

NEW OR LITTLE-KNOWN TIPULIDAE (DIPTERA).
CVI. ORIENTAL-AUSTRALASIAN SPECIES.

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At this time I am beginning the consideration of the very extensive collections of crane-flies that were made by the late Dr. Lambertus Johannes Toxopeus in the Snow Mountains of Netherlands New Guinea in 1938 and 1939. Toxopeus was entomologist and leader of the Netherlands scientific party on the so-called Third Archbold Expedition to New Guinea, led and financed by Mr. Richard Archbold. The exceedingly rich collections of insects made by Toxopeus have provided us with virtually all of our present knowledge of this section of the great island. Detailed accounts of the expedition, its itinerary and the established collecting stations may be found in the accompanying references, in greatest detail in the Archbold Report. A further account of the career and achievements of Toxopeus will be found in the sympathetic account of his life by Diakonoff†.

The seventeen stations defined by Toxopeus are as follows :

1. Hollandia, Humboldt Bay ; altitudes sea-level to 100 metres ; 17th June–28th June, 1938 (dry season), 16th–20th, April, 1939 (end of rainy season).
2. Lake Sentani and Cyclops Mountains ; 50–900 metres ; 23th June –1st July, 1938 ; 17th–20th April, 1939.
3. Near Hollandia and environs of Mount Bewani ; 200–1200 metres.
4. Lake Habbema, near Mount Wilhelmina ; from lake level, 3225–3400 metres ; 29th June–29th July, 1938 (dry season).
5. Letterbox (Birevenbus) Camp, east of Mount Wilhelmina ; 3500–3700 metres ; 30th August–13th September, 1938.
6. Scree Valley Camp (Puindalkamp), at foot of Mount Wilhelmina ; 3400–4250 metres, mostly at 3800 ; 13th–29th September, 1938.
7. Moss Forest Camp (Mosboschkamp), near Lake Habbema ; 2600–3000 metres, mostly at 2800 ; 22nd–24th August (dry season), 8th October–6th November, 1938 (rainy season).

* Contribution from the Entomological Laboratory, University of Massachusetts.

† Archbold, Richard, A. L. Rand and L. J. Brass. Results of the Archbold Expeditions. No. 41. Summary of the 1938–1939 New Guinea Expedition. *Bull. Amer. Mus. Nat. Hist.*, 79, 197–288, 3 maps, 34 pls., 1942.

Brass, L. J. The 1938–39 Expedition to the Snow Mountains, Netherlands New Guinea. *Jour. Arnold Arboretum*, 22 : 271–342, 7 pls., including map ; itinerary and plant communities ; 1941.

Diakonoff, A. Lambertus Johannes Toxopeus. *The Lepidopterists' News*, 5, 34, 1951.
Toxopeus, L. J. Netherlands Indian-American Expedition to Netherlands New Guinea (3rd Archbold Expedition to New Guinea 1938–39). List of Collecting Stations. *Treubia*, 17 : 277–279 (English), 271–275 (Dutch), map, 1940.

8. Ibèlè Camp (2200 metre camp of Archbold) ; 2150–2300 metres, mostly at 2250 ; 6th November–5th December, 1938.
9. Baliem River, at south end of the Grand Valley ; 1600 metres ; 15th–22nd November, 7th–18th December, 1938.
10. Mist Camp, Idenburg River ; 1800 metres ; 25th December, 1938 to 6th January, 1939.
11. Top Camp (2150-metre camp of Archbold) ; 2100 metres ; 20th–25th January, 1939.
12. Lower Mist Camp (Beneden-Mistkamp) ; 1400–1700 metres, mostly at 1560 ; 26th January–2nd February, 1939.
13. Rattan Camp (Rotankamp, Tusschenkamp) ; 1100–1200 metres ; 3rd–14th, 18th–28th February, 1939.
14. Sigi Camp, along Sigi River ; 1300–1600 meters, mostly at 1500 ; 15th–28th February, 1939.
15. Araucaria Camp (850 metre camp of Archbold) ; 700–900 metres, mostly 800 ; 1st March–4th April, 1939.
16. Bernhard Camp B ; about 100 metres to about 450 ; 4th–14th April, 1939.
17. Bernhard Camp, on Idenburg River ; 50 metres and over ; 15th July–15th November, 1938 (dry season), 19th–24th December, 1938, 8th–11th February, 11th–14th April, 1939 (rainy season).

I am very deeply indebted to Dr. M. A. Lieftinck, former Director of the Zoological Museum and Laboratory at Bogor (Buitenzorg), Java, and presently with the Government Museum of Natural History, Leiden, for the privilege of studying this outstanding series of Tipulidae, and to the late Dr. L. A. Toxopeus for his devoted efforts in collecting the materials. I am particularly grateful to Dr. Lieftinck for the privilege of retaining in my collection the types of many of the species to be described at this time and hereafter, all such species being so indicated under the account of the form in question. The main series of types will be deposited in the Government Museum of Natural History, Leiden, with further duplicates in the American Museum of Natural History and in the author's collection.

All species described at this time belong to the vast genus *Limonia* Meigen. In addition to the New Guinea materials herein treated I am including the description of an unusually interesting marine species from New Zealand, collected by Mr. Clinton M. Allan, of Dunedin.

Limonia (Dapanoptera) percelestis, sp. n.

Size large (wing over 20 mm.) ; general coloration of body black ; halteres yellow or orange, the outer end of stem infuscated ; femora of male black, of female yellow, with blackened tips ; wings rich fulvous, in the female with vague pale brownish crossbands and spots in the cells ; both sexes with a large white stigmal spot that is not bordered by darker.

Male.—Length about 15 mm. ; wing 22 mm.

Female.—Length about 16 mm. ; wing 21 mm.

Rostrum and palpi black. Antennæ black, the scape pruinose ; flagellar segments oval, becoming somewhat more elongate outwardly ; verticils small and inconspicuous. Head black, sparsely pruinose, more heavily so on front, anterior vertex and sides of genæ ; anterior vertex in male very reduced, only about one-third the diameter of the scape or subequal to two rows of ommatidia.

Thorax dull black, virtually without pattern, the central region of the suture a little paler. Halteres with base of stem orange-yellow, remainder infuscated, knob conspicuously orange. Legs of male with coxæ and trochanters black ; femora black, the bases vaguely and restrictedly paler brown ; tibiæ brown, the bases narrowly blackened, the tips vaguely more darkened ; basitarsi brown, the outer tarsal segments black ; in the female, femora obscure yellow, tips narrowly blackened, including about the outer seventh. Wings of male almost uniformly rich fulvous, variegated only by a large white stigmal spot, the veins darker fulvous, poorly visible against the ground ; in the female, there is a vague reddish brown pattern on the otherwise dark yellow ground, including crossbands at cord and over the outer secondary cord, together with numerous dots of the same colour in most of the cells ; stigma and veins as in the male.

Venation : Sc long, Sc_1 ending about opposite $m-cu$, Sc_2 near its tip ; supernumerary crossvein in cells R_5 a little more than its own length beyond m ; $m-cu$ shortly before midlength of cell 1st M_2 .

Abdomen dull black, including the male hypopygium. In the female, cerci short and slender, upcurved to the acute tips ; hypoalvæ stout, their tips about on a level with those of the cerci.

Hab. Netherlands New Guinea.

Holotype, ♂, Moss Forest Camp, altitude 2,700 metres, 17th October, 1938 (*Toxopeus*). *Allotopotype*, ♀, altitude 2,600 metres, 28th October, 1938.

By my key to the Papuan species of the subgenus (Rec. South Australian Mus., 8, 598–599 ; 1947), the present fly runs to *Limonia* (*Dapanoptera*) *perdecora* (Walker), differing in the coloration of the body, legs and wings. This is one of the largest and most conspicuous members of the subgenus. The rather striking differences in coloration of the legs and wings of the two sexes should be emphasized. I have little doubt but that the sexes are correctly associated and represent a single species.

Limonia (*Dapanoptera*) *toxopaeana*, sp. n.

Size small (wing of male 11 mm.) ; general coloration of thorax chestnut brown, paling to yellow on the pleura and posterior part of notum ; head dull black ; femora obscure yellow, the tips broadly blackened, interrupted by a nearly terminal yellow area on ventral surface ; wings variegated with brown, yellow and whitish subhyaline, the latter including a longitudinal series of areas, the largest in cell 1st M_2

and outer end of cell *R* ; other smaller hyaline droplets surround the major ones ; supernumerary crossvein in cell *R*₅ lying far distad ; posterior border of wing sinuous ; abdomen reddish yellow, patterned with black.

Male.—Length about 8 mm. ; wing 11 mm.

Rostrum and palpi black. Antennæ with scape and pedicel black, the latter slightly more pruinose ; flagellum broken. Head dull black, the anterior vertex pruinose ; anterior vertex of male relatively broad, subequal to the diameter of the scape or to about five rows of ommatidia.

Pronotum dark brown above, the sides narrowly yellow. Mesonotal praescutum and scutum chestnut brown, the former still darker medially in front ; scutellum and mediotergite paler yellow. Pleura reddish yellow, the propleura clearer yellow ; a poorly defined brown area before the wing-root. Halteres with base of stem and the knob yellowish white, the remainder of stem infuscated. Legs with the coxæ and trochanters yellow ; femora obscure yellow, the tips broadly blackened, interrupted by a nearly terminal yellow area on ventral surface ; tibiæ obscure brownish yellow, tip narrowly blackened ; tarsi black. Wings variegated with brown, yellow and whitish hyaline ; the costal brown marks are at base, over arculus, midway to origin of *Rs*, and over the latter, alternating with bright yellow interspaces ; further brown seams over cord and as extensions therefrom along the medial veins ; hyaline area at stigma narrowly transverse, bordered by pale brown ; a series of five hyaline areas in a linear sequence, the most basal in cell 1st *A* beneath the arculus ; second at near midlength of cell 1st *A*, bordered outwardly by brown as a seam along distal part of vein 1st *A* ; third hyaline area larger, beyond midlength of cell *Cu*, bordered by brown ; fourth and fifth areas largest, in outer end of cell *R* and covering most of cell 1st *M*₂, respectively, separated from one another by the basal section of *M*₁₊₂, bordered by pale brown ; additional small hyaline droplets include one on either side of *m-cu* in cells *M* and *M*₄ ; one each in bases of cells 2nd *M*₂ and *M*₃ ; a slightly larger one near base of cell *R*₅ and a more or less semicircular area that surrounds a dark spot over the supernumerary crossvein in cell *R*₅ ; veins brownish yellow, somewhat darker in the more heavily patterned areas. Posterior wing margin sinuous but not as developed as in *pleni-pennis* ; basal petiole of wing conspicuous. Venation : *Sc* relatively short, *Sc*₁ ending just before level of fork of *Rs*, *Sc*₂ near its tip ; *r-m* obliterated by the short fusion of veins *R*₄₊₅ and *M*₁₊₂ ; supernumerary crossvein in cell *R*₅ lying far distad, beyond two-thirds the length of distal section of vein *M*₁₊₂ or about twice its own length from the margin ; cell 1st *M*₂ broadest at base ; *m-cu* just before fork of *M* ; cell 2nd *A* small and narrow.

Abdominal tergites reddish yellow, the second and succeeding segments blackened medially and more narrowly across posterior border, the amount increasing on the outer segments ; basal sternites yellow, the intermediate ones restrictedly blackened medially, the lateral parts broadly yellow ; hypopygium small, brownish black.

Hab. Netherlands New Guinea.

Holotype, ♂, Araucaria River, altitude 900 metres, in thick bush, 11th February, 1939 (*Toxopeus*). Type in Alexander Collection by permission of Doctor Lieftinck.

I take great pleasure in naming this fly for the collector of this noteworthy series of Tipulidae, Doctor L. J. Toxopeus. The nearest ally is *Limonia* (*Dapanoptera*) *plenipennis* (Walker), from which it differs in all details of wing shape, pattern and venation. Attention is called to the loss of the *r-m* crossvein in the present fly, this being long and conspicuous in *plenipennis*.

Limonia (*Dapanoptera*) *virago*, sp. n.

Size medium (wing less than 15 mm.) ; general coloration dull orange or fulvous ; antennæ black, the pedicel brownish yellow ; tips of knobs of halteres darkened ; femora yellow, with a narrow brown subterminal ring ; wings vitreous yellowish white, clouded and dotted with brown, including numerous dots in virtually all cells ; supernumerary crossvein in cell R_5 a little more than its own length beyond *m*.

Male.—Length about 9 mm. ; wing 12.5 mm.

Female.—Length about 10–11 mm. ; wing 13–14 mm.

Rostrum and palpi black. Antennæ black, pedicel brownish yellow ; flagellar segment well-separated by short apical pedicels, more distinctly so in male ; basal segments oval, the outer ones more elongate ; terminæ segment narrowed outwardly, about one-third longer than the penultimate. Head black, pruinose, more heavily so in front ; anterior vertex reduced to a narrow strip, in the female only a little wider than a single row of ommatidia, apparently a trifle broader in male.

Thoracic dorsum chiefly dull orange or fulvous, the sides of the praescutum clearer yellow, median area of scutum and the scutellum clearer yellow ; mediotergite with posterior half infuscated, sending a median spur cephalad, restricting the yellow to the anterolateral portions. Pleura and pleurotergite more reddish yellow, the latter weakly patterned with darker ; dorsopleural membrane yellow. Halteres relatively long, stem yellow, apex of knob infuscated. Legs with coxæ and trochanters yellow ; femora obscure yellow, with a narrow brown to dark brown subterminal ring, preceded and followed by subequal to slightly broader yellow rings, including the apex ; tibiæ obscure yellow, the tips narrowly infuscated ; basal two tarsal segments obscure yellow, the remainder brown ; claws relatively short, with a series of about eight crowded teeth, the outermost largest. Wings with the restricted ground vitreous yellowish white, with a pattern of brown clouds and washes, together with abundant brown dots in virtually all the cells ; the major brown areas include one at origin of *Rs*, reaching vein *M* behind ; along cord, its centre more yellowed ; broad seams over outer end of cell 1st M_2 and the supernumerary crossvein in cell R_5 ; the pale brown washes cover most of the cells beyond cord, except 1st M_2 and much of R_5 , as well as the outer ends of cells *Cu* and 1st *A* ; basad of origin of *Rs*, the brown spots and dots are darker and more clearly defined, in the infuscated

parts paler and more diffuse ; stigma, including its enclosed veins, pure white, as common in the subgenus ; the largest ground areas lie before and beyond the origin of *Rs* and across cell 1st M_2 , as described ; veins yellow, more brownish yellow in the darkened areas. Venation ; Free tip of Sc_2 and R_2 subequal and in transverse alignment ; supernumerary crossvein in cell R_5 a little more than its own length beyond *m* ; *m-cu* about its own length beyond the fork of *M*.

Abdominal tergites obscure yellowish brown, the first clearer yellow ; basal sternites yellow, the outer ones more darkened ; hypopygium brownish yellow. Ovipositor obscure yellow ; all valves relatively short and slender, virtually straight.

Hab. Netherlands New Guinea.

Holotype, ♂, Moss Forest Camp, altitude 2,800 metres, 29th October, 1938 (*Toxopeus*). *Allotopotype* ♀, altitude 2,800 metres, 26th October, 1938. *Paratopotypes*, 2 ♀♀, 14th to 19th October, 1938.

In its abundantly spotted and dotted dark wing pattern, the present fly differs very evidently from all other known members of the subgenus, being more similar to species of *Discobola*, *Rhipidia*, and other subgenera. However, it is a typical member of the subgenus, even to the conspicuous whitened stigmal area.

Limonia (Discobola) calamites, sp. n.

Size large (wing, 13 mm. or more) ; general coloration of thorax dark liver brown ; antennæ with scape and pedicel chiefly yellow, flagellum black ; flagellar segments with conspicuous apical necks ; halteres infuscated, the base of stem yellow ; femora dark brown, the extreme tip and a slightly wider subterminal ring yellow ; tibiæ brown, with a broad yellow nearly terminal ring ; wings medium brown, with narrow whitish lines that form an irregular pattern, in part ocelliform or of broken rings ; costal border alternately darker brown and yellow, the latter areas more restricted ; cell 1st M_2 longer than the distal section of M_{1+2} ; abdominal segments weakly bicoloured, the posterior borders darkest ; male hypopygium without rostral spines on the ventral dististyle.

Male.—Length about 10 mm. ; wing 14.2 mm.

Female.—Length about 11–12 mm. ; wing 13–14 mm.

Rostrum and palpi black. Antennæ with the scape infuscated basally, the outerhalf and the pedicel yellow ; flagellum black, the segments with abrupt apical necks, the more proximal segments oval, the outer ones more elongate. Head brown, darker on the sides ; anterior vertex of male narrow, only about one-fourth the diameter of scape or about equal to two rows of ommatidia.

Pronotum large, reddish brown, variegated behind and on sides with darker brown. Mesonotal praescutum with three more or less confluent brown stripes that are bordered by more reddish brown, the cephalic and lateral borders again brownish black ; posterior sclerites of notum dark liver brown, the surface sparsely pollinose. Pleura and pleurotergite chiefly dark liver brown. Halteres infuscated, the base of stem

narrowly yellow. Legs with the coxæ dark brown ; trochanters brownish yellow ; femora dark brown to brownish black, the extreme tip and a slightly wider subterminal ring yellow ; tibiæ brown, with a broad yellow nearly terminal ring, the extreme tip dark brown ; tarsi brown, the terminal segment a little brightened. Wings with the ground colour chiefly brown, with narrow whitish lines that form a very irregular pattern, occurring in most cells and appearing as nearly complete circles at origin of *Rs* and at ends of veins M_4 to *2nd A*, inclusive ; elsewhere the pale lines appear as broken annuli, especially in the vicinity of the cord, and as isolated spots and dashes ; in the costal region the brown marks are darker and the interspaces more yellowed, the former much more extensive ; veins brown, yellow in the costal interspaces. Venation : Sc_1 ending nearly opposite the fork of *Rs*, Sc_2 a short distance from its tip ; *Rs* strong arcuated at origin ; R_{1+2} about twice R_2 ; cell *1st M*₂ irregularly pentagonal, much longer than the distal section of M_{1+2} ; *m-cu* at or just beyond the fork of *M* ; supernumerary crossvein in cell *1st A* subequal to or longer than the distal section of vein *2nd A*.

Abdominal tergites weakly bicoloured, reddish brown, the posterior borders broadly dark brown, the outer segments and hypopygium brownish black ; sternites similarly patterned but the pale colour more yellowed. Male hypopygium (fig. 7) with the tergite, *t*, narrowed outwardly, the apex truncate ; setæ large and coarse, chiefly marginal, the median region without setæ. Basistyle, *b*, with the ventromesal lobe large, appressed to the mesal face of the style. Dorsal dististyle, *d*, stout, gently curved to the acute tip. Ventral dististyle large, the triangular rostral part more decurved ; no rostral spines ; setæ very long and conspicuous, especially on the apical portion. Gonapophysis profoundly bilobed, as in the subgenus, the mesal-apical lobe more slender. Aedeagus, *a*, very broad, especially at base, thence narrowed to the bilobed apex.

Hab. Netherlands New Guinea.

Holotype, ♂, Moss Forest Camp, altitude 2,800 metres, 14th October, 1938 (*Toxopeus*). *Allotopotype*, ♀, altitude 2,850 metres, 23rd August, 1938. *Paratopotype*, ♀, altitude 2,800 metres, 16th October, 1938.

The nearest relative of this conspicuous fly is *Limonia* (*Discobola*) *caledoniae* Alexander, of New Caledonia, which differs in the coloration of the body, legs and wings. The fly is entirely different from the only other member of the subgenus so far discovered in New Guinea, the wide-spread *L. (D.) annulata* (Linnaeus).

Limonia (*Laosa*) *joculator*, sp. n.

Size relatively large (wing of male 13 mm.) ; general coloration yellow, variegated with darker, praescutum with four yellow stripes ; antennal scape yellow, remainder of organ dark brown ; thoracic pleura yellow beneath, the dorsal part with a broken brown longitudinal stripe ; femora yellow with a brown subterminal ring ; wings greyish yellow, with pale brown washes and seams along the veins, some of the latter relatively

extensive ; supernumerary crossveins in cells R_3 and R_5 ; cell 1st M_2 long, with m originating shortly before midlength ; $m-cu$ about its own length beyond fork of M ; abdomen yellow, the tergal margins dark brown, broadest on the more proximal segments.

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

Rostrum yellow ; palpi very reduced or broken. Antennæ with the scape yellow, slightly more darkened at outer end, pedicel and flagellum dark brown ; proximal flagellar segments oval or suboval, the outer ones narrower ; terminal segment about one-half longer than the penultimate, its outer half suddenly narrowed ; flagellar verticils subequal to or shorter than the segments. Head obscure yellow, the posterior vertex sparsely pruinose ; anterior vertex reduced to a narrow strip that is only a trifle wider than a single ommatidium.

Pronotum yellow. Mesonotal praescutum chiefly occupied by four yellow stripes that are separated from one another by capillary brown lines, humeral and lateral portions vaguely paler yellow ; scutum with lobes yellow, narrowly bordered by brown ; scutellum brownish grey basally, the posterior border broadly yellow, parascutella yellow ; mediotergite greyish yellow basally, more infuscated behind ; dorsal border of pleurotergite and the postnotal suture more intensely darkened. Pleura pale yellow ventrally, the dorsal part with a broken brown longitudinal stripe, most evident on the propleura, anepisternum and dorsal pteropleurite. Halteres pale yellow. Legs with the coxæ and trochanters yellow to whitish yellow ; femora yellow with a brown subterminal ring that is a little more extensive than the yellow apex ; tibiæ yellow, the tips narrowly dark brown ; basal tarsal segments yellow, the outer two or three infuscated ; claws of male slender, outer spine elongate, the remaining three or four more basal ones very small. Wings (fig. 1) greyish yellow, with pale brown washes and seams at intervals over the veins and crossveins, the individual seams relatively long ; cells of posterior border of wing more extensively washed with brown, interrupted by whitish marginal spots on either side of veins M_4 to 2nd A inclusive ; veins yellow, pale brownish yellow in the clouded portions. Venation : Sc relatively short, Sc_1 ending about opposite $m-cu$, free tip of Sc_2 far beyond R_2 ; supernumerary crossveins in cells R_3 and R_5 , the latter sinuous and more basal in position, lying about opposite the basal section of M_3 ; cell 1st M_2 relatively long, m long, arcuated, originating just before midlength of cell 1st M_2 , basal section of M_3 short and transverse ; $m-cu$ about its own length beyond fork of M ; anal veins convergent, 2nd A sinuous.

Abdomen yellow, the tergites bordered laterally by dark brown, the areas broader and more conspicuous on the more proximal segments, becoming obsolete outwardly ; sternites and hypopygium yellow.

Hab. Netherlands New Guinea.

Holotype, ♂, Baliem River, altitude 1,600 metres, 15th December, 1938 (*Toxopeus*). Type in Alexander Collection by permission of Doctor Lieftinck.

The most similar described regional species is *Limonia (Laosa) riedelella* Alexander, of Graget Island, which differs conspicuously in the coloration of the body, legs, and wings, and in the details of venation.

Limonia (Libnotes) archboldeana, sp. n.

Size large (wing of female over 20 mm.); mesonotal praescutum yellow pollinose, with three brown stripes; central region of scutum narrowly silvery; flagellar segments strongly constricted at ends to produce a moniliform appearance, verticils short; halteres yellow; femora light brown, the tips broadly light yellow, enclosing a narrow slightly darker brown ring; wings whitish subhyaline, handsomely patterned with brown areas, some of these with pale centres, others solidly darkened; an extensive clear area in bases of outer radial cells and in the stigmal region, the latter more yellowed; *r-m* obliterated by a short fusion of veins R_{4+5} and M_{1+2} ; ovipositor with cerci dark brown, nearly straight, the tips acute.

Female.—Length about 18 mm.; wing 22.5 mm.; antenna about 4 mm.

Rostrum dark brown; palpi brownish black. Antennæ dark brown; first flagellar segment oval, the succeeding ones short-oval, strongly constricted at ends, with short apical necks to produce a moniliform appearance; segments with short verticils at near midlength; outer segments more elongate, the terminal one a little less than twice the penultimate. Head strongly narrowed posteriorly; front light silvery vertex fulvous brown, the posterior vertex with a vague blackened central line; anterior vertex reduced to a very narrow strip, especially posteriorly, where it equals about two rows of ommatidia.

Pronotum obscure yellow above, infuscated on sides. Mesonotal praescutum with the restricted interspaces yellow pollinose, with three brown stripes, the median one faintly divided by a pale vitta, most evident behind, lateral praescutal borders somewhat more darkened; central region of scutum narrowly silvery, the lobes extensively dark brown; scutellum dark brown, sparsely pruinose; mediotergite chiefly reddish brown, with a central darker brown triangular area on cephalic part. Pleura and pleurotergite chiefly reddish brown, variegated by slightly darker areas; dorsopleural membrane dark. Halteres pale yellow, the knobs more greenish. Legs with the coxæ brown; trochanters obscure yellow; femora light brown, the tips broadly light yellow, enclosing a narrow slightly darker brown ring; tibiae and tarsi brown, the outer tarsal segments passing into black; claws of female with about six teeth, the outer ones larger. Wings (fig. 2) with the ground colour whitish subhyaline, more yellowed and virtually unpatterned in the cephalic part of the outer radial field, the clear band extending obliquely backward into cell 1st M_2 ; remainder of wing with a conspicuous pattern, of which the following areas are solidly dark brown—spots at arculus and at near mid-distance to origin of *Rs* in cell *R*; marginal clouds at ends of veins *Cu* to 2nd *A*, with a further similar area in cell 1st *A*; an elongate

solid brown area occupying more than the central half of cell R_5 , this sending several lobes cephalad into cell R_3 , the latter with paler centres ; similar transverse pale brown spots with narrow dark borders in cells 2nd M_2 and M_3 , especially on proximal parts, the outer ends of these cells chiefly clear ; anterior cord extensively bordered by pale brown, which, in turn, is margined with still darker brown ; cell M extensively suffused with brownish yellow, darker basally ; veins greenish yellow even where traversing the dark markings. Venation : Sc ending about opposite the outer end of cell 1st M_2 , Sc_1 about two-thirds as long as the straight R_s ; $r-m$ obliterated by a short fusion of veins R_{4+5} and M_{1+2} ; free tip of Sc_2 lying more than its own length beyond level of R_2 ; a short spur of R_{1+2} preserved ; m about one-half longer than basal section of M_3 and more arcuated ; cell 1st M_2 shorter than vein M_4 ; $m-cu$ just beyond midlength of cell 1st M_2 ; anal veins gently convergent beyond bases, 2nd A curved sharply to the margin.

Abdomen chiefly light brown or yellowish brown, the more proximal tergites restrictedly more darkened on sides, the outer sternites a little more darkened. Ovipositor with the valves dark brown ; cerci nearly straight, relatively slender, the tips acute ; hypovalvæ subequal in length, stouter.

Hab. Netherlands-New Guinea.

Holotype, ♀, Moss Forest Camp, altitude 2,800 metres, 2nd November, 1938 (*Toxopeus*). Type in Alexander Collection by permission of Doctor Lieftinck.

I take great pleasure in dedicating this handsome fly to Dr. Richard Archbold, sponsor and leader of the various Archbold expeditions to New Guinea and North Queensland. The fly has no close described ally. It belongs to small group of Papuan *Libnotes* that have $r-m$ obliterated by a short to longer fusion of veins R_{4+5} and M_{1+2} , it being by far the largest and showiest of such species so far made known. Evidently no species having this type of venation were known to Edwards or were included in his basic key to the Oriental-Australasian species of the subgenus. Attention may be called to the even longer fusion of veins R_{4+5} and M_{1+2} in the Oriental subgenus *Gressitomyia* Alexander, which in all other regards is an entirely different group of the genus.

Limonia (Libnotes) fastosa, sp. n.

Size medium (wing of female over 12 mm.) ; mesonotal praescutum yellow, the disk chiefly covered by three chestnut brown stripes, the interspaces obscured ; antennæ with scape black, the remainder of organ brownish yellow ; knob of halteres infuscated ; femora broadly blackened just beyond base, the outer three-fifths yellow, enclosing a narrow brown ring ; wings pale whitish yellow, cells C and Sc deep yellow, cells heavily patterned with brown ; $r-m$ short ; cell 1st M_2 irregularly pentagonal in outline, m oblique and more than one-half longer than the basal section of vein M_3 ; abdomen reddish yellow, virtually unpatterned.

Male.—Length about 14 mm. ; wing 15.5 mm.

Female.—Length about 13 mm. ; wing 12.5 mm.

Rostrum and palpi black. Antennæ with scape black, remainder of organ brownish yellow, the outer flagellar segments a trifle darker. Head brownish grey ; anterior vertex reduced to a narrow strip, less than the width of two rows of ommatidia.

Pronotum dark brown medially, obscure yellow on sides. Mesonotal præscutum with the humeral and lateral portions yellow, the disk chiefly covered by three chestnut brown stripes, the interspaces obscured ; posterior sclerites of notum dark brown, the posterior border of scutellum narrowly reddened, parascutella pale. Halteres with stem brownish yellow, knob infuscated. Legs with the coxæ reddish brown, sparsely pruinose ; trochanters yellow ; fore femora broadly blackened just beyond base, the outer three-fifths yellow, enclosing a narrow brown subterminal ring that is only from one-third to one-fourth as long as the yellow tip ; tibiæ and tarsi brownish yellow, the tips of the latter more infuscated ; remaining legs broken, excepting a detached femur that is only vaguely darkened basally. Wings pale whitish yellow, cells *C* and *Sc* deep yellow, the posterior prearcular field similarly coloured ; stigma short-oval, pale brown, narrowly ringed with darker ; a handsome brown pattern arranged as follows : at wing-base in costal field ; arculus ; origin of *Rs* ; cord from the fork of *Rs* to the posterior border ; anterior branch of *Rs* and outer end of cell 1st *M*₂ ; extensive darkened seams back from margin along veins *M*₁ to 2nd *A*, inclusive ; a weak cloud in cell *Sc*₂ beyond the stigma and more extensive ones in cells *M*₄ to 2nd *A* inclusive, largest in the anal cells where they occupy the centres remote from the veins, elsewhere in ends of the cells ; veins yellow, darker in the patterned areas. Venation : *Sc* long, *Sc*₁ ending beyond level of *m-cu*, *Sc*₂ about opposite *r-m* ; *Rs* more than twice the basal section of *R*₄₊₅ ; both *R*₂ and free tip of *Sc*₂ short and in virtual transverse alignment ; all longitudinal veins beyond cord generally parallel to one another, the radial veins deflected toward the wing tip ; *r-m* short but distinct, about one-fifth the basal section of *R*₄₊₅ ; cell 1st *M*₂ small, shorter than vein *M*₄, irregularly pentagonal in outline, *m* being oblique and more than one-half longer than the straight basal section of *M*₃ ; *m-cu* at near two-thirds the length of cell 1st *M*₂ ; anal veins generally parallel on basal part, a trifle more narrowed beyond midlength of vein 2nd *A*.

Abdomen reddish yellow, virtually unpatterned. Ovipositor with cerci long and slender, virtually straight ; hypovalvæ stouter, narrowed to the tip.

Hab. Netherlands New Guinea.

Holotype, ♀, Lower Mist Camp, altitude 1,400 metres, 2nd February, 1939 (*Toxopeus*). *Allotopotype*, ♂, altitude 1,600 metres, 15th January, 1939.

The allotype male differs somewhat from the type female and is assigned to this species with some doubt. All veins of the wing are

darkened and seamed with brown, some very narrowly so. Venational details differ slightly, the basal section of R_{4+5} being longer, about two-thirds Rs ; cell 1st M_2 longer and more irregularly rectangular in outline. The hypopygium is in poor condition and from the dry type can be described in general terms only. Dorsal dististyle a strongly curved hook; ventral style unusually large and fleshy, darkened, its area much greater than that of the basistyle and its lobe.

Limonia (Libnotes) fastosa spinteris, subsp. n.

Male.—Length about 11 mm.; wing 12.5 mm.

Generally as in typical *fastosa* but differing in certain details. Rostrum somewhat shorter. Antennæ with scape brownish yellow, pruinose, pedicel dark brown, flagellum brown, the proximal two or three segments somewhat paler; flagellar segments oval, shorter than the verticils. Anterior vertex wider than two rows of ommatidia.

Pronotum not as abruptly darkened above. Mesonotal præscutum with the lateral borders opposite the lateral stripes more darkened. Halteres greenish, the knobs not or scarcely darkened. Of the various legs, the posterior pair are attached, two additional ones broken; none of these show any darkening of the femoral bases, the only darkening being the subterminal brown rings which are about one-half as extensive as the yellow tip; tibiæ and tarsi brownish yellow, terminal tarsal segments more infuscated. Wing pattern somewhat as in the typical form, differing as follows: No darkening in outer ends of cell Sc_2 or the anal cells other than the narrow marginal seams of the veins. Venation: Rs more arcuated, about four times the basal section of R_{4+5} ; $r-m$ still shorter but present; cell 1st M_2 more regularly rectangular in outline, m being only about two-thirds the basal section of M_3 and with $m-cu$ at near midlength of the cell.

Abdomen uniformly reddish yellow. Male hypopygium of the dried type with the ventral dististyle large and fleshy; rostral prolongation small, with two straight black spines, the outer stouter and a little longer. Dorsal dististyle a curved hook, the tip acute.

Hab. Netherlands New Guinea.

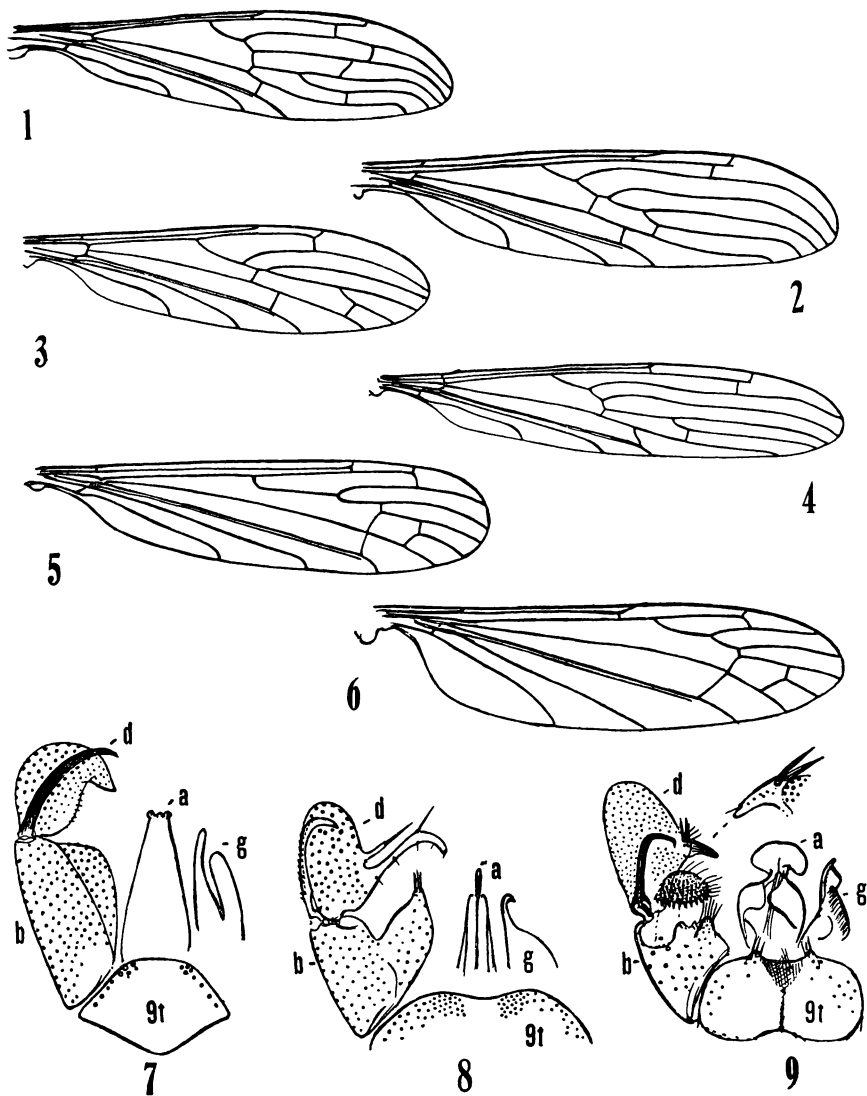
Holotype, ♂, Moss Forest Camp, altitude 2,800 metres, 13th October, 1938 (*Toxopeus*). Type in Alexander Collection through Dr. Leifstinck.

The present form differs from typical *fastosa* chiefly in the coloration of the antennæ, thorax, legs and wings, and in the details of venation, particularly of the medial field.

Limonia (Libnotes) nerissa, sp. n.

Size medium (wing of female 14 mm. of more); mesonotal præscutum yellow, darkened medially; knob of halteres dark brown; femora brownish black, the base, apex, and subterminal ring yellow; wings pale yellow, heavily patterned with brown; venation variable, $r-m$ either preserved as a very short element or obliterated by an extensive fusion of veins

Figs. 1-9.



1. *Limonia* (*Laosa*) *joculator*, sp. n. ; venation.
 2. *Limonia* (*Libnotes*) *archboldeana*, sp. n. ; venation.
 3. *Limonia* (*Libnotes*) *praeculta*, sp. n. ; venation.
 4. *Limonia* (*Libnotes*) *subocellata*, sp. n. ; venation.
 5. *Limonia* (*Limonia*) *brunneilata*, sp. n. ; venation.
 6. *Limonia* (*Idioglochina*) *allani*, sp. n. ; venation.
 7. *Limonia* (*Discobola*) *calamitas*, sp. n. ; male hypopygium.
 8. *Limonia* (*Limonia*) *brunneilata*, sp. n. ; male hypopygium.
 9. *Limonia* (*Idioglochina*) *allani*, sp. n. ; male hypopygium.
- (Symbols : a, aedeagus ; b, basistyle ; d, dististyle ; g, gonapophysis ; t, tergite).

R_{4+5} and M_{1+2} ; abdomen greenish yellow; cerci long and very slender, the tips acute.

Female.—Length about 11–12 mm.; wing 14–15 mm.

Rostrum black; palpi brownish black. Antennæ with the scape and pedicel brownish black, flagellum brown, the segments more or less tinged with green; flagellar segments passing through short-oval to more elongate, slightly exceeding the verticils; terminal segment about one-half longer than the penultimate. Head black, pruinose, more heavily so on the front and anterior vertex; anterior vertex a little wider than three rows of ommatidia.

Pronotum dark brown medially above, paling to obscure yellow on sides. Mesonotal præscutum yellow, darkened medially, the stripe broader and more intense on posterior third; posterior sclerites of notum dark brown, the median region of scutum, parascutella, and the broad posterior border of the pleurotergite obscure yellow, the remainder of the latter dark brown. Pleurotergite uniformly pale in the paratype. Pleura yellow or fulvous yellow, vaguely darker in the central part of the mesepisternum; dorsopleural region and meron yellow, vaguely tinted with green. Halteres with stem yellow, knob dark brown. Legs with the coxæ greenish yellow; trochanters yellow; femora chiefly brownish black to black, the base, subequal apex and a slightly wider subterminal ring yellow, the last more obscured; tibiæ brownish yellow, tips narrowly darkened; tarsi brownish yellow, the outer segments passing into black. Wings with the ground pale yellow, heavily patterned with brown; cells *C* and *Sc* more brownish yellow; stigma short-oval, brown, vaguely encircled by darker brown; a heavy brown pattern, including areas in bases of cells *R* and *M*; origin and fork of *Rs*; cord and outer end of cell 1st M_2 ; a seam along anterior branch of *Rs*, widely expanded at near midlength of cell Sc_2 , the tip of the latter again pale; broad seams to veins M_{1+2} , M_3 , M_4 , *Cu*, 1st *A* and 2nd *A*, greatly dilated in cells M_4 to 2nd *A*, inclusive, reaching the veins and extending back over the border to include the majority of the margin; thus the entire posterior border is darkened, interrupted in the more basal parts of cells M_4 , Cu_1 and 1st *A*, and in the axilla; a narrow but entire brown seam along vein *Cu*; veins greenish yellow in the clearest ground areas, darker in the patterned brown portions. Venation: In the holotype *r-m* present but very short, in the paratype the element obliterated by a broad fusion of veins R_{4+5} and M_{1+2} , indicating a variation in the veins in a larger series of specimens; *m* arcuated, from one and one-half to two times the basal section of M_3 ; *m-cu* slightly less than its own length beyond the fork of *M*; anal veins generally parallel to one another on the proximal half or more.

Abdomen greenish yellow. Cerci long and very slender, the tips acute; hypovalvæ much stouter, darkened at base and tip, the intermediate part more reddened.

Hab. Netherlands New Guinea.

Holotype, ♀, Scree Valley Camp, altitude 3,800 metres 15th September, 1938 (*Toxopeus*). *Paratopotype*, ♀.

Among the described regional species, the present fly most suggests species such as *Limonia (Libnotes) fastosa*, sp. n. The tendency toward the obliteration of $r-m$ by the approximation of adjoining veins suggests the otherwise very different *L. (L.) archboldeana*, sp. n.

Limonia (Libnotes) praeculta, sp. n.

Size below medium (wing of male 10.5 mm.); general coloration reddish yellow; antennæ with scape and pedicel black, flagellum paler; anterior vertex much reduced in both sexes; legs yellow, the outer tarsal segments blackened; wings yellow, patterned with brown, arranged as conspicuous seams to certain of the veins; $r-m$ obliterated by the fusion of veins R_{4+5} and M_{1+4} ; cell 1st M_2 elongate, with $m-cu$ before midlength; male hypopygium with the ventral dististyle blackened, large and fleshy.

Male.—Length about 10 mm.; wing 10.5 mm.

Female.—Length about 8.5–9 mm.; wing 8–9 mm.

Rostrum and palpi black. Antennæ of male with scape and pedicel black, basal flagellar segments obscure yellow, the outer ones passing into brown; basal flagellar segments oval, the outer ones more elongate, with long verticils; terminal segment about one-third longer than the penultimate; antennæ of female slightly shorter. Head brownish black, grey pruinose; eyes large in both sexes, the anterior vertex much reduced, less than the width of two rows of ommatidia in the female, slightly narrower in the male.

Thorax almost uniformly reddish yellow or ferruginous, polished; scutal lobes and posterior part of scutellum more infuscated. Halteres short, with large knobs, stem whitened, knob yellow, evidently tinged with green in living specimens. Legs with the coxæ reddish; trochanters tinged with green; remainder of legs yellow, the terminal three tarsal segments blackened. Wings (fig. 3) yellow, patterned with brown; margin of outer radial field narrowly more saturated yellow, cells C and Sc a trifle more brownish yellow; brown seams, as follows: At and beyond arculus; Rs and adjoining parts of anterior cord; $m-cu$ and distal section of Cu_1 ; more than the outer half of distal section of M_{1+2} ; outer branches of M , including, m , M_3 and M_4 ; tips of both anal veins; the entire posterior border of wing narrowly seamed with brown, from M_{1+2} back to the axilla; stigma yellow, delimited by a narrow brown ring; veins yellow, brown in the patterned areas. Venation: Rs gently arcuated; R_{4+5} fused for short distance with M_{1+2} , obliterating the $r-m$ crossvein, the degree of fusion somewhat variable, in cases to one-half the basal section of M_{1+2} ; m long, arcuated, varying in length from about one and one-half to two and one-half times the basal section of M_3 ; $m-cu$ at from about one-third to two-fifths the length of the long cell 1st M_2 ; anal veins divergent.

Abdominal tergites reddish yellow in male, vaguely more infuscated at the incisures; sternites clear yellow, especially basally; hypopygium weakly infuscated, the ventral dististyle brownish black. Ovipositor

with the cerci slender, virtually straight. Male hypopygium describable only in general terms, from the dried type. Posterior border of the ninth tergite gently emarginate. Dorsal dististyle a strongly curved sclerotized hook, the tip acute. Ventral dististyle large and fleshy, the rostral prolongation a flattened blade.

Hab. Netherlands New Guinea.

Holotype, ♂, Mist Camp, altitude 1,800 metres, 1st January, 1939 (*Toxopeus*). *Allotype*, ♀, Sigi Camp, altitude 1,500 metres, 27th February, 1939. *Paratype*, ♀, with the allotype, 24th February, 1939 (*Toxopeus*).

Readily told from the other regional species of the subgenus that have $r-m$ obliterated by the fusion of veins R_{4+5} and M_{1+2} , including *L. (L.) archboldeana*, sp. n., and *L. (L.) nerissa*, sp. n., by the small size and by the coloration of the wings.

Limonia (Libnotes) subocellata, sp. n.

Size above medium (wing of male over 17 mm.); general coloration greenish yellow, the præscutum with four poorly defined brownish stripes, pleura unpatterned; femora yellow, with a narrow brown subterminal ring; halteres yellow; wings whitish subhyaline, with a heavy subocellate pattern of light brown areas that are margined with darker brown, beyond the cord presenting a coarsely reticulated appearance; $m-cu$ sinuous.

Male.—Length about 15 mm.; wing 17.2 mm.; antenna about 3 mm.

Rostrum small, reddish brown; palpi yellow. Antennæ with scape and pedicel greenish yellow, flagellum greenish brown, darker outwardly; flagellar segments strongly constricted, the outer ones more strongly narrowed basally, proximal segments with very short apical necks; verticils shorter than the segments, at near the middle of their length, the lower series a little longer; terminal segment about one-half longer than the penultimate, the outer end narrowed. Head strongly narrowed behind, reddish brown; anterior vertex narrow, only about one-fourth the diameter of scape or a little more than two rows of ommatidia.

Pronotum buffy yellow. Mesonotal præscutum greenish yellow, with four poorly defined more brownish stripes, the intermediate pair narrow, the laterals very broad, reaching the margins; scutum chiefly reddish brown, the inner border of each lobe broadly dark brown, greatly restricting the median area; central region of suture blackened; scutellum black, heavily pruinose, parascutella yellow; mediotergite chiefly yellow, slightly pruinose, with a major subtriangular brownish black area, its point directed backward. Pleura and pleutergite unpatterned, fulvous, the sternopleurite somewhat more pruinose, with vague greenish tints. Halteres yellow. Legs with the coxæ and trochanters greenish yellow; femora yellow, with a narrow medium brown subterminal ring, from one-third to one-half as extensive as the yellow apex; remainder of legs yellow, the outer tarsal segments brownish black; claws of male long and slender, with five teeth, the outer one much longer, the proximal set compact and more nearly equal in size. Wings (fig. 4) long and narrow, ground colour whitish hyaline, with an extensive pattern of light brown

areas that are margined with darker brown to produce a more or less ocellated appearance; costal and outer cephalic region of radial field greenish yellow, with the pattern and veins very faint; major areas in cell *R*, at and before the cord, the latter produced backward into cells *M* and *Cu*; beyond the cord in cells *R*₃ and *M*₄, the areas are transversely interconnected to form a coarsely reticulated pattern; a further series of marginal areas in the cubital and anal cells, including two in each anal cell; cells *C* and *Sc* uniformly greenish yellow; veins greenish yellow, even where traversing the darkened areas. Venation: *Sc*₂ close to tip of *Sc*₁; free tip of *Sc*₂ faint, far beyond the level of *R*₂; outer veins unusually long and lying generally parallel to one another; cell 1st *M*₂ narrow, widened outwardly, *m* arcuated, about one-half longer than the basal section of *M*₃; *m-cu* before midlength of cell 1st *M*₂, strongly sinuous, its outer end more distal in position, the vein about one-half longer than the distal section of *Cu*₁; anal veins slightly convergent. One wing of type has the basal section of *M*₂ slightly more oblique than the other.

Abdomen, including hypopygium, light fulvous brown, the centres of the outer sternites somewhat more darkened.

Hab. Netherlands New Guinea.

Holotype, ♂, Moss Forest Camp, altitude 2,800 metres, 14th October, 1938 (*Toxopeus*). Type in Alexander Collection by permission of Doctor Lieftinck.

By Edward's key to the species of *Libnotes* (1928), the present fly runs to couplet 2, where it disagrees with all species beyond this point in the combination of venation of the medial field and the relatively short flagellar verticils, *m* being only a little longer than the basal section of *M*₃. The fly evidently comes closest to species such *Limonia* (*Libnotes*) *quadrifurca* (Walker), yet is entirely distinct.

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

Size large (wing of male 14 mm.); general coloration black, the præscutum and scutum patterned with liver brown areas; flagellar segments with outer apical portions a little produced; halteres dark brown; legs yellow, the bases of the fore femora narrowly brownish black; claws of male virtually simple; wings rich brown, restrictedly patterned with darker brown; inner end of cell *R*₃ lying far basad of cell *R*₅; male hypopygium with outer surface of the outer dististyle scabrous; ventral dististyle with two spines, one from a long basal tubercle placed at base of the prolongation, the second beyond midlength of the prolongation.

Male.—Length about 9.5 mm.; wing 14 mm.; antenna about 2.1 mm.

Rostrum and mouthparts very reduced, dark brown. Antennæ of male dark brown throughout; flagellar segments strongly separated by short abrupt apical necks; basal segments subglobular, the succeeding ones slightly produced at apex on outer face and here provided with verticils that are a little shorter than the segments, ventral surface with dense erect setæ; terminal segment elongate, about one-third longer than the penultimate. Head dark brown; anterior vertex surrounding

the antennal bases tumid and slightly pruinose ; anterior vertex about two-thirds as broad as the diameter of the scape.

Ground colour of thorax blackened, the præscutum with four confluent liver brown stripes, the scutal lobes similarly coloured ; posterior sclerites of notum sparsely pruinose ; dorsopleural membrane dusky. Mesonotum unusually glabrous, with a few scattered setæ only. Halteres dark brown. Legs with the coxæ and trochanters dark brown ; remainder of legs light yellow, the apex of the third and all succeeding tarsal segments blackened ; fore femora with about the proximal eighth brownish black ; claws of male virtually simple, with a concentration of small obtuse points at the extreme base only. Wings (fig. 5) broad, the apex obtuse ; general coloration rich brown, restrictedly patterned with darker brown, including small areas at origin and fork of *Rs*, cord, fork of *Sc*, *R*₂, and outer end of cell 1st *M*₂ ; prearcular field and wing tip slightly darker than the remainder of ground ; veins brown. Venation : *Sc*₁ ending a short distance beyond the fork of *Rs*, *Sc*₂ near its tip ; *Rs* strongly angulated at origin ; basal section of *R*₄₊₅ long, the inner end of cell *R*₃ lying far basad of either cell *R*₅ or 1st *M*₂ ; free tip of *Sc*₂ lying just basad of *R*₂ ; cell 1st *M*₂ subequal to or slightly exceeding vein *M*₄ ; *m-cu* at fork of *M* ; anal veins slightly convergent basally.

Abdomen, including the hypopygium, brownish black. Male hypopygium (fig. 8) with the tergite, *t*, transverse, the caudal border very shallowly emarginate ; a concentration of setæ on the very low lateral lobes. Basistyle, *b*, much more extensive than the ventral dististyle ; ventromesal lobe at apex produced into a small tubercle that is set with short setæ, remainder of lobe with unusually long coarse bristles. Dorsal dististyle straight, the feebly enlarged apex strongly curved ; outer margin of style microscopically scabrous. Ventral dististyle, *d*, with the rostral prolongation long and slender, strongly curved, at base on face of style with a strong straight spine from a long slender basal tubercle ; a second similar spine beyond midlength of the prolongation, its basal tubercle very small to scarcely evident. Gonapophysis with mesal-apical lobe very slender, strongly curved at apex. Aedeagus, *a*, narrow and simple at tip.

Hab. Netherlands New Guinea.

Holotype, ♂, Moss Forest Camp, altitude 2,600 metres, 21st October, 1938 (*Toxopeus*). Type in Alexander Collection by permission of Doctor Lieftinck.

There is no similar regional species so far described. In some respects, as the venation and structure of the male hypopygium, including the scabrous outer dististyle and the simple apex of the ædeagus, the fly suggests members of the Tropical American *insularis* group of the genus.

Limonia (Idioglochina) allani, sp. n.

Size medium (wing about 8 mm.) ; general coloration of thorax buffy yellow, præscutum with a dark brown central stripe and usually with slightly paler lateral areas ; wings weakly tinged with dusky, stigma

slightly darkened ; male hypopygium with the posterior border of tergite very shallowly emarginate ; basistyle with the ventromesal lobe large, its obtuse apex with abundant spinelike setæ ; rostral prolongation of ventral dististyle slender, blackened, with two spines ; apex of ædeagus greatly expanded.

Male.—Length about 6.5–7 mm. ; wing 7.5–8 mm.

Female.—Length about 7.5–8 mm. ; wing 8–8.5 mm.

Rostrum chestnut brown to darker brown ; palpi brownish black. Antennæ black, in male with the flagellar segments produced strongly ventrad. as in the subgenus, the dorsal extension less marked ; apical pedicels of the individual segments very abrupt, glabrous ; in female, flagellar segments only weakly expanded. Head brownish grey ; anterior vertex of male relatively narrow, less than the diameter of scape.

Pronotum dark brown. Mesonotal præscutum buffy yellow, with a conspicuous dark brown central stripe and usually paler and less evident laterals ; posterior sclerites of notum testaceous yellow ; in heavily patterned individuals all three præscutal stripes are equally darkened, the lateral pair crossing the suture onto the scutal lobes. Pleura more or less infuscated, especially anteriorly and dorsally, pleurotergite obscure yellow. Halteres yellow. Legs with the coxæ obscure yellow, the fore pair darker : trochanters yellow ; femora brown, obscure yellow basally, tips brownish black ; tibiæ and tarsi brown ; claws with about three teeth, the outermost largest. Wings (fig. 6) weakly tinged with dusky, stigma slightly darkened ; veins brown. Veins of outer half of wing with abundant relatively short trichia. Venation : Sc_1 ending just before origin of Rs . Sc_2 , shortly removed ; Rs about one-half longer than the basal section of R_{4+5} ; cell 1st M_2 large, subequal to cell 2nd M_2 ; $m-cu$ at fork of M , subequal in length to distal section of Cu_1 ; cell 2nd A broad.

Abdominal tergites dark brown, sternites more reddish brown ; hypopygium brownish yellow. Male hypopygium (fig. 9) with the tergite, t , transverse, the lateral ends rounded ; posterior border with a very shallow emargination, the low lobes thus formed indicated chiefly by a group of strong setæ. Basistyle, b , with the ventromesal lobe subapical in position, large, the broadly obtuse apex provided with abundant spinelike setæ ; on face of style with a small accessory lobe that is tipped with several slender bristles. Dorsal dististyle strongly curved beyond mid-length ; ventral style relatively large, its area subequal to that of the basistyle ; rostral prolongation, slender, blackened, with two slender black spines. Gonapophysis with mesal-apical lobe flattened, the apex obliquely truncated. Aedeagus, a , narrowed before the greatly expanded tip.

Hab. New Zealand (South Island).

Holotype, ♂, Otago Harbor, Dunedin, Otago, summer of 1958 (*C. M. Allan*). *Allotopotype*, ♀, pinned with type. *Paratopotypes*, 5 ♂♀, in poor condition. "Larvæ and pupæ live in the coralline algæ between tide marks in Otago Harbour and on the open ocean shore down the Otago coast".—*C. M. Allan*.

I am pleased to dedicate this interesting fly to Mr. Clinton M. Allan who discovered it while engaged in a survey of the marine insect fauna of Otago. The species is quite distinct from the other regional members of the subgenus, including *Limonia (Idioglochina) fumipennis* (Butler) and *L. (I.) kronei* (Mik) in the structure of the male hypopygium and coloration. All members of the subgenus *Idioglochina* whose habits are known are marine and the distribution of the adult flies indicates that very probably all species have this habitat. The subgenus is represented by many forms in the Pacific and Indian oceans.