GRYLLIDÆ (SUPPLEMENT).

My report on the ACRYDIIDÆ, PHASGONURIDÆ, and GRYLLIDÆ of the Percy Sladen Trust Expedition was published in Trans. Linn. Soc. London, ser. 2 (Zool.), xv. pp. 263–292 (1912), but by an oversight the following species was omitted:—

SCAPSIPEDUS, Saussure.

Scapsipedus marginatus (Afzel. et Brann.).

Acheta marginata, Afzel. et Brann., Achet. Guin. p. 23, figs. 1 *a–hh*, 5 *a* (1804).
♀. *Acheta vittata*, ibid. p. 28, figs. 5 *b*, 10 *a*, *b*.

Loc. Cosmoledo, 1 ♂. A species recorded from tropical Africa and from other parts of that continent.

[In the above-cited earlier report on the ACRYDIIDÆ, etc., no mention was made of *Hedotettix granulatus*, an Acrydiid from Mahé, described by Dr. Bolivar in 1895 among the species collected in the Seychelles by Alluaud. It was not obtained by the Percy Sladen Trust Expedition, but should have been included in the report to make the list complete. All the other species taken by Alluaud were found again by the Percy Sladen Trust Expedition.—H. S.]

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

THE present paper is based on important collections from New South Wales, collected by Dr. Ferguson and Mr. Robinson, and from New Zealand, collected by Messrs. Harris, Howes, and Tapley, and Mr. and Mrs. J. G. Myers. I am very greatly indebted to all the above for the privilege of studying these important collections. Except where stated to the contrary, the types are preserved in the writer's collection.

Dicranomyia circularis, sp. n.

Belongs to the *huttoni* group; most nearly allied to *D. decincta*, Edwards; male hypopygium with the ninth

tergite oval in outline, the caudal margin with a small semicircular notch.

Male.—Length 6·3 mm.; wing 6·6 mm.

Rostrum relatively short for a member of the *huttoni* group, only a little longer than the head, dark brown. Antennæ dark brown throughout, including the pedicels of the flagellar segments. Head dull grey.

Mesonotum and pleura obscure brownish orange, without distinct markings. Halteres relatively short, pale, the knobs infuscated. Legs relatively short and stout, uniformly obscure yellow, only the terminal tarsal segments and apices of tarsal segments 1 and 2 infuscated. Wings strongly tinged with yellow; stigma almost obliterated, appearing as a faint seam to *r*; very indistinct and narrow seams along the cord and outer end of cell 1*st* M_2; veins pale brown with frequent bullate areas along the cord and outer end of cell 1*st* M_2. Venation: Sc_1 ending a short distance beyond the origin of *Rs*, Sc_2 immediately beyond this origin; *Rs* relatively long, sinuous; basal deflection of Cu_1 before the fork of *M*.

Abdomen obscure brownish yellow, the lateral margins of the tergites darker; intermediate sternites a little suffused. Male hypopygium brownish yellow. Ninth tergite oval in outline, the caudal margin with a small semicircular notch, the lateral lobes thus formed broad, obtuse, provided with many setæ; a group of three setæ on median area of tergite. Basistyles with the lobes on mesal face large, densely setiferous. Ventral dististyle with a conspicuous rostrum, armed with two spines, a shorter one beyond mid-length and a longer one immediately before mid-length, both spines straight. Dorsal dististyle only slightly curved, the tip acute. Lobes of the gonapophyses elongate.

Hab. New Zealand (South Island).

Holotype, ♂, Queenstown, Otago, December 30, 1921 (*Geo. Howes*).

Dicranomyia laterospina, sp. n.

Belongs to the *huttoni* group; antennal scape ochreous; mesonotum reddish brown, with a broad, more greyish, median stripe; femora with a narrow brown subterminal ring; wings with the stigma brown; very narrow and inconspicuous brown seams along the cord and outer end of cell 1*st* M_2; abdominal segments bicolorous; ventral dististyle of male hypopygium with the spines located on the style at the base of the rostrum.

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

Female.—Length 6·8 mm. ; wing 6·8 mm.

Rostrum moderately elongate, about one-half longer than the head, dark. Antennæ with the scapal segments ochreous, the flagellum dark brown, the long pedicels of the segments pale. In the female the basal scapal segment is darkened apically, the second entirely pale; flagellar segments with short pale pedicels. Head grey ; vertex between the eyes narrow.

Mesonotum obscure reddish brown, with a broad, more greyish median stripe extending for almost the entire length of the mesonotum, on the præscutum narrowly margined laterally with darker; postnotum pruinose, darker posteriorly. Pleura brown, sparsely pruinose. Halteres pale, the knobs darker. Legs obscure yellow, the femora with a narrow dark brown subterminal ring, the terminal tarsal segments dark brown. Wings with a faint yellowish tinge ; stigma conspicuous, brown ; a tiny brown spot at origin of *Rs*; very narrow and indistinct brown seams along the cord and outer end of cell 1*st* M_2; veins dark brown. Venation: Sc_1 ending a short distance beyond the origin of *Rs*, Sc_2 not far from the tip of Sc_1, and likewise beyond the origin of *Rs* ; basal deflection of Cu_1 close to the fork of *M*.

Abdomen bicolorous, the basal half of the segments obscure yellow in the male, pale brown in the female ; caudal margins of the segments broadly blackish ; on the sternites the yellow is sometimes more extensive, in other specimens more restricted and occupying only the antero-median area of the segments ; normally about the terminal third of each sternite is darkened ; hypopygium ochreous. Male hypopygium with the ninth tergite bearing a U-shaped median notch. Mesal face of each basistyle produced into a rounded setiferous lobe. Ventral dististyle fleshy, produced into a blackened rostrum ; two long, gently curved spines, united basally, are placed on the face of the style itself, immediately cephalad of the base of the rostrum; dorsal dististyle strongly curved, sickle-shaped, the apex blackened. Ædeagus with an apical U-shaped median notch. Ovipositor with the bases of all the valves blackened, the remainder reddish horn-colour.

Hab. New Zealand (South Island).

Holotype, ♂, Governor's Bay, Canterbury, altitude 80 feet, January 13, 1923 (*J. F. Tapley*).

Allotopotype, ♀.

Paratopotypes, 2 ♂ ♂.

Dicranomyia melina, sp. n.

General coloration light yellow; rostrum and antennal scape pale; a conspicuous semicircular black saddle on the mesonotum; mediotergite of postnotum infuscated; halteres with black knobs; wings pale yellow, the stigma dark brown; anal angle of wing infuscated; ninth segment, including basistyles of hypopygium, blackened.

Male.—Length 4 mm.; wing 6 mm.

Female.—Length about 5 mm.; wing 6 mm.

Rostrum obscure yellow; palpi pale, the outer segments weakly infuscated. Antennæ with the scape obscure yellow, the flagellum dark brown; basal flagellar segments short and somewhat crowded, the outer segments passing into oval. Head obscure yellow.

Mesonotum shiny testaceous-yellow, the median area of the præscutum very slightly darker; a conspicuous shiny black saddle, semicircular in form, extends from the lateral half of each scutal lobe cephalo-mesad across the præscutum which it trasverses shortly before mid-length; postnotum with the mediotergite extensively blackened. Pleura yellow, the mesosternum infuscated. Halteres pale brown, the base of the stem narrowly yellow, the knobs conspicuously blackened. Legs with the coxæ pale yellow; trochanters a little infuscated; legs long and slender, pale brownish yellow, the femoral tips narrowly infuscated, this colour also including the extreme tibial bases; tarsi dark brown. Wings tinged with yellow, the base and costal region more strongly so; stigma short-oval, dark brown; anal angle of wing and a seam behind vein *Cu* infuscated; veins pale brown. Venation: *Sc* short, Sc_1 ending some distance before the origin of *Rs*, this distance about equal to *r–m*; *Rs* relatively short, arcuated, about one-fourth longer than the arcuated basal deflection of R_{4+5}; *r* near outer end of stigma; cell 1*st* M_2 closed, about as long as vein M_{1+2} beyond it; basal deflection of Cu_1 just before the fork of *M*, longer than Cu_2.

Abdomen light yellow, the ninth segment (basistyles and tergite of hypopygium) black, the ventral dististyle obscure yellow.

Hab. New Zealand (North Island).

Holotype, ♂, Taumarunui, April 30, 1923 (*T. R. Harris*).

Allotopotype, ♀.

Dicranomyia tapleyi, sp. n.

Belongs to the *vicarians* group; general coloration chestnut-brown; rostrum ochreous; pleura shiny dark brown; wings

whitish subhyaline, the base more yellowish, the stigma and a seam along vein *Cu* conspicuously brown ; *Rs* short, feebly angulated near mid-length ; abdomen uniformly dark brown ; male hypopygium with the ventral dististyles fleshy, the spines on rostrum stout and straight.

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

Rostrum ochreous, the palpi conspicuously brownish black. Antennæ black throughout, the flagellar segments oval. Head grey.

Pronotum dark brown. Mesonotum chestnut-brown, the median area of the præscutum darkened, especially anteriorly; postnotum dark brown. Pleura shiny dark brown. Halteres pale, the knobs dark brown. Legs greenish testaceous, the base of mid-coxæ infuscated ; trochanters brownish testaceous ; legs long and slender, light brown, the posterior femora somewhat darker ; tarsi dark brown. Wings whitish subhyaline, the base somewhat more yellowish ; stigma distinct, oval, brown ; a brown seam along vein *Cu* in cell *M* and behind the vein ; veins dark brown, the prearcular region more yellowish. Venation : *Sc* short, Sc_1 ending opposite the origin of the short, feebly angulated *Rs*, Sc_2 some distance from the tip of Sc_1, one-half longer than the basal deflection of Cu_1 ; cell 1*st* M_2 closed, about two-thirds the length of vein M_{1+2} beyond it ; basal deflection of Cu_1 beyond the fork of *M*.

Abdomen dark brown, the sternites a very little paler ; hypopygial styles pale. Male hypopygium with the ninth tergite having a U-shaped notch. Mesal lobes of basistyles large. Ventral dististyle elongate, fleshy, the rostrum of moderate length, with two long, straight, and rather stout spines that are placed close together ; dorsal dististyle sickle-shaped, the apex acute. Mesal lobe of gonapophyses broad.

Hab. New Zealand (South Island).

Holotype, ♂, Governor's Bay, Canterbury, altitude 80 feet, May 15, 1923 (*J. F. Tapley*).

Paratopotypes, 5 ♂ ♂.

This very distinct fly is named in honour of the collector, Mr. John Frank Tapley, to whom I am indebted for much valuable material from Banks Peninsula.

Dicranomyia gubernatoria, sp. n.

Belongs to the *monilicornis* group ; rostrum and front light orange ; mesonotal præscutum with three brown stripes ; halteres elongate ; wings with a faint greyish tinge,

the stigma pale brown; abdominal segments uniformly brown; dorsal dististyle of male hypopygium slightly curved at apex.

Male.—Length about 4 mm.; wing 5·6 mm.

Rostrum conspicuously light orange, the palpi brownish black. Antennæ dark brown, the scapal segments a little paler; flagellar segments oval. Head brown, sparsely pruinose, passing into orange on the front.

Pronotum dorsally dark brown. Mesonotal præscutum obscure testaceous with three broad brown stripes that are confluent posteriorly, the lateral stripes crossing the suture and suffusing the scutal lobes; scutellum infuscated; postnotum with the mediotergite infuscated posteriorly. Pleura yellowish testaceous, the ventral pleurites and mesosternum infuscated. Halteres elongate, the stem setiferous; base of stem light yellow, the remainder testaceous, the knobs more infuscated. Wings with a faint greyish tinge, the stigma pale brown but distinct; veins pale brown. Macrotrichiæ of veins relatively conspicuous. Venation: *Sc* short, Sc_1 ending some distance before the origin of *Rs*, this space a little shorter than the basal deflection of Cu_1; Sc_2 far from the tip of Sc_1; *Rs* strongly arcuated, about one-third longer than the basal deflection of R_{4+5}; cell 1*st* M_2 closed, a little less than two-thirds the length of vein M_{1+2} beyond it; basal deflection of Cu_1 immediately beyond the fork of *M*; cell 2*nd A* narrow.

Abdominal tergites dark brown, the sternites more testaceous-brown. Male hypopygium with the mesal lobe of the basistyle large and conspicuous. Ventral dististyle large and fleshy; rostrum long, yellowish horn-coloured, with two long, gently curved spines, the tips of which are directed slightly mesad; immediately caudad of the base of the rostrum a small fleshy tubercle. Dorsal dististyle a slender curved hook with the extreme tip distinctly curved.

Hab. New Zealand (South Island).

Holotype, ♂, Governor's Bay, Canterbury, altitude 80 feet, May 15, 1923 (*J. F. Tapley*).

Limonia gemina, sp. n.

General coloration pale brown, the lateral portions of the præscutum pollinose; antennæ brownish black; fore legs brown, with a subterminal pale femoral ring; tips of all femora and all tibiæ and tarsi black; wings subhyaline, cells *C* and *Sc* dark brown; a sparse brown pattern on wing-

disk; abdominal tergites indistinctly dimidiate, dark and pale brown.

Male.—Length about 4·8 mm.; wing 6 mm.

Rostrum and palpi black. Antennæ brownish black throughout, the flagellar segments short-oval. Head brown.

Pronotum brownish black. Mesonotal præscutum pale brown, golden pollinose, with three conspicuous dark brown stripes, the median stripe very broad, the lateral stripes narrow and lying close to the median stripe, the anterior ends confluent with the median stripe or nearly so; scutal lobes brownish black, the median area narrowly pale; scutellum brown, the base and a median dash pale; postnotum dark, sparsely pruinose. Pleura pale brown with a conspicuous though relatively narrow brownish-black stripe extending from the propleura to the postnotal pleurotergite. Halteres pale, the base of the knobs a little darkened. Legs with the coxæ faintly darkened basally, the apices and trochanters pale yellow; fore femora pale basally, soon passing into brown; an obscure yellow subterminal ring a little narrower than the conspicuously blackened tips; middle legs broken; posterior femora brownish yellow, the tips blackened; tibiæ and tarsi black. Wings subhyaline; cells *C* and *Sc* dark brown; prearcular cells pale yellow except along vein *Cu*, which is dark brown; cell Sc_1 passing into obscure yellow; a circular brown spot at origin of *Rs*; an oval pale brown stigmal area, darker at *r* and tip of R_1; pale brown dots and seams at end of *Rs*, along cord and outer end of cell 1*st* M_2, and oval dots in cell 2*nd* R_1 and near the outer end of cell R_2; wing-margin in anal cells faintly darkened; veins dark brown. Venation: *Sc* moderately elongate, Sc_1 extending to just before mid-length of *Rs*, Sc_1 long, Sc_2 being shortly beyond the origin of *Rs*; *Rs* angulated and short-spurred at origin; *r* less than its own length from the tip of R_1; inner end of cell R_3 far proximad of 1*st* M_2, the basal deflection of R_{4+5} more than one-half the sector; cell 1*st* M_2 closed; basal deflection of Cu_1 about one-third its length before the fork of *M*.

Abdomen dark brown, the apical half of each tergite a little paler brown to produce an indistinct dimidiate appearance; sternites similar, but the pale tips to the segments less clearly indicated; hypopygium obscure fulvous.

Hab. New South Wales.

Holotype, ♂, Rous, Richmond River, March 23, 1923 (*V. J. Robinson*).

Libnotes restricta, sp. n.

Male.—Length 16–17 mm.; wing 23–24 mm.

Related to *L. strigivena* (Walker), differing as follows:—Basal segment of scape yellowish basally, the apex infuscated; second scapal segment largely infuscated. Mesonotal præscutum with the anterior half infuscated; posterior half with four brown stripes converging behind; each scutal lobe with an elongate triangular dark brown mark with the point directed backward; scutellum and postnotum pale, the centre of the scutellum with a small pale brown spot; a pruinose brown stripe traversing the suture between the mediotergite and pleurotergite of the postnotum. Femoral brown rings conspicuous; on the middle legs a little more extensive than the pale tips, on the posterior femora still narrower. Wings with the brown pattern very reduced, not appearing as spots along the veins; the markings occur at the origin and fork of *Rs*, along the cord and outer end of cell 1*st* M_2; at Sc_2, at *r* and tip of R_1, at tips of veins Cu_1, Cu_2 and the anal veins; distal half of vein R_{4+5} infuscated, the others pale greenish yellow except where they transverse dark markings. Venation: *r* about one-third longer than the distal section of R_1. Abdominal brown markings broadly interrupted at the posterior margins of the segments.

Hab. New South Wales.

Holotype, ♂, Rous, Richmond River, April 1, 1923 (*V. J. Robinson*).

Paratopotypes, ♂; 2 ♂ ♂, August 1923.

Limnophila, Macquart.

The genus *Limnophila*, s. l., includes a considerable number of species found in all regions of the world. The structure of the adult flies seems to afford relatively few characters upon which to subdivide this heterogeneous aggregation. The genotype, *L. pictipennis* (Meigen), was designated by Westwood in 1840 and so restricts the name to the small Palæarctic group that was formerly called *Pœcilostola*, Schiner, and strictly congeneric groups. Following this strict usage of the name, it seems probable that few, or possibly none, of the New Zealand species so far described as species of *Limnophila* really belong here. As indicated by Edwards, *L. delicatula*, Hutton (and *serotina*, Alexander), may be referred to *Limnophilella*, Alexander, without seriously modifying the characters of the latter

group. The remainder of the large and showy species with the broken arculus described by Hutton and Edwards (including all the species in the genus given by Edwards in his monographic revision, with the exception of *bryobia*, Mik, *delicatula*, Hutton, and *skusei*, Hutton) would seem to be referable to *Polymoria*, Philippi, a group that has, until now, been represented by a small number of Chilian species. This genus, *Rhamphophila*, Edwards, *Tinemyia*, Hutton, and a few other groups should be referred to the division Epiphragmaria, as defined by the writer (Cornell Univ. Agr. Expt. Sta., Mem. 38, p. 843, 1920). Whether or not *Polymoria* and *Epiphragma* can be maintained as distinct is questionable. The basic character of *Epiphragma* is the presence of a supernumerary cross-vein in cell *C*. Several species, described from the Oriental and Australasian regions, are now known in which there appears a series of more or less complete cross-veins in this cell, indicating the plasticity of the character. If the cross-vein in *Epiphragma* was lost we would have what to all appearances would be a species of *Polymoria*, or, conversely, if these numerous Australasian and Chilian species of *Polymoria* were provided with this cross-vein, there would be no question of their reference to *Epiphragma*. The structure of the immature stages, as known, all tends to show the very close relationships between the various groups of the Epiphragmaria. The author fully realizes the difficulties to be found in defining still further generic groups within this complex, yet it is obviously still more unsatisfactory to continually refer species of Hexatomine flies to *Limnophila*, a genus to which they are not closely allied. In order to remove three well-defined groups of the New Zealand fauna from this artificial situation, new generic terms are proposed herewith for these groups. Moreover, it seems advisable to treat *Metalimnophila*, Alexander, as a genus rather than as a subgeneric concept. Of the New Zealand genera, *Tinemyia*, *Rhamphophila*, *Polymoria*, *Nothophila*, *Heterolimnophila*, and *Acantholimnophila* may be referred to the division Epiphragmaria, based upon the condition of the arculus, while *Zelandomyia*, *Metalimnophila*, *Notholimnophila*, and *Harrisomyia* may be retained in the Limnophilaria. The position, in subtribes, of *Elephantomyia*, *Ischnothrix* (*Orolimnophila*), and *Atarba* is still questionable, but all three are certainly members of the tribe Hexatomini. The above distribution still leaves a few scattered species in the old genus *Limnophila* (as *skusei*, Hutton, *nebulifera*, Alexander, *latistyla*, Alexander, *quæsita*, Alexander, and *oliveri*, Alexander), from which they

should be removed or finally retained as sufficient data come to hand to warrant the move.

HETEROLIMNOPHILA, gen. nov.

Antennæ short, 16-segmented; flagellar segments oval, the verticils not longer than the segments. Præscutum without tuberculate pits; pseudosutural foveæ small and lying not far from the lateral margin of the sclerite, pale, inconspicuous. Halteres elongate. Legs with tibial spurs entirely lacking. Stigma with abundant macrotrichiæ; veins with macrotrichiæ, these including all longitudinal veins beyond arculus, though less conspicuous on the basal third of *Cu*. Venation: *r* more or less distinct, about twice its length from the tip of R_1; basal deflection of Cu_1 before mid-length of cell *1st* M_2; no indication of an atrophied *3rd Anal* vein; anterior arculus completely lacking. Abdominal tergites with transverse to oblique impressions. Male hypopygium with two dististyles, the outer more chitinized; no interbasal processes.

Genotype, *Limnophila truncata,* Alexander (Maorian Subregion).

L. subtruncata, Alexander, likewise belongs here. Mr. Edwards has called my attention to the lack of tibial spurs. In *Limnophilella delicatula* (Hutton) there is a conspicuous remnant of *3rd A* lying behind *2nd A* and extending halfway to the margin. The anterior arculus is barely indicated. The genotype of *Limnophilella* (*epiphragmoides*, Alexander) has the 3rd Anal vein indicated, anterior arculus entirely lacking.

ACANTHOLIMNOPHILA, gen. nov.

Antennæ elongate, nearly as long as body, 16-segmented, the verticils shorter than the segments. Præscutum without tuberculate pits; pseudosutural foveæ very shallow and inconspicuous. Legs with tibial spurs. Wing-veins with abundant macrotrichiæ, present on all veins beyond the cord and on *C*, *Sc*, *R*, *Rs*, *M*, *1st A*, and *2nd A* basad to level of arculus and on *Cu* almost to arculus. Venation: *r* faintly indicated, about its own length from the tip of R_1 and on R_2 beyond mid-length; inner ends of cells R_3, R_5, and *1st* M_2 in approximate alignment; basal deflection of Cu_1 not far from inner end of cell *1st* M_2; no indication of vein *3rd A*; anterior arculus lacking. Transverse impressions on abdominal tergites. Male hypopygium with conspicuous interbases, appearing as a simple chitinized spine (*maorica*) or a

shorter bifid spine (*bispina*). The character of these interbases indicates a close relationship with *Epiphragma*.

Genotype, *Limnophila maorica*, Alexander (Maorian Subregion). *L. bispina*, Alexander, likewise belongs here.

NOTHOLIMNOPHILA, gen. nov.

Antennæ short. Pronotum large and conspicuous, especially the scutal region. Mesonotal præscutum with small linear tuberculate pits on the cephalic margin of the sclerite; pseudosutural foveæ conspicuous. Tibial spurs distinct. Wings with the stigma glabrous; macrotrichiæ on veins basad of cord very sparse or lacking, there being none on *Rs*, R_{2+3}, *M*, *Cu*, Cu_2, 1*st A*, or 2*nd A*. Venation: *Sc* relatively short, Sc_1 ending before the tip of *Rs*; *r* on R_2 just beyond the fork of R_{2+3} and on R_1 about its own length from the tip; cell M_1 lacking; anterior arculus present; vein 3*rd A* lacking. Abdomen with transverse impressions on tergite 2, on the following segments these becoming more oblique in position and less conspicuous. Ovipositor with elongate slender valves.

Genotype, *Limnophila exclusa*, Alexander (Maorian Subregion).

There is some evidence (Ann. & Mag. Nat. Hist. (9) ix. p. 518, 1922) that the genotype may have an aquatic or semi-aquatic larva.

SKUSEOMYIA, gen. nov.

Antennæ 16-segmented; flagellar segments elongate, in the ♀ the verticils approximately equal in length to the segments. Pronotum small and relatively inconspicuous. Tuberculate pits and pseudosutural foveæ apparently lacking. Halteres elongate. Legs with tibial spurs. Wings with Sc_2 at tip of Sc_1; *Rs* angulated and spurred at origin, beyond the spur straight to beyond mid-length, then bent strongly caudad whence it continues straight to the fork; *r* very far from the tip of R_1 and near mid-length of vein R_2; R_1 beyond *r* about equal in length to cell 1*st* M_2; inner ends of cells R_3, R_5, and 1*st* M_2 in alignment; basal deflection of Cu_1 at the outer end of cell 1*st* M_2, in alignment with *m*; vein 3*rd A* indicated; anterior arculus present. Macrotrichiæ on veins almost to wing-base, beyond the cord more conspicuous, basad of the cord small and scattered. Ovipositor with the valves short and strongly upcurved.

Genotype, *Skuseomyia eximia*, sp. n. (Australian Subregion).

The chief characters of this group are venational, as the great recession of *r* from the tip of R_1, the peculiar course of *Rs*, and the position of the basal deflection of Cu_1 at the extreme outer end of cell 1*st* M_2, in alignment with *m*. The genus is dedicated to the memory of Frederick A. A. Skuse, whose work on the crane-flies of Australia was many years in advance of his time.

Skuseomyia eximia, sp. n.

General coloration pale yellow; a black transverse mark across the mesonotum at the suture; wings subhyaline, striped longitudinally and transversely with bright yellow, and sparsely variegated with brown.

Female.—Length 10–10·5 mm.; wing 9·8–10·2 mm.

Rostrum and palpi yellow. Antennæ yellow, the flagellar segments gradually passing into brownish yellow. Head yellow, the frons, centre of vertex, and the genæ more greyish testaceous. Anterior part of vertex between the eyes with a small group of conspicuous erect bristles.

Pronotum and anterior portion of mesonotal præscutum whitish yellow, the latter more shiny posteriorly; transverse suture and anterior two-fifths of each scutal lobe continuously black; posterior sclerite of mesonotum shiny testaceous-yellow. Pleura whitish yellow. Halteres elongate, pale, the knobs slightly darkened. Legs with the coxæ yellowish testaceous; trochanters reddish brown; remainder of the legs yellow, the tarsi passing into brownish yellow distally. Wings subhyaline with a very peculiar bright yellow and brown pattern that is strangely suggestive of that of *Tricyphona kuwanai* and allies of Japan; a narrow brown longitudinal streak occupies cell *C* for almost its entire length; the yellow areas include cell *C*; a broad longitudinal stripe behind vein *R*, crossing the base of *Rs* and extending to opposite the curve in the latter vein; an obliquely transverse stripe across the anterior cord and a similar but slightly more infuscated one across the posterior cord, extending from cell R_5 across the outer end of cell 1*st* M_2 to the wing-margin; a conspicuous yellow stripe follows along vein R_2 from before *r* around to the wing-tip, bordered outwardly by a grey line that is replaced by brown spots opposite *r* and at the tip of R_1, with corresponding brown spots behind the seam; all yellow stripes are narrowly and indistinctly bordered by pale brownish grey; a conspicuous yellow seam along vein *Cu*; vein *M* is conspicuously brown for almost its entire length and *Rs* on the straight portion basad of the curve; small brown spots at

base of cell *R*; at origin of *Rs* and near mid-length of cell *Cu*; veins yellow except where they traverse darkened areas. Venation: *Sc* long, Sc_1 ending beyond the origin of R_2, Sc_2 at its tip; R_{2+3} short, less than *m*; cell M_1 a little longer than its petiole; Cu_2 about one-half longer than the basal deflection of Cu_1; vein *2nd A* elongate.

Abdomen with the basal segments brownish yellow, the tergites with transverse brown markings beyond mid-length of the segments; subterminal segments becoming brown with slightly paler bases and pale apices; genital segment fulvous, the valves of the ovipositor somewhat darker.

Hab. New South Wales.

Holotype, ♀, Richmond River, March 23, 1923 (*V. J. Robinson*).

Paratopotype, ♀, May 8, 1923.

Zelandomyia penthoptera, sp. n.

General coloration brownish black; wings strongly suffused with brown; cell M_1 very small; gonapophyses of male hypopygium slender, bent into a semicircle.

Male.—Length 3·5–3·6 mm.; wing 5·1–5·5 mm.

Rostrum and palpi black. Antennæ black throughout, the flagellar segments oval, with moderately long verticils. Head brownish black, subshiny.

Mesonotum brownish black, without markings. Pleura conspicuously grey-pruinose, the dorsal pleurites brownish black. Halteres elongate, dark brown, the extreme base of the stem obscure yellow. Legs with the coxæ and trochanters obscure testaceous; remainder of legs brownish black, the femoral bases a very little paler. Wings with a strong brown tinge, the stigma slightly darker but poorly delimited; veins dark brown. Venation: Sc_1 ending just beyond the end of *Rs*, Sc_2 just before its tip; *Rs* long, gently arcuated; *r* very faint, about twice its length from the tip of R_1; inner ends of cells R_3, R_5, and *1st* M_2 in oblique alignment; cell M_1 small, approximately one-half its petiole; basal deflection of Cu_1 not far from the inner end of cell *1st* M_2.

Abdomen brownish black, the sternites slightly paler. Male hypopygium with the basistyles relatively long; outer dististyle slender, chitinized, the apex weakly bifid; inner style fleshy, shorter than the outer style, tapering from the broad base. Gonapophyses very slender, bent into a semicircle, directed laterad, the acute points cephalad.

Hab. New Zealand (North Island).

Holotype, ♂. Ohakune, altitude 2060 feet, March 23, 1923 (*T. R. Harris*).

Paratopotypes, 2 ♂ ♂, March 31–April 6, 1923 (*T. R. Harris*).

Gynoplistia hiemalis (Alexander).

1923. *Cerozodia hiemalis*, Alexander, Ann. & Mag. Nat. Hist. (9) xi. p. 108.

This species was based on a single female, and was placed rather tentatively in *Cerozodia* with the indication that the discovery of the male sex might necessitate its removal to *Gynoplistia*. During the past season, Harris found the male sex of this insect. Although it rivals in size the known species of *Cerozodia* and has nearly apterous females, as is the case in most species of the latter genus, the structure of the antenna proves that it should be placed in *Gynoplistia*, in which genus it ranks as the largest and most beautiful species so far discovered. It is most nearly related to the smaller *G. ocellifera*, Alexander, which is likewise a winter species, and will undoubtedly be found to have a subapterous female. The male of *G. hiemalis* was found by Harris on June 14, 1923, at Ohakune. On June 22, 1923, a second male was discovered.

Gynoplistia myersæ, sp. n.

Related to *G. conjuncta*, Edwards; general coloration grey, the præscutum with four brown stripes; antennæ with short pectinations; legs black, the femoral bases paler; subterminal pale rings on femora almost obliterated; wings yellowish subhyaline with a sparse brown pattern.

Male.—Length 11–12 mm.; wing 10–11 mm.

Rostrum grey with abundant black setæ; palpi dark brown. Antennæ black throughout; 16-segmented, the formula being 2+2+7+5, all of the pectinated segments being nearly in alignment; flagellar branches short, the longest less than three times the length of the segment that bears it. Head dull grey, the vertex infuscated, but further divided by a capillary grey median line.

Pronotum dark brown, grey-pruinose. Mesonotal præscutum yellowish grey with four conspicuous bright brown stripes, the narrow intermediate pair not attaining the suture, the broader lateral stripes beginning immediately behind the conspicuous black pseudosutural foveæ; scutum grey, the lateral margins of the lobes weakly infuscated;

scutellum light grey; postnotum light grey, the pleurotergite variegated with darker. Pleura light grey, indistinctly variegated with blackish. Halteres yellow, the knobs conspicuously dark brown. Legs with the coxæ brownish grey; trochanters yellow; femora black, their bases rather narrowly fulvous; a very indistinct fulvous subterminal ring that is almost obliterated on the fore legs, more distinct on the posterior femora; remainder of legs brownish black. Wings yellowish subhyaline; cells *C* and *Sc* more yellowish; disk with a sparse brown pattern; stigma oval, brown, connecting with a brown seam along the cord, the latter most extensive in cells R_2 and R_3; outer end of cell 1*st* M_2 narrowly seamed with brown; a small brown cloud at fork of M_{1+2}; a cloud at base of cell *R* and a conspicuous circular or oval spot at origin of *Rs* in cells *R* and 1*st* R_1; an indistinct seam along vein *Cu*; veins dark brown. Venation: *Rs* long, angulated and spurred at origin; *r–m* distinct, subequal to *r*; cell M_1 nearly twice its petiole; basal deflection of Cu_1 near mid-length of cell 1*st* M_2.

Abdomen dark grey, the hypopygium more reddish. Male hypopygium with the ninth tergite slightly projecting, bifid, each half squarely truncated; basistyles relatively short and stout, the dorsal surface provided with abundant coarse yellow setæ; mesal face at base produced into a conspicuous blackened beak, the point directed cephalad; outer dististyle with a flat darkened apex that is delicately toothed, just before the apex on the anterior margin with a powerful, acute, appressed spine; before this spine the outer margin bears a series of coarse erect bristles; inner dististyle broad at base, the distal third suddenly narrowed, the surface of style with abundant setæ. Gonapophyses with the distal half nearly straight, appearing as narrow flattened blades. Ædeagus curved at apex, the margins smooth.

Hab. New Zealand (South Island).

Holotype, ♂, Mt. Rolleston, Canterbury, altitude 4500 feet, January 6, 1923 (*I. Myers*).

Paratopotype, ♂.

This interesting fly is named in honour of the collector, Mrs. John G. Myers.

Gynoplistia subclavipes, sp. n.

General coloration shiny black; antennæ 15-segmented, the branches moderately elongate; coxæ, trochanters, and femoral bases obscure yellow; wings subhyaline with a heavy brown pattern; abdomen violaceous black, the

genital segments yellow ; male hypopygium with the outer dististyle toothed before apex ; gonapophyses very long and slender.

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

Female.—Length 9–9·4 mm. ; wing 8–8 4 mm.

Rostrum shiny black ; palpi brown. Antennæ 15-segmented, the formula being 2+2+6+5 ; coloration black throughout ; longest branch (on segment 6) approximately one-half the length of flagellum ; in the female the basal two or three flagellar segments are weakly produced, the following segments soon passing into oval. Head shiny coal-black.

Pronotum and mesonotum shiny coal-black, the humeral region and the scutellum more reddish ; in the female the reddish colour of the præscutum is more extensive. Pleura shiny black, the sclerites surrounding the wing-base more reddish ; dorsal pleurites with a narrow line of appressed grey pubescence. Halteres obscure yellow, the knobs infuscated. Legs with the coxæ and trochanters obscure yellow ; remainder of the legs black, the femoral bases broadly obscure yellow, these pale bases narrowest on the fore legs, broadest on the posterior legs where approximately the basal half is included ; femora strongly clavate, especially the elongate posterior femora. Wings subhyaline, with a heavy brown pattern ; cell *Sc* infuscated ; a conspicuous cloud at origin of *Rs*, crossing cell *R* ; a conspicuous band along the cord, extending from the slightly darker stigma across the wing, the centre of cell 1*st* M_2 restrictedly pale ; wing-tip broadly darkened, including all of cell M_1 ; brown suffusions in the basal half of cell *Cu* and the outer ends of cells 1*st A* and 2*nd A* ; veins black. In the female the pattern is rather more restricted, especially as regards the clouding at wing-tip and in the cubital and anal cells ; base of cell *M* darkened. Venation : *Rs* long, strongly angulated at origin ; veins R_2 and R_3 strongly divergent ; a small spur from M_3 jutting into cell 1*st* M_2 at its distal end ; cell M_1 about equal to its petiole ; basal deflection of Cu_1 just before mid-length of cell 1*st* M_2 ; vein 2*nd A* bent strongly to margin at distal end.

Abdomen violaceous-black, the hypopygium and ovipositor yellowish. Male hypopygium with the basistyles stout, the mesal margin expanded into a flattened blade whose distal angle is produced and weakly toothed ; apex of each basistyle produced into two flattened blades, one weakly serrulate at apex, the other smooth, obliquely subtruncate. Outer dististyle slender, with a conspicuous tooth on outer margin

far before the apex, this apex microscopically denticulate but pale; outer style with numerous small setæ and about three larger bristles on outer margin before apex. Gonapophyses very long and slender, tapering gradually to the acute tips, extending to opposite the level of the tips of the basistyles. Ædeagus small and slender.

Hab. New Zealand (North Island).

Holotype, ♂, Ohakune, altitude 2060 feet, December 17, 1922 (*T. R. Harris*).

Allotopotype, ♀.

Paratopotype, ♀.

Tricyphona arthuriana, sp. n.

Male.—Length 7·2 mm; wing 9·3 mm.

Generally similar to *T. novæ-zelandiæ*, Alexander, from which it differs as follows:—Antennal scape concolorous with the flagellum. Mesonotal præscutum brownish grey with four very faintly indicated darker stripes, the median capillary pale vitta broader. Pleura conspicuously dark grey. Legs darker brown, the femoral tips markedly infuscated. Wings more strongly infuscated. Venation: *r–m* beyond mid-length of the petiole of cell R_4; *m* connecting with M_2 about its own length beyond the fork of M_{1+2}. Male hypopygium dark brown. Interbasal process of hypopygium straight, broad-based, the apex a little produced mesally, blunt. Ædeagus with a V-shaped median notch. In *novæ-zelandiæ* the interbase is a gently curved hook; the ædeagus terminates in a blackened globular median lobe.

Hab. New Zealand (South Island).

Holotype, ♂, Arthur's Pass, Canterbury, altitude 3000 feet, December 24, 1922 (*J. G. Myers*).

Habromastix robinsoni, sp. n.

General coloration brownish black, the abdomen conspicuously orange-rufous; wings strongly infuscated, more suffused at the base, in the costal region, and along vein *Cu*.

Female.—Length 20·5 mm.; wing 19·3 mm.

Rostrum and palpi dull black. Antennæ with the basal scapal segment testaceous, tipped with darker; second segment testaceous; flagellum black; flagellar segments elongate, a little longer than the thorax alone. Head velvety-black.

Mesonotal præscutum dark brown, with four velvety-black stripes, the intermediate pair long, separated from one

another by a relatively broad line of the ground-colour; lateral stripes narrow, removed from the intermediate stripes, which are strongly narrowed toward the suture; remainder of the mesonotum dark brown, the scutal lobes darker medially; scutellum and base of postnotal mediotergite paler brown. Pleura brown, variegated with velvet-black, especially on the anterior pleurites. Halteres slender, infuscated, the knobs more strongly so. Legs with the coxæ brown; trochanters obscure brownish yellow; remainder of legs testaceous-brown, apparently not fully coloured. Wings with a strong brownish tinge, the base and costal region more suffused; stigma dark brown; a brownish seam along the anterior cord and along vein *Cu*; veins dark brown. Venation: *Rs* a little shorter than R_{2+3}; petiole of cell M_1 not much longer than *r–m*; cell 1*st* M_2 relatively large; fusion of M_3 and Cu_1 about equal to *r–m*, just before mid-length of cell 1*st* M_2; cell 2*nd A* moderately broad.

Abdomen with the basal segment infuscated; remainder of abdomen orange-rufous, only the basal and dorsal shields of the ovipositor shiny black. Ovipositor with the valves straight, orange-horn colour.

Hab. New South Wales.

Holotype, ♀, Rous, Richmond River, May 8, 1923 (*V. J. Robinson*); flying at dusk in scrub.

This striking and very distinct species is named in honour of the collector, Mr. V. J. Robinson.

Habromastix platyxantha, sp. n.

Male.—Length about 14 mm.; wing 15·8 mm.

Closely related to *H. terræ-reginæ*, Alexander (Queensland), from which it differs as follows:—

General coloration darker. Frontal prolongation of the head brown, slightly paler dorso-medially. Flagellum entirely dark brown. Vertex largely dark brown. Intermediate præscutal stripes reaching the anterior margin of the sclerite. Pleura not so conspicuously variegated with brown. Wings with the ground-colour darker brown, the pale markings narrower and clearer-cut, especially the areas in the basal and anal cells; spots in the cells beyond the cord for the most part reduced to mere flecks. Venation: *Rs* less arcuated; basal deflection of R_{4+5} and *r–m* subequal; petiole of cell M_1 about equal to *m*. Abdominal tergites without a dorso-median pale vitta, the sclerites being dark brown with very broad and conspicuous golden-yellow triangles at the caudal-lateral angles; sternites largely

obscure yellow; hypopygium black. Male hypopygium with the basistyles longer and more slender, distinctly constricted near two-thirds their length; chitinized dististyle tapering more gradually into the flattened chitinized apex; pale dististyle more pointed at apex.

Hab. New South Wales.

Holotype, ♂, Rous, Richmond River, May 8, 1923 (*V. J. Robinson*).

Macromastix (*Phymatopsis*) *tenuirostris*, sp. n.

General coloration of præscutum brownish yellow, with four narrow brown stripes; frontal prolongation of head long and slender, nasus lacking; vertical tubercle elongate, directed cephalad; thoracic pleura light grey; legs black, the femoral bases a little paler; wings faintly tinged with brown; cells *C* and *Sc* dark brown; Sc_1 persistent; cell R_2 large; cell M_1 barely sessile.

Male.—Length about 11 mm.; wing 13 mm.

Frontal prolongation of the head long and relatively slender, dark brown throughout, about one-third longer than the remainder of the head, the dorsum on distal third weakly setiferous; nasus lacking or rudimentary; palpi dark brown. Antennal scape dark brown; flagellum broken. Vertical tubercle long and conspicuously appressed, directed cephalad, extending to opposite the end of the first scapal segment, reddish brown in colour; vertex dark, covered with a dull brownish-yellow pollen, especially laterally.

Mesonotal præscutum brownish yellow with four narrow, dark brown stripes, the interspaces behind light grey, restricting the diameter of the lateral stripes; scutal lobes dark grey, the median area paler; scutellum reddish grey, narrowly darker medially; postnotum light grey, a little less than the posterior half infuscated. Pleura light grey, the anterior pleurites darker. Halteres long and slender, the stem yellowish brown, the knobs darker brown. Legs with the coxæ dark grey; trochanters pale basally, the apices conspicuously dark brown; legs black, only the femoral bases narrowly paler. Wings with a faint brownish tinge; cells *C* and *Sc* abruptly and conspicuously dark brown; stigma obscure yellow; wing-base and apex a little suffused with yellowish. Venation: Sc_1 persistent, ending shortly before the fork of *Rs*, Sc_2 a short distance from the tip of Sc_1; *Rs* long, gently arcuated, dividing with a wide-spreading fork; tip of R_1 faint; *r* on R_2 about two-thirds its length beyond the origin; R_{4+5} ending just beyond the wing-apex; *r–m* elongate; cell M_1 barely sessile; cell

1*st* M_2 relatively large; basal deflection of Cu_1 and M_3 in punctiform contact; cell 2*nd A* moderately broad.

Abdomen with the basal tergite pale; remainder of abdomen brownish black, sparsely pruinose. Male hypopygium shiny chestnut-brown; ninth tergite relatively short, the posterior margin with a U-shaped median notch, the broad lateral lobes obtusely rounded; remainder of hypopygium projecting conspicuously beyond the tergite, somewhat as in the *impudica* group of the genus *Tipula*.

Hab. New South Wales.

Holotype, ♂, Taree, December 7, 1922 (*E. W. Ferguson*).

It seems best to consider *Phymatopsis*, Skuse, as being a subgenus of *Macromastix*. The known females of species of this group are subapterous. The type has been returned to Dr. Ferguson.

Macromastix (*Phymatopsis*) *nigrosubcostata*, sp. n.

General coloration ashen-grey; præscutum with four brownish-grey stripes; femora and tibiæ brownish yellow, the tips narrowly blackened; wings greyish yellow, the basal half of cell *Sc* and the wing-base brownish black; abdominal segments yellow, the caudal margins of the sclerites dark brown, the tergites, in some cases, with a continuous dorso-median stripe.

Male.—Length 12–14 mm.; wing 14–16 mm.

Frontal prolongation of the head brownish black, palpi concolorous. Antennæ short, pale brown, the flagellar segments subcylindrical. Head yellowish grey, the centre of the vertex infuscated and with a capillary black median line extending on to the vertical tubercle, the latter flattened but conspicuous, fulvous.

Mesonotal præscutum dull grey, with four rather indistinct darker brownish-grey stripes, the intermediate pair strongly narrowed posteriorly and becoming obsolete before the suture; anterior-cephalic margin of præscutum back to the pseudosutural foveæ narrowly dark brown; remainder of mesonotum light ashen-grey without markings. Pleura brownish grey, with indications of brown stripes. Sternum concolorous. Halteres obscure yellow, the knobs dark brown. Legs with the coxæ obscure yellow, the extreme bases a little darker; trochanters obscure yellow; femora brownish yellow, the tips narrowly but conspicuously blackened; tibiæ pale brownish yellow, the tips blackened; tarsi black, the bases of the metatarsi a little paler. Wings greyish yellow, the costal cell and distal half of the subcostal

cell yellow; prearcular region and basal half of subcostal cell brownish black; stigma pale brown; area behind vein *Cu* yellowish; veins pale brown. Venation: Sc_1 preserved basally, the extreme tip atrophied; cell M_1 sessile.

Abdominal tergites obscure yellow; basal tergite faintly pruinose; in fully coloured specimens, a conspicuous dark brown median stripe that is sometimes entire, sometimes interrupted at the basal half of each segment to form broad apical triangles; lateral margins of tergites narrowly darkened; sternites with the basal portions, or at least basal lateral triangles, yellow, the remainder of the segments dark brown. Male hypopygium with the ninth tergite dark brown, the basistyles more yellowish brown.

Hab. New South Wales.

Holotype, ♂, Rous, Richmond River, May 8, 1923 (*V. J. Robinson*).

Paratopotypes, 2 ♂ ♂; 3 ♂ ♂, August 1923.

Macromastix sessilis, sp. n.

Head orange-fulvous, with a narrow dark brown median vitta; mesonotal præscutum orange-brown with four brown stripes; wings subhyaline, stigma brown; cell M_1 sessile; abdominal segments feebly bicolorous.

Male.—Length about 7·8 mm.; wing 11·3 mm.; antenna about 3 mm.

Frontal prolongation of the head moderately elongate, dark above, the sides and venter more yellowish; palpi dark brown. Antennæ moderately elongate, about as long as the combined head and thorax; scape dull ochreous; flagellum dark brown; flagellar segments elongate-cylindrical. Head orange-fulvous, passing into yellow on the front, with a narrow distinct dark brown median stripe passing cephalad on to the compressed vertical tubercle.

Mesonotal præscutum orange-brown with four distinct brown stripes, the intermediate pair narrowly and indistinctly separated by a pale vitta; scutal lobes with dark centres; scutellum brownish grey; postnotum golden with two dark brown areas at the posterior margin of the mediotergite. Pleura yellowish ochreous, the dorsal pleurites a little infuscated; a small brown area on pleurotergite in front of halteres. Halteres pale brown, the extreme base of the stem pale. Legs with the coxæ and trochanters yellowish; femora obscure yellow or brownish yellow, the tips narrowly infuscated; tibiæ and tarsi dark brown, the bases of the former narrowly pale. Wings subhyaline;

cell *Sc* a little darker; stigma conspicuous, brown; veins dark brown. Venation: *Rs* shorter than R_{2+3}, straight; inner ends of cells R_3 and R_5 in oblique alignment; cell M_1 sessile; *m–cu* punctiform; cell *2nd A* relatively short and narrow.

Abdominal tergites brown, the caudal margins of the segments narrowly darker brown, the basal lateral triangles golden-pollinose; sternites obscure yellow, the lateral margins of the segments infuscated; hypopygium light brown.

Hab. New Zealand (North Island).

Holotype, ♂, Ohakune, altitude 2060 feet, May 10, 1923 (*T. R. Harris*).

XLVII.—*Ants from Sumatra.* By W. C. Crawley, B.A., F.E.S., F.R.M.S. *With Biological Notes by* Edward Jacobson.

Subfamily I. *Ponerinæ.*

Chrysapace, gen. nov.

♀. Apterous. Head truncate behind the ocelli, forming a plane surface almost at right angles to the vertex, the lateral angles bluntly bordered. Mandibles broad and triangular. Frontal carinæ joined to the clypeus, rising high between the articulations of the antennæ, and gradually narrowing to a point at a distance equal to three times their width at the widest, where they abruptly converge and terminate. Antennal fossæ limited laterally by a carina as in *Cerapachys*.

Antennæ 12-jointed, the funicular joints gradually thickening to the apex, the last four joints thickening more rapidly, but not forming a club; the apical joint is longer than the preceding two together. Eyes well developed, placed posteriorly.

Thorax large and massive, without a trace of sutures.

Pronotum with a sharp anterior border.

Petiole and postpetiole bordered anteriorly but not laterally, the latter separated from the following segment by a deep constriction.

The basal segment of gaster covers more than half the whole gaster.