black; femora and tibiae with a few erect black setae scattered over the entire length, on tibiae totalling about seven or eight in number. Wings (Fig. 32) weakly suffused, cells *C* and *Sc* darker brown; a restricted paler brown

pattern including a cloud at bend of *Rs*, base of R_{2-3-4} and the cord; vague brown seams behind vein Cu_1 and in cell *2nd A*; prearcular field concolorous with remainder of ground; veins brown. Longitudinal veins beyond cord with trichia, lacking on the erect base of R_{2-3-4} and M_{3-4} ; basad of cord with scattered trichia on *Rs* and with three or four on outer half of Cu_1 ; a single trichium on *2nd A*, none on *1st A*. Wings cuneiformly narrowed at base, anal angle lacking. Venation: Sc_1 , ending shortly before fork of *Rs*, Ac_2 at its tip; R_{2-3-4} perpendicular at origin, beyond base extended parallel and very close to R_{1-2} ; basal section of R_5 in longitudinal alignment with its distal section and with *Rs*; cell *1st M*₂ long, about equal to distal section of M_3 ; *m-cu* at or beyond one-third the length of M_{3-4} ; cell *2nd A* narrow, the vein long.

Abdomen conspicuously bicolored, bases of intermediate segments broadly yellow, approximately the outer halves brownish black, seventh and eighth segments black; hypopygium chiefly dark brown.

Habitat: New Guinea.

Holotype, ♂, Okaitadi, Northeast New Guinea, altitude 1760 meters, August 7, 1955 (J. Linsley Gressitt), Bishop Museum.

Distinguished from the other regional members of the subgenus by the venation and the snowy white intermediate tarsal segments.

Eriopterini

31. **Teucholabis (Teucholabis) dimelanocykla** sp. n.

Mesothorax black, variegated by yellow on praescutum and scutellum; rostrum and halteres black; femora yellow with two broad black rings that are more extensive than the intermediate ground annulus; wings subhyaline, stigma and a narrow marginal seam in outer radial field dark brown; costal fringe long, Sc_1 ending about opposite two-thirds *Rs*; male hypopygium with both dististyles blackened, inner style slender.

Male. Length, about 6 mm.; wing, 5.4 mm.

Female. Length, about 5 mm.; wing, 5.6 mm.

Rostrum black, long and slender, only a little shorter than remainder of head; palpi black. Antennae black throughout; first flagellar segment globular, succeeding segments short-oval, outer ones more elongate-oval; verticils of outer segments elongate. Head

polished black, front and anterior vertex light gray pruinose, sides of occiput and posterior vertex more brownish yellow.

Pronotum chestnut, blackened in front. Mesonotal praescutum polished black, humeral region and a smaller sublateral area before suture more yellowed; scutal lobes uniformly black, central area in front with a light yellow spot that crosses the suture into the praescutum; scutellum brownish yellow, parascutella black; post-notum black. Pleura in male black, dorsopleural region yellow, anteriorly extended ventrad to the fore coxae; in female, ventral pleurites paler. Halteres black, in male including the knobs except for a vague paler apical line, in female more extensively yellowed. Legs with fore coxae black, middle and hind coxae brownish black, apices broadly yellowed; trochanters brownish yellow; fore and middle femora yellow with two broad black rings, one apical, the other beyond midlength of segment, the intermediate ground ring narrower, posterior femora similar, basal third blackened; tibiae and tarsi black; claws in both sexes with a lateral spine. Wings subhyaline, the very small stigma and a narrow marginal seam in outer radial field dark brown; veins brown. Costal fringe of male long and conspicuous; trichia of veins sparse, beyond cord including short series at outer end of R_4 and virtually all of R_5 and M_{1-2} , M_3 with a single trichium. Venation: Sc long Sc_1 ending at near two-thirds Rs , Sc_2 about opposite one-fourth the length; R_{1-2} and R_{2-3-4} subequal; cell $1st\ M_2$ subequal in length to distal section of M_{1-2} ; $m-cu$ about one-half its length beyond fork of M .

Basal abdominal tergites dark brown, outer segments vaguely bicolored, their proximal parts slightly paler, the condition better shown on sternites; hypopygium black. Sternal pocket of fifth segment not developed. Male hypopygium (Fig. 40) with posterior border of ninth tergite, t , convexly rounded. Dististyle, d , subterminal, outer style larger, appearing as a darkened blade, with a smaller subbasal point; inner style slender, apex acute.

Habitat: New Guinea.

Holotype, ♂, Itouda Northeast New Guinea, altitude 1500 meters, August 13, 1955 (J. Linsley Gressitt). Allotopotype, ♀, August 14, 1955: Bishop Museum.

The species is most like *Teucholabis (Teucholabis) biarmillata* Alexander (Koroda, Papua, 1200 feet, July 1933), differing in the details of coloration of the body, legs and halteres. The structure of the hypopygium of this latter species has not been described.

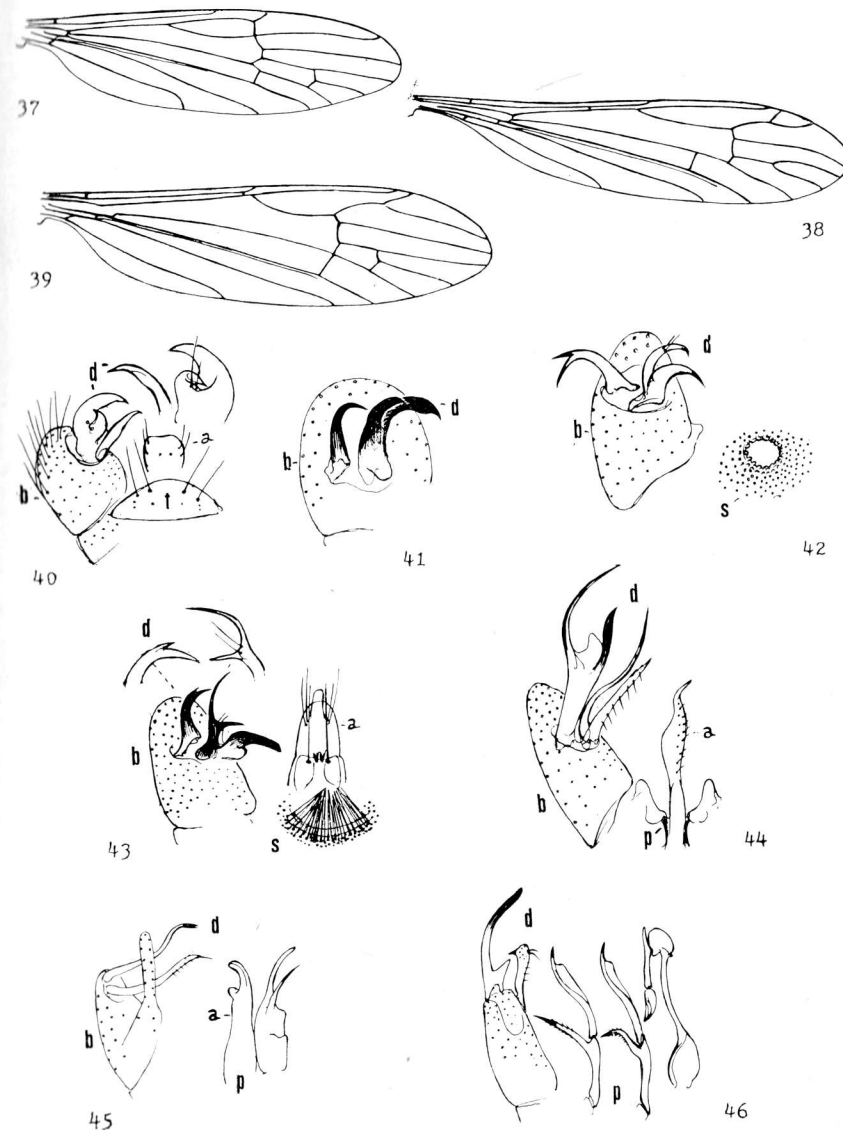


Fig. 37. *Teucholabis (Teucholabis) setigera* sp. n.; venation. — Fig. 38. *Gonomyia (Idiocera) gorokana* sp. n.; venation. — Fig. 39. *Gonomyia (Gonomyia) malitia* sp. n.; venation. — Fig. 40. *Teucholabis (Teucholabis) dimelanocyclus* sp. n.; male hypopygium. — Fig. 41. *Teucholabis (Teucholabis) gorana* Alexander; male hypopygium. — Fig. 42. *Teucholabis (Teucholabis) setigera* Alexander; male hypopygium. — Fig. 43. *Teucholabis (Teucholabis) setigera* sp. n.; male hypopygium. — Fig. 44. *Gonomyia (Idiocera) impavida* Alexander; male hypopygium. — Fig. 45. *Gonomyia (Lipophleps) aegina* Alexander; male hypopygium. — Fig. 46. *Gonomyia (Lipophleps) basicuspis* Alexander; male hypopygium. — Symbols: a , aedeagus; b , basistyle; d , dististyle; p , phallosome; s , 5th sternite; t , 9th tergite.

32. **Teucholabis (Teucholabis) gorana** Alexander

Teucholabis (Teucholabis) gorana Alexander; Ann. Mag. Nat. Hist., (11) 14: 271-273; 1947.

The type was from Gora, Papua. Mesothorax reddish yellow, posterior half of praescutum with two major black areas that are separated by a narrow ground vitta; halteres obscure yellow; legs with fore femora yellow, outer fourth black, middle and hind femora yellow, each with a narrow brown beyond midlength; wings obscure yellow, patterned with brown, including the broad apex; abdomen orange, hypopygium abruptly blackened. Male hypopygium (Fig. 41) with basistyle, *b*, obtuse at apex. Dististyles, *d*, subterminal; outer style a simple curved blackened hook, narrowed into a long acute spine; inner style larger, strongly curved, terminating in a spinous point, near base with a large lateral arm that is approximately as long as the style itself.

33. **Teucholabis (Teucholabis) metamelania** sp. n.

General coloration polished yellow and black, praescutum with three nearly confluent black stripes, postnotum and anepisternum black; rostrum unusually short, obscure yellow; knob of halteres yellowed; legs with fore coxae blackened; wings pale yellow, restrictedly patterned with pale brown, *Sc* long, cell *1st M*₂ short; abdominal tergites uniformly brownish black, sternites yellow.

F e m a l e. Length, about 6.5 mm.; wing, 5.4 mm.

Rostrum unusually short, only about one-fourth the remainder of head, obscure yellow, apex restrictedly blackened; palpi brownish black. Antennae dark brown; basal flagellar segments oval, the outer ones more elongate, shorter than their verticils. Head black, behind and beneath brownish yellow, sparsely pruinose.

Pronotal scutum obscure yellow, conspicuously blackened in front and on sides, scutellum more yellowed. Mesonotal praescutum chiefly covered by three highly polished black stripes, the pale interspaces vaguely indicated, central stripe ending some distance before suture, lateral stripes very large, their anterior ends reaching the margin, the yellow ground restricted to the narrow humeri and laterally before the suture; scutum obscure yellow, each lobe with a transverse polished black area; scutellum obscure yellow, narrowly brownish black medially at base, setae of scutal lobes and scutellum sparse and weak, inconspicuous, postnotum entirely blackened, cephalic border of pleurotergite with long black setae.

Pleura with propleura and anepisternum blackened, the latter area isolated by the yellow dorsopleural region, silvery yellow pteropleurite and a narrow line behind the propleura; metapleura and meral region light yellow. Halteres with stem weakly darkened, knob light yellow. Legs with fore coxae darkened, remaining coxae and all trochanters light yellow; remainder of legs broken. Wings pale yellow, stigma small, dark brown; three much paler brown bands, the most evident one at cord, second area interrupted, at origin of *Rs* and more diffusely in cubital and anal cells, third darkening at outer end of cell *1st M*₂; cell *Sc* more yellowed; veins light brown, scarcely darker in the patterned areas, *C*, *Sc* and *R* more yellowed. Weak trichia on all outer veins beyond cord and at outer end of *1st A*. Venation: *Sc* long, *Sc*₁ ending about opposite three-fourths to four-fifths the long *Rs*, *Sc*₂ only slightly removed, *Sc*₁ being subequal to *R*₂ or to *r-m*; *R*₂₋₃₋₄ short; cell *1st M*₂ shorter than veins beyond it; *m-cu* about one-half its length beyond fork of *M*.

Abdominal tergites uniformly brownish black, sternites yellow. Ovipositor with cerci horn yellow, strongly upcurved to the acute tips.

Habitat: New Guinea.

Holotype, ♀, Tsenga, Northeast New Guinea, July 14, 1955 (J. Linsley Gressitt); Bishop Museum.

The present fly is distinguished from other regional species by the unusually short and stout yellow rostrum and the distinctive pattern of the thorax and abdomen. Other species having the knobs of the halteres yellowed have the rostrum black and more elongate.

34. **Teucholabis (Teucholabis) nigrirostris** Alexander

Teucholabis (Teucholabis) nigrirostris Alexander; Ann. Mag. Nat. Hist., (11) 14: 412-413; 1947.

Described from various stations in Papua, collected by Miss Cheesman. Further extensions of range include the following:

Northeast New Guinea — Korip, July 12, 1955; Miramar, June 27, 1955 (J. Linsley Gressitt).

Papua — North slope of Mount Dayman, Maneau Range, Station 6, altitude 700 meters, July 13-20, 1953 (Geoffrey M. Tate). Biniguni, Gwariu River, Station 3, altitude 150 meters, July 27 — August 14, 1953 (Geoffrey M. Tate).

35. *Teucholabis (Teucholabis) seticosta* Alexander

Teucholabis (Teucholabis) seticosta Alexander; Ann. Mag. Nat. Hist., (11) 14: 413-414; 1947.

Type from Mount Nok, Waigeu Island, Netherlands New Guinea, taken by Miss Evelyn Cheesman.

Mesonotum yellow, praescutum with three confluent polished black stripes, scutellum black, sides of postnotum yellowed; halteres infuscated; middle femora yellow basally, outer three-fifths black, posterior femora uniformly blackened; wings subhyaline, restrictedly patterned with darker, costal fringe of male long; abdominal tergites darkened, sternites and hypopygium yellow; male with sternal pocket of fifth abdominal segment (Fig. 42, s) distinct, subcircular in outline. Male hypopygium (Fig. 42) with outer dististyle, *d*, slender, curved into a long axial spine, with a smaller straight lateral branch; inner style profoundly divided near base, the more slender arm gradually narrowed into a slightly curved point, some distance before apex with two approximated elongate setae, inner arm a more flattened blade that narrows to an elongate curved point.

36. *Teucholabis (Teucholabis) setigera* sp. n.

General coloration yellow, patterned with black, on thorax including three confluent praescutal stripes, scutal lobes, scutellum and mediotergite; pleura reddish brown with a silvery gray ventral stripe; halteres and posterior femora black; wings subhyaline, restrictedly patterned with brown, macrotrichia of veins sparse; sternal pocket of male abdomen lunate; male hypopygium with outer dististyle and basal arm of inner style bifid.

Male. Length, about 7 mm.; wing, 6 mm.

Female. Length, about 7 mm.; wing, 5.6 mm.

Rostrum and palpi black. Antennae dark brown; flagellar segments oval; normal vestiture short, yellow, verticils exceeding the segments in length. Head black.

Cervical region black. Pronotum polished orange yellow, more darkened anteriorly, medially and behind. Mesonotal praescutum polished yellow with three black stripes that are virtually confluent, the median area widened and slightly bifid behind to leave a large yellow area before suture, humeral region and lateral borders yellow; scutum yellow, each lobe with a major black area and with several long erect to porrect setae; scutellum brownish black, with several long black setae; mediotergite brownish black,

pleurotergite abruptly reddish yellow, with long yellow setae. Pleura yellow, mesepisternum slightly more reddish brown, the meron, ventral pteropleurite and dorsal sternopleurite with a narrow silvery gray longitudinal stripe. Halteres black, knobs large. Legs with coxae reddish yellow; trochanters yellow; a single (posterior) leg remains; femora black, extreme base yellow; tibiae and basitarsi yellow, tips very narrowly blackened, remainder of tarsi broken; vestiture of leg (female) relatively short and inconspicuous. Wing (Fig. 37) subhyaline, costal border light yellow, in male outer margin of radial field narrowly darkened as far distad as vein R_5 ; stigma small, oval, dark brown; a vague darkened seam over cord, best indicated by a deepening in color of the veins which elsewhere are light brown. Costal fringe of male relatively long. Macrotrichia of veins relatively sparse, basad of cord lacking, including *Sc* and both *Anals*; both outer branches of *Rs* with trichia virtually throughout their lengths. Venation: Sc_1 ending opposite or shortly before midlength of *Rs*, R_{2-3-4} lacking or unusually short, less than one-half R_2 ; cell *1st M*₂ long, subequal to or longer than distal section of M_{1-2} ; *m-cu* about two-thirds to three-fourths its length beyond fork of *M*.

Abdomen chiefly yellow, basal tergites with a weak central darkening. Setigerous pocket on sternite five (Fig. 43, s) about as figured, appearing lunate, gently concave, with numerous setae on cephalic and lateral parts, these directed caudad and mesad, chiefly decussate. Male hypopygium (Fig. 43) with outer dististyle, *d*, small, strongly curved to the acute tip, on outer margin with an appressed spine; inner style including a narrow blackened beak, the apex obliquely truncate, with a conspicuous basal bispinous arm, the long axial spine gently curved. Aedeagus, *a*, relatively narrow, central area at apex farther produced; two large setae at near midlength, with two pairs of smaller bristles before apex.

Habitat: New Guinea.

Holotype, ♂, Busu, Northeast New Guinea, September 15, 1955 (J. Linsley Gressitt); Bishop Museum. Allotopotype, ♀.

Teucholabis (Teucholabis) setigera is distinguished from other generally similar regional species that have the rostrum, scutellum, halteres and posterior femora blackened by the hypopygial structure, particularly the basal arm of the inner dististyle. The setae of the thorax are unusually long and conspicuous, suggesting the specific name.

37. *Gonomyia (Gonomyia) malitia* sp. n.

Mesonotum brownish black, scutellum yellow, pleura conspicuously patterned with brownish black and yellow; rostrum light yellow; antennae black throughout; legs with coxae dark brown; wings subhyaline, Sc short, Sc_1 ending opposite origin of Rs ; abdominal tergites dark brown, sternites slightly paler.

Female. Length, about 5-5.2 mm.; wing, 4.8-5 mm. Rostrum light yellow, contrasting with the black palpi. Antennae black throughout; flagellar segments long-oval, with a short dense white pubescence, verticils short. Head gray.

Pronotum darkened medially, yellow on sides, pretergites light yellow. Mesonotal praescutum and scutal lobes brownish black, sparsely pruinose, pseudosutural foveae black; scutellum and median region of scutum yellowed; mediotergite blackened, anterolateral angles yellowed. Pleura dark brown to brownish black on propleura, anepisternum, ventral sternopleurite and meron, the remainder light yellow, forming a broad stripe on dorsal sternopleurite, pteropleurite and meron. Halteres infuscated, base of stem narrowly yellowed. Legs with coxae dark brown, fore pair still darker, trochanters brown; remainder of legs broken. Wings (Fig. 39) subhyaline, stigma barely indicated; veins brown. Veins of about the outer four-fifths of wing with long trichia. Venation: Sc short, Sc_1 ending opposite origin of Rs , Sc_2 shortly removed, Sc_1 about as long as basal section of M_{1-2} ; $m-cu$ at fork of M .

Abdominal tergites dark brown to brownish black, including the genital segment, sternites paler brown. Ovipositor with cerci elongate, slender, gently upcurved.

Habitat: New Guinea.

Holotype, ♀, Goroka, Northeast New Guinea, altitude 1550 meters, June 25, 1955 (J. Linsley Gressitt); Bishop Museum. Paratopotype, ♀.

The present fly is quite distinct from the only other regional member of the typical subgenus so far described, *Gonomyia (Gonomyia) irianensis* Alexander, from higher altitudes in the Snow Mountains of Netherlands New Guinea. The coloration of the body and wings, together with the short vein Sc , readily separate the two flies.

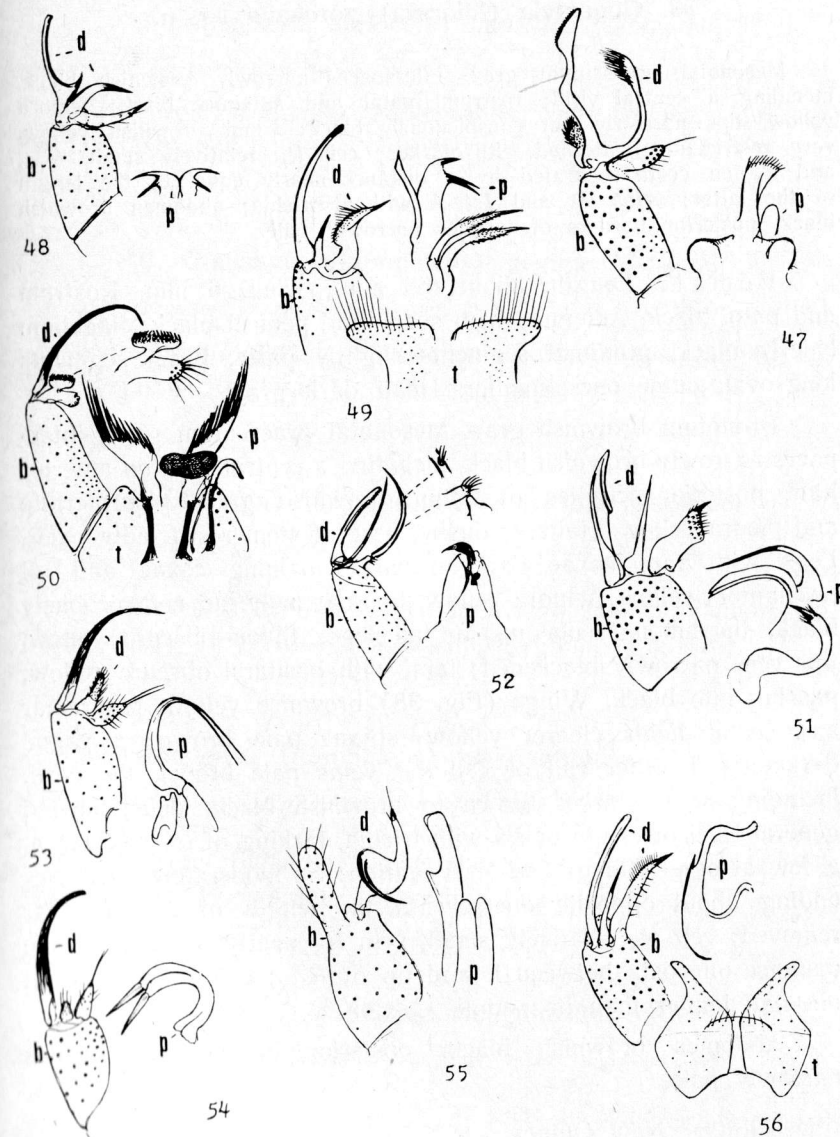


Fig. 47. *Gonomyia (Lipophleps) biserpentigera* Alexander; male hypopygium. — Fig. 48. *Gonomyia (Lipophleps) bougainvilleae* Alexander; male hypopygium. — Fig. 49. *Gonomyia (Lipophleps) citribasis* Alexander; male hypopygium. — Fig. 50. *Gonomyia (Lipophleps) dipterophora* Alexander; male hypopygium. — Fig. 51. *Gonomyia (Lipophleps) ischyria* Alexander; male hypopygium. — Fig. 52. *Gonomyia (Lipophleps) ocypte* Alexander; male hypopygium. — Fig. 53. *Gonomyia (Lipophleps) ophion ophion* Alexander; male hypopygium. — Fig. 54. *Gonomyia (Lipophleps) ophion brachyglossa* Alexander; male hypopygium. — Fig. 55. *Gonomyia (Lipophleps) recurvispina* Alexander; male hypopygium. — Fig. 56. *Gonomyia (Lipophleps) tenuipollex* Alexander; male hypopygium. — Symbols: b, basistyle; d, dististyle; p, phallosome; t, 9th tergite.

38. *Gonomyia (Idiocera) gorokana* sp. n.

Mesonotal praescutum gray, interspaces narrowly brownish black, including a central vitta; rostrum, palpi and antennae black; femora yellow, tips narrowly but conspicuously black; wings brownish yellow, very restrictedly patterned with darker; cell R_3 relatively small, R_{1-2} and R_3 on costa separated by a distance nearly equal to the length of the latter; veins R_3 and *1st A* without trichia; abdomen brownish black, posterior borders of tergites narrowly pale.

Female. Length, about 6.5 mm.; wing, 6 mm. Rostrum and palpi black. Antennae with scape and pedicel black; flagellum chiefly black, proximal segments slightly paler; basal segments long-oval, outer ones smaller. Head dark gray.

Pronotum brownish gray. Mesonotal praescutum gray, interspaces narrowly brownish black, including a central vitta on anterior half, posterior sclerites of notum brownish gray, pleurotergite and pleura yellow. Halteres dusky, base of stem restrictedly paler. Legs with fore coxae dark brown, remaining coxae and all trochanters yellow; femora yellow, tips narrowly but conspicuously black, the amount subequal on all legs; tibiae obscure yellow, tips very narrowly blackened; tarsi with basitarsi obscure yellow, passing into black. Wings (Fig. 38) brownish yellow, prearcular and costal fields clearer yellow; stigma pale brown; a vague darkening in outer end of cell R_4 ; veins pale brown, the cord, including *m-cu*, darker brown to brownish black. Veins beyond general level of origin of *Rs* with trichia, lacking of R_3 and *1st A*, a few at outer end of *2nd A*. Venation: *Sc* moderately long, Sc_1 ending about opposite one-seventh the length of *Rs*, *Sc* far removed; cell R_3 relatively small, vein R_3 nearly as long as the distance on costa between it and tip of R_{1-2} ; cell *2nd M*₂ about one-half longer than its petiole.

Abdomen brownish black, posterior borders of tergites narrowly pale.

Habitat: New Guinea.

Holotype, ♀, Goroka, Northeast New Guinea, 1550 meters, June 25, 1955 (J. Linsley Gressitt); Bishop Museum. Paratopotype, ♀.

Gonomyia (Idiocera) gorokana is quite distinct from the other presently known members of the subgenus, *G. (I.) impavida* Alexander and *G. (I.) punctipennis* Edwards, differing especially in the coloration of the body, legs and wings, and in the venation and trichiation of the veins. In both of these latter species cell R_1 of the wings is closed by the touching of veins R_{1-2} and R_3 at margin.

39. *Gonomyia (Idiocera) impavida* Alexander

Gonomyia (Idiocera) impavida Alexander; Ann. Mag. Nat. Hist., (11) 14: 552-553; 1947.

Type from Hollandia, Netherlands New Guinea, April 24, 1945 (Harry Hoogstraal). Male hypopygium (Fig. 44).

40. *Gonomyia (Lipophleps) aegina* Alexander

Gonomyia (Lipophleps) aegina Alexander; Ann. Mag. Nat. Hist., (11) 14: 560-561; 1947.

Type from Hollandia, Netherlands New Guinea, January 17, 1945 (Harry Hoogstraal). Male hypopygium (Fig. 45).

41. *Gonomyia (Lipophleps) basicuspsis* Alexander

Gonomyia (Lipophleps) basicuspsis Alexander; Ann. Mag. Nat. Hist., (11) 14: 564-566; 1947.

Type from Hollandia, Netherlands New Guinea, January 18, 1945 (Harry Hoogstraal). Male hypopygium (Fig. 46).

42. *Gonomyia (Lipophleps) biserpentigera* Alexander

Gonomyia (Lipophleps) biserpentigera Alexander; Ann. Mag. Nat. Hist., (11) 14: 563-564; 1947.

Type from Hollandia, Netherlands New Guinea, January 18, 1945 (Harry Hoogstraal). Male hypopygium (Fig. 47).

43. *Gonomyia (Lipophleps) bougainvilleae* Alexander

Gonomyia (Lipophleps) bougainvilleae Alexander; Ann. Mag. Nat. Hist., (12) 3: 946-947; 1950.

Type from Bougainville Island, Solomon Islands, December 31, 1944 (Robert Staples). Male hypopygium (Fig. 48).

44. *Gonomyia (Lipophleps) citribasis* Alexander

Gonomyia (Lipophleps) citribasis Alexander; Ann. Mag. Nat. Hist., (11) 14: 558-560; 1947.

Type from Inonda, Papua (Collector unknown). Male hypopygium (Fig. 49).

45. *Gonomyia (Lipophleps) dipterophora* Alexander

Gonomyia (Lipophleps) dipterophora Alexander; Ann. Mag. Nat. Hist., (11) 14: 569-570; 1947.

Holotype, ♂, Mafulu, Papua, 4000 feet, December 1933 (Cheesman). Male hypopygium (Fig. 50).

46. *Gonomyia (Lipophleps) ischyria* Alexander

Gonomyia (Lipophleps) ischyria Alexander; Ann. Mag. Nat. Hist., (11) 14: 557-558; 1947.

Type from Araibo, Papua (Collector unknown). Male hypopygium (Fig. 51).

47. *Gonomyia (Lipophleps) ocypete* Alexander

Gonomyia (Lipophleps) ocypete Alexander; Ann. Mag. Nat. Hist., (11) 14: 570-572; 1947.

Type from Hollandia, Netherlands New Guinea, October 24, 1944 (Harry Hoogstraal). Male hypopygium (Fig. 52).

48. *Gonomyia (Lipophleps) ophion ophion* Alexander

Gonomyia (Lipophleps) ophion ophion Alexander; Ann. Mag. Nat. Hist., (11) 14: 566-567; 1947.

Type from Cyclops Mountains, Netherlands New Guinea, March 1945 (Jean Laffoon). Male hypopygium (Fig. 53).

48A. *Gonomyia (Lipophleps) ophion brachyglossa* Alexander

Gonomyia (Lipophleps) ophion brachyglossa Alexander; Ann. Mag. Nat. Hist., (11) 14: 567; 1947.

Type from Kokoda, Papua, 1200 feet, August-September 1933 (Cheesman). Male hypopygium (Fig. 54).

49. *Gonomyia (Lipophleps) recurvispina* Alexander

Gonomyia (Lipophleps) recurvispina Alexander; Ann. Mag. Nat. Hist., (11) 14: 561-563; 1947.

Type from Hollandia, Netherlands New Guinea, April 17, 1945 (Harry Hoogstraal). Male hypopygium (Fig. 55).

50. *Gonomyia (Lipophleps) tenuipollex* Alexander

Gonomyia (Lipophleps) tenuipollex Alexander; Ann. Mag. Nat. Hist., (11) 14: 555-557; 1947.

Type from Sairopi, Papua (Collector unknown). Male hypopygium (Fig. 56).

51. *Trentepohlia (Trentepohlia) abronia* sp. n.

General coloration of thorax fulvous yellow, abdomen orange, terminal two segments in male black; antennae black throughout; halteres and legs yellow, in cases outer ends of femora weakly darkened; wings whitish subhyaline, prearcular and costal fields light yellow, cord, R_3 , outer medial fork, Cu and axilla narrowly seamed with brown, wing apex paler brown.

Male. Length, about 5.5-6 mm.; wing, 5.5-6 mm.

Female. Length, about 6-6.5 mm.; wing, 5.8-6 mm. Rostrum and palpi brownish black. Antennae black throughout; flagellar segments elongate. Head dark gray; vertex strongly carinate.

Cervical sclerites brown. Thorax fulvous yellow, unpatterned except for a vague central darkening at anterior end of praescutum; praescutal and scutal setae small, pale, on anterior parts; pronotal bristles elongate. Halteres yellow. Legs with coxae polished yellow; remainder of legs yellow, outer ends of femora in cases slightly more darkened; terminal tarsal segments dark brown. Wings (Fig. 57) whitish subhyaline, prearcular and costal fields light yellow; a restricted brown pattern that includes narrow seams over cord, R_3 and outer medial fork; vein Cu and axilla darkened; wing apex in cells R_3 to R_5 narrowly paler brown, cell R_3 chiefly pale; veins yellow, darker in the patterned areas, clear yellow in the brightened fields. Veins chiefly glabrous; distal section of R_5 with about eight to ten scattered trichia, on element $Sc_2 - R_1$ very sparse. Venation: R_s very gently arcuated, shorter than basal section of R_5 ; R_{2-3-4} and R_{3-4} subequal; apical fusion of veins Cu_1 and $1st A$ short.

Abdomen light orange, in male terminal two segments black, hypopygium more intensely so. Ovipositor with cerci slender, moderately upcurved to the acute tips.

Habitat: New Guinea.

Holotype, ♂, Itouda, Netherlands New Guinea, altitude 1500 meters, August 14, 1955 (J. Linsley Gressitt); Bishop Museum.

Paratopotypes, 8 ♂ ♀, August 12-14, 1955. Paratype, ♂, Obano, Netherlands New Guinea, August 9, 1955.

The most similar species is *Trentepohlia* (*Trentepohlia*) *doddi* Alexander, of Melville Island, North Australia. This differs in coloration of the wings and in slight details of venation, including the straighter *R*_s, longer *R*₂₋₃₋₄ and shorter *R*₄, which is only about twice the length of vein *R*₃.

52. *Trentepohlia* (*Trentepohlia*) *angustilinea* sp. n.

Mesonotal praescutum light yellow with a very narrow brownish black line, scutal lobes yellow, posterior sclerites of notum and dorsal two-thirds of pleura dark brown, ventral sternopleurite abruptly yellow; wings pale yellow, prearcular and costal fields more saturated yellow; a conspicuous pale brown pattern that includes a solid band at cord with separate areas at *R*₂ and medial fork, the wing tip and a broad seam over vein *Cu*₁.

F e m a l e. — Length, about 5.8-6 mm.; wing, 5.8-6.2 mm.

Rostrum testaceous yellow, palpi black. Antennae with scape dark brown, succeeding segments yellow, outer flagellar segments passing into light brown; flagellar segments relatively long with short verticils. Head black, sparsely gray pruinose, vertex carinate.

Cervical sclerites and pronotum uniformly brownish black. Mesonotal praescutum light yellow, with a very narrow brownish black line on anterior half, most distinct in front, narrowed to a point behind, becoming nearly obsolete at near two-thirds the length, lateral praescutal borders less evidently darkened; scutal lobes yellow, central area dusky; scutellum and postnotum dark brown, margins restrictedly yellowed. Pleura with dorsal two-thirds dark brown, ventral sternopleurite abruptly yellow. Halteres with stem whitened, knob light yellow. Legs with coxae and trochanters yellow; remainder of legs broken. Wings pale yellow, prearcular and costal fields more saturated yellow; a conspicuous brown pattern that includes a solid band at cord, a broken area at near three-fourths the wings length, including broad seams over vein *R*₃ and outer medial fork; wing apex narrowly darkened, involving cells *R*₃ to *R*₅; a conspicuous darkened seam along vein *Cu* extending from base of cell *2nd A* to the cord. Veins unusually glabrous, outer section of *R*₅ with about seven or eight trichia. Venation: *Sc* short, *Sc*₁ ending beyond fork of *R*_s, *Sc*₂ near its tip; *R*_s nearly straight, short, about one-half the basal section of vein *R*₅.

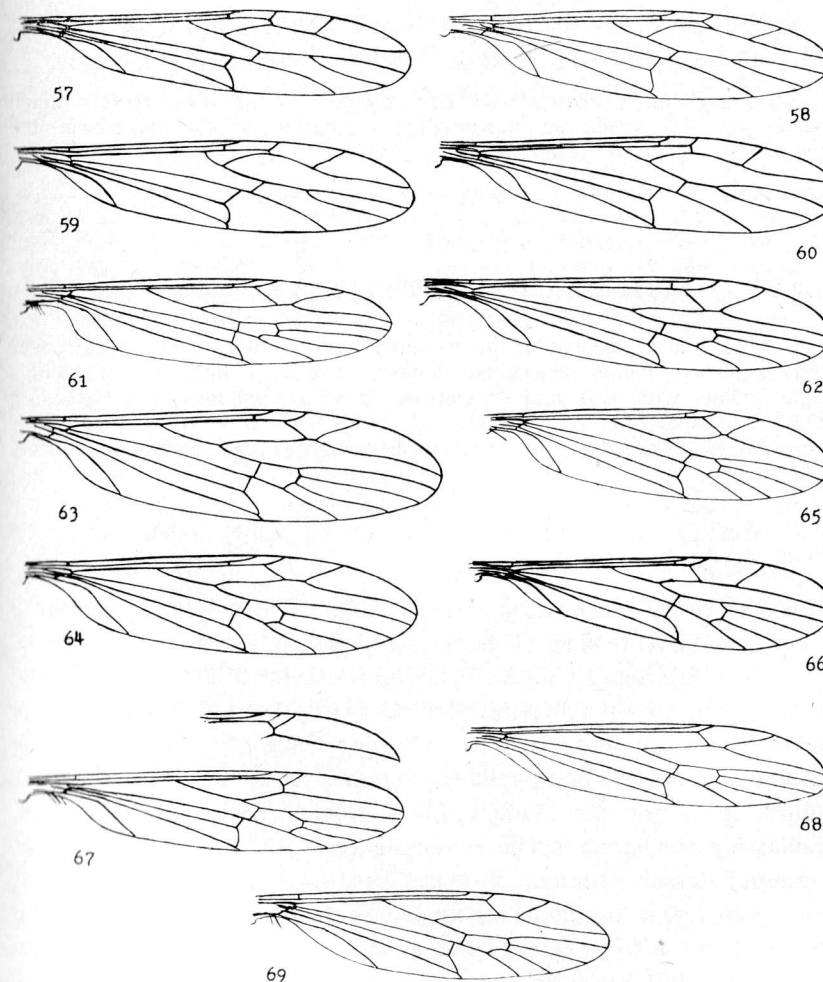


Fig. 57. *Trentepohlia* (*Trentepohlia*) *abronia* sp. n.; venation. — Fig. 58. *Trentepohlia* (*Trentepohlia*) *bougainvillensis* sp. n.; venation. — Fig. 59. *Trentepohlia* (*Trentepohlia*) *lepida* sp. n.; venation. — Fig. 60. *Trentepohlia* (*Trentepohlia*) *limata* sp. n.; venation. — Fig. 61. *Trentepohlia* (*Mongoma*) *acanthophora* sp. n.; venation. — Fig. 62. *Trentepohlia* (*Mongoma*) *fimbricosta* sp. n.; venation. — Fig. 63. *Trentepohlia* (*Mongoma*) *longisetosa* Alexander; venation. — Fig. 64. *Trentepohlia* (*Mongoma*) *parvella* sp. n.; venation. — Fig. 65. *Trentepohlia* (*Mongoma*) *parvicellula* sp. n.; venation. — Fig. 66. *Trentepohlia* (*Mongoma*) *parvistigma* sp. n.; venation. — Fig. 67. *Trentepohlia* (*Mongoma*) *pererecta* sp. n.; venation. — Fig. 68. *Trentepohlia* (*Mongoma*) *pumila* sp. n.; venation. — Fig. 69. *Trentepohlia* (*Mongoma*) *vitrina* sp. n.; venation.

Abdomen dark brown; ovipositor yellowish horn color.

Holotype, ♀, Nondugl, Northeast New Guinea, July 8, 1955 (J. Linsley Gressitt); Bishop Museum. Paratopotype, ♀.

Trentepohlia (*Trentepohlia*) *angustilinea* has the wing pattern much as in *T. (T.) lepida* sp. n., but the coloration of the thorax in the two flies is entirely different.

53. *Trentepohlia* (*Trentepohlia*) *bougainvillensis* sp. n.

Head black; mesonotal praescutum light brown, posterior sclerites darker brown, pleura blackened; halteres and legs light yellow; wings light yellow with two major complete brown crossbands, one including the broad apex, the other chiefly at and basad of cord, extended over vein *Cu* as a broad seam; veins in the outer ground crossband entirely light yellow.

Male. Length, about 5.2-5.5 mm.; wing, 5-5.5 mm.

Female. Length, about 6-6.5 mm.; wing, 5-6.5 mm. Rostrum short, black; labial palpi elongate, horn yellow; maxillary palpi black. Antennae black. Head polished black.

Cervical region black. Pronotum brownish black. Mesonotal praescutum almost uniformly light brown, posterior sclerites darker brown. Pleura and sternum chiefly blackened, very sparsely pruinose. Halteres light yellow. Legs with fore and middle coxae black, posterior pair yellow; fore trochanters brownish black, remaining trochanters yellow; remainder of legs clear light yellow, terminal tarsal segment brown. Wings (Fig. 58) light yellow with two major complete brown bands that cross the wings, paler on posterior halves; basal band at and near cord, extending from costa to apex of veins *Cu*₁ — *1st A*, solidly darkened in cell *R*₁, posteriorly behind the radial field forming darkened seams on cord and over veins *M* and *Cu* extended basal almost to arculus; outer band including the broad wing apex, its inner edge straight, at level of inner ends of cells *R*₃ and *R*₅, the intervening parts of wing clear light yellow, the band separating the two darkened areas clear yellow, including the veins; veins in darkened areas brown, elsewhere yellow. Very sparse trichia on distal section of vein *R*₅. Venation: *Rs* and basal section of vein *R*₅ subequal; *R*₅ plus *M*₁₋₂ longer than basal section of *R*₅.

Abdomen dark brown, more blackened laterally; valves of ovipositor horn yellow.

Habitat: Solomon Islands.

Holotype, ♀, Empress Augusta Bay, Bougainville Islands, along Koromokina River, September 19, 1944 (Robert Staples) — clinging to washed out roots of banyan tree. Allotype, ♀, Gizo, Gizo, altitude 0-50 meters, November 10, 1970 (Noel Krauss). Paratypes, 11 ♂ ♀, with the allotype.

The most similar species is *Trentepohlia* (*Trentepohlia*) *pictipennis* Bezzi, of the Philippines. This differs in details of coloration of the body and wings, including very evidently the entirely darkened vein *R*₅ which in the present fly in the outer ground crossband is light yellow. In the Oriental region there are several other members of the subgenus having the wings attractively patterned, all differing from the present fly.

54. *Trentepohlia* (*Trentepohlia*) *fusco-media* sp. n.

General coloration of thorax liver brown; head dark gray; halteres and legs yellow; wings conspicuously patterned with pale brown and yellow, the former including a broad longitudinal areal in central third.

Male. Length, about 5 mm.; wing, 4.6 mm. Rostrum and palpi dark brown. Antennae with scape and pedicel brown, flagellum paler brown; flagellar segments long, subequal to their longest verticils, terminal segment elongate. Head dark gray, vestiture of vertex light yellow.

Thorax almost uniformly liver brown; vestiture sparse, pale yellow. Halteres pale yellow. Legs with coxae brownish yellow, fore pair darker; trochanters yellow; remainder of legs yellow, femoral tips narrowly and vaguely darkened, outer tarsal segments infuscated. Wings distinctively patterned; pale yellow with an extensive brown longitudinal seam in medial field extending from base to apex of wing, including more than one-third the width, with an extension to costa over the anterior cord and a further one almost to margin at vein *R*₃; a posterior seam along vein *Cu* to margin; the pale yellow ground areas on costal third include the broad base, with two smaller brightenings before and beyond *R*₃; posterior third of wing less conspicuously variegated by pale; veins very light brown, more yellowed in costal field. Sparse macrotrichia on distal section of vein *R*₅. Venation: *Rs* straight, about four-fifths the basal section of *R*₅; vein *R*₃ oblique, about one-third *R*₄; *R*₂₋₃₋₄ slightly longer than *R*₃₋₄; *m-cu* close to fork of *M*; apical fusion of *Cu*₁ and *1st A* short.

Abdomen uniformly dark brown, hypopygium slightly darker.

Habitat: New Guinea.

Holotype, ♂, Obano, Wisselmeren area, Netherlands New Guinea, August 9, 1955 (J. Linsley Gressitt); Bishop Museum.

The distinctive wing pattern of the present fly readily separates it from other regional members of the typical subgenus. The liver brown coloration of the thorax is much as in the otherwise quite distinct *Trentepohlia* (*Trentepohlia*) *pictipennis* Bezzi, of Mindanao, eastward to New Guinea and satellite islands.

55. *Trentepohlia* (*Trentepohlia*) *lepida* sp. n.

General coloration of thorax dark brown, abdomen darker; halteres yellow; legs white; wings pale yellow, extensively patterned with yellow, including transverse bands at cord, at near three-fourth the wings length, and at wing tip, with a further seam along vein *Cu*; *Rs* short, slightly arcuated.

F e m a l e. Length, about 5-5.3 mm.; wing, 4.8-5.2 mm. Rostrum and palpi black. Antennae with scape dark brown, pedicel and proximal flagellar segments paler, more testaceous yellow, outer flagellar segments darkened; flagellar segments long-oval, exceeding their verticils. Head dark brown; anterior vertex narrow, posterior vertex carinate.

Pronotum and cervical region dark brown. Mesonotum almost uniformly dark brown, humeral region of praescutum slightly paler; sparse setae on praescutum, longer on pronotum and posterior border of the triangular pteropleurite. Halteres with stem whitened, knob pale yellow. Legs with coxae light yellow or slightly darkened, especially the anterior pair; trochanters light yellow; remainder of legs white. Wings (Fig. 59) with the ground pale yellow, more saturated along costal border; a conspicuous darkened pattern that includes transverse bands at cord, a broken area at near three-fourths the wing length, more intense over the radial fork, and the narrow wing apex, the latter two areas narrowly interconnected in cell *R*₃; a further longitudinal darkened streak chiefly along vein *Cu*, in cell *M* extending from bases of Anal cells outwardly, joining the band at cord; darkening in cell *R*₁ almost filling basal two-thirds of the cell; veins yellow, darker yellow in the more saturated fields, infuscated in the darkened areas. Veins with very sparse trichia, including about eight to ten on outer section of vein *R*₅. Venation: *Sc*₂ subobsolete or faintly indicated, a short distance from tip of *Sc*₁; *Rs* short, slightly arcuated; *R*₁₋₂ and *R*₂ very faint; apical fusion of veins *Cu*₁ and *1st A* short.

Abdominal tergites black, sternites slightly paler, genital segments brown. Ovipositor with cerci horn-yellow, broad-based, outer half very slender, upcurved to the acute tip.

Habitat: New Guinea.

Holotype, ♀, Nondugl, Northeast New Guinea, July 8, 1955 (J. Linsley Gressitt); Bishop Museum. Paratopotypes, 3 ♀♀. Paratype, 1 ♀, Korip, July 12, 1955.

This attractive fly is generally similar to species such as *Trentepohlia* (*Trentepohlia*) *pictipennis* Bezzi, differing in the coloration of the antennae and thoracic dorsum and in the pattern and venation of the wings.

56. *Trentepohlia* (*Trentepohlia*) *limata* sp. n.

General coloration of thorax fulvous yellow, unpatterned; head light gray; halteres and legs yellow; wings whitish yellow, costal border clearer yellow, virtually without pattern; abdomen brownish yellow, tergites with a narrow darker central line.

F e m a l e. Length, about 5.8-6 mm.; wing, 5.6-6.2 mm. Rostrum pale yellow, palpi testaceous yellow, apex of terminal segment darker. Antennae yellow basally, outer flagellar segments pale brown. Head light gray.

Cervical region, prothorax and mesonotum fulvous yellow, unpatterned, pleura slightly clearer yellow. Halteres pale yellow. Legs pale yellow, outer tarsal segments weakly darkened. Wings (Fig. 60) pale whitish yellow, costal border very light yellow; very narrow to scarcely apparent darkened seams over cord, *Cu* and *R*₃, best indicated by the slightly darker veins which elsewhere are pale yellow. A few scattered trichia over the whole length of distal section of vein *R*₅. Venation: *Rs* oblique, nearly straight, relatively long, about two-thirds the basal section of vein *R*₅; apical fusion of *Cu*₁ and *1st A* in cases relatively long, to about one-fourth the length of *m-cu*.

Abdominal tergites brownish yellow with a narrow darker brown central line, in cases poorly indicated; sternites clearer yellow; subterminal segments slightly darker, especially in male; in female genital shield yellow; cerci less strongly upcurved than in various allied species.

Habitat: New Guinea.

Holotype, ♀, Itouda, Wisselmeren area, Netherlands New Guinea, 1,500 meters, August 14, 1955 (J. Linsley Gressitt); Bishop Museum. Allotopotype, ♂, with type. Paratopotypes, several, mostly females. Paratypes, ♀♀, Obano, Wisselmeren area, August

9, 1955; Okaitadi, 1,760 meters, August 5, 1955 (Gressitt); 1 ♀, Balam River, Netherlands New Guinea, Archbold Expedition III, Station 9, 1,600 meters, December 18, 1938 (Toxopeus).

The present fly is most readily distinguished from other regional members of the subgenus by the clear yellow thorax and virtually unpatterned wings.

57. *Trentepohlia* (*Trentepohlia*) *luteicosta* sp. n.

Thorax fulvous; rostrum yellow; antennae with scape brownish yellow, remainder black, flagellar segments elongate; halteres and legs yellow; wings whitish subhyaline, costal border light yellow, including the veins; a restricted brown pattern that does not attain the costal margin, cell R_3 chiefly pale; vein R_s straight, subequal to basal section of R_5 ; cell R_5 from about two and one-half to nearly three times its petiole.

Female. Length, about 6 mm.; wing, 6 mm. Rostrum and mouthparts light yellow; palpi brownish black. Antennae with scape brownish yellow, tip narrowly darkened, remainder of organ black; flagellar segments elongate, exceeding the verticils. Head gray; vertex carinate.

Cervical region and pronotum weakly darkened. Mesonotum light fulvous, unpatterned, posterior sclerites darker. Pleura brownish fulvous. Halteres yellow. Legs with coxae and trochanters yellow; remainder of legs yellow, outer tarsal segments infuscated. Wings whitish subhyaline, costal border light yellow, including the veins, involving basal half of R_s , outer two-thirds of R_{2-3-4} and all of R_{3-4} ; all posterior veins brown; a restricted but conspicuous brown pattern that includes narrow seams over cord, Cu_1 and especially vein R_4 , this restricting the pale central area of cell R_3 to the outer two-thirds of cell; paler brown washes in outer parts of cells R_4 and M_2 and virtually all of R_5 . Distal section of vein R_5 with about six scattered trichia. Venation: R_s straight, subequal to basal section of R_5 ; cell R_5 from about two and one-half to nearly three times its petiole; vein *2nd A* arched.

Abdomen brown, posterior borders of tergites slightly darker, subterminal segments glackened. Ovipositor with cerci slender, especially on outer halves, upcurved to the acute tips.

Habitat: New Guinea.

Holotype, ♀, Goroka, Northeast New Guinea, June 25, 1955 (J. Linsley Gressitt). Paratopotype, ♀.

The present fly is most nearly allied to *Trentepohlia* (*Trentepohlia*) *abronia* sp. n. and *T. (T.) doddi* Alexander, differing therefrom chiefly in details of coloration of the wings.

58. *Trentepohlia* (*Mongoma*) *acanthophora* sp. n.

Size large (wing of male to 9 mm.); general coloration of thorax brown; head brownish black; pleura with a compact tuft of blackened setae on ventral pteropleurite; legs brown, femora with spinoid setae at base, posterior tibiae with two long subterminal spinoid setae; wings weakly darkened, costal border narrowly more infuscated, continued outwardly to apex, two elongate setae on prearcular section of vein *2nd A*; cells R_2 and R_3 at margin subequal in extent, vein R_2 before outer radial fork, leaving a short element R_{3-4} .

Male. Length, about 7-8 mm.; wing, 8-9 mm. Rostrum black, labial palpi light brown, paler outwardly, maxillary palpi brownish black. Antennae black, relatively long, if bent backward extending about to wing root. Head brownish black; posterior vertex with strong black setae.

Pronotal scutum pale brown, more yellowed laterally, with erect black setae; pretergites yellow. Mesonotal praescutum light brown, with three darker brown stripes, the intermediate pair paler behind, ending some distance before suture, humeral region restrictedly yellowed; scutal lobes brown, median area and outer posterior angles of lobes yellowed; posterior sclerites of notum darker brown medially, more yellowed on sides. Pleura chiefly brown, dorsal sternopleurite more yellowed; ventral pteropleurite with a compact tuft of about a dozen black setae. Halteres brown, base of stem yellow. Legs with coxae and trochanters yellow; remainder of legs medium brown, outer tarsal segments paling to yellow; fore femora at base with from six to ten spinoid setae, with about the same number of smaller ones; middle femora similar but the larger spines, from about 10 to 12 in number; hind femora with the spines smaller; posterior tibiae with two long subterminal setae, with an additional smaller bristle. Wings (Fig. 61) weakly darkened, costal border narrowly more infuscated, continued to the apex; stigma darker brown, appearing as a very narrow seam to vein R ; veins brown. Prearcular section of vein *2nd A* with two elongate black setae. Venation: R_2 before outer radial fork, leaving a short vein R_{3-4} ; vein R_3 long, oblique; cells R_2 and R_3 at margin subequal in extent; basal section of M_3 arcuated, about one-half longer than *m-cu*; apical fusion of Cu_1 and *1st A* about two-thirds *m-cu*.

Proximal abdominal tergites light brown, darker laterally, remaining tergites dark brown; sternites yellowed, posterior borders of subterminal segments narrowly more darkened.

Habitat: Solomon Islands.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, along Koromokina River, altitude 50 feet, September 28, 1944 (Robert Staples) — Along sides of dugout in jungle — Staples. Paratopotypes, 2 ♂♂, mounted with type; one ♂, September 13, 1944. Paratypes, ♂♂, Hill 700, altitude 650 feet, December 6 and 31, 1944 — In thick jungle, under logs and banks along cascading clear rivulet — Staples.

There are several other Australasian species that are generally similar to the present fly, all differing among themselves in size, details of venation and in the armature of the legs, such species including *Trentepohlia (Mongoma) brunnea* Edwards, *T. (M.) guamensis* (Alexander), *T. (M.) ibelensis* Alexander, *T. (M.) macrotrichiata* Alexander, and *T. (M.) spinaspersa* Alexander. It should be noted that *macrotrichiata* and some other species have from one to three modified setae at the proximal end of the basitarsus of the hind leg instead of on the tibia as in the present fly.

59. *Trentepohlia (Mongoma) fimbricosta* sp. n.

General coloration of thorax liver brown, pleura more yellowish brown; antennae black throughout; femora dark brown, posterior pair with four short black spinoid setae, remainder of legs brown, outer tarsal segments paling to yellow; wings weakly suffused, costal region and stigma darker brown; costal fringe of male long; vein R_2 about twice R_{3-4} ; cell *1st M*₂ longer than vein M_4 ; abdominal tergites and hypopygium dark brown, sternites obscure yellow.

Male. Length, about 7 mm.; wing, 6.3 mm. Rostrum dark brown, labial palpi brownish yellow, maxillary palpi black. Antennae black throughout; flagellar segments elongate-oval, longer outwardly; segments with a short dense white pubescence, verticils short. Head blackened; posterior vertex carinate.

Cervical region and pronotum brownish black, anterior pretergites obscure yellow. Mesonotum liver brown, scutellum and central region of scutum more testaceous; cephalic part of praescutum with a few relatively long erect to slightly retrorse black setae. Pleura and pleurotergite yellowish brown. Halteres dark brown, base of stem restrictedly brightened. Legs with coxae yellow, fore pair slightly darker, trochanters yellow; femora dark brown, basal fourth paler; tibiae and basitarsi medium brown, outer tarsal segments paling to yellow; posterior femora with

four short black spinoid setae; basitarsi at proximal end with three modified setae, the largest black, the others yellow. Wings (Fig. 62) weakly suffused, cells *C* and *Sc* darker brown; stigma narrow, medium brown; veins brown. Costal fringe (male) long; outer section of vein R_5 with scattered trichia. Venation: R_2 about twice R_{3-4} ; vein R_3 oblique; cell *1st M*₂ longer than vein M_4 ; basal section of M_3 arcuated; *m-cu* shortly before fork of M ; apical fusion of Cu_1 and *1st A* relatively long, about one-half *m-cu*.

Abdominal tergites, including hypopygium, dark brown, sternites obscure yellow.

Habitat: New Guinea.

Holotype, ♂, Korip, Northeast New Guinea, July 12, 1955 (J. Linsley Gressitt); Bishop Museum.

The most similar regional species include *Trentepohlia (Mongoma) costofimbriata* Alexander and *T. (M.) longisetosa* Alexander, which have the costal fringe of wing of male even longer and with cell *1st M*₂ short. Both of these species have the spinoid setae of the femora more numerous, eight or more, in *costofemorata* more elongate than in the present fly.

60. *Trentepohlia (Mongoma) longisetosa* Alexander

Trentepohlia (Mongoma) longisetosa Alexander; Proc. Linnæan Soc. New South Wales, 61: 126-127, fig. 6 (venation); 1936.

The types were from Maini and Kone, Papua, taken by K. J. Clinton.

A further specimen from Daulo Pass, Northeast New Guinea, 2400 meters, collected by Gressitt. Venation (Fig. 63).

61. *Trentepohlia (Mongoma) parvella* sp. n.

Size small (wing to 5 mm.); general coloration of thorax liver brown; legs brown, tarsi and tips of tibiae whitened; posterior femora of male with about five spinoid setae; wings slightly dusky, apex more infuscated; R_2 about one and one-half to two times R_{3-4} , cell *1st M*₂ short.

Male. Length, about 4.5-5 mm.; wing, 4-5 mm.

Female. Length, about 5.5-6 mm.; wing, 4.8-5 mm. Rostrum brown to brownish black; palpi black. Antennae black; flagellar segments elongate-oval, the outer ones longer; verticils shorter than the segments. Head black; posterior vertex carinate.

Cervical region brownish black. Prothorax and mesothorax almost uniformly light brown to liver brown; pronotum with long

erect setae, mesonotum with setae shorter, sparse but conspicuous. Halteres dusky, knob a little darker. Legs with coxae and trochanters liver brown; femora dark brown; tibiae brown, the tips and tarsi paler, more whitened; posterior femora at base with about spinoid setae; in female posterior basitarsus with a strong black seta at base. Wings (Fig. 64) with a weak dusky tinge, stigma and costal region slightly darker, wing apex weakly more infuscated; veins light brown. Costal fringe relatively short; distal section of vein R_5 with scattered macrotrichia throughout the length. Venation: R_2 about one and one-half to two times R_{3-4} ; cell $1st M_2$ short, not exceeding vein M_4 ; apical fusion of veins Cu_1 and $1st A$ about one-fourth $m-cu$.

Abdomen dark brown, basal sternites more brownish yellow. Ovipositor with cerci slender, gently upcurved.

Habitat: New Guinea.

Holotype, ♂, Korip, Northeast New Guinea, July 12, 1955 (J. Linsley Gressitt); Bishop Museum. Allotopotype, ♀, Tsenga, July 14, 1955. Paratopotypes, 2 broken ♂♂, paratypes, 2 ♂♀, Busu, September 15, 1955.

The species is most similar to *Trentepohlia (Mongoma) brevipes* Alexander, which differs in details of coloration, especially of the wings, as the conspicuously yellowed costal border, including the veins, the more numerous trichia on vein R_5 , and commonly with few to several trichia on R_{3-4} and adjoining veins.

62. *Trentepohlia (Mongoma) parvicellula* sp. n.

Size small (wing to about 4.5 mm.); general coloration of body, legs and halteres light yellow; antennal flagellum pale brown; wings with vein R_2 shortly before the outer radial fork; cell $1st M_2$ small, the inner ends of cells R_5 and M_3 virtually in alignment.

Male. Length, about 5-5.5 mm.; wing, 4-5 mm. Rostrum light yellow, palpi slightly darker. Antennae with scape and pedicel yellow, flagellum pale brown; flagellar segments long-oval, slightly exceeding their verticils. Head light brown, anterior vertex very narrow.

Thorax, together with the halteres and legs uniformly light yellow. Legs with abundant short black setae, none modified. Wings (Fig. 65) yellow, veins pale brown, those in prearcular and costal fields more yellowed. Venation: Vein R_2 shortly before outer radial fork, leaving a short element R_{3-4} ; cell $1st M_2$ small, rectangular, inner ends of cells R_5 and M_3 slightly retracted, nearly in alignment;

the paratype specimen has cell $1st M_2$ shorter than in holotype, with veins M_{1-2} and the combined element $R_{4-5} + M_{1-2}$ (cephalic border of cell $1st M_2$) subequal in length, the latter vein longer in the holotype, as shown, slightly more than twice vein M_{1-2} .

Abdomen uniformly light yellow.

Habitat: Fiji.

Holotype, ♂, Lami, Viti Levu, 100-350 meters, March 1, 1971 (Noel Krauss). Paratype, a broken ♂, Tholo-i-cuva, Viti Levu, July 27, 1938 (Elwood Zimmerman).

Other regional uniformly yellow members of the subgenus of small size include *Trentepohlia (Mongoma) poliocephala* Alexander and *T. (M.) vitrina* sp. n., all most readily separated among themselves by the venational characters as described.

63. *Trentepohlia (Mongoma) parvistigma* sp. n.

General coloration of thorax yellow, the mesonotum weakly patterned, head light yellow; wings subhyaline, prearcular and costal fields light yellow, stigma very small, dark brown; vein R_2 shorter than R_{3-4} , $m-cu$ at fork of M .

Male. Length, about 5 mm.; wing, 5.5 mm. Rostrum and palpi light yellow. Antennae with scape yellow, remainder dark brown; flagellar segments subcylindrical to long-oval, exceeding their verticils. Head light yellow, the narrow anterior vertex and posterior orbits light gray; posterior vertex carinate.

Cervical region and pronotum light yellow. Mesonotal praescutum and scutal lobes fulvous, the remainder of notum paler yellow, lined longitudinally with pale brown. Pleura and pleurotergite light yellow; vestiture of praescutum and scutal lobes very short and sparse. Halteres yellow. Legs with coxae and trochanters yellow; remainder of legs broken. Wings (Fig. 66) subhyaline, prearcular and costal fields light yellow; stigma distinct but very small, dark brown; veins pale brown, more brownish yellow in the brightened fields. Distal section of vein R_5 with about ten small scattered trichia. Venation: R_2 shorter than R_{3-4} and subequal to basal section of R_5 ; cell $1st M_2$ subequal to distal section of M_3 ; $m-cu$ at fork of M ; apical fusion of Cu_1 and $1st A$ short; cell $2nd A$ relatively narrow.

Abdominal tergites vaguely bicolored, yellow, the lateral and posterior borders narrowly more infuscated; sternites and hypopygium clearer yellow.

Habitat: New Guinea.

Holotype, ♂, Kabebe, Northeast New Guinea, 2100 meters, June 21, 1955 (J. Linsley Gressitt); Bishop Museum.

The species is most similar to *Trentepohlia (Mongoma) poliocephala* Alexander, widespread in the Oriental and Australasian regions, differing in the coloration of the body, especially the head, and in the pattern and venation of the wings.

64. *Trentepohlia (Mongoma) pererecta* sp. n.

Size medium (wing about 6 mm.); general coloration of thorax fulvous; antennae of male relatively long, about one-third the body or wing; knobs of halteres darkened; legs light brown, outer tarsal segments brownish yellow; wings whitened, apex weakly infuscated; vein R_{2-3} preserved, erect, vein R_3 unusually short, oblique; cell R_2 small, the distance on costa about one-sixth to one-eighth that of cell R_3 .

Male. Length, about 5.8-6 mm.; wing, 5.5-6.3 mm.; antenna, about 2 mm. or more.

Female. Length, about 6.5 mm.; wing, about 6 mm. Rostrum brownish black, labial palpi paler brown, maxillary palpi black. Antennae black, unusually long, as shown by the measurements; flagellar segments subcylindrical, much exceeding the verticils or the shorter pale erect setulae. Head brownish black.

Cervical region brownish black. Mesothorax almost uniformly fulvous, vaguely patterned with yellow on praescutal humeri and pleura. Halteres yellow, clearer at base, knob light brown to brownish black. Legs with coxae fulvous; trochanters light yellow; femora light brown, bases narrowly more yellowed; tibiae light brown, tarsi outwardly paling to brownish yellow. Wings (Fig. 67) whitish, stigma small and narrow, inconspicuous, placed far cephalad; wing apex in cells R_3 , R_4 and R_5 weakly infuscated; veins brown, R_{1-2} relatively faint. Sparse scattered trichia over the whole length of distal section of R_5 . Venation: Vein R_{2-3} preserved, erect, about one-third to one-fourth R_2 ; vein R_3 unusually short, oblique, cell R_2 very small, its length on costa only about one-sixth to one-eighth that of cell R_3 ; *m-cu* shortly before fork of *M*.

Abdominal tergites dark brown, basal sternites brownish yellow, outer segments slightly darker.

Habitat: Solomon Islands.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, along Koromokina River, altitude 45 feet, October 11, 1944

(Robert Staples) — in jungle beneath logs on spider webs — Staples. Allotopotype, ♀, pinned with type. Paratopotypes, 5 ♂ ♀, on three pins, September 28 — October 11, 1944. Paratypes, 2 ♂ ♂, 2 ♀ ♀, Empress Augusta Bay, APO 716, June 6, 1944 (Ashley B. Gurney).

The present fly is readily told from other regional species by the elongate antennae in the male and in the venation of the radial field of the wing, with vein R_{2-3} preserved as a distinct element, cell R_2 being small, its length on costa being only about one-sixth to one-eighth that of cell R_3 . Other somewhat similar regional species include *Trentepohlia (Mongoma) brunnea* Edwards and *T. (M.) guamensis* (Alexander) which have vein R_{3-4} present and cell R_2 at margin nearly as extensive as cell R_4 . *T. (M.) brevicellula* Alexander has cell R_3 more as in the present fly but with vein R_{3-4} present.

65. *Trentepohlia (Mongoma) pumilla* sp. n.

Size small (wing about 5 mm.); general coloration of thoracic notum light brown; legs brown, tarsi light yellow; wings very weakly darkened, vein R_3 oblique, cell R_2 on costa about two-thirds cell R_3 , cell *2nd A* narrow.

Male. Length, about 4.5-4.7 mm.; wing, 5-6 mm.; antenna, about 1.5-1.8 mm. Rostrum unusually reduced, brown, labial palpi medium brown, maxillary palpi darker brown. Antennae relatively long, more than one-fourth the wing, dark brown; flagellar segments long-cylindrical, much exceeding their verticils. Head brownish black; anterior vertex very narrow.

Cervical region and pronotum light brown. Thoracic dorsum almost uniformly light brown, without pattern; pleura yellow. Halteres with stem obscure yellow, knob brown. Legs with coxae and trochanters light yellow; femora and tibiae pale brown; tarsi light yellow, slightly darker basally. Wings (Fig. 68) very weakly darkened, stigma lacking or virtually so; veins brown. Veins behind costa virtually glabrous, with very sparse small trichia on *R* and R_1 and about six on distal section of vein R_5 . Venation: Sc_1 ending opposite junction of veins R_1 and R_2 ; R_{3-4} slightly more than two-thirds R_2 ; R_{1-2} subequal to or somewhat shorter than R_2 ; vein R_3 oblique, about one-half R_4 ; cell R_2 on costa about two-thirds to three-fourths R_4 ; cell *1st M*₂ relatively small; inner end of cell M_3 slightly basad of cell *2nd M*₂; *m-cu* close to fork of *M*; cell *2nd A* narrow.

Abdominal tergites brown, sternites yellow; outer four segments, including hypopygium, blackened.

Habitat: Solomon Islands.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, June 6, 1944 (Ashley B. Gurney). Paratype, ♂, Hill 700, altitude 600 feet, December 28, 1944 (Robert Staples) — along cascading stream in thick jungle — Staples.

In its general appearance the present fly is much like *Trentepohlia* (*Mongoma*) *brevicellula* Alexander, differing especially in the venation of the radial field, including the relative proportions of cells R_2 and R_3 at the margin.

66. *Trentepohlia* (*Mongoma*) *vitrina* sp. n.

Body whitish yellow without pattern; wings vitreous, veins very pale, difficult to see, especially in balsam slide mounts; vein R_{3-4} long, subequal to R_2 ; cell *1st* M_2 long, from about one-half (as figured) to nearly two-thirds vein R_5 beyond it, basal section of M_3 slightly retracted.

Male. Length, about 6 mm.; wing, 5.5 mm.; antenna, about 1.5 mm.

Female. Length, about 6 mm.; wing, 5 mm.; antenna, about 2 mm. General coloration of body very pale whitish yellow, unpatterned, including also the halteres and legs; head more whitened, the black eyes strongly contrasting; anterior vertex narrow, about one-third the antennal scape. Antennae with scape and pedicel whitened, flagellum light brown, segments subcylindrical with short verticils.

Legs with several strong black setae on all femora. Wings (Fig. 69) vitreous, veins very pale and difficult to see, especially in balsam slide mounts. Trichia of veins reduced in number and size, including especially veins R , R_1 and distal section of R_5 . Venation: R_{3-4} long, subequal to R_2 ; vein R_3 oblique, about one-half R_4 ; cell *1st* M_2 long, from about one-half to nearly two-thirds as long as vein R_5 beyond it; basal section of vein M_3 slightly retracted, *m-cu* shortly before fork of M .

Habitat: Samoa.

Holotype, ♂, Vailima, Upolu, March 6, 1971 (Noel Krauss). Allotopotype, ♀, on pin with type. Paratopotype, ♂, on pin with types.

As presently known there are four yellow regional species of the subgenus *Mongoma* Westwood, best distinguished among themselves by the body size and venation. The unusually large *Trentepohlia* (*Mongoma*) *spectralis* (Edwards), of Samoa, is readily told by the size (wings commonly more than 7 mm., in cases to 9 mm.). The most similar of these species is *T. (M.) policephala* Alexander, widespread from the

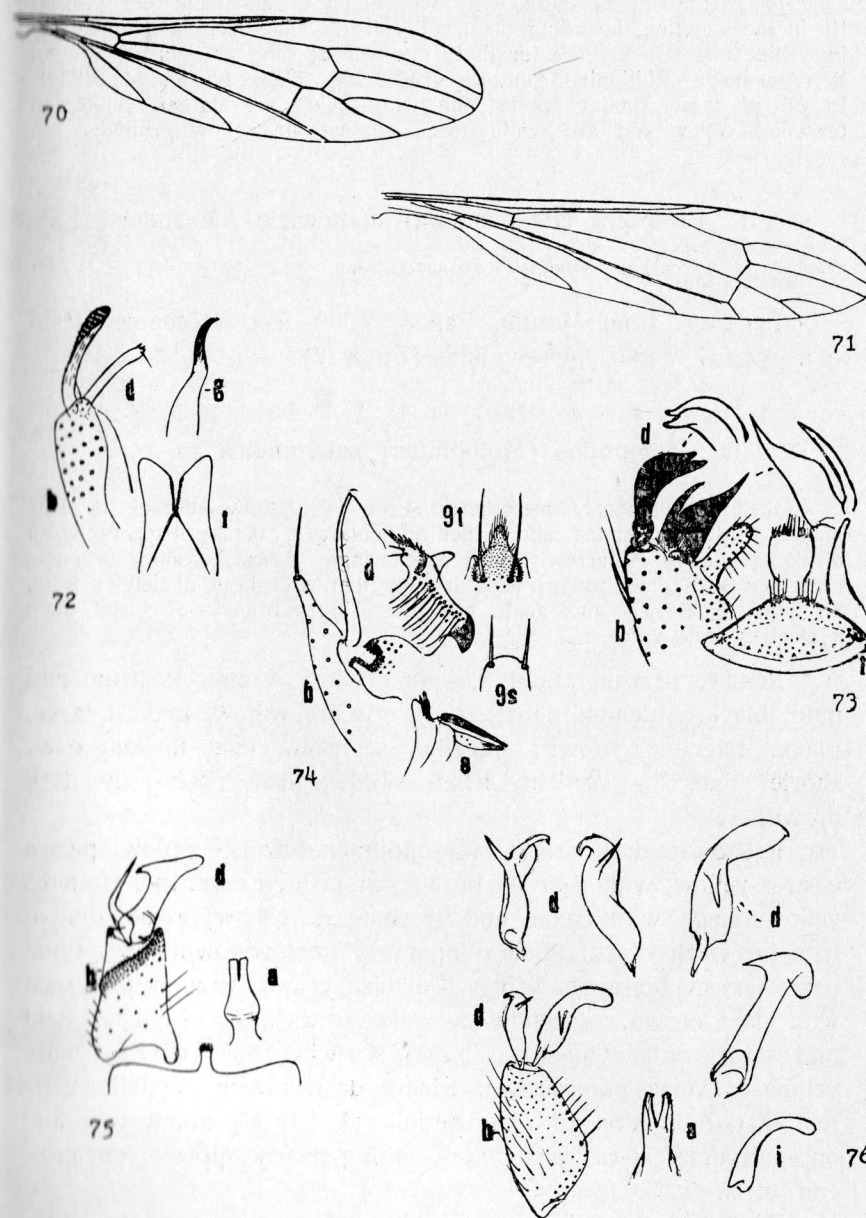


Fig. 70. *Toxorhina* (*Toxorhina*) *basalis* Alexander; venation. — Fig. 71. *Toxorhina* (*Toxorhina*) *staplesi* sp. n.; venation. — Fig. 72. *Erioptera* (*Psiloconopa*) *mafulensis* Alexander; male hypopygium. — Fig. 73. *Molophilus* (*Molophilus*) *subvinnulus* sp. n.; male hypopygium. — Fig. 74. *Styringomyia* *melanopinax* Alexander; male hypopygium. — Fig. 75. *Toxorhina* (*Toxorhina*) *pulvinaria* Alexander; male hypopygium. — Fig. 76. *Toxorhina* (*Toxorhina*) *staplesi* sp. n.; male hypopygium. — Symbols: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; i, interbase; s, 9th sternite; t, 9th tergite.

eastern Oriental to northern Australia, which differs from the present fly in the venation, including the small cell *1st M*₂ which is subquadrate in outline and scarcely one-fourth to one-fifth as long as vein *R*₅ beyond it (Alexander, Philippine Jour. Sci., 40: 266, plate 1, fig. 14: 1929). In all of these similar species the wing veins are darker yellow to brownish yellow and are readily seen against the yellow ground.

67. *Erioptera (Psiloconopa) mafulensis* Alexander

Erioptera (Psiloconopa) mafulensis Alexander; Ann. Mag. Nat. Hist., (11) 14: 572-573; 1947.

Type ♂ from Mafulu, Papua, 4000 feet, December 1933 (Cheesman). Male hypopygium (Fig. 72).

68. *Molophilus (Molophilus) subvinnulus* sp. n.

Allied to *vinnulus*; mesothorax brownish yellow, dorsal thoracic pleura brown; antennae short, pedicel enlarged, black; legs brownish black, genua very narrowly whitened; wings brownish yellow, vaguely patterned with pale brown; male hypopygium with both dististyles bifid, all arms blackened and acute at apices, inner branch of basal style a slender acute spine.

Male. Length, about 3.5 mm.; wing, 4 mm. Rostrum and palpi black. Antennae short; scape obscure yellow, pedicel large, black, flagellum brown; flagellar segments oval to long-oval, shorter than the verticils. Front yellow, head posteriorly dark brown.

Pronotum dark brown. Mesonotum brownish yellow, pleura clearer yellow, with a broad brown dorsal area or stripe. Halteres yellow. Legs with coxae and trochanters yellow; remainder of legs brownish black, femoral tips very narrowly whitened, tibial bases less evidently so. Wings brownish yellow, vaguely patterned with pale brown, especially over the cord, base of costal field and across outer end of cell *2nd A*; wing base slightly more yellowed; veins pale brown, trichia dark brown. Venation: *R*₂ just distad of level of *r-m*; petiole of cell *M*₃ about two and one-half times *m-cu*; vein *2nd A* ending nearly opposite posterior end of *m-cu*.

Abdomen, including hypopygium, dark brown. Male hypopygium (Fig. 73) generally as in *vinnulus*. Ninth tergite, *t*, with posterior border convexly rounded, provided with numerous setae, with a marginal concentration on either side of a small shallow median emargination, cephalic border of plate heavily thickened and sclerotized. Outer dististyle, *d*, bifid, beyond base divided into two flattened blades that have the same general conformation,

as shown; basal style profoundly bifid, its outer arm a slender blackened spine, inner arm a flattened glabrous blade that narrows into a slender acute spine. Phallosomic plate pale, depressed, the apical margin, produced into fimbriations, on central area becoming long and slender, setoid. Aedeagus short, the base stout.

Habitat: New Guinea.

Holotype, ♂, Itouda, Wisselmeren area, Netherlands New Guinea, 1,500 meters, August 14, 1955 (J. Linsley Gressitt); Bishop Museum.

The most nearly related species are *Molophilus (Molophilus) gressittianus* Alexander and *M. (M.) vinnulus* Alexander, both of New Guinea, all most readily told by the distinctive hypopygial characters.

69. *Styringomyia melanopinax* Alexander

Styringomyia melanopinax Alexander; Ann. Mag. Nat. Hist., (11) 14: 575-577; 1947.

Type ♂ from Kokoda, Papua, 1200 feet, August-September 1933 (Cheesman). Male hypopygium (Fig. 74).

70. *Toxorhina (Toxorhina) basalis* Alexander

Toxorhina (Toxorhina) basalis Alexander; Ann. Mag. Nat. Hist., (12) 4: 601-601; 1951.

Type ♂ from the Cyclops Mountains, Netherlands New Guinea, 3500 feet, March 1936 (Cheesman). Venation (Fig. 70).

71. *Toxorhina (Toxorhina) pulvinaria* Alexander

Toxorhina (Toxorhina) pulvinaria Alexander; Ann. Mag. Nat. Hist., (12) 3: 958-959; 1950.

Type ♂, Hollandia, Netherlands New Guinea, April 18, 1945 (Harry Hoogstraal). Male hypopygium (Fig. 75).

72. *Toxorhina (Toxorhina) staplesi* sp. n.

General coloration of thorax light brown, pleura more yellowed ventrally; rostrum slightly longer than the body; male hypopygium with a series of seven powerful black spinoid setae on mesal face of basistyle; apex of interbase obtuse; both dististyles with a strong spine at or beyond midlength.

Male. Length, excluding rostrum, about 5 mm.; wing, 4.2-5 mm.; rostrum, about 5.5-6 mm.

Female. Length, about 6-6.5 mm.; wing, 5-5.2 mm.; rostrum, about 6-6.5 mm.

Rostrum in male slightly longer than body, light to darker brown. Antennae brown. Head clear light gray.

Pronotum and cervical region dark brown. Mesonotal praescutum light brown, margins light gray pruinose, lateral praescutal stripes slightly darker than the ground; centers of scutal lobes darker brown, scutellum yellowish brown to brown; postnotum brown, conspicuously gray pruinose. Pleura chiefly light brown above, clearer yellow below. Halteres with stem light brown, yellowed at base, knob darker brown. Legs with coxae and trochanters yellow; remainder of legs yellowish brown, the darker appearance produced by the abundant bifid setae. Wings (Fig. 71) weakly darkened, veins dark brown. Trichia on R_s and the longitudinal veins beyond cord, lacking on M_{3-4} and M_4 . Venation: Cell M_2 open by atrophy of m ; cell $2nd A$ narrow.

Abdominal tergites slightly bicolored, light brown, posterior borders dark brown; sternites light yellow, posterior margins narrowly brown; subterminal segments more uniformly blackened to form a ring, more extensive on tergites; hypopygium light brown. Male hypopygium (Fig. 76) with basistyle, b , on mesal face with a linear series of seven modified black setae, the outer ones progressively smaller. Interbase, i , a relatively stout pale blade, gently curved to the obtuse apex. Both dististyles, d , armed with a strong spine, the outer style with this at near two-thirds the length, the inner style about twice as large with the spine at or close to midlength. Arms of aedeagus short.

Habitat: Solomon Islands.

Holotype, ♂, Empress Augusta Bay, Bougainville Island, along Koromokina River, September 25, 1944 (Robert Staples) — among washed out roots of banyan, associated with *Trentepohlia* (*Plestomongoma*) *novaebrittanicae* Alexander. Allotopotype, ♀. Paratopotypes, ♂ ♀, September 11-28, 1944. Paratypes, ♂ ♀, Bougainville, July-August 1944 (Ashley B. Gurney).

This interesting fly is dedicated to the collector, Dr. Robert Staples, my former student at the University of Massachusetts, now on the Entomological faculty of the University of Nebraska. I am deeply indebted to him for many new and rare species of these flies that were taken while he was stationed at Bougainville during the war period. Other regional members of the genus that possess modified spinoid setae on the basistyle of the hypopygium include *Toxorhina* (*Toxorhina*) *noeliana* Alexander and *T. (T.) perproducta* Alexander, both of Fiji, differing in other hypopygial characters, especially the dististyles.