

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

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At the present time I am describing a series of crane-flies from Fiji that were collected by Messrs. Otto Degener, Noël L. H. Krauss and Elwood C. Zimmerman. A more detailed account of the Fijian Tipulidae will be presented in a paper on the fauna now being prepared. The majority of the forms discussed at this time were taken in 1950-1951 by Mr. Krauss. The materials collected by Dr. Degener were secured between December 1940 and July 1941 while he acted as botanist on the second "Cheng Ho" expedition, sponsored by Mrs. Anne Archbold. The extremely interesting accounts of this expedition, with much additional information concerning Fiji, past and present, are given in Degener's papers concerning the voyage of the "Cheng Ho" and especially in his final major work on the subject.* Except where indicated to the contrary, the types of the various species are preserved in my collection.

Limonia (Limonia) persetososa persetososa, sp. n.

General colouration of mesonotum dark brown; antennæ strongly nodulose, the intermediate flagellar segments with unusually slender and abrupt apical necks; wings with a weak brownish tinge, cell *Sc* and the stigma darker; cell 1st M_2 relatively long, exceeding vein M_4 ; male hypopygium with the ventromesal lobe of the basistyle long and stout, with two unusually long setæ at near midlength; dististyle single, unequally bidentate at apex; ædeagus subtended by a flange.

Male.—Length about 4.5 mm.; wing 4.6 mm.; antenna about 1.3 mm.

Rostrum and palpi black. Antennæ relatively long, the scape and pedicel a trifle paler, more pruinose; basal flagellar segments oval, with short broad apical necks, on the succeeding segments becoming more slender, at near midlength of the organ slender and very abrupt; outer segments again becoming more elongate, with slender necks; terminal segment about one-fifth longer than the penultimate, pointed at tip. Head grey, with a darkened spot on vertex; anterior vertex reduced to a narrow strip.

Pronotum dark brown above, more yellowed on sides. Mesonotum obscure yellow, the præscutum with a central brown stripe, the lateral pair feebly indicated; scutal lobes darkened; posterior sclerites of notum brown, sparsely pruinose. Pleura and pleurotergite yellow, the propleura and adjoining part of the ventral anepisternum infuscated.

*Degener, Otto. Naturalist's South Pacific Expedition: Fiji. pp. 1-301, 166 illustrations; 1949. Printed by Paradise of the Pacific, Ltd.; obtainable from the author, Honolulu, T. H.

Halteres with stem yellow, knob brownish black. Legs with the coxæ and trochanters yellow, fore coxæ weakly darkened; femora obscure yellow, the tips passing into brownish black, the extreme genua whitened; tibiæ dark brown, the tips and the tarsi paler brown; claws (male) slender, unusually simple, with a long basal spine. Wings with a weak brownish tinge, the costal border and particularly cell *Sc* more darkened; stigma oval, darker brown; veins brownish black. Venation: *Sc*₁ ending about opposite two-thirds the length of *Rs*, *Sc*₂ near its tip; free tip of *Sc*₂ about its own length before level of *R*₂; cell 1st *M*₂ relatively long, exceeding vein *M*₄; *m-cu* nearly its own length before fork of *M*.

Abdominal tergites and hypopygium dark brown, the basal sternites more yellowed. Male hypopygium with the tergite transverse, the caudal margin nearly truncate, with a very small V-shaped median notch, the low lateral lobes each with about six strong marginal setæ. Basistyle with the ventromesal lobe very long but relatively stout, with an extensive modified area at apex that is transversely wrinkled or corrugated; lobe with various setæ, including two yellow ones of unusual length, nearly as long as the lobe itself. Dististyle single, unequally bidentate at tip, the disk of the blade with microscopic spiculate points. Gonapophysis irregular in outline, with two modified blades at near midlength. Ædeagus with a flange on apical half, more expanded on the basal or cephalic part.

Hab. Fiji (Viti Levu).

Holotype, ♂, Lami, February 1951 (Noël L. H. Krauss).

This distinct fly is most similar in its general appearance to species such as *Limonia* (*Limonia*) *longeantennata* Alexander and *L. (L.) safuneana* Alexander, differing in the structure of the antennæ and in the very different male hypopygium.

Limonia (*Limonia*) *persetosa decemsetosa*, subsp. n.

Male.—Length about 5 mm.; wing 5 mm.; antenna about 1.4 mm.

Generally as in the typical form, differing as follows:

Antennæ with the third and succeeding flagellar segments with abrupt slender necks. Lateral margins of præscutum and the lateral stripes more darkened. Wings with cell 1st *M*₂ much smaller, only about one-half as long as vein *M*₄; *m-cu* from one-third to one-fourth its length beyond fork of *M*.

Male hypopygium generally as in typical *persetosa*, differing in important details that may be found to represent full specific characters. The structure of the dististyles and gonapophyses are generally alike in the two forms, indicating a close relationship. Ninth tergite with the median notch deeper, the lobes more rounded, the marginal setæ of each lobe about eight or nine. Ventromesal lobe of basistyle slender, narrowed to the tip, the modified apical area very reduced, with only five or six rows of corrugations; margin of lobe with approximately ten of the greatly elongated and modified setæ. Ædeagus with the lateral expansions more abrupt and conspicuous.

Hab. Fiji (Viti Levu).

Holotype., ♂, Lami, February 1951 (Noël L. H. Krauss).

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

Size small; mesonotal præscutum with three confluent brownish black stripes, the posterior sclerites almost uniformly blackened; head dark brown; eyes of male virtually contiguous on vertex; knobs of halteres infuscated; femora obscure yellow, the tips broadly blackened; wings with most of the cells before cord and the outer radial field whitened, the remaining cells weakly but distinctly infuscated; vein *Sc* relatively short; abdomen, including hypopygium, dark brown; male hypopygium with the rostral spines unequal.

Male.—Length about 5.5 mm.; wing 6.1 mm.

Rostrum and palpi brownish black. Antennæ with scape and pedicel brownish black, the flagellum a trifle paler; flagellar segments well-constricted by short apical necks; longest verticils unilaterally arranged, about one-fourth longer than the segments. Head dark brown; vertex at narrowest point exceedingly reduced, the eyes virtually contiguous.

Prothorax brownish black above, more reddened on sides. Mesonotal præscutal præscutum with three confluent brownish black stripes, the lateral borders broadly reddened; scutum, scutellum and mediotergite almost uniformly black, the parascutella and pleurotergite abruptly more reddish brown. Pleura weakly infuscated in front, the dorsopleural region, metapleura and meron obscure yellow. Halteres with stem yellow, knob infuscated. Legs with coxæ and trochanters testaceous yellow; femora and tibiæ obscure yellow, the tips of the former broadly more blackened, of the latter narrowly so; tarsi black. Wings with most of cells before cord and the anterior outer radial field whitened, the remainder of cells beyond cord, including the outer two-thirds of cells *R*₃ and *R*₅, all of cells 2nd *M*₂, *M*₃ and *M*₄, and marginal seams over the cubital and anal fields to vein 2nd *A* uniformly infuscated; darker brown areas as follows: A small arcular darkening and a larger mark at origin of *Rs*; stigma oval, brown; veins brown, the posterior prearcular ones paler. Venation: *Sc* relatively short, *Sc*₁ ending shortly before level of fork of *Rs*, *Sc*₂ removed from tip, *Sc*₁ thus relatively long; free tip of *Sc*₂ and *R*₂ pale and in transverse alignment; *Rs* relatively long, vaguely angulated at near one-fourth the length, in alignment with *R*₄₊₅; cell *R*₃ slightly narrowed at apex; cell 1st *M*₂ rectangular, a trifle longer than vein *M*₄; *m* and basal section of *M*₄ in alignment; *m-cu* approximately one-half its length beyond fork of *M*.

Abdomen, including hypopygium, dark brown. Male hypopygium with the tergite transverse, its cephalic end slightly wider than the outer end; posterior margin with a broad V-shaped notch, the lobes low, with long coarse setæ, including a group of three at base of notch. Basistyle small, the ventromesal lobe simple, placed at base of style, provided with unusually long setæ. Dorsal dististyle a small curved sickle, the long slender apex acute, blackened. Ventral dististyle large

and fleshy, its area about two and one-half times that of the basistyle; rostrum pale, the two spines very unequal, the outermost stout, placed on the face of style at near midlength; second spine at base of style, very slender. Gonapophysis with mesal-apical lobe slender, gently curved to the acute tip, the concave margin with scattered erect spinules.

Hab. Fiji (Viti Levu).

Holotype, ♂, Nandala, March 27, 1941 (*Otto Degener*).

By the use of Edward's key to the species of *Libnotes* (1928), this fly runs to *Limonia* (*Libnotes*) *montivagans* (Alexander), a quite different fly. It falls in the general group that includes *L. (L.) delicatior* Alexander and *L. (L.) nesopicta* Alexander, differing from all known species by the colouration of the body and wings.

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

General colouration greenish yellow, the thoracic dorsum and pleura conspicuously patterned with dark brown, including paired areas on the mediotergite; halteres uniformly greenish yellow; fore and hind coxæ yellow, the middle pair dark brown; femora yellow, with a conspicuous black subterminal ring; tibiae brown, the basal sixth yellow, enclosing a narrow brown sub-basal ring; wings yellow, patterned with brown; vein R_3 straight; abdominal sternites yellow, segments two to six, inclusive, with a pair of dark brown lateral spots.

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

Rostrum and palpi black. Antennæ with scape orange-yellow, remainder of organ broken. Head obscure fulvous, more infuscated behind, the genæ pruinose.

Pronotum brown above, the sides broadly greenish yellow. Mesonotal præscutum greenish yellow, with a broad brown median stripe that is constricted at near midlength, the posterior end weakly expanded and narrowly split by a pale line; lateral brown stripes very short; posterior sclerites of notum yellow, each scutal lobe with a brown centre, being a direct posterior extension of the lateral præscutal area; posterior border of scutellum infuscated, slightly interrupted by pale on the midline; mediotergite with two subparallel brown areas, presenting a more or less distinct lyriform appearance. Pleura and pleurotergite yellow, with two transverse brown stripes, the anterior one larger, extending from before the wings across the posterior border of the mesopleura, covering the entire outer face of the mid-coxa; second darkening occupying the centre of pleurotergite. Halteres uniformly greenish yellow. Legs with the coxæ pale green, excepting the middle pair, as described; trochanters obscure brownish yellow, the fore pair clear; femora yellow, with a conspicuous black subterminal ring that is a little more extensive than the yellow tip; tibiae chiefly brown or dark brown, with about the basal sixth yellow, enclosing a narrow subbasal darkened ring; tarsi brownish black. Wings pale yellow, the costal border conspicuously more saturated yellow; a restricted brown pattern, as follows: Arculus, continued backward, with a slight break in cell *Cu*, following vein *2nd A* to the posterior

border; cord and outer end of cell *1st M*₂; spots at fork of *Sc*, R_2 and marginal seams over veins M_1 and *2nd A*, the last most extensive; further darkenings include a longitudinal seam in cell *M* adjoining vein *Cu* and the narrow axillary region, veins yellow, brown in the patterned parts. Venation: Sc_1 ending just before midlength of vein R_{2+3} , Sc_2 a short distance from its tip; Rs strongly arcuated; vein R_3 straight, not decurved as in some allied species; cell *1st M*₂ long and narrow, *m* being about twice the basal section of M_3 ; *m-cu* about its own length beyond fork of *M*; Anal veins generally parallel to one another for most of the length of vein *2nd A*.

Abdomen greenish yellow; sternites two to six, inclusive, with a pair of dark brown spots, placed close to the base at the lateral border. Ovipositor with the valves dark brown; tips of the cerci broken.

Hab. Fiji (Viti Levu).

Holotype, ♀, Navai, September 23, 1950 (*Noël L. H. Krauss*).

The most similar regional species is *Limonia* (*Libnotes*) *terræ-reginæ* (Alexander), described from South Queensland. This differs in all details of colouration of the body, halteres, legs and wings, and in the details of venation, especially of the outer radial field.

Limonia-Degeneromyia, subgen. n.

Characters as in *Limonia*, s.s., differing in the presence of supernumerary crossveins in cells R_3 , R_5 and *1st A* of wings, thus combining the characters of *Laosa* and *Discobola*. Male hypopygium with the outer angle of basistyle produced far beyond the point of insertion of the dististyle.

Type of subgenus.—*Limonia* (*Degeneromyia*) *thais*, sp. n. (Fiji).

The presence of supernumerary crossveins in cells R_3 and R_5 of the wings is found in the rather numerous species of *Laosa* Edwards, with representatives in the Oriental, Eastern Palaearctic and Australasian regions. A supernumerary crossvein in cell *1st A* has been found hitherto only in the subgenus *Discobola* Osten Sacken, with representatives in the Holarctic, Neotropical, Oriental and Australasian regions. I take great pleasure in dedicating this new group of Tipulidæ to my long-time friend, Dr. Otto Degener, distinguished botanist.

Limonia (*Degeneromyia*) *thais*, sp. n.

General colouration grey pruinose, the præscutum with three dark brown stripes; pleura chiefly blackened, sparsely pruinose; antennal scape and pedicel brownish black, flagellum obscure yellow; halteres yellow; femora black, with a broad subterminal yellow ring, the tip more narrowly yellow; tibiae and tarsi chiefly yellow; wings yellow, patterned with brown, appearing chiefly as seams along the veins, particularly those beyond the cord; male hypopygium with the dististyle unequally bilobed at apex.

Male.—Length about 6.5–8 mm.; wing 7.5–10 mm.

Rostrum and palpi black. Antennæ with scape and pedicel brownish black, flagellum obscure yellow; flagellar segments oval, verticils short and stiff. Head dark grey, more blackened on posterior part of vertex, front and anterior vertex more silvery grey; anterior vertex very narrow, less than the width of two rows of ommatidia.

Pronotum yellow, conspicuously trivittate with dark brown, the sides most extensively so. Mesonotal præscutum with three dark brown stripes, the interspaces grey pruinose, humeral region more yellowed; posterior sclerites of notum pruinose, the centres of the scutal lobes dark brown. Pleura chiefly blackened, sparsely pruinose, the ventral sternopleurite more heavily so. Halteres yellow. Legs with the fore and middle coxæ black, the posterior pair more reddish brown; trochanters reddish brown; femora black, the bases narrowly pale; a broad subterminal yellow ring, the tip more narrowly yellow, the two pale bands enclosing a black ring that is about three times the pale apex; tibia yellow, the base narrowly more darkened; tarsi yellow, the two outer segments more infuscated. Wings yellow, patterned with brown, the colour appearing chiefly as seams along the veins, most evident on outer half of wing and particularly beyond the cord; elsewhere the darkenings include a postarcular area, a narrow seam in cell *M* adjoining vein *Cu*, and seams at ends of both anal veins; stigma brown or yellowish-brown, speckled or variegated with darker, the cells before and beyond the stigma more saturated yellow; veins yellow, infuscated in the patterned areas. Venation: *Rs* strongly arcuated to weakly angulated; free tip of *Sc*₂ far before *R*₂, the latter gently merging with vein *R*₁; supernumerary crossvein in cell *R*₃ at near one-third the cell length and lying basad of the one in cell *R*₅ which is shortly before midlength, at or beyond the level of outer end of cell 1st *M*₂; *m-cu* at or near midlength of cell 1st *M*₂; supernumerary crossvein in cell 2nd *A* about one-third as long as distal section of vein 2nd *A*.

Abdominal tergites yellow, more darkened laterally; sternites and hypopygium darker brown. Male hypopygium with the ninth tergite semicircular in outline, the posterior border convexly rounded, the margin of either side with six or seven long setæ; dorsal surface of tergite with a λ-shaped strengthening support. Basistyle with the outer lobe greatly produced caudad beyond the level of insertion of the dististyle, appearing as a slender rod, its tip obtuse and provided with delicate parallel lines; a group of strong setæ on mesal face of lobe at near midlength, with a few longer setæ on outer face near base. Dististyle flattened, bilobed at apex, the outer lobe a more slender spine. Gonapophysis with the mesal-apical lobe long and straight, the outer margin with a lateral lobule.

Hab. Fiji (Viti Levu).

Holotype, ♂, Nandala, March 27, 1941 (Otto Degener). *Paratopotypes*, 3 ♂♂, February 22–28, 1941 (Otto Degener).

The species requires no comparison with any other generally similar member of the genus, being readily told by the subgeneric characters.

Limonia (Geranomyia) vitiella, sp. n.

Mesonotum with the præscutal disk light brown, the sides, together with the pleura, pale green; rostrum black, palpi 2-segmented; antennæ black, with greenish tints; anterior vertex very narrow; femora brownish yellow, tarsi obscure yellow; wings whitish subhyaline, patterned with pale brown, including extensive seams at origin of *Rs*, cord and outer end of cell 1st *M*₂; *Sc* long; *Rs* approximately three times the basal section of *R*₄₊₅; male hypopygium with the tergite unusually long, bilobed at apex; rostral prolongation of ventral dististyle powerfully constructed, with two strong spines, the outer one unusually conspicuous; phallosomic plate with outer lateral angles produced, the margins microscopically serrate; gonapophysis with mesal-apical lobe unusually long and slender, the extreme tip decurved.

Male.—Length, excluding rostrum, about 5 mm.; wing 6 mm.; rostrum alone about 2.5 mm.

Female.—Length, excluding rostrum, about 6 mm.; wing 7.5 mm.; rostrum alone about 3 mm.

Rostrum of moderate length, black throughout; palpi distinctly 2-segmented. Antennæ black throughout, with greenish tints; flagellar segments cylindrical, the outer ones more elongate, exceeding the verticils. Head dark grey; anterior vertex very reduced, in the male less than the diameter of a single row of ommatidia, in the female a very little broader.

Pronotum dark brown, the sides of the scutellum, and the pretergites pale greenish. Mesonotal præscutum with the disk light brown, the lateral borders broadly greenish; scutellum and the broad central region of the scutum pale greenish, the scutal lobes dark brown; mediotergite very weakly infuscated. Pleura and pleurotergite pale greenish. Halteres infuscated, the knobs a trifle paler. Legs with the coxæ and trochanters green; femora obscure yellow or brownish yellow, tibiae a little darker; tarsi obscure yellow, the outer segments blackened. Wings whitish subhyaline, patterned with pale brown, including extensive seams at origin of *Rs*, a band crossing the wing at cord, including the very slightly darker stigma, and the outer end of cell 1st *M*₂; very small further darkenings at *Sc*₂ and at tips of veins *R*₃ and *R*₄₊₅; veins brownish yellow, darker in the clouded areas, clear yellow in the costal interspaces; costa strongly tinged with green. Costal fringe of male long and conspicuous. Venation: *Sc* long, *Sc*₁ ending just beyond midlength of *Rs*, the latter approximately three times the basal section of *R*₄₊₅; *m-cu* close to the fork of *M*.

Abdominal tergites weakly infuscated, sternites yellow, tinged with green. Ovipositor with the cerci relatively long and slender. Male hypopygium with the tergite unusually long, divided at apex into two setiferous lobes that are separated by a narrow V-shaped notch. Ventromesal lobe of basistyle small. Dorsal dististyle gently curved to the acute tip. Ventral dististyle large and fleshy, its total area about twice that of the basistyle; rostral prolongation heavily sclerotized, the actual

tip slender, pendulous; before apex on outer face with a very powerfully curved spine, its tip acute; basal spine from a thickened base that is directed inward, the spine bent on itself, directed outwardly. What appears to represent the phallosome (but may actually pertain to the sternum) of peculiar conformation, consisting of a depressed-flattened plate, the outer lateral angles produced, their margins microscopically serrate. Mesal-apical lobe of gonapophysis unusually long and slender, the extreme tip decurved.

Hab. Fiji (Viti Levu).

Holotype, ♂, Tholo-i-Suva, December 1950 (Noël L. H. Krauss).

Allotype, ♀, Lami, January 1951 (Krauss).

The only generally similar regional species is *Limonia* (*Geranomyia*) *samoana* (Edwards), of Samoa, which is still known only from the female sex. In this there is no green colouration of the body and there are further differences in structure, venation and colouration.

Limonia (*Alexandriaria*) *ochricapilla*, sp. n.

General colouration of thorax uniformly light yellow; head ochreous, light grey pruinose on posterior orbits; halteres and legs pale yellow throughout; wings pale yellowish subhyaline; *Sc* short, *m-cu* far before fork of *M*; vein 2nd *A* gently arcuated to the margin, the cell broad.

Female.—Length about 4–4.5 mm.; wing 4.5–4.8 mm.

Rostrum pale yellow, palpi a trifle darker. Antennæ yellow to brownish yellow; flagellar segments oval, well-constricted. Head ochreous, light grey pruinose on posterior orbits; anterior vertex broad, approximately three times the diameter of the scape.

Thorax uniformly light yellow, unpatterned, in cases the humeri slightly pruinose. Halteres yellow. Legs pale yellow throughout. Wings pale yellowish subhyaline, unpatterned; veins darker yellow. Venation: *Sc* short, *Sc*₁ ending a distance before origin of *Rs* about equal to the length of the latter; *Rs* in type and most specimens subequal to basal section of *R*₄₊₅; *m-cu* some distance before fork of *M*, varying from slightly less than one-third to virtually its own length; vein 2nd *A* gently arcuated to the margin, the cell broad.

Abdomen brownish yellow to pale brown, badly discoloured and enlarged by eggs within. Ovipositor with long slender cerci.

Hab. Fiji (Vanua Levu).

Holotype, ♀, Savu Savu Bay, Maravu, January 21, 1941 (Otto Degener).

Paratopotypes, 9 ♀♀, on three pins.

The superficially similar *Limonia* (*Alexandriaria*) *cinereicapilla* Alexander, described from north-eastern New Guinea, differs in the details of venation, which are more as in the subgenus *Idioglochina* Alexander, with the exception of the condition of the outer medial veins. As indicated at the time of the original description (Philip. Jour. Sci. 54: 452–453; 1934), it is suspected that *cinereicapilla* may be better placed in *Idioglochina*, despite the very reduced venation. There is some slight variation in the type series of the present fly. One paratype has the head

much darker than is the case in the other specimens while another has *Rs* much shorter than the basal section of *R*₄₊₅.

Orimarga (*Orimarga*) *carnosa*, sp. n.

Body elongate; general colouration reddish; rostrum stout, nearly as long as remainder of head; antennæ brown, the elongate scape reddened; mesonotal præscutum with a narrow brown sublateral stripe, in front almost reaching the cephalic end, the lines converging anteriorly; ventral thoracic pleura with a comparable narrow brown stripe, the region above it pruinose; legs pale yellow; wings yellowed, with seven small brown spots, placed chiefly on the elements of the very irregular cord; *R*₁₊₂ very short; *r-m* lying very far distad, beyond the fork of *M*₃₊₄.

Male.—Length about 6.5 mm.; wing 5 mm.

Rostrum stout, nearly as long as remainder of head, reddened; palpi brownish black. Antennæ short, if bent backward extending just to fore end of mesonotal præscutum; scape red, relatively long; pedicel dark brown; flagellar segments dark brown. Head red.

Mesonotum almost uniformly red, the præscutum with a narrow brown longitudinal line, occupying the position of the usual lateral stripes, the anterior end continued forward to near the cephalic part, the stripes thus approximated. Pleura red, with a conspicuous brown ventral stripe, beginning behind the fore coxæ, including the ventral sternopleurite, base of mid-coxa, and extreme lower part of metapleura; pleura above the ventral stripe pruinose. Halteres with stem whitened, knob reddened. Legs with the coxæ and trochanters yellow, except as described above; remainder of legs yellowish white, the outer tarsal segments infuscated. Wings relatively broad, widest opposite cell 1st *A*; ground yellow, the prearcular and costal regions a trifle more saturated; a sparse dark brown dotted pattern, arranged as follows: Origin of *Rs*, *R*₂, basal deflection of first section of *R*₄₊₅, *r-m*, base of vein *M*₁₊₂, base of *M*₃, and *m-cu*, a total of seven isolated areas; veins light yellow, brown in the patterned parts. Venation: *Sc*₁ ending shortly before level of fork of *M*; *Rs* nearly square at origin; *R*₂ at extreme tip of *R*₁; *R*₁₊₂ very short to punctiform; basal section of *R*₄₊₅ and *r-m* lying very far distad, far beyond the fork of *M*₃₊₄; *m-cu* about opposite one-fifth the length of *Rs*.

Abdomen elongate, reddish, including the hypopygium.

Hab. Fiji (Viti Levu).

Holotype, ♂, Suva, September 1950 (Noël L. H. Krauss).

The most similar described species is *Orimarga* (*Orimarga*) *joana* Alexander, of the Blue Mountains, New South Wales, which is entirely distinct in all details of colouration of the body, legs and wings, and in the venation.

Orimarga (*Orimarga*) *sanguinicoulour*, sp. n.

General colouration reddish, the præscutum indistinctly striped with brown; rostrum unusually long, about two-thirds the remainder of

head; antennæ dark brown, the outer five segments abruptly yellow; legs white; wings relatively narrow, yellow, patterned with pale brownish grey, particularly on the crossveins and deflections; R_s square to short-spurred near origin; R_2 virtually interstitial with the basal section of R_{4+5} , the latter angulated and spurred; $r-m$ lying far distad, beyond the level of the fork of M_{3+4} ; $m-cu$ about three times its own length before the fork of M .

Male.—Length about 5.5 mm.; wing 3.8 mm.

Female.—Length about 6 mm.; wing 4 mm.

Head of male broken; in female, rostrum unusually long, about two-thirds the remainder of head, reddish; palpi dark brown. Antennæ dark brown, the outer five segments yellow. Head with front and anterior vertex reddish, the posterior vertex infuscated; anterior vertex relatively broad.

Pronotum and mesonotum chiefly reddish, the præscutum indistinctly striped with brown, more heavily so in the female; mediotergite darkened. Pleura reddish, with a broad conspicuous silvery longitudinal stripe, bordered beneath with dark brown, the latter including the mesosternum and outer faces of the fore coxæ. Halteres with stem pale, knob reddened. Legs with the fore coxæ darkened basally, as described; posterior coxæ and all trochanters red; remainder of legs white, only the terminal tarsal segment weakly darkened. Wings relatively narrow, a trifle wider in male but much narrower than in *carnosa*; ground colour yellow, the costal border narrowly more yellowed; a pale brownish grey wash over all veins in centre of wings, more conspicuous on the crossveins and deflections where the veins are more darkened, elsewhere the veins are yellow in the unpatterned areas, pale brown in the weakly washed portions. Costal fringe in female long and conspicuous, yellow, darker in male. Venation: Sc_1 ending about opposite one-third the length of R_s , the latter square to short-spurred at origin; R_2 close to tip of R_{1+2} , interstitial with basal section of R_{4+5} or with a short element E_{3+4+5} ; basal section of R_{4+5} angulated and spurred; $r-m$ lying far distad, beyond the level of fork of M_{3+4} ; $m-cu$ about three times its length before fork of M .

Abdomen elongate, reddened throughout.

Hab. Fiji (Viti Levu).

Holotype, ♂, Lami, January 1951 (Noël L. H. Krauss). *Allotopotype*, ♀, pinned with type.

The present fly is most nearly related to *Orimarga (Orimarga) carnosa*, sp. n., which differs in the broader wings, with the pattern quite distinct and with slight venational differences.

Orimarga (Orimarga) niveibasis, sp. n.

General colouration of mesonotum light chestnut brown, the head, pronotum and broad lateral margins of the præscutum whitish grey; pleura and pleurotergite yellow; knob of halteres infuscated; legs yellow, the tips of the tibiæ narrowly but conspicuously infuscated;

wings brownish yellow, the base and costal region abruptly snowy-white; R_2 lying basad of $r-m$, the latter a little shorter than the basal section of vein M_{1+2} ; abdomen chiefly obscure yellow, the posterior borders of the tergites weakly darkened.

Female.—Length about 4 mm.; wing 4 mm.

Rostrum dark brown; palpi black. Antennæ with scape brownish black, pedicel black; flagellum broken. Head clear light whitish grey; anterior vertex very broad, the eyes correspondingly reduced.

Pronotum and sides of præscutum whitish grey, the remainder of the mesonotum light chestnut brown, the anterior part of the præscutum and the scutal lobes a little darker; scutellum and mediotergite greyish pruinose. Pleura and pleurotergite yellow. Halteres with stem white, infuscated. Legs with the coxæ and trochanters pale yellow; femora yellow, the tibiæ a trifle darker with the tips narrowly infuscated; tarsi yellow, the outer segments a little darker. Wings brownish yellow, the base and costal region abruptly snowy white, the membrane immediately adjoining the whitened base a little more darkened than elsewhere; veins yellow, darker in the infuscated subbasal portion, snowy-white in the basal and costal fields. Veins beyond cord with numerous macrotrichia. Venation: R_2 near extreme tip of R_{1+2} , lying basad of $r-m$, the latter only a little shorter than the basal section of M_{1+2} ; M_{3+4} and M_4 subequal; $m-cu$ nearly three times its length before fork of M ; cell 2nd A relatively broad, widest just before midlength.

Abdomen chiefly obscure yellow, the posterior borders of the tergites weakly darkened, more conspicuously so on the sides; basal segments more uniformly darkened, the extreme base slightly pruinose; sternites and genital shield uniformly yellow. Ovipositor with the cerci small, upcurved to the acute tips.

Hab. Fiji (Viti Levu).

Holotype, ♀, Suva, January 1951 (Noël L. H. Krauss).

Orimarga (Orimarga) niveibasis is entirely distinct from all other regional members of the genus, especially in the venation and somewhat peculiar pattern of the wings, especially the abruptly whitened base.

Helius (Eurhamphidia) vitiensis, sp. n.

Mesonotum yellow, the præscutum with a broad central brown stripe; antennæ of male elongate, approximately one-half the length of body, the long flagellar segments with abundant outspreading verticils; femora and tibiæ brown, the tips of the latter paling to dirty white, the remainder of legs white; wings subhyaline, the outer margin of cell R_3 weakly infuscated; stigma large, darker brown; Sc relatively short, veins R_3 and R_5 very strongly divergent; $r-m$ distinctly preserved; abdomen of male with the tergites uniformly dark brown, of the female bicoloured, the basal two-thirds dark, the apices yellow.

Male.—Length about 4.5 mm.; wing 4.5 mm.; antenna about 2.4 mm.

Female.—Length about 6 mm.; wing 5.2 mm.

Rostrum brown, a little longer than the remainder of head; palpi brown. Antennæ of male elongate, brownish black; flagellar segments elongate-cylindrical, the length exceeding five times the segments, provided with abundant erect dark verticils that are approximately twice the diameter of the segment at the point of their insertion. Head dark grey; vertex very narrow in both sexes, in the male scarcely as broad as a single row of ommatidia, a trifle wider in the female.

Pronotum dark brown above, vaguely paler on sides. Mesonotum yellow, the præscutum with a broad conspicuous brown central stripe that widens slightly before the suture; no sign of lateral stripes; scutum obscure yellow, in the female with the inner parts of the lobes vaguely more darkened; scutellum and postnotum testaceous yellow in female, vaguely more darkened in female. Pleura yellow, in the female with the ventral sternopleurite weakly darkened. Halteres pale, knobs weakly infuscated. Legs with the coxæ and trochanters pale yellow; femora and tibiæ brown, the tips of the latter paling to dirty white; tarsi white. Wings subhyaline, clearer basally, the outer margin of cell R_3 weakly infuscated; stigma large, oval, dark brown; veins dark brown, pale in the prearcular field. Venation: Sc relatively short, both Sc_1 and Sc_2 ending at near three-fourths the length of basal section of R_s , the second section of the latter slightly more than one-half the basal one; veins R_3 and R_5 very strongly divergent, so cell R_3 at margin is approximately five times as extensive as cell R_2 ; $r-m$ distinctly preserved; $m-cu$ at near one-third the length of cell 1st M_2 .

Abdominal segments of female conspicuously bicoloured, the basal two-thirds of each dark brown, the apex yellow, the amount of the latter lessening on the outer segments. In the male, tergites uniformly dark brown, the outer segments and hypopygium passing into black; basal sternites obscure brownish yellow, the outer segments passing into black.

Hab. Fiji (Viti Levu).

Holotype, ♂, Navai, September 23, 1950 (*Ncël L. H. Krauss*). *Allotopotype*, ♀, pinned with type.

The most similar species include *Helius* (*Eurhamphidia*) *connectus* Edwards and *H. (E.) mouensis* Alexander, differing in the colouration, structure of the antennæ of the male, and in details of venation.

Gonomyia (*Lipophleps*) *degeneri*, sp. n.

General colouration dark brown and yellow; basal segments of antennæ yellow; knobs of halteres weakly infuscated; femora yellow, with a narrow pale brown subterminal ring; wings yellow, very heavily and conspicuously clouded with brown; stigma dark brown; $m-cu$ far before the fork of M ; abdominal sternites black, restrictedly patterned with yellow; male hypopygium with the basistyle produced into a long fleshy lobe; two dististyles, the inner one elongate; phallosome without spinous points.

Male.—Length about 4.8–5 mm.; wing 3.8–4 mm.

Female.—Length about 4.8–5 mm.; wing 4 mm.

Rostrum and palpi black. Antennæ with basal segments light yellow to orange, the outer flagellar segments black, with very long conspicuous verticils. Head yellow to orange, the centre of vertex darkened.

Pronotum light yellow above, darkened laterally; pretergites light yellow. Mesonotal præscutum light brown to fulvous, before the suture narrowly blackened medially and sublaterally, the latter forming the internal border of the light yellow lateral margins behind the humeri; scutal lobes light brown, bordered internally and laterally by brownish black, the median area of scutum obscure yellow with a capillary darkened median vitta; scutellum obscure yellow, restrictedly darkened medially at base; mediotergite blackened, the cephalic third obscure yellow. Pleura black, striped longitudinally with paler, including a broad whitish ventral stripe and a more obscured narrower dorsal vitta that extends backward to the pleurotergite. Halteres with stem yellowed at base and apex, darkened on central part, knob dusky. Legs with the coxæ yellow, the apices of fore pair and bases of middle and hind pairs blackened the dark colour being produced by the broad black ventral thoracic stripe; trochanters yellow; femora yellow, with a narrow and relatively inconspicuous pale brown subterminal stripe; tibiæ and tarsi light brown, the outer segments of the latter dark brown. Wings with the ground colour yellow, the membrane very heavily and conspicuously suffused with brown clouds and washes, involving all parts of the wing, darker and more evident at near one-third the length of cell R ; a longer dash in cell M , adjoining vein M ; other darkenings at origin of R_s , cord, $m-cu$, outer end of cell 1st M_2 , and end of vein 2nd A ; cells beyond cord extensively clouded with paler brown, leaving the broad apex light yellow; cubital and anal cells weakly suffused; stigma oval, very dark brown; veins yellow, darker in the more heavily patterned areas. Venation: R_s short, not or only slightly longer than $r-m$; $m-cu$ far before the fork of M , the distance varying from about one-half to fully its own length; cell 2nd A wide.

Abdomen brownish black, patterned yellow, in the male the tergites yellow with the caudal margins black, sending a somewhat paler central stem forward to form a \perp -shaped area; sternites very extensively blackened, the segments uniformly darkened with the exception of yellowed areas at bases of sternites three to five and a very narrow ring on sternites two and six; hypopygium obscure yellow. In the female, the dark colour of the tergites is even more extensive, greatly restricting the yellow lateral borders. Male hypopygium with the outer apical part of the basistyle produced into a long fleshy lobe. Outer dististyle a broadly flattened dusky plate that is produced into a long curved rod that is subtended by a very pale membranous flange. Inner dististyle elongate, terminating in a single powerful fasciculate seta. Phallosome without spinous points, at apex expanded into a depressed spatulate blade.

Hab. Fiji (Vanua Levu, Viti Levu).

Holotype, ♂, Savu Savu Bay, Balanga, Vanua Levu, December 1940. (*Otto Degener*). *Allotopotype*, ♀, January 1941. *Paratopotypes*, 6 ♂ ♀, December 1940–January 1941; *paratypes*, 5 ♂♂, 4 ♀♀, Nandala, Viti

Levu, February 22–March 27, 1941 (*Otto Degener*); 1 ♀, Nadarivatu, Viti Levu, November 21, 1940 (*Otto Degener*).

I take pleasure in naming this conspicuous fly for the collector, Dr. Otto Degener, to whom I am indebted for many species of Tipulidae from various Pacific islands and the United States. The fly is entirely distinct from all of the numerous regional species now known, differing in the heavily patterned wings and in the somewhat peculiar structure of the male hypopygium.

Gonomyia (Lipophleps) kraussi, sp. n.

General colouration brownish black, the pleura with a broad white longitudinal stripe; rostrum pale yellow; halteres and legs black; wings with a strong dusky tinge; veins *Sc* and *Rs* long; male hypopygium with two dististyles, the outer a slender yellow rod that terminates in a long straight black spine; phallosome large and complex.

Male.—Length about 4–4.5 mm.; wing 4.2–5 mm.

Female.—Length about 5–5.5 mm.; wing 4.5–5 mm.

Rostrum pale yellow; palpi brownish black. Antennae black. Head dark grey; anterior vertex broad.

Pronotum and pretergites white, the colour attaining the wing root. Mesonotal præscutum and scutal lobes brownish black, opaque by a sparse pruinosity; median region of scutum and narrow posterior borders of scutal lobes brownish yellow; scutellum obscure yellow; postnotum brownish black, sparsely pruinose, the cephalic lateral portions, with the dorsal pleurotergite, obscure yellow. Pleura brownish black, with a broad white longitudinal stripe extending from behind the fore coxæ, passing beneath the halteres, reaching the base of the abdomen. Halteres infuscated. Legs with the coxæ yellowish brown to light brown; trochanters brown; remainder of leg black. Wings with a strong dusky tinge, the prearcular and costal fields vaguely more whitened; stigma diffuse, a little darker than the ground; veins brown. Venation: *Sc* long, *Sc*₁ ending a short distance beyond origin of the long straight *Rs*, the latter only a trifle shorter than its anterior branch; branches long, basal section of *R*₅ short; cell *R*₅ strongly narrowed at outer end; cell 1st *M*₂ narrowed basally; *m-cu* at fork of *M*; cell 2nd *A* wide.

Abdomen brownish black, the large hypopygium obscure yellow. Male hypopygium with the outer apical lobe of basistyle subterminal, relatively long and slender. Two dististyles, the outer a slender yellow rod, at apex suddenly narrowed into a straight black spine, subtended at base by a pale flange extending outward to near midlength of the spine; inner style a little shorter, slightly enlarged outwardly, tipped with a single fasciculate seta. Phallosome large and complex, compressed flattened, including a pair of setiferous apical lobes, an acute spine, and an obtusely rounded knob, additional to the ædeagus.

Hab. Fiji (Viti Levu).

Holotype, ♂, Navai, on trail to Mount Victoria, September 23, 1950 (*Noël L. H. Krauss*). *Allotopotype*, ♀, pinned with type. *Paratopotypes*, several ♂ ♀.

This well-defined fly is named for the collector, Mr. Noël L. H. Krauss, to whom I am greatly indebted for very numerous crane-flies from all parts of the world. It is readily told from other described regional species by the longer *Sc* and by the structure of the male hypopygium. The most similar of such forms is *Gonomyia (Lipophleps) victorina*, sp. n., next described.

Gonomyia (Lipophleps) victorina, sp. n.

Closely allied to and associated in nature with *G. (L.) kraussi*, sp. n., differing in the smaller size and, especially, in the quite distinct male hypopygium.

Male.—Length about 3.5 mm.; wing 4 mm.

Female.—Length about 4 mm.; wing 5 mm.

Wings somewhat paler brown than in *kraussi*; *Sc*₂ more removed from tip of *Sc*₁. Male hypopygium with the outer dististyle shorter and stouter, strongly bent; apical spine stout, its subtending flange extending almost to opposite the tip; inner style a short gently arcuated arm, slightly enlarged apically. Phallosome much simpler in structure than in *kraussi*, terminating in a single long sclerotized hook.

Hab. Fiji (Viti Levu).

Holotype, ♂, Navai, on trail to Mount Victoria, September 23, 1950 (*Noël L. H. Krauss*). *Allotopotype*, ♀, pinned with type.

Gonomyia (Lipophleps) vanuana, sp. n.

Allied to *fijiensis*; general colouration dark brown, sparsely pruinose; basal segments of antennae pale; thoracic pleura with a conspicuous sulphur-yellow longitudinal stripe; femora yellow, weakly darkened near tips; wings with a very strong dusky tinge, the costal border narrowly light yellow, the colour continued outwardly to the wing tip; *Sc*₁ ending before origin of *Rs*; male hypopygium with the apices of the sternite produced on either side into strong black rods that are unequally bifid at tips; phallosome consisting of two long flattened blades that narrow into straight terminal spines, the two blades subtending a somewhat shorter central element.

Male.—Length about 3.3–3.5 mm.; wing 3.5–3.8 mm.

Female.—Length about 4.5 mm.; wing 4 mm.

Rostrum and palpi black. Antennae with basal segments orange, the scape a little infuscated beneath; flagellum with basal three or four segments yellow, the outer segments passing into black. Head light yellow, the central area of the vertex infuscated.

Pronotum and pretergites light sulphur yellow, the former very narrowly darkened medially. Mesonotum dark brown, sparsely pruinose; scutellum and mediotergite either uniformly darkened or restrictedly brightened; pleurotergite paler, yellowish brown. Pleura brownish black, with a very conspicuous sulphur yellow longitudinal stripe crossing the dorsal sternopleurite, ventral pteropleurite and metapleura to the abdomen; dorsal pleurites paler. Halteres obscure yellow, the base of knob restrictedly darkened. Legs with the coxæ pale, slightly darkened

basally; trochanters obscure yellow; femora yellow, weakly darkened near tips; tibiae and basitarsi yellowish brown, the tips narrowly darkened, the remainder of tarsi blackened. Wings with a very strong dusky tinge, the costal border narrowly but very conspicuously light yellow, the colour continued to beyond the wing tip; veins brown, flavous in the yellow areas. Venation: Sc_1 ending a short distance before origin of Rs , the branches of the latter strongly divergent; cell 1st M_2 closed; $m-cu$ close to fork of M ; cell 2nd A broad.

Abdominal tergites dark brown medially, paler laterally, the extreme lateral portions and the incisures even more brightened; hypopygium obscure yellow. Male hypopygium with the outer dististyle a long curved simple rod, subequal in length to the basistyle, narrowed to the acute tip; inner dististyle with its outer lobe slender, pale, with very abundant long delicate setae; inner or rostral lobe terminating in the usual two fasciculate setae. What appear to be extensions of the ninth sternite are long blackened rods, their tips unequally bifid, including a stout curved spine and a much shorter apical spur. Phallosome consisting of two elongate flattened yellow blades that narrow gradually into long acute blackened spines, the two subtending a central flattened blade that bears an extensive pale membranous veil along one margin.

Hab. Fiji (Vanua Levu, Viti Levu).

Holotype, ♂, Savu Savu Bay, Balanga, Vanua Levu, December 1940 (Otto Degener). *Allotopotype*, ♀, December 1940. *Paratopotypes*, 3 ♂♂, January 1941; *paratypes*, 2 ♂♂, Mandala, Viti Levu, February 22, 1941 (Otto Degener).

Generally similar to *Gonomyia (Lipophleps) fijiensis* Alexander, differing chiefly in the structure of the male hypopygium, especially the very distinct phallosome.

Gonomyia (Lipophleps) zimmermani, sp. n.

General colouration of mesonotum dark brown, the pleura paler; antennae brownish black throughout; legs dark brown, the tarsi extensively snowy white; wings with a strong brownish tinge; Sc short, $m-cu$ close to fork of M .

Male.—Length about 3–3.2 mm.; wing 3.7–3.8 mm.

Female.—Length about 3.6–4 mm.; wing 4–4.5 mm.

Rostrum brown; palpi brownish black. Antennae brownish black throughout; flagellar segments oval to long-oval. Head dark brownish grey.

Thoracic notum dark brown, the humeral region of præscutum, median area of scutum and posterior border of scutellum more testaceous. Pleura brownish yellow. Halteres dark brown. Legs with the coxæ and trochanters testaceous yellow; femora and tibiae dark brown; tarsi snowy-white, the proximal ends of basitarsi restrictedly darkened, most extensively so on the fore and middle pair where more than the basal third is included, much more restricted on the posterior legs where only the basal portions are darkened. Wings with a strong brownish tinge,

the stigma scarcely indicated; veins brown. Costal fringe relatively long and conspicuous. Venation: Sc short, Sc_1 ending a distance before origin of Rs that is about equal to two-thirds the length of the latter vein; Rs relatively short, arcuated to weakly angulated at origin, its branches long, nearly straight and diverging gradually; $m-cu$ at or shortly before fork of M . A paratopotype has a weak spur jutting based into cell 1st M_2 .

Abdominal tergites dark brown, the lateral margins yellow; sternites chiefly yellow.

Hab. Fiji (Viti Levu).

Holotype, ♀, Mount Victoria, Tholo North, west slope, altitude 3,000 feet, September 16, 1938 (Elwood C. Zimmerman). *Allotype*, ♂, Navai, on trail to Mount Victoria, September 23, 1950 (Noël L. H. Krauss). *Paratopotype*, 1 ♀; *paratype*, 1 ♀, Nandarivatu, altitude 2,700 feet, September 8, 1938, at light (Zimmerman); 6 ♂♀, with the allotype (Krauss).

This very distinct crane-fly is named in honour of Dr. Elwood C. Zimmerman, distinguished author of the great work "Insects of Hawaii," and many other reports. The darkened legs with snowy-white tarsi separate the fly from all other species of the subgenus so far made known.

Toxorhina (Toxorhina) perproducta, sp. n.

Size medium (wing, male, 5 mm.); mesonotal præscutum and scutum polished black, the borders of the former heavily grey pruinose; rostrum very long and slender, nearly twice as long as the wing; thoracic pleura black, with a plumbeous central stripe; knobs of halteres brownish black; wings with a weak brownish tinge; Sc long, Sc_1 ending about opposite one-fifth the length of Rs ; cell M_2 open by the atrophy of m ; $m-cu$ shortly before the fork of M ; abdomen bicoloured, black, the second to fourth segments with yellow basal rings, ninth segment abruptly yellow; male hypopygium with a longitudinal row of strong black bristles on mesal face of basistyle; arms of phallosome elongate, slender, divergent.

Male.—Length, excluding rostrum, about 6.5 mm.; wing 5 mm.; rostrum alone about 9 mm.

Rostrum brownish black, a trifle paler outwardly; very long, as shown by the measurements. Antennae with the scape and pedicel black; flagellum broken. Head above light grey, more silvery on narrowest part of the anterior vertex where it is about as wide as the diameter of the scape.

Thoracic disk above polished black, leaving the præscutal margins heavily grey pruinose; postnotum more plumbeous, brownish black, pruinose. Central region of pleura plumbeous, the dorsal part with a broad intensely black stripe extending from and including the cervical sclerites, involving the pleurotergite behind; ventral sternopleurite blackened. Halteres with stem yellow, knob brownish black. Legs with the fore and middle coxæ weakly infuscated, the posterior coxæ and all trochanters light yellow; femora brownish black, restrictedly brightened

basally, more extensively so on the fore legs; tibiae and tarsi paler, brown. Wings with a weak brownish tinge, the prearcular field light-yellow; veins dark brown, those at extreme wing base yellowed. Venation: *Sc* long, *Sc*₁ ending about opposite one-fourth to one-fifth the length of *Rs*, the latter straight; cell *M*₂ open by the atrophy of *m*; cell *M*₃ about as long as its petiole; *m-cu* shortly before fork of *M*.

Abdomen conspicuously bicoloured, black, the bases of the second to fourth segments conspicuously yellow, on the third and fourth sternites most extensive and more or less triangular in outline, elsewhere more transverse; outer segments uniformly black, excepting the ninth segment which is abruptly yellow. Male hypopygium with the caudal border of the tergite truncate, with a group of five or six black setae on either side of the midline. Basistyle with the dorsal part of the mesal face with a longitudinal row of about eight or nine strong black setae; more ventrally but also on the mesal face with abundant long erect yellow setae. Dististyles terminal, the smaller outer one bent at nearly a right angle into a long straight point; inner style at apex on outer margin with a retrorse spinous tubercle. Arms of phallosome elongate, divergent.

Hab. Fiji (Viti Levu).

Holotype, ♂, Tholo-i-Suva, December 1950 (Noël L. H. Krauss). Most similar to species such as *Toxorhina (Toxorhina) pulvinaria* Alexander, of New Guinea, differing in the colouration and, especially, in the structure of the male hypopygium, including the basistyle, dististyles and phallosome.

Toxorhina (Toxorhina) noëliana, sp. n.

Disk of præscutum uniformly shiny brown, the humeral region yellow; pleura and pleurotergite clear light yellow, conspicuously patterned dorsally with black spots; wings with a weak brownish tinge, more strongly so beyond the cord; basal abdominal tergites dark brown, the posterior borders narrowly yellow; basal sternites and the hypopygium yellow; male hypopygium with the inner dististyle obtuse at apex, on lower margin at near midlength with a strong curved hook; arms of phallosome short.

Male.—Length, excluding rostrum, about 5 mm.; wing 4 mm.; rostrum about 5.1 mm.

Female.—Length, excluding rostrum, about 8 mm.; wing 6 mm.; rostrum about 5.5 mm.

Rostrum of moderate length, subequal to the body and longer than the wing, black throughout. Antennae black, the flagellar fusion segment somewhat paler, brown. Head clear light grey, entirely without a corniculus; anterior vertex relatively narrow, scarcely twice the diameter of the scape.

Cervical region and pronotum dark brown, concealed beneath the very strongly projecting præscutum. Mesonotal præscutum with the humeral region and extreme cephalic portion yellow, the lateral borders more narrowly yellow, grey pruinose; disk of præscutum uniformly shiny

brown, scutal lobes and scutellum concolorous, the median region of the scutum very restrictedly obscure yellow; postnotum grey pruinose. Pleura and pleurotergite clear light yellow, conspicuously patterned with two dorsal blackened spots, the more anterior on the dorsal anepisternum, the second area on the dorsal pteropleurite and adjacent part of the pleurotergite. Halteres brownish black. Legs with all coxæ and trochanters clear yellow; remainder of legs dark coloured by abundant black setae; tarsi paler. Wings with a weak brownish tinge, more strongly so beyond the cord, the basal fourth and narrow costal border more whitened; veins dark brown. Venation; *Sc* short, *Sc*₁ ending just beyond origin of *Rs*; *M*₃₊₄ about two-thirds vein *M*₄ alone; *m-cu* about one-third its length before the fork of *M*.

Basal abdominal tergites dark brown, the posterior borders narrowly obscure yellow, the outer segments more uniformly darkened; basal sternites and ninth segment yellow; basistyle of male hypopygium conspicuously blackened. Male hypopygium with the tergite transverse, the median region of the posterior border a trifle produced, on either side of the midline with about six strong black setae. Basistyle on mesal face of outer half with a longitudinal row of about six strong setae, the most basal one largest; also on mesal face with very abundant long pale setae. Outer dististyle with outer third strongly narrowed. Inner dististyle much larger, obtuse at apex, on lower margin at near midlength with a strong curved hook. Gonapophysis unusually broad, very obtuse to subtruncate at apex. Arms of phallosome short (possibly with the tips broken, as shown in the unique type slide).

Hab. Fiji (Viti Levu).

Holotype, ♂, Lami, February 1951 (Noël L. H. Krauss). *Allotype*, ♀, Navai, January 1951 (Krauss).

I am pleased to dedicate this fly to the collector, Mr. Noël L. H. Krauss, who has added vastly to our knowledge of the Tipulidae of Fiji. The fly is quite distinct from *Toxorhina (Toxorhina) perproducta*, sp. n., in the smaller size, with much shorter rostrum, the colouration, and the details of structure of the male hypopygium. The female assigned to this species as allotype is much larger than the type male and may prove not to be conspecific.