

The genus *Crenosoma* clearly belongs to the family *Metastrongylidæ*, the members of which are all parasites of the respiratory passages or circulatory system of mammals, and show a gradual reduction of the male bursa and its rays, culminating in the extremely modified forms (*Pseudalius*, *Stenurus*, *Torynurus*, and *Halocercus*) met with in the *Cetacea*. *Crenosoma* itself, however, does not show a very advanced degree of modification in this respect. The genotype is *C. striatum* (Zeder, 1800), which occurs in the bronchi of the hedgehog (*Erinaceus europæus*).

REFERENCES.

- CREPLIN, F. 1847. "Zweiter Nachtr. zu Gurlt's Verzeichnisse der Thiere, etc." Arch. f. Naturg. xiii. 1, pp. 289-300.
 DUJARDIN, F. 1845. 'Histoire naturelle des Helminthes.' Paris.
 MOLIN, R. 1861. "Il Sottordine degli Acrofalli, etc." Mem. r. Ist. Veneto, ix. pp. 427-633, pls. xxv.-xxxiii.
 MÜLLER, A. 1897. "Helminthologische Mittheilungen." Arch. f. Naturg. lxiii. 1, pp. 1-26, pls. i.-iii.
 RUDOLPHI, C. A. 1819. 'Entozoorum Synopsis.' Berlin.
 SIEBOLD, C. VON. 1848. 'Lehrbuch der vergl. Anat. der wirbellosen Thiere.' Berlin.
 STOSSICH, M. 1896. "Ricerche elmintologiche." Boll. Soc. Adriat. Sci. nat., Trieste, xvii. pp. 121-137, pls. iii., iv.

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

THE species herein described as new are all from New Zealand, most of them being included in the very extensive collections of Dr. A. L. Tonnoir. Additional material discussed at this time was secured by Messrs. Campbell, Gourlay, Harris, and Philpott. I express my deep thanks to all of these gentlemen for their tireless efforts in making known the crane-fly fauna of New Zealand. The Tonnoir material has been returned to the collector for redistribution in New Zealand collections. The other types are preserved in the collection of the writer through the kindness of Messrs. Campbell and Harris.

Limnophila mira, sp. n.

Head black, grey pruinose; thoracic notum rich reddish brown; wings tinged with greyish yellow, spotted with
Ann. & Mag. N. Hist. Ser. 9. Vol. xvii. 34

brown; cell 1st M_2 elongate, widened distally, $m-cu$ far out toward the distal end of cell; abdominal segments weakly bicolorous; male hypopygium with the ædeagus elongate.

Male.—Length about 6–6.5 mm.; wing 6–7 mm.

Female.—Length about 7 mm.; wing about 7 mm.

Rostrum short, dark brown; palpi brownish black. Antennæ of moderate length, in the male, if bent backward extending approximately to the base of the abdomen; antennæ brown throughout; flagellar segments elongate-oval to fusiform, provided with abundant erect setæ that are shorter than the segment. Head black, heavily dusted with grey, becoming more whitish anteriorly.

Pronotum brownish testaceous. Mesonotal præscutum rich reddish brown, subshiny, without markings, the lateral margins a little darker; no tuberculate pits; pseudosutural foveæ shallow, moderately large, triangular in outline; remainder of mesonotum a trifle darker, especially the postnotum. Pleura obscure brownish yellow, the anepisternum, sternopleurite, and pteropleurite darker. Halteres pale, the knobs a trifle darker. Legs with the coxæ yellow, subshiny; trochanters yellow; femora and tibæ pale brown; tarsi passing into darker. Wings with a pale greyish-yellow tinge, cells C and Sc and the wing-base a little more yellowish; a conspicuous brown spotted pattern distributed as follows: Postarcular spot in cell R ; a large blotch at origin of Rs , not quite reaching M ; a small spot at tip of Sc ; stigma oval, dark brown; broad diffuse brown clouds and seams along cord, outer end of cell 1st M_2 and as a spot at fork of M_{1+2} ; a large pale spot at tip of vein 2nd A ; cells M and Cu sometimes with a pale dusky wash; veins pale, darker in the infuscated areas. Veins with unusually long macrotrichæ, longest and most conspicuous beyond the cord but persisting as gradually smaller trichæ on all the veins almost to the arculus. Venation: Sc_2 at tip of Sc_1 , ending just before the fork of Rs , the latter long, strongly bent at the origin, in alignment with R_{2+3} ; R_2 angulated at base; R_{2+3} one-half longer than the basal deflection of R_{4+5} ; cell M_1 a little longer than its petiole; cell 1st M_2 long, widened distally, $m-cu$ from a little less than to its own length from the outer end of the cell; anterior arculus rather weakly preserved.

Abdominal segments weakly bicolorous, dark brown, the segments narrowly ringed caudally with paler, the basal sternites more conspicuously so; hypopygium obscure ochreous. Male hypopygium with the ninth tergite quadrate, the caudal margin with a very deep and narrow

parallel-sided notch, the lobes thus formed broadly subtruncate. Basistyles relatively elongate, the apex produced into a small, obtuse, glabrous lobe. Outer dististyle slender, narrowed gradually to the apex which is split into two divergent teeth, the outer one broader; surface of style with abundant setiferous tubercles extending virtually to the base, these tubercles with conspicuous erect setæ; inner style a trifle longer, much broader, the apex obtusely rounded, the base markedly expanded and excavated. Ædeagus very elongate, slender, jutting caudad beyond the level of the basistyles, the apex microscopically fimbriate; phallosome at the base of ædeagus massive, the sides strongly angular.

Hab. New Zealand (South Island).

Holotype, ♂, Waiho, Westland, altitude 600 feet, January 16, 1922 (*A. Tonnoir*); collector's number 55.

Allotopotype, ♀, January 30, 1922.

Paratopotype, injured ♂, January 28, 1922.

The reference of this species to *Limnophila* is in the broad usage of the name only. I cannot indicate any close relatives.

Limnophila scitula, sp. n.

General coloration brown; halteres yellow; wings faintly tinged with grey, conspicuously spotted and clouded with brown, this including a series of marginal clouds at the ends of all the longitudinal veins, smallest at the wing-tip, largest in the anal field.

Male.—Length about 4.6 mm.; wing 6.5 mm.

Rostrum and palpi dark brown. Antennæ short, black throughout; flagellar segments oval, with moderately long verticils. Head broad, black, heavily dusted with yellow pollen.

Pronotum dark. Mesonotum brown, the præscutum with three scarcely evident slightly darker stripes; pseudosutural foveæ very conspicuous, black; notum very sparsely dusted with yellow pollen. Pleura and sternum brown, the former with a slightly darker dorsal longitudinal stripe extending from the cervical sclerites across the dorsal pleurites, surrounding the base of the halteres. Halteres relatively elongate, pale yellow, the extreme base dusky. Legs with the coxæ testaceous, the extreme bases infuscated; trochanters yellow, the mesal face of each with a black spot; femora light brown, with relatively long, subappressed setæ; tibiæ and tarsi brown. Wings with a faint grey tinge, the

base and cells *C* and *Sc* slightly more yellowish; membrane with numerous brown and grey spots and clouds; the brown areas include a postarcular spot in cells *Sc*, *R*, and *M*; a large spot at origin of *Rs* in cells *Sc* and *R*, not reaching vein *M*; a triangular area at tip of *Sc*₁ extending across cell 1st *R*₁ to *Rs*; the extensive stigma sends a seam over the fork of *R*₂₊₃; seams along cord and outer end of cell 1st *M*₂; slightly paler, more greyish clouds at tips of all longitudinal veins, largest on *R*₂ and *R*₃, abruptly smaller on *R*₄₊₅, that on vein 2nd *A* very large; anal angle extensively clouded; a large circular cloud at fork of *M*₁₊₂; veins dark brown. Venation: *Sc*₁ ending just before the fork of *Rs*, *Sc*₂ some distance from its tip; *r* close to tip of *R*₁; *R*₂₊₃ longer than the basal section of *R*₂; cell *M*₁ a little shorter than its petiole; *m-cu* about one-half its length beyond the fork of *M*; anterior arculus weakly preserved.

Abdomen dark brown, the basal sternites paler. Male hypopygium of the general structure of *L. nebulifera*. Basistyle relatively slender, the apical lobe stout, setiferous. Outer dististyle a blackened clavate structure, enlarged outwardly, the tip a conspicuous spine; apical third with numerous smaller appressed spinulæ and setæ. Inner style subequal in length to the apical prolongation of the basistyle, slender, narrowed to the subacuate apex. Gonapophyses appearing as narrow, elongate, flattened blades, the apex with a small black spine that is directed laterad and cephalad. Ædeagus slender, subtended by a hood-like ring, that leaves a lacuna on either side, as in *nebulifera*.

Hab. New Zealand (South Island).

Holotype, a damaged ♂, Maitai Valley, Nelson, March 16, 1922 (*A. Tonnoir*); collector's number 57.

Limnophila scitula is placed in this genus in the broad usage only. It belongs to the *nebulifera* group, which includes, besides these two species, the very distinct *L. tonnoiri*, Alexander. *L. scitula* has a hypopygium that is very similar to that of *nebulifera*, but differs conspicuously in the handsome restricted wing-pattern.

Metalimnophila montivaga, sp. n.

General coloration grey; wings tinged with yellow, the stigma only faintly darker; male hypopygium with the outer dististyle greatly expanded; ninth sternite produced medially into a conspicuous lobe.

Male.—Length about 4–4.2 mm.; wing 5.4–5.5 mm.

Rostrum and palpi dark brown. Antennæ elongate, dark

brown throughout, the basal segment slightly pruinose; antennæ extending to beyond mid-length of the abdomen. Head light grey, in some cases weakly infuscated.

Mesonotum grey, the præscutum with ill-defined brown stripes. Pleura clear grey. Halteres pale, the knobs vaguely darkened. Legs with the coxæ heavily grey pruinose; trochanters obscure brownish yellow; femora dark brown, the bases obscure yellow, more extensive on the elongate posterior legs where a little less than the proximal half is included; tibæ and tarsi black. Wings tinged with yellow, the stigma very pale, brownish yellow; veins darker brown. Venation: Sc_1 and Sc_2 subequal or the latter a little longer, ending some distance before the end of R_s ; R_s relatively short, strongly arcuated at origin; veins R_2 and R_3 divergent; medial field of wing unusually plastic, in one specimen of the type-series with cell 1st M_2 open by the atrophy of m ; in another with the outer deflection of M_3 very long, obliquely subsinuate, obliterating m , the cell 1st M_2 in this case being pointed at its outer end; cell M_1 is likewise very variable in length and $m-cu$ variable in its position.

Abdomen dark, heavily grey pruinose, the hypopygium reddish ochreous. Male hypopygium with the basistyles stout, the mesal apical angle produced caudad and slightly mesad into a moderately long, blunt lobe, the basal portion with two very long and several smaller setæ, the pale apex set with abundant recurved microscopic spinulæ and a few small apical setæ. Outer dististyle a flattened blade, at the apex greatly expanded, pale, the mesal margin before apex with a small pale tooth; inner style very slender, about two-thirds the length of the outer style, narrowed to the obtusely rounded apex, which terminates in a powerful seta. Gonapophyses appearing as a slender chitinized horn on either side, the tips bent laterad. Ædeagus expanded at apex, rather deeply cut into three subequal lobes. Ninth sternite produced medially into a conspicuous obtuse dusky lobe that is unarmed with spines.

Hab. New Zealand (South Island).

Holotype, ♂, Mt. Arthur Tableland, Nelson, altitude 4500 feet, December 1921 (*A. Tonnoir*); collector's number 64.

Paratopotypes, 3 ♂ ♂, altitude 4500–5000 feet, December 23–27, 1921 (*A. Tonnoir*).

I strongly suspect that this species may prove to be the unknown male of the fly described in the preceding instalment as *Limnophila spissigrada*. However, there is no proof of this association and Dr. Tonnoir, the collector, did not

find the flies *in copula*. Until the insects are definitely associated, they must be held as distinct.

Metalimnophila alpina, sp. n.

General coloration dull grey, the præscutum with four narrow brown stripes; dorsal pleural stripe narrow and ill-delimited; stigma distinct; male hypopygium with the outer dististyle parallel-sided, the apex subtruncate; gonapophyses acute, decussate across the median line; ædeagus profoundly trifid.

Male.—Length about 5·5 mm.; wing 7–7·3 mm.

Female.—Length about 7 mm.; wing 8·5 mm.

Rostrum and palpi brownish black. Antennæ elongate, in the male, if bent backward, extending to about opposite one-third the length of the abdomen; scapal segments a trifle paler than the black flagellum. In the female the antennæ about attain the wing-root. Head grey, the vertex weakly infuscated.

Mesonotal præscutum dull grey, with four distinct brown stripes, these relatively narrow, of approximately equal width, the intermediate pair separated from one another by a space about equal to one-half the width of a single stripe; intermediate stripes becoming obsolete far before the suture; lateral stripes interrupted by the suture; scutal lobes dark grey with slightly darker centres; scutellum and postnotum light grey. Pleura light grey with a narrow and relatively ill-defined dorsal longitudinal stripe extending from the ventral cervical sclerites to the postnotum, passing above the base of the halteres; sternopleurite slightly more infuscated ventrally. Halteres pale, the extreme base of the stem brighter, the knobs obscure brownish yellow. Legs with the coxæ and trochanters obscure yellow; femora brown, the bases more yellowish, the tips narrowly infuscated; tibiæ brown, passing into dark brown outwardly; tarsi brownish black. Wings with a yellowish-grey tinge, the base and cells *C* and *Sc* more yellowish; stigma conspicuous, oval, brown; veins dark brown, the costal and prearcular veins more yellowish. Venation: *Sc*₁ a trifle longer than *Sc*₂, ending opposite the fork of *Rs*; cell *M*₁ relatively short, from one-half to one-third its petiole; *m-cu* varying in position from a trifle less than to fully its own length beyond the fork of *M*.

Abdomen dark brown, the basal sternites obscure brownish yellow; hypopygium dark. Male hypopygium with the caudal margin of the ninth tergite bearing a small blunt tubercle

on either end of a broad U-shaped median notch. Basistyles stout, the mesal apical portion produced into three lobes, a slender curved lobe that is blackened at tip; a pale fleshy flattened setiferous lobe that lies in close connection with a deeply bifid glabrous lobe. Outer dististyle elongate, flattened, the sides generally parallel, very slightly expanded to the subtruncate darkened apex; lateral margins of style with several long powerful setæ, the restricted flattened apex densely covered with microscopic setiferous punctures. Inner dististyle unusually slender with a pale setiferous cushion at base. Gonapophyses appearing as long needle-like points directed mesad and slightly cephalad, decussate across the median line of the genital chamber. Ædeagus deeply split into three narrow chitinized blades, the median one broader, weakly expanded at tip, the lateral blades subequal in length, the tips subacute.

Hab. New Zealand (South Island).

Holotype, ♂, Mt. Arthur Tableland, Nelson, altitude 4500 feet, December 22, 1921 (*A. Tonnoir*); collector's number 66.

Allotopotype, ♀.

Paratopotype, ♂, December 26, 1921 (*A. Tonnoir*).

Metalimnophila integra, sp. n.

Male.—Length about 7 mm.; wing 7.6 mm.; antenna about 5 mm.

Generally similar to *M. greyana*, Alexander, differing in the more elongate antennæ of the male and the details of structure of the hypopygium.

Antennæ fully two-thirds the length of the entire body, the flagellar segments elongate-cylindrical with short verticils and a delicate erect microscopic pubescence. Ventral thoracic pleurites largely pale, the usual dorso-pleural stripe including only the dorsal pleurites. Wings with the stigma better defined. Venation: R_1 beyond r short, subequal to R_{2+3} . Male hypopygium having the general structure of *greyana*, the mesal apical angle of the basistyle produced into a small, entire, darkened lobe, the apex broadly obtuse; the opposite mesal angle is produced into an extensive pale lobe that is much broader and more extensive than the one in *greyana*. Outer dististyle with two nearly apical spines, one a little stouter than the other. Inner dististyle of the general structure of *greyana*, but much shorter and stouter. Gonapophyses short, only a trifle longer than the ædeagus, the apices feebly expanded and hyaline. In *M. howesi*,

Alexander, the gonapophyses are elongate, sinuous, together appearing lyriform.

Hab. New Zealand (South Island).

Holotype, ♂, Kaituna, Canterbury, February 19, 1922 (*A. Tonnoir*).

GYNOPLISTIA, Westwood.

1835. *Gynoplistia*, Westwood, London & Edinburgh Phil. Mag. & Journ. of Sci. vi. p. 280.
 1835. *Cerozodia*, Westwood, *ibid.* vi. p. 281.
 1835. *Gynoplistes (Anoplistes)*, Westwood, Zool. Journ. v. p. 447.
 1835. *Ozocera*, Westwood, *ibid.* v. p. 449.
 1854. *Variiegata*, Bigot, Ann. Soc. Entomol. France, (3) ii. p. 456.
 1854. *Variiptera*, Bigot, *ibid.* (3) ii. p. 471.
 1865. *Ctedonia*, Philippi, Verh. zool.-bot. Ges. Wien, xv. p. 602.
 1866. *Cloniophora*, Schiner, *ibid.* xvi. p. 932; 1868. Reise Novara, p. 40.
 1869. *Cenarthria*, Thomson, Eugenies Resa, Dipt. p. 445.
 1917. *Dirhipis*, Enderlein, Zool. Anzeig. xlix. p. 58.
 1917. *Scepasma*, Enderlein, *ibid.* xlix. p. 60.

During the past decade there has been a tremendous increase in our knowledge of the species of *Gynoplistia*, especially of the Maorian Subregion where the genus apparently reaches its greatest specific development. In the past an attempt has been made to recognize as valid the three genera *Gynoplistia*, *Cerozodia*, and *Ctedonia*, and before the great accession of new types was made it had seemed possible that these generic groups might be maintained. It has now become apparent to the writer, however, that any serious attempt to divide the Hexatomine crane-flies with branched antennæ into valid generic groups is an impossibility, and all of the species described to date, considerably in excess of one hundred in number, should be referred to the oldest genus *Gynoplistia*.

Until this recent date, it had appeared that *Gynoplistia* might be defined as including those species with a moderate number of antennal segments (16 to 20) having relatively short branches; *Cerozodia* with a much greater number of segments (29 to 39), with the branches so long and slender as to give the organ a flabellate appearance; and *Ctedonia* with an intermediate number of segments (15 to 24), in most species with long slender branches and with seven or eight simple terminal segments. The distinctions between the two former groups were greatly weakened by the discovery of three remarkable Australian and Tasmanian species that the writer referred to *Cerozodia*, in which all the branches of the flagellum are of considerable length and all lie in a single

plane. Of these species, *Gynoplistia flavipes* has 25 antennal segments, the formula being 2+21+2, while *G. minuscula* has only 16 segments with a formula of 2+12+2. As regards the number and arrangement of the unbranched terminal segments, *Ctedonia* is closely approached by two species of *Gynoplistia* from Celebes, *G. jucunda*, Osten-Sacken, and *G. octo-fasciata*, Brunetti, which have eight terminal unbranched segments as in the genotype of *Ctedonia* (*bicolor*, Philippi). The structure of the branched segments and the arrangement of setæ upon them that is found in *Ctedonia* is closely approached by the Queensland *G. doddi*, Alexander, which has a 24-segmented antenna having the formula 2+3+17+2. The aberrant *Ctedonia bipunctata*, Philippi, which was made the type of a supposed new genus, *Scepasma*, by Enderlein, has a 15-segmented antenna with the formula 2+2+7+4, this being exactly duplicated by a series of New Zealand *Gynoplistiæ* (*G. aurantiopyga*, Alexander, *G. dimidiata*, Alexander, *G. luteibasis*, Alexander, *G. nigrobimbo*, Alexander). As long ago as 1888, Reed ('Anales de la Universidad de Chile,' lxxiii. p. 4) referred the Chilean species of *Ctedonia* to the genus *Gynoplistia*, and the writer now has no doubt but that such a reference is correct.

The tremendous recent development in our knowledge of the New Zealand Tipulid fauna has now brought the list of *Gynoplistiæ* for the Maorian Subregion to approximately 90 species, and this number is certain to be considerably added to. In this great complex of species we find a range in number of antennal segments that is quite unparalleled in any other group of crane-flies so far made known. In size, the species range from tiny flies (*G. hyalinata*, Alexander, *G. pygmæa*, Alexander) that rank among the smallest of the Hextomini, to veritable giants that are among the largest of the tribe (*G. hiemalis*, Alexander, *G. paradisea*, Edwards, *G. plumosa*, Osten-Sacken, etc.). The antennal structure, the proportions of branched to unbranched segments and the directions taken by the various branches, attains a vast range and complexity. In the New Zealand fauna alone we find in the genus *Gynoplistia* a range in the number of antennal segments that is virtually as extensive as is found in the entire family Tipulidæ, excluding the aberrant Hexatomaria. This range is indicated as follows:—13 segments (*albicineta*, Edwards, *dispiloides*, sp. n.); 14 (*nematomera*, sp. n., *trifasciata*, Edwards); 15 (*aurantiopyga*, Alexander, *bidentata*, Alexander, *bucera*, Alexander, *campbelli*, Alexander, *clavipes*, Edwards, *dimidiata*, Alexander, *dispila*, Alexander, *flavohalterata*, Alexander, *hirtomera*, Alexander, *luteibasis*,

Alexander, *nigrobimbo*, Alexander, *pygmæa*, Alexander, *recurvata*, Alexander, *subclavipes*, Alexander); 16 (*ambulator*, Alexander, *bituberculata*, Alexander, *cladophora*, Alexander, *conjuncta*, Edwards, *dactylophora*, sp. n., *inconjuncta*, sp. n., *myersæ*, Alexander, *nebulipennis*, Alexander, *nigronitida*, Edwards, *pedestris*, Edwards, *pleuralis*, Alexander, and variety *plutonis*, subsp. n., *wakefieldi*, Westwood); 17 (*aculeata*, Alexander, *arthuriana*, Edwards, *bona*, Alexander, *concava*, Alexander, *eluta*, Alexander, *fimbriata*, Alexander, *fusco-plumbea*, Edwards, *generosa*, sp. n., *glauca*, Edwards, *hirsuticauda*, Alexander, *incisa*, Edwards, *inflata*, sp. n., *pallidistigma*, Alexander, *sackeni*, Alexander, *spinigera*, Alexander, *subfasciata*, Walker); 18 (*magnifica*, Edwards, *nebulosa*, Edwards, *notata*, Edwards, *violacea*, Edwards); 19 (*hamiltoni*, Alexander); 20 (*cuprea*, Hutton, *fulgens*, Hutton, *hiemalis*, Alexander, *niveicincta*, Alexander, *ocellifera*, Alexander, *subobsoleta*, Alexander, *tridactyla*, Edwards); 21 (*subformosa*, Alexander, *trispinosa*, Alexander); 22 (*formosa*, Hutton, *luteicincta*, Alexander); 23 (*princeps*, Alexander); 29 (*paradisea*, Edwards); 31 (*pulverulenta*, Edwards); 33 (*hudsoni*, Edwards); 39 (typical *plumosa*, Osten-Sacken).

The placing of *Ctedonia* in the synonymy of *Gynoplistia* has rendered it necessary to re-name *Gynoplistia flavipennis*, Skuse (Proc. Linn. Soc. New South Wales, (2) iv. pp. 877-878, pl. xxiii. fig. 38, 1889), which is preoccupied by *G. flavipennis*, Philippi (Verh. zool.-bot. Ges. Wien, xv. p. 602 (*Ctedonia*); 1865). The name *Gynoplistia skusei*, nom. nov., is herewith proposed to replace this preoccupied term.

Gynoplistia nigripennis, nom. nov.

1923. *Gynoplistia fumipennis*, Alexander, Proc. Hawaiian Ent. Soc. v. p. 253, preoccupied by *Gynoplistia fumipennis*, Walker, Ins. Saundersiana, Dipt. p. 448 (1856).

Gynoplistia cuprea percara, subsp. n.

Male.—Length about 12 mm.; wing 11·5–11·8 mm.

Generally similar to typical *cuprea*, Hutton, differing as follows:—

Antennæ of male 21-segmented (2 + 2 + 13 + 4) or 22-segmented (2 + 2 + 14 + 4). Spots behind the antennal fossa and the occipital region reddish. Tubercle on postnotal pleurotergite larger and more conspicuous. Pubescent area on pleura more golden-yellow. Wings very conspicuously yellow, much brighter-coloured than in the typical form, with a dark brown pattern that is arranged about the same, with minor exceptions: yellow area enclosed between the

cord and wing-apex small; brown area at origin of *Rs* conspicuous, connected with the cord by a seam along *M*; anal margin with a conspicuous dark triangular marking extending as far basad as the distal end of cell 2nd *A*, but the base of this cell and all the other cells of the wing almost to the level of the origin of *Rs* clear yellow; veins brown, all the veins in the flavous basal area clear yellow, concolorous with or but slightly darker than the ground-colour. Male hypopygium having the tergite with a small but conspicuous median triangular lobe. Gonapophyses shorter, stouter, heavily chitinized almost to their bases.

Hab. New Zealand (South Island).

Holotype, ♂, Aniseed Valley, Nelson, December 1-4, 1923 (*A. Tonnoir*); collector's number 31.

Paratopotype, ♂.

Gynoplistia violacea persimilis, subsp. n.

Very similar to the typical *violacea*, Edwards, differing as follows:—

Legs generally similar, the posterior tarsi considerably longer (♂, posterior basitarsus, 2.5 mm.; in *violacea*, ♂, 2 mm.). The wing-pattern of the type-series is very pale, in a few cases virtually obsolete with the exception of the dark stigma which is always well-indicated; cell 2nd *R*₁ virtually all clear, only the extreme base darkened. Vein *R*₂ has a course that is very different from the typical form, being much longer and running generally parallel to *R*₃ to opposite *r*, thence diverging very gently. In *violacea*, vein *R*₂ is unusually short and straight, diverging very strongly from *R*₃ so it lies close to *R*₁ at the wing-margin, cell 2nd *R*₁ being reduced to a tiny area that is entirely infuscated.

Hab. New Zealand (South Island).

Holotype, ♂, Mt. Arthur Tableland, Nelson, altitude 4500 feet, December 22, 1921 (*A. Tonnoir*); collector's number 33.

Allotopotype, ♀, December 27, 1921.

Paratopotypes, 2 ♂♂, 1 ♀, altitude 4000-4500 feet, December 21-24, 1921 (*A. Tonnoir*); 1 ♂, 4500 feet, December 12, 1922 (*A. Philpott*).

Gynoplistia notabilis, sp. n.

Allied to *G. magnifica*, Edwards; antennæ with 8 long-branched flagellar segments; vertex with a Ω -shaped brown

marking; wings greyish subhyaline, spotted and dotted with brown; cell *M* not conspicuously infumed.

Sex?—Wing 12.5 mm.

Rostrum pale brown, the palpi dark brown. Antennæ 17-segmented, the formula being 2+8+7; basal segment of scape elongate, dark above, obscure yellow beneath; flagellar segments 2-4 with the tips narrowly yellowish, the remainder of the organ dark brown; first flagellar segment with a broad-based spur that is about as long as the segment; longest branches (flagellar segments 3 to 6) a little less than three times the length of the segment; terminal segment elongate, one-half longer than the penultimate. Head light grey, the vertex with two conspicuous brown lines that unite anteriorly to form a Ω -shaped marking.

Pronotum variegated pale and darker brown. Mesonotal præscutum extensively striped with dark brown, these markings almost covering the notum except for a pale capillary vitta on either side of a narrow median stripe; extreme anterior and lateral margins of sclerite restrictedly light grey; pseudosutural foveæ conspicuous, reddish brown; scutum grey, the mesal edges and anterior margins of the lobes ringed with brown; scutellum grey, the parascutella darker; postnotum brown, more reddish brown behind, pruinose. Pleura heavily light grey pruinose. Halteres yellow, the knobs dark brown. Legs with the coxæ heavily dusted with light grey; trochanters obscure yellow; remainder of legs broken. Wings greyish subhyaline, with a pattern that is approximately as in *magnifica*, but even more broken up; dusky clouding in distal cells of wing more extensive; several small dots and spots in cells *M* and *Cu*; ocelliform markings at fork of M_{1+2} , surrounding cell 1st M_2 and in cells 1st *A* and 2nd *A*; no conspicuous dusky wash in cells *M* and M_4 as in *magnifica*. Venation: cell R_2 very short-petiolate to subsessile.

Abdomen broken near mid-length; basal tergite with the lateral angles dark grey; remaining tergites brownish yellow.

Hab. New Zealand (South Island).

Holotype, Sex?, Aniseed Valley, Nelson, December 1-4, 1923 (*A. Tonnoir*); collector's number 28 *b*.

"In spider's web."

From the structure of the antennæ, the unique broken type would certainly appear to be a female, there being only eight branched segments. In this case, the flagellar branches are of a length that is quite unusual in the *magnifica* group.

Gynoplistia generosa, sp. n.

General coloration chestnut-brown, the pleura pruinose; antennæ 17-segmented, with 11 branched segments; halteres orange-yellow; femora unbanded; wings rich yellow, the usual brown pattern very diffuse, many of the cells with longitudinal hyaline streaks; male hypopygium with the caudal margin of the tergite deeply U-shaped, densely hairy; outer dististyle terminating in a long acute point.

Male.—Length about 11 mm.; wing 12 mm.

Rostrum reddish, sparsely pruinose; palpi brownish black. Antennæ 17-segmented, the formula being 2+2+9+4; scapal segments brownish yellow; incisures of basal two flagellar segments pale brown; remainder of antennæ black; longest branch approximately one-third the flagellum. Head brownish grey.

Mesonotum chestnut-brown, very vaguely dusted; præscutum with the antero-median portion restrictedly darkened. Pleura light brown, the anepisternum, sternopleurite, meron, and katepisternum dusted with light grey. Postnotal pleurotergite more sparsely dusted. Halteres orange-yellow, the knobs very faintly infuscated. Legs with the coxæ reddish brown, very sparsely pruinose; trochanters obscure yellow; femora light brown, the bases paler; tibiæ and tarsi somewhat darker brown. Wings with a rich yellow ground-colour, the usual markings diffuse and ill-delimited, pale brown, consisting of a slightly darker stigmal spot; seam along cord; spot at origin of *Rs* and another opposite this in cell 1st *A*; cells *C* and *Sc* somewhat more saturated; linear hyaline streaks in cells *R*, *M*, 1st *M*₂, *M*₃, *R*₂, *R*₃, and less distinctly in the base of cell 1st *A*; wing-apex vaguely darkened; veins brownish yellow. Venation: *Rs* long, strongly angulated at origin; *r* close to tip of *R*₁; *R*₂₊₃ a little shorter than the arcuated basal deflection of *R*₄₊₅; cell *M*₁ from once and one-half to twice its petiole; *m-cu* at or beyond two-thirds the length of the lower face of cell 1st *M*₂.

Abdomen with the basal tergite infuscated; remaining tergites brownish yellow with an indistinct dorso-median brown line; hypopygium scarcely darker. Male hypopygium with the ninth tergite large, the caudal margin with a very conspicuous U-shaped notch, the sublateral lobes thus formed slender, the tips subacute; dorsal surface of tergite with dense long yellow setæ. Basistyle relatively stout, the caudo-mesal angle produced mesad into a blunt irregular lobe, the extreme apex of which is still further produced into

a narrow margin; lateral face of basistyle with numerous setæ that become very long and dense on the caudal-lateral portions of the style. Outer dististyle slender, the apex a long oblique blade that runs out into a slender acute black point, this blade cut off by a U-shaped notch on the outer edge of the style at just beyond two-thirds the length, the proximal angle of the notch an acute spinous lobe; surface of style surrounding this latter spine with a group of more than a score of long setæ. Inner dististyle more slender, before the apex on outer margin with a linear row of five powerful setæ; remainder of style with numerous additional smaller setæ. Gonopophyses very strongly sinuous.

Hab. New Zealand (South Island).

Holotype, ♂, Reefton, Nelson, January 13, 1922 (*A. Tonnoir*); collector's number 26.

Gynoplistia generosa bears a general superficial resemblance to a small *G. princeps*, Alexander.

Gynoplistia inflata, sp. n.

General colour grey; antennæ 17-segmented, in the ♂ with ten branched segments; femora with a conspicuous subterminal orange ring; male hypopygium with the outer dististyle broadly dilated apically, the surface weakly serrulate.

Male.—Length about 11 mm.; wing 10.5–10.8 mm.

Female.—Length about 11.5–13 mm.; wing 10.2–11 mm.

Rostrum grey; palpi brownish black. Antennæ 17-segmented, the formula being 2+5+5+5 or 2+4+6+5 in the ♂; antennæ black, the basal segment pruinose; extreme base of first flagellar segment a trifle paler; branch of first flagellar segment about two-thirds the length of that of the second segment; longest branch (about flagellar segment 7) a little less than four times the length of the segment; branch of flagellar segment 10 about one-half longer than the segment; flagellar segment 11 with a slight basal lobe; terminal segment about one-half longer than the penultimate. In the ♀ the formula is 2+8+7, the longest branches about equal in length to the segments bearing them; scapal segments a trifle paler than the flagellum. The allotype shows but sixteen antennal segments and may not be conspecific with the type. Head light grey, the disk of the vertex more or less suffused with brown, the marking usually trifoliate in appearance.

Prothorax and mesothorax grey, the præscutum with three brown stripes, the median one further split by a slightly

darker capillary vitta that extends cephalad to the margin of the sclerite; remainder of median stripe narrowly replaced by grey in front, more extensively so behind; lateral stripes beginning behind the conspicuous transverse black pseudo-sutural foveæ; cephalic portions of scutal lobes a little infuscated; scutellum and postnotum dark grey. Pleura clear grey. Halteres yellow, the knobs dark brown. Legs with the coxæ light reddish brown, very sparsely pruinose; trochanters concolorous; femora obscure brownish yellow basally, soon passing into dark brown or black, the pale bases more extensive on the fore legs; all femora with a conspicuous orange ring a little more than its own length from the tips; tibiæ brown, the tips a little darkened; tarsi dark brown. Wings somewhat variable in colour, in fully-coloured specimens with cells *C* and *Sc* darkened; wing-tip strongly though narrowly infumed; distinct brown clouds in base of cell *R*, at mid-length of cell *Cu*, and near outer end of cell *1st A*; all specimens have the stigma, a more or less distinct seam along the cord, and a spot of various sizes at origin of *Rs*; veins brown to dark brown. Venation: *Sc* long, *Sc*₁ and *Sc*₂ subequal, both ending just beyond the fork of *Rs*; *Rs* long; *R*₂₊₃ and basal deflection of *R*₄₊₅ subequal; cell *1st M*₂ of moderate size, varying from subquadrate to rectangular; cell *M*₁ from one-half to one-third longer than its petiole; *m-cu* beyond mid-length of cell *1st M*₂.

Abdomen dark brown, the tergites faintly dark grey pruinose; sternites concolorous, the caudal margins of the segments somewhat paler; subterminal segments darker; hypopygium orange. Male hypopygium with the tergite broadly truncated apically, in cases even feebly concave, with a low tubercle on either side at the margin of the concavity. Basistyles narrowed apically, the mesal face and mesal apical angle with abundant setæ; no evident inter-basal lobe. Outer dististyle very broad, pale, just beyond mid-length with a low chitinized tooth on the outer margin, beyond this point the blade very deep, flattened, the surface, and especially the margin, microscopically serrulate; surface of style back from this tooth with a group of about fourteen long setæ. Inner dististyle arcuate, narrowed gradually to the obtuse apex, the surface with four long setæ in a single row and an abundance of more delicate erect setæ on the basal portions. Gonapophyses closely subtending the short curved ædeagus, lying parallel to one another, virtually contiguous, separated apically by a V-shaped notch, these

divergent tips with their mesal edges with two or three serrations; from the basal lateral angles of each apophysis a long, very slender, sinuous lateral arm directed caudad.

Hab. New Zealand (South Island).

Holotype, ♂, Mt. Arthur Tableland, altitude 4000 feet, December 24, 1921 (*A. Tonnoir*); collector's number 25.

Allotopotype, ♀, altitude 4500 feet, December 27, 1921 (*A. Tonnoir*).

Paratopotypes, 2 ♂♂, 1 ♀, altitude 4000-4500 feet, December 24-27, 1921 (*A. Tonnoir*); 1 ♀, January 1924 (*A. Philpott*).

Gynoplistia inconjuncta, sp. n.

Closely allied to *G. conjuncta*, Edwards; antennæ 16-segmented, with ten branched segments; præscutal stripes cinnamon-brown; pseudosutural foveæ black; wings relatively long and narrow, the markings confined to the stigma and small spots at origin of *Rs* and along the basal deflection of R_{4+5} ; *r-m* distinct.

Male.—Length about 12 mm.; wing 9.2 mm., its greatest width 1.9 mm.

Rostrum light grey; palpi dark brown. Antennæ black throughout; basal segment of scape pruinose; antennæ 16-segmented, the formula being 2+5+5+4; branch of first segment a trifle more than the length of the segment, strongly curved; longest branch (about flagellar segment 6 or 7) a trifle more than twice the length of the segment; flagellar segment 10 with a branch that is about one-half the segment; the left antenna of the type is abnormal in having only fifteen segments, the formula being 2+5+4+4. Head grey, the disk of the vertex infuscated.

Pronotum grey. Mesonotal præscutum grey with four cinnamon-brown stripes, the intermediate pair narrow and indicated only behind, the anterior half obliterated; lateral stripes broader; lateral margin of præscutum light brown; pseudosutural foveæ black; scutal lobes grey, only the extreme sutural portion brown; postnotum reddish brown, sparsely pruinose. Pleura grey pruinose. Halteres obscure yellow, the knobs weakly darkened. Legs with the coxæ large, reddish brown, sparsely pruinose; trochanters obscure yellow; femora dark brown, the bases a little paler; vague indications of a paler subterminal annulus; tibiæ and tarsi dark brown. Wings relatively long and narrow, subhyaline, the base and cells *C* and *Sc* more yellowish; stigma pale brownish yellow; very small brown clouds at origin of *Rs*

and on the basal deflection of R_{4+5} ; remainder of wing virtually clear; veins brownish black, those in the costal and prearcular region yellowish, veins M , Cu , and A almost black. Venation: R_s long, angulated and weakly spurred at origin; r only a little more than its own length from the tip of R_1 ; R_{2+3} and basal deflection of R_{4+5} subequal; $r-m$ present, longer than m ; cell M_1 one-third longer than its petiole; cell 1st M_2 elongate-rectangular, $m-cu$ near mid-length.

Abdominal tergites dark grey, with an interrupted dorso-median brown stripe, the areas interrupted basally and more narrowly at the caudal margins of the segments, more expanded at their posterior ends; lateral margins of tergites narrowly ochreous; sternites grey, the posterior margins of the segments narrowly ochreous; hypopygium ochreous. Male hypopygium very similar in structure to *G. conjuncta*. Lobe on ninth tergite roughened, but not blackened. Basistyles with the blackened interbasal lobe a little shorter, the cephalic beak straighter. Outer dististyle more slender, more heavily chitinized apically, the subterminal spine not extending beyond the apex; some distance before the margin at near two-thirds the length of the style a very low blackened tubercle; apex of style weakly serrulate; subterminal spine acute, blackened; surface of style with seven or eight long setæ.

Hab. New Zealand (South Island).

Holotype, ♂, Gordon Pyramid, Mt. Arthur, Nelson, January 1924 (*A. Philpott*); Tonnoir's number 25 b.

Gynoplistia dactylophora, sp. n.

Allied to *G. aurantiopyga*, Alexander; antennæ 16-segmented, with twelve branched segments; halteres orange; wings broad, whitish, with a sparse brown pattern, the apex almost clear; male hypopygium with the end of the basistyle produced into a long slender lobe that runs out into a slender chitinized point.

Female.—Length about 7 mm.; wing 8.1 mm.

Rostrum and palpi black. Antennæ 16-segmented, the formula being 2+2+10+2; antennæ black throughout; longest branch about two-fifths the length of the flagellum; branch of twelfth flagellar segment about one-half longer than the segment. Head black, sparsely dusted with grey; vertex between the eyes broad.

Thorax black, the pleura more dusted with grey. Halteres orange, only the extreme base of the stem darkened. Legs with the coxæ dark brown; trochanters obscure yellow;

Ann. & Mag. N. Hist. Ser. 9. Vol. xvii. 35

femora yellow, the tips rather narrowly but conspicuously brownish black, the amount proportionately subequal on all the legs; posterior femora conspicuously longer than the others; tibiæ yellow, the tips narrowly blackened; tarsal segments 1 and 2 yellowish brown, the tips narrowly blackened; terminal tarsal segments black. Wings broad, whitish subhyaline, with a sparse brown pattern; base and cells *C* and *Sc* yellowish brown; stigma brown; brown marks at base of cell *R*, beneath the origin of *Rs*, in base of cell *Cu*, and a spot in distal half of each anal cell; cord and outer end of cell 1st *M*₂ very narrowly seamed with darker; wing-apex clear; veins brown. Venation: *Rs* strongly angulated at origin; *R*₂₊₃ in alignment with *Rs*, shorter than *r*; cell *M*₁ longer than its petiole; *m-cu* near mid-length of cell 1st *M*₂.

Abdomen black, the hypopygium obscure orange. Male hypopygium with the tergite produced into a long median spine, the apex of which is glabrous; basal portion of tergite with long conspicuous setæ, especially at the caudo-lateral angles. Basistyle relatively stout, the dorso-caudal angle produced mesad and slightly cephalad into a long, slender, straight rod that is longer than either dististyle, tapering gradually to the acute chitinized apex, the basal three-fourths or more with long conspicuous setæ that are larger and more powerful at the base; ventro-mesal face of basistyle with a conspicuous fleshy setiferous lobe; a still smaller, densely setiferous lobe on dorso-mesal face of basistyle. Dististyles two, the outer a flattened glabrous blade that terminates in two acute points, the more dorsal one subtended by a broad flattened wing; inner style provided with small setæ, the inner margin with a U-shaped notch before the apex, cutting off a flattened, sparsely setiferous, darkened apex. Each gonapophysis appearing as a relatively stout rod that gradually narrows to the subacute apex.

Hab. New Zealand (South Island).

Holotype, ♂, Mt. Arthur Tableland, Nelson, altitude 5000 feet, December 23, 1921 (*A. Tonnoir*); collector's number 34.

Gynoplistia pleuralis plutonis, subsp. n.

Male.—Length about 8.4 mm.; wing 8 mm.

Differs from typical *pleuralis*, Alexander, as follows:—

Pronotum and mesonotum entirely black. Pleura entirely black, very sparsely pruinose. Legs with all the coxæ black, the trochanters dark brown; femora black, only

the basal third or less obscure brownish yellow; remainder of legs black. Wings with the black marking at origin of *Rs* very extensive, wider than the band at the cord, crossing vein *M* and occupying an even longer space in cell *M*, the band virtually crossing the wing, being interrupted only in the costal cell and for a short space behind vein *Cu*; a small postarcular cloud in cell *R*. Abdomen entirely black, including the hypopygium, only the styli of the latter obscure yellow. Male hypopygium very similar in structure, the inner dististyle with a linear series of five or six powerful bristles along the outer margin, the distal two being much smaller.

The antennæ are quite as in the typical form, being 16-segmented with the terminal two segments simple.

Hab. New Zealand (South Island).

Holotype, ♂, Aniseed Valley, Nelson, December 1-4, 1923 (*A. Tonnoir*); collector's number 40*b*.

The general appearance of this fly is very different from typical *pleuralis*, but the differences are chiefly colorational and it is better to consider this as being a subspecies.

Gynoplistia serrulata, sp. n.

Thorax chestnut-brown; head shiny black; antennæ 15-segmented, in the ♀ simply serrulate; posterior tibiæ with a broad white annulus; wings whitish subhyaline, heavily marked with dark brown; abdomen blue-black, the genital segment and very long terebra orange.

Female.—Length about 9-9.5 mm.; wing 7.7-7.9 mm.

Rostrum black; palpi dark brown. Antennæ 15-segmented, the formula (♀) being 2+6+7; the serrations of the basal five flagellar segments are very short, the longest (flagellar segment 3) only about two-thirds the segment; all serrations very broad-based, being united with the segment for all except a slight apical portion; pectination of flagellar segment 6 reduced to a tiny subapical tubercle; terminal segments oval, the ultimate about one-half longer than the penultimate; scapal segments obscure brownish yellow; flagellum black, the axis of the basal two segments brownish yellow. Head broad, shiny black; a low tubercle immediately caudad of each antennal fossa.

Pronotum shiny dark brown to brownish black. Mesonotum shiny chestnut-brown, with vague indications of a darker median area on the præscutum. Pleura darker chestnut-brown; a conspicuous transverse area of appressed silvery-white pubescence on the anepisternum, extending

ventrad on to the dorsal edge of the sternopleurite. Halteres obscure yellow, the knobs dark brown. Legs with the coxæ and trochanters obscure yellow, shiny; femora clavate, yellow, the apices conspicuously dark brown, more extensive on the fore legs where more than the outer half is darkened; on the posterior femora the tips are narrower, but black and well-delimited; tibiæ black, the posterior tibiæ with a broad obscure white annulus beyond mid-length, the setæ on this ring dark-coloured; tarsi black. Wings whitish subhyaline, with a conspicuous dark brown pattern; cell *Sc* dark; a quadrate area at origin of *Rs*, completely traversing cell *R*; a conspicuous wash beginning as a tiny spot near the base of cell *M*, occupying all of the space behind vein *Cu* and crossing the semi-atrophied *Cu*₂ to occupy more than the basal half of cell *Cu*, finally crossing vein 1st *A* and occupying the distal end of the cell; a broad band completely traverses the wing at the cord, including the slightly darker oval stigma; this band is narrowest at *r-m*, thence broadening out to encircle cell 1st *M*₂ and almost completely filling cell *M*₄; wing-apex slightly paler brown, but this relatively broad and well-defined; veins black. Venation: *Rs* long, feebly angulated at origin, *R*₂₊₃ very short; cell *M*₁ a little longer than its petiole; *m-cu* near mid-length of the lower face of cell 1st *M*₂; vein 2nd *A* unusually sinuous, at apex perpendicular to margin.

Abdomen blue-black, the sternites somewhat paler; genital segment and ovipositor orange, the valves of the latter exceedingly long and slender, almost straight.

Hab. New Zealand (South Island).

Holotype, Nelson (Glen), Nelson, October 22, 1923 (*E. S. Gourlay*); collector's number 35 *b*.

Paratypes, 2 ♀ ♀, Aniseed Valley, Nelson, December 1-4, 1923 (*A. Tonnoir*).

Gynoplistia serrulata would appear to be most closely related to *G. clavipes*, Edwards, from which it differs in the broad white annulus on each posterior tibia.

Gynoplistia flavohalterata, sp. n.

General coloration shiny black; antennæ 15-segmented, in the ♂ with eight branched segments; halteres uniformly yellow; wings subhyaline with a very sparse brown pattern; abdomen blue-black, the genital segment in both sexes fulvous; male hypopygium with the gonapophyses expanded at tips into small blades; ædeagus short, with a conspicuous shoulder on either side.

Male.—Length about 6·5 mm. ; wing 7·5–8·2 mm.

Female.—Length 8·7–9 mm. ; wing 8 mm.

Rostrum shiny black ; palpi brownish black. Antennæ black throughout, 15-segmented, the formula in the ♂ being 2+2+6+5, in the ♀ 2+7+6 ; branches in ♂ very elongate, the longest fully half the length of the flagellum ; terminal flagellar segment only a trifle longer than the penultimate ; in the ♀ the branches are reduced to mere serrations as in *G. serrulata*, sp. n. ; branches of flagellar segments 6 and 7 being merely indicated as a protuberance near the apex of each. Head shiny coal-black.

Prothorax and mesothorax shiny greenish black. Pleura black with an extensive patch of appressed silvery-white pubescence, occupying the anepisternum and encroaching posteriorly on the pteropleurite. Halteres uniformly yellow. Legs with the coxæ shiny yellowish brown to brownish yellow, the fore coxæ a trifle darker ; legs long and slender ; femora yellow, the tips broadly blackened, on the fore legs the black including the distal three-fifths, on the posterior legs less than the distal half ; tibiæ black, the posterior tibiæ brown, passing into black only at the narrow tips ; tarsi black. Wings subhyaline with a very sparse brown pattern ; cell *Sc* dark ; stigma oval, brown ; narrow brown seams along cord and outer end of cell 1st M_2 ; a small spot at origin of *Rs* and another of subequal size in alignment with it in the outer end of cell 1st *A* ; wing-apex broadly but rather vaguely darkened, the amount of darkening variable ; veins black. Venation : *Rs* strongly angulated at origin ; *r* close to tip of R_1 ; cell M_1 subequal to or shorter than its petiole ; *m-cu* before mid-length of cell 1st M_2 ; vein 2nd *A* rather strongly sinuous.

Abdomen blue-black, the hypopygium conspicuously brownish fulvous. Male hypopygium somewhat similar to *G. clavipes*, Edwards, in structure, differing notably in the details. Basistyle produced apically into a single flattened blade that is directed strongly mesad as well as caudad, its apex very obtuse, the tip glabrous for more than one-half its length ; interbasal process a flattened blade that is directed caudad, broadly expanded at base, thence narrowed into a neck, the apex finally dilated into a flattened head. Gonapophyses long and slender, narrowed basally, expanded at apices into a small spatula. Ædeagus short with a very conspicuous angular shoulder on either side. Ovipositor with the basal segment dull fulvous, the valves yellowish horn-colour, very long and slender, nearly straight.

Hab. New Zealand (South Island).

Holotype, ♂, Mt. Arthur Tableland, Nelson, altitude 4500 feet, December 27, 1921 (*A. Tonnoir*); collector's number 36.

Allotopotype, ♀.

Paratopotypes, 2 ♂♂, 2 ♀♀, December 25-27, 1921.

Gynoplístia flavohalterata is allied to both *G. clavipes*, Edwards, and *G. serrulata*, sp. n., differing in the diagnostic characters given above.

Gynoplístia campbelli bicornis, subsp. n.

Male.—Length about 6.5 mm.; wing 6.7 mm.

Female.—Length about 7.6 mm.; wing 8 mm.

Generally similar to typical *campbelli*, Alexander, differing as follows:—

♂. Legs with the femora less extensively blackened, on the posterior legs including only a little more than the enlarged distal third. Wings with Sc_1 ending a short distance before the fork of the long R_s ; distal end of outer section of vein R_2 upcurved; cell 1st M_2 elongate-rectangular, $m-cu$ before mid-length. Male hypopygium much as in the typical form; interbasal process bispinous, the lateral apical angle with an acute spine that is directed caudad, the mesal apical angle with a slightly larger spine that is directed mesad as in the typical form. The gonapophyses have the apical spine a prolongation of the mesal edge.

♀. The female differs rather conspicuously from the male, but seems to be correctly associated despite the differences in coloration. Since no females of the *campbelli* group have been described, more details of this sex are given:—Head shiny black. Antennæ with about the basal eight segments serrulate, the longest serration fully equal in length to the segment; terminal segments broken. The conspicuous paired tubercles on the ventro-lateral portions of the cervical sclerites are very conspicuous, directed ventrad. Pronotum black. Mesonotum shiny brown, the centres of the scutellum and postnotum narrowly darkened; postnotal pleurotergite blackened. Pleura shiny chestnut-brown, the pubescence as in the male, but nearly concolorous with the integument and correspondingly inconspicuous. Legs with the femoral tips restrictedly darkened. Wings with the apex but faintly and restrictedly infumed. Abdomen shiny blue-black, the genital segment and ovipositor orange. Ovipositor with the tergal valves elongate, very slender, the tips gently upcurved.

Hab. New Zealand (South Island).

Holotype, ♂, Waiho, Westland, altitude 600 feet, January 25, 1922 (*A. Tonnoir*); collector's number 35.

Allotopotype, ♀, January 21, 1922 (*A. Tonnoir*).

Gynoplistia dispiloides, sp. n.

Allied to *G. hyalinata*, Alexander; antennæ only 13-segmented, with nine branched segments; no silvery pubescence on thoracic pleura; halteres with dark knobs; posterior tibiæ with an obscure whitish ring; vein R_2 long and sinuous.

Male.—Length about 4.3–4.5 mm.; wing 5.5–6 mm.

Rostrum black; palpi dark brown. Antennæ 13-segmented, the formula being 2+2+7+2; branch of the first flagellar segment about three and one-half times the segment, that of the second segment fully four times; longest branch (flagellar segments 4 and 5) a little more than one-half the flagellum; branch of flagellar segment 9 nearly twice the segment; terminal segment much larger than the penultimate. Head shiny coal-black.

Thorax entirely shiny coal-black, the pleura without evident pubescence. Halteres brownish yellow to brown, the knobs dark brown. Legs with the coxæ obscure brownish yellow, the fore coxæ more darkened basally; trochanters obscure yellow; trichiæ of legs long and conspicuous; femora yellow, the enlarged tips blackened, more extensively and conspicuously on the posterior femora; tibiæ dark brown, the tips blackened, the posterior tibiæ pale brown basally, with a broad dirty white ring beyond mid-length, the tips black; tarsi black. Wings subhyaline, the cells beyond the cord distinctly darker; stigma and a broad seam extending to $r-m$ darker brown; very narrow and indistinct seams along cord and outer end of cell 1st M_2 ; cell *Sc* a little infumed; veins dark brown. Venation: Sc_2 longer than Sc_1 , extending to opposite or beyond three-fourths Rs , the latter short, arcuated to weakly angulated and spurred at origin; r more than twice its length from tip of R_1 ; cell 2nd R_1 constricted near mid-length; R_{2+3} variable, from about two-thirds to a little longer than the basal deflection of R_{4+5} ; vein R_2 long and sinuous, from four to five times R_{2+3} alone; cell M_1 varying from subequal to nearly three times its petiole; $m-cu$ before mid-length of cell 1st M_2 ; vein 2nd A unusually straight.

Abdomen black, including the hypopygium. Male hypopygium very similar in its general structure to that of *G. hyalinata*. Basistyles with the mesal face produced

cephalad and less evidently caudad into obtuse lobes, the entire face with conspicuous setæ. Outer dististyle with the apical third much narrowed, the apex weakly serrulate. Gonapophyses appearing as very long narrow blades, the tips very narrow and subacute. Ædeagus with three strong setæ along each lateral margin, the outermost very long and powerful, the middle one about one-half this length, the third seta basal in position, smallest. In *hyalinata* there are two setæ of nearly equal size.

Hab. New Zealand (South Island).

Holotype, ♂, Aniseed Valley, Nelson, December 1-4, 1923 (*A. Tonnoir*); collector's number 42.

Paratypes, 2 ♂♂, Nelson, Nelson, December 8-15, 1921 (*A. Tonnoir*).

Despite its general appearance, *G. dispiloides* seems to be more closely related to *G. hyalinata*, Alexander, than to the other members of the *dimidiata* group, which includes *G. dimidiata*, Alexander, *dispila*, Alexander, *hyalinata*, Alexander, *lobulifera*, Alexander, and very probably *G. albicincta*, Edwards.

Gynoplistia nematomera, sp. n.

General coloration shiny black; antennæ 14-segmented, with only eight branched segments; knobs of halteres yellow; legs long and slender; wings with a very broad cross-band at the cord; male hypopygium with the basistyle produced into a long slender apical point; gonapophyses very long, filiform.

Male.—Length about 4.4 mm.; wing 4.8 mm.

Rostrum black; palpi dark brown. Antennæ relatively elongate, if bent backward extending approximately to the base of the abdomen, 14-segmented, the formula being 2+2+6+4; longest branch about two-fifths the flagellum; scapal segments brown; flagellar segments beyond the basal two or three, including the branches, brownish black. Head shiny black.

Pronotum and mesonotum shiny black. Pleura and sternum shiny black, without evident pubescence. Halteres brownish yellow, the knobs clear yellow. Legs unusually long and slender, the femora enlarged at apices; coxæ pale yellow, the fore coxæ blackened, except at the tips; trochanters yellow; femora obscure brownish yellow, the enlarged apices conspicuously brownish black; tibiæ and tarsi brownish black. Wings subhyaline, the apex very indistinctly but rather broadly infuscated; a very broad cross-band completely traverses the wing at the cord, most

of it lying beyond the cord-level and including the stigma ; this band is nearly parallel-sided, encircling the pale cell 1st M_2 ; a conspicuous quadrate area at origin of R_s in cell R , and another slightly larger one in alignment with it in cells Cu and 1st A , near the tip of vein 2nd A ; cells C and Sc scarcely darkened ; veins dark brown. Venation : Sc_1 and Sc_2 ending opposite the fork of R_s ; R_s long, angulated at origin ; r about its own length from tip of R_1 , cell 2nd R_1 being long ; cell M_1 about equal to its petiole ; $m-cu$ just before mid-length of cell 1st M_2 ; vein 2nd A unusually straight.

Abdomen black, including the hypopygium ; sternites a trifle paler. Male hypopygium with the caudal margin of the ninth tergite produced into a broad, obtusely rounded median lobe, its caudal margin with a minute U-shaped notch. Basistyle relatively stout, the apex produced caudad and slightly mesad into a long slender rod that is only a little shorter than the inner dististyle, the base of this prolongation with a few powerful setæ, the apical half or a trifle less narrowed to a slender glabrous point, the tip subacute ; outer face of basistyle with relatively few setæ, the mesal face with a dense cushion of long yellow bristles ; interbasal plate appearing as a flattened beak-like portion near the caudal mesal angle of basistyle. Outer dististyle an unusually broad-based flattened blade that narrows to a slender slightly curved point, this style without setæ. Inner dististyle a little shorter, the apex a slightly dilated obtusely rounded lobe, the style with two long setæ and several microscopic spinulæ on the distal third. Gonapophyses very long and slender, the base broader, the distal third narrowed into a filamentous portion that is weakly sinuous. Ædeagus broad-based, the apex unusually short and broad. Anal tube densely covered with short setæ.

Hab. New Zealand (North Island).

Holotype, ♂, Day's Bay, Wellington, November 29, 1921 (*A. Tonnoir*) ; collector's number 38.

Gynoplistia nematomera superficially resembles *G. trifasciata*, Edwards, but is a very different fly.

Molophilus abruptus semiermis, subsp. n.

Male.—Length about 3.2 mm. ; wing 4.6 mm.

Closely allied to the typical *abruptus*, Alexander, differing in the structure of the male hypopygium.

The basal dististyle is formed generally as in *abruptus*, with a dense group of spines near mid-length on mesal face ; here the spines are not distributed over so great an area and

are more crowded, the most distal one larger and more powerful than the others, the most basal spine short, from a slightly enlarged base. Beyond this armed portion the style narrows gradually to an acute tip that is not further armed with spines.

Hab. New Zealand (South Island).

Holotype, ♂, Lake Brunner, Westland, February 3, 1922 (*A. Tonnoir*); collector's number 179.

Macromastix tenuifrons, sp. n.

General coloration orange-fulvous; antennæ short in both sexes; frontal prolongation of the head long and slender; wings subhyaline, the costal region more yellowish; stigma conspicuous, brown; cell 1st M_2 unusually small, pentagonal.

Male.—Length about 9 mm.; wing 12–12.8 mm.

Female.—Length about 12 mm.; wing 14 mm.

Frontal prolongation of the head very long and slender, equal in length to the remainder of the head; nasus lacking; frontal prolongation orange-yellow, more or less suffused with brown; palpi dark brown. Antennæ relatively short, not much longer than the frontal prolongation of the head; scapal segments obscure fulvous; flagellum brown; flagellar segments gradually decreasing in size and length. Head clear fulvous-yellow.

Thorax orange-fulvous, the interspaces paler; pleura more yellow. Halteres pale brown, passing into darker on the knobs. Legs with the coxæ and trochanters orange-fulvous; femora brown, the tips narrowly blackened; tibiæ brown, darker apically; tarsi dark brown. Wings subhyaline, cells *C* and *Sc* more saturated yellow, especially the latter cell; wing-apex a very little darker; stigma conspicuous, brown; veins brownish black. Venation: *Rs* approximately equal to R_{2+3} ; *r* faint but evident, near the extreme tip of R_1 , so cell 2nd R_1 is very small; cell 1st M_2 unusually small, pentagonal; *m* a little shorter than petiole of cell M_1 ; cell 2nd *A* moderately narrow.

Abdomen yellowish brown; central portions of tergites at base darkened to form an interrupted vitta; subterminal segments and hypopygium passing into uniform dark brown.

Hab. New Zealand (North Island).

Holotype, ♂, Whangarie, North Auckland, February 22, 1924 (*T. R. Harris*).

Allotopotype, ♀.

Paratopotypes, 12 ♂ ♀ ; *paratypes*, 5 ♂ ♀ , Nihotapu, Auckland, February 24-25, 1923 (*A. Tonnoir*).

Macromastix tenuifrons is very distinct from all other described species of the genus in the long slender frontal prolongation of the head and the small cell 1st M_2 .

Macromastix subobsoleta, sp. n.

Male.—Length 9.5 mm. ; wing 12 mm. ; antenna about 5.3 mm.

Closely related to *M. mesocera*, Alexander, differing as follows:—

Antennæ proportionately a little longer and more slender. Mesonotal præscutum with the usual three stripes conspicuous, dark brown, the median stripe very indistinctly divided by a pale capillary vitta, the surface of these stripes shiny. Halteres with the knobs largely dark. Wings with the distal section of vein R_2 subobsolete and nearly in alignment with the basal section; cell 2nd R_1 thus being very small and irregularly rectangular; distal section of R_2 shorter than r ; vein R_3 shorter; veins M_2 , M_3 , and M_4 at wing-margin but little weaker and paler than at base; vein m about two-thirds the basal deflection of M_3 ; $m-cu$ shorter than the distal section of Cu_1 .

Hab. New Zealand (South Island).

Holotype, ♂, Mt. Grey, Canterbury, in beech forest, February 23, 1924 (*J. W. Campbell*).

Hudsonia enigmatica, sp. n.

Female sex fully-winged; antennæ 9-segmented; thorax brownish testaceous, without distinct markings; wings brownish grey, the stigma oval, darker brown.

Female.—Length 18 mm. ; wing 15.5 mm.

Frontal prolongation of head relatively short, arched, brownish testaceous; nasus stout, hairy; palpi dark brown. Antennæ 9-segmented; basal segment of scape elongate, second segment small, cyathiform; basal four flagellar segments larger, gradually decreasing in length and diameter outwardly, the basal two with conspicuous powerful setæ distributed over the entire length; flagellar segments 5 and 6 small, with long setæ; terminal segment elongate, equal to the preceding two segments taken together and presumably the result of fusion of two segments, transversely wrinkled, provided with powerful setæ; besides the powerful bristles and delicate setæ clothing the flagellar segments, there are intermediate pale spinous setæ, broad-based, from

distinct punctures. Head brownish yellow, brighter on the orbits and the conspicuous vertical tubercle.

Mesonotum brown, more yellowish brown on the antero-median region of the præscutum, but without distinct stripes; pseudosutural foveæ conspicuous, blackened, shiny, the margins of the præscutum immediately cephalad of the foveæ likewise blackened; remainder of mesonotum shiny testaceous-brown without markings. Pleura brown, more testaceous below; dorso-pleural membrane dull ochreous-brown; ventral portion of the postnotal pleurotergite protuberant, sparsely pubescent, the apex weakly blackened. Halteres relatively elongate, pale, the knobs brown. Legs with the coxæ and trochanters testaceous-brown; femora dull yellow, the extreme tips very vaguely and indistinctly darkened; tibiæ and basal two segments of tarsi dull yellow, the extreme tips darkened; terminal tarsal segments passing into dark brown. Wings fully-developed, brownish grey, the base and costal region somewhat darker; stigma oval, brown; veins darker brown. Venation: Sc_1 preserved; R_s subequal to R_{2+3} , gently arcuated; tip of R_2 preserved but pale; R_3 gently sinuate, not produced and bent toward the wing-tip as in the subgenus *Chlorotipula* of *Macromastix*; petiole of cell M_1 , nearly twice m , the base of the cell pointed; cell 1st M_2 pentagonal, the proximal end one-half longer than m ; basal section of M_4 ($m-cu$ of Comstock-Needham system) short, but present; cell 2nd A of moderate width.

Abdomen relatively elongate; tergites obscure brownish yellow, with a large but ill-defined median brown area at the base of each segment; impressed basal areas close together; sternites more or less darkened at the incisures. Ovipositor elongate, chitinized; tergal valves long and straight, more slender than the slightly higher sternal valves; tergal valves not hairy; basal shield of ovipositor large and shiny.

Hab. New Zealand (North Island).

Holotype, ♀, Ohakune, Wellington, altitude 2060 feet, January 31, 1924 (*T. R. Harris*).

Hudsonia enigmatica is a species whose strict generic position is still in doubt. The long, chitinized, non-hairy ovipositor is almost identical in structure with that of the genotype of *Hudsonia* (*heterogama*, Hudson). The antennæ are reduced to a condition about equal to that of the male sex of *H. heterogama*. If the generic reference is correct, as certainly seems to be the case, the species is of great interest in being fully winged in the female sex.