VI.—New or little-known Tipulidæ (Diptera).—XV. Australasian Species. By CHARLES P. ALEXANDER, Ph.D., F.E.S., Massachusetts Agricultural College, Amherst, Massachusetts, U.S.A.

THE new species of crane-flies described at this time are from New Zealand, and were collected by my friends Messrs. Campbell, Harris, Oliver, and Tapley, to whom I am indebted for many favours. The types are retained in the author's collection.

In this paper and others to be published under this title, the author has adopted the terminology of the male hypopygium proposed by Dr. G. C. Crampton in a recent paper ("The Genitalia of Male Diptera and Mecoptera," Trans. Amer. Ent. Soc. xlviii. pp. 207-225, 1923). The parts involved are the following: The so-called *pleurites* of earlier papers are the *basistyles*; the *pleural appendages* the *dististyles*; detached dorsal portions of basistyles occurring in certain Hexatomini, as *Epiphragma* and other groups, are the *interbases*; the *penis-guard* the ædeagus.

# Dicranomyia fulvinota, sp. n.

General coloration of the thorax fulvous; head dark brown, yellowish anteriorly; halteres dark brown; wings with a strong brownish tinge, the stigma feebly indicated; Sc short, Rs and the basal deflection of  $R_{4+5}$  subequal; cell 1st  $M_2$  rectangular; ventral dististyles of male hypopygium with a bispinous rostrum.

Male.-Length about 4.6 mm.; wing 6-6.5 mm.

Rostrum short, pale ochreous; palpi small, brownish black. Antennæ black throughout, the basal flagellar segments subglobular, soon passing into oval. Front and anterior part of vertex pale yellow, the remainder of the head dark brown, very sparsely dusted with pale brown.

Pronotum obscure fulvous yellow posteriorly. Mesonotal præscutum fulvous, brightest laterally, with faint indications of three fulvous-brown stripes; remainder of mesonotum fulvous, only the scutal lobes fulvous brown. Pleura fulvous or brownish fulvous. Halteres dark brown, the base of the stem pale. Legs with the coxæ and trochanters obscure yellow; remainder of the legs brownish black, the femoral bases rather narrowly pale. Wings with a strong brownish tinge, the stigma slightly darker brown, distinct but pale; veins dark brown. Venation: Sc short as in the Ann. & Mag. N. Hist. Ser. 9. Vol. xii. 7 monilicornis group,  $Sc_1$  ending a distance before the origin of Rs that is about equal to  $Sc_1$  alone; Rs equal to or shorter than the basal deflection of  $R_{4+5}$ , feebly angulated near mid-length; cell 1st  $M_2$  rectangular; basal deflection of  $Cu_1$  before to just beyond the fork of M.

Abdominal tergites dark brown, the sternites pale; hypopygium obscure yellow. Male hypopygium very different in structure from that of *D. gracilis*, Edwards, or *D. weschei*, Edwards, approaching the typical form of the genus; basistyles with the mesal face produced into a very conspicuous lobe; ventral dististyle with a rostrum that is armed with two subequal spines near mid-length; dorsal dististyle a strongly curved acute spine. Gonapophyses with mesal apical angle produced into a slender, slightly curved rod, the apex blackened. Ædeagus divaricate at apex.

Hab. New Zealand (South Island).

Holotype, 3, White Rock, Mt. Thomas, Canterbury, altitude 800 feet, November 26, 1922 (J. W. Campbell).

#### Paratopotype, sex?

The present species is very distinct from D. monilicornis, Hutton, a paratype of which is in my collection through the kindness of Mr. Speight.

## Dicranomyia punctipennis maoriensis, subsp. n.

Male.—Length 5-5.6 mm.; wing 7.5-8 mm.

Rostrum and palpi dark brownish black. Antennæ black, the flagellar segments oval. Head grey.

Mesonotum dull light grey, the præscutal stripes and markings on the scutal lobes ill-delimited, brown. Pleura infuscated. Legs dark brown, the femoral bases narrowly and obscurely pale yellow. Wings with a faint greyishyellow tinge; wing-markings very small, including the stigmal spot.

Hab. New Zealand (North Island).

Holotype,  $\mathcal{J}$ , Ohakune, altitude 2060 feet, October 10, 1922 (T. R. Harris).

Paratopotypes, 2 3 3, November 6-13, 1921; paratype, 3, Taihape, October 18, 1922 (T. R. Harris).

This is very closely related to the Australian *D. punctipennis*, Skuse, and is best considered as being a geographical race.

#### Dicranomyia pictithorax, sp. n.

General coloration ochreous, the thoracic præscutum with three widely separated, dark brown stripes; pleura with a narrow dark brown stripe ; rostrum as long as head; tarsi dark brown; wings narrowed basally;  $Sc_1$  very long, nearly as long as Rs.

Male.-Length 3.3-3.5 mm.; wing 4.4-4.6 mm.

Female.-Length 3.6-3.8 mm.; wing 4.8-5.2 mm.

Rostrum as long as the head, dark brown; palpi foursegmented, inserted near mid-length of the rostrum. Antennæ dark brown throughout. Head dark brown.

Pronotum dark brown. Mesonotal præscutum gibbous, ochreous, with three conspicuous dark brown stripes, the median stripe broader, the lateral stripes, including the lateral margins of the sclerite, about equal in width to the pale interspaces; scutum ochreous, each lobe with the mesal and lateral margins dark brown, these being caudal elongations of the præscutal stripes; scutellum ochreous with two small brown spots; postnotum ochreous, the basal lateral portions dark brown, representing the caudal end of the pleural stripe. Pleura ochreous yellow, with a narrow, dark brown, longitudinal stripe extending from the fore coxæ to the postnotum. Halteres elongate, dark brown, the extreme base pale. Legs with the fore coxæ and trochanters dark brown; remaining coxæ and trochanters ochreous; femora light brown; tibiæ and tarsi dark brown. Wings with a faint greyish tinge; stigma very pale brown; veins dark brown. Wings strongly narrowed basally. Venation:  $Sc_1$  ending opposite or before the origin of Rs,  $Sc_2$  far from the tip of  $Sc_1$ , the latter about four-fifths the length of the relatively long Rs; Rs about twice the basal deflection of  $R_{4+5}$ ; r very faint; cell 1st  $M_2$ closed, the inner end arcuated so r-m is just before to just beyond mid-length of the cell; basal deflection of  $Cu_1$ just beyond the fork of M.

Abdominal tergites dark brown, the sternites paler. In the female the subgenital segment is yellow, the base of the ovipositor dark brownish black.

Hab. New Zealand (North Island).

Holotype,  $\mathcal{F}$ , Taumarunui, October 1, 1922 (T. R. Harris). Allotopotype,  $\mathcal{P}$ .

Paratopotypes,  $1 \Im, 1 \Im$ .

Dicranomyia cuneipennis, sp. n.

Male.-Length 3.3-3.5 mm.; wing 4.5-4.6 mm.

Very similar to *D. pictithorax*, sp. n., from which it differs as follows :---

Mesonotum slightly less gibbous, the dorsum uniformly

dark brown, the pleura a little paler. Halteres very elongate, not noticeably brightened basally. Wings darker, the stigma nearly concolorous with the remainder of the wing. Wing narrowed basally, the anal angle little evident. Venation: Rs longer,  $Sc_1$  ending a short distance beyond its origin;  $Sc_1$  much shorter, less than one-half of the length of Rs.

Hab. New Zealand (North Island).

Holotype,  $\mathcal{Z}$ , Taumarunui, October 1, 1922 (T. R. Harris). Allotopotype,  $\mathcal{Q}$ .

Paratopotypes, 1 &, 1 &; paratype, sex ?, Ohakune, altitude 2060 feet, November 16, 1922 (T. R. Harris).

## AMPHINEURUS, Skuse.

#### NOTHORMOSIA, subgen. nov.

Antennæ of the male elongate, approximately as long as the body, the flagellar segments elongate-cylindrical, provided with abundant erect setæ in addition to the short basal verticils. Wings with cell  $R_2$  petiolate, the petiole subequal to r-m; cell 1st  $M_2$  open by the atrophy of m; basal deflection of  $Cu_1$  before the fork of M, the fusion being with M and  $M_3$ . Male hypopygium with the ninth tergite chitinized; basistyle produced caudad into a fleshy lobe; dististyles two in number, symmetrical.

Type of the subgenus, Amphineurus insulsus (Hutton) (Maorian Subregion).

Other included species are: A. harrisi, Alexander, A. horni, Edwards, A. gracilisentis, Alexander, A. otagensis, Alexander, and A. recurvans, Alexander.

#### NESORMOSIA, subgen. nov.

Antennæ short in both sexes, the flagellar segments with verticils that are slightly longer than the segments. Wings with cell  $R_2$  petiolate, the petiole subequal to r-m; cell  $1st M_2$  open by the atrophy of m; basal deflection of  $Cu_1$ close to the fork of M, the fusion being with  $M_3$ . Male hypopygium asymmetrical, the dististyles of the two sides differently constructed.

Type of the subgenus, Amphineurus fatuus (Hutton) (Maorian Subregion).

Amphineurus subfatuus, Alexander, is also a member of this group.

# Amphineurus lyriformis, sp. n.

Male.—Length about 4 mm.; wing 4.8 mm.

Allied to A. senex, Alexander, differing as follows :---

Mesonotal præscutum more testaceous brown, the median lobe of the scutellum and a broad median stripe on the postnotum dark brown. Knobs of the halteres brighter yellow. Wings paler, the dark pattern almost obsolete. Male hypopygium with the apical lobes of the basistyle about intermediate in length between those of A. senex and A. campbelli. Dististyles two, the outermost a straight chitinized rod with a conspicuous lobe on the mesal face near mid-length; inner style arcuate, the apex feebly serrulate; the so-called basal dististyle, which from its position would seem to be an interbase, is a heavily chitinized, sinuous rod, the base dilated, thence narrowed into a neck, beyond mid-length slightly enlarged and gradually narrowed to an acute point. Gonapophyses slender, the two together appearing lyriform, approximated at base, each gradually narrowed to the long attenuate point, at about two-thirds the length bent strongly mesad, their outline thus following that of the above-described basal dististyle.

Hab. New Zealand (North Island).

Holotype, 3, Ohakune, altitude 2060 feet, December 1, 1922 (T. R. Harris).

#### Amphineurus submolophilinus, sp. n.

Male.—Length about 5.5 mm.; wing 7.5 mm.

Generally similar to A. molophilinus, Alexander.

Mesonotal præscutum reddish brown, the remainder of the mesonotum darker brown. Pleura brownish black, clothed with conspicuous white setæ. Halteres obscure yellow. Legs obscure yellow, clothed with abundant, black, appressed setæ. Wings with a strong yellowish tinge, the membrane with abundant brown trichiæ; veins brown. Venation: Rs elongate; cell  $R_2$  very short-petiolate, the basal section of  $R_2$  perpendicular, with a short spur; cell 1st  $M_2$  small, the veins issuing from it correspondingly elongate.

Male hypopygium differing in details of structure from that of *A. molophilinus*. Distal ends of the basistyles not produced into slender attenuate lobes. Outer dististyle dilated apically, the lateral angle extended into a long curved point. Interbase almost straight, before the acute apex with a few denticles. Gonapophyse near mid-length, greatly twisted upon itself, the distal section an acute, nearly straight spine, directed caudad and mesad. Iu *A. molophilinus* the distal ends of the basistyles are produced into slender lobes; outer dististyle obliquely truncate, the lateral angle a moderately long and rather straight point. Interbase a long, gently sinuose rod with conspicuous erect spines before the tip and a linear row near base. Gonapophyses lyriform, each appearing as a stout horn, directed laterad, thence caudad, and finally mesad and caudad.

Hab. New Zealand (South Island).

Holotype, & Governor's Bay, Canterbury, altitude 80 feet, October 29, 1922 (J. F. Tapley).

" Sweeping near stream."

#### Molophilus multispinosus, sp. n.

General coloration pale brownish yellow; antennal scape light yellow; halteres dark brown, the base of the stem paler; wings strongly tinged with yellow; male hypopygium with basistyle unarmed at apex; inner dististyle terminating in a slender black rod that is provided with many erect spines; lateral style roughly triangular in outline, apex truncated, produced into a flattened ear-like lobe.

Male.-Length about 3.8 mm.; wing 4.6 mm.

Rostrum and palpi brownish black. Antennal scape conspicuously light yellow; basal segment of flagellum pale brown; remainder of the organ broken. Head grey, paler adjoining the inner margin of the eye.

Pronotum and mesonotum pale brownish vellow. Propleura and mesopleural episternum infuscated. Halteres dark brown, the basal half of the stem yellowish. Legs with the coxæ and trochanters light yellow, the outer face of the fore coxa infuscated; femora obscure yellow; tibiæ and tarsi brown. Wings with a strong yellowish tinge, the base and costal region brighter; veins yellow. Venation: basal section of  $R_{4+5}$  nearly twice r-m; petiole of cell  $M_3$ about twice the basal deflection of  $Cu_1$ ; vein  $2nd \ A \ long$ , extending to beyond mid-length of the petiole of cell  $M_3$ .

Abdominal tergites dark brown, the sternites a little paler; hypopygium obscure brownish yellow. Male hypopygium complex, very distinct in structure from any species of the genus so far made known. Basistyles short and stout, the lateral apical angle produced caudad into a stout lobe that is setiferous but otherwise unarmed; dististyles two, on mesal face of basistyle near mid-length, the inner style stout at base, the apex narrowed into a slender, curved, black rod that is provided, except at its base, with many conspicuous erect spines; lateral style a stout blackened blade, the base short and stout, gradually triangularly dilated, with a truncate apex; at the base of this apex produced laterad into a slender black rod; the apex bearing a large, ear-shaped, black lobe that is subacute at apex.

Hab. New Zealand (South Island).

Holotype, 3, White Rock, Mt. Thomas, Canterbury, altitude 800 feet, November 26, 1922 (J. W. Campbell).

# Molophilus repandus, sp. n.

General coloration brownish yellow; antennæ short; wings tinged with yellow; male hypopygium stout, with the basistyles produced caudad into an erect lobe, the mesal face blackened, spinulose; outer dististyle with a long slender rod at base.

Male.-Length about 3.2 mm.; wing 4.2-4.3 mm.

Rostrum and palpi dark brown. Antennæ short, dark brown, the scapal segments a little paler. Head dark grey.

Mesonotum uniform obscure brownish yellow, the scutum and scutellum a little more testaceous. Pleura concolorous, the dorsal pleurites weakly infuscated. Halteres testaceous, the knobs slightly darkened. Legs with the coxæ and trochanters obscure brownish yellow; femora light brown, the tibiæ and tarsi gradually darkened into brown. Wings with a strong yellowish tinge; veins brownish yellow; macrotrichiæ brown. Venation: vein 2nd A elongate, ending about opposite mid-length of the petiole of cell  $M_8$ .

Abdominal tergites pale brown, the sternites and hypopygium obscure brownish yellow. Male hypopygium stout, the basistyles broad basally, the apex of each produced caudad into an elongate lobe that culminates in an acute black tooth; on the mesal face, extending basad from this tooth, are two gently divergent blackened ridges, the ventral ridge weakly spinulose, the other ridge nearly smooth; these ridges extend almost to mid-length of the style. Dististyles two, on the mesal face of the basistyle, the inner style a straight rod with the apex obtuse, blackened, and very feebly serrulate; outer style a shorter blackened blade, the apex microscopically serrulate; at the base produced into a long, slender, blackened rod that is directed mesad and caudad; on the margin of the blade, immediately above this rod, a conspicuous crect spine. Hab. New Zealand (North Island).

Holotype, 3, Ohakune, altitude 2060 feet, November 14, 1922 (T. R. Harris).

Paratopotypes, 5 & J, November 14-16, 1922.

#### Molophilus tenuistylus, sp. n.

Allied to M. howesi, Alexander; general coloration black; antennæ short; head dark grey; male hypopygium with the dististyles slender, acutely pointed, their margins smooth.

Male.-Length 2.3-2.5 mm.; wing 3.5-3.6 mm.

Female.-Length 2.7-3 mm.; wing 4.1-4.3 mm.

Rostrum and palpi dark brown. Antennæ short, brown, the scapal segments obscure testaceous. Head dark grey.

Mesonotum dark brownish black, the humeral angles of the præscutum paler; lateral margin of the præscutum narrowly sulphur-yellow. Pleura brownish black. Halteres pale yellow, the knobs bright sulphur-yellow. Legs with the coxæ obscure testaceous yellow, the fore coxæ darker; trochanters yellow; femora brown, the tibiæ and tarsi passing into dark brownish black. Wings with a strong blackish tinge; veins darker brown. Venation: petiole of cell  $M_3$  nearly three times the basal deflection of  $Cu_1$ ; vein 2nd A ending about opposite one-third the length of the petiole of cell  $M_3$ .

Abdomen brownish black, including the hypopygium. Male hypopygium of the type of *M. terminans*, and most similar to that of *M. howesi* among the described species, but the dististyles even more slender; outer dististyle a strongly curved, flattened blade, gradually narrowed to an acute point, beyond mid-length bearing a conspicuous, acute, marginal spine; inner dististyle shorter, sickle-shaped, acutely pointed, the margins smooth, the surface near midlength bearing 6-9 conical spinulæ.

Hab. New Zealand (North Island).

Holotype, 3, Ohakune, altitude 2060 feet, November 14, 1922 (T. R. Harris).

Allotopotype, 9.

Paratopotypes, 18 3 9, November 14-22, 1922.

# Molophilus morosus, sp. n.

General coloration brown, the postnotum and pleura dark brown; antennæ short; halteres with sulphur-yellow knobs; legs yellow; wings faintly tinged with grey, the costal and stigmal areas yellowish.

Male.-Length about 4 mm.; wing 5.3 mm.

Rostrum and palpi brownish black. Antennæ short, dark brown throughout, the segments with conspicuous erect white pubescence. Head light brown.

Pronotum light yellow. Mesonotal præscutum brown, the lateral margins indistinctly paler, the humeral triangles obscure yellow; scutum brown; scutellum reddish brown; postnotum dark brown. Pleura dark brown. Halteres pale, the knobs light sulphur-yellow. Legs with the coxæ yellow, the fore and middle coxæ dark brown; trochanters obscure yellow; remainder of legs yellow, the terminal tarsal segments infuscated. Wings with a faint greyish tinge, the base and costal region distinctly yellowish, including the stigmal area; veins and macrotrichiæ pale brown. Venation: vein 2nd A long, ending about opposite four-fifths the length of the petiole of cell  $M_8$ .

Abdomen dark brown, the sternites very slightly paler. Male hypopygium with each basistyle produced into a slender chitinized spine at apex, these directed strongly cephalad. Outer dististyle bifd at apex, the lateral arm much larger than the mesal arm, its apex truncated, the caudo-lateral angle weakly serrulate; mesal arm a stout chitinized spine. Basal dististyle a long rod, the apical third blackened and gently curved, this blackened apex bearing numerous small appressed spinules and terminating in about three longer slender spines.

Hab. New Zealand (South Island).

Holotype, 5, Glenorchy, Otago, altitude 1200 feet, December 30, 1922 (F. S. Oliver).

# Molophilus flavomarginalis, sp. n.

General coloration dark brown; head and lateral margin of præscutum sulphur-yellow; halteres with the knobs sulphur-yellow; wings broad, faintly tinged with brown; male hypopygium with the inner dististyle a simple, feebly chitinized, straight rod.

Male.-Length about 2 mm.; wing 2.9 mm.

Allied to Molophilus pictipleura, Alexander.

Rostrum and palpi brownish black. Antennæ with the first scapal segment pale brown, the second segment dark brown; flagellum broken. Head sulphur-yellow above, passing into brown on the genæ and beneath.

Pronotum sulphur-yellow. Mesonotum dark brown, the margin of the præscutum conspicuously sulphur-yellow, this colour continued caudad to the wing-root; scutellum paler brown. Pleura and sternum dark brown, the dorsopleural membranes a little paler. Halteres brownish testaceous, the knobs conspicuously sulphur-yellow. Legs with the coxæ concolorous with the pleura; trochanters obscure brownish yellow; remainder of the legs broken. Wings broad, faintly tinged with brown, the base and cells C and Sc more yellowish; veins pale brown. Venation: petiole of cell  $M_s$  about twice the basal deflection of  $Cu_i$ ; vein 2nd A ending a little beyond the origin of the petiole of cell  $M_s$ .

Abdomen dark brown, the hypopygium obscure yellow. Male hypopygium with the basistyles produced apically into a mesally directed, slender, chitinized spine; immediately before this spine, the style is clothed with abundant setæ. Dististyles two, situated at base of mesal face of basistyle; outer style bifid at apex, the two arms subequal in length, mesal arm a black spine, lateral arm a flattened truncate blade; inner or cephalic style a simple straight rod, only feebly chitinized, tapering to the acute apex, the surface sparsely provided with small appressed spinulæ or tubercles. A conspicuous plate, shaped somewhat like an hour-glass, at base of ædeagus.

Hab. New Zealand (North Island).

Holotype, 3, Ohakune, altitude 2060 feet, November 14, 1922 (T. R. Harris).

## Molophilus aucklandicus, sp. n.

General coloration pale yellowish brown, the margins of the præscutum brighter yellow; head dark grey; knobs of the halteres dark brown; wings greyish subhyaline; vein 2nd A short; male hypopygium with the basal dististyle a long, straight, chitinized rod that tapers gradually to a long chitinized spine, the surface of the style with conspicuous appressed spinules.

Male.—Length about 2.5 mm.; wing 3.5 mm.

Female.-Length about 3-3.2 mm.; wing 3.6-3.8 mm.

Rostrum and palpi dark brown. Antennæ short, dark brown. Head dark grey.

Mesonotum shiny pale yellowish brown, the lateral margins of the præscutum brighter yellow. Pleura yellowish testaceous, the dorsal region indistinctly darker. Halteres pale brown, the knobs conspicuously dark brown. Legs with the coxæ and trochanters yellowish testaceous; remainder of the legs pale brown, the terminal tarsal segments darker. Wings greyish subhyaline, the macrotrichiæ dark brown, veins pale brown. Venation: vein 2nd A short, as in *M. parvulus*, Alexander, ending before the level of the fork of *Cu*.

Abdominal tergites dark brown, the hypopygium obscure

yellow. Male hypopygium with the apex of each basistyle produced into a slender, heavily chitinized spine that is longer and more conspicuous than in related species; outer dististyle chitinized throughout its length, bifid at apex, the lateral arm expanded into a flattened blade with the apex truncate but distinctly serrate on the caudo-lateral angle; mesal arm approximately as long, the apex subacute, blackened; basal dististyle a long, straight, chitinized rod that tapers gradually to a long chitinized spine, the surface of the rod covered with conspicuous appressed spinules.

Hab. New Zealand (North Island).

Holotype, &, Auckland, June 26, 1922 (T. R. Harris).

Allotype,  $\Im$ , Ruapehu, altitude 4500 feet, February 27, 1922 (T. R. Harris).

Paratopotype,  $\mathcal{F}$ ; paratypes,  $11 \mathcal{F}$ ?, Ohakune to camp on Ruapehu, altitude 2060-4000 feet, February 26, 1922 (*T. R. Harris*);  $4 \mathcal{F}$ ?, Ruapehu, at camp, altitude 4500 feet, February 27, 1922 (*T. R. Harris*).

# Limnophila (Metalimnophila) nemocera, sp. n.

Antennæ of the male approximately as long as the body; tips of the femora not darkened; wings pale yellow, the stigma conspicuous, brown; veins pale; cell 1st  $M_2$  small; cell 1st A narrow.

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

Rostrum and palpi dark brown. Antennæ exceedingly long and slender for a member of this group, the longest of any member of the subgenus so far described, being approximately as long as the entire body, dark brown throughout. Head dark greyish brown.

Mesonotum uniform light reddish brown. Pleura concolorous, with a conspicuous dorsal fuscous stripe, passing immediately beneath the base of the halteres. Halteres long and slender, pale throughout. Legs with the coxæ, trochanters, and femora pale brown, the latter not darkened apically; tibiæ and tarsi dark brown. Wings uniform light yellow, with a conspicuous, oval, dark brown stigma; veins very pale, only a little darker than the ground-colour. Venation:  $Sc_1$  ending just before the fork of Rs, the longer  $Sc_2$  at its extreme tip but faint; Rs relatively short, arcuated at origin; r faint, immediately before mid-length of the stigma and about twice its length from the tip of  $R_1$ ; cell 1st  $M_2$  very small, the elements closing it very faint and without macrotrichiæ; cell  $M_1$  about two thirds the length of its petiole; basal deflection of  $Cu_1$  about one-third its length beyond the fork of M; cell 2nd A relatively narrow.

Abdominal tergites dark brown, the sternites a little paler. Male hypopygium with the distal prolongation of the basistyle relatively long, the apex feebly notched; dististyles two, the outer slender, the apex very slightly bifid; inner style shorter, broad-based, narrowed to the slender apex, the whole appearing more or less bottle-shaped.

Hab. New Zealand (North Island).

Holotype, 3, Ohakune, altitude 2060 feet, September 17, 1922 (T. R. Harris).

#### Limnophila oliveri, sp. n.

General coloration clear light grey; antennæ short, black; mesonotal præscutum with five brown stripes; femora black except basally; wings with a yellowish tinge, cells C and Sc brownish yellow; small brown spots on the cross-veins and deflections; distal half of cell  $R_5$  clouded with brown.

Male.—Length 8 mm.; wing 8.7 mm.

Female.-Length 10 mm.; wing 10 mm.

Rostrum and palpi black. Antennæ short in both sexes, black, the elongate first segment grev-pruinose. Head light grey, with an indistinct brown median line; head somewhat narrowed posteriorly.

Mesonotal præscutum dull grey with five brown stripes, the median stripe broad and further divided by a capillary dark brown vitta that continues cephalad on to the pronotum; sublateral stripes two on either side, relatively indistinct; pseudosutural foveæ very distinct, black; scutum and scutellum grey; a small impressed area on either side of median lobe of scutellum at base; postnotum grey, infuscated posteriorly. Pleura light grey-pruinose. Halteres obscure yellow, the knobs dark brown. Legs with the coxæ brown, light grey-pruinose; trochanters obscure vellow; femora black, the basal third obscure yellow; tibiæ light brown, the narrow base and broader apex black; basitarsi brown, the tips and remainder of the tarsi black. Wings with a yellowish tinge; cells C and Sc brownish vellow; stigma oval, dark brown; small brown spots at origin of  $\bar{R}s$ ,  $Sc_2$ , along the cord and outer end of cell 1st  $M_2$ ; tip of  $R_2$ ; fork of  $M_{1+2}$ ; faint brown clouds along Cu and in the distal half of cell Rs; veins brownish yellow, darker in the infuscated areas. Venation : Sc1 ending just before the fork of Rs; r about twice its length from the tip of  $R_1$  and a little less than this distance beyond the base of  $R_2$ ; basal deflection of  $Cu_1$  only a short distance beyond the fork of M; arculus complete.

Abdominal tergites dark brown, pruinose, the sternites more sparsely so.

Hab. New Zealand (South Island).

Holotype, &, Glenorchy, Otago, altitude 1200 feet, December 23, 1922 (F. S. Oliver).

Allotopotype,  $\mathfrak{P}$ .

Paratopotype, 3.

This interesting species is most closely related to L. indecora, Alexander (Australia). It is named in honour of the collector, Mr. F. S. Oliver, to whom I am indebted for many Tipulidæ from Lake Wakatipu.

#### Limnophila quæsita, sp. n.

Antennæ short; general coloration brownish black; wings uniformly tinged with pale brown, the stigma darker; cell  $M_1$  lacking; male hypopygium with the outer dististyle toothed at apex.

Male.-Length 4.8-5 mm.; wing 6.2-7.2 mm.

Female.-Length 5.6 mm.; wing 5.8 mm.

Rostrum and palpi brownish black. Antennæ short, black, the flagellar segments short-oval. Head dull leadengrey.

Mesonotum dark, with a sparse brown pollen, subshiny, the humeral angles of the præscutum a little brighter; scutellum and postnotum more pruinose. Pleura grey, with indications of a dorsal darker longitudinal stripe. Halteres pale, the knobs brown. Legs with the basal portions of the coxæ concolorous with the pleura, the apices paler; middle and posterior coxæ long; trochanters obscure yellow; remainder of the legs dark brown; tibial spurs conspicuous; ungues small, simple. Wings uniformly tinged with pale brown, cells C and Sc a trifle more yellowish; stigma oval, brown; veins dark brown, conspicuous. Venation: Sci ending opposite the fork of Rs,  $Sc_2$  a very little shorter than  $Sc_1$ ; Rs long, gently arcuated; r very faint, nearly three times its length from the tip of  $R_1$ ;  $R_{2+3}$  about equal to the basal deflection of  $Cu_1$ ; inner ends of cells  $R_3$ ,  $R_5$ , and 1st  $M_2$  in alignment; cell  $M_1$  lacking; cell 1st  $M_2$  relatively small, rectangular; basal deflection of  $Cu_1$  more than half its length beyond the fork of M; vein 2nd A elongate, ending just before the level of the origin of Rs; anterior arculus present.

Abdominal tergites dark brown, including the hypopygium; basal sternites a little paler. Male hypopygium with the basistyles relatively long; dististyles two, the outer heavily chitinized throughout, slender, narrowed to the subacute apex, immediately before the tip with a tiny curved spine so the apex appears weakly toothed; inner style very small, fleshy, tapering to the blunt apex. Ædeagus slender. Gonapophyses very inconspicuous.

Hab. New Zealand (North Island).

Holotype, 3, Taumarunui, October 1, 1922 (T. R. Harris). Allotype, 2, Ohakune, altitude 2060 feet, November 8, 1922 (T. R. Harris).

Paratopotype,  $\mathcal{J}$ ; paratypes,  $2 \mathcal{J} \mathcal{J}$ , with the allotype.

The female is generally similar to the male, but the general coloration is much brighter brown, especially the wings which are suffused with yellowish, the stigma oval, brown; petiole of cell  $R_2$  equal to the basal deflection of  $R_{4+5}$ . This is a very distinct crane-fly and has no close ally among the described species of the genus.

#### Gynoplistia hyalinata, sp. n.

Size very small (wing,  $\mathcal{J}$ , under 5 mm.); general coloration shiny black; antennæ with eight branched segments; legs black, the femoral bases very broadly yellow; wings nearly hyaline, the stigma pale brown; cell  $M_1$  present.

Male.—Length about 3.3 mm.; wing 4.6 mm.

Rostrum and palpi black. Antennæ black, probably 15-segmented, the terminal flagellar segments broken, the formula being 2+2+6+?; the longest flabellation is six or seven times as long as the segment that bears it. Head shiny black.

Mesonotum entirely shiny black. Pleura black, with a sparse longitudinal row of silvery appressed pubescence occupying the dorsal pleurites and the mesepimeron. Halteres dirty white, the knobs dark brown. Legs with the coxæ shiny black, the apices paler; trochanters obscure brownish yellow; femora obscure yellow, the apices dilated, black; tibiæ and tarsi entirely black. Wings nearly hyaline; stigma large, pale brown; a very faint brown cloud at the fork of Rs; veins dark brown. Venation: Sc rather short,  $Sc_2$  at the extreme tip of  $Sc_1$ , ending just before mid-length of the short arcuated sector; r about twice its length from the tip of  $R_1$  and less than its length beyond the fork of  $R_{2+3}$ ; cell  $M_1$  equal to, or shorter than, its petiole; basal deflection of  $Cu_1$  near two-fifths the length of cell 1st  $M_2$ .

Abdomen shiny black throughout.

Hab. New Zealand (South Island).

Holotype, 3, White Rock, Mt. Thomas, Canterbury, altitude 800 feet, November 26, 1922 (J. W. Campbell).

Gynoplistia hyalinata is the smallest species of the genus so far described.

## Gynoplistia ocellifera, sp. n.

General coloration rich brown, the mesonotal præscutum with three greyish-brown stripes that are narrowly bordered with dark brown; antennæ 20-segmented, the basal twelve flagellar segments short-pectinate; wings greyish subhyaline with a heavy ocellate pattern of light and dark brown.

Male.—Length 19 mm.; wing 20 mm.

Rostrum brown; palpi dark brown. Antennæ relatively small, dark brown, only the second scapal segment paler apically; antennæ 20-segmented, the formula being 2+12+6; the longest branch is a little more than four times the length of the segment that bears it; the basal pectinations lie in about the same plane as those that follow; the thirteenth flagellar segment is feebly enlarged basally, but is scarcely produced; terminal segment about twice as long as the penultimate. Head rich chestnut-brown, brightest on the vertex behind the antennal bases.

Mesonotal præscutum dark brown, with three grevishbrown stripes that are narrowly bordered with dark brown, the median stripe feebly divided by a capillary dark vitta, the humeral region a much warmer brown; pseudosutural foveæ conspicuous, elongate, light buffy in colour; scutal lobes dark brown, each with a greyish-brown centre, narrowly bordered by paler; median area of scutum greyish white, the colour produced caudad on to the median lobe of the scutellum; postnotum rather bright brown. Pleura dark brown, variegated with grey-pruinose areas. Halteres dull yellow. Legs with the coxæ and trochanters bright brown, more or less pruinose; femora obscure yellow, the tips dark brown ; tibiæ brownish yellow, the tips indistinctly infuscated ; tarsi light brown, the apical segments darker. Wings greyish subhyaline, with a very heavy yellow and brown pattern that is in part ocellate; cells C and Scbrownish yellow, the wing-base clearer yellow; ocellate areas in cells R and M at the base; near mid-length, with the origin of Rs as a centre ; more diffusely along the cord ; other circular areas in cell 1st A, one basal, the other subapical; small ocellate rings at the tips of veins  $R_1$ ,  $R_2$ ,  $R_3$ ,  $M_2$ ,  $M_3$ ,  $Cu_1$ , and the fork of  $M_{1+2}$ ; the ground-colour is confined to the cells R, 1st  $R_1$ , Cu, 1st A, and the distal cells; veins brown, narrowly bordered by yellow. Venation: r at tip of  $R_1$  and just before mid-length of  $R_2$ ; r-m very short; petiole of cell  $M_1$  about two to two and one-half times m; basal deflection of  $Cu_1$  at near four-fifths the length of the lower face of cell 1st  $M_2$ , the fusion of M and Cu being relatively short.

Abdomen with the basal tergite brown; remaining tergites brownish yellow, the posterior segments narrowly ringed caudally with dark brown; sternites dark brown.

Hab. New Zealand (North Island).

Holotype, 3, Raurimu, June 7, 1922 (T. R. Harris).

# Macromastix submanca, sp. n.

General coloration light grey, the præscutum with four black or brownish-black stripes; antennæ short; thoracic vestiture long and pale; wings with cell  $M_1$  lacking; abdominal tergites brownish grey with a conspicuous brownishblack median line, the basal segments brightened laterally.

Male.-Length about 7.5 mm.; wing 13 mm.

Female.-Length about 10 mm.; wing 15 mm.

Frontal prolongation of the head pale brown, greyer laterally; nasus distinct, simple; palpi and mouth-parts dark brown. Antennæ short, pale brown, the second segment paler apically; antennæ apparently only 12-segmented, the terminal segment microscopic. Head greyish brown, the median area slightly darker.

Pronotum greyish brown, darker brown medially. Mesonotum light grey, the præscutum with four black (9) or dark brown  $(\mathcal{J})$  stripes, the intermediate pair separated from one another only by a capillary pale line; scutum dark grey, the lobes with dark centres, the posterior lateral angles and the median area of the scutellum reddish ochreous; postnotum brown. Vestiture of body consisting of elongate, erect, pale setæ. Pleura grey, the sternopleura darker grey; dorso-pleural membrane dark brown. Halteres brown, the base of the stem paler brown. Legs with the coxæ light grey; trochanters pale brown; femora brown. the bases obscure yellow; remainder of the legs black. Wings with a strong greyish tinge, the base, cells C, Sc, and  $R_2$  tinged with brown; stigma oval, darker brown; veins dark brownish black. Venation: Rs equal to or longer than  $R_{2+3}$ ; cell  $M_1$  totally lacking; cell 2nd A very narrow in the  $\mathcal{J}$ , somewhat broader in the  $\mathcal{Q}$ .

Abdominal tergites brownish ochreous, grey-pruinose; first and second tergites light orange laterally; all tergites with a conspicuous, brownish-black, median stripe that includes the hypopygium; sternites yellowish grey, the basal sternites clearer yellow.

Hab. New Zealand (North Island).

Holotype, 3, Ohakune, altitude 2060 feet, October 19, 1922 (T. R. Harris).

Allotopotype,  $\mathfrak{P}$ .