New Zealand Fungus Gnats (*Diptera, Mycetophilidae*)

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PLATES 58-80.

INTRODUCTION.

THE Mycetophilidae form a very important part of the dipterous fauna of New Zealand, both as regards the number of species and the number of individuals. They are found sometimes in amazing quantity in the bush along shady gullies and creeks, below overhanging ferns and mosses, on the small undergrowth, or on the tree trunks. They are more seldom met with in the open country; however, some large species of *Platyura* and *Nervijuncta* may be found in the tussock-land above the forest-line, or among the grass in the cultivated area, together with a few ubiquitous species of *Mycetophila, Zygomyia,* and *Anomalomyia.*

Very few of the larvae of the New Zealand species are known; even the most striking of all, that of *Arachnocampa luminosa,* or glow-worm, would require serious investigations before all the points of its interesting life-history could be settled.

The Mycetophilidae may be distinguished from the other families of nematocerous Diptera by the following characters:

1. Presence of strong and well-developed tibial spurs.
2. Two or three ocelli, the lateral ones often contiguous with the eye-margins.
3. Strong bristles on the body and sometimes on the legs.
4. Reduction or absence of pulvilli.
5. Antennae inserted always well above the oral margin.
6. Absence of vein R_{4+5} and of discoidal cell; vein A always incomplete if not altogether absent.

The venation is of the greatest importance for the classification of the different sub-families and genera; the notation employed here is that of Comstock and Needham, and a certain number of photographic reproductions and drawing of wings have been lettered accordingly, so that no further details on this point will be necessary here.

The wing-membrane may be provided with two sets of hairs, the coarse ones or *macrotrichia,* and the very fine microscopical ones or *microtrichia.* They are in some cases present at the same time, but more often the macrotrichia are partially or completely absent; however, in a few instances they entirely replace the microtrichia; these last may be irregularly arranged on the membrane or else form rather regular longitudinal rows.

The thoracic chaetotaxy also offers a very valuable help for the classification of genera and even of species; a side-view of the thorax of an hypothetical type is given in Fig. A, in which the different sclerites have been named; the bristles and hairs derive their name from the sclerite on which they are placed.

The legs are covered with very fine setae and usually also with more or less strong bristles. The fine tibial setae may be arranged in very regular straight longitudinal rows, or else simply scattered over the whole surface of the tibia. The tibial bristles are sometimes arranged in two rows, but also in three or four rows, and the number of bristles in each row may be quite constant in a given species; these rows have received a name according to their position on the tibiae: dorsal, ventral, external, or internal. The tibiae are often provided with one or sometimes with two little combs on their extremity. The empodium is not always present in certain groups, and is, therefore, of taxonomic importance.

HISTORICAL.

Up till now only 39 species of Mycetophilidae were known from New Zealand; these were distributed in 19 genera.

The first three species were described by Hutton in his " Catalogue of N.Z. Diptera, Orthoptera and Hymenoptera " 1881. They were:

Mycetophila guttata
Patyura tridens
Sciara rufescens.

The first two belong respectively to the genera *Anomalomyia* and *Nervijuncta;* the third is unsufficiently characterized by the description, and as the type is lost this species should be suppressed from the list.

In 1891 Skuse describes *Bolitophila luminosa,* which had been obtained in breeding through the well-known glow-worm by Mr. G. V. Hudson, who gives, in the same paper *(Trans N.Z. Inst.,* vol. 23, p. 47), an account of the life-history of this interesting species.

In 1892 Osten-Sacken (*Berl. Ent. Zeit.,* 27 pp. 432-4) discusses a species of *Nervijuncta* (referred to by him as *Platyura)* and also mentions the occurrence in New Zealand of a species of *Platyroptylon,* which has never been recorded since.

Professor P. Marshall was the first specially to direct his attention to the fungus-gnats of New Zealand, and he embodied the result of his investigations on that family in an important paper *(Trans. N.Z. Inst.,* vol. 28, 1896, p. 250-309) in which 33 new species were described and 10 new genera erected to receive some of them and also some of those previously described by Hutton. However, two of these species fall in synonymy with others of his own, and four of his new genera with some well-known ones from the holarctic region. Here is a list of the species dealt with in this paper:

Cycloneura (n. gen.) *hudsoni* (gen. *Nervijuncta* Marsh.);
Nervijuncta (n. gen.) *nigrescens;*
Huttonia (n. gen.) *tridens* Marsh.;
Macrocera montana = *howletti;*

Macrocera antennalis;
Macrocera scoparia;
Ceroplatus dendyi (gen. *Cerotelion* Rond.);
Ceroplatus hudsoni;
Ceroplatus leucoceras;
Platyura magna;
Platyura agricola;
Platyura flava (name preoccupied);
Sciophila fagi (gen. *Aneura* Marsh.);
Sciophila hirta (gen. *Taxicnemis* nov.);
Parvicellula (n. gen.) *triangulata;*
Tetragoneura nigra;
Aneura (n. gen.) *boletinoides;*
Cycloneura (n. gen.) *flava;*
Paradoxa (n. gen.) *fusca;*
Euryceras (n. gen.) *anaclinoides* (gen. *Allocotocera* Mik.);
Anomala (n. gen.) *guttata* Hutt. (gen. *Anomalomyia* Hutt.);
Anomala minor;
Aphelomera skusei;
Zygomyia flavicoxa;
Zygomyia fusca;
Brachydicrania hiemalis (gen. *Exechia* Winn.);
Mycetophila sylvatica;
Mycetophila howletti;
Mycetophila fagi = *variabilis* = *robusta;*
Mycetophila maculata (name preoccupied);
Brevicornu (n. gen.) *flava* (gen. *Allodia* Winn.).

His types, mostly in good condition, are preserved in the collection of the Cawthron Institute.

A few years later, in a paper on New Zealand Diptera (*Trans. N.Z. Inst.*, vol. 34, 1901, p. 192) Hutton describes two species of Sciarinae: *Sciara marcilla* and *Trichosia remota.* A study of the type of the latter shows that it belongs to the genus *Lestremyia* (Cecidomyiidae) and has consequently to be removed from the list of N.Z. Mycetophilidae.

In his "Index Faunae Novae Zealandiae" 1901, Hutton proposes three new generic names: *Arctoneura, Casa,* and *Anomalomyia,* to replace respectively *Cyrtoneura, Huttonia,* and *Anomala,* which were preoccupied.

D. Miller under the title "A new Fungus Gnat which Fertilizes *Corizantes Oblonga*" (*N.Z. Journ. Sc. & Tech.*, 1918, vol. 1, p. 4), describes *Exechia thomsoni,* a species which is unsufficiently characterized and the type of which has been unfortunately lost.

In 1911 Enderlein (*Stett. Ent. Zeit.*, vol. 72, p. 174) changes *Mycetophila maculata* Marsh into *M. marshalli,* the former name being preoccupied.

In a study on the sub-family Ditomyiinae (*Ann. Mag. Nat. Hist.* (*g*), vol. 7, 1921, p. 435), F. W. Edwards describes, among others, a species of New Zealand *Nervijuncta (Arctoneura): N. Wakefieldi* from the collection of the Oxford Museum.

Quite recently the same author (*Ann. Mag. Nat. Hist.* (9), vol. 14, 1924, p. 175) erects a new genus to receive *Bolitophila luminosa.*

As a result of the study of the very extensive material before us the number of species of New Zealand fungus-gnats is brought from 39 to 267, and that of the genera from 19 to 38.

We give hereunder a complete list of the species, including those that were described previously, and with their synonymy:

DITOMYIINAE

Centrocnemis Phil.
basalis Tonn.
fumipennis Tonn.
tillyardi Tonn.
nitida Tonn.
trivittata Edw.
Nervijuncta Marsh.
Syn. *Cyrtoneura* Marsh.
Casa Hutt.
Arctoneura Hutt.
Huttonia Marsh.
hudsoni (Marsh) [*Cyrtoneura*]
wakefieldi (Edw.) [*Arctoneura*]
tridens (Hutt.) [*Platyura, Casa.*]
ruficeps Edw.
parvicauda Edw.
filicornis Edw.
flavoscutellata Tonn.
longicauda Edw.
harrisi Edw.
hexachaeta Edw.
nigricornis Tonn.
osten-sackeni Tonn.
nigrescens Marsh.
bicolor Edw.
pulchella Edw.
marshalli Edw.
punctata Tonn.
nigricoxa Edw.

DIADOCIDIINAE.

Heterotricha Loew.
novae-zelandiae Tonn.

BOLITOPHILINAE.

Arachnocampa Edw.
luminosa (Skuse) [*Bolitophila*]

MACROCERINAE

Macrocera Mg.
scoparia Marsh.
milligani Tonn.
fenestrata Edw.
unipunctata Tonn.
campbelli Edw.
antennalis Marsh.
obsoleta Edw.
hudsoni Tonn.
ngaireae Edw.
fusca Tonn.
gourlayi Tonn.
annulata Tonn.
inconspicua Tonn.
pulchra Tonn.
ruficollis Edw.
glabrata Tonn.
montana Marsh.
Syn. *howletti* Marsh.
Paramacrocera gen. nov.
brevicornis Edw.

CEROPLATINAE

Cerotelion Rond.
leucoceras (Marsh.) [*Ceroplatus*]
dendyi (Marsh.) [*Ceroplatus*]
hudsoni (Marsh.) [*Ceroplatus*]
niger Tonn.
bimaculatus Tonn.
vitripennis Tonn.
tapleyi Edw.
Pseudoplatyura Skuse.
truncata Tonn.
Platyura Mg.
brevis Tonn.
subbrevis Tonn.
albovittata Tonn.
marshalli nom. nov.
Syn. *flava* Marsh.
lamellata Tonn.
proxima Tonn.
brookesi Edw.
novae-zelandiae nom. nov.
Syn. *magna* Marsh.
harrisi Tonn.
philpotti Tonn.
rutila Edw.
maculipennis Tonn.
punctifusa Edw.
carbonaria Tonn.
chiltoni Tonn.
campbelli Tonn.
ruficauda Tonn.

agricola Marsh.
curtisi Edw.
rufipectus Tonn.
ohakunensis Edw.

SCIARINAE.

Sciara Mg.
constricta Edw.
nubeculosa Edw.
xanthonota Edw.
griseinervis Edw.
vicarians Edw.
rufulenta Edw.
ovalis Edw.
contractans Edw.
unicalcarata Edw.
annulata Mg.
zealandica Edw.
jejuna Edw.
philpotti Tonn.
harrisi Edw.
marcilla Hutt.
agraria Felt.
tapleyi Edw.
Scythroprochroa End.
nitida Edw.
Ohakunea gen. n.
bicolor Edw.
Neophnyxia gen. n.
nelsoniana Tonn.

MANOTINAE.

Manota
maorica Edw.

SCIOPHILINAE

MYCOMYIINI

Mycomyia Rond.
flavilatera Tonn.
furcata Edw.
plagiata Tonn.

SCIOPHILINI

Allocotocera Mik.
anaclinoides (Marsh.) [*Euryceras* Marsh.]
cephasi Edw.
dilatata Tonn.
crassipalpis Tonn.
Taxicnemis gen. nov.
hirta (Marsh.) [Sciophila]
flava Edw.
Aneura Marsh.
fagi (Marsh) [Sciophila]
nitida Tonn.
fusca Tonn.
appendiculata Tonn.
bispinosa Edw.
longipalpis Tonn.
longicauda Tonn.
defecta Edw.
boliteñoides Marsh.
pallida Edw.
filiformis Tonn.
Phthinia Winn.
longiventris Tonn.
Parvicellula Marsh.
triangula Marsh.
obscura Tonn.
fascipennis Edw.
apicalis Tonn.
gracilis Tonn.
nigricoxa Tonn.
subhamata Tonn.
hamata Edw.
ruficoxa Tonn.
Aphelomera Skuse.
skusei Marsh.
opaca Tonn.
majuscula Edw.
elongata Tonn.
longicauda Edw.
marshalli Edw.
forcipata Edw.
Neotrizygia gen. nov.
obscura Tonn.
Morganiella gen. nov.
fusca Tonn.

GNORISTINI

Synapha Mg.
apicalis Tonn.
pulchella Tonn.
claripennis Tonn.
gracilis Tonn.
alpina Tonn.
similis Tonn.
cawthroni Tonn.
parva Edw.

LEIINI

Anomalomyia Hutt.
Syn. *Anomala* Marsh.
guttata Hutt. [*Anomala*]
immaculata Edw.
obscura Tonn.
subobscura Tonn.
basalis Tonn.

flavicauda Edw.
affinis Tonn.
thomsoni Tonn.
minor (Marsh.) [*Anomala*]
viatoris Edw.
Paradoxa Marsh.
fusca Marsh.
Cawthronia gen. nov.
nigra Tonn.
Cycloneura Marsh.
flava Marsh.
aberrans Tonn.
triangulata Tonn.
Paracycloneura gen. nov.
apicalis Tonn.
Sigmoleia gen. nov.
melanoxantha Edw.
Tetragoneura Winn.
niger Marsh.
flexa Edw.
obliqua Edw.
spinipes Edw.
fusca Tonn.
proxima Tonn.
minuta Tonn.
minima Tonn.
rufipes Tonn.
distincta Tonn.
venusta Tonn.
obscura Tonn.
opaca Tonn.
Trichoterga gen. n
monticola Tonn.

MYCETOPHILINAE.

Allodia Winn.
Syn. *Brevicornu* Marsh.
fragilis (Marsh) [Brevicornu]
flava (Marsh.)
maculata Tonn.
rufithorax Tonn.
quadriseta Edw.
Exechia Winn.
Syn. *Brachydicrania* Marsh.
hiemalis (Marsh.) [*Brachydicrania*]
novae-zelandiae Tonn.
howesi Edw.
filata Edw.
biseta Edw.
thomsoni Mill.
Mycetophila Mg.
ornatissima Tonn.
sylvatica Marsh.
curtisi Edw.
similis Tonn.
elegans Tonn.
latifascia Edw.
howletti Marsh.
consobrina Tonn.
virgata Tonn.
vulgaris Tonn.
trispinosa Tonn.
elongata Tonn.
minima Edw.
marshalli End.
Syn. *maculata* Marsh.
submarshalli Tonn.
pseudomarshalli Tonn.
marginepunctata, Tonn.
nigripalpis Edw.
nitidula Edw.
nitens Tonn.
pauciseta Edw.
phyllura Edw.
subtilis Tonn.
nigricans Tonn.
diffusa Tonn.
grisescens Edw.
lomondensis Edw.
grandis Tonn.
viridis Edw.
subspinigera Tonn.
fumosa Tonn.
griseofusca Tonn.
pollicata Edw.
luteolateralis Edw.
crassitarsis Edw.
tapleyi Edw.
dilatata Tonn.
colorata Tonn.
clara Tonn.
solitaria Tonn.
filicornis Tonn.
fagi Marsh.
Syn. *variabilis* Marsh.
robusta Marsh.
unispinosa Tonn.
impunctata Edw.
subspinigera Tonn.
furtiva Tonn.
conica Tonn.
integra Tonn.
media Tonn.
spinigera Tonn.

tenebrosa Edw.
subtenebrosa Tonn.
intermedia Edw.
harrisi Edw.
Zygomyia Winn.
immaculata Tonn.
similis Tonn.
bifasciata Tonn.
costata Tonn.
obsoleta Tonn.
nigrohalterata Tonn.
grisescens Tonn.
ruficollis Tonn.
brunnea Tonn.
nigriventris Tonn.
apicalis Tonn.
rufithorax Tonn.
longicauda Tonn.
crassicauda Tonn.
crassipyga Tonn.
guttata Tonn.
varipes Edw.
flavicoxa Marsh.
humeralis Tonn.
marginata Tonn.
acuta Tonn.
albinotata Tonn.
truncata Tonn.
unispinosa Tonn.
eluta Edw.
trifasciata Tonn.
nigrita Tonn.
fusca Marsh.
distincta Tonn.
filigera Edw.
penicillata Edw.
Epicypta Winn.
immaculata Tonn.
dilatata Tonn.

A study of this list shows that, except for two species of *Sciara* which have probably been introduced from Europe, all the species are peculiar to New Zealand, and that 13 genera are endemic.

This Mycetophilid fauna is characterized by the comparatively large development of the Ditomyiinae; by the numerous endemic genera in the Sciophilinae (especially in the group Leiini) but all with very small number of species and by the extensive development of some genera in the Mycetophilinae, like *Mycetophila* and *Zygomyia*, the latter including double as many species as were hitherto described from the rest of the world.

There is no conspicuous gap in this fauna; only one small subfamily Lygistorhininae is not represented here, although it is found in Australia.

The large development of the Ditomyiinae shows Australian and South-American affinities, but for the rest the affinities with Australia are not particularly striking although there are a few genera, like *Pseudoplatyura* and *Aphelomera*, peculiar to both countries, or some New Zealand ones very closely related to Australian ones, like *Neotrizygia* to *Trizygia* and *Anomalomyia* to *Acodicrania*. Six endemic Australian genera are not represented in New Zealand. Among the genera of world-wide distribution found in Australia (inc. Tasmania) and in New Zealand, like *Macrocera*, *Zygomyia*, and *Mycetophila*, the number of species is considerably greater in the latter country.

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Howes, G. V. Hudson, S. Lindsay, D. Miller, A. Philpott, and J. T. Tapley.

We wish also to extend our sincere thanks to Professor Marshall for the loan of his valuable collection of types, and to Dr. W. Horn for the loan of the specimens of the Osten-Sacken collection at Berlin Dahlem.

Key to Sub-Families

1. Medio-cubital vein present, or these veins connected by a fusion or else apparently with a common base 2
   Media and cubitus not connected by a cross-vein or fusion 6
2. R_4 present and rather long, generally half or more than half as long as R_5; Sc. short and ending free; posterior divisions of pronotum with one or more longish bristles ..... *Ditomyiinae*
   R_4 less than half as long as R_5, sometimes weak or absent; Sc almost always long and ending distinctly in the costa; posterior division of the pronotum without long bristles 3
3. Media and radius fused for a short distance 4
   Media and radius not fused, a distinct *r-m* cross vein present 5
4. Cu_1 and Cu_2 slightly approximated near the base, then divergent; anal angle of wing somewhat square; tibial bristle absent ..... *Macrocerinae*
   Cu_1 and Cu_2 divergent from the base; anal angle of wing rounded; tibial bristles present even if small *Ceroplatinae*
5. Cross-vein *m-cu* well before *r-m*, both vertical; media with distinct basal section and running straight as far as the fork ..... *Boletophilinae*
   Cross-vein *m-cu* apparently absent, but Cu_1 separate from Cu_2 and arising from the stem of the media *Diadocidiinae* part. (Heterotricha)

   Cross vein *m-cu* and *r-m* both present and practically in one line; base of M wanting; Rs arising near the base of wing ..... *Diadocidiinae* part. (Diadocidia)

6. Eyes nearly or quite connected above antennae by a dorsal bridge; base of Rs short and transverse; *r-m* long and in a line with Rs ..... *Sciarinae*
   Eyes rounded, without dorsal bridge; base of Rs and *r-m* both usually more or less oblique 8
7. Prothorax without strong bristles; head flat or slightly concave behind, with a row of projecting orbital bristles which are more or less curved backwards; antennae inserted much above the middle of the head ..... *Manotinae*
   Prothorax with distinct long bristles; head convex behind; orbital bristles not forming a conspicuous projecting row; antennae inserted about the middle of the head 8
8. Microtrichia of wings irregularly arranged; Sc usually long; lateral ocelli usually far from the eye-margins ..... *Sciophilinae*
   Microtrichia of wings in more or less definite lines; Sc short; lateral ocelli touching the eye-margins *Mycetophilinae*

KEY TO GENERA.

Sub-family DITOMYIINAE.

Cross-veins *r-m* and *m-cu* present, the latter vertical joining Cu near the base; R_1 nearly parallel with R_5; M_{1+2} strongly curved near the base; M_3 straight anepisternites bristly; postnotum bare .... 1 *Centrocnemis* Phil.

Cross-vein *r-m* obliterated by partial fusion of Rs and M .... 2 *Nervijuncta* Marsh.

Sub-family DIADOCIDIINAE.

Only one New Zealand genus .... 3 *Heterotricha* Loew.

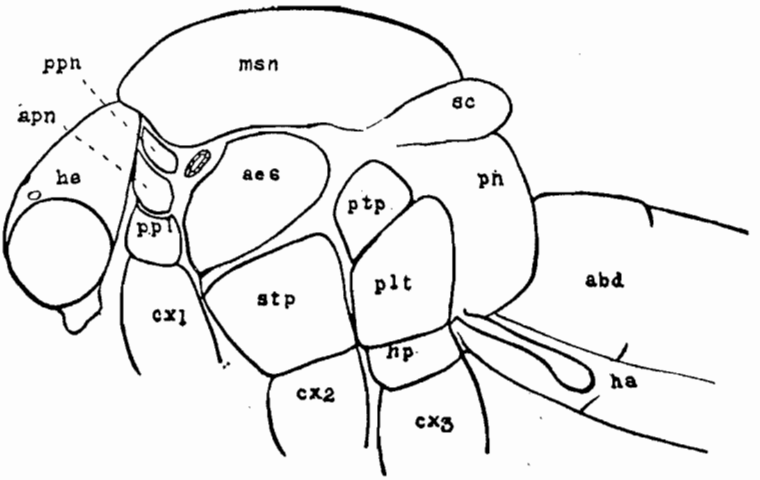


FIG. A. Thorax of a Fungus Gnat seen from the side. apn and ppn, anterior and posterior divisions of pronotum; ppl, propleura; stp, sternopleurite; aes, anepisternite; ptp, pteropleurite; hp, hypopleurite; plt, pleurotergite; pn, postnotum; sc, scutellum; msn, mesonotum; he, head; abd, abdomen; ha, halteres; cx_1, cx_2, cx_3, coxae.

Sub-family BOLITOPHILINAE.

Only one New Zealand genus .... 4 *Arachnocampa* Edw.

Sub-family MACROCERINAE.

– Head with longitudinal furrows; antennae about as long as the body, sometimes longer .... 5 *Macrocera* Mg.

– Head without longitudinal furrows; antennae about as long as the thorax, only the joints fusiform..... 6 *Paramacrocera* gen. nov.

Sub-family CEROPLATINAE.

1. Palpi reduced, with one visible segment; antennae stout and strongly compressed .... 7 *Cerotelion* Rond.

Palpi normal with three or four distinct segments..... 2

2. Antennae strongly pectinate		**Platyroptilon* Westw.
Antennae simple, with 15 segments		8 *Pseudoplatyura* Skuse.
Antennae simple, with 16 segments		9 *Platyura* Mg.

Sub-family SCIARINAE.

1. Palpi well developed; both sexes winged		2
Palpi reduced, with one or two small segments; female or both sexes sometimes wingless		3
2. Costa not produced over the tip of Rs, base of Rs placed on the last third of R_1 and consequently *r-m* very long		12 *Ohakunea* gen. nov.
Costa produced over the tip of Rs; *r-m* moderately long		10 *Sciara* Mg.
3. Both sexes winged; fork of Cu past the proximal end of *r-m*		11 *Scythroprochroa* End.
Female wingless and halterless		13 *Neophnyxia* gen. nov.

Sub-family MANOTINAE.

Only one New Zealand genus		14 *Manota* Will.

Sub-family SCIOPHILINAE.

1. Two ocelli placed together; fine tibial setae arranged in regular longitudinal row; wings without macrotrichia on the membrane		*Mycomyiini*
Only one New Zealand genus		15 *Mycomyia* Rond.
Three ocelli or when only two present the fine tibial setae are irregularly arranged		2
2. Wing with macrotrichia on the membrane; microtrichia sometimes absent. Postnotum usually with hairs or bristles; Sc nearly always long; last section of R_1 several times as long as *r-m*, which is oblique; 7th abdominal segment usually large and visible		4 *Sciophilini*
Wings without macrotrichia on the membrane; 7th abdominal segment usually small and retracted		3
3. Sc always long; last section of R_1 several times as long as *r-m*, which is more or less oblique or vertical. Median fork always much longer than its stem		*Gnoristini*
Only one New Zealand genus		23 *Synapha* Mg.
Sc long or short; last section of R_1 usually little if any longer than *r-m*, which is long and nearly horizontal		11 *Leiini*
4. Cubital fork always present and distinctly proximal to that of the media		5
Base of cubital fork distinctly distal to that of media or the cubital fork absent or incomplete		7
5. Postnotum hairy or bristly		16 *Allocotocera* Mik.
Postnotum quite bare		6
6. Fork of Cu complete and short		18 *Aneura* Marsh
Fork of Cu incomplete, Cu_1 being detached at the base; this fork always long		17 *Taxicnemis* gen. nov.

*This genus was mentioned by Osten-Sacken as being present in his small collection of New Zealand Diptera, but as it has never been found since, it is doubtful that it does really occur here; the specimen is not present in his collection preserved at the Berlin Museum.

7. Legs and body long and slender; first segment of front tarsi over twice as long as the tibiae, median fork broad, the branches curving widely at the base ..... 20 *Phthinia* Winn.

Legs normal; median fork pointed at the base or absent 8

8. M_3 complete 9

M_3 absent or detached at the base and then present only as a short vein near the wing-margin. Cu, also faint and detached at the base or apparently absent 10

9. Cu simple; Sc_2 reaching R_1 before the base of Rs ..... 19 *Parvicellula* Marsh

Cu branched; Cu_1 detached at base; Sc long; Sc_2 reaching R_1 well after the base of Rs ..... 22 *Morganiella* gen. nov.

10. Sc ending in costa; base of M faint; Cu apparently unbranched ..... 21 *Aphelomera* Skuse

Sc ending in R_1 past the base of Rs; M apparently unbranched; Cu_1 detached at base ..... 22 *Neotrizygia* gen. nov.

11. Sc rather long, ending in costa 12

Sc short, ending free 13

12. Fork of Cu at a good distance from the base of the wing near that of M ..... 25 *Anomalomyia* Hutt.

Fork of Cu at the base of the wing; Cu_2 sinuous ..... 29 *Cawthronia* gen. nov.

13. M simple 14

M branched 15

14. Cu_2 sinuous; vein A ending in its elbow and forming thus a little basal cell or ending free at some distance before this elbow, the little cell not being then completely closed ..... 27 *Cycloneura* Marsh

Cu_2 nearly straight, not forming a small cell with vein A; Cu_1 obsolete at base but if complete the fork of Cu would be placed a little before the origin of *r-m* ..... 28 *Paracycloneura* gen. nov.

15. Vein M strongly sinuous; median fork much widened on its outer half; Cu_2 strongly sinuous and forming a little cell with vein A ..... 30 *Sigmoleia* gen. nov.

Fork of M normal 16

16. Fork of Cu near the base of the wing ..... 26 *Paradoxa* Marsh

Fork of Cu under the stem of M 17

17. Pleurotergal bristles present ..... 31 *Trichoterga* gen. nov.

Pleurotergal bristles absent ..... 32 *Tetragoneura* Winn.

Sub-family MYCETOPHILINAE.

1. Anepisternal and pteropleural bristles absent; hind coxae with a fairly strong bristle at the base; empodia absent or rudmentary; hind tibial comb indefinite or absent 2

Anepisternal and pteropleural bristles present, hind coxae without basal bristle, empoda and hind tibial comb present 3

2. Base of cubital fork beyond that of M ..... 34 *Exechia* Winn.

Fork of Cu below or before fork of M ..... 33 *Allodia* Winn.

3. Cubitus unbranched	37 *Zygomyia* Winn.
Cubitus branched	4
4. Costa not or scarcely produced over the tip of Rs; Cu_1 slightly divergent from M_3 but parallel with or slightly convergent towards Cu_2	33 *Mycetophila* Mg.
Costa distinctly produced beyond the tip of Rs; Cu parallel with M_3 throughout but slightly divergent from Cu_2	36 *Epicypta* Winn.

1. Genus CENTROCNEMIS Phil.

This genus is characterized among the Ditomyinae by the presence of the cross vein *r-m* which is placed in a vertical line with the cross vein *m-cu*. It is found also in Chile, Tasmania and Victoria. The larva is boring in dead wood

The 5 New Zealand species can be distinguished as follow:

1. Base of abdominal segments yellow	3 *basalis* Tonn.
Base of abdominal segments brown or black	2
2. Head nearly completely brownish-grey; the dark stripes of the mesonotum fused (♂)	3
Head orange with a dark patch on the vertex; mesonotum with three distinct brown stripes or with its anterior part orange or else completely orange	4
3. Abdominal segments with a narrow yellow hind-border; hypopygium as in figs. 123, 125	1 *fumipennis* Tonn.
Abdomen practically all blackish; hypopygium as in figs. 124, 126	2 *tillyardi* Tonn.
4. Median ocellus subequal to the others; hypopygium as in figs. 131, 132	4 *nitida* Tonn.
Median ocellus much smaller than the others; hypopygium as in figs. 127, 128	5 *trivittata* Edw.

1. Centrocnemis fumipennis n.sp. Tonn. (Fig. 123.)

♂. Face, palpi, and the 4 first segments of antennae yellowish-orange, the rest of antennae brown, vertex grey. Disc of scutum brown, its lateral borders and scutellum yellow; postnotum and pleurae brown. *Abdomen* with the first segment grey, the others shining brown with a narrow yellow posterior border. Hypopygium with brown base and yellow lamellae, its structure complicated, according to fig. 123. *Legs* yellow with exception of the extreme base of posterior coxae and femora. *Wings* with their distal part from fRs smoky, more intensively so on the anterior border, costal cell yellowish; a small brownish spot at the origin of Rs and on *r-m*; origin of Rs at first third of wing, its petiole equal to its fork; fork of M a little before that of Rs; fork of Cu at the level of *r-m*. Halteres yellow.

Length of body, 6½ mm.; wing 6 mm.

Type: Otira (Tonnoir). 7th Nov., 1922, in Cawthron Inst. coll.

2. Centrocnemis tillyardi n.sp. Tonn. (Figs. 2, 124).

♂. Very similar to C. fumipennis; face and the two first segments of antennae dark, base of flagellum reddish and then gradually darker. Hypopygium different as shown in fig. 124. Fork of M a

little more proximal; distal part of wing nearly hyaline, distinctly brownish only along R_4.

The mesonotal bands are fused in the male but separate in the female.

Type: Mt. Arthur (Nelson), 24th Dec., 1921, in Cawthron Inst. coll.

Otira 10th Jan., 1920 (Campbell) 1 ♂, 1 ♀. Kinloch, L. Wakatipu, Jan., 1921 (Hudson).

3. **Centrocnemis basalis** n.sp. Tonn. (Figs. 1, 129, 130).

♂. *Head*: face, palpi and 4 to 5 first segments of antennae yellow; vertex yellow with grey ocellar triangle. *Thorax:* scutum brownish-red, pleurae lighter. *Abdomen*: the two first segments rather narrowly yellow at their base, the following ones more so and the two last completely dark. Hypopygium yellow, its dorsal lamellae ending in a small tooth; see fig. 130. *Legs* yellow. *Wings:* tip and posterior border slightly smoky, chiefly along the veins; venation similar to preceding species but the fork of M at the same level as the fork of Rs, petiole of M and its second branch weak; a brown spot at the base of Rs, on *r-m* and fCu; another large one on fRs and extending on fM. Halteres yellow.

Length of body: 6 mm.; wing: 6 mm.

Type: Waiho (Tonnoir), 20th Jan., 1922, in Cawthron Inst. coll. Raetihi Hill 3,000 ft. (Harris) 1 ♂. West coast S.I. (Harris) 1 ♀.

4. **Centrocnemis nitida** n.sp. Tonn. (Figs. 3, 131, 132.)

♂. Similar to *C. fumipennis* but head orange with a dark ocellar triangle; mesonotum yellowish-red anteriorly, with three more-or-less-fused stripes posteriorly; abdomen very shining above, coloration as in *fumipennis* but venter yellow. Tergum of hypopygium dark, the rest yellow or reddish. Wings without the apical dark area, its structure according to figs. 131, 132.

♀. General coloration lighter than in the male the mesonotal stripes being only faintly indicated or absent.

Length of body 5·5 mm., wing 5·5 mm.

Type: Dun Mountain (Nelson), 5th Jan., 1922 (Tonnoir), in Cawthron Inst. coll. Allotype: Aniseed Valley (Nelson), 1st Dec., 1923 (Tonnoir). Paratypes: Nelson, Sept., Oct., Nov., Dec.

Otira 10th Jan, 1910 1 ♂ 1 ♀ (Campbell). Ohakune 20th Nov., 1919 (Harris) 1 ♀.

5. **Centrocnemis trivittata** n.sp. Edw. (Figs. 127, 128).

♂. Very similar to *C. nitida,* but the median ocellus is much smaller than the lateral ones; the mesonotal stripes are almost as distinct and as black in the females as in the males and the hypopygium is differently constructed, the claspers being considerably longer and relatively narrower and the ventral spine-like appendages much longer. See figs. 127, 128.

Type: Governors Bay (J. F. Tapley), Sept., 1922, in British Museum coll. White Rock (Campbell) paratypes; 1 ♂ 1 ♀ 26-28 Nov., 1922. Deans Bush, Riccarton (Tonnoir), 17th March, 1925, and 8th Jan., 1925. Christchurch (Tonnoir), 18th Feb., 1925. Cass (Tonnoir), 27th Nov., 1924.

2. Genus NERVIJUNCTA Marsh.

Marshall, *Trans N.Z. Inst.*, vol. 28, p. 265.

Synonymy: *Huttonia* Marsh.; *Cyrtoneura* Marsh.; *Cycloneura* Hutton; *Casa* Hutton.

This genus peculiar to New Zealand comprises a good number of forms which are very interesting on account of the sexual dimorphism occurring in a certain number of species, the males of which exhibit a broad truncate wing of peculiar shape; even among the males of a given species there is sometimes a similar dimorphism, some larger and stouter individuals having the anterior portion of the wing rather incrassate whereas others are similar to the females. The large species are mostly found on the tree trunks.

Key to Species.

1. Tip of M_1 strong and dark, contrasting with the fainter basal portion (*Arctoneura*) 2
   Tip of M_1 scarcely if any darker than the basal portion; small species, wing not much over 5 mm. (*Nervijuncta* s. str.) 13
2. Anterior pronotal lobes largely dark brown above; face ochreous to dark brown, without distinct silvery dusting, but with rather long and numerous bristly hairs 3
   Anterior pronotal lobes entirely pale yellow; face conspicuously silvery when viewed from above, with a few rather short hairs arranged in a transverse row 8
3. R_4 normally crossing the clear space and ending well beyond tip of R_1; middle pair of mesonotal stripes several times narrowly interrupted but almost reaching the front margin 4
   R_4 not crossing the clear space, and ending only a short distance beyond tip of R_1; mesonotum normally with a broad transverse yellow band in front; flagellum ringed 5
4. Flagellum all black, wings with two broad blackish bands .... 1 *hudsoni* Marshall
   Flagellum ringed; wings more mottled .... 2 *wakefieldi* Edw.
5. A large dark mark on lower part of sternopleura; wings with a brown patch below An, covered with macrotrichia .... 4 *tridens* Hutton
   No dark patch on sternopleura; no macrotrichia in anal field except just below tip of Cu_2 6
6. Eye-bridges only three facets wide and separated in the middle by about the width of six facets; mesonotum typically with two dark spots near front margin in middle .... 5 *ruficeps* Edw.
   Eye-bridges at least four facets wide and separated in the middle by at most the width of three facets; mesonotum with a narrow but continuous dark band near front margin 7
7. Mouth parts entirely pale yellowish .... 6 *parvicauda* Edw.
   Labium and last segment of palpi blackish .... 7 *pilicornis* Edw.
8. Wings yellow with suffused markings; mesonotum all yellow on anterior third; pleurae all yellow..... 8 *flavescutellata* Tonn.

Wings less yellow, markings distinct; mesonotum with a narrow blackish band close behind the front margin; pleurotergites with a large dark patch	9	
9. Wings cuneiform at base, the anal field narrow; subapical clear band almost devoid of macrotrichia	9	*longicauda* Edw.
Wings not cuneiform, anal field rather broad; macrotrichia evenly distributed over apical half of wing	10	
10. Anepisternites entirely black; no dark patch on sternopleurite	11	*harrisi* Edw.
Anepisternites with a blackish patch below, and another one at the upper corner or its upper part only darkish	11	
11. Flagellum more or less distinctly ringed; scutellum usually with six equally strong bristles; R_4 completely traversing the clear space; dark wing-tip including distinct hyaline areas	10	*hexachaeta* Edw
Flagellum all black; scutellum usually with only four strong bristles, sometimes an additional weaker pair; R_4 only just entering the clear space; wing-tip almost all dark	12	
12. Sternopleurite all yellow; anal field largely covered with macrotrichia	12	*nigricornis* Tonn.
Sternopleurite blackish below; anal field devoid of macrotrichia except in the small dark area below tip of Cu_2	13	*osten-sackeni* Tonn.
13. Front margin of mesonotum broadly yellow; upper half of pleurae yellow, the lower half black, strongly contrasting with the yellow coxae	14	*nigrescens* Marsh.
Colour of thorax quite otherwise	14	
14. Scutum entirely orange; eye-bridges much widened in the middle	18	*bicolor* Edw.
Scutum yellowish with three dark stripes, the lateral pair curved sharply down in front and continued across the pleurae; eye-bridges less widened in the middle, if at all	15	
15. Wings largely dark; costa and hind margin with three yellowish areas, apart from the base	15	*pulchella* Edw.
Costa and hind margin with only one or two yellowish areas separated from the pale base	16	
16. Palpi yellow; R_4 crossing the clear space	16	*marshalli* Edw.
Palpi black; R_4 ending at beginning of clear space	17	
17. Anal field nearly bare; posterior coxae yellowish.....	16	*punctata* Tonn.
Anal field hairy; hind coxae black at least at base	19	*nigricoxa* Edw.

1. Nervijuncta hudsoni (Marsh). (Figs. 11, 148.)

Marshall, *Trans. N.Z. Inst.*, vol. 28, 1896, p. 263 (Cyrtoneura).

The wings of this species are not scaly; the type had only some lepidopterous scales adhering to it..

Hypopygium large, claspers of simple structure, long broad and leaf-like without appendages. (Fig. 148.)

Type: Wellington (Hudson).

1 ♂ Waimarino (Hudson), 4th Jan., 1922; 2 ♂ ♂ Ohakune (Harris), 15th Dec., 1922 and 15th Jan., 1923; Taumaranui (Harris) Nov., 1924.

All specmiens taken on tree trunks.

There is a considerable variation in size, the wing-length going from 9 to 14 mm.; R_5 is also more or less curved and the first abdominal segment may be all black or with a basal clear band.

2. **Nervijuncta wakefieldi** Edw. (Figs. 12, 140-142.)
Edwards, *Ann. Mag. Nat. Hist.* (*g*) 7, 1921, p. 435.

Type in Oxford Museum without locality but probably from Canterbury, Stewarts Gully (Christchurch) 30th Sept., 1917; Governors Bay (Tapley), 21st Aug., and 30th Nov., 1922; Ohakune (Harris) Nov.-Dec., 1922; Auckland (coll. Hutton); Nelson, Sept.-Dec., 1912; Deans Bush (Christchurch) 8th Jan., 1925; Cass, 27th Nov., 1924 (Tonnoir).

This species varies greatly in size, which ranges from 6 to 12 mm. (wing-length); also in the shape and the intensity of the markings of the wings. In the larger specimens the wings are truncate at the tip and their anterior border is curving out whereas the anal field is much reduced; the veins R_1 and R_4 are very thick and fused together so that their tips form a kind of stigma, the base of R_4 is hooked; the dark markings are the same all through but they are much more intensive in the larger specimens and the clear spaces in the dark apical facia in cell R_4 and R_5 are yellowish. There is little difference in the structure of the hypopygium of the larger and the smaller forms the indentation of the ventral edge of the claspers being only more shallow in the large specimens (compare figs. 140 and 141.)

In the female the shape of the wings and the venation is the same as in the small males.

3. **Nervijuncta wakefieldi** var. **abbreviata** n.

Differs from typical *N. wakefieldi* as follows:—

The fine bristles of the mesonotum less numerous, and blackish in colour instead of ochreous. Middle mesonotal stripe not distinctly divided posteriorly. Two strong propleural bristles. R_4 shorter, ending immediately beyond tip of R_1 and almost at beginning of the clear space, costa thickened at tip of R_4 as is frequently the case in males but seldom in females of this group of species.

Type ♀: Queenstown (L. Curtis); Feb., 1924.

4. **Nervijuncta tridens** (Hutt.) (Figs. 19, 145.)

Hutton, Cat. N.Z. Diptera 1881, p. 12 (Platyura). Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 268. (Huttonia). Hutton, Ind. Faun. N.Z. 1904. (Casa).

The type of Hutton which was taken in Wellington is now in Marshall's collection in the Cawthron Institute. The abdomen is missing, but the species is easily recognizable on account of the brown patch covered with macrotrichiae below A. Hypopygium as shown in fig. 145.

Ohakune (Harris), Dec., 1922, Nov., 1923; Riccarton (Gourlay). Nelson, 16th March, 1923; 8th Sept., 1923; 16th Oct., 1923; Kaikoura, 11th Feb., 1922. Christchurch, 18th Feb., 1922 (Tonnoir).

5. **Nervijuncta ruficeps** n.sp. Edw. (Figs. 10, 137, 138.)

♂. *Head* reddish-ochreous, small black spots round ocelli and on nape. Face and mouth-parts entirely yellowish, face with slight

greyish dusting. Eyes with usually small dorsal bridges which are only three facets wide near their origin and taper to points, these points being separated by a distance equal to the width of about six or eight facets. Antennae with first segment ochreous, second brown; flagellum short-haired, first four or five segments ochreous with black subapical rings, the rest black. *Thorax* with yellowish ground-colour. Anterior division of pronotum with continuous black dorsal band. Scutum with three separate dark brown stripes, lateral pair continued across scutellum, middle one divided longitudinally by a yellow line and broadly interrupted in front, reappearing close to front margin as two separate blackish spots. Postonotum blackish except at sides; pleurotergites blackish except in front. Hypopleurite and sternopleurite all yellow. Anepisternite blackish in front, colour continued downwards across front coxae. Scutellum with four strong bristles. *Abdomen* yellow, tergites with broad black basal bands. Hypopygium moderately large; dorsal projections rather long and finger-like; claspers broad and leaf-like, with slightly emarginate apically, with a long slender, pubescent appendage which is usually turned cephalad (figs. 137, 138). *Legs* ochreous; front and hind coxae, and under side of hind femora brownish; tibial spurs black. *Wings* with a rather strong yellowish tinge, somewhat cuneiform, the anal field narrow. Macrotrichia absent from basal half, and also from large yellow area near base of R_5. Dark markings on the usual plan and rather sharply defined, but reduced in size, especially the patch over the middle of R_5. R_4 ending in the large black patch close to the tip of R_1; R_5 moderately arched. Halteres ochreous, knob somewhat darkened except at tip.

Length of body, 6.5 mm.; wing, 7 mm.

Type ♂ : Ohakune (T. R. Harris); paratypes 4 ♂ ; Nov.-Jan.

Var. *continua* nov. Resembles the type in most respects, particularly in structure of the hypopygium, but differs as follows:—

Eye-bridge not quite so widely separated. Dark mark on pronotum divided into two spots, but median stripe of scutum without distinct central yellow line, and uninterrupted in front, where it widens out to reach posterior pronotal lobes. R_4 thicker; R_5 more strongly arched.

Length of body, 8 mm.; wing, 8·5 mm.

Type ♂ : Karaka Grove, Sinclair Head (G. V. Hudson); 14th Nov., 1923, in Brit. Mus coll.

The narrow eye-bridges and widely-separated eyes are diagnostic of this species.

6. Nervijuncta parvicauda n.sp. Edw. (Fig. 153.) ✓

♂ *Head* brownish-ochreous, black round ocelli. Face yellowish, with a heavy dusting, but not conspicuously silvery. Mouth-parts entirely yellowish. Eye-bridges four facets wide, separated in middle by about the width of two facets. Antennae with first segment ochreous, second darker; flagellum with short bristles, pubescence nearly as long as diameter of segments; first 6-8 segments ochreous with black subapical rings, the rest entirely black. *Thorax* with yellowish ground-colour. Pronotum with a complete blackish band. Scutum with three dark stripes which adhere in front, where they are broadly interrupted; lateral pair extending over scutellum;

median stripe not distinctly divided longitudinally; a narrow transverse blackish band close to front margin of scutum. Postnotum dark-brown in middle, more broadly so towards base; pleurotergites blackish, except in front; sternopleurite and hypopleurite all yellow; anepisternite blackish on anterior half or more, no black spot behind it below wing-root. Scutellum with four strong bristles, and an additional outer weaker pair. *Abdomen* yellow, tergites with broad black basal bands. Hypopygium small; dorsal projections shortly club-shaped; claspers short, not half as long as hypopygium, with two groups of black spiny bristles on inner side at base. *Legs* ochreous, tibiae and tarsi darkened, also mid and hind femora on upper side about middle; spurs black. *Wings* with slightly yellow ground-colour and with strong dark markings of the pattern usually in this group; Tip mainly dark, but including large hyaline areas in cells R_4, R_5 and M_1, which, however, leave the margin dark. Anal field moderately broad without dark patch. Macrotrichia absent from basal half of wing, but evenly spread over the apical half except for a very small area in the clear space near the base of R_5. R_4 ending in the dark patch close to tip of R_1; R_5 gently arched. Halteres ochreous.

♀ Differs from the ♂ as follows:—

Black rings of antennal segments broader and placed nearer base; vertical hairs much longer, nearly twice as long as segments; pubescence shorter. Front coxae darkened. Anal lamellae ochreous. Wing-markings rather stronger. Base of knob of halteres dark.

Length of body, ♂ 5·5, ♀ 6·5 mm.; wing ♂ 6·5, ♀ 7·5 mm.

Type ♂: Ohakune (T. R. Harris), allotype, paratypes 3 ♂, Dec., 1922 and Jan., 1924, in Brit. Mus. coll.

Wellington (Hudson) in coll. Hutton as *Casa tridens.*

var. *suffusa* nov.

♀ Differs from the type in having a conspicuously dark cloud along the hind margin of the wing below An, this cloudy area however not bearing any macrotrichia; hind femora dark below as well as above.

Length of body, 5 mm; wing, 5·5 mm.

Type: Ohakune (T. R. Harris), Jan., 1924.

7. Nervijuncta pilicornis n.sp. Edw.

♀ Rather closely resembles *N. parvicauda,* differing as follows:—

Size rather larger. Eyes a trifle more widely separated, the distance between the bridges in the middle being equal to the width of three facets. Face without distinct grey dusting. Verticillate hairs of flagellum longer, some of them distinctly over twice as long as segments. Mouth-parts darker, the last palpal segment black, labium blackish. *Thorax* similarly marked, but postnotum with a yellow triangle at the base; anepisternite brownish only on lower third and in upper anterior corner, a small black dot behind it below wing-root. Femora hardly darkened. Hyaline areas in wing-tip larger, the apical margin hardly darkened; a larger bare area in the clear space near base of R_5.

Length of body, 7½ mm.; wing, 9 mm.

Type: Ohakune (T. R. Harris), paratype 1 ♀, 15th Dec., 1922 and 15th Jan., 1923, in Brit. Mus. coll.

8. **Nervijuncta flavoscutellata** n.sp. Tonn. (Figs. 14, 15, 134.)

♂ *Head* dark orange above, black around the ocelli; face silvery epistome and mouth-part yellow; eye-bridges rather narrow, 4-5 facets wide, not touching; antennae: scape dark orange, flagellum brown. *Thorax* completely yellowish-orange with exception of posterior part of scutellum with three confluent dark stripes, the middle stopping before reaching scutellum, but the lateral ones extending on its sides; postnotum also brownish. *Abdomen* with basal part of segments dark in the middle, the rest orange; hypopygium orange with roundish claspers carrying black spines on their proximal internal edge. (Fig. 134.) *Legs* yellowish, darker towards extremity. *Wings* with a very distinct yellowish tinge, the dark markings rather washed out, the macrotrichia rather well distributed on distal half of the wing according to figs. 14, 15. Halteres yellow.

Length of body 5½ mm.; wing 6 mm.

Type: Mt. Arthur (Tonnoir), 27th Dec., 1922, in Cawthron Inst. coll.

Paratypes: Dun. Mt. (Philpott), 9th Dec., 1920; Nelson, 9th Dec., 1920; Ohakune, Raetihi Hill, 3000 ft., Nov., 1923; Mt. Ruapehu, 4500 ft. (Harris), Feb., 1924.

9. **Nervijuncta longicauda** n.sp. Edw. (Figs. 16, 139.)

♂ *Head* black above, appearing slightly dusted with grey when viewed from behind. Face yellowish, heavily covered with silvery pollinosity. Mouth-parts ochreous. Eye-bridges almost in contact and about seven facets wide. Antennae with scape ochreous, second segment darker apically; flagellum short-haired, first five or six segments ochreous with black subapical rings, the rest all black. *Thorax* with yellowish ground-colour. Pronotum entirely pale yellow. Scutum with a blackish band across front margin, followed by a broad ochreous band, behind which are the usual three dark stripes, confluent in front, separate behind; lateral pair darkened posteriorly and not quite reaching scutellum; this, however, is broadly blackish round apical margin. Postnotum with a large double brown mark which does not reach sides or base. Pleurotergites black posteriorly; sternopleurite blackish below. Anepisternite yellow in middle, dark brown on lower and upper thirds, a small black dot behind it below wing-base. Scutellum with four strong bristles, and one or two weaker ones. *Abdomen* ochreous, tergites with broad blackish basal bands. Hypopygium extremely elongate; dorsal projection filiform, about twice as long as basal part; claspers almost three times as long as basal part, elongate boot-shaped, basal part slender, ochreous, apical part blackened with a comb-like ridge on inner face and three spiny bristles at heel (fig. 139). *Legs* ochreous, tibiae and tarsi darkened, spurs black; fore and hind coxae largely brownish, mid and hind femora brownish beneath near base. *Wings* with hyaline ground, more yellowish in cell R_4, cuneiform at base, anal field narrow. Macrotrichia absent from basal half, and also from subapical clear band. Markings as figured; R_4 greatly thickened, as is costa and tip of R_1 where R_4 meets these veins; R_5 strongly arched. Halteres ochreous, knob somewhat darkened.

Length of body, 10 mm.; hypopygium alone 2 mm.; wing, 9 mm.

Type: Wilton's Bush, Wellington (G. V. Hudson), Nov., 1921, in Brit. Mus. coll. Raetihi Hill, Ohakune, 3000 ft. (T. R. Harris) paratype ♂, Nov., 1923; Waitaki Oct., 1894, in coll. Hutton as *Arctoneura hudsoni;* Flora River (Nelson) 4th Nov., 1923; Mt. Arthur Jan., 1923 (Philpott), 8th Jan., 1925 (Hudson).

10. Nervijuncta hexachaeta n.sp. Edw. (Figs. 18, 143.)

Much resembles *N. longicauda* in colouration, differing chiefly as follows:—

Anepisternite less extensively dark above. Sternopleurite either entirely yellow or with only a small dark area below. Scutellum usually with six equally strong bristles, but these apparently not quite constant. Hypopygium much shorter and smaller, dorsal projections hardly as long as basal portion, claspers broad but with comb-like ridge on inner face somewhat as in *N. longicauda* (fig. 143). Coxae all ochreous. *Wings* with the macrotrichia evenly spread over outer half, and in most specimens fairly numerous also in anal field, which is markedly broader than in *N. longicauda*. No yellow tinge in cell R_4; vein R_4 not thickened and running right across the clear area. R_5 only gently arched.

Length of body, 6-7 mm.; wing, 6-7 mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll; paratypes 5 ♂ 2 ♀ Weraroa (D. Miller); 1 ♂ Wilton's Bush, Wellington (G. V. Hudson); 1 ♂ Otira (A. L. Tonnoir); 1 ♀ West Coast of South Island (T. R. Harris); 1 ♂ Glenorchy (C. C. Fenwick); 1 ♂ Nelson (Gourlay) 23rd Nov., 1923; 26th Dec., 1923; Aniseed Val. Dec., 1923; Dun Mt. Jan., 1922; Otira 9th Nov., 1922; Kaitouna 6th Feb., 1922 (Tonn.).

This species seems widely distributed, and is subject to some variation, especially in the scutellar bristles and the amount of hairiness in the anal field. It may eventually be possible to distinguish definite local forms.

11. Nervijuncta harrisi n.sp. Edw. (Figs. 146, 147.)

Head velvet-black above, face also with dark integument, but clothed with brilliant silvery pollinosity. Mouth-parts yellowish. Eye-bridges almost in contact and about five facets wide. Antennae almost entirely blackish, only first three or four flagellar segments showing ochreous rings, more distinct in ♀ than in ♂, verticils short. *Thorax* somewhat as in *N. longicauda,* but the three scutal stripes fade into orange anteriorly and are not entirely obsolete in the yellow area; dark patch on postnotum reaches base; sternopleurite all yellow; anepisternite almost entirely velvet-black, only a small area on posterior margin being yellow; no black dot below wing-root. Scutellum with four bristles. *Abdomen* ochreous, first segment entirely so, following segments with backish basal bands. Anal lamallae of ♀ yellow. Hypopygium rather small. Ochreous, claspers blackish; dorsal projections short, claspers rather longer than basal portion, of rather irregular shape, without strong spines (fig. 147). *Legs* ochreous, tibiae, tarsi and most of hind femora darkened. *Wings* with hyaline ground colour, and dark markings arranged much as in allied species. Anal field rather broad, without dark patch, but with

fairly numerous macrotrichia, which are also evenly distributed over apical half of wing. Tip including extensive hyaline areas. R_4 ending just beyond dark area in ♂, beyond middle of clear area in ♀; R_5 gently arched. Knob of halteres somewhat darkened.

Length of body, 5 mm.; wing, ♂ 5 ♀ 6 mm.

Type: Ohakune (T. R. Harris), Feb., 1924, in Brit. Mus. coll.; allotype ♀ Nov., 1923; paratype, Feb., 1921.

The almost wholly black anepisternite will readily distinguish this species from all its near allies.

12. **Nervijuncta nigricornis** n.sp. Tonn. (Fig. 9.)

♀ *Head*: Vertex and occiput dull black, face silvery, mouth-parts yellowish. Antennae brownish-black; eye-bridges 6 facets wide, nearly touching. *Thorax:* pronotum yellow; mesonotum with an anterior transverse brown band, its disc brown but the bands not distinct from each other; space before and disc of scutellum yellow; four scutellar bristles, (on one side an additional small one); postnotum and posterior part of hypotergite dark, the rest of pleurae yellow. *Abdomen*: segments black with a rather wide posterior yellow border, base of first segment also yellow as well as superior terminal lamellae. *Legs* yellowish, tibiae gradually and the tarsi darker. *Wings* with strong dark markings; macrotrichia evenly distributed in distal part of wing, nearly all anal field also with macrotrichia; the clear transverse zig-zag band in distal dark fascia uninterrupted; faint clear spot in apical dark fascia in cell R_5 and M_1. Halteres yellowish, base of knob darkish.

Length of body 7 mm., wing 7½ mm.

Type: Days Bay (Tonnoir) 29th Nov., 1921, in Cawthron Inst. coll.; Ohakune (Harris).

13. **Nervijuncta Osten-Sackeni** n.sp. Tonn. (Figs. 4, 133.)

♂ *Head* dark brown above, face silvery, epistome and mouth-parts yellowish; eye-bridges at least six facets wide, contiguous; antennae with first segment yellow, second somewhat darker, flagellum dark. *Thorax*: pronotum yellow, mesonotum with an anterior brownish border and three longitudinal bands starting at a good distance from anterior border, these bands confluent in middle, the middle one not reaching scutellum but the lateral ones extending on its sides; postnotum darkened, pleurotergites and sternopleurites darkish below, anepisternites brown below and on the upper corner, scutellum with four long bristles and two very small ones. *Abdomen* with first segment yellow, the following one dark with yellow posterior border. Hypopygium dark with exception of anal lamellae; claspers spoon-shaped with two internal crossed basal spines (fig. 133). *Legs* ochreous, tarsi darker. *Wings*: macrotrichia evenly distributed on the apical half, a small patch along the base of R_5; markings as shown in fig. 4.

Length of body 5 mm., wing 5½ mm.

Type: Otira (Tonnoir) 10th Feb., 1922, in Cawthron Inst. coll. numerous ♂ ♂ Ohakune (Harris); 1 ♀ West Coast South Is. (Harris).

14. **Nervijuncta nigrescens** Marsh. (Figs. 21, 136.)

Marshall, *Trans. N.Z. Inst.*, vol. 28, 1896, p. 266, pl. 8, fig. 1.

The locality of the type is not recorded; this species has been found again in Mt. Arthur Dec., 1921; Reefton 13th Jan., 1922; Waiho 30th Jan., 1922; Wellington 1st Dec., 1921; Lake Brunner 4th Nov., 1922; Okarahia 5th Nov., 1925.

15. **Nervijuncta pulchella** n.sp. Edw. (Fig. 17.)

♀ *Head* brownish-ochreous, black round ocelli, but between ocelli and eyes heavly dusted with yellowish-grey. Face ochreous above, shading to dark brown below. Eye-bridges about three facets wide at their origin; widening to about six facets wide in middle, where they are in contact. Mouthparts black, labium very short. Antennae with scape orange, flagellum black. *Thorax* with pale yellow ground-colour dorsally, pronotum and shoulders almost white. Scutum with three orange-brown stripes, the lateral pair strongly curved down in front, with both ends much darkened, giving an appearance of four dark brown spots on the scutum; median stripe widened anteriorly and reaching front margin, narrowed and somewhat darkened posteriorly. Scutellum blackish, with only two strong bristles. Postnotum dark brown in middle, especially towards base. Pleurae largely ochreous, but with blackish stripe extending from behind prothoracic spiracle to lower part of pleurotergite; hypopleurite white. *Abdomen* dark brown; posterior margins of tergites narrowly and of sternites more broadly ochreous; anal lamellae ochreous. *Legs* ochreous, only tarsi darkened; spurs black. *Wings* mainly blackish, pale at base and with three zig-zag yellowish bands which tend to be interrupted in middle, leaving yellow triangles on costa and hind margin. R_4 moderately long, ending just before the outermost yellow band; R_5 nearly straight; *r-m* fusion short. Halteres brownish.

Length of body, 3 mm.; wing 3.7 mm.

Type: West Coast, Greymouth (?) (T. R. Harris), Feb., 1923. Ohakune (T. R. Harris); paratype ♀, April, 1923.

Although the smallest, this is perhaps also the most distinctively marked of the genus. The type is unfortunately badly damaged.

16. **Nervijuncta punctata** n.sp. Tonn. (Figs. 7, 135.)

♂ *Head* orange, black round ocelli, face orange, mouth-parts dark; eye-bridges moderately wide and contiguous; antennae: scape orange, flagellum brown. *Thorax*: pronotum dark above, mesonotum with three dark bands, the median one wedge shaped and stopping much before scutellum, lateral bands much curved anteriorly and connected with dark line on pleurae; middle of postnotum and posterior part of hypopleurites brown. *Abdomen* with first segment yellowish, others brown with posterior border yellow; venter and side pieces of hypopygium yellowish. Hypopygium with claspers claw-shaped and with an internal blade-like expansion (fig. 135). *Legs* yellowish, tibiae and tarsi darker. *Wing*: macrotrichia evenly distributed on distal three-fifths of membrane, this part of wing being brown except for transverse clear zig-zag band with its middle angle pointing inward; another dark patch on base of Rs and in anal field; base of Rs much curved forward, R_4 extending in clear space but not crossing it

completely and reaching costa at a certain distance from tip of R_1. Halteres completely yellowish.

♀ Similar to male, end lamellae yellow, transverse distal clear band of wing broken into spots.

Length of body 3½ mm., wing 4 mm.

Type: Mt. Arthur (Tonnoir) 21st Dec., 1921, in Cawthron Inst. coll. Allotype: *idem* 28th Dec., 1921; Paratypes: Lake Brunner 5th Feb., 1922; Otira 10th Feb., 1922; Nelson Dec., 1923; Hilltop (Cant.) Jan., 1925 (Tonnoir).

16a. **Nervijuncta punctata** var. **robusta** Tonn.

Some specimens of larger size show a venation somewhat different; anterior veins much thicker, chiefly R_4 which joins costa at tip of R_1 from there on for a certain distance the costa is rather thick; the clear fascia is either complete or divided into spots and the membrane is there partly bare. The hypopygium is apparently not different from the one of the typical form but the claspers are shorter and stronger.

Length of body 4¾ mm., wing 5½ mm.

Type: Mt. Arthur (Tonnoir) 25th Dec., 1921, in Cawthron Inst. coll. Allotype *idem* 20th Dec., 1921; paratopotype, 24th Dec., 1921.

17. **Nervijuncta marshalli** n.sp. Edw. (Fig. 6.)

♀ *Head* dark brown above, dusted over with yellowish-grey, which is most conspicuous round eye-margins. Face light ochreous. Eye-bridges of about even width, four or five facets wide, in contact in the middle. Palpi light yellow, labium rather darker, very short. Antennae with scape orange, flagellum black. *Thorax* with the pronotum dark brown; scutum light yellowish with three dark brown stripes, middle one reaching front margin and indistinctly divided by a yellow line, lateral pair strongly curved down in front. Scutellum dark brown, with two strong bristles and two very short ones. Pleurae mostly dark, but with some greyish mottling; postnotum and pleurotergites wholly dark brown and somewhat shining. *Abdomen* black; tergites 5 and 6 orange except in middle line; sternites 5-7 whitish; anal lamellae black. *Legs* rather dark ochreous, all coxae, also tarsi and spurs blackish. *Wings* with conspicuous dark brown markings as shown in figure; subapical pale band narrow, its middle part displaced distally so that it is almost divided into three spots. Macrotrichia evenly spread over apical half of wing. R_4 moderately long, ending in dark tip; R_5 gently cuved; *r-m* fusion rather short. Halteres ochreous, base of knob darkened.

Length of body, 4 mm.; wing, 4½ mm.

♂ Differs from female by coloration of abdomen which is completely dark including hypopygium; halteres completely orange and front coxae lighter than the posterior ones.

Type: Ohakune (T. R. Harris); Mar., 1923, in Brit. Mus. coll. Also 1 ♀ in Prof. P. Marshall's collection, without data; this latter differs from the type in having mesonotal stripes mainly orange, only centres dark brown.

Allotype: Aniseed Valley (Tonnoir) 1st to 4th Dec., 1923 with other ♂ ♂ and ♀ ♀; 1 ♂ Ohakune 9th Mar., 1923 (Tonnoir); Goose Bay (Kaikoura) 4th Feb., 1925.

Although with some slight resemblance to *N. punctata* Tonn. this species is really very distinct in wing-markings and venation, as well as in its yellow palpi and dark coxae.

18. **Nervijuncta bicolor** n.sp. Edw. (Figs. 20, 151.)

Head dark brown above, face light ochreous. Eye-bridges only three or four facets wide near their junction with main portion of eyes, but widening out towards middle where they are eight or nine facets wide and broadly in contact. Mouth-parts black, the labium very short. Antennae with the scape ochreous, flagellum blackish except base of first segment. *Thorax* almost uniformly bright ochreous-brown, only scutellum darker, this bearing only two strong bristles. Pleurae also somewhat darkened in some specimens. *Abdomen* rather dark brown, base of second segment and basal part of hypopygium more ochreous; in ♀ abdomen is lighter than in ♂, especially on segments 4-6, but last segment and anal lamellae are black. Male claspers long, broadest near base and tapering to a dark cloud over base of Rs, a brownish band just beyond middle, point. *Legs* ochreous; tarsi darkened; spurs black. *Wings* with a dark cloud over base of Rs, a brownish band just beyond the middle, which is narrower over base of median fork, and the whole tip broadly brownish. Macrotrichia evenly distributed over apical half. R_4 long reaching well into dark tip of wing and ending far beyond tip of R_1. R_5 only slightly arched; *r-m* fusion short. Halteres dark brown.

Length of body, 3½-5 mm.; wing, 4½ mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratypes 4 ♂ 6 ♀, Nov.-Jan.

The form of the eyes will readily distinguish this species from all others at present known, except perhaps *N. pulchella.*

19. **Nervijuncta nigricoxa** n. sp. Edw. (Figs. 149, 150.)

♂ *Head* as in *N. pulchella,* except that eye-bridges are uniformly about four facets wide. *Thorax* much as in *N. pulchella,* but darkened areas of scutal stripes less definite and apparently variable in extent; scutellum yellow in middle, with four strong marginal bristles; pleurae and postnotum much more extensively dark, but hypopleurite remaining pale. *Abdomen* with first segment almost all yellow; following segments black with the hind-borders conspicuously yellow; hypopygium ochreous with large black claspers of somewhat complicated structure (figs. 149, 150). Anal lamellae of ♀ yellow, genital parts black. *Legs* ochreous, the hind-coxae except sometimes towards tip, base of mid-coxae of hind femora and tibial spurs black. *Wings* faintly yellowish with light brown tip and more or less interrupted light brown fascia just beyond middle. Macrotrichia extending over outer two-thirds or thereabouts, and over large part of anal field. R_4 rather short, ending in dark area; R_5 gently curved; *r-m* fusion short. Halteres ochreous.

Length of body, 3½-4½ mm.; wing 4½ mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratypes 2 ♀, Dec., 1922-Jan., 1923; also 1 ♀, Mar., 1924.

Although somewhat resembling *N. punctata* Tonn., this species is evidently quite distinct through the dark hind coxae, the less extensive dark markings of the wings, the more numerous macrotrichia, and especially by the structure of the hypopygium.

3. Genus HETEROTRICHA Loew.

The form which is here referred to Loew's rather inperfectly known fossil genus, differs from it, as far as venation is concerned, by R_1 ending well after the level of the fork of M and not before, and by *r-m* being rather short. On the other hand it comes nearer to *Paleoheterotricha* Meun. (which is very likely identical with *Heterotricha*) by the long R_1 and short *r-m;* its venation differs, however, in the New Zealand form from that of a South African species described by Edwards (1), by the longer Sc and the curved Rs.

This genus has been referred to the Sciarinae and the Mycetophilinae respectively by Meunier and Enderlein; Edwards in the above-mentioned paper thinks that it comes closer to the Sciarinae on account of the shape of the eyes of the South African species; however, the New Zealand one with its bridgeless eyes does not allow this view to be sustained any longer.

We think it is best to place it with the *Diadocidiinae,* if we consider that the section of the vein between *r-m* and Cu_1 is in reality *m-cu* and that the base of M is missing as in *Diadocidia.* However, the real status of this genus remains uncertain; its peculiar distribution is of great interest; it is known so far from the Baltic amber and South Africa, besides New Zealand.

Heterotricha novae-zealandiae n.sp. Tonn. (Fig. 231.)

♂ *Head*: Eyes slightly hairy, oval, somewhat emarginate near base of antennae, no traces of bridge, distance betwen them on frons being equal to distance between the two outer ocelli. The three ocelli nearly in a line, outer ones far removed from eye-margins, median one smaller. Antennae dark brown, first and second flagellar segment yellowish; first flagellar segment about six times as long as wide, their length gradually diminishing towards extremity; whole antennae as long as abdomen which is twice length of head plus thorax. Palpi rather long, yellowish, composed of three distinct segments, the first two subequal to each other and about 4-5 times as long as wide, the last one longer and thinner. The whole head blackish-grey. *Thorax:* Mesonotum shining black with yellowish hairs arranged in three stripes on disc leaving bare spaces between them; some bristles present on pronotal lobes and tuft of small hairs on hypopleurites; pleurotergites flat and bare. *Abdomen* shining black with rather long and dense golden pubescence; seventh segment visible; hypopygium black with two slender ribbon-like elongate whitish processes; its structure as in fig. 231. *Legs* slender and rather elongate; tibiae with a few very small bristles; spurs normal; apical comb on front tibiae present; empodium absent, pulvilli present but very small, half as long as claws. Coxae and femora yellowish, trochanter, tip of post-femora and tibiae and tarsi brownish. *Wings* subhyaline;

(1) Ann. South Afric. Museum 19, 1925, p. 605.

micro and macrotrichia present on whole membrane. Sc long ending free after base of Rs; R_1 rather long ending well after fork of M; Rs unbranched, much curved and parallel to costa on its distal part; costa extending much after tip of Rs; *r-m* short, shorter than basal section of Rs; fork of M subequal to its stem; base of M apparently missing; *m-cu* very oblilquely placed so as to appear the base of M issuing from Cu_1; fork of Cu near the wing-base; A distinct on its basal half only. Halteres yellow.

Length of body and wing 3½ mm.

Type: Aniseed Valley, Nelson (Tonn.) in Cawthron Inst. coll.

4. Genus ARACHNOCAMPA Edw.

Edwards, *Ann Mag Nat. Hist* (9) vol. 14, 1924, p. 177.

This genus common to New Zealand and Tasmania seems to be rightly referred to the subfamily Bolitophilinae, the imago differing from *Boliotophila* only by a few characters such as the absence of empodia and pulvilli, by the base of Rs placed much nearer the wing base, etc.; however, the larva is completely different from that of *Bolitophila* and can scarcely be distinguished from the larva of *Ceroplatus*.

Arachnocampa luminosa (Skuse). (Figs. 23, 154.)

Skuse, *Tans. N.Z. Inst* 23, 1891, p. 48 (*Bolitophila*).

Only the female was known to Skuse; the male differs but little; the abdomen is still more slender and the anterior part of its segments from the second on is distinctly marked with yellow, this pale colouring extending also more or less along the middle of the tergites. Hypopygium brown, its structure simple as shown in fig. 154.

Length of body 9 mm., wing 5 mm.

Allotype: Nelson, Dun Mt. Dec., 1923 (A. Phipott), in Cawthron Inst coll.

Although the larva of this species is very common in some parts of New Zealand, especially in some caves, the fly is exceedingly rare; only a few specimens are known to be in different collections; they come from Wellington, Waitomo, and Nelson.

5. Genus MACROCERA Mg.

This genus of nearly world-wide distribution is particularly well represented in New Zealand.

KEY TO SPECIES.

1.	Macrotrichia present on at least the outer half of the wing	2.
	Wing-membrane devoid of macrotrichia	8.
2.	R_4 absent; middle coxae blackish, the front and hind pairs ochreous	3.
	R_4 present	5.
3.	Wing-tip dark, without included pale markings	1. *scoparia* Marshall
	Dark wing-tip including three pale marks, in the cells R_5, M_1 and M_2	4.
4.	Pale marks in the dark wing-tip somewhat crescent-shaped; antennae ringed	2. *milligani* Tonn.
	Pale marks round; antennae not ringed	3. *fenestrata* Edw.

5.	A dark pleural stripe extending over mid coxae as in the above three species; wings without dark spot at tip	6.
	Pleurae and coxae all ochreous; wing-tip dark	7.
6.	A dark spot in middle of wing; antennae ringed	4. *unipunctata* Tonn.
	Wings unmarked; antennae not ringed	5. *campbelli* Edw.
7.	Wing-markings strong; spot in cell Cu_1 united with a dark patch running from the costa	6. *antennalis* Marsh.
	Wing-markings rather faint; spots in cell Cu_1 separate	7. *obsoleta* Edw.
8.	Wing conspicuously banded	9.
	Wing quite unmarked	10.
9.	Antennae more or less ringed; mesonotum with dark stripes	8. *hudsoni* Tonn.
	Antennae all black; mesonotum entirely shining reddish	9. *ngaireae* Edw.
10.	Abdomen all black; wings somewhat smoky; Sc ending above base of Rs	11.
	Abdomen with basal pale band on several segments	13.
	Abdominal segments with apical pale bands	12.
11.	Base of antennae ochreous; mesonotum brown; knob of halteres yellowish, its stem whitish basally blackish apically	12. *fusca* Tonn.
	Base of antennae dark; mesonotum orange; stem of halteres yellowish, the knob blackish	13. *gourlayi* Tonn.
12.	Sc ending above base of Rs; small slender species.....	14. *annulata* Tonn.
	Sc ending above the tip of the basal cell; larger and more robust species	15. *inconspicua* Tonn.
13.	Pleurae and the four posterior coxae all black; first abdominal segment all yellow	14.
	At least the hind coxae yellowish; first abdominal segment dark apically	15.
14.	Sc very short and ending free; A very faint, hardly distinguishable except at base	10. *pulchra* Tonn.
	Sc ending in costa above base of Rs; A fairly distinct	11. *ruficollis* Edw.
15.	Antennae completely dark	17. *glabrata* Tonn.
	First joints of the flagellum yellow with their extreme tip dark	16. *montana* Marsh.

1. **Macrocera scoparia** Marsh. (Fig. 26.)

Marshall *Trans N.Z. Inst.*, 28, 1896, p. 272, pl. 9, fig. 1.

This species is the most common of the genus; it can be easily distinguished by the characters as given in the key.

Wellington (Hudson); Ohakune (Harris); Christchurch (Campbell); Governors Bay (Tapley); Dunedin (Watt); Queenstown and Stewart Is., (Curtis); Te Aroha; Nelson; Otira; Cass; Akaroa; Kaikoura; Waiho (Tonnoir) from Sept. to March.

2. **Macrocera milligani** n.sp. Tonn. (Fig. 31.)

♂ *Head* orange, the vertex brownish, palpi brown; antennae about half as long again as body, first two joints orange, those of the flagellum dark brown with base conspicuously yellow on basal joints 5-6, the rest practically completely brown. *Thorax* orange with dark vertical stripe on pleurae extending on middle coxae. *Abdomen* with

first segment orange. posterior margin of segment 2 and 3 brown; the following segments brown, sometimes base of 7th orange; hypopygium dark. *Legs* orange-yellow, posterior femora and tibae brownish, all tarsi also infuscated. *Wings* hairy on their whole surface and with two groups of markings, one on basal half composed of a spot at base of Rs, one at tip of R_1, a larger one at the parting of Rs and M and a less conspicuous one at bend of Cu_2; the second group of markings is formed by tip of wing being extensively infuscated, this dark area including three pale crescent-shaped spots placed proximally in cells Rs, M_1 and M_2. The vein R_4 is missing. Halteres with yellow base and knob dark orange.

♀ Similar to male, antennae as long, abdomen lighter, posterior margin of segment being narrowly infuscated.

Length of body and wing 4 mm.

Type: Christchurch (Tonnoir) 17th Feb., 1922, in Cawthron Inst. coll.

Allotype: Nelson (Tonnoir) 28 Sept., 1923.

Paratypes: Khandallah; Nelhotapu; Otira; Lake Brenner; Nelson (Tonnoir).

Other specimens in Brit. Mus.; Ohakune (Harris); Purau (Campbell); Governors Bay (Tapley); Queenstown (Curtis); Alexandra (Fenwick).

3. **Macrocera fenestrata** n.sp. Edw. (Fig. 30.)

Very near *M. milliganı* Tonn., differing as follows:—

♀ Size smaller. Antennae flagellum almost all black, with only faint traces of pale rings at joints. Mesonotum with three brownish stripes. Pleurotergites mainly blackish. Abdomen more extensively dark, pale bands interrupted in middle. *Wings* with a narrow but almost complete band across middle ending on hind-margin below tip of Cu_2; three round pale spots included in the extensively darkened tip.

♂ similar to female, abdomen yellowish at base only, completely dark from fourth segment.

Length of body, 2.8 mm.; wing, 3·2 mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll., April, 1923.

Allotype: Wairakei (Tonnoir), 6th Mar., 1923; Lake Brunner, 20th Dec., 1925 (Tonn.).

4. **Macrocera unipunctata** n.sp. Tonn. (Fig. 29.)

♂ *Head* orange, frons, vertex, and palpi dark; antennae longer than body, scape orange, the five first segments of flagellum orange with their apical ⅔ brown, following segments brown with base very narrowly and indistinctly orange. *Thorax* orange, pleurae with vertical brown line extending on middle coxae; middle of postnotum and posterior part of hypotergites brown. *Abdomen* orange, second to the last visible segment brown at base. Hypopygium orange. *Legs* yellowish-orange, darker on tarsi. *Wings* hairy mostly on distal part but also quite densely on anal field, a few rather brownish spots in middle of wing; one at base of Rs, one rather elongate below extremity of R_1 and on parting of Rs and M, tip of wing very slightly infuscated. Sc as long as basal cell, R_4 present and ending a little way past tip of R_1. Halteres yellowish-orange.

♀ Similar to male but the brown colouration a little more extensive: first segments of the flagellum are more brown than yellow and also abdominal segments.

Length of body and wing, 4½ mm.

Type: Auckland, coll. Hutton, in Canterbury Museum.

Allotype: *idem.*

Paratypes from the same locality and from Lake Brenner (Tonnoir) 5th Feb., 1922.

Specimens in Brit. Mus.: Ohakune (Harris); 1 ♀, third and fourth flagellar segments subequal in length; Clifton (Harris); 1 ♂ Christchurch (Campbell); 8 ♂ 2 ♀ fourth flagellar segment in ♂ as long as first three together; in ♀ only 1·6 times as long as third.

5. Macrocera campbelli n. sp. Edw.

♂ *Head* blackish above, face ochreous. Palpi black. Antennae entirely black except for ochreous scape and outer half of the first flagellar segment; second flagellar sgement only a little shorter than first, third and fourth slightly longer than second. *Thorax* ochreous; mesonotum with traces of three darker stripes; pleurae with dark brown vertical stripe extending over middle coxae. *Abdomen* ochreous, with broad blackish bands towards bases of first four tergites, that on tergite 2 the broadest; segments 6 and 7 almost wholly black. Hypopygium small, brownish, claspers of usual form. *Legs* ochreous, tarsi darkened. *Wings* devoid of markings; macrotrichia numerous on apical half. Tip of R_1 much swollen, the actual tip pale but preceded by a darkened area. R_4 very short and nearly transverse. Base of M rather strong and dark. Halteres with ochreous stem and dark brown knob.

Length of body, 4 mm.; wing, 4½ mm.; antennae probably about 7-8 mm. (tips broken).

Type: Mt. Grey (J. W. Campbell), 23rd Feb., 1924, in Brit. Mus. coll.

This is very nearly allied to the Australian *M. mastersi* Skuse.

6. Macrocera antennalis Marsh.

Marshall, *Trans N.Z. Inst.*, 1894, p. 271.

The male only of this beautiful species was described by Prof. Marshall. Female differs only slightly from male by the shorter antennae and the wings more hairy, the macrotrichia extending in the anal field; the abdominal segments are brown with an orange posterior margin.

Type in Cawthron Institute.

Allotype in Canterbury Museum, Lake Brenner (Tonnoir) 5th Feb., 1922.

Other specimens in Brit. Mus.: Ohakune and Mt. Ruapehu (Harris); West Coast S.I. (Harris); Blackball and Mt. Grey (Campbell); Pokororo (Philpott); Cass; Nelson (Tonnoir) from Dec. to Feb.

7. Macrocera obsoleta n.sp. Edw.

Very near *M. antennalis* Marshall, differing as follows:—

Size rather smaller. Dark abdominal bands less conspicuous. *Wing*-markings much fainter; central mark either absent (as in type), or (as in other three specimens examined) passing straight down-

wards over base of median fork, instead of obliquely over stem of fork, and therefore separate from dark mark in cell Cu_1. R_2 rather longer and more oblique.

Length of body, 4-5 mm.; wing, 4.5-6 mm.; ♂ antennae, 11-14 mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratype ♂, Nov., 1923, Jan., 1924; West Coast of South Island; Greymouth; (?), (T. R. Harris); paratypes 1 ♂ 1 ♀, Feb., 1923. Aniseed Valley, 1st Dec., 1923 (Tonnoir).

8. **Macrocera hudsoni** n.sp. Tonn. (Fig. 28.)

♂ *Head* and palpi orange, antennae somewhat longer than body, scape orange, distal third of first flagellar joint brown, the 2-3 following joints with base narrowly orange the rest brown. *Thorax* orange with a few brownish markings on pleurae and mesosternum. *Abdomen* dark orange, base of segments rather extensively brownish except on sides, the last visible segment completely dark. *Legs* orange-yellow with extreme tip of posterior femora and tibiae dark. *Wings* without macrotrichiae, two conspicuous dark bands: a median transverse one from tip of R_1 to tip of A., apical band contains three roundish clear spots on edge of wing and placed respectively in cells; R_5, M_1, and M_2. Halteres orange.

♀ Similar to male but abdomen more extensively brown.

Length of body 6 mm., wing 6½ mm.

Type: Aniseed Valley (Nelson) 1st to 4th Dec., 1923 (Tonnoir).

Allotype: *idem.*

Paratypes: Waiho, Jan., 1922; Maitai Valley (Nelson), Dec., 1922; Cass, Nov., 1924 (Tonnoir).

Specimens in Brit. Mus.: Ohakune; West Coast South Island (Harris); Wilton's Bush, Wellington, 1 ♂ 1 ♀ (Hudson).

9. **Macrocera ngaireae** n.sp. (Fig. 27.)

Nearly allied to *M. hudsoni* Tonn., and resembling that species in its wing-markings and venation and in having antennae of male very little longer than those of female, but differing as follows:—

Head brighter in colour and with hardly any grey dusting above; face and palpi wholly reddish-orange. Antenal flagellum entirely black, without trace of pale rings. *Thorax* more shining, bristles shorter and less conspicuous; dorsum wholly reddish-orange, pleurae, however, almost entirely blackish. *Abdomen* quite unbanded, though darkened towards tip, genitala of both sexes, however, being orange. *Legs* brighter orange, but hind coxae with a more distinct black mark at base outwardly; tibial spurs orange. *Wings* with middle and subapical bands connected in cell R_1.

Type ♂: Karioi (T. R. Harris), Oct.-Nov., 1923; Mt. Ruapehu, 4,500 ft. (T R. Harris), allotype ♀, Feb., 1924.

This very fine species is named in commemoration of the birth of Miss Ngaire Beth Harris, daughter of the collector.

10. **Macrocera pulchra** n. sp. Tonn. (Fig. 24.)

♂ *Head* palpi and scape of antennae brown, flagellum yellow; antennae at least twice as long as body. *Thorax* brown. *Abdomen* with two first segments and base of third yellow, the rest of the abdo-

men brown. *Legs* yellow, coxae dark. *Wings* with slight yellowish tinge, veins light; Sc apparently incomplete. Halteres yellow.

♀ Antennae somewhat shorter; mesonotum orange; only two first abdominal segments yellow.

Type: Lake Brunner (Tonnoir) 4th Feb., 1922, in Cawthron Inst. coll.

Allotype: *idem*, 5th Feb., 1922.

Paratopotypes: 2 ♂, 2 ♀; Ohakune (Harris) 1 ♂, Mar., 1923.

11. **Macrocera ruficollis** n.sp. Edw.

♂ Resembles *M. pulchra* Tonn., but evidently quite distinct on account of the following differences:—Size larger. Only the first three or four flagellar segments yellowish, the rest dark. Mesonotum rather bright reddish-ochreous in front, dark brownish posteriorly. Second abdominal tergite with a black apical band, third to fifth each with narrow but complete yellow basal bands. Front coxae entirely clear yellow. *Wings* with the anal angle much more square (and therefore more normal). Sc distinct and ending in costa above base of Rs. Stem of median fork quite distinct, not almost obliterated as in *M. pulchra*. An. fairly distinct throughout.

Length of body, 4½ mm. wing, 4 mm.; antennae broken.

Type: Ohakune (T. R. Harris), Nov., 1922.

12. **Macrocera fusca** n.sp. Tonn.

♂ Completely brown species with exception of mesonotum which is somewhat reddish and also second and base of third antennal segments; base of stem of halteres whitish, its distal half black and knob yellowish. *Wing* bare uniformly smoky; Sc very short, its tip in front of the origin of Rs.

Length of body: 3 mm., wing, 3⅔ mm., antennae 5 mm.

Type: Ohakune (Tonnoir) 8th Mar., 1923, in Cawthron Inst. coll.

13. **Macrocera gourlayi** n.sp. Tonn.

♂ Very similar to *M. fusca* from which it differs by the antennae completely brown, mesonotum and scutellum orange, front coxae and femora yellowish as well as hypopleurites. Halteres with yellowish stem and dark brown knob. Front legs with first tarsal joint equal to half of tibiae (in fusca equal to $\frac{1}{5}$). *Wing* venation and colouration the same.

Same size.

Type: Nelson (Gourlay) 24th Nov., 1923, in Cawthron Inst. coll.

Paratopotype: 1 ♂ in Canterbury Museum.

14. **Macrocera annulata** n.sp. Tonn.

♂ *Head* orange, vertex brown, palpi dark; antennae distinctly longer than body, yellow at base and gradually darker towards extremity. *Thorax:* mesonotum dark orange with two wide lateral brown stripes united in front by beginning of median dark stripe; rest of the thorax brown. *Abdomen* brown, posterior border of segments 2 to 6 yellow; hypopygium brown. *Legs* brownish yellow more infuscated towards extremity, front coxae yellowish, posterior ones

brown. *Wing* bare with a slight brownish suffusion, veins dark, venation as in preceding two species. Halteres completely pale yellow.

Length of body and wing 3½ mm.

♀ similar to male.

Type: Waiho (Tonnoir) 21st Jan., 1922.

Allotype: *idem* 16th Jan., 1922.

Paratypes: Otira 9th Feb., 1923; Nelson, ,8th Dec., 1921; Waiho, 16th, 30th Jan., 1922 (Tonnoir).

15. Macrocera inconspicua n.sp. Tonn.

♀ *Head* orange, vertex brown, palpi dark; antennae as long as body, the 3-4 first joints orange, the rest gradually darker brown. *Thorax* ground-colour orange with brown markings; mesonotum with three dark stripes, median one little marked; scutellum brown, disc of postnotum and pleurotergites, mesopleurae and mesosternum brown. *Abdomen* mostly dark with posterior border of segments orange; lamellae orange. *Legs* yellowish orange gradually darker on tarsi. *Wings* very slightly infuscated and with tiny brownish streak below dital part of R_1; Se exactly as long as basal cell; tip of R_1 nearly reaching level of fRs; R_4 rather long. Halteres orange.

Length of body and wing 5 mm.

Type: Neotupu (Tonnoir) 23rd Feb., 1923, in Cawthron Inst. coll.

Paratype: Lake Brunner (Tonnoir) 4th Feb., 1922.

16. Macrocera montana Marsh. (Fig. 25.)

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 270.

A comparison of the types of this species and of *M. howletti* Marsh. shows that they belong to the same species: this last one must therefore be considered as a synomym of *M. montana.*

M. montana is characterized chiefly by its antennae, the flagellum being completely orange but for a very narrow dark ring at tip of segments which are however darker towards extremity of antennae. Vestiture of the first segments of flagellum is composed of very small black bristles on dorsum of segment whereas sides and ventral part are covered with whitish downy hairs; vestiture of last segments is practically all dark.

The two specimens in Prof. Marshall's collection are females; one male exhibiting the above-mentioned characteristic features of the antennae can be considered as the allotype of the species and differs from the female as follow:

Scape not brown but orange, somewhat lighter than basal segments of flagellum. Pleurae somewhat darker than mesonotum but not brown, the postnotum completely orange. Abdominal segments mostly orange with the posterior border brown. *Legs* yellowish darker on tarsi.

Length of body and wing 4 mm.

Allotype: Ohakune (Tonnoir) 8th Mar., 1923.

17. Macrocera glabrata n.sp. Tonn.

♂ *Head* brownish orange, palpi brown; antennae as long as body, entirely dark. *Thorax* darkish orange pleurae somewhat darker in middle, this infuscation extending on middle coxae. *Abdomen* mostly

brown with base of five first segments yellowish-orange. *Leg* yellowish, tarsi darker. *Wings* hyaline without spots or macrotrichiae; Sc shorter than basal cell; R_1 rather long nearly reaching the level of fork of Rs. Halteres with yellow stem and dark knob.

Length of body and wing 4 mm.

Type: Otira (Tonnoir) 9th Feb., 1922, in Cawthron Inst. coll.

This species comes very near the preceding one but is rather darker, the antennae palpi and abdomen being mostly black and also the middle coxae.

6. PARAMACROCERA n. gen.

This new genus is proposed for a peculiar little species which differs from *Macrocera* as follows:—

Head apparently without the longitudinal furrows seen in all species of *Macrocera.* Antennae quite short, the flagellar segments rounded, almost moniliform. Palpi very short, the segments not longer than broad. Hind coxae as long as the middle pair. Wings with macrotrichia over practically the entire surface; Cu_1 and Cu_2 less distinctly approximate near the base;; An faint apically.

The genus must be referred to the Macrocerinae rather than the Ceroplatinae on account of the presence of long and distant anepisternal hairs; of a distinct front tibial comb, though this is not quite so well marked as in *Macrocera;* and of small pulvilli and empodium, though again these are less distinct and hairy than in *Macrocera;* also on account of the entire absence of definite bristles on the tibiae. Further, the presence of macrotrichia on the wings is a character at present unknown in the *Ceroplatinae.*

Genotype, *P. brevicornis* n. sp.

Paramacrocera brevicornis n.sp. Edw. (Fig. 32).

♂ *Head* blackish above, face and palpi ochreous. Antennae about as long as head and thorax together, scape brownish, flagellar black; flagellar segments only about as long as broad, somewhat rounded, with short but distinguishable necks, pubescence about half as long as diameter of segments, each segment also with one or two longish dorsal hairs. *Thorax* brownish-ochreous, prothorax, middle of pleurae and hypopleurite lighter. Mesonotal bristles long though not very stout; dorsocentral in a double row, acrostichal in a single medium row, scutellum with two long bristles and a few short hairs. *Abdomen* dark brown, first tergite and posterior margins of segments 2-5 ochreous; segments 6-7 and hypopygium blackish; claspers exactly as in typical species of *Macrocera,* with two sharp terminal teeth. *Legs* ochreous, tibiae and tarsi darkened (hind tibiae and tarsi missing). *Wings* quite unmarked, macrotrichia occurring over practically the entire surface; venation as figured: Sc ending opposite origin of Rs; R_4 oblique and arising before tip of R_1, which is not at all thickened, costa extending over a third of the distance from R_5 to M_1. Halteres ochreous, base of knob darker.

Length of body, 2½ mm.; wing, 2·3 mm.

Type: West Coast of South Is., Greymouth (?) (T. R. Harris), Feb., 1923, in Brit. Mus. coll.; Nelson (Tonnoir) 21st and 28th Nov., 3 ♂.

7. Genus CEROTELION Rond.

This genus is probably cosmopolitan but not yet known from the Ethiopian region. It includes the N.Z. species which were formerly referred to *Ceroplatus*.

KEY TO SPECIES.

1. Wings completely clear and body completely black		4. *vitripennis* Tonn.
Wings with more or less intensive markings		2.
2. Halteres yellow; wing-markings dark and rather sharply defined, the central spot filling the base of cell M_1		1. *leucoceras* Marsh.
Halteres whitish, knob dark except at tip		2. *dendyi* Marsh.
Halteres with the knob completely black		3.
3. Hind femora blackish at each end, with a broad whitish median ring		3. *hudsoni* Marsh.
Hind femora dark at base only or inconspicuously so at the tip		4.
4. Thorax mainly black; male claspers with three apical large teeth only		7. *niger* Tonn.
Mesonotum with three separate dark stripes; male claspers with several small teeth on inner margin		5.
5. At least the last antennal segment yellow		5. *bimaculatus* Tonn.
Antennae all black		6. *tapleyi* Edw.

1. Cerotelion leucoceras (Marsh.) (Fig. 158.)
Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 276, pl. 13, fig. 3 (Ceroplatus).

The colouration of this species is rather variable, the mesothoracic dark stripes being sometimes confluent; the abdomen also is more or less orange and the legs more or less extensively black. The male has one or two terminal antennal segments yellow; the female has the basal part of the flagellum entirely dark.

Type from Wanganui coll. Marshall; Ohakune (Harris); West Coast of South Is. (Harris); Governors Bay (Tapley); Nelson (Tonnoir), from Nov. to March.

2. Cerotelion dendyi (Marsh.)
Marshall, *Trans N.Z. Inst.*, 28, 1896, p. 275, pl. 9, fig. 3.

This species has not been found again; the two specimens in the Prof. Marshall collection had been obtained from Alford Forest (Canterbury).

3. Cerotelion hudsoni (Marsh.) (Fig. 34.)
Marshall, l.c. p. 276 (Ceroplatus)

The type came from the vicinity of Wellington but it is now lost.

One male has been found again by Mr. Harris in Ohakune, 1st March, 1919; the wings of this specimen are largely smoky.

4. Cerotelion vitripennis n.sp. Tonn.

♂ *Head* black, palpi yellow; antennae dark, two first joints slightly lighter below. *Thorax* and *abdomen* dull black with black pubescence; venter slightly rufous. *Legs* orange-yellow, coxae infuscated towards tip, base of posterior femora dark. *Wings* entirely clear.

Halteres with yellowish stem and dark knob. Hypopygium: claspers with two large terminal teeth and an internal series of irregular smaller teeth; side-hooks nearly as in *C. niger*.

Length of body, 5 mm., wing, 4 mm.

Type: Cass (Tonnoir) 1st Dec., 1924, in Canterbury Museum.

Paratopotypes: 2 ♂ ♂.

5. **Cerotelion bimaculatus** n.sp. Tonn. (Figs. 33, 155, 156.)

♂ *Head* ochreous, darker on the vertex, face and mouth-parts yellow; antennae brown, segment 5 to 7 dark orange, last one yellowish-white. *Thorax:* mesonotum and scutellum dark orange, the former with three brown separate bands; pleurae dark with exception of greater part of hypotergite anteriorly. *Abdomen* orange with a posterior dark band on segments. *Legs:* coxae orange with tip black, base of femora blackish, their distal part and tibiae orange, tarsi darker. *Wings:* tip of Sc after origin of Rs, A not quite reaching posterior border; brown patches well marked, proximal one not extended in cell M_1 but extending up to costa, distal one starting from tip of R_4. Halteres with yellowish stem and black knob.

Length of body: 4 mm., wings 3½ mm.

Type: Nelson (Tonnoir) 4th Mar., 1922, in Cawthron Inst. coll.

Paratype: Lake Brunner (Tonnoir) 2nd Feb., 1922; Ohakune (Harris) 6 ♂ 1 ♀.

The female differs from the male in having only the last antennal segment yellow.

6. **Cerotelion tapleyi** n.sp. Edw.

Rather closely resembles *C. bimaculatus* and has an identical venation and structure of the hypopygium, but differs as follows:—

Antennae entirely black in both sexes. Hind femora less extensively black at base. Central wing-spot rather smaller, barely touching base of cell M_1.

Type ♂: Governors Bay (J. F. Tapley), in Brit. Mus. coll.

Paratypes 3 ♂ 1 ♀: Sumner (Campbell) 1 ♂; Dunedin (C. C. Fenwick) 1 ♀.

7. **Cerotelion niger** n. sp. Tonn. (Fig. 157.)

♂ Nearly completely dull black, *abdomen* more or less shining. Palpi and lower part of face yellowish. Posterior coxae and base of femora dark, the rest of the *legs* dark yellowish. Venation as in *C. bimaculatus*, the markings much fainter, the central one not quite reaching costa. Halteres with black knob and yellowish stem.

Length of body: 4½ mm., wing 3½ mm.

Type: Queenstown (Curtis), 15th Dec., 1919, in Cawthron Inst. coll.

8. Genus PSEUDOPLATYURA Skuse.

Known only from Australia and New Zealand.

Pseudoplatyura truncata n.sp. Tonn.

A dark brown species with yellow halteres.

♂ *Head* with appendages completely dark brown; antennae scarcely longer than head, segments of flagellum difficult to make out. *Thorax:* mesonotum brown with three darker bands where the rows

of hairs are situated. *Abdomen* uniformly brown also hypopygium which is very small. *Legs* brown, tibiae and tarsi lighter. *Wings* uniformly smoky; Sc short, evanescent, not reaching costa nor base of Rs; R_4 rather oblique, its tip at a good distance from R_1. All the longitudinal veins reaching costa. Halteres yellow, rather long.

Length of body 2½ mm.,, wing 3 mm.

Type: Lake Brunner (Tonnoir) 3rd Feb., 1922, in Cawthron Inst. coll.

Paratype: *idem.*

9. Genus PLATYURA Mg.

The genus Platyura had been recently restricted by the junior author to species with a more or less bristly postnotum; however since then some connecting forms between this genus so restricted and *Isoneuromyia* have been studied which show that until more material of this group is known a division of the old genus *Platyura* would be premature, however heterogenous it may seem. The first two species of this list although provided with bristles on the postnotum are in fact more closely related to *Isoneuromyia* by the rest of their morphology.

Platyura is a cosmopolitan genus.

Key to Species.

1. Postnotum with a transverse row of longish bristles posteriorly; vein An abbreviated; costa reaching about four-fifths of the distance from R_5 to M_1, its terminal section more than half as long as R_5	2.
Postnotum bare; costa reaching at most half-way from R_5 to M_1, its terminal section not a quarter as long as R_5	3.
2. Antennae entirely dark; abdomen orange, hind border of middle segments dark; hypopygium as in fig. 160	1. *brevis* Tonn.
Base of antennae orange; abdomen as dark as the mesonotum; hypopygium as in fig. 159	2. *subbrevis* Tonn.
3. Vein. A. more or less abbreviated; mesonotum uniformly covered with fine bristles; a row of fine bristles immediately behind the prothoracic spiracles; male abdomen compressed apically, clasper small and hidden	4.
A. reaching the margin; mesonotum with more or less conspicuous bare lines between the acrostichal and dorsocentral series of bristles; no spiracular bristles; male abdomen somewhat depressed, ninth tergite small, claspers large and of simple structure with two terminal teeth somewhat as in *Macrocera*	8.
4. Wings dark with a whitish transversal line	3. *albovittata* Tonn.
Wings hyaline	5.
5. Palpi yellow	6.
Palpi blackish	7.
6. Male ninth tergite short	7. *brookesi* Edw.
Male ninth tergite produced and bilobed	6. *proxima* Tonn.
7. Abdomen all dark	4. *marshalli* nom. nov.
Abdominal tergites pale apically	5. *lamellata* Tonn.

8.	Costa scarcely reaching beyond the tip of R_5	9.
	Costa longer	10.
9.	Thorax largely orange in both sexes	8. *novae-zelandiae* nom. nov.
	Thorax nearly all black in male	9. *harrisi* Tonn.
10.	Wings with conspicuous markings; R_4 nearly half as long as R_5	12. *maculipennis* Tonn.
	Wings unmarked or at most with a slight dark cloud at the tip; R_4 much shorter	11.
11.	Wings with a strong yellow tinge, tip slightly darkened; abdomen red (female)	12.
	Wing not strongly yellow, tip not darkened	13.
12.	Thorax slate grey	10. *philpotti* Tonn.
	Mesonotum reddish	11. *rutila* Edw.
13.	Fusion of R and M punctiform; first segment of front tarsi much shorter than the tibae	13. *punctifusa* Edw.
	Fusion of R and M long and distinct; first front tarsal segment little if any shorter than the tibiae	14.
14.	Wings brownish	14. *carbonaria* Tonn.
	Wings hyaline	15.
15.	Abdomen entirely shining black	15. *chiltoni* Tonn.
	Abdomen with yellowish ochreous markings	16.
16.	Abdominal segment 1-4 (♂) or 1-7 (♀) practically all ochreous, 5-7 in ♂ all black; base of R_4 generally well beyond tip of R_1; ninth tergite of male narrowed to the tip	17.
	Abdominal segments 2-4 with dark basal band or all dark (♂) or with lateral spots (♀); base of R_4 usually below tip of R_1; ninth tergite of male broad and rounded apically	18.
17.	Antennae longer; knob of halteres brownish; R_5 rather curved at end; costa stopping at the first third of the distance between the tip of R_5 and M_1	16. *campbelli* Tonn.
	Antennae shorter; halteres all yellow; R_4 rather straight; costa reaching the middle of the distance between the tips of R_4 and M	17. *ruficauda* Tonn.
18.	Hypopleurite blackish or dark brown (♂♀); prothorax, first abdominal segment and usually hind coxae blackish in ♂; halteres yellow	18. *agricola* Marsh.
	Hypopleurites ochreous; first abdominal segment and hind coxae yellowish in male	19.
19.	Prothorax dark; side pieces of hypopygium with short bristles only	19. *curtisi* Edw.
	Prothorax yellow; side pieces of hypopygium with three long bristles on the inner side, two median dorsal and one apical ventral	20.
20.	Mesonotum usually with three dark stripes; only the last segment of the antennae distinctly longer than broad	20. *rufipectus* Tonn.
	Mesonotum almost all ochreous; last 6-8 antennal segments each distinctly longer than broad	21. *ohakunensis* Edw.

1. **Platyura brevis** n.sp. Tonn. (Fig. 160.)

♂ *Head* with appendages dark. *Thorax* orange, mesonotum more reddish with bare lines between acrostichal and dosocentral series of bristles. *Abdomen* with five first segments orange with dark posterior border, last two visible segments dark. Hypopygium dark, structure according to fig. 160; claspers thick at base and suddenly thin in their last half. *Legs* yellowish-orange, darker on tarsi. *Wings* quite clear; Sc short not quite reaching level of base of Rs. Base of R_4 under tip of R_1; all veins reaching margin with exception of An. Halteres with a dark knob.

Length of body and wing 2½ mm.

♀ All the abdominal segments orange narrowly bordered with brown posteriorly.

A female from Ohakune has R_4 shorter and more vertical, ending in costa, about twice its length distant from tip of R_1. It is safer to consider it as an aberrant specimen rather than the representative of a distinct species so long as a male of the same locality is not obtained.

Type: Lake Brunner (Tonnoir) 2nd Feb., 1922, in Cawthron Inst. coll.

Paratypes: Nelson (Tonnoir), Nov. to Mar.; Wellington, Dec., 1921; Mt. Grey (Campbell) 23rd Feb., 1924.

The length of Sc is variable, it sometimes reaches the base of Rs; also the length of the stalk of M is rather variable.

2. **Platyura subbrevis** n. sp. Tonn. (Fig. 159.)

♂ *Head* brown above, mouth-parts orange, also scape of antennae, flagellum brown. *Thorax* orange, mesonotum darker with a tinge of grey. *Abdomen:* five first segments of same colouration as mesonotum, last segments and hypopygium dark brown. Hypopygium with short claspers ending in a blunt point, fig. 159. *Legs* yellowish-orange, tibiae and tarsi darker. *Wings* hyaline; Sc ending at level of base of Rs; R_4 oblique, ending at a distance from R_1 equal to its own length; An. very faint, short. Halteres with yellowish stem and darkish knob.

♀ General colouration lighter; distinct from *brevis* by the orange scape. Mesonotum not darkened, abdomen orange with sharp brown hind border to segments 2-5, the last one nearly all black. Antennae relatively shorter than in male.

Length of body 3 mm., wing 2¾ mm.

Type Aniseed Valley (Tonnoir) 1st Dec., 1923, in Cawthron Inst. coll.

Allotype: *idem.*

3. **Platyura albovittata** n.sp. Tonn.

♂ *Head* and appendages dark brown. *Thorax* brown, the mesonotum with dark evenly spread pubescence. *Abdomen* dark brown, hypopygium very small and hidden. *Legs* brown, femora and tibiae somewhat lighter, external spur of middle and hind tibiae much reduced. *Wings:* Sc reaching origin of Rs, R_4 rather short, placed at a good distance from R_1; An. nearly reaching the hind border; membrane brown with a transverse narrow curved band from tip of R_1 across fRs, middle of M_1 and M_2 and stopping a little before end of

Cu_1; also a lighter longitudinal space below base of M. Halteres with yellow stem and dark thick knob.

Length of body and wing 3½ mm.

Type: Reefton (Tonnoir) 13th Jan., 1922, in Cawthron Inst. coll.

4. **Platyura marshalli** nom. nov. (Fig. 163.)

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 281 (*Platyura flava*, preoccupied).

This is a rather widespread species; the type's hypopygium as shown in fig. 163. Besides the type's locality: Lincoln, it is known from: Auckland (Broun) in Hutton's collection; Nelson, 14th and 28th Nov., 1923; Aniseed Valley, 1st Dec., 1923; Wellington, 10th Mar., 1923 (Tonnoir).

5. **Platyura lamellata** n. sp. Tonn. (Figs. 38, 161.)

♂ *Head* brownish, palpi dark, antennae with scape somewhat yellowish, especially below, flagellum dark. *Thorax* brownish, mesonotum more greyish on disc and covered with uniform black pubescence. *Abdomen* brown, posterior border of segments yellow. Hypopygium as in fig. 161; ninth tergite distinctly longer than its finger-like lateral appendages which carry only a pair of terminal bristles, lower processes hooked with a dorsal spine and a few ventral very small teeth. *Legs* yellowish, tarsi darker. *Wings* hyaline, Sc ending in front of base of Rs; M_2 and Cu_1 not reaching wings border (this is not always the case); An. incomplete. Halteres yellow.

Length of body and wing 3½ mm.

Type: Dun Mt. (Tonnoir) 5th Jan., 1922, in Cawthron Inst. coll.

Paratypes: 2 ♂ coll. Hutton without locality; Akaroa, 10th Dec., 1924—Goose Bay, 4th Feb., 1925; Christchurch 10th Nov., 1924 (Tonnoir).

Some of the specimens are much darker than type, there is no yellow at base of antennae and at posterior border of abdominal segments.

This species is very nearly related to *P. marshalli* from which it differs mainly by the structure of the hypopygium. In *marshalli* the finger-like processes are as long as the tergite, and the sternal processes are looped.

6. **Platyura proxima** n.sp. Tonn. (Fig. 162.)

♂ *Head* and antennae black, palpi and proboscis yellow. *Thorax* blackish-brown with a slight cinereous pruinosity on notum which carries uniform pubescence. *Abdomen* dark brown with inconspicuous touch of orange on posterior border and on sides of segments. Hypopygium with tergite large and bilobed and twice as long as its finger-like lateral appendages which are provided with two terminal bristles and a row of fine dorsal ciliae, sternal appendages nearly as in P. *flava*. *Legs* yellowish-brown. *Wings* hyaline; Sc reaching the origin of Rs, M_3 and Cu_1 not reaching the wing border; An. incomplete.

Length of body and wing 3½ mm.

Type: Aniseed Valley (Tonnoir) 23rd Mar., 1922, in Cawthron Inst. coll.

7. **Platyura brookesi** n.sp. Edw. (Fig. 164.)

♂ *Head* blackish above, slightly dusted with grey. Face brownish. Palpi, scape, and base of flagellum ochreous, rest of flagellum black. In ♀ the flagellar segments, except first and last, are scarcely as long as broad. *Thorax* almost uniformly brownish-ochreous, sternopleurite and hypopleurite somewhat darkened in ♂. Mesonotum not striped; uniformly clothed with short black bristles all over, without any bare lines. A group of small bristles behind prothoracic spiracles. *Abdomen* dark brown; posterior margins of tergites and the whole venter ochreous. Hypopygium much as in *P. lamellata* Tonn. and allied species; ninth tergite slightly emarginate apically but scarcely bilobed; the finger-like lateral appendage with 6-7 dorsal and 2 terminal bristles, all of about equal length. *Legs* ochreous; tarsi and spurs dark; the fine tibial setae irregularly arranged; outer spur of hind tibia half as long as the inner. First front tarsal segment slightly shorter than tibia. *Wings* clear, veins all dark. Sc ending opposite base of Rs; R_4 oblique, ending about its own length distant from tip of R_1; costa extending almost one-third of distance from R_5 to M_1; *r-m* fusion short, only about a quarter as long as stem of median fork; An. not reaching margin. Halteres ochreous.

Length of body 4½ mm.; wing 4-4½ mm.

Type: Mt. Albert, Auckland (A. E. Brooke), in Brit. Mus. coll. Allotype ♀, 1919.

8. **Platyura novae-zelandiae** nom. nov.

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 278, pl. 13, fig. 5-7. *(Platyura magna* preoccupied).

The type, a male, has the thorax orange with three dark mesonotal stripes, scutellum blackish-grey, pleurae only in part darkened; abdomen with segments 3-5 light coloured, the fourth being the palest with some whitish reflections; hypopygium testaceous.

Allotype rather light orange with only the knob of halteres and flagellum blackish.

The type and allotype, both in Prof. Marshall's collection, come from the Ruahine Mountains. Another male in Mr. Hudson's collection comes from Karori, 20th Feb., 1910.

9. **Platyura harrisi** n.sp. Tonn. (Fig. 41.)

♂ *Head* black, epistome and mouth-parts orange; antennae black, a point on under side of two first segments silvery or orange according to the position in which it is seen. *Thorax* black with conspicuous silvery gloss on pleurae and postnotum; mesonotum with cinereous dusting. *Abdomen* black, fourth segment whitish-yellow, a slight silvery gloss at base of segments 2 and 3; hypopygium dark. *Legs* anterior coxae dark at base, orange distally, hind coxae completely dark; anterior femora yellowish, posterior ones brownish; all tibiae yellowish-brown, tarsi darker. *Wings* with dark spot on anterior border towards tip, this spot growing fainter downwards, a dark suffusion on the rest of tip and one of the tip of An. Halteres brown with somewhat lighter stem.

♀ Colouration quite different from that of the male: face, episternum and mouth-parts bright orange. *Thorax* completely dark orange,

pleurae silvery as in male, mesonotum with grey dusting. *Abdomen* dark orange obscure on dorsum on account of dense adpressed pubescence. *Legs* entirely yellowish-orange, tarsi darker. *Wings* as in male. Halteres lighter.

Length of body 7½ mm., wing 6 mm.

Type: Aniseed Valley (Tonnoir) 1st Dec., 1923, in Cawthron Inst. coll.

Allotype: Riccarton (Gourlay) 19th Jan., 1923.

Paratypes: Ohakune (Harris) 15th Feb., 1920; Dallington (S. Lindsay), 10th Jan., 1922; Akaroa, 10th Dec., 1924; Hilltop, 10th Jan., 1925 (Tonnoir)

Specimens in Brit. Mus. Horn Hay (Harris) 15th Feb., 1920; Governors Bay (Tapley), 2nd Jan., 1923; (H. Crow), 3rd Dec., 1922; Gollans Valley, Wellington (Hudson); Dallington (Gourlay) Jan., 1922.

Some females from Ohakune have mesonotum with three broad and nearly confluent blackish stripes; *abdomen* nearly entirely dark on posterior half of segments. They may belong to another species; however, the males from that locality do not differ from the others.

10. **Platyura philpotti** n.sp. Tonn.

♀ *Head* blackish grey, mouth-parts orange; antennae dark brown, scape a little lighter. *Thorax:* mesonotum slate-grey, its sides somewhat rufous; pleurae and postnotum dark with silvery pruinosity. *Abdomen* shining red, flat, rather broad. *Legs* yellow-orange, posterior coxae blackish at extreme base. *Wings* conspicuously yellow chiefly on anterior border; apex somewhat smoky, chiefly between Rs and M. Tip of Sc reaching costa a good distance after base of Rs. All veins reaching wing border including An. Halteres orange.

Length of body 8½mm., wing 7 mm.

Type: Dun Mt., Nelson (A. Phillpot) 14th Dec., 1922.

11. **Platyura rutila** n. sp. Edw.

♀ *Head* black above and on face. Palpi and labium yellowish, penultimate segment of palpi blackish above at tip. Antennae entirely black; segments 2-5 of flagellum about as long as broad, the rest distinctly longer. *Thorax* covered with greyish bloom all over; mesonotal integument uniformly red, postnotum somewhat darkened; prothorax and pleurae black. Mesonotum with short black bristles, numerous at sides, also arranged in a double acrostichal row and treble dorsocentral rows, bare areas between these rows. *Abdomen* shining red. *Legs* orange, tarsi darkened; spurs and extreme base of hind coxae black. Outer spur of hind tibiae not much shorter than inner. First front tarsal segment very slightly longer than tibia. *Wings* with deep yellow tint all over, tip a little smoky below R_5; Sc reaching well beyond base of Rs; R_4 arising below tip of R_1; costa short, reaching only a quarter of the distance from R_5 to M_1; *r-m* fusion not much shorter than stem of median fork. An. reaching the margin. Halteres orange.

Length of body, 6 mm.; wing, 5½ mm.

Type: Taumaranui (T. R. Harris); taken on window, Dec., 1922, in Brit. Mus. coll.

12. **Platyura maculipennis** n. sp. Tonn. (Fig. 36.)

♂ *Head* dark brown, antennae ochreous, last six segments darker, palpi ochreous. *Thorax* ochreous-brown, pronotum and sides of mesonotum somewhat lighter. *Abdomen* uniformly ochreous-brown; hypopygium the same colour, claspers ending in a simple claw, side-pieces without long bristles. *Legs* yellowish, hind coxae with a dark streak externally, tip of tibiae 2 and 3 black. *Wings* with dark tip and spot placed on fusion of Rs and M and extending on fM, also a darkish cloud near tips of Cu_2 and A; tip of Sc a little over origin of Rs; R_4 rather long, about equal to a third of R_5. All veins reaching wing-margin including A. Halteres yellow.

♀ Similar to male.

Length of body and wing 4½ mm.

Type: Wiltons Bush (Tonnoir) 2nd Dec., 1921, in Cawthron Inst. coll.

Allotype: Wellington (Tonnoir), 1st Dec., 1921.

Paratypes: Khandallah Dec., 1921; Wairakei 6th March, 1923, Wellington 10th March, 1923 (Tonnoir).

Specimens in Brit. Mus.: Ohakune (Harris).

There is a certain amount of variation in the colouration of the mesonotum which may present traces of dark bands; the abdomen is sometimes lighter than in the type. This species has not been found yet in the South Island.

13. **Platyura punctifusa** n. sp. Edw. (Figs. 37, 165.)

♂ *Head* blackish. Labium ochreous. Palpi missing. Antennae black, only second segment partly ochreous; flagellar segments somewhat flattened, deeper than long (only the first few remaining). *Thorax* blackish, somewhat dusted with grey; shoulders extensively ochreous, also scutellum. Rather narrow shining bare stripes between lateral, dorsocentral, and acrostrichal bristles, the last named in about four irregular rows. *Abdomen* black, slightly shining, segments 3-5 obscurely ochreous at base. Hypopygium small, of the usual type, but side-pieces and claspers short; ninth tergite transverse. *Legs* brownish-ochreous,, femora darkened at base beneath, spurs black, outer spur on hind tibiae a little over half as long as inner. First tarsal segment on front legs only about two-thirds as long as tibia. *Wings* nearly clear, veins dark. Sc ending just beyond base of Rs; R_4 moderately long, arising just beyond tip of R_1; costa reaching about half-way from R_5 to M_1; *r-m* fusion very short, almost punctiform; An. slender but reaching hind margin. Halteres ochreous.

Length of body, 3·8 mm. wing, 3½ mm.

Type: Ohakune (T. R. Harris), Jan., 1924, in Brit Mus. coll.

14. **Platyura carbonaria** n. sp. Tonn.

♂ *Head* and appendages completely blackish-brown. *Thorax* black, moderately shining; mesonotum with three stripes of pubescence separated by bare lines. *Abdomen* flat, broadened distally. Hypopygium of pincers type with two teeth at end of claspers. *Legs* darkish yellow, hind coxae black, anterior ones brownish-yellow. *Wings* brownish, more intensively on anterior border; Sc reaching

costa a little over origin of Rs; all veins reaching wing-border. Halteres brown.

Length of body and wing 4½ mm.

Type: Purau Bay, Banks Peninsula (Tonnoir) 24th Feb., 1922, in Cawthron Inst. coll.

15. **Platyura chiltoni** n. sp. Tonn.

♂ *Head* black, antennae and palpi dark brown. *Thorax* black, mesonotum with very slight greyish reflection, pubescence nearly evenly distributed. *Abdomen* shining black, much flattened and widening distally. Hypopygium rather large, apparently (seen in situ) with simple toothed claspers. *Legs* with front coxae black at base, posterior ones completely dark; femora and tibiae yellowish-brown, tarsi darker, base of posterior femora dark. *Wings* hyaline, tip of Sc slightly over origin of Rs; R_4 short, its origin well beyond tip of R_1; all veins reaching wing-margin. Halteres brown.

Length of body and wing 3 mm.

Type: Cass (Tonnoir) 25th Feb., 1925, in Canterbury Mus. coll.

16. **Platyura campbelli** n. sp. Tonn. (Fig. 40.)

♂ *Head* orange, brownish on top, mouth-parts and base of antennae yellowish, flagellum brown. *Thorax* orange, the black pubescence of mesonotum arranged in stripes. *Abdomen* elongate and slender, four first segments orange, the following one dark brown. Hypopygium dark orange, of pincers type with two teeth at end of claspers. *Legs* yellowish. *Wings* subhyaline, Sc reaching costa slightly after origin of Rs; all veins reaching wing-border. Halteres yellow, knob brown.

Length of body 6 mm., wing 5 mm.

♀ Not so slender as the male; *abdomen* completely yellowish, flat and widened distally.

Length of body 4 mm., wing 4½ mm.

Type: Christchurch (Tonnoir) 20th Feb., 1925, in Canterbury Mus. coll.

Allotype: Deans Bush, Christchurch (Tonnoir), 7th Mar., 1925.

Paratypes. Purau Creek, 20th Feb., 1922; Deans Bush, 10th Nov., 1924 (Heighway); Horseshoe Lake, Christchurch (Heighway) 4th Nov., 1924.

Specimens in Brit. Mus.: New Brighton, 11th Nov., 1922; Mt. Grey, Jan., 1925 (Campbell).

17. **Platyura ruficauda** n. sp. Tonn.

♂ Similar to the preceding species but not so slender; antennae relatively shorter, also yellowish at base. Palpi and face yellow, vertex brown. *Thorax* yellow, disc of mesonotum somewhat darkened. *Legs* yellow. *Abdomen* with five first abdominal segments yellowish-brown, the last ones brown. Hypopygium yellow. *Wings* and venation as in preceding species. Halteres completely yellow.

Length of body and wing 3 mm.

Type: Aniseed Valley (Tonnoir) 22nd Mar., 1922, in Cawthron Inst., coll.

18. **Platyura agricola** Marsh.
Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 279.

This is a rather common darkish species with elongate abdomen.

The female differs from the male in having the mesonotum mainly ochreous with three dark stripes more or less marked; *abdomen* ochreous, tergites with lateral basal dark spots. Sometimes the male has light hind coxae.

Nelson 14th and 21st Nov., 1923; Christchurch 14th Oct., 1924, and 17th Mar., 1925; Cass, Nov., Dec., and Feb., 1924-25 (Tonnoir); Governors Bay (Tapley): White Rock (Campbell); Ohakune (Harris).

19. **Platyura curtisi** n. sp. Edw.

♂ Closely resembles *I. agricolae,* especially in venation and hypopygial structure, but differs as follows:—

Hypopleurite ochreous. First abdominal segment brownish-ochreous, hardly darkened. Hind coxae all yellowish. Knob of halteres dark.

Type: Queenstown (L. Curtis), 11th Feb., 1922, in Brit Mus. coll.

20. **Platyura rufipectus** n. sp. Tonn.

♂ *Head* greyish-brown, palpi orange also scape and basal half of the 3rd segment of the antennae the rest of which is brown. *Thorax* orange, mesonotum with three dark bands (sometimes the two external ones are present or they are all missing); hypotergites and postnotum entirely or partially obscure. *Abdomen* mostly orange, segments 2 to 5 with black base, distal segments all black. Hypopygium dark, side pieces with long bristle on internal side, claspers with two terminal teeth. *Legs* yellowish-orange, tibiae and tarsi darker. *Wings* subhyaline; tip of Sc at level of origin of Rs; R_4 rather perpendicular, not longer than distance from its tip to tip of R_1; all veins reaching wing-margin. Halteres orange, the knob somewhat infuscated (sometimes completely orange).

♀ Similar to male but lighter; only two anterior dark stripes on mesonotum, the rest of *thorax* all orange. *Abdomen* with segments 2 to 5 with dark base (sometimes the base of these segments dark only on the exterior corner).

Length of body 5½ mm., wing 4½ mm.

Type: Days Bay (Tonnoir) 28th Nov., 1921, in Cawthron Inst. coll.

Allotype: Aniseed Valley (Tonnoir) 21st March., 1922.

Paratypes: Waiho 10th Jan., 1922; Nelson 17th Sept., 1923; Reefton 13th Jan., 1922; Lake Brunner, 3rd Feb., 1922 (Tonnoir).

Specimens in Brit. Mus.: Ohakune (Harris), Dec., 1922, Dec., 1923.

There is a certain amount of variation in the colouration of the thorax which may be nearly completely orange; this species comes therefore very near the next one from which it differs, however, by the structure of the antennae and the hypopygium.

21. **Platyura ohakunensis** n. sp. Edw.

♂ *Head* black above; face, palpi, scape and under side of first two flagellar segments yellowish, remainder of antennae black. First

six flagellar segments about as long as broad, the last eight distinctly lengthened, penultimate about twice as broad. *Thorax* bright ochreous, the only dark markings being a pair of somewhat oval spots in front of scutellum, representing the darkened hind ends of the lateral mesonotal stripes, and a blackish triangle at base of postnotum adjoining scutellum. Mesonotal bristles a little longer than usual, acrostichal series in three irregular rows, separated by a rather wide bare stripe from dorsocentral series. *Abdomen* bright ochreous; black bands occupying about the basal halves of tergites 2 and 3, also a narrower black band at base of tergite 4; segments 6-8 black. Hypopygium entirely black, rather larger and stouter than in *P. rufipectus;* the three pairs of long bristles considerably stouter and set on distinct tubercles. Legs ochreous, tarsi darkened; spurs and under sides of trochanters black; hind tibial spurs subequal in length; first front tarsal segment about four-fifths as long as tibia. *Wings* slightly yellowish, veins dark; venation as in *P. rufipectus.* Halteres ochreous.

Length of body 6½ mm.; wing 5½ mm.

Type: Ohakune (T. R. Harris), Nov., 1922, in Brit. Mus. coll.

10. Genus SCIARA Mg.

This cosmopolitan genus is represented in New Zealand only by a moderate number of species. *S. rufescens,* Hutton, which is insufficiently described has been omitted from the list. Besides these described here we have in collection six to eight species represented by too scanty a material to draw from them accurate descriptions.

1.	Branches of M and Cu with macrotrichia	2.
	Branches of M and Cu bare	8.
2.	Cell M_1 slightly constricted before the tip	3.
	Cell M_1 not constricted	4.
3.	Mesonotum dull, ochreous to brownish	1. *constrictans* Edw.
	Mesonotum shining black	2. *nubeculosa* Edw.
4.	Wing-membrane with macrotrichia at the tip	6. *xanthonota* Edw.
	Wing-membrane without macrotrichia	5.
5.	Mesonotal hair partly pale	6.
	Mesonotal hair all blackish, thorax shining black	7. *ovalis* Edw.
6.	Veins bordered with grey; mesonotum brownish	3. *griseinervis* Edw.
	Veins not bordered with grey	7.
7.	Entirely dark species	4. *vicarians* Edw.
	At least the thorax more or less ochreous	5. *rufulenta* Edw.
8.	Cell M_1 swollen at the base, much contracted towards the tip	8. *contractans* Edw.
	Cell M_1 normal, not contracted apically	9.
9.	Each tibia with a single short spur	15. *unicalcarata* Edw.
	Posterior tibiae each with two spurs	10.
10.	R_1 ending above or scarcely before fM	11.
	R_1 ending well before fM	13.
11.	Knob of halteres pale, at least at the tip	16. *annulata* Mg.
	Knob of halteres black	12.

12.	Mesonotum somewhat shining; scape black	9. *zealandica* Edw.
	Mesonotum dull; scape light	10. *jejuna.* Edw.
13.	Body all yellow	*sp. inc.*
	Body all black, mesonotum shining	14.
14.	Hypopygium very much swollen	11. *philpotti* Tonn.
	Hypopygium normal	15.
15.	Palpi yellow	16.
	Palpi dark	17.
16.	Mesonotum very much shining; acrostical hairs inconspicuous; no distinct hind tibial comb	13. *harrisi* Edw.
	Mesonotum moderately shining with distinct rather numerous acrostical hairs; a distal hind tibial comb	12. *marcilla* Hutt.
17.	Hypopygium with ventral basal hair tuft	17. *agraria* Felt.
	Hypopygium without hair tuft	14. *tapleyi* Edw.

1. **Sciara constrictans** n. sp. Edw. (Fig. 177.)

Head blackish, heavily dusted with grey. Eye-bridges in contact and 3-4 facets wide; middle ocellus touching eye-bridge. Antennae with scape ochreous, except in the darkest specimens, where it is sometimes dark brown; flagellum black; flagellar segments in male nearly four times as long as broad (the first two or three rather shorter), with short necks, pubescence a little longer than diameter; flagellum of female not much shorter than that of male. Palpi yellowish; first segment broad; second slender, about twice as long as broad, third half as long again as second. *Thorax* dull rather variable in colour, mesonotum usually ochreous or brownish-ochreous, with four chestnut-brown stripes, which in the lightest specimens are almost obsolete and in a few of the darkest are practically black and almost confluent; interspaces more or less dusted with grey; pleurae mainly or entirely blackish or dark brown. Acrostichal and dorsocentral hair pale, mixed with some longer black bristles posteriorly; Scutellum with 6-8 marginal black bristles. *Abdomen* dark brown; tergites 2-5 or at least 3 and 4 generally more or less yellow at base in middle; in the lightest specimens there are almost complete transverse yellow bands. Segments 5-7 in female mainly membranous, light brownish, with a pair of narrow dark sublateral stripes where the chitin is thicker. Hair generally pale, but dark in some of the darker specimens. Male claspers about three times as long as broad, tip rounded, with one rather strong apical spine; on inner side towards tip about 6-10 bristles. Last segment and anal lamallae of female black. *Legs* slender, ochreous, tibiae and tarsi darkened; spurs yellow, about twice as long as tibial diameter; hind tibial comb indefinite. Claws moderately large, with tuft of hairs at base, but without teeth. *Wings* nearly hyaline, veins all dark except base of stem of M which is faint; outer third or half of stem of median fork and branches of M and Cu setose, in the darker specimens often rather distinctly though narrowly margined with grey. R_1 about as long as R and ending just before fM; R_5 gently curved, ending just proximal to tip of M_3 in ♂, but above or slightly distal to it in ♀; costa extending over two-thirds of distance from R_5 to M_1; *r-m* about as long as basal section of M; median fork slightly but generally quite distinctly constricted beyond middle; stem of cubital fork moderately long; An.

very short. Halteres mainly ochreous, base of club generally more or less darkened.

Length of body, ♂ 2·8-3·5 mm.; ♀ 4-5 mm.; wing, ♂ 2·8-3·2 mm., ♀ 3½-5 mm.

Apparently common throughout the country. Type ♂ and allotype ♀ : Ohakune (T. R. Harris), Sept., 1922, in Brit. Mus. coll. Other specimens from Ohakune (Harris); Otira, Clifton and White Rock (Campbell); Governors Bay (Tapley); Queenstown and Ben Lomond (Curtis); Dunedin (Fenwick); Kaikoura 22nd Feb., 1922; Mt. Arthur, 26th Dec., 1921; Waiho 19th Jan., 1922; Cass, 21st Feb., 1925; Goose Bay, 5th Feb., 1925 (Tonn.).

2. **Sciara nubeculosa** n. sp. Edw. (Figs. 42, 183.)

Very similar to *S. constrictans* in structural characters, venation and hypopygical characters being the same, but differs as follows:—

Palpi and scape of antennae dark. *Thorax* almost entirely shining black; no distinct black bristles among the pale dorsocentral hairs. *Abdomen* of male shining black, of female dark brown. Posterior coxae dark. Posterior veins more distinctly grey-bordered; a dark cloud over base of median fork, and the narrow portion of cubital fork filled out with dark grey; these markings more distinct in female than in male. Knob of halteres mainly dark.

Type ♂ and paratype ♀ : Dunedin (C. C. Fenwick), in Brit Mus-coll.; Ohakune (T R. Harris); 1 ♀, Mt Arthur, 21st Dec., 1921 (Tonn.).

3. **Sciara griseinervis** n. sp. Edw. (Fig. 188.)

Similar in structure and colour to *S. constrictans*, differing as follows:—

Size smaller. Antennae a little shorter. Yellow marks on abdomen only on segments 2 and 3, sometimes very small or absent. Anal lamellae of female ochreous. Veins rather more distinctly margined with grey, especially the branches of M and Cu. R_1 distinctly shorter than R, and ending further from fM. R_5 rather straighter and ending in both sexes distinctly proximal to tip of M_3. Stem of median fork entirely faint and with few or no macrotrichia; fork not at all constricted. Knob of halteres entirely blackish.

Length of body, about 2 mm.; wing about 2½ mm.

Type ♂ : Dunedin (C. C. Fenwick), in Brit. Mus. coll. Paratype 6 ♂ 5 ♀.

Although the hypopygium seems identical with that of *S. constrictans*, the differences enumerated above appear constant and will suffice for the separation of the species.

4. **Sciara vicarians** n. sp. Edw. Fig. 175.)

Very similar to the darkest form of *S. constrictans*, the hypopygium being the same, and the mesonotum having numerous small pale hairs mixed with black bristles on the dorso-central stripes; but size smaller; palpi somewhat darkened, scape of antennae black; *thorax* all black, at least in the male, and with less conspicuous grey dusting between the four bare mesonotal stripes; *abdomen* all black; R_1 rather longer

and ending almost opposite fM; median fork not constricted; veins not at all dark-margined.

Length of body, 2½-3 mm.; wing 3-4 mm.

Type ♂ : Governors Bay (J. F. Tapley), in Brit. Mus. coll.; paratype 4 ♂ 1 ♀ ; Mt. Arthur, 20th Dec., 1921; Hill Top, 16th Jan., 1925 (Tonn.)

This is extremely similar to the European *S. autumnalis* Winn.; but there is a slight difference in the shape of the clasper, and the abdominal hair is mainly or all dark. Since there are several nearly allied but clearly distinct species of this group in New Zealand, some of which appear to be indigenous, it is perhaps wisest to treat this form also as distinct from the European one.

5. **Sciara rufulenta** n. sp. Edw. (Figs. 173, 174.)

♂ *Head* dark brown above, heavily dusted with grey. Face yellowish. Eye-bridges three facets wide and in contact; middle ocellus touching the point of junction. Antennae with scape ochreous, flagellum black, segments barely three times as long as broad in male, about twice as long as broad in female. Palpi yellow, first two segments subequal, last longer. *Thorax* in typical form almost uniformly ochreous, only middle part of pleurae darker. Mesonotum somewhat shining, bristles and hair all black; acrostichal hairs short, in two rows; dorsocentral hairs practically in one row, mostly long and bristly, with a few short ones towards the front between the longer bristles. Scutellum with 4-6 marginal bristles. *Abdomen* dark brown, without yellow markings dorsally, lateral membrane and venter ochreous, more conspicuously so in female. Hypopygium ochreous, in structure almost identical with that of *S. constrictans*, but the clasper more pointed at tip. Anal lamellae of female dark brown. *Legs* ochreous, claws and spurs as in the other species of this group. *Wings* hyaline, anterior veins dark, posterior veins paler. Branches of M and Cu setose, also the end of stem of median fork, especially in female. Venation as in *S. constrictans*, except that R_1 is slightly shorter than R, and the median fork is not at all constructed. Knob of halteres entirely blackish.

Length of body, 2-2½ mm.; wing 2½-3 mm.

Type: Dunedin (C. C. Fenwick); paratypes 3 ♂ 8 ♀ .: Kaitouna 23rd Feb., 1922; Otira 9th Nov., 1922; Mt. Arthur Dec., 1922; Waiho 29th Jan., 1922; Nelson 5th Sept., 1922; Hill Top, 16th Jan., 1925; Lake Brunner 5th Feb., 1922.

This may perhaps be Hutton's *S. rufescens* which was described from Dunedin, although the shorter vein R_1 is inconsistent with Hutton's description. In any case his name is preoccupied by *S. rufescens* Zett.

Besides the typical form described above numerous specimens have been examined from Ohakune (Harris) and Governors Bay (Tapley) in which the thorax is darkened wholly or in part. The lightest specimens are darkened only on the anterior part of the sternopleura; others have the whole sternopleura and pleurotergites blackish, and in a few extreme forms the mesonotum is also almost wholly blackish, as well as the scape of the antennae. Structurally no differences are apparent, and these specimens are therefore regarded as dark varieties of *S. rufulenta.*

6. Sciara xanthonota n. sp. Edw.

♀ Resembles the typical form of *S. rufulenta* rather closely, differing as follows:—

Face blackish. Middle part of pleurae darker, contrasting with the ochreous sternopleura and mesonotum. Lamellae of ovipositor brownish-ochreous. R_1 rather longer, almost reaching level of fM. Membrane of wings with rather numerous macrotrichia at tip in cells M_1 and M_3.

Length of body, 3 mm.; wing, 3½ mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratypes 8 ♀ Nov.-Dec., 1922 and Nov., 1923.

7. Sciara ovalis n. sp. Edw. (Fig. 176.)

♂ *Head* black, somewhat shining above, face dull. Eye-bridges in contact and three facets wide. Antennae all black, flagellar segments under three times as long as broad, pubescence as long as diameter. Palpi brownish ochreous, segments subequal in length. Thorax black, moderately shining, without grey dusting; mesonotal hairs all black; acrostichals very short and sparse, dorsocentrals also rather short; scutellum with four longish marginal hairs and some shorter ones. *Abdomen* dark brown above, lighter beneath. Hypopygium black, of moderate size; claspers oval, about twice as long as their width in middle, with a number of curved hairs on inner side towards tip. *Legs* ochreous, tarsi darkened; spurs brownish, about half as long again as diameter of tip of tibia; no definite hind-tibial comb. *Wings* slightly and uniformly greyish; branches of M and Cu setose; venation as in *S. griseinervis* except that R_5 ends almost level with tip of M_3. Halteres black except for base of stem.

Length of body, 2·2 mm.; wing, 2·8 mm.

Type: Ohakune (T. R. Harris); Nov., 1922, in Brit. Mus. coll.

8. Sciara contractans n. sp. Edw.

♀ *Head* shining black above, face dull blackish. Eye-bridges three facets wide and not quite touching; middle ocellus placed a little behind bridge. Antennae blackish, flagellar segments about two and a half to three times as long as broad. Palpi yellowish, first two segments subequal in length, third about twice as long as second. *Thorax* shining black, except scutellum and postnotum, which are dull black; mesonotal hairs short and inconspicuous. *Abdomen* brownish-ochreous, last two segments and ovipositor black. *Legs* ochreous; tarsi darkened; tibial spurs very short; claws moderately large and simple. *Wings* greyish, all veins darkened; branches of M and Cu bare. R_1 considerably shorter than R, but ending above or scarcely before fM; R_5 strongly curved, ending just distal to tip of M_3; costa reaching just over half-way from R_5 to M_1; median forks strongly narrowed towards tip; *r-m* about as long as basal section of M; stem of cubital fork moderate; An. obsolete. Halteres black.

Length of body, 3 mm.; wing, 3½ mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll.; Nov., 1922; paratype ♀ May-July, 1923.

A very distinct species, approaching the genus *Zygoneura* in venation.

9. **Sciara zealandica** n. sp. Edw. (Fig. 180.)

♂ *Head* black, scarcely shining above, face dull and rather narrow. Eye-bridges three facets broad and in contact in middle, slightly narrowed near eyes. Antennae black, flagellar segments in male with short necks, about two and a half times as long as broad, in female shorter and more slender. Palpi black, rather short, the three segments subequal in length. *Thorax* black, slightly shining, hair black, dorsocentral hair longish, acrostichal short and inconspicuous. *Abdomen* black, black-haired. Hypopygium moderately large, without basal ventral hair-patch, claspers stout, with a pair of longish curved bristles at the tip on inner side. *Legs* dark brown, almost black, front coxae and femora lighter. Spurs brownish, rather longer than tibial diameter; comb rather well-marked. *Wings* smoky, all veins darkened, branches of M and Cu bare. R_1 a little shorter than R, ending above or scarcely before fM; R_5 nearly straight, ending just proximal to tip of M_3; costa reaching over two-thirds of distance from R_5 to M_1; *r-m* distinctly or much shorter than basal section of M; branches of median fork parallel and nearly straight; An. short. Halteres black.

Length of body, ♂ 2-2½, ♀ 3 mm.; wing, ♂ 2·3-2·8, ♀ 3½ mm.

Type: Okauia, Matamata (A. E. Brookes), in Brit. Mus. coll.; paratypes 1 ♂ 2 ♀, 18th Nov., 1922; Mt. Ruapehu, 4000 ft., (T. R. Harris); 1 ♂ Ohakune (T. R. Harris); 1 ♀ White Rock (J. W. Campbell); 1 ♂ Nov., 1922; Aniseed Valley, 22nd Mar., 1922; Okarahia, 5th Feb., 1922; Lake Brunner, 5th Feb., 1922; Cass, 21st Feb., 1925; Nelson, 28th Nov., 1923 (Tonn.).

10. **Sciara jejuna** n. sp. Edw. (Fig. 181.)

Resembles *S. zealandica,* but of slenderer build; scape of antennae light brownish; mesonotum quite dull; male claspers with a tuft of hairs at tip; legs lighter brown; costa longer, reaching over four-fifths of the distance from R_5 to M_1.

Type ♂: Ohakune (T. R. Harris), Nov., 1923, in Brit. Mus. coll.; allotype ♀ May-July, 1923.

11. **Sciara philpotti** n. sp. Tonn. (Fig. 189.)

♂ *Head* black vertex shining, face dull, very narrow; palpi yellowish; antennae broken. *Thorax* little shining dorso-central hairs somewhat long behind, acrostrichal row composed of only one line of a few small hairs on anterior half of mesonotum. Scutellum with two apical bristles and a few hairs. *Abdomen* dull black with dark pubescence. Hypopygium very large, swollen, and as long as half of the rest of the abdomen and also much wider than abdomen, claspers hemispherical (fig. 189). *Legs* yellowish, spurs a little longer only than tibial diameter; no distinct hind tibial comb. *Wing* subhyaline, posterior veins rather weak; no macrotrichia on M or Cu; *r-m* equal to the basal section of M; R_1 not reaching the level of fM; tip of R_5 over level of tip of M_3; tip of costa at ⅔ of distance between R_5 and M_1; branches of M subparallel. Halteres with dark knob and yellow stem.

Length of body 2 mm., wing 2½ mm.

Type: Aniseed Valley (Tonn.) 22nd Mar., 1922, in Cawthron Inst. coll.

12. Sciara marcilla Hutt. (Fig. 185.)
Hutton, *Trans N.Z. Inst.*, 34, 1901, pl. 192.

The description of the type should be completed as follows:— ♂ *Head* black, slightly shining on vertex; face dull, as wide as basal segment of antennae; eye-bridge 2-3 facets wide; antennae entirely dark, flagellar segment twice as wide as long; palpi yellowish. *Thorax* black, mesonotum slightly shining with distinct rows of dorsocentral and acrostical hairs; shoulders slightly ferrugineous; scutellum with two apical bristles and a few shorter hairs. *Abdomen* less shining than thorax, dark brown with dark pubescence. Hypopygium with claspers rather similar to that of *S. constrictans* but terminal bristles more numerous. *Legs* dark ochreous. Tibial spurs equal to tibial diameter; hind tibial comb present. *Wing* clear, veins dark; branches of M and Cu bare; R_1 ending much before fM; tip of R_5 in front of that of M_3; tip of costa half way between R_5 and M_1; *r-m* equal to basal section of M; branches of M slightly divergent at end. Halteres with yellow stem and black knob.

Length of body and wing 2½ mm.

Type in Canterbury Mus. coll. without locality label.

13. Sciara harrisi n. sp. Edw. (Fig. 187.)

♂ *Head* black, somewhat shining on the vertex, face dull and narrow. Eye-bridges 2-3 facets wide. Antennae black, flagellar segments barely twice as long as broad. Palpi clear yellow, the three segments subequal in length. *Thorax* black, mesonotum considerably shining, with short black dorsocentral hair and very short and inconspicuous acrostrichal hair; scutellum with two black marginal bristles and some shorter hairs. *Abdomen* dull black, black-haired. Male hypopygium rather small, without ventral hair-patch, claspers rather elongate oval, with about four curved bristles on inner side at tip. *Legs* ochreous, tarsi darkened; spurs a little longer than diameter of tibia; no definite hind tibial comb. *Wings* nearly clear, all veins more or less darkened; branches of M and Cu bare. R_1 much shorter than R and ending well before fM; R_5 nearly straight and ending a little proximal to tip of M_3; costa reaching two-thirds of distance from R_5 to M_1; *r-m* shorter than basal section of M; branches of median fork slightly divergent apically, at least in male. Halteres with black knob.

Length of body or wing, 2-2½ mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratypes 2 ♂ 4 ♀; Dunedin (C. C. Fenwick); 1 ♂; Goose Bay, 4th Feb., 1925 (Tonn.).

A male from Utiku, 27th July,, 1917, and another from Mataroa, 30th Aug., 1917 (A. E. Brookes) differ from *S. harrisi* in having a strong apical spine on the clasper in addition to the subapical bristles, the structure being almost the same as in the American *S. actuosa*.

14. Sciara tapleyi n. sp. Edw. (Fig. 186.)

Closely resembles *S. harrisi* except that the palpi are dark brownish and the male claspers have a different form, being broadest before middle, tapering towards tip, which bears a short stout claw, the outer two-thirds with a few straight stiff bristles on inner side.

Type ♂ : Governors Bay (J. F. Tapley), in Brit. Mus. coll.; paratype 3 ♂ 1 ♀ ; Ohakune (T. R. Harris); 2 ♂ 2 ♀ ; ? Okauia (A. E. Brookes); 2 ♀.

15. **Sciara (Scatopsciara** n. subgen.) **unicalcarata** n. sp. Edw.

♀ *Head* dull black. Eye-bridges narrow, three facets wide at their origin, but narrowed to points separated by the width of two facets; middle ocellus well removed from eye-bridges. Antennae black, flagellar segments about twice as long as broad. Palpi black, middle segment shortly oval, much shorter than either first or third. *Thorax* dull black, hair all pale yellowish. Dorsocentral and acrostichal hairs in double rows, all about equally long. Scutellum with two short bristles and some shorter hairs. *Abdomen* dull blackish-brown; anal lamellae round. *Legs* dark brown, almost black. Each tibia with a single short spur, which is only about half as long as tibial diameter; hind tibiae with a strongly developed apical comb on inner side. *Wings* nearly clear; anterior veins strongly, posterior veins slightly darkened. Branches of M and Cu bare. R_1 much shorter than R and ending well before fM; R_5 slightly curved and ending just distal to tip of M_3; costa reaching nearly two-thirds of distance from R_5 to M_1; *r-m* about as long as basal section of M; branches of median fork straight and parallel; stem of cubital fork rather short; An obsolete. Halteres black.

Length of body 3 mm., wing 3 mm.

Type ♀ : Governors Bay (J. F. Tapley), 8th Sept., 1922, in Brit. Mus. coll.

In the absence of the inner spurs of the four posterior tibiae and the strongly developed hind tibial comb, as well as the short middle segment of the palpi this differs markedly from nearly all other species of the genus, and it seems justifiable to place it in a separate subgenus, for which the name *Scatopsciara* is proposed. The European S. *quinquelineata* Macq. has similar legs and palpi and may be regarded as the type of the subgenus. Another Oriental species of this group is also known to the junior author.

16. **Sciara annulata** Mg. (Figs. 43, 182.)

Numerous specimens from Ohakune, Governors Bay, Christchurch, White Rock, Nelson, Akaroa and Kaikoura. As in European examples the colour is rather variable, the halteres being sometimes almost completely black. Specimens (1 ♂ 2 ♀) from Mt. Albert and Titirangi (Brookes) apparently represent a light variety with yellowish coxae, less smoky wings and completely pale halteres.

The North American *S. prolifica* Felt. appears to be the same species, which is probably cosmopolitan.

17. **S. agraria** Joh. (Figs. 178, 179.)

Utiku, King Country (A. E. Brookes). Dunedin (C. C. Fenwick).

11. Genus SCYTHROPOCHROA End.

This genus is known only from the Seychelles, the Malayan region and New Zealand.

Scythropochroa nitida n. sp. Edw. (? *Mycetophila anarctica* Hudson.) (Fig. 44.)

♀ *Head* black, somewhat shining. Eye-bridges 3-4 facets wide and separated by about the width of two facets; face broad. Antennae black, flagellar segments about half as long as broad. Palpi rounded, black. *Thorax* shining black, mesonotum with three duller stripes, under dorso-central and acrostrichal hair, the former in about 3-4 the latter in two rows. Scutellum hairy all over. *Abdomen* dark brown, almost dull. Anal lamellae slightly deeper than long. *Legs* rather short, dark brownish-ochreous; spurs ochreous; claws rather large, swollen at base. *Wings* smoky; anterior veins dark; M and Cu bare. R_1 longer than R and ending slightly beyond fM; R_5 ending just distal to tip of M_3; costa reaching about three-quarters of distance from R_5 to M_1; median fork rather shorter than its stem, branches rather strongly divergent; base of cubital fork a little beyond the base of stem of median fork. Halteres black.

Length of body, or wing, 4½-5 mm.

Type: Little River, Christchurch (? E. S. Gourlay), in Brit. Mus. coll.; paratype 2 ♀, Jan., 1922; Waikari (? J. W. Campbell); 1 ♀ 19th Feb., 1919; Ohakune (T. R. Harris); 1 ♀ Dec., 1922; Reefton, 13th Jan., 1922; Aniseed Valley, 1st Dec., 1923 (Tonn.)

12. Genus OHAKUNEA nov.

Eyes bare; dorsal bridges broad but short, rather widely separated in the middle; ocelli rather close together, the laterals practically touching the eyes. Labium short. Palpi three segmented, apart from the rather long palpiger. Mesonotum with long bristles; pleurae bare; pleurotergites almost flat. *Abdomen* rather short, but seventh segment not retracted and even eighth visible externally. Hypopygium: ninth tergite large, swollen, spiny beneath; anal segment hidden beneath base of ninth tergite; claspers peculiar and totally unlike those of other Sciarinae. *Legs* slender; tibiae without bristles; spurs very short; claws small and simple; empodia small. *Wings* clothed with dot-like microtrichia and long curved macrotrichia over entire surface. Sc evanescent apically; Sc_2 near its base. Costa not extending beyond tip of R_5. Rs short and transverse, placed beyond middle of wing and above base of median fork; stem of median fork arising near base of wing; *r-m* therefore long, even longer than R_5. Cubital fork sessile, Cu_1 very faint towards the base.

Genotype, *O. bicolor*, n. sp.

Although this remarkable genus must evidently be referred to the Sciarinae on account of the venation and the presence of fairly definite eye-bridges, it is sharply marked off from all the other members of the subfamily by the very peculiar hypopygium, the excessively long *r-m* and the unproduced costa.

Ohakunea bicolor n. sp. Edw. (Figs. 45, 190, 191.)

♂ *Head* black; lower part of face and labium orange. Palpi black, last two elongate, longer than the first two together. Antennae with scape orange, flagellum black; flagellar segments cylindrical, rather elongate, but gradually becoming shorter apically, in both

sexes clothed with uniform long dense pubescence about twice as long as diameter of segments. Eye-bridges separated in middle by about the width of four of the large facets; broadest towards eyes. *Thorax* uniformly dull orange, bristles black; two very long ones and a few shorter ones on scutellum; dorsocentrals long; acrostichals short and inconspicuous. *Abdomen* blackish above, brownish below, genitalia ochreous; hypopygium as in figs. 190, 191; ovipositor with hairy oval lamellae. *Legs* with the coxae and trochanters orange, the rest black. First front tarsal segment fully as long as tibia. *Wings* appearing rather dark owing to the vestiture of macrotrichia; venation as in fig. 45. Halteres with pale stem and black knob.

Length of body, about 2½-3 mm.; wing, 3·2-3·7 mm.

Type: Ohakune (T. R. Harris); Mar., 1923, in Brit. Mus. coll.; allotype ♀ April, 1923; Mt. Grey (J. W. Campbell); 1 ♂, 23rd Feb., 1924; Kaikoura 19th Feb., 1922; Goose Bay, 4th Feb., 1925; Lake Brunner 4th Feb., 1922 (Tonn.).

130. Genus NEOPHNYXIA nov.

The diagnosis of this genus can be established only on the female, the male being still unknown; it is very closely related to *Phnyxia* but the eyes are conspicuously smaller and the legs much more reduced in size. In spite of the non-bridged eyes it has been found preferable to place this genus among the Sciarinae rather than among the Sciophilinae on account of the close affinities with Epidapus.

Genotype: *N. nelsoniana* n. sp.

Neophnyxia nelsoniana n. sp. Tonn. (Figs. 120-122, 192-194.)

♀ *Head* oval, elongate; antennae with their bases subcontiguous, inserted on foremost part of head, composed of 16 segments; scape as long as broad, pedicel twice longer, subpyriform; flagellar segments shorter than broad, with moderately numerous setae about as long as segments are high; last segment obconical, blunt, the whole antenna not quite twice as long as head. Eyes rounded placed right against the base of antennae and composed each of 25-30 round facets. Ocelli three, in a triangle at level of posterior margin of eyes which are well distant from them, no bridge being present. Palpi composed of one single round segment with a couple of setae at the end and a few sensory cones. *Thorax* composed only of the two pronotal lobes, which are much more chitinous than the rest of body, and of a cylindrical segment representing the meso- and meta-thorax fused together without any trace of sutures between the slerites. *Abdomen* with eight cylindrical segments, the last one conical, with terminal lamellae; each of the first eight segments does not show any trace of suture between tergum and sternum, their integuments are composed of a granulous membrane, the granulations of which are being formed by groups of 5-9 microscopical cones ending in a short seta; the integuments of thorax with exception of pronotal lobe are similar. The abdominal spiracles can be distinguished only on segments 1-7. The anal lamellae as in most Sciarinae, the subgenital plate more chitinous than the rest of abdomen and carrying a few sensory setae, no

granulations. *Legs* relatively short; femora somewhat flattened, tibiae a little longer than femora, the hind ones distinctly wider than the others; the two pairs of posterior tibiae with a pair of moderately long spurs, the external one being the longer. Front tibiae with only one spur. Tarsi distinctly longer than tibiae, somewhat flattened dorso-ventrally; first segment a little more than twice as long as wide, segments 2-4 subequal to each other and about as long as wide when seen from above; terminal segment twice as long as wide, oval; claws simple, empodium scarcely distinct even at a high magnification. No trace of wings or halteres.

Length of body: 1·6 mm.; legs (average) 0·6 mm.; head 0·2 mm.

Type: Nelson, Grampian Hill, 24th Sept., 1922 (Tonn.), in Cawthron Inst coll.

14. Genus MANOTA Williston.

This peculiar genus is found also in South America, the West Indies, Central Europe, Seychelles and Ceylon.

Manota maorica n. sp. Edw. (Fig. 85.)

♂ *Head* blackish above and behind, face ochreous. Orbital bristles black. Antennae with scape ochreous, first five or six flagellar segments pale ochreous beneath, darkened above, obliquely articulated, somewhat flattened, hardly longer than broad; remaining segments blackish, rather longer than basal ones, penultimate being nearly twice as long as broad; pubescence short, hardly half as long as vertical diameter of segments. Palpi pale ochreous. *Thorax* dark brown, scarcely shining; pronotal lobes rather lighter; propleura and lower part of sternopleura ochreous; hair dark; the only strong bristles are two long ones on scutellum. *Abdomen* blackish, with black hair; claspers ochreous. *Legs* pale ochreous; tarsi darkened; spurs black the four posterior femora blackish all round at base. *Wings* with the basal half clear, the outer half smoky, the division being oblique, the clear area extending further on the anterior margin. Halteres with ochreous stem and black knob.

Length of body or wing, about 2·2 mm.

Type: West Coast of South Is. (? Greymouth) (T. R. Harris), Feb., 1923, in Brit. Mus. coll.; paratype: 1 ♂, same locality and date; Blackball (J. W. Campbell) 1 ♂, Jan., 1925. Aniseed Valley, 1st Dec., 1923 (Tonn.).

This species bears a close resemblance to the other species of the genus (*M. defecta* Will. from West Indies; *M. flavipes* End. from Seychelles; *M. orientalis* Senior-White from Ceylon; *M. coxata* End. from Brazil; and *M. unuifurcata* Leindst. from Central Europe) differing chiefly in details of the antennae and hypopygium.

15. Genus MYCOMYIA Rond.

The N.Z. representatives of this cosmopolitan genus differ little from those of palearctic regions, but in New Zealand they are not a conspicuous element of the Mycetophilidae fauna.

KEY TO SPECIES.

1. Wings with dark markings	1. *flavilatera* Tonn.
Wings unmarked	2.
2. Mesonotum in ♂ with distinct dark bands, the median one divided by a pale line; hypopygium small and dark; mesothoracic band not very distinct in ♀	3. *furcata* Edw.
Mesonotum dark on the disc but without distinct bands; hypopygium large and yellow	2. *plagiata* Tonn.

1. **Mycomyia flavilatera** n. sp. Tonn. (Figs. 46, 171, 172.)

♂ *Head* brown, face yellow, palpi dark; base of antennae up to 4-5 segment yellow, the rest brown. Mesonotum brown with three pale stripes, the middle one with a fine median dark line; scutellum, disc of postnotum, and the hypotergites brownish. *Abdomen:* first segment yellow, the others with a yellow hind border, the second and third with a narrow yellow base. Hypopygium yellow, very small, and hidden, its structure as in figs. 171, 172. *Legs* yellow. *Wings* with dark brown spot on tip of Sc and the little cell, most of distal half with a slight even shadow. Sc_1 present, Sc_2 past the middle of the little cell, stem of M shorter than M_3, fCu before the level of *r-m*. Halteres yellow.

♀ Similar to male.

Length of body 4½ mm., wing 5 mm.

Type: Khandallah (Tonnoir) 30th Nov., 1921, in Cawthron Institute coll.

Allotype: Kaikoura 22nd Feb., 1922 (Tonnoir).

Paratypes: Aniseed Valley 1st Dec., 1923; Cass 2nd Dec., 1924 (Tonnoir).

Specimens in Brit. Mus., Ohakune, Raetihi Hill (Harris), and Queenstown (Curtis) Sept., 1922, 25th Mar., 1923, Mar.-April, 1923, Oct.,-Nov., 1923.

2. **Mycomyia plagiata** n. sp. Tonn. (Figs. 168-170.)

♂ *Head* and palpi brown; antennae with scape and first segment of flagellum yellowish. Mesonotum somewhat shining, brown anteriorly and on disc, sides yellow as well as pleurae; scutellum and postnotum darker. *Abdomen* brown; hypopygium yellowish, its structure as shown in figs. 168-190. *Legs* yellowish. *Wings* unmarked, Sc_1 absent, Sc_2 just on the middle of the little cell; stem of M as long as M_1; fCu at level of tip of Sc. Halteres dark yellow.

♀ Similar to male, venter yellow.

Length of body 3 mm., wing 3½ mm.

Type: Waiho (Tonnoir) 19th Jan., 1922, in Cawthron Inst., coll.

Allotype: *idem* 16th Jan.

Paratopotypes: same dates.

Specimens in Brit. Mus., Ohakune and Raetihi Hill (Harris).

3. **Mycomyia furcata** n. sp. Edw. (Figs. 49, 168, 169.)

♂ *Head* as in *M. plagiata*. *Thorax* brownish-ochreous dorsally, somewhat shining, mesonotum with three separate dark brown stripes, the middle one almost completely divided by a pale line; in the female these stripes are faint. Postnotum dark apically; pleurae largely

dark brown, almost black. *Abdomen* dark brown, posterior margins of segments lighter. Hypopygium much smaller than in *M. plagiata* and very different in structure (see figs. 168-169). *Legs* ochreous. Posterior coxae somewhat darkened; all coxae simple. *Wings* as in *M. plagiata.* Halteres clear yellow, knob not in the least darkened.

Length of body and wing 4 mm.

Type and allotype: Ohakune (Harris) 10th Nov., 1922, in Brit. Mus. coll.

16. Genus ALLOCOTOCERA Mik.

This genus has been recorded so far only from Europe and North America.

KEY TO SPECIES.

1. Wings with a scarcely noticeable shadow on the tip; palpi in male not incrassate; female nearly entirely orange	2.
Wings with a distinct apical dark marking; base of the palpi incrassate in male	3.
2. Stem of M short, equal to twice the length of *r-m*.....	1. *anaclinoides* (Marsh.)
Stem of M long, equal to a third of its fork; microtrichia present on the basal part of the wing	2. *cephasi* Edw.
3. Antennae nearly entirely black, no brown shadow round *r-m*	3. *dilatata* Tonn.
Antennae of male mostly orange on the basal half, a brown shadow round *r-m*	4. *crassipalpis* Tonn.

1. Allocotocera anaclinoides (Marsh.). (Fig. 198.)

Marshall, *Trans N.Z. Inst.*, 28, 1896, p. 292 (Euryceras).

The hypopygium of the type is shown in fig. 198. The colouration of the *thorax* is rather variable in male; sometimes pleurae are not completely dark but only inferior part of hypotergites and pleurotergites. In other cases mesonotum is completely black on disc and pleurae are also extremely dark with exception of region in front of wings base. The base of Cu_2 is obsolete in some specimens.

The female which was not known to Prof. Marshall is completely orange with exception of flagellum of antennae which is brown. The base of abdominal segments 3-5 is somewhat brownish. *Wings* yellowish chiefly on anterior border.

The type came from Mt. Torlesse; other specimens have been collected in Nelson, 15th Dec., 1921; Mt. Arthur, 25th Dec., 1921.

Allotype, Nelson, 15th Dec., 1921.

2. Allocotocera cephasi n. sp. Edw. (Fig. 57.)

♀ *Head* shining black above, face dull black, ocelli in a straight line, laterals about their own diameter distant from eye-margins. Antennae black, first few flagellar segments rather stout, about half as long again as broad, last few gradually more slender and elongate, penultimate almost three times as long as broad. Palpi rather short, black, basal segment not swollen. *Thorax* shining black, posterior division of pronotum and a small patch above front coxae light yellow. Bristles all yellowish. Pleurotergites and postnotum hairy. *Abdomen* shining black, posterior margins of segments yellow, especially on seg-

ment 4-6. *Legs* with coxae blackish; femora ochreous, posterior pairs indistinctly darkened at base beneath, and at extreme tips; tibiae brownish-ochreous; spurs and tarsi dark brown. *Wings* greyish, unmarked. Macrotrichia small and very dense; microtrichia absent on outer two-thirds but numerous on about basal third. Sc reaching far beyond base of Rs; Sc_2 well before middle of Sc; costa only slightly produced; stem of median fork rather long, about one-third as long as fork; base of cubital fork immediately before base of *r-m*. Halteres yellow.

Length of body, 5 mm.; wing, 5 mm.

Type: McKinnon Pass (C. L. Edwards), caught on snow, 3rd Apr., 1923, in Brit. Mus. coll.

3. **Allocotocera dilatata** n. sp. Tonn. (Fig. 58.)

♂ *Body* entirely brown with exception of upperside of two first antennal segments which is orange. Halteres yellow. *Legs* yellow, tip of middle coxae and base of middle femora brownish, hind coxae base and tip of hind femora brown. Second segment of palpi dilated. Mesonotum rather shining on disc with a slight grey pruinosity on the sides. *Abdomen* shining. All pubescence of body yellowish. *Wings* hyaline except on the distal fourth which is brownish and more so on the anterior border, a slight shadow, also under Cu_2.

♀ Much lighter than male; palpi and basal half of antennae orange, palpi normal and not so long. *Thorax* mostly orange, mesonotum with a darkish stripe in middle. First abdominal segment and posterior border of others orange.

Length of body and wing 3½ mm.

Type: Lake Brunner (Tonnoir) 4th Feb., 1922, in Cawthron Inst. coll.

Allotype: Goose Bay, 4th Feb., 1925.

Paratypes: Aniseed Valley, 1st Dec., 1923; Nelson, 1st Sept., and 8th, 17th, 21st, Nov., 1923; Deans Bush, 21st Oct., 1924; Akaroa, 12th Dec., 1924 (Tonnoir).

Specimen in Brit. Mus.: White Rock, 26th Nov., 1922 (Campbell).

4. **Allocotocera crassipalpis** n. sp. Tonn.

♂ *Head* brown, second palpal segment deep black and much dilated in a lobe on external side, two last segments thin, yellow. Antennae longer than head and thorax together, segments of flagellum rather wide and flat; scape and three first flagellar segments yellow, the following ones gradually darker, distal half of antennae brown. *Thorax* blackish-brown, its pubescence yellowish; the shoulders and sides of notum somewhat orange and with grey pruinosity; disc of notum moderately shining. *Abdomen* shining black; corners of posterior border of segments slightly orange. *Legs* yellowish; tip of posterior coxae, base and tip of posterior femora blackish. *Wings* with brown markings; one on distal third which is more intensive on anterior border, one on base of Rs and last one below Cu_2; these two last ones rather faint; tip of Sc past base of Rs; stem of M not much longer than *r-m;* fCu a little before that of M. Halteres yellow.

Length of body and wing 4 mm.

Type: Cass (Tonn.) 30th Nov., 1924, in Canterbury Mus. coll.

Paratopotype: one male.

17. Genus TAXICNEMIS nov.

This genus, which is in some ways closely connected to *Aneura*, is characterized by the roundish head with unindented, scantily pubescent eyes; lateral ocelli either touching eyes or well separated from them, the middle ocellus very small and sometimes placed forward; one pair of ocellar bristles and two pairs of vertical. Prothorax with one strong pronotal and one propleural bristle, also sometimes 1-2 prosternal; Sc short, interrupted, Cu_1 also interrupted at the base. Tibial setae arranged in lines; a strong hind tibial comb; claws strong and toothed.

Genotype *T. hirta* (Marsh.).

KEY TO SPECIES.

1. Mesonotum nearly all black or with lateral black stripes ..... 2.
   Mesonotum nearly all orange, with only a black spot above the wing root ..... *flava* Edw.
2. Disc of mesonotum entirely black; macrotrichia scanty in anal field ..... *hirta* (Marsh.)
   Mesonotum with two black lateral bands only; macrotrichia fairly numerous in anal field ..... *hirta*, var. *bivittata* Edw.

1. **Taxicnemis hirta** (Marsh.). (Fig. 48.)

Marshall, *Trans. N.Z. Inst.*, 28, p. 283, pl. 9, fig. 5 (*Sciophila*).

Besides Mt. Torlesse, the type's locality, this species is known from Waiho, 17th Jan., 1922 and 7th Feb., 1922 (Tonnoir).

2. **T. hirta** var. n. **bivittata** Edw.

♂ Resembles the type, the structure of the hypopygium, etc., being identical, but differs as follows:—Palpi clear yellow. Mesonotum more brightly shining, middle stripe light brown or obsolete though lateral stripes are deep black. Tibial bristles longer and stronger, those on middle tibiae quite twice as long as tibial diameter. Macrotrichia fairly numerous over the whole anal field. Knob of halteres mainly blackish.

Type: Ohakune (Harris) Feb., 1924, in Brit. Mus. coll.

Paratypes: *idem*, Dec., 1922 and Mar., 1924.

In one specimen R_4 is absent on one wing.

3. **Taxicnemis flava** n. sp. Edw. (Figs. 195-197.)

♂ *Head* much as in *T. hirta*, except that the vertex is rather strongly grey-dusted; lateral ocelli actually in contact with eyes and the small median ocellus is placed distinctly in front of laterals. *Thorax* scarcely shining, uniformly bright ochreous, except for a small blackish spot immediately above and in front of root of wings. Bristles all black; no strong prosternal bristles; a short row of small acrostrichals. *Abdomen* uniformly ochreous; hypopygium very different from that of *T. hirta;* structure as figured. *Legs* ochreous, tibiae and tarsi dark, bristles black; chaetotaxy as in *T. hirta*. Spurs orange at base only, the rest dark brownish. *Wings* almost as in *T. hirta*, but R_4 more oblique, making an angle of only about 30° with R_5. Macrotrichia almost covering the anal field. Halteres ochreous.

Length of body, 3½ mm., wing, 4 mm.

Type: Mt. Grey (J. W. Campbell), 23rd Feb., 1924, in Brit. Mus. coll.; Nelson, 6th Nov., 1923 (Tonn.).

18. Genus ANEURA Marsh.

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 287.

A typical New Zealand genus.

One species *A. filiformis* differs from all the others by having the fine tibial setae arranged in definite rows, a character which in other groups of Sciophilinae may be considered of tribal rank. However, here this character does not seem even to justify the erection of a new genus as *A. filiformis* in all other respects is very much similar to the other species of Aneura.

Genotype: *A. boletinoides* Marsh.

KEY TO SPECIES.

1. Tibial setae arranged in definite straight rows	1. *filiformis* Tonn.
Tibial setae irregularly arranged	2.
2. Mesonotum shining black or with two black bands above the wing base cubital fork rather long; halteres and palpi yellow	2. *nitida* Tonn.
Mesonotum not shining black nor with lateral black stripes; cubital fork shorter, its base far beyond the base of Rs	3.
3. Front tibiae with three rows of four bristles; thorax largely dark; halteres yellow; R_4 present	3. *fusca* Tonn.
Front tibiae with at most two or three small bristles; thorax mainly ochreous	4.
4. Posterior margin of abdominal tergites pale	5.
Posterior margin of abdominal tergites dark	8.
5. Mesonotum with three thin dark stripes converging posteriorly	4. *appendiculata* Tonn.
Mesonotum not distinctly striped	6.
6. Wings with fine microtrichia all over the surface; first segment of front tarsi slightly longer than the tibia; R_4 present	5. *fagi* Marsh.
Wings without microtrichia except at extreme base; first segment of front tarsi distinctly shorter than the tibia; R_4 absent	7.
7. Sc reaching far beyond the base of Rs; M_1 distinct throughout	6. *bispinosa* Edw.
Sc reaching only a short distance beyond the base of Rs; M_1 faint except at base	7. *longipalpis* Tonn.
8. First segment of front tarsi shorter than the tibia; Sc ending far beyond the base of Rs; R_4 generally present	8. *longicauda* Tonn.
First segment of front tarsi longer than the tibia; Sc ending a shorter distance beyond the base of Rs; R_4 absent	9.
9. Branches of median fork abbreviated	9. *defecta* Edw.
Branches of median fork reaching the margin	10.
10. Male claspers densely hairy at base	10. *boletinoides* Marsh.
Male claspers with a small patch of bristles at base	11. *pallida* Edw.

1. Aneura filiformis n. sp. Tonn. (Fig. 204.)

♂ *Head* brown, palpi black; scape and base of third antennal segment yellow, the rest of flagellum dark; antennae not quite as long as abdomen, segments of flagellum cylindrical, and little distinct from

each other. *Thorax* dull orange with long black bristles on notum. *Abdomen* entirely dark, very thin, densely pubescent; hypopygium lighter, claspers much elongated with internal spine near base (fig. 204). *Legs* yellowish, the fine tibial setae arranged in regular straight rows, tibial bristles extremely short. *Wings* subhyaline; Sc reaching costa before base of Rs; stem of M a little shorter than its fork; fCu about midway between fM and *r-m*. Halteres with darkish knob.

♀ Similar to male; *abdomen* less slender, terminal lamellae dark.

Length of body 5 mm., wing 3½ mm.

Type: Waiho (Tonnoir), 17th Jan., 1922, in Cawthron Inst. coll.

Allotype: Ohakune (Tonn.) 8th Mar., 1923.

Paratype: Wellington, 10th Mar., 1923 (Tonn.).

Specimen in Brit. Mus.: Ohakune (Harris).

2. **Aneura nitida** n. sp. Tonn.

♂ *Head* brown, mouth-parts yellow as well as base of antennae, including third joint, the rest of flagellum brown. Antennae not quite as long as abdomen, segments quite distinct from each other. *Thorax:* pronotum and greater part of pleurae yellow,, mesonotum shining black, bristles in double rows of acrostical and dorso-central; postnotum, hypotergites and lower part of sternopleurites brown. *Abdomen* with first segment all orange, three following ones extensively orange at base, their posterior border and median dorsal line black, last abdominal segment black. Hypopygium with black claspers and yellow ventral lamellae. *Legs* yellowish orange. *Wings* subhyaline, unmarked; R_4 present forming a little cell; tip Sc at level of middle of this little cell. Stem of M much longer than its fork; fork of Cu about at the level of the tip of Sc. Halteres yellow.

♀ Similar to male but somewhat lighter; the 2-3 first segments of the flagellum yellow; all abdominal segments except the last visible one with orange markings at base. Terminal lamellae orange.

Length of body and wing 3 mm.

Type: Lake Brunner (Tonnoir) 4th Feb., 1922, in Cawthron Inst. coll.

Allotype: Ohakune (Tonnoir) 8th Mar., 1923.

Paratypes: Hilltop, 15th Jan., 1925; Aniseed Valley, 1st Dec., 1923; Nelson, 23rd Nov., 1923.

Specimens in Brit. Mus.: Blackball (Campbell); Ohakune (Harris).

In the males the shoulders are sometimes more or less extensively yellow whereas in the females the notum may be entirely orange with exception of a black stripe above each wing's base.

3. **Aneura fusca** n. sp. Tonn. (Fig. 203.)

♂ *Head* brown, mouth-parts yellowish; antennae as long as ⅔ of abdomen, brown with base somewhat lighter. *Thorax* dull brown, sides more greyish; dorso-central and acrostical bristles arranged in double rows. *Abdomen* brown somewhat shining, posterior part of middle segments dull orange chiefly on lateral corners. Hypopygium dark. *Legs* yellowish. *Wings* subhyaline; R_4 present forming a little cell about five times as long as broad; tip of Sc past middle of this cell; stem of M as long as M_1; fCu at level of tip of Sc. Halteres yellowish.

10. **Aneura boletinoides** Marsh. (Figs. 52, 202.)

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 288, pl. 10, fig. 5, pl. 13, fig 12.

One complete female specimen only exists in Prof. Marshall's collection and has been selected as the type; it corresponds very well with the description. The three other specimens under that label have lost their abdomen and seem to belong to *A. fagi*.

A male that corresponds well to the description has been chosen as allotype, the structure of its hypopygium is given in fig. 202.

Allotype: 30th Jan., 1922, Waiho (Tonnoir), in Cant. Mus. coll.; Ohakune (Harris).

In some examples of this species the knob of the halteres is pale, in others it is dark.

11. **Aneura pallida** n. sp. Edw. (Fig. 205.)

♂ Closely resembles *A. boletinoides*, no external differences being apparent unless *thorax* is of a paler yellow colour. Hypopygium also similar in type, but different in many details; the whole organ is relatively shorter; ninth tergite relatively larger, and slightly emarginate apically; erect hairs facing inwards at base of lower claspers more bristly and confined to a small patch; the upper clasper darker and without long hairs (fig. 205).

Type: Ohakune (T. R. Harris), Oct.-Nov., 1922, in Brit. Mus. coll.

19. Genus PARVICELLULA Marsh.

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 284.

A genus peculiar to New Zealand. The small cell is absent in some of the species.

Key to Species.

1. Knob of Halteres dark; antennae entirely dark	1. *obscura* Tonn.
Halteres completely yellow; antennae more or less yellow at base	2.
2. Wings with a median dark fascia	2. *fascipennis* Edw.
Wings unmarked or only with the tip darkened	3.
3. Tip of wings distinctly darkened	3. *apicalis* Tonn.
Wings completely hyaline or with an inconspicuous shadow near the tip of R_1	4.
4. Palpi yellow	4. *gracilis* Tonn.
Palpi dark	5.
5. Middle and hind coxae brown	6.
All the coxae yellow	8.
6. Base of antennae more extensively yellow; mesonotum more ochreous; ventral clasper of hypopygium not much curved	5. *nigricoxa* Tonn.
Colouration different; ventral clasper of hypopygium very much curved	7.
7. Claspers with a little bristle about mid-length	7. *subhamata* Tonn.
Claspers without bristles	6. *hamata* Edw.
8. Mesonotum usually ochreous	8. *ruficoxa* Tonn.
Mesonotum dark brown except on the sides	9. *triangula* Marsh.

1. **Parvicellula obscura** n. sp. Tonn.

♀ *Head* and appendages brown except scape; which is obscure yellow; lateral ocelli rather distant from eye-margin. *Thorax* entirely dull brownish-black. *Abdomen* shining black; terminal lamellae yellow. Pubescence of the whole body brown. *Legs:* posterior coxae and hind femora blackish, the rest brownish-yellow. *Wing* subhyaline, tip of Sc not quite reaching base of R_4. Halteres with base of stem yellow, the rest black.

♂ Similar to female; antennae still darker at base; hypopygium lost.

Length of body 2 mm.; wing 2¼ mm.

Type: Aniseed Valley (Tonnoir), 1st Dec., 1923, in Cawthron Inst. coll.

Allotype: Nelson (Tonnoir), 18th Oct., 1923.

2. **Parvicellula fascipennis** n. sp. Edw. (Fig. 54.)

♀ *Head* black. Lateral ocelli practically touching eyes. Antennae with scape brownish ochreous, flagellum black, segment about half as long again as broad; palpi black. *Thorax* dull brownish ochreous above, without darker stripes; pleurae and postnotum dark brown. *Abdomen* shining black; anal lamellae yellow. *Legs* ochreous, four posterior coxae blackish. *Wings* with ground-colour faintly yellowish; a rather broad complete dark brown band across middle; venation normal. Halteres ochreous.

Length of body, 3 mm.; wing, 3½ mm.

Type: Ohakune (Harris), in Brit. Mus. coll.

Paratypes: ♀ ♀ *idem* and Aniseed Valley (Tonnoir), 1st Dec., 1923.

3. **Parvicellula apicalis** n. sp. Tonn. (Fig. 213.)

♂ *Head* mouth-parts and antennae brown, scape somewhat lighter, chiefly on internal side; lateral ocelli distant from eye margin from about their half diameter. *Thorax* completely dull blackish. *Abdomen* shining black; pubescence of body yellowish-brown. Hypopygium as in fig. 213. *Legs* yellow, tip of coxae 2 and 3 brown. *Wing* with a brown apical marking from a little past tip of R_1 and more intensive on anterior border. Tip of Sc in front of R_4; stem of M and base of M_3 very faint. Halteres yellow.

Length of body 2½ mm.; wing, 3 mm.

♀ Similar to male.

Type: Lake Brunner (Tonnoir) 4th Mar., 1922, in Cawthron Inst. coll.

Allotype: Waiho (Tonn.), 27th Jan., 1922.

4. **Parvicellula gracilis** n. sp. Tonn. (Fig. 211.)

♂ *Head* brown, palpi and base of antennae including basal half of third joint orange; lateral ocelli distinctly distant from eye-margin. *Thorax* ochreous-brown. *Abdomen* shining black. Pubescence of body yellowish. Hypopygium brown, rather large, its structure as in fig. 211. *Legs* yellow, tip of hind coxae dark. *Wings* subhyaline; tip of Sc at level of R_4; base of M_3 scarcely distinct; stem of M equal to a quarter of M_1. Halteres yellow.

Length of body and wing, 2½ mm.

Type: Reefton, 13th Jan., 1922 (Tonn.), in Cawthron Inst. coll.

Paratypes: all ♂ ♂, Cass 27th Nov., 1924 and 18th Feb., 1925; Aniseed Valley, 1st Dec., 1925.

5. **Parvicellula nigricoxa** n. sp. Tonn. (Fig. 210.)

♂ *Head* brown, palpi brown, base of antennae including the third and fourth segment yellow. *Thorax* brown, the mesonotum ochreous, dull. *Abdomen* shining black; pubescence of body yellow. Hypopygium rather large, black, its structure as in fig. 210. *Legs* yellow, coxae 2 and 3 blackish. *Wings* subhyaline unmarked; tip of Sc a little distance past R_4. Stem of M equal to ⅓ of M_1. Halteres yellow.

Length of body 2½ mm.; wing 3 mm.

Type: Dun Mt. (Tonn.), 15th Jan., 1922, in Cawthron Inst. coll.

6. **Parvicellula hamata** n. sp. Edw. (Figs. 208, 209.)

Closely resembles *P. nigricoxa* Tonn., differing mainly if not solely in male hypopygium; lateral appendages of the ninth tergite are longer and more hairy, and ventral claspers are longer, more twisted, and much more strongly hooked.

Type and allotype Ohakune (Harris) Dec., 1922, in Brit. Mus. coll.

7. **Parvicellula subhamata** n. sp. Tonn. (Fig. 215.)

Similar to *P. hamata* Edw. differing only in hypopygium; ventral claspers are not so hooked and are provided with a very small bristle about mid-length; inner appendage of ninth tergite bears a few very elongated scales.

Female similar to male; colouration of the *thorax* a little lighter.

Type and allotype: Otira (Tonn.), 6th Feb., 1922, in Cawthron Inst. coll.

8. **Parvicellula ruficoxa** n. sp. Tonn. (Figs. 53, 214.)

♂ *Head* and mouth-parts brown; base of antennae including basal half of the third segment yellowish; lateral ocelli nearly touching eye-margin. *Thorax* brown, mesonotum ochreous, pleurae darker. *Abdomen* shining black; pubescence of body yellow. Hypopygium as in fig. 214. *Legs* completely yellow. *Wings* with a very faint shadow about the tip of Rs; Sc ending in front of R_4. Halteres yellow.

♀ Similar to male, *thorax* lighter, base of palpi yellowish.

Length of body and wing 2½ mm.

Type: Kaikoura (Tonn.), 23rd Feb., 1922, in Cawthron Inst. coll.

Allotype: *idem*.

Paratypes: Khandallah, 2nd Nov., 1921; Nelson, 3rd Apl., 1922, 15th Dec., 1921; Te Aroha, 1st Mar., 1923; Christchurch, Nov.-Jan.; Akaroa, 10th Dec., 1924 (Tonn.); Governors Bay (Tapley); Ohakune (Harris).

9. **Parvicellula triangula** Marsh. (Fig. 212.)

Marshall, *Trans. N.Z. Inst.*, 28, p, 285.

♂ *Head* and mouth-parts brown; base of antennae rather extensively yellow up to fifth or sixth segment, which are, however, darker than those of base; lateral ocelli nearly touching the eye-margins.

Thorax rather dark brown, with shoulders, sides of mesonotum, and scutellum ochreous. *Abdomen* shining black. Pubescence of body yellow. Hypopygium blackish, its structure as in fig. 212. *Legs* entirely yellow. *Wings* subhyaline, unmarked; tip of Sc in front of base of R_4; stem of M equal to ¼ of M_1. Halteres yellow.

Length of body and wing, 2½ mm.

Nelson, 14th Nov., 1923; Kaikoura, 22nd Feb., 1922; Waiho, 19th Jan., 1922; Christchurch, 16th Feb., 1922; Cass, 18th Feb., 1925 (Tonn.); Governors Bay (Tapley); White Rock (Campbell); Ohakune (Harris); Mt. Grey (Campbell).

The small cell may be absent in some specimens.

20. Genus PHTHINIA Winn.

This genus is characterized by the extreme slenderness of the legs and abdomen; by the fork of the cubitus being distinctly distal to that of the media and by the peculiar twist of Cu_2. It is known from Europe and North America. There is only one New Zealand species which seems rather well spread although not at all common.

Phthinia longiventris n. sp. Tonn. (Fig. 59.)

♂ *Head* brown, palpi yellow, scape a little lighter coloured than brown flagellum, the segments of which are scarcely distinct from each other; antennae about as long as the four first abdominal segments. *Thorax* rather shining, brown, yellowish around wing-base, and anapisternite; bristles black. *Abdomen* dull black with basal third of segments 3 to 5 whitish-yellow, base of the following segments more narrowly pale; hypopygium yellowish, of rather simple structure. *Legs* very elongate, yellowish-brown, hind pair darker, all coxae yellowish with dark tip; median tibiae dilated on basal third and provided there with a dorsal groove. *Wings* subhyaline, unmarked, macrotrichiae very numerous but less so in anal region; costa nearly reaching wing-tip; stem of M equal to half of *r-m*; M_1 undulated; Cu_2 nearly perpendicular on wing-margin. Halteres with very long stem base of which is yellowish, the rest and the knob dark.

♀ Similar to male; *abdomen* darker, only the base of the middle segments of a somewhat dull yellow, the rest brown.

Length of body, 6 mm., wing, 4½ mm.

Type: Wiltons Bush, Wellington (Tonn.) 2nd Dec., 1921, in Cawthron Inst.

Allotype: *Idem.*

Paratypes: Mt. Arthur, 24th Dec., 1921; Nelson, 6th and 28th Nov., 1923; Aniseed Valley, 1st-4th Dec., 1923 (Tonn.).

Specimens in Brit. Mus.: Queenstown (Curtis).

21. Genus APHELOMERA Skuse.

The venation of this genus is remarkably reduced, the media being simple and detached at the base, whereas the base of the anterior branch of Cu is also missing. The *thorax* is extremely arched and the *abdomen* slender. So far this genus is only recorded from Australia and New Zealand.

KEY TO SPECIES.

1. Thorax dull ochreous; mesonotal bristles black; costa reaching the tip of wing	1. *opaca* Tonn.
Thorax mainly dark	2.
2. Posterior coxae with dark tips; costa reaching wing tip	2. *majuscula* Edw.
Coxae completely yellow; costa not quite reaching the wing tip	3.
3. Mesonotal bristles black, hair short and black	4.
Mesonotal bristle and hairs yellowish	5.
4. Thorax very much arched; antennae long, middle segments of the flagellum about four times as long as broad; hypopygium orange	4. *elongata* Tonn.
Thorax less arched; antennae relatively shorter, middle segments of the flagellum about three times as long as broad; hypopygium dark	3. *longicauda* Edw.
5. Thorax dark brown, scarcely shining; dorsocentral and lateral bristles markedly longer than the shorter hairs	7. *marshalli* Edw.
Thorax mainly shining black, shoulders ochreous; mesonotal hairs long, the dorsocentral bristles hardly longer	6.
6. Prothorax yellowish; wings distinctly darkened on the apical fourth	5. *forcipata* Edw.
Prothorax dark; wings not darkened apically	6. *skusei* Marsh.

1. Aphelomera opaca n. sp. Tonn. (Fig. 265.)

♂ *Head* brown, palpi brownish, scape dark ochreous, flagellum brown its segments three to four times longer than broad, the whole antenna as long as height of thorax plus coxae. *Thorax* dull ochreous with black hairs and bristles. *Abdomen* shining brown, very thin and elongated; hypopygium as in fig. 265. *Legs* yellowish. *Wings* clear; macrotrichia fairly numerous; tip of R_1 distinctly further than tip of M_3; Sc ending a little before base of Rs. Halteres with yellowish stem and black knob.

Length of body, 2¼ mm., wing, 2½ mm.

Type: Queenstown (Curtiss) 1st Feb., 1922, in Canterbury Mus.

Paratype: Nelson, May, 1923 (Tonn.)

Specimens in Brit. Mus.: Ohakune (Harris).

2. Aphelomera majuscula n. sp. Edw.

♀ *Head* dull black. Scape of antennae rather dark brown (flagellum missing). Palpi yellowish, darkened at base. *Thorax* entirely blackish-brown, scarcely shining. Mesonotal bristles and hair all black, dorsocentral bristles rather short and hardly differentiated from the rather coarse bristly hair spread over whole surface. *Abdomen* black, black-haired, anal lamellae obscurely reddish. *Legs* ochreous; tarsi darkened; the four posterior coxae blackish on nearly the apical half; hind femora narrowly black at tip. *Wings* rather smoky, lighter towards base; in shape rather longer, relatively to their breadth, than in the other species. Sc ending above base of Rs; R_1 unusually long, ending well beyond the level of the tip of the short free vein M_3. R_5 slightly curved down at tip; costa just reaching wing-tip and ending at one-third of distance from R_5 to M_1. Halteres with ochreous stem and black knob.

Length of body, 3½ mm.; wing, 4 mm.

Type: Ben Lomond, 2,500 ft. (L. Curtis), 7th Mar., 1923, in Brit. Mus. coll.; Ohakune, 8th Mar., 1923 (Tonn.).

This specimen is distinctly larger than any others examined, and in view of the differences in venation and in the colour of the coxae there can be no doubt that it represents a distinct species.

3. **Aphelomera longicauda** n. sp. Edw. (Figs. 222-224.)

♂ *Head* black; palpi and scape yellow; flagellum black, segments a little over twice as long as broad, with pubescence nearly twice as long as diameter. *Thorax* shining black, only humeral angles ochreous, bristles and hair blackish, rather short, dorsocentral bristles little developed. *Abdomen* black, hypopygium entirely dark; claspers very long and flat, with a few blunt spines along their ventral margin. *Legs* ochreous. *Wings* slightly greyish, tip scarcely darker; macrotrichia small but fairly numerous, erect as usual. Sc ending well before base of R_5; R_1 ending just before tip of M_3; R_5 almost straight; costa reaching about a quarter of distance from R_5 to M_1. Halteres with ochreous stem and black knob.

Length of body, about 2½ mm.; wing, 2½ mm.

Type: Ohakune (T. R. Harris), May-July, 1923, in Brit. Mus. coll. Nelson (Tonn.), 6th Nov., 1922; 9th and 18th Oct., 1923; Akaroa, 9th Dec., 1924.

4. **Aphelomera elongata** n. sp. Tonn. (Fig. 221.)

♂ *Head* brown, scape and palpi yellow, flagellum brown with a long pubescence, its segments over three times as long as broad, the whole antenna somewhat longer than height of thorax plus coxae. *Thorax* brown shining, shoulders ochreous, bristles and hairs black, dorsocentral bristles not very distinct from hairs. *Abdomen* rather shining blackish-brown; hypopygium yellow, its structure as in fig. 221. *Legs* yellowish. *Wings* clear, macrotrichia rather numerous; tip of Sc a little before base of Rs in front of that of Cu_1; costa nearly reaching wing-tip. Halteres brown, base of stem yellowish.

♀ Similar to male, only a little larger (2½ mm.). Antennae relatively shorter.

Length of body and wing, 2 mm.

Type: Nelson (Tonn.), 15th Dec., 1921, in Cawthron Inst. coll.

Allotype: Maitai Valley (Nelson), 17th Mar., 1922.

Paratype: Nihotupu (Tonn.), 24th Feb., 1923.

5. **Aphelomera forcipata** n. sp. Edw. (Figs. 217-218.)

♂ *Head* black; palpi and scape yellow; flagellum black, segments over twice as long as broad, pubescence a little longer than diameter of segments. *Thorax* shining black, but prothorax yellow. Mesonotal hair and bristles rather long and all yellow as in *A. skusei*. *Abdomen* black. Hypopygium large, with long curved yellow claspers constructed somewhat as in *A. marshalli*. *Wings* quite clear on basal three-fourths, apical fourth rather dark grey. Sc ending just before base of Rs; R_1 ending just beyond tip of M_3; R_5 almost straight; costa reaching about one-fourth of the distance from R_5 to M_1. Halteres with ochreous stem and black knob.

Length of body, 3 mm.; wing, 3 mm.

Type: Ohakune (T. R. Harris), Sept., 1922, in Brit. Mus. coll.

Paratype ♂, Mar., 1924.

6. **Aphelomera skusei** Marsh. (Figs. 60, 226.)
Marshall, *Trans. N.Z. Inst.*, 18, 1896, p. 296, pl. 11, fig. 4.

Two species were included in Prof. Marshall's collection under that name. One has been chosen as type; the male hypopygium is represented in fig. 226.

This species is not uncommon; we have it from: Governors Bay (Tapley); Dunedin (Fenwick); Ohakune (Harris); Nelson (Tonn.), 1st and 14th Nov., 1923.

7. **Aphelomera marshalli** n. sp. Edw. (Figs. 219, 220.)

♂ *Head* blackish; scape and palpi yellow; flagellum black, segments over twice as long as broad, with pubescence as long as diameter. *Thorax* dark brown, scarcely shining, mesonotum somewhat dusted over with grey. Bristles and hair all yellowish; dorsocentral bristles rather long, hair short. *Abdomen* blackish. Hypopygium with small yellowish claspers of complicated structure, as figured. *Legs* ochreous. *Wings* quite clear; macrotrichia very small and few in number. Sc ending before base of Rs; R_1 ending just before tip of M_3; costa reaching less than a quarter of the distance from R_5 to M_1; R_5 almost straight. Halteres with ochreous stem and black knob.

Length of body, about 2 mm.; wing, 2·2 mm.

Type ♂: Mt. Torlesse (Prof. P. Marshall), was one of the four specimens on which the description of *A. skusei* was based; it is smaller than *A. skusei*, with the thorax much less shining, and with a very different hypopygium. In Brit. Mus. coll.

22. Genus NEOTRIZYGIA nov.

Three ocelli in triangle, the lateral ones far removed from eye-margin; eyes and palpi normal; antennae 2 + 14 segmented, segments of flagellum as wide as long, densely pubescent. Prothorax bristly, postnotum, hypotergites anepisternum and subalar knob hairy.

Sc long ending in R_1 past base of Rs which is short and transverse; *r-m* in line with second segment of Rs. M unbranched; Cu_1 incomplete at base; A represented only by an incomplete row of macrotrichia. Micro and macrotrichia present simultaneously on the whole wing-membrane. Fascies of the body like *Aphelomera*, posterior coxae much elongated; *Abdomen* thin, seventh segment visible. Tibiae 2 with a few bristles, tibiae 3 with two rows of rather weak bristles.

It differs from *Trizygia* to which it is closely related in the thoracic chaetotaxy, by Sc ending in R_1, and in *r-m* being much longer and in line with Rs, by the seventh abdominal segment being visible and the hypopygium not pedunculate.

Genotype *Neotrizygia obscura* n. sp.

Neotrizygia obscura n. sp. Tonn. (Fig. 61.)

♂ *Head* black, antennae and palpi brown, scape somewhat lighter coloured. *Thorax* black, rather shining with blackish bristles and hairs, dorso-central bristle not much longer than the hairs. *Abdomen* shining black with black pubescence. Hypopygium black, small, of rather simple structure. *Legs:* front pair and median coxae yellowish,

the rest brownish. *Wings* clear, venation as in fig. 61; macrotrichia very numerous. Halteres black with yellowish stem.

Length of body and wing, 2½ mm.

Type: Cass (Tonn.), Feb., 1925, in Canterbury Museum coll.

23. Genus MORGANIELLA nov.

Antennae 2 + 14, segments of the flagellum as wide as long. Ocelli in a row, the lateral ones far removed from the eye-margin, median one very small. Palpi four segmented, the second segment somewhat incrassate, the two last ones subequal. Anepisternites, subalar knobs, hypotergites and postnotum hairy. *Abdomen* with the seventh segment scarcely visible. *Legs* with tibial spurs normal, some rows of moderately long bristles on posterior tibiae, empodium present. *Wings* covered all over with macrotrichia, microtrichia present only on the tip and round the posterior border. Sc long, reaching the costa well after the base of Rs; Sc_2 reaching R_1 also well after the base of Rs; *r-m* in line with Rs and equal to the stem of M which is short; Cu_1 incomplete at base; A rather strong but suddenly interrupted about mid-length.

Genotype *M. fusca* n. sp.

Morganiella fusca n. sp. Tonn. (Fig. 74.)

♂ *Head* black, palpi yellow; scape somewhat lighter than the brown flagellum. *Thorax* dull brown, only mesonotum shining. *Abdomen* and hypopygium shining black. Pubescence of the whole body yellowish-brown. *Legs:* coxae brown with exception of distal half of front ones; femora and tibiae yellowish, tip of posterior femora dark, tarsi darker. *Wings* subhyaline, venation as in fig. 74. Halteres yellow.

Length of body, 2½ mm., wing, 2¾ mm.

Type: Lake Brunner (Tonn.), 3rd Feb., 1922, in Cawthron Inst. coll.

Paratype: Aniseed Valley, Nelson (Tonn.), 1st Dec., 1923.

24. Genus SYNAPHA Mg.

The New Zealand representatives of this genus agree well with the European species, differing only in the mesonotum being provided with fewer bristles which are, however, more strongly developed. This genus is found also in North America.

KEY TO SPECIES.

1.	Wings with some dark markings	2. *apicalis* Tonn.
	Wings without markings	2.
2.	Abdomen with pale markings	3.
	Abdomen entirely brown	4.
3.	Mesonotum with darker stripes; vein M not faint.....	3. *claripennis* Tonn.
	Mesonotum ochreous without dark stripes; M faint	5. *pulchella* Tonn.
4.	Thorax ochreous yellow	5.
	Thorax dark greyish brown	6.

5. Palpi brown; hypopygium large, yellow	1. *gracilis* Tonn.
Palpi with the two first segments yellow; hypopygium small, brownish	4. *similis* Tonn.
6. Palpi completely yellow; knob of halteres brownish; brownish species	6. *cawthroni* Tonn.
Palpi completely or partly dark; only the base of the halteres knob dark; greyish species	7. *parva* Edw.

1. **Synapha gracilis** n. sp. Tonn. (Fig. 229.)

♂ *Head* greyish-brown, palpi brownish, scape yellow, flagellum brown. *Thorax* ochreous-yellow with long black bristles on the notum. *Abdomen* cylindrical elongate, dull brown with dark pubescence. Hypopygium yellow, swollen, its structure as in fig. 229. *Legs* yellow. *Wings* hyaline; Sc short not even reaching base of *r-m;* M faint, its stem equal to half of M_1; fork of Cu nearly under that of M. Halteres with yellow stem and black knob.

Length of body and wing, 3½ mm.

Type: Khandallah, 3rd Nov., 1921 (Tonn.), in Cawthron Inst. coll.

2. **Synapha apicalis** n. sp. Tonn. (Fig. 55.)

♀ *Head* greyish-brown, mouth-parts yellowish; antennae brown, scape scarcely lighter. *Thorax* dull brownish-grey, pronotum and some parts near wing-base yellowish. *Abdomen* dull brown with very narrow hind border to segments 3 to 5; terminal lamellae orange. *Legs* yellow. *Wings* with apical third and a space under form of Cu smoky; M and Cu faint; stem of M equal to half of M_3; fork of Cu a little more proximal than that of M. Halteres yellowish.

Length of body, 4 mm.; wing, 4½ mm.

Type: Mt. Arthur (Tonn.), 26th Dec., 1921, in Cawthron Inst. coll.

Paratypes: *idem*, 22nd and 24th Dec.

Specimens in Brit. Mus.: Ohakune (Harris); Waitati, Dunedin (M. N. Watt).

3. **Synapha claripennis** n. sp. Tonn.

♀ *Head* greyish-brown; mouth-parts, scape and third segments yellow, the rest of antennae brown. *Thorax* brownish-grey; pronotum ochreous, mesonotum with three darker stripes. *Abdomen* brown, more or less shining; posterior border of segments 2 to 5 yellow, terminal lamellae brown. *Legs* yellowish. *Wings* hyaline. Sc not quite reaching proximal end of *r-m;* M not so faint as in other species, its stem equal to half of M_1; fork of Cu somewhat more proximal than that of M. Halteres yellowish.

Length of body, 3½ mm.; wing, 4 mm.

Type: Mt. Arthur (Tonn.), 24th Dec., 1921, in Cawthron Inst. coll.

4. **Synapha similis** n. sp. Tonn. (Fig. 230.)

♂ *Head* brown; mouth-parts with exception of two last palpal segments yellow; scape and base of third segment yellow, the rest of antennae brown. *Thorax* ochreous-yellow as in *gracilis*. *Abdomen* rather shining, brown, without pale markings. Hypopygium rather

small, ochreous-brown. *Legs* yellow. *Wings* as in *gracilis*. Halteres with yellow stem and dark knob.

Length of body and wing, 3½ mm.

Type: Nelson (Tonn.), 15th Dec., 1921.

5. **Synapha pulchella** n. sp. Tonn. (Fig. 227.)

♂ *Head* greyish-brown, proboscis and base of palpi yellowish, the rest brown; scape yellow, flagellum brown. *Thorax* ochreous-brown somewhat lighter near shoulders. *Abdomen* brown, more or less shining, base of segments 2 to 5 yellow, chiefly on sides. Hypopygium mostly yellowish, its structure as in fig. 227. *Legs* yellow. *Wings* hyaline, unmarked; Sc short not quite reaching proximal end of *r-m*; M faint, its stem equal to half of M_1; fork of Cu placed before that of M. Halteres yellow.

♀ Similar to male, the base of abdominal segment less yellow on the sides.

Length of body and wings, 3 mm.

Type: Wiltons Bush (Tonn.), 2nd Dec., 1921, in Cawthron Inst. coll.

Allotype: Cass (Tonn.), Feb., 1925.

Paratypes: Cass, Nov., Dec., Feb., Aniseed Valley, Nelson, 1st Dec., 1923.

6. **Synapha cawthroni** n. sp. Tonn. (Fig. 228.)

♂ *Head* brown; scape and mouth-parts yellow. *Thorax* greyish-brown, dull on mesonotum; pronotum and parts of pleurae near wing-base ochreous; hairs on mesonotum yellow, bristles black. *Abdomen* more or less shining-brown with dark pubescence, venter ochreous as well as claspers of hypopygium, its structure as in fig. 228. *Legs* yellow. *Wings* as in *gracilis*. Knob of halteres brownish.

Length of body, 3½ mm; wing, 3 mm.

Type: Nelson (Tonn.), 28th Nov., 1923, in Cawthron Inst. coll.

7. **Synapha parva** n. sp. Edw. (Fig. 56.)

♀ *Head* dull blackish; antennae and palpi almost entirely blackish, only the second antennal segment brown. Flagellar segments less than twice as long as broad. *Thorax* entirely dull dark grey; mesonotal bristles all black; four long ones in dorsocentral rows; acrostichal bristles all very small. Scutellum with the usual two long bristles placed very wide apart. *Abdomen* blackish, somewhat shining, with dark hair; anal lamellae ochreous. *Legs* ochreous; tarsi and spurs dark. *Wings* quite clear; venation as in *S. gracilis;* M and Cu_1 faint. Halteres ochreous, only base of knob dark.

Length of body, 2½ mm.; wing, 2·8.

Type: Queenstown waterworks (L. Curtis), 8th Dec., 1922, in Brit. Mus. coll.

♂ The whole body greyish-black; base of palpi, scape, legs, and halteres yellow. Hypopygium somewhat ochreous.

Allotype: Cass (Tonn.), 27th Nov., 1924, in Canterbury Mus. coll.

25. Genus ANOMALOMYIA Hutton.

Genus peculiar to New Zealand but closely related to the Australian *Acodicrania* Skuse. Some species have a distinct middle ocellus.

KEY TO SPECIES.

1. Crossvein *r-m* as long as the last segment of R_1 and less than half the stem of M. Colouration of body and wing rather variable	1. *guttata* Hutton
r-m distinctly longer than the last segment of R_1 and longer than half the stem of M	2.
2. Wings without markings; colouration mostly orange	2. *immaculata* Edw.
Wings with distinct markings, or if not distinct then the general colouration nearly entirely black	3.
3. Body completely black including the halteres and the greater part of the legs	3. *obscura* Tonn.
Body completely black but halteres yellow; legs mostly yellowish	4. *subobscura* Tonn.
Colouration different	4.
4. Wing-tip conspicuously darkened, this dark area delineated from the rest of the membrane by a straight transverse line	7. *thompsoni* Tonn.
Wing marking different	5.
5. Base of abdomen with some orange markings	5. *basalis* Tonn.
Abdomen dark at base	6.
6. Wings with a spot or shadow in base of cell R_5	7.
No spots of shadow in cell R_5	8.
7. Wing markings rather faint; hypopygium orange at base	8. *flavicauda* Edw.
Wing markings strong; hypopygium black	6. *affinis* Tonn.
8. Costa reaching about two-thirds of the way between R_5 to M_1	9. *viatoris* Edw.
Costa not reaching half-way between R_5 and M_1	10. *minor* Marsh.

1. Anomalomyia guttata Hutton. (Figs. 66, 67.)

This abundant species seems to vary greatly in colour, both of body and wings. In the lighter specimens the mesonotal stripes are narrow and hardly darker than ground-colour; pleurae mainly ochreous, except lower part of sternopleurae; abdominal segments with broad basal ochreous bands; wings with quite small dark spots at base and in middle of cell R_5 and cell Cu_1. In the darkest specimens mesonotal stripes are blackish and fused; pleurae and abdomen all dark; tibial spurs even sometimes dark and a larger and darker spot in base of cell R_5. There is no difference in hypopygium of the lighter and darker forms. In all its varieties it may be distinguished from the other species by its venation: *r-m* as long as last section of R_1 but less than half as long as stem of median fork.

It is found nearly the whole year round all over the country from Stewart Island to Auckland district.

Type in Canterbury Museum coll. without locality.

2. Anomalomyia immaculata n. sp. Edw.

♀ *Head* orange, except for a small black spot round each ocellus. Palpi orange. Antennae short, flagellar segments not longer than

broad, orange, last 5-6 segments darkened. *Thorax* uniformly orange, mesonotum shining. *Abdomen* more brownish-ochreous (probably discoloured), entirely unmarked. *Legs* bright ochreous, only tibial spines black; middle tibiae with two equal ventral spines. *Wings* with yellowish tinge, veins hardly darker; no trace of markings. Costa reaching half way from R_5 to M_1; *r-m* not much shorter than stem of median fork; R_1 half as long as *r-m;* Cu_1 not interrupted at base; An. faint. Halteres orange.

Length of body, 4 mm.; wing, 3·7 mm.

Type: Otira (J. W. Campbell), 10th Jan., 1920, in Brit Mus. coll.

3. **Anomalomyia obscura** n. sp. Tonn. (Fig. 235b.)

♂ Completely black more or less shining, only basal ⅔ of tibiae, tibial spurs and metatarsi obscure orange. Pubescence of whole body and appendages yellow. *Wings* with moderately distinct markings: spot at base of cell R_5, another darker one along distal half of R_5 and gradually merging in apical brown shadow; basal half of cell M_1 clear. Venation as in *minor*. Structure of hypopygium quite different as shown in fig. 235b. Only one ventral bristle on middle tibiae.

Length of body 2½ mm.; wings, 3 mm.

Type: Otira (Tonn.) 9th Feb., 1922, in Cawthron Inst. coll.

4. **Anomalomyia subobscura** n. sp. Tonn.

♀ Body completely black as well as head and its appendages. *Legs* mostly yellow; coxae and all ventral face of femora blackish, tibial spurs yellow, tarsi darker towards tip; two subequal ventral bristles on middle tibiae. *Wings* with very faint markings arranged as in *obscura*. Wing-shape somewhat more elongated than in other species; tip of Sc at level of fork of Cu which is placed distinctly before base of M; *r-m* at least equal to ¾ of stem of M, branches of which are rather faint at tip.

Length of body 2½ mm.; wing, 3 mm.

Type: Tahunanui, Nelson, on sea-beach (Tonn.), in Cawthron Inst. coll.

5. **Anomalomyia basalis** n. sp. Tonn. (Fig. 233.)

♂ *Head* brown, palpi yellowish, antennae brown, scape somewhat lighter. Mesonotum orange with two lateral black stripes and a trace of a median one, scutellum orange, rest of thorax brownish-black. *Abdomen* black, base and hind border of second segment orange; hypopygium black, its structure as in fig. 233. *Legs:* coxae yellow, femora 1 and 2 black underneath at base, hind femora black at base and apex, tarsi mostly yellow; two bristles on ventral face of middle tibiae. *Wings* with moderately conspicuous markings, a rather faint shadow near base of cell R_5, the whole apex of wing darkened and more intensively under distal part of R_5, no clear space in middle of cell M_1; *r-m* nearly equal to stem of M. Halteres yellow.

Length of body, 3 mm.; wings, 3 mm.

Type: Otira (Tonn.), 9th Feb., 1922, in Cawthron Inst. coll.

6. **Anomalomyia affinis** n. sp. Tonn. (Figs. 70, 235c.)

♂ *Head* and appendages brown, first antennal segment slightly lighter. Mesonotum dark orange with three more or less fused dark stripes on disc; the rest of thorax brown. *Abdomen* shining black; hypopygium also black, its structure as in fig. 235c, differing but slightly from the one of *flavicauda*. *Legs* mostly yellow; tip of coxae 2 and 3 black, also tip of hind femora; the two ventral bristles of middle tibiae subequal. *Wings* with a conspicuous dark spot at base of cell R_5, another one below distal part of R_5 which extends into the dark shadow of wing-tip, middle of the cell M_1 free. Halteres yellow.

♀ Similar to male, mesonotum lighter, first half of antennae more or less orange.

Length of body, 2½ mm.; wing, 3 mm.

Type: Otira (Tonn.), 8th Feb., 1922, in Cawthron Inst. coll.

Allotype: *idem.*

Paratypes: *idem.*

Sometimes the thorax is dark with exception of the shoulder and the scape is more or less orange.

7. **Anomalomyia thompsoni** n. sp. Tonn.

♀ *Head* orange, ocelli black, middle one distinct although small; palpi orange; base of antennae orange their tip darkened. *Thorax* rather bright orange. *Abdomen* shining brown, first segment and terminal lamellae orange. *Legs* orange with strong black bristles and orange tibial spurs; tip or tarsi darkened. *Wing* rather elongate, with a distinct yellow tinge, chiefly on anterior border and with apical fourth blackish, the limit between the two differently coloured areas along a straight transverse line; *r-m* not quite twice as long as last segment of R_1; fM below base of Rs. Halteres orange.

Length of body, 3 mm.; wing, 4 mm.

Type: Lake Brunner, 21st Dec., 1925 (Tonn.), in Canterbury Mus. coll.

8. **Anomalomyia flavicauda** n. sp. Edw. (Fig. 235.)

♂ Very similar to *A. minor*, differing as follows:—Middle tibiae with the two ventral spines subequal in length. Hypopygium yellow except towards tip; claspers differently shaped, with short blunt spines all over inner face, none of them, however, forming combs as they do in *A. minor;* aedoeagus also quite different in structure. Costa reaching more than half way from R_5 to M_1; fCu more distinctly before base of *r-m;* Cu_1 narrowly interrupted at base. A small but distinct spot filling base of cell R_5; a larger dark cloud crossing this cell beyond middle, but leaving tip of wing clear; cell M_1 slightly darkened at base and beyond middle; Cu_1 distinctly dark-bordered above as well as below; An. stronger and darker.

Type: Ohakune (T. R. Harris), Apl., 1923, in Brit. Mus. coll.

9. **Anomaloyia viatoris** n. sp. Edw. (Figs. 68, 234.)

♂ *Head* black, with yellow bristles. Palpi and antennae entirely black; first flagellar segment about three times as long as broad, the remainder fully as long as broad. *Thorax* entirely blackish, slightly shining, bristles all yellow. *Abdomen,* black, except for the ochreous hypo-

pygium. Claspers somewhat triangular, with a number of small spines and four or five very stout ones facing inwards; ventral hooks smaller than in the other species. *Legs* dull ochreous, tarsi darkened; front femora with blackish stripe beneath running the whole length; middle femora with a similar stripe on basal half; hind femora rather narrowly black at tip. Tibial spurs ochreous, spines black; second ventral spine on mid tibiae short. *Wings* with a slight yellowish tinge, tip darkened, though not conspicuously; a rather more distinct dark stripe below Cu_2. Costa reaching about two-thirds of way from R_5 to M_1; *r-m* about two-thirds as long as stem of median fork; R_1 quite two-thirds as long as *r-m*; Cu_1 narrowly interrupted at base; An. faint. Halteres ochreous.

Length of body, 3½ mm.; wing, 4 mm.

Type: McKinnon Pass (C. L. Edwards); and one other ♂ caught on the snow, 3rd Apl., 1923, in Brit. Mus. coll.

10. **Anomalomyia minor** Marsh. (Figs. 69, 232.)

Marshall, *Trans N.Z. Inst.*, 28, 1896, p. 295 *(Anomala)*.

Characteristic of this species is the short costa, which extends less than half way from R_5 to M_1; *r-m* is two-thirds as long as median fork; last segment of R_1 barely half as long as *r-m*. There is no distinct spot in base of cell R_5. The second ventral bristle on middle tibiae is short or absent.

Governors Bay (Tapley), Nelson, 14th Oct., 1923; Hilltop, 16th Feb., 1925; Christchurch, 24th Nov., 1924; Akaroa, 11th Dec., 1924 (Tonn.).

26. Genus PARADOXA Marsh.

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 290.

A genus peculiar to New Zealand, closely related to *Cycloneura* but characterized mainly by the branched media.

Paradoxa fusca Marsh. (Fig. 71.)

Marshall *l.c.*, p. 290.

Only the male has been described by Marshall; the female has exceedingly short antennae, not longer than head; colouration of body and legs as in male; base of M_3 completely missing.

Allotype: Aniseed Valley (Tonn.), 4th Dec., 1923.

27. Genus CYCLONEURA Marsh.

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 289.

As understood by Marshall this genus is characterized by the presence of a small basal cell formed by the base of Cu_2 and A; however in some closely-related forms this little cell is not complete. The diagnosis of the genus should, therefore, be established as follows: Sc short, ending free, M simple; Cu_2 sinuous, vein A ending in its elbow and forming thus a little basal cell, or ending free at some distance before the elbow of Cu_2, the little cell not being then completely closed.

Genotype: *C. flava* Marsh.

This genus is apparenty confined to New Zealand.

The antennae and palpi were not seen by Marshall; the first ones are about as long as the thorax in the male and noticeably shorter in the female in which the flagellar segments are about as long as wide only; the palpi are rather short with the segments subequal to each other.

KEY TO SPECIES.

1. Vein A ending free, not forming a basal cell with Cu_2	2. *aberrans* Tonn.
Vein A ending in Cu_2 with which it forms a little basal cell	2.
2. Front tarsi with last segment dilated in male; front tibiae with dorsal bristles at the tip only; last section of R_1 rather longer than *r-m*	3. *triangulata* Tonn.
Front tarsi normal in male; front tibiae with small dorsal bristles usually present on about the distal third; R_1 shorter	1. *flava* Marsh.

Cycloneura flava Marsh. (Figs. 63, 236.)
Marshall *l.c.* p. 289.

A series of specimens that we refer to this species shows a great deal of variation in colouring; some are completely dark including base of antennae, others have shoulders and base of antennae more or less pale, whereas a few have the mesonotum more or less ferrugineous and antennae extensively yellowish; females in general lighter coloured than males, some having thorax and abdomen ochreous and wings yellowish.

Only the type, a female, was known to Marshall; a male has been chosen as allotype, its hypopygium is represented in Fig. 236.

Type: Port Hill, Christchurch, coll. Marshall.

Allotype: Cass, 27th Nov., 1924 (Tonn.).

Other specimens: Otira, 7th Feb., 1922; Mt. Arthur, 27th Dec., 1921; Dun Mt., 5th Jan., 1922; Cass, 27th Nov., 1924 and Feb., 1925; Hilltop, 15th Jan., 1925 (Tonn.)

Cycloneura aberrans n. sp. Tonn. (Fig. 64.)

♂ Completely dull black with exception of front and middle legs which are brownish-yellow, hind tibiae also somewhat lighter. *Wings* with a rather extensive dark brown spot on anterior border which is more intensive under distal half of Rs; the rest of membrane more or less brownish but tip clear. Vein A not fused at end with Cu and not forming the typical cell of the genus; all other details of venation as in *C. flava*.

♀ Differs from male by antennae relatively much shorter; antennae and palpi entirely yellow; front legs much lighter coloured. Anal lamellae yellow. Wing markings somewhat more intensive but clear apical fascia larger.

Length of body, 2 mm.; wing, 2½ mm.

Type: Nelson (Tonn.), 14th Nov., 1923, in Cawthron Inst. coll.

Paratype: Cass (Tonn.), 30th Nov., 1924.

Paratypes: Nelson, 18th Nov., 1923; Aniseed Valley, 1st Dec., 1923; Dun Mt., 27th Oct., 1922; Cass, 30th Nov., 1924.

Cycloneura triangulata n. sp. Tonn. (Fig. 237.)

♂ *Head* dark brown, antennae with first five segments yellow, the following ones gradually darker, flagellar segments about twice as long as wide. *Thorax*: pronotum orange; mesonotum partly ochreous especially round shoulders, the rest brownish; *Abdomen* brown; hypopygium dark, claspers triangular, orange. *Legs* yellowish; front tarsi dilated at tip, empodium very large. Venation as in *C. flava;* last section of R_1 comparatively longer; anterior part of membrane yellowish with a brown roundish spot under extremity of Rs. Halteres with black knob.

Length of body, 2 mm.; wing, 2½ mm.

Type: Mt. Arthur (Tonn.), 24th Dec., 1921, in Cawthron Inst. coll.

Specimen in Brit. Mus.; West Coast, South Is. (Harris).

28. Genus PARACYCLONEURA nov.

This genus is closely related to *Cycloneura;* head similar with antennae inserted rather low and eyes rather approximated on the face; ocelli in a line, lateral ones touching the eye-margin, median one small; a few postorbital bristles present. Palpi four segmented and short. Pronotum and mesonotum with some long bristles but the rest of thorax completely bare. *Thorax* much arched; *abdomen* moderately long with a large hypopygium. *Legs* normal, tibiae 2 and 3 with rows of moderately long bristles. Venation: Sc short, incomplete: last section of R_1 about equal to *r-m* which is oblique; M unbranched anterior branch of Cu free at the base; posterior branch of Cu regularly curved; A incomplete and weak.

Genotype: *P. apicalis* n. sp.

Paracycloneura apicalis n. sp. Tonn. (Figs. 73, 238.)

♂ *Head* brown, palpi and base of antennae yellow; pronotum and mesonotum orange with black bristles, the rest of thorax darker. *Abdomen* and large swollen hypopygium brown. *Legs* yellow, tip of femora 2 and 3 and of tibiae 3 dark. *Wings* with a preapical transverse dark fascia which is more intensive near anterior border, wing-tip more or less clear.

♀ Antennae more extensively yellow at base; *abdomen* lighter brown, but hind legs darker.

Length of body, 2 mm.; wings, 2½ mm.

Type: Waiho (Tonn.), 21st Jan., 1922, in Cawthron Inst. coll.

Allotype: *idem,* 17th Jan., 1922.

Paratypes: Nelson, 14th Nov., 1923; Otira, 9th Feb., 1922; Cass, Dec., 1924.

A male paratype from Cass has the wing-tip completely brownish like the disc.

29. Genus CAWTHRONIA nov.

Related to *Anomalomyia* from which it is distinguished as far as the venation is concerned by the branch of Cu_1 free at the base which is brought far back towards the wing base like in *Paradoxa.*

Head more elongate than in *Anomalomyia;* the three ocelli present, removed far back on vertex, the middle one smaller and

placed a little more forward. Antennae short (in female), a little longer than head, segments of flagellum much wider than long, compressed. Palpi normal. No special bristles on head, also not on thorax with exception of those on pronotum and scutellum; mesonotum with an evenly spread pubescence. *Thorax* not much arched. *Abdomen* rather short and broad, with only six visible segments (♀). *Legs* short, front coxae and all femora rather dilated; front tibiae with row of spinules on dorsal side; posterior tibiae with some rows of small and of large bristles, all more or less dorsal, the large ones not much longer than tibial diameter. *Wings* with some scattered macrotrichia in anal field and near posterior border. Venation: Costa reaching beyond tip of R_5; Sc rather long ending in costa; Sc_2 absent; *r-m* shorter or subequal to last section of R_1 or to stem of M; Cu_1 free at base; Cu_2 undulating; A also undulating but divergent from Cu and incomplete.

This genus comes near *Clastobasis* Skuse, from which it differs mainly in venation by the complete Sc, the costa produced beyond the tip of R_5 and by the peculiar twist of Cu_2 which is similar to that of *Cycloneura* and allied forms.

Genotype *C. nigra* n. sp.

Cawthronia nigra n. sp. Tonn. (Fig. 72.)

♀ Entirely black, rather dull, pubescence of body brownish-black; all appendages black with exception of anterior legs which are a shade lighter on femora and tibiae. The whole wing brownish, this colouration much more intensive on anterior border but not at tip.

Length of body, 2¼ mm.; wing, 2¾ mm.

Type: Nelson (Tonn.), 1st Nov., 1923, in Cawthron Inst. coll.

Paratype: *idem*, 14th Nov., 1923.

In the paratype Sc is distinctly shorter, not reaching base of Rs and *r-m* is nearly equal to last section of R_1. There is otherwise no other difference which would justify its being considered as belonging to another species. They have been both obtained in the same spot on the Cawthron Institute grounds.

30. Genus SIGMOLEIA, nov.

Head of the usual form. Three ocelli, placed almost in a straight line far back near nape, laterals remote from eyes. Palpi short, apparently consisting of only two segments. Labium small and little produced. Mesonotum strongly arched, bristles little developed. Anepisternites bare; hypopleurites hairy. *Abdomen* rather short and stout, with six visible segments. *Legs* rather short; front and middle tibiae without bristles, hind tibiae with only one row, placed on the other side; no hind tibial comb; tibial setae irregularly arranged; claws rather large but simple; empodium small. *Wings* without macrotrichia on membrane; microtrichia irregularly arranged. Sc very short and ending free; Costa reaching far beyond R_5; *r-m* short, rather oblique; median fork not much longer than its stem; M_1 strongly sinuous, cell M_1 much widened on outer half; Cu_2 almost at right angles to C_1 at base, then sharply bent, An meeting it at bend and forming a closed cell.

Genotype: *S. melanoxantha,* n. sp.

Although there can be little doubt that this genus is to be placed in the Leiini, some of its characters, such as the absence of bristles from the middle tibiae, are so peculiar that it stands quite apart from the other genera of the tribe. The general appearance rather suggests *Anomalomyia,* but the condition of the cubital and anal veins, also the rudimentary subcosta, indicate a nearer connection with *Paradoxa* and *Cycloneura.*

Sigmoleia melanoxantha n. sp. Edw. (Fig. 65.)

♀ *Head* black, somewhat shining, with short black bristles. Antennae with first three segments yellow, also bases of next five, the rest black; flagellar segments about half as long as broad. Palpi black. *Thorax* entirely black, somewhat shining, bristles all black. Scutellum with four rather short marginal bristles and some smaller hairs. *Abdomen* nearly bare, yellow, posterior margins of each of tergites 2-5 and the whole of segments 6 and 7 black; anal lamellae ochreous; sixth segment rather small. *Legs* with the front coxae and the hind femora entirely black; the four posterior coxae yellow; front and middle femora and all tarsi dark brownish-ochreous; hind tibiae black at tip; spurs black, on posterior legs outer spur about half as long as inner. About 10 bristles on hind tibia, the longest rather longer than diameter of segment. *Wings* with a slight yellow tinge, near the apical half brown, darker towards costa; a dark spot in base of cell R_5; upper half of costal cell dark; R_1 about six times as long as *r-m.* Halteres with yellow stem and black knob.

Length of body, 3 mm.; wing, 3·2 mm.

♂ Antennae less extensively yellow at base, flagellar segments about as broad as long. *Head* and *thorax* dull black. *Abdomen* less extensively yellow, flat, seventh segment not visible. Hypopygium of the pincers type, black.

Type: Ohakune (T. R. Harris), May-July, 1923, in Brit. Mus. coll.

Allotype: Lake Brunner, 16th Dec., 1925 (Tonn.).

31. Genus TRICHOTERGA nov.

This genus comes very near *Tetragoneura* from which it differs mainly by the presence of a few pleurotergal bristles, a character common with *Megaphtolmidia,* but there is no hind tibial comb as in this last genus.

The venation differs little if at all from that of most of the New Zealand *Tetragoneura* but the hypopygium has a rather complicated structure quite different from the simple type of *Tetragoneura.*

This genus is closely related to *Sciarella* Meun. by its venation; it is, however, impossible to ascertain if the other characters would justify considering *Trichoterga* as congeneric with this fossil form.

Genotype: *T. monticola* n. sp.

Trichoterga monticola n. sp. Tonn. (Figs. 78, 244.)

♂ *Head* brown; palpi rather small, brown; antennae brown, segments of the flagellum about twice as long as wide. *Thorax* brown,

mesonotum dull, more or less greyish with dark pubescence and long bristles on disc and sides leaving some bare stripes. *Abdomen* brown, more or less shining with six visible segments. Hypopygium half-hidden under sixth tergite, its structure as in fig. 244. *Legs* yellow. *Wings* clear; *r-m* not quite half as long as R_1; stem of M two and a half times as long as *r-m;* fork of Cu placed a little over that of M; A distinct but interrupted at level of fCu. Halteres yellowish.

Length of body and wing, 2½ mm.

Type: Otira (Tonn.), 8th Feb., 1922, in Cawthron Inst. coll.

Paratype: Nelson (Tonn.), 20th Apl. 1922.

Specimens in Brit. Mus.: Ohakune (Harris).

This species seems to be very variable in colour. Several specimens from Ohakune have the *thorax* nearly all yellowish, mesonotum scarcely darker, but halteres with the knob more or less completely blackish instead of yellow, yet the hypopygium is typical. On the other hand some dark specimens from the same locality have the pleurae almost as dark as the notum, which is dark brown and not striped, but the halteres are yellow.

T. monticola, var. **incisurata** nov. Edw.

Scape clear yellow; mesonotum with three dark stripes along lines of dorsocentral and acrostical bristles; posterior margin of abdominal segments rather broadly and conspicuously yellow.

Length of wing, 4½ mm.

Type: Mt. Grey (Campbell), in Brit. Mus. coll.

Paratype: Ohakune (Harris).

32. Genus TETRAGONEURA Winn.

In this genus of nearly world-wide distribution, the small cell is not always present, even in all the specimens of the same species.

Key to Species.

1.	Vein R_4 usually present	2.
	Vein R_4 usually absent	7.
2.	Mesonotum with rather evenly spread pubescence leaving no bare stripes	3.
	Mesonotum with bare spaces between the stripes of pubescence and bristles	4.
3.	Halteres with black knob	1. *opaca* Tonn.
	Halteres entirely yellow	2. *fusca* Tonn.
4.	Front tibiae with about ten dorsal spines in the distal half	5. *spinipes* Edw.
	No such spines	5.
5.	Halteres yellow	6.
	Halteres mostly black	7. *proxima* Tonn.
6.	Mesonotum dark ochreous with three blackish stripes converging behind; base of antennae extensively yellow	3. *nigra* Marsh.
	Mesonotum entirely dark; stem of M not twice as long as *r-m*	4. *minima* Tonn.
7.	Abdomen with posterior margin of segments ochreous; base of Rs rather oblique	6. *obliqua* Edw.
	Abdomen entirely brown	8.
8.	Halteres completely or partly dark	9.
	Halteres yellow	12.

9. Second segment of palpi provided with a terminal extension as long and broad as the segment itself	9. *distincta* Tonn.
Palpi normal	10.
10. Base of antennae, palpi and coxae yellowish	11. *minuta* Tonn.
Base of antennae, palpi and greater part of coxae dark	11.
11. Tergal plate of hypopygium longer than broad and provided with four spines on its distal edge	8. *venusta* Tonn.
Tergal plate of hypopygium not longer than broad and without spines	10. *obscura* Tonn.
12. All the bristles of the thorax yellow, tibial spurs yellow	12. *ultima* Tonn.
Bristles of thorax and tibial spurs black	13.
13. Mesonotum greyish with four narrow darker stripes	13. *rufipes* Tonn.
Mesonotum without darker stripes	14. *flexa* Edw.

1. **Tetragoneura opaca** n. sp. Tonn. (Fig. 240.)

♂ *Head* brown; palpi small, yellow; second segment of antennae yellowish, flagellum with the segments as long as broad. *Thorax* greyish-black, mesonotum with short yellowish-brown pubescence evenly distributed and leaving no bare stripes, long bristles on disc greyish black, mesonotum with short yellowish-brown pubescence Hypopygium as in fig. 240. *Legs* yellowish-brown, posterior coxae darker; tip of hind femora and tibiae as well as tibial spurs black. *Wings* clear; R_4 present; *r-m* nearly equal to last section of R_1; stem of M nearly twice as long as *r-m;* fCu under R_4; A distinct but short. Halteres with yellow stem and black knob.

Length of body, 1¾ mm.; wing, 2 mm.

Type: Aniseed Valley, Nelson (Philpott), 12th Mar., 1922, in Cawthron Inst. coll.

2. **Tetragoneura fusca** n. sp. Tonn. (Figs. 76, 253.)

♂ *Head* brown; mouth parts yellow, palpi rather long, basal half of antennae yellow, flagellar segments scarcely longer than broad. *Thorax* black, disc of mesonotum ferrugineous, its pubescence small, dark and evenly distributed leaving no bare stripes, no conspicuous bristles except on sides where they are very long. *Abdomen,* first segment partly yellowish, the rest black with dark pubescence. Hypopygium as in fig. 253. *Legs* yellow, apical fourth of hind femora black; tibal spurs reddish. *Wings* subhyaline; R_4 present; *r-m* equal to last section of R_1; stem af M half as long again as *r-m;* fCu under base of Rs. Halteres yellow.

♀ Similar to male, antennae more extensively yellow, venter yellow except distally, first abdominal segment completely yellow.

Length of body, 2 mm.; wing, 2½ mm.

Type: Lake Brunner (Tonn.), 3rd Feb., 1922, in Cawthron Inst. coll.

Allotype: *idem.*

Paratypes: Waiho, 28th Jan., 1922; Nihotupu, 24th Feb., 1923 (Tonn.); Ohakune (Harris).

3. **Tetragoneura nigra** Marsh. (Fig. 252.)

Marshall, *Trans N.Z. Inst.,* 28, 1896, p. 286, pl. 13, fig. 10-11.

The hypopygium of the type is shown in fig. 252.

♂ *Head* brown; palpi yellow, rather long; first half of antennae yellow; segments of flagellum longer than broad. *Thorax* brown;

mesonotum dark ochreous with three darker stripes converging behind and placed along rows of acrostical and dorsocentral bristles and hairs between which there are some bare stripes. Pubescence brownish.

Wings clear; R_4 present; *r-m* subequal to R_1; stem of M one-half time longer than *r-m* and not faint; fCu placed before the base of Rs; A distinct but interrupted. Halteres yellow.

Besides Lincoln, which is the type's locality, this species has been collected at: Waiho, 19th Jan., 1922; and Nelson, 28th Nov., 1923 (Tonn.)

4. **Tetragoneura minima** n. sp. Tonn. (Fig. 250.)

♂ *Head* black; base of antennae and palpi yellowish. *Thorax* black, mesonotum rather shining with bare lines and black bristles on disc. *Abdomen* blackish, base of venter yellow. Pubescence of body dark. *Legs* yellowish, tip of hind femora, of posterior tibiae and tarsi darker; only one spur present on middle tibiae. *Wings* subhyaline; R_4 present; R_1 and R_5 nearly touching each other along the little cell which is therefore exceedingly narrow; last section of R_1 larger than *r-m;* stem of M not faint and twice as long as *r-m*; fCu below base of Rs; A distinct. Halteres yellow.

Length of body and wing, 2 mm.

Type: Lake Brunner, 2nd Feb., 1922 (Tonn.), in Cawthron Inst. coll.

5. **Tetragoneura spinipes** n. sp. Edw. (Figs. 77, 242.)

♂ *Head* black, ocelli in a flattened triangle. Antennae black, except for second segment and base of third, which are ochreous; first few flagellar segments about half as long again as broad, the rest gradually more elongate, pubescence almost as long as diameter. Palpi yellow. *Thorax* dull dark brown, bristles dark. Three strong pronotal bristles. Narrow bare lines between acrostichal and dorsocentral series and between the latter and sides of mesonotum. Scutellum with two long bristles. *Abdomen* entirely black. Hypopygium large; ninth tergite with two little rectangular projections; claspers broad on basal third, then suddenly narrowed, the end portion slender and nearly bare. *Legs* ochreous; tarsi, tibial spurs, and tips of femora and tibiae black. Front tibiae with a group of about ten short black spines on dorsal surface of outer half. Middle tibiae somewhat swollen near base with an oval sensory area on dorsal surface. Last segment of front tarsi broad, with greatly enlarged cushion-like empodium. *Wings* clear on basal two-thirds; outer third rather distinctly darkened. Sc very short; R_1 about half as long again as *r-m;* R_4 present, the small cell nearly three times as long as broad; costa reaching about four-fifths of distance from R_5 to M_1. Base of cubital fork approximately below middle of *r-m*. An. reaching base of cubital fork, rather close to and parallel with Cu. Halteres ochreous.

♀ Antennae mainly ochreous, somewhat darkened apically; more slender and much shorter than in ♂, segments hardly longer than broad. Mesonotum lighter than in ♂. *Abdomen* with broad yellow basal bands on each of tergites 2-4, the whole venter also yellow.

Front tibiae spinose as in ♂, but middle tibiae simple, as are also front tarsi.

Length of body, 3 mm.; wing, 3.2 mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratypes 2 ♂ 2 ♀, Nov.-Dec., 1922.

This species seems very distinct by the spiny front tibiae. In spite of the striking differences between the two sexes there can be little doubt that all the specimens belong to one species.

6. **Tetragoneura obliqua** n. sp. Edw. (Fig. 249.)

♂ *Head* black. Antennae entirely dark, rather slender, flagellar segments, except first two or three, distinctly over twice as long as broad, pubescence shorter than diameter. Palpi very long, yellow. *Thorax* dark brown, slightly shining, slightly and uniformly grey-dusted. Bristles yellow; four or five pronotal; outer pair of scutellar bristles not much smaller than inner. Mesonotum with usual bare lines. *Abdomen* brown, pale-haired, posterior margins of tergites ochreous. Hypopygium moderately large; anal segment much more developed than in most of the other species; claspers flattened and irregularly bilobed at tip; ninth sternite with forked median appendage. *Legs* ochreous; tarsi darkened; spurs yellow; all femora dark brown at base, and hind pair also at tip. Front empodia not enlarged; front tibiae without spines; mid tibiae simple. *Wings* nearly clear, tip not darkened. Sc moderately long and ending in R; R_1 slightly longer than *r-m;* R_4 absent; base of Rs oblique and rather longer than in most of the genus; costa reaching about three-fifths of distance from R_5 to M_1; fCu below base of *r-m;* An reaching level of fCu, distinctly divergent from Cu. Halteres yellow.

Length of body, 3.2 mm.; wing, 3.2 mm.

Type: Sumner, Christchurch (J. W. Campbell); Jan., 1923, in Brit. Mus. coll.

This species is well-distinguished by the oblique Rs and Sc ending in R, also by the unusual form of the hypopygium.

7. **Tetragoneura proxima** n. sp. Tonn. (Fig. 241.)

♂ *Head* with its appendages brown; palpi small, scape slightly lighter, segments of flagellum longer than broad. *Thorax* blackish-brown, mesonotum dull, somewhat greyish, its disc with some bare stripes and long black bristles. Pubescence brownish. *Abdomen* brown with dark pubescence. Hypopygium as in fig. 241. *Legs* yellowish, tip of hind coxae and femora dark; tibial spurs black; only one spur on middle tibiae. *Wings* clear; R_4 present; last section of R_1 equal to *r-m*, stem of M faint, nearly twice as long as *r-m;* fCu under R_4; A nearly entirely absent. Halteres black, stem somewhat lighter at base.

Length of body and wing, 2½ mm.

Type: Mt. Arthur (Tonn)., 27th Dec., 1921, in Cawthron Inst. coll.

8. **Tetragoneura venusta** n. sp. Tonn. (Fig. 248.)

♂ *Head* greyish-brown; palpi rather long, brown; antennae entirely brown, segments of the flagellum about half as long as broad. *Thorax* dull brown, mesonotum with long bristles on disc and brown

hairs with bare stripes. *Abdomen* brown; hypopygium as in Fig. 248. *Legs* brownish-ochreous, coxae blackish, tibial spurs black. *Wings* clear: R_4 missing; last section of R_1 equal to *r-m;* stem of M somewhat faint and subequal to *r-m;* fCu a little before base of Rs; A distinct but incomplete. Halteres blackish.

Length of body and wing, 2½ mm.

Type: Otira, 7th Mar., 1922 (Tonn.), in Cawthron Inst. coll.

9. **Tetragoneura distincta** n. sp. Tonn. (Fig. 246.)

♂ *Head* brown; ocelli in triangle, some rather long bristles on vertex; antennae entirely brown, rather long, segments of flagellum about twice as long as broad and with short but distinct pedicel, second segment of scape with very long dorsal bristles. Palpi dark, rather long and of peculiar structure: first segment very small, second large and strong with an external terminal extention as long and broad as the segment itself, third segment club-shaped, fourth cylindrical. *Thorax* rather dull brown, mesonotum with long bristles on disc and very narrow bare stripes; pubescence brown. *Abdomen* brown with yellowish pubescence. Hypopygium structure as in Fig. 246. *Legs* brownish-ochreous, coxae black, hind femora brown. *Wings* clear; *r-m* equal to half of last section of R_1; R_4 absent; stem of M not very faint and about twice as long as *r-m;* fCu a little before base of Rs; A distinct on its first half. Halteres brown.

Length of body, 3 mm.; wing, 3¼ mm.

Type: Mt. Arthur (Tonn.), 23rd Dec., 1921, in Cawthron Inst. coll.

10. **Tetragoneura obscura** n. sp. Tonn. (Fig. 245.)

♂ *Head* greyish-brown; palpi rather long, brown; antennae entirely brown; segments of flagellum about twice as long as broad. *Thorax* brown, mesonotum with black bristles and brown hairs with bare stripes in between. *Abdomen* dull brown with darkish long pubescence. Hypopygium as in Fig. 245. Coxae blackish with exception of tip of front ones which are ochreous like the femora and tibiae, hind femora with black tips. *Wings* clear; R_4 missing; R_1 a little shorter than *r-m;* stem of M rather faint, a little longer than *r-m;* fCu under the middle of the stem of M; A distinct but interrupted. Halteres with yellow stem and dark knob.

Length of body and wing, 2½ mm.

Type: Ohakune (Tonn.), 8th Mar., 1923, in Cawthron Inst. coll.

11. **Tetragoneura minuta** n. sp. Tonn. (Fig. 251.)

♂ *Head* black; antennae brown, the scape and the rather long palpi dark ochreous; segments of flagellum longer than broad. *Thorax* blackish-brown with dark pubescence. Hypopygium as in fig. 251. *Legs* rather dark yellowish, tip of posterior femora, tibiae and tarsi darker. *Wings* subhyaline; R_4 missing; base of Rs somewhat oblique; *r-m* distinctly longer than last section of R_1; stem of M faint, very little longer than *r-m*; fCu more proximal than base of Rs. Halteres black.

Length of body and wing 2 mm.

Type: Nehotupu (Tonn.), 28th Feb., 1923, in Cawthron Inst. coll.

12. **Tetragoneura ultima** n. sp. Tonn. (Fig. 239.)

♂ *Head* dark; ocelli in a flat triangle; antennae entirely brown, segment of flagellum about twice as long as wide; palpi moderately long, ochreous. *Thorax* dull blackish-brown; disc of mesonotum with three rows of hairs and bristles with conspicuous bare spaces between them; all bristles and hairs yellow. *Abdomen* yellowish; hypopygium as in fig. 239, the claspers flat at end. *Legs*: coxae blackish with exception of front ones which are ochreous distally, rest of legs yellowish; a sensory organ on base of middle tibiae dorsally. *Wings* subhyaline; R_4 missing; *r-m* a little smaller than last section of R_1; stem of M half as long again as *r-m;* fCu distinctly before base of Rs which is a little oblique. Halteres yellow.

Length of body and wing, 2½ mm.

Type: Aniseed Valley, Nelson (Tonn.), 1st Dec., 1923, in Cawthron Inst. coll.

13. **Tetragoneura rufipes** n. sp. Tonn. (Figs. 75, 243.)

♂ *Head* blackish; mouth-parts and scape yellowish; segments of flagellum as long as broad. *Thorax* brownish-black with some greyish dusting on the mesonotum which shows four narrow darker bands where the pubescence is missing. Pubescence yellow, bristles black. *Abdomen* blackish-brown with yellowish pubescence. Hypopygium dark, structure as in fig. 243. *Legs* yellow, hind femora somewhat darker towards tip. *Wings* with a very slight shadow towards tip and posterior border; R_4 absent; R_1 a little smaller than *r-m;* stem of M a little longer than *r-m;* fCu somewhat more proximal than that of M. Halteres yellow.

♀ Similar to male.

Length of body and wing, 2 mm.

Type: Otira (Tonn.), 6th Feb., 1922, in Cawthron Inst. coll.

Allotype: Otira, 10th Feb., 1922.

Paratypes: Otira, 9th Feb., 1922; Waiho, 20th Jan., 1922 (Tonn.).

The position of fCu is somewhat variable; it is sometimes more proximal than in type.

14. **Tetragoneura flexa** n. sp. Edw. (Fig. 247.)

♂ *Head* black. Antennae with first segment brown, second and third clear yellowish, the rest black; flagellar segments about twice as long as broad, pubescence quite as long as diameter. Palpi yellow, not very long. *Thorax* dull blackish, somewhat grey-dusted; nearly denuded, the remaining hairs being yellowish; mesonotum with the usual four bare lines, middle pair very narrow. *Abdomen* blackish, first few segments lighter ventrally. Hypopygium small, constructed very much as in *T. rufipes,* but ninth tergite less triangular, and the long paramers much more slender and with tips bent rather sharply outwards at right angles to basal portion. *Legs* ochreous; tarsi and spurs dark; hind femora broadly dark brown at tips and also at base beneath. Front empodia not enlarged; middle tibiae simple. *Wings* nearly clear, tip greyish. Sc short; R_1 as long as *r-m*; costa reaching two-thirds of the distance from R_5 to M_1; R_4 absent; fCu below middle of *r-m;* An. not reaching fCu, parallel with Cu. Halteres yellow.

Length of body, 2·8 mm.; wing, 2·8 mm.

Type: Ohakune (T. R. Harris), Dec., 1922, in Brit. Mus. coll.

33. Genus ALLODIA Winn.

This cosmopolitan genus is rather scantily represented in New Zealand.

KEY TO SPECIES.

1. Wings with brownish spots and bands	1. *maculata* Tonn.
Wings unmarked	2.
2. Two scutellar bristles	3.
Four scutellar bristles	4.
3. Thorax completely orange; segments of the flagellum not longer than broad	2. *rufithorax* Tonn.
Darkish species, the thorax mostly brown; segments of the flagellum one and a-half times longer than broad	3. *fragilis* Marsh.
4. Three propleural bristles	4. *flava* Marsh.
Two propleural bristles	5. *quadriseta* Edw.

1. **Allodia maculata** n. sp. Tonn. (Figs. 82, 254.)

♂ *Head* brownish; palpi long, yellow; scape yellow flagellum brown, its segments very little longer than broad, the whole antenna a little longer than head plus thorax. Mesonotum with disc brownish, the three very wide and rather faint dark bands being nearly completely fused and leaving only shoulders and sides yellow; disc of scutellum and pleurae dark. *Abdomen* brownish, posterior margin of segments yellow chiefly on sides. Hypopygium dark, structure as in fig. 254. *Legs* yellow, base of all femora and tip of hind ones dark; tarsi dark. *Wings* with dark markings: a spot on base of Rs, *r-m* and fM; a transverse zig-zag band from tip of R_1 to the tip of Cu_1; the last spot under middle of Cu_2; fork of Cu under base of *r-m*. Halteres yellow.

Length of body, 2½ mm.; wing, 2½ mm.

Type: Nelson (Tonn.), 4th Mar., 1922, in Cawthron Inst. coll.

Specimens in Brit. Mus.: Ohakune (Harris), May-July, 1923.

2. **Allodia rufithorax** n. sp. Tonn. (Fig. 259.)

♂ *Head* dark orange, more brownish on the frons; palpi rather long, yellow; scape yellow flagellum brown, its segments not longer than broad, the whole antenna not longer than head plus thorax. *Thorax* completely orange with yellow pubescence; three propleural bristles and two scutellar. *Abdomen* orange at base on two first segments, then gradually darker towards extremity and more so dorsally. Hypopygium dark with inferior styliform appendages yellow. *Legs* yellow, tibiae and tarsi darker. *Wing* hyaline; fCu placed a little before base of *r-m*. Halteres yellow.

Length of body, 2½ mm; wing, 2 mm.

Type: Otira, 9th Feb., 1922 (Tonn.), in Cawthron Inst. coll.

3. **Allodia fragilis** (Marsh.) (Figs. 81, 258.)

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 308 (*Brevicornu*).

In this species antennae of male are rather stout, flagellum segments under one and a half times as long as broad, those of female shorter and stouter at base of flagellum. Three strong propleural

bristles, sometimes a fourth weak one. Two scutellar bristles. Hypopygium as shown in fig. 258. Stem of median fork considerably longer than *r-m*; base of cubital fork below base of *r-m*; Cu_2 curved; divergent from Cu_1 apically.

Besides Lincoln, which is the type's locality, this rather common species has been collected at: Christchurch and environs from Oct. to Feb.; Nelson, 9th Sept., 1922 (Tonn.); Ohakune (Harris).

4. **Allodia flava** (Marsh.).
Marshall, *l.c.*, p. 307 (*Brevicornu*).

In this species there are three propleural and four scutellar bristles; fCu is placed before the base of *r-m*.

Besides Mt. Torlesse, the type's locality, this species is known from: Elgin Bay, L. Wakatipu (Curtis); Aniseed Valley, Nelson (Tonn.), 1st Dec., 1923.

5. **Allodia quadriseta** n. sp. Edw. (Figs. 255, 257.)

A small dark species superficially resembling *A. fragilis*, but differing as follows:—

Antennae of ♂ more slender, the flagellar segments almost twice as long as broad. Prothorax and shoulders more or less ochreous. Only two strong propleural bristles; four scutellar bristles, outer pair not much shorter than inner. Hypopygium larger and yellow, claspers very small and black. Stem of median fork scarcely longer than *r-m*; base of cubital fork well before base of *r-m*; Cu_2 almost straight, parallel with Cu_1 apically, fork much narrower than in *A. fragilis*.

Type ♂ and allotype ♀: Ohakune (T. R. Harris), Apl., 1923; in Brit. Mus. coll.

Paratype ♂ 10th Jan., 1922; Mt. Albert (A. E. Brookes), 1 ♂, 29th May, 1915.

34. Genus EXECHIA Winn.

The five New Zealand species belong to a group of the genus in which R_5 is rather distinctly curved, M_1 rather strongly sinuous, the cubital fork rather short. Cu_1 rather faint and A absent; representatives of the same group are found in Australia and in the Oriental region.

Exechia thomsoni Mill. has not been included in this list as only some parts of the type are still preserved which do not allow to distinguish this species from *E. hiemalis*; in fact it may be identical with the latter species.

KEY TO SPECIES.

1.	Posterior coxae at least dark at the tip	2.
	Posterior coxae completely yellow	3.
2.	Posterior coxae dark at the tip only	1. *E. hiemalis* Marsh.
	Posterior coxae dark on the sides	3. *E. novae-zelandiae* Tonn.
3.	Palpi dark	4.
	Palpi yellow	2. *E. howesi* Edw.
4.	Scape yellow	4. *E. filata* Edw.
	Second segment of the scape mainly dark	5. *E. biseta* Edw.

1. **Exechia hiemalis** Marsh. (Figs. 80, 265.)
Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 300, pl. 13, figs. 18-19.

This species is rather variable in size and colour; especially noteworthy is the variation of the halteres; in some specimens (Christchurch) these organs are entirely pale, or at most with the knob a little darkened at base; many of those from the North Island, however, have the knob largely or entirely blackish.

The best distinction from the four other species seems to be in the colour of the posterior coxae which have nearly always a dark brown spot at the tip. The hypopygium of the male has a simple median ventral appendage on each side of which is a large flat bare plate provided with a little hook; the long slender process of the upper clasper is angular at its base (see fig. 265).

This insect is rather common in all parts of New Zealand from July to March.

2. **Exechia howesi** n. sp. Edw. (Figs. 263, 264).

♂ Differs from *E. hiemalis* Marshall as follows:—

Third abdominal tergite with an irregular dark shade from dorsal stripe to lateral margin, but leaving posterior margin broadly ochreous. Hypopygium with mid-ventral appendage somewhat cruciform, no paired appendages associated with it; process of upper clasper not angled at base; lower clasper rather differently shaped. Hind coxae with a narrow dark line running almost the whole length of outer side; mid-coxae with traces of two dark lines. Knob of halteres blackish.

Type: Leith Valley, Dunedin (G. Howes), 1st Aug., 1922. A female from Queenstown (L. Curtis), 8th Dec., 1922, in Brit. Mus. coll, probably belong to this species.

3. **Exechia novae-zelandiae** n. sp. Tonn. (Fig 261.)

♂ *Head* brownish; face orange; palpi, scape and base of third antennal segment yellow, the rest of antennae brown. Pronotum orange; mesonotum ochreous, darker on posterior part of disc, the rest of thorax darker; besides the two long bristles on hypotergites there are a few much shorter ones and numerous small hairs. *Abdomen*: disc of segment 1 brown, the rest orange; segment 2 orange at base; segment 3 orange at base, on lateral borders, and narrowly on hind margin, but not in middle, the rest of abdomen brown. Hypopygium mostly orange, its structure according to fig. 261. *Legs* yellowish; coxae 2 and 3 dark near tip, the middle ones with a dark marking before middle, hind ones with dark streak nearly on the whole length. *Wings* as in *E. hiemalis*. Halteres yellow, base of knob darker.

Length of body, 4 mm.; wing, 3½ mm.

Type: Waiho (Tonn.), 16th Jan., 1922, in Cawthron Inst. coll.

4. **Exechia filata** n. sp. Edw. (Fig. 260.)

♂ Differs from *E. hiemalis* Marshall as follows:—

Palpi blackish except at the base. Third abdominal tergite with a dark streak along lateral margins. Hypopygium with mid-ventral appendage blackened and somewhat T-shaped, paired appendages on

each side of it small and pointed; upper clasper with the long process even more slender and thread-like, not angled at base; lower clasper stout, black, and differently shaped. Coxae marked as in *E. howesi*. Cu_1 stronger and somewhat sinuous; knob of halteres dark.

Type: Ohakune (T. R. Harris); and 1 ♀, May-Aug., 1923, in Brit. Mus. coll.

5. **Exechia biseta** n. sp. Edw. (Fig. 262.)

♂ Differs from *E. hiemalis* Marshall as follows:—

Second antennal segment mainly dark brown, though first and base of second are conspicuously pale yellow. Palpi dark brown except at base. Third abdominal tergite with nearly the apical half dark, though hind margin is narrowly pale. Hypopygium with a single long slender mid-ventral appendage; bristly ventral processes longer, truncate at tip, and there with only two long bristles rather wide apart. Process of upper clasper not angled at base; lower clasper less bifid at tip. Posterior coxae with dark cloudy markings rather more extensive than in *E. howesi*. Knob of halteres mainly blackish.

Type: Queenstown (L. Curtis), 14th Sept., 1923, in Brit. Mus. coll.

35. Genus MYCETOPHILA.

Although the species of this genus seem to be almost as numerous in New Zealand as in Europe, they do not exhibit quite so great a range of structure, and the preponderance of somewhat primitive types is very noticeable. Many of the New Zealand species have the pteropleural bristles very weak and hairlike, though numerous; this being evidently a primitive feature. On the other hand very few of the species have the tibial bristles quite so strongly developed as in the majority of European species. The hypopygium in most of the forms is of a rather uniform type, approximating closely to that of the European *M. fungorum* Deg., with long vertically placed claspers and a very deep and narrow cleft in the mid-ventral line.

KEY TO SPECIES.

1.	Wings with a distinct dark band before the tip and sometimes with the tip also dark	2.
	Wings with a dark central spot and dark spots or clouds at the tip of the veins	16.
	Wings with a dark central spot and the apex more or less clouded, at least towards the costa	18.
	Wings unmarked or with central spot only	25.
2.	Middle tibiae with three or four bristles on the outer row	3.
	Middle tibiae with only two bristles on the outer row	12.
3.	Pteropleurites with numerous hairs but no strong bristles	4.
	Pteropleurites with 2-7 distinct bristles in addition to short hairs	9.
4.	Scutellum with six bristles; wing markings elaborate and extensive	1. *ornatissima* Tonn.
	Scutellum with four bristles (normal)	5.

5.	Wings with cloudy dark markings, apart from the subapical band	6.
	Wings largely clear; subapical band well marked; a small well-defined spot in or near the base of cell Cu_1	8.
6.	Wings with a dark cloud close to the tip which leaves the extreme tip whitish; hind femora with a long dark stripe beneath	2. *sylvatica* Marsh.
	Wings otherwise; hind femora with a dark spot near base beneath	7.
7.	Middle tibiae with 6 dorsal bristles, wing tip hardly darkened	3. *curtisi* Edw.
	Middle tibiae with 5 dorsal bristles; wing tip distinctly darkened	4. *similis* Tonn.
8.	Mesonotum yellowish, unstriped; subapical band narrower and oblique	5. *elegans* Tonn.
	Mesonotum with three dark stripes; band on wings broad and transverse.	6. *latifascia* Edw.
9.	Tibial bristles red; wings extensively dark; 6-7 pteropleural bristles	7. *howletti* Marsh.
	Tibial bristles black; wings with central spot, a subapical band and sometimes a dark tip	10.
10.	Wings with a dark tip	12. *consobrina* Tonn.
	Wings without dark tip	11.
11.	Wing band broader, reaching costa; 2-3 pteropleural bristles	9. *vulgaris* Tonn. 10. *trispinosa* Tonn.
	Wing band narrow, curved not reaching the costa, sometimes very little distinct; four pteropleural bristles	8. *virgata* Tonn.
12.	Pteropleurites with bristly hairs only (about 8); wings with an irregular but complete band across the middle	11. *elongata* Tonn.
	Pteropleurites with 2-3 distinct bristles; wings without complete middle band	13.
13.	Central wing spot small, not reaching costa	15. *minima* Edw.
	Central wing spot large and reaching costa	14.
14.	Middle tibiae with two ventral bristles	16. *submarshalli* Tonn.
	Middle tibiae with only one ventral bristle	15.
15.	Wing tip distinctly darkened	13. *marshalli* End.
	Wing tip clear	14. *pseudomarshalli* Tonn.
16.	Distinct dark spot at tip of veins, and dark clouds in cells R_5, M_1 and M_2	18. *marginepunctata* var. *ruapehuensis* Edw.
	Spots at tip of veins fainter and ill-defined; no distinct dark clouds in cell R_5, M_1 and M_2	17.
17.	Wing more than twice as long as wide	17. *marginepunctata* Tonn.
	Wing not twice as long as wide	19. *marginepunctata* var. *rotundipennis* Edw.

18. Body shining black; hind tibial bristles irregularly arranged, no bristle on inner side of mid tibiae	19.
Body not shining black; hind tibial bristles in two definite rows; 2-4 bristles on inner side of mid tibiae	21.
19. Palpi black; wing markings faint	23. *nigripalpis* Edw.
Palpi yellow; wing markings distinct	20.
20. Lower part of wing tip clear	22. *nitidula* Edw.
Whole wing tip more or less dark	20. *nitens* Tonn.
	21. *subnitens* Edw.
21. Pteropleurites with numerous hairs, two of which being rather longer than the rest	22.
Pteropleurites with 3-4 distinct bristles; mesonotum darker; wing tip darkened	23.
22. Mesonotum with a somewhat reddish tinge; dark wing tip sharply defined; abdominal segments with a yellow hind border	24. *phyllura* Edw.
Mesonotum and abdomen completely brown; wing markings ill-defined	25. *subtilis* Tonn.
23. Middle tibiae with 5 dorsal bristles; coxae and femora clear yellow	24.
Middle tibiae with 4 dorsal bristles	29. *nigricans* Tonn.
24. Middle tibiae with 3 external and 2 long ventral bristles; costal cell darkened except at base	26. *diffusa* Tonn.
Middle tibiae with 2 external and 2 shorter ventral bristles; costal cell clear except at tip	27. *grisescens* Edw. 28. *lomondensis* Edw.
25. Pteropleurites with a row of short hairs (one or two in *M. fumosa, M. viridis* and *M. subspinigera* a little longer than the rest but not developed into strong bristles); wings without central dark spot	26.
Pteropleurites with 2-6 distinct bristles, often with fine hairs in addition	33.
26. Middle tibiae with 6-7 dorsal and 4 external bristles; large long-legged species	30. *grandis* Tonn.
Middle tibiae with 4-5 dorsal and 3 external bristles	27.
Middle tibiae with 3-4 dorsal and 2 external bristles	28.
27. Pleurae and coxae light green; middle tibiae with one long ventral bristle	35. *viridis* Edw.
Thorax yellowish; middle tibiae with one ventral bristle	31. *subspinigera* Tonn.
Thorax blackish; middle tibiae with three ventral bristles	32. *fumosa* Tonn.
28. Body almost uniformly blackish-grey; middle tibiae without ventral bristles	29.
Thorax ochreous or reddish-brown	30.
29. Halteres whitish	33. *griseofusca* Tonn.
Knob of halteres black	34. *griseofusca* var. *nigriclava* Edw.
30. Front tarsi of male slender; anal lamellae of female orange; mid tibiae with one ventral bristle	31.
Front tarsi of male thickened; anal lamellae of female dark brown	32.
31. Sides of abdomen mainly blackish, except on segment 6	36. *pollicata* Edw.
Sides of abdomen almost wholly orange	37. *luteolateralis* Edw.

32.	Middle tibiae with a ventral bristle	38. *crassitarsis* Edw.
	Middle tibiae without a ventral bristle	39. *tapleyi* Edw.
33.	Anal field of wing much enlarged and often folded over	40. *dilatata* Tonn.
	Anal field of wing normal	34.
34.	Middle tibiae normally with 4 external bristles; hind bristles irregular; central wing-spot distinct	35.
	Middle tibiae with 3 external bristles; hind tibial bristles regular	36.
	Middle tibiae with 2 external bristles; hind tibial bristles regular	40.
35.	Thorax dark; hind femora broadly black at the tip	41. *colorata* Tonn.
	Thorax mainly yellow; hind femora narrowly black at the tip	42. *clara* Tonn.
36.	Hind femora broadly black at the tip; mesonotum shining, with three dark stripes	43. *solitaria* Tonn.
	Hind femora all ochreous; mesonotum dull, not striped	37.
37.	A single small dark spot immediately in front of the scutellum, and another above the root of each wing	38.
	Thorax uniformly ochreous	39.
38.	Thorax darker; antennae not ringed	47. *filicornis* Tonn.
	Thorax ochreous; antennae more or less distinctly ringed	44. *fagi* Marsh.
39.	Wings with a conspicuous dark spot over *r-m*; middle tibiae with numerous short bristles on the inner side	45. *unispinosa* Tonn.
	Wings unspotted; middle tibiae with only two bristles on the inner side	40.
40.	Three dorsal bristles on the middle tibiae	46. *impunctata* Edw.
	Four dorsal bristles	31. *subspinigera* Tonn.
41.	Mesonotum more or less ochreous	42.
	Body almost uniformly blackish	46.
42.	Wings with a distinct central spot; scutellum and pleurae blackish	48. *furtiva* Tonn.
	Wings without central spot; scutellum ochreous	43.
43.	Antennae short in both sexes, those of the male thickened at the base	49. *conica* Tonn.
	Antennae longer, slender in both sexes	44.
44.	Middle tibiae with a ventral bristle; antennae more or less ringed	50. *integra* Tonn.
	Middle tibiae without a ventral bristle; antennae not ringed	45.
45.	Abdomen all blackish	51. *media* Tonn.
	Posterior margin of abdominal segments ochreous	52. *spinigera* Tonn.
46.	Middle tibiae with about 4 short ventral bristles; anal lamellae of female ochreous; coxae clear ochreous	47.
	Middle tibiae without ventral bristles; anal lamellae of female black; posterior coxae somewhat darkened	56. *tenebrosa* Edw.
	Middle tibiae with one long ventral bristle	53. *subtenebrosa* Tonn.
47.	Base of cubital fork below fM	55. *intermedia* Edw.
	Base of cubital fork much after fM	54. *harrisi* Edw.

1. **Mycetophila ornatissima** n. sp. Tonn. (Fig. 96.)

♂ *Head* brown, more or less orange behind eyes; antennae mostly orange on first half, the rest brown; palpi rather long, orange. *Thorax* brown somewhat shining on mesonotum; shoulders, a space above the wing-base, tip of scutellum and upper corner of sternopleurites orange; all bristles black, pubescence yellowish-brown; four propleural bristles, numerous pteropleural hairs. *Abdomen* mostly brown: segment 1 with base and hind margin orange, the following segments with mottled orange markings on sides and two narrow dorsal stripes; hypopygium brown. *Legs* yellow with numerous dark markings as follow: tip of all coxae and base of posterior ones dark, front femora with two dark ventral spots, middle femora with a basal ventral spot and a subapical wide dark ring, hind femora with basal ventral spot and distal half blackish; posterior tibiae with dorsal black spots and dark tip; middle tibiae with four dorsal, three external, two ventral and one internal bristle (sometimes 4, 4, 2, 1). *Wings* with very dark markings, as in fig. 96: middle fascia which extends to costa is united to subapical transverse band by a large bridge which leaves a small clear roundish spot in base of cell M_1 and three larger roundish spots in cells R_5, M_1 and M_3; stem of Cu is bordered with brown on its distal half and there is a shadow in anal field under fCu; wing-tip is slightly yellowish.

Length of body, 3½ mm.; wing, 4 mm.

Type: Aniseed Valley, Nelson, 21st Mar., 1922, in Cawthron Inst. coll.

Paratypes: *idem*, 1st Dec., 1923; and Nelson, 16th July, 1923.

The colouration is rather variable, sometimes the body is completely black and the antennae, palpi, and coxae also brownish-black.

2. **Mycetophila sylvatica** Marsh. (Fig. 106.)

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 301.

This species is easily distinguishable by its peculiar wing-marking as shown in fig. 106. The middle tibiae have sometimes four, sometimes only three external bristles. The black markings under hind femora are not always in shape of a stripe, but may assume the aspect of more or less roundish spots. The dorsal brownish spots on the posterior tibiae are sometimes almost absent.

Although not common this species is rather widely spread; it has been collected in: Waiho, 21st Jan., 1922; Otira, 9th Feb., 1922; Wellington, 9th Mar., 1923 (Tonn.); Ohakune (Harris); Queenstown (Curtis).

3. **Mycetophila curtisi** n. sp. Edw. (Figs. 105, 280.)

♂ *Head* ochreous, with black bristles. Antennae with first four segments brownish-ochreous, the rest blackish; flagellar segments about twice as long as broad. Palpi brownish-ochreous, rather long and slender. *Thorax* brownish-ochreous, prothorax and lower part of sternopleura lighter; a small darker area in front of scutellum; scutellum ochreous in middle, blackish towards sides and round posterior margin; hypopleurites mainly ochreous. Mesonotum considerably shining. All thoracic bristles black; four strong propleural;

about 12-15 very short pteropleural. *Abdomen* dark brown, segments margined posteriorly with light ochreous; tergites 2 and 3 also with a light ochreous sublateral stripe which does not quite reach base. Hypopygium of the usual type; the claspers rather broad, small lower division with one rather stout pointed spine. *Legs* ochreous; posterior coxae with narrow dark lines posteriorly, hind coxae also with another larger brown patch; hind femora broadly blackish at tip, four posterior femora each with a dark brown spot beneath near base. Bristles black; front coxal bristles not very strong and not extending to base. Middle tibiae with six dorsal, three external, three ventral and six internal bristles. *Wings* yellowish tinged; a large dark spot in middle, and a broad but irregular and ill-defined band at two-thirds, connected with a dark cloud between M_3 an Cu_1 wing-tip almost clear, except at tips of veins. Cubital fork rather wide, its base nearly level with fM. Halteres pale ochreous.

Length of body, about 5 mm.; wing, 5½ mm.

Type: Queenstown Water Works (L. Curtis), 8th Dec., 1922; in Brit Mus. coll.

Paratype: Raetihi Hill, 3000 ft. (T. R. Harris); 1 ♂, Nov., 1923.

4. **Mycetophila similis** n. sp. Tonn. (Figs. 104, 287.)

♂ *Head* dark orange with a dark thin streak on vertex; antennae brown with scape and base of third joint orange; palpi orange, darker towards extremity. *Thorax* mostly dark; mesonotum rather shining, brown on the disc, shoulders, sides and space in front of scutellum orange; a spot above each wing-base, a transverse streak in front of scutellum and scutellum blackish. Pleurae mostly brown with exception of propleurae. *Abdomen* brown with hind border of all segments and lateral margin of middle ones yellow. *Legs* yellow with blackish markings: posterior coxae dark on middle, the hind one much more extensively; middle femora with a dark spot below just before the middle and with another further, near tip; hind femora with a broad black apex and a black spot below before middle; tip of posterior tibiae black. Middle tibiae with six dorsal, three external, three ventral and six to seven internal bristles. *Wings* with yellowish-grey tinge, more yellowish anteriorly and with dark markings as follow: a dark spot on *r-m* and fM, a zig-zag transverse band at apical third, between these two a distinct shadow from M_3 towards fCu; tip of wing completely darkish; fCu just under the origin of *r-m*. Halteres yellowish.

♀ Similar to male the anal lamellae orange.

Length of body, 5 mm.; wing, 5½ mm.

Type: Hilltop, Banks Peninsula (Tonn.), 15th Jan., 1925, in Canterbury Museum coll.

Allotype: Mt. Arthur, 22nd Dec., 1921.

Specimens in Brit. Mus.: Stewart Is. (Curtiss), 14th Mar., 1923.

5. **Mycetophila elegans** n. sp. Tonn. (Fig. 108.)

♀ *Head* orange; antennae yellowish-orange gradually darker towards tip; palpi somewhat darker orange. *Thorax* orange with a dark spot just above wing-base and one in front of scutellum which is mostly dark; middle of postnotum dark; pteropleurae with numer-

ous hairs. *Abdomen* brownish-ochreous, the pale markings not definite; base of second segment and hind-margin of most of the others with exception of first yellow; lamellae orange. *Legs* as in *M. similis* but all dark markings much fainter and less extensive. Middle tibiae with five dorsal, three external, three ventral and six to seven internal bristles. *Wings* yellowish with dark markings as follow: a small spot on *r-m* and fM and an oblique zig-zag spot at apical fourth, also a small darkish spot near fCu. Halteres yellow.

Length of body, 4 mm.; wing, 4½ mm.

Type: Waiho (Tonn.), 30th Jan., 1922, in Cawthron Inst. coll.

Paratype: Lake Brunner, 6th Feb., 1922.

Specimens in Brit Mus.: Ohakune (Harris); Queenstown (Curtis); Mt. Grey (Campbell).

6. **Mycetophila latifascia** n. sp. Edw. (Fig. 97.)

♂ *Head* rather dark brown, face lighter. Antennae brownish-ochreous at base, darker apically, flagellar segments about twice as long as broad. Palpi rather light brown, long and slender. *Thorax* dull pale yellowish, bristles black, pubescence pale. Pronotum with a dark spot; mesonotum with three distinct blackish stripes, the middle one reaching front margin and indistinctly divided in front by a pale line; scutellum and postnotum black except at sides; pleurotergites and lower part of sternopleurite black; anepisternites with upper and anterior margins black; hypopleurite with a small dark spot. Five propleural bristles; about 10 short pteropleural hairs. *Abdomen* dark brown; hind margins of tergites pale ochreous; irregular ochreous markings also at bases and sides of tergites, more extensive in the ♀ than in the ♂. Anal lamellae of ♀ orange, the genital parts dark brown. *Legs* ochreous; posterior coxae with small dark marks in middle; hind femora rather broadly blackish at tip; the four posterior femora each with a dark brown spot beneath near base. Bristles black; middle tibiae with four to five dorsal, three external, two to three ventral and six to eight internal bristles. *Wings* yellow; a small dark brown spot in middle, and another in base of cell Cu_1; a broad dark brown band a little before tip running almost straight from costa to hind margin. Halteres whitish.

Length of body, 4½-5 mm.; wing, 4-5½ mm.

Type: Ohakune (T. R. Harris), Sept., 1922, in Brit. Mus. coll.

Allotype: Mt. Ruapehu, 4,500 ft. (T. R. Harris), Nov., 1924; Cass, 28th Nov.. 1924; Goose Bay, Kaikoura, 4th Feb., 1925 (Tonn.).

7. **Mycetophila howletti** Marsh. (Fig. 110.)

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 302.

Easily recognizable on account of the extensive wing-markings as shown in fig. 110.

Besides the type's locality this species is known from: Queenstown (Curtis), and Raetihi (Harris).

8. **Mycetophila virgata** n. sp. Tonn. (Fig. 107.)

♂ *Head* dark orange; antennae brown with exception of scape which is orange as well as palpi. Mesonotum dark orange, darker posteriorly and with a yellowish streak in front of scutellum, this

streak extending on disc of scutellum itself; postnotum and pleurae mostly brownish-orange; pteropleurites with three to four long bristles and a few smaller ones. *Abdomen* brown with middle of base of segments 1-3 yellow and a narrow hind border on segments 2-6 yellow. Hypopygium orange. *Legs* yellowish-orange, posterior coxae brown on middle, femora more or less dark chiefly underneath. Middle tibiae with five dorsal, three external, one ventral, and five to six internal bristles. *Wings* somewhat greyish, slightly yellowish anteriorly with dark markings as follow: a moderately large spot on *r-m* and fM and a transverse curved rather narrow and faint band which does not reach costa nor hind-border of wing. fCu under base of *r-m*. Halteres yellow.

♀ Similar to male; anal lamellae dark orange.

Length of body, 4 mm.; wing 4½ mm.

Type: Mt. Arthur, 26th Dec., 1921 (Tonn.), in Cawthron Inst. coll.

Allotype: *idem*, 21st Dec.

Paratypes: *idem* and Otira, 9th and 10th Feb., 1922.

Sometimes the distal band on the wing is very faint, scarcely distinct.

Specimens in Brit. Mus.: Queenstown (Curtis); Governors Bay (Tapley); Ohakune (Harris); Mt. Grey (Campbell).

9. **Mycetophila vulgaris** n. sp. Tonn. (Fig. 111.)

♂ *Head* brown; antennae ochreous at base and gradually darker towards extremity; palpi dark. *Thorax* dull brown; mesonotum with a small yellowish area above wing-base; pteropleurites with three large bristles. *Abdomen* brown, hind margin of segments somewhat lighter. Hypopygium with claspers as in fig. 111. *Legs* yellow; middle tibiae with four dorsal (sometimes five), three external, one ventral, and three to five internal bristles. *Wings* subhyaline with dark markings as follow: a dark spot on *r-m* and fM and a transverse band from tip of R_1 growing fainter towards posterior border that it does not reach, tip of wing clear; fCu under *r-m*. Halteres yellow.

♀ Similar to male; anal lamellae dark orange.

Length of body, 3 mm.; wing, 3½ mm.

Type: 27th June, 1922 (Tonn.), in Cawthron Inst. coll.

Allotype: Nelson, 9th Oct., 1923 (Tonn.).

Paratypes: numerous from a great number of localities.

This common species is found on the wing nearly all the year round in both Islands and also in Stewart Island.

The thorax is sometimes more or less ochreous chiefly on the shoulders and the colour of the palpi is variable. The size varies also a great deal, the wings of the largest specimens being 4½ and of the smallest 2½ mm.

10. **Mycetophila trispinosa** n. sp. Tonn. (Fig. 288.)

♂ Very similar to *M. vulgaris* from which it is distinguished with certainty only by the structure of the hypopygium, the claspers of which being provided with two strong blackish truncated spines. The antennae palpi and thorax are dark as in the small specimens of *vulgaris*.

♀ with dark orange anal lamellae.

Length of body and wing, 2½ mm.

Type: Mt. Arthur, 22nd Dec., 1921 (Tonn.), in Cawthron Inst. coll.

Allotype: *idem*, 20th Dec.

11. **Mycetophila elongata** n. sp. Tonn. (Fig. 112.)

♂ *Head* brown antennae with base somewhat lighter; palpi dark. *Thorax* dull brown with some ochreous small areas below shoulder and around wing-base. *Abdomen* brown with somewhat indistinct paler hind border to middle segments. *Legs* yellow, last half of posterior coxae black also a dark spot below base of posterior femora, tip of hind femora black. Middle tibiae with four dorsal, two external, one ventral, and four internal bristles. *Wings* subhyaline with dark markings as follow: a transverse zig-zag band starting at costa and passing over *r-m*, fM and fCu and growing fainter towards posterior border; another transverse broader and straighter band at last third of wing; from that band the distal part of wing is distinctly darker than basal part, the centre of this area being, however, a little clearer; fCu under *r-m*. Halteres yellow.

♀ Similar to male; anal lamellae orange.

Length of body, 3 mm.; wing, 3½ mm.

Type: Mt. Arthur, 24th Dec., 1921 (Tonn.), in Cawthron Inst. coll.

Allotype: *idem*, 22nd Dec.

Paratype: Hilltop, Banks Peninsula, 16th Jan., 1925; Nelson, 23rd May, 1922, 16th June, 1923; Cass, 18th Feb., 1925; Kaitouna, 16th Feb., 1922 (Tonn.).

Specimens in Brit. Mus.: Queenstown; Governors Bay; Ohakune; Raetihi hill; Mt. Grey.

12. **Mycetophila consobrina** n. sp. Tonn. (Fig. 101.)

♀ *Head* brownish; antennae brown with exception of scape and base of third joint orange; palpi darkish. *Thorax*: mesonotum orange with two darkish areas in front and extending on scutellum; postnotum nearly entirely dark; pleurae mostly brown; pteropleurites with three long bristles and a few smaller ones. *Abdomen* brown with a contrasted yellow lateral and hind-margin to all segments; anal lamellae orange. *Legs* mostly yellow, tip of posterior coxae dark, a small brown spot below base of posterior femora, tip of posterior femora and tibiae black. Middle tibiae with four dorsal, three external, two ventral, and four to five internal bristles. *Wings* somewhat yellowish on anterior margin and with dark markings as follow: a rather extensive brown spot on *r-m* and fM prolonged posteriorly by a shadow going over M_3 and fCu; a transverse zig-zag band placed on the distal third of wing, this wing being rather broad and dark but growing gradually fainter towards posterior border; the whole apex dark but much fainter than the other dark markings. Halteres yellowish.

Size of body and wing, 3½ mm.

Type: Otira (Tonn.), 7th Feb., 1925, in Cawthron Inst. coll.

Paratype: Waiho, 21st Jan., 1922; Kaitouna, 11th Sept., 1921 (Campbell).

13. **Mycetophila marshalli** End. (Fig. 99.)
Marshall, *Trans N.Z. Inst.*, 28, 1896, p. 306, pl. 12, fig. 2 (*M. maculata*).
Enderlein, *Stett. Ent. Zeit*, vol. 72, 1910, p. 174.

This species is characterized by the large central spot which reaches the costa and by the wing-tip very distinctly darkened; there is besides only one ventral bristle on the middle tibiae.

Nelson (Tonn.), 5th Dec., 1923; Dunedin (Howes), 1st Aug., 1922; Queenstown (Curtis); Governors Bay (Tapley); Mt. Albert (Brookes).

14. **Mycetophila pseudomarshalli** n. sp. Tonn.

Very similar to the preceding species; the chaetotaxy of the middle tibiae is the same but the wing-tip is quite clear and the transverse subapical dark band is narrower and fainter posteriorly. In the female the hind yellow border is more conspicuous and present on all the abdominal segments.

Type: Nelson (Tonn.), 14th Sept., 1923, in Cawthron Inst. coll.
Allotype: Khandallah (Tonn.), 30th Nov., 1921.
Paratypes: Cass, 20th Feb., 1925; Nelson, 28th Sept., 1923; Hilltop, 14th Jan., 1925; Lake Brunner, 2nd Feb., 1922 (Tonn.).

15. **Mycetophila minima** n. sp. Edw.

♀ *Head* dark brown, with black bristles. Antennae short, flagellar segments not longer than broad; first three segments brownish-ochreous, the rest black. Palpi ochreous. *Thorax* uniformly reddish-brown; bristles black; pubescence light. Three pteropleural bristles. *Abdomen* dark brown, rather shining; posterior margins of segments ochreous; anal and genital parts orange. *Legs* ochreous; hind femora and tibiae black at tips; hind coxae with a small dark mark at tip behind. Middle tibiae with four dorsal, two external, one ventral, and two internal bristles; hind tibiae with four dorsal and five external bristles. *Wings* slightly yellowish; a small dark spot over *r-m*, just extending into base of cell M_1, a large dark spot filling the end of costal cell and the middle of cells R_1 and R_5, stopping short at M_1; fCu below or just before fM. Halteres ochreous.

Length of body or wing, 2·3 mm.

Type: Queenstown Water Works (L. Curtis), 8th Dec., 1922, in Brit. Mus. coll.
Paratype, *idem*. 3rd Nov., 1924.

16. **Mycetophila submarshalli** n. sp. Tonn.

Very similar to *M. marshalli*, wing-markings being practically the same. The mesonotum is, however, somewhat lighter as a rule and middle tibiae are provided with two ventral bristles. In female the preapical transverse band is particularly wide and comes nearly into contact with the central spot. Same size.

Type: Nelson (Tonn.), 6th Nov., 1923, in Cawthron Inst. coll.
Allotype: *idem*.
Paratypes: *idem* and 20th Sept., 1923; Kaikoura, 23rd Feb., 1922.
Specimens in Brit. Mus.: Queenstown (Curtis).

17. **Mycetophila marginepunctata** n. sp. Tonn. (Fig. 114.)

♂ *Head* with appendages orange; antennae gradually darker towards extremity. *Thorax* orange; mesonotum rather shining and with a small dark spot above wing-base and another in front of scutellum which is brown except on sides; middle of postnotum brown; lower part of hypotergites and sternopleurites brownish; numerous hairs on pteropleurites. *Abdomen* mostly orange; first segment nearly completely dark, the following ones with a dark dorsal rather narrow marking; sides of segments 4-6 also dark. *Legs* yellow, posterior coxae with a few rather faint markings, chiefly about middle, a roundish brown spot below base of posterior femora, tip of hind-femora and of posterior tibiae dark. Middle tibiae with five dorsal, four external, two ventral, and six to seven internal bristles, two only of these last being large. *Wing* with a yellowish tinge and markings as follow: a small black central spot on *r-m* and fM, also a rather faint shadow at tip of all veins; fCu below *r-m*. Halteres yellow.

♀ Similar to male; *abdomen* lighter on the sides.

Length of body and wing, 4 mm.

Type: Khandallah, 30th Nov., 1921 (Tonn.), in Cawthron Inst. coll.

Allotype: *idem.*

Paratype: Mt. Arthur, 25th to 27th Dec., 1921; Dun Mt., 5th Jan., 1922; Kaikoura, 22nd Feb., 1922; Lake Brunner, 3rd Feb., 1922; Nelson, 20th Sept., 1923; Cass, 20th Feb., 1925 (Tonn.).

Specimens in Brit. Mus.: Stewart Is. (Curtis); Queenstown; Governors Bay (Tapley); Ohakune (Harris); Raetihi (Harris); Mt. Grey (Campbell).

The size is rather variable, the wing length varying from 3½ to 5½ mm.

18. **Mycetophila marginepunctata** var. **ruapehuensis** nov. (Fig. 113.)

Differs from the typical form as follows:—

Size rather larger. Spots at tips of veins larger and rather sharply defined. Distinct brown clouds in the middle of cells R_1 R_5, M_1, and M_3, forming a rather faint and interrupted band.

Length of body, 5½ mm.; wing about 6 mm.

Type: Mt. Ruapehu, 4,000-5,000 ft. (T. R. Harris), in Brit. Mus. coll; several specimens, Nov., 1922 and Nov., 1924. Clifton (T. R. Harris); one specimen, 20th Nov., 1919; Mt. Arthur, 21st Dec., 1921; Kaitouna, 19th Nov., 1922; Cass, 1st Dec., 1924 (Tonn.).

19. **Mycetophila marinepunctata** var. **rotundipennis** nov. (Fig. 114.)

Differs from the type form in shape of wings, which are barely twice as long as broad: length 4·7 mm.; breadth 2·4 mm.; in connection with this alteration in shape, cubital fork much more widely open than usual. Hypopygium and chaetotaxy as in the type.

Type ♂: Ohakune (T. R. Harris); July-Aug., 1922, in Brit. Mus. coll.

20. **Mycetophila nitens** n. sp. Tonn. (Figs. 98, 268, 269.)

♂ *Head* and body shining black with dark pubescence and bristles; palpi yellowish; antennae brown with base scarcely lighter if at all;

Pteropleurae with a few bristles (two to three); Hypopygium as in figs. 268, 269, upper pair of claspers with a long point which carries two bristles at end. *Legs* yellow: tip and base of hind-coxae very slightly dark; tip of posterior femora dark, that of the hind ones much more extensively; tip of posterior tibiae also brown. Middle tibiae with five dorsal, three external, two very long ventral and no internal bristles. *Wings* subhyaline with a dark central spot on *r-m* and fM and apical two-fifths of membrane dark the anterior part of that fascia down to M being much darker than the rest. Halteres whitish.

♀ Similar to male, anal lamellae dark.

Length of body 2¼ mm., wing 2½ mm.

Type: Aniseed Valley, Nelson (Tonn.), 22nd Mar., 1922, in Cawthron Inst. coll.

Allotype: Ohakune (Tonn.), 8th Mar., 1923.

Paratypes: Nelson, 8th Apl., 1922; Mt. Arthur, 26th Dec., 1921; Waiho, 20th Jan., 1922; Otira, 10th Feb., 1922; Hilltop, 15th Jan., 1925; Cass, 20th Feb., 1925.

21. **Mycetophila subnitens** n. sp. Edw. (Fig. 272.)

♂ Resemble *M. nitens* in all respects except in structure of hypopygium the claspers of which are differently shaped: the upper pair is blunter and carries only one longish bristle instead of two, the lower pair is rather smaller with the bristles shorter and stouter.

Type: ♂ Queenstown (Curtis), 14th Sept., 1923.

Paratypes: Leith Valley (Howes); Otira (Tonn.); Ben Lomond (Curtis); Ohakune and Mt. Ruapehu (Harris).

22. **Mycetophila nitidula** n. sp. Edw. (Figs. 270, 271.)

Differs from *M. nitens* as follows:—

Scape of antennae often brownish-ochreous. Costa produced slightly beyond end of R_5. The lower part of wing-tip quite clear, or at most darkened only along margin, though a large dark brown mark fills outer two-thirds of cell R_1 and middle third of cell R_5; no trace of darkening round fCu, such as is usually though not invariably present in *M. nitens*. Anal lamellae of female clear orange; those of male longer and more pointed. Male claspers differently shaped, the lower pair with two or three strong bent bristles.

Type ♂: Mt. Ruapehu, 4,000 ft. (T. R. Harris), in Brit. Mus. coll., 28th Nov., 1922; Ohakune (T. R. Harris); 1 ♂ 4 ♀, Sept., 1922, May-July, 1923 and Jan., 1924; Queenstown (L. Curtis), 1 ♂, 25th Mar., 1923.

23. **Mycetophila nigripalpis** n. sp. Edw.

♀ Differs from *M. nitens* as follows:—

Palpi black. Anal lamellae much narrower. *Wing*-markings very faint, especially the small central spot; lower part of wing-tip from M_1 to hind-margin is quite clear. R_5 meeting costa at a rather less acute angle, the costa therefore appearing to end more abruptly at tip of R_5.

Type: Ohakune (T. R. Harris), Nov., 1922, in Brit. Mus. coll.

Ben Lomond, 2,500 ft. (L. Curtis) also has black palpi, but has the wings as strongly marked as in *M. nitens*.

24. **Mycetophila phyllura** n. sp. Edw. (Figs. 109, 273.)

Head dark brown; bristles black; pubescence dark. Antennae with scape ochreous, flagellum blackish, segments about half as long as broad. Palpi blackish. *Thorax* dull reddish-brown, more ochreous-brown in the female; scutellum, postnotum and pleurae darker; bristles black. Three propleural bristles, not very strong. Pteropleurites with about ten bristly hairs, two or three of which are a little longer than the others. *Abdomen* dark brown, with narrow yellow bands which occupy both anterior and posterior margins of segments. Genitalia ochreous in both sexes; male claspers large, flattened, of very simple structure and directed backwards. *Legs* ochreous, bristles black; apical half of the four posterior coxae, a mark underneath the four posterior femora at base, broad tips to hind femora and tips of the tibiae dark brown. Middle tibiae with four to five dorsal, two external, two or three short ventral, and four internal bristles. *Wings* with a slight yellowish tinge; a dark brown spot over *r-m* and base of Rs, extending into base of cell M_1; apical two-fifths of wing brownish, darker anteriorly towards costa; fCu a little beyond fM. Halteres ochreous.

Length of body, 3-4 mm.; wing, 3-4 mm.

Type ♂: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratype 3 ♂ 3 ♀, July-Sept., 1922, and May-July, 1923; Governors Bay (J. F. Tapley); 2 ♂ Sept., 1922; Queenstown Water Works (L. Curtis); 1 ♂ 1 ♀, 8th Dec., 1922.

25. **Mycetophila subtilis** n. sp. Tonn.

♀ *Head* brown; appendages also dark, base of antennae somewhat lighter. *Thorax* and *abdomen* brown, sides of scutellum ochreous; anal lamellae orange. Pteropleurites with numerous hairs only, no bristles. *Legs* yellowish; posterior coxae somewhat darkened, posterior femora brownish at base below. Middle tibiae with four dorsal, two external, no ventral and three to four (equally small) bristles. *Wings* with a central dark spot on *r-m* and f-M and a brownish faint suffusion on anterior border at apical third of wing. fCu below fM. Halteres yellow.

Length of body, 3½ mm., wing, 4 mm.

Type: Mt. Arthur, 26th Dec., 1921 (Tonn.), in Cawthron Inst. coll.

26. **Mycetophila diffusa** n. sp. Tonn. (Fig. 103.)

♂ *Head* brown; palpi and scape yellowish, flagellum brown. *Thorax* dull ochreous-brown. Pteropleurites with four bristles. *Abdomen* brown with a yellowish triangle on sides of middle segments. *Legs* completely yellow. Middle tibiae with five dorsal, three external, two ventral and three internal (one long) bristles. *Wings* with rather faint markings: a central spot on *r-m* and fM fused with the dark shadow extending in distal half of costal cell; wing-tip completely greyish-brown but more intensely on the front border. Halteres yellow, base of knob dark.

♀ Similar to male, *abdomen* nearly completely black, lamellae dark orange.

Length of body and wing 2½ mm.

Type: Maitai Valley, Nelson (Tonn.), 17th Mar., 1922, in Cawthron Inst. coll.

Allotype: Mt. Arthur (Tonn.), 22nd Dec., 1922.

Paratypes: Cass (Tonn.), 21st Feb., 1925.

Specimens in Brit. Mus.: Queenstown (Curtis); Ohakune (Harris); Mt. Torlesse (Marshall); Mt. Grey (Campbell.)

27. **Mycetophila grisescens** n. sp. Edw. (Figs. 102, 267.)

Head blackish, with black bristles and light pubescence. Antennae with first two and base of third segments brownish-ochreous, the rest black; flagellar segments about twice as long as broad. Palpi slender, black. *Thorax* almost completely dull blackish-grey, only pronotal lobes and hypopleurites lighter; bristles dark, pubescence light brown. Three propleural and three pteropleural bristles. *Abdomen* blackish, posterior lateral corners of tergites ochreous, hair dark. Genitalia of both sexes black; hypopygium small, somewhat resembling that of *M. diffusa*. *Legs* light ochreous with black bristles; coxae unmarked; posterior femora with a small dark mark at base beneath; hind femora narrowly dark at tip. Mid-tibial bristles five dorsal, two external, two ventral, two to three internal. *Wings* with ground-colour clear; a rather large but diffuse brownish spot in middle, not reaching costa; outer third of wing smoky, darker towards costa; fCu much beyond fM. Halteres light ochreous.

Length of body or wing 3 mm.

Type ♂: Ohakune (T. R. Harris), May-July, 1923; allotype ♀ Oct.-Nov., 1923; Mt. Grey (J. W. Campbell); 1 ♂, 23rd Feb., 1924.

28. **Mycetophila lomondensis** n. sp. Edw.

♂ *Head*, including antennae and palpi, *thorax* and *abdomen* uniformly blackish. Basal flagellar segments about twice as long as broad, the last few shorter; three distinct pteropleural bristles, besides a few hairs in posterior corner. Hypopygium constructed almost as in *M. intermedia* Edw., but the basal lobe of claspers larger. *Legs* brownish-ochreous; posterior coxae somewhat darkened; posterior femora with ill-defined dark brown patches at base beneath; hind-femora also dark beneath at tip; spurs and tarsi dark. Middle tibiae with four dorsal, two external, two very small ventral, and three small and one long internal bristles. Hind tibiae with five dorsal, four external and three small internal bristles. *Wings* brownish-tinged; a small but rather distinct black central spot; traces of a darker shade on outer third of wing towards costa; fCu a little beyond fM. Halteres ochreous, base of knob a little dark.

Length of body and wing 3.2 mm.

Type: Ben Lomond, 5,000 ft., 3rd Dec., 1922 (L. Curtis) in Brit. Mus. coll.

29. **Mycetophila nigricans** n. sp. Tonn.

♀ Body completely brown, *thorax* somewhat lighter than *abdomen*; anal lamellae dark. Antennae palpi and *legs* dark, front pair of legs and all tibiae a little lighter. Pteropleurae with three long bristles and a few hairs. Chaetotaxy of middle tibiae quite peculiar

owing to the presence of four very small ventro-internal bristles, besides the four dorsal, two external and two internal (one long).

Wing-markings rather similar to *M. diffusa*, costal cell being also obscured, this shadow extends, however, here into cell R; distal part of wing extensively darkened but not strongly. Halteres yellow with base of knob blackish.

Length of body and wing 3½ mm.

Type: Mt. Arthur, 26th Dec., 1921 (Tonn.), in Cawthron Inst. coll.

Specimen in Brit. Mus.: Ohakune (Harris).

30. **Mycetophila grandis** n. sp. Tonn.

♂ *Head* dark orange; palpi long, orange; antennae orange at base and gradually darker towards extremity. *Thorax*: mesonotum obscure orange with brown narrow median line posteriorly which extends over whole disc of scutellum and middle of pronotum; a small blackish spot above wing-base. Pleurae orange with upper part of anepisternum and propleurae brownish. Pteropleurites with numerous short hairs. *Abdomen* brown with base of segments extensively orange. *Legs* rather elongate, yellowish; tip of hind-tibiae black; mid-tibiae with five dorsal, three external, two ventral and eight to nine (two long) internal bristles. *Wings* yellowish without distinct central spot. fCu below fM. Halteres yellowish.

♀ Similar to male, *abdomen* more extensively pale.

Length of body and wing, 6 mm.

Type: Waiho (Tonn.), 20th Jan., 1922, in Cawthron Inst. coll.

Allotype: Maitai Valley (Tonn.), 17th Mar., 1922.

Paratype: *idem*.

Specimens in Brit. Mus.: Wiltons Bush (Hudson); Wainuiomata (Hudson); Ohakune and Raetihi (Harris); Queenstown (Curtis); Greymouth (Osten-Sacken coll.).

31. **Mycetophila subspinigera** n. sp. Tonn. (Figs. 282, 283.)

♂ *Head* orange; antennae and palpi gradually darker towards extremity, base being orange. *Thorax* completely orange. The pteropleurae with hairs, only a few being longer than the others, and being sometimes long and strong as true bristles. *Abdomen* brown: first segment and lateral and posterior margin of the others yellowish. Hypopygium orange; claspers as in figs. 282, 283. *Legs* completely yellow. Middle tibiae with four dorsal, three external, one ventral, and three (one large) internal bristles. *Wing* subhyaline, unmarked; fCu a little over fM. Halteres yellow, base of knob rather extensively dark.

♀ Similar to male; *abdomen* more yellowish chiefly on the second segment.

Length of body and wing, 3 mm.

Type: Waiho (Tonn.) 23rd Jan., 1923, in Cawthron Inst. coll.

Allotype: Kaikoura, 24th Feb., 1923.

Paratypes: Purau Creek, 20th Feb., 1922; Christchurch, 18th Feb., 1922; Kaitouna, 19th Feb., 1922; Nelson, 15th Dec., 1922; Lake Brunner, 3rd Feb., 1922; Ohakune, 8th Mar., 1923; Hilltop, 15th Jan., 1925.

Specimens in Brit. Mus.: Mt. Albert (Brookes); Auckland (O-S); Governors Bay (Tapley); Queenstown (Curtis); Ohakune (Harris).

Exceptionally there may be three dorsal bristles or an additional external bristle on the middle tibiae.

This species is one of the most abundant.

32. **Mycetophila fumosa** n. sp. Tonn. (Fig. 118.)

♂ *Head* brown; palpi and base of antennae up to fourth segment orange, the rest gradually darker. *Thorax* completely brown but for a very small space on both sides of scutellum. *Abdomen* completely brown. *Legs* yellow, posterior coxae with some slight brown markings near the tip; base of posterior femora below with a brown spot; tip of hind-femora brown. Middle tibiae with five to six dorsal, three external, two ventral (sometimes an additional small one), and five (one large) internal bristles. *Wings* with a slight brownish yellow tinge, without markings; fCu below fM. Halteres yellow.

♀ Similar to male; posterior border of the middle abdominal segments orange on the sides; anal lamellae orange.

Length of body and wing, 4 mm.

Type: Nelson, 15th Dec., 1921, in Cawthron Inst. coll.

Allotype: Otira, 9th Feb., 1922.

Paratypes: *idem.*

33. **Mycetophila griseofusca** n. sp. Tonn.

♂ *Head* and body entirely blackish-brown; palpi black; antennae brown somewhat lighter at base, *legs* yellowish-orange; posterior coxae blackish at base; posterior femora marked with brown at base below. Middle tibiae with three dorsal, two external, no ventral, and three (all small) bristles. *Wing* with yellowish-grey tinge, unmarked. fCu below fM. Halteres yellow.

Length of body and wing, 3½ mm.

Type: Mt. Arthur (Tonn.), 20th Dec., 1921, in Cawthron Inst. coll.

34. **Mycetophila griseofusca** var **nigriclava** nov. Edw.

♂ Differs from the typical form of the species as follows:—

Femora scarcely darkened beneath. Hind-tibiae with four bristles in the outer row instead of only three. Knob of halteres all black. Upper claspers rather narrower; lower claspers with only four instead of seven to eight blunt slightly flattened spines; aedoeagus also of a slightly different shape.

Type: Governors Bay (J. F. Tapley), 30th Nov., 1922, in Brit. Mus. coll.

35. **Mycetophila viridis** n. sp. Edw.

♂ *Head* light ochreous; bristles black, pubescence yellowish. Antennae with scape pale ochreous; flagellum blackish, segments long and slender, over three times as long as broad. Palpi slender, brownish. *Thorax* light green, the mesonotum with an ochreous tint, bristles all black, also the mesonotal pubescence. A small dark spot in front of scutellum, on to which it extends in middle; another dark spot at base of the postnotum, in some specimens forming a median line. Four propleural bristles; pteropleurites with three short brist-

les and about six smaller hairs. *Abdomen* brownish; posterior and lateral margins of segments ochreous. Hypopygium small, claspers of the *fungorum* type, but rather short, lower division with four short spines. *Legs* slender, coxae and femora light green; tibiae and tarsi pale ochreous; bristles black. Middle tibiae with five dorsal, three external, one long ventral and five to six internal bristles. *Wings* with a slight brown tinge; veins light brown; no trace of markings; fCu well beyond fM. Halteres with greenish stem and dark knob.

Length of body and wing, 3½ mm.

Type: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratypes 5 ♂, Sept., 1922.

36. **Mycetophila pollicata** n. sp. Edw. (Fig. 276.)

Head dark brown, including antennae and palpi; base of antennae lighter. Flagellar segments about twice as long as broad. *Thorax* ochreous, bristles black; pleurae slightly darker; hypopleurites bright ochreous, with a dark spot at the hairy posterior corner. Four propleural bristles; pteropleurites with about six short hairs, no distinct bristles. *Abdomen* dark brown, posterior margins of segments indistinctly ochreous in male, more conspicuously so in female, especially on segments 5 and 6, which are sometimes nearly all ochreous at sides. Anal lamellae of female orange, genital parts black. Hypopygium of ♂ of the *fungorum* type; upper claspers with a rather long thumb-like projection on inner side at base; lower claspers on inner side with only three short bristly spines. *Legs* orange; tarsi darkened; bristles black. Mid-tibiae with four dorsal, two external, one rather long ventral, and two to three internal bristles. *Wings* almost clear; veins brownish, no trace of darkening on *r-m;* fCu a little beyond fM. Halteres with brown knob.

Length of body or wing, 3-4 mm.

Type ♂: Ohakune (T. R. Harris); paratypes 1 ♂ 5 ♀, Sept., 1922 and May-July, 1923.

37. **Mycetophila luteolateralis** n. sp. Edw.

Resembles *M. pollicata* in most respects, and possibly only a variety of it, but differs in the colour of abdomen, which is completely orange at sides, each segment with a dark brown mark in mid-dorsal line which does not quite reach posterior margin.

Type ♀: Governors Bay (J. F. Tapley), Aug., 1922; Ohakune (T. R. Harris); 1 ♀, Aug., 1922.

38. **Mycetophila crassitarsis** n. sp. Edw. (Fig. 281.)

♂ *Head* brownish, face darker. Antennae slender, with first three or four segments ochreous, the rest blackish; flagellar segments nearly twice as long as broad. Palpi dark brown. *Thorax* uniformly reddish-brown, bristles black. Three propleural bristles; pteropleurites with six to eight short hairs, no well-marked bristles. *Abdomen* dark brown, lighter towards base. Hypopygium of the *fungorum* type; upper clasper with thumb-like process at base; lower claspers with about four blunt spines; the whole structure very much like that of *M. pollicata*. *Legs* ochreous; tarsi darkened; bristles black. Middle tibiae with four dorsal, two external, one fairly long ventral,

and three internal bristles. Segments 2-4 of front tarsi much thickened beneath, segments 3 and 4 subequal in length. *Wings* unmarked, veins rather dark brown; fCu a little beyond fM. Knob of halteres dark brown.

Length of body or wing, about 3 mm.

Type: Ohakune (T. R. Harris), July, 1922, in Brit. Mus. coll.; paratypes 3 ♂, May-July, 1923. Governors Bay (J. F. Tapley); 1 ♂ Sept., 1922.

39. **Mycetophila tapleyi** n. sp. Edw. (Fig. 286.)

♂ Differs from *M. crassitarsis* as follows:

Front tarsi less swollen beneath, though very distinctly thickened; third segment distinctly longer than fourth. Mid-tibiae without a ventral bristle. Claspers differently shaped, the upper pair shorter, the middle division relatively longer and with spiny bristles round margins, fig. 286.

The female, if correctly associated, differs in having the front tarsi quite slender.

Type: Governors Bay (J. F. Tapley), in Brit. Mus. coll., 8th-9th Sept., 1922; 1 ♀, 21st-27th Aug., 1922; Ohakune (T. R. Harris); 1 ♀, May-July, 1923.

40. **Mycetophila dilatata** n. sp. Tonn. (Fig. 119.)

♂ *Head* and appendages orange, last half of antennae gradually daker, segments of flagellum not much longer than broad. *Thorax* orange, a small darkish area in front of and on disc of scutellum. Pteropleurites with four long bristles. *Abdomen* with first and second segments mostly yellow, the following ones brown with hind-margin and sides yellow. *Legs* yellow, tip of hind-femora and tibiae brown. *Wings* yellowish unmarked with a very much dilated anal field; fCu a little after fM. Halteres yellow.

♀ Similar to male, *abdomen* nearly entirely yellow.

Length of body, 2½ mm., wing 2¾ mm.

Type: Mt. Arthur (Tonn.), 22nd Dec., 1921, in Cawthron Inst. coll.

Allotype: *idem*, 24th Dec.

Paratypes: Dun Mt., 5th Jan., 1922; Nelson, 14th Nov., 1923; Cass, 20th Feb., 1925; Okarahia, 5th Feb., 1925 (Tonn.).

Specimens in Brit. Mus.: Queenstown and Ben Lomond (Curtis); Mt. Grey (Campbell); Paradise (Fenwick); Ohakune (Harris).

Very variable in colour, especially of abdomen; some females are entirely orange.

41. **Mycetophila colorata** n. sp. Tonn. (Figs. 117, 279.)

♂ *Head* brownish; palpi orange; antennae with basal third orange the rest gradually darker. *Thorax* brownish, mesonotum somewhat lighter, sides anteriorly and a region above wing-base ochreous, also a lighter streak in front of scutellum which is prolonged on disc and tip of scutellum itself. Pteropleurites with about five long bristles. *Abdomen* brown, hind-margin of segments narrowly orange. Hypopygium orange. *Legs* yellow, tip of posterior tibiae black. Middle tibiae with four (sometimes five) dorsal, four external, two ventral

(sometimes one), and three to four (one large) internal bristles. *Wings* subhyaline, anterior border slightly yellowish, a dark well-marked central spot on *r-m* and fM; fCu below fM. Halteres yellow.

♀ Similar to male, antennae somewhat lighter; anal lamellae orange.

Length of body 3½ mm., wing 4 mm.

Type: Christchurch (Tonn.), 17th Feb., 1922, in Cawthron Inst. coll.

Allotype: *idem.*

Paratypes: Otira, 8th Feb., 1922; Nelson, 4th Mar., 1922; Wellington, 1st Dec., 1921; Mt. Arthur, 26th Dec., 1921; Wairakei, 6th Mar., 1923; Cass, 18th Feb., 1925; Goose Bay, 4th Feb., 1925; Nehotupu, 23rd Feb., 1923.

Specimens in Brit. Mus.: Queenstown; Governors Bay; Ohakune; Greymouth.

This is a rather variable species especially in the amount of yellow on abdomen.

42. **Mycetophila clara** n. sp. Tonn. (Fig. 278.)

♂ *Head* with appendages orange; antennae hardly darker towards extremity. *Thorax* orange; mesonotum with two darkish streaks behind which extend on scutellum; postnotum dark in middle. Pteropleurites with four to five long bristles. *Abdomen* orange sometimes a little darkened on middle of tergites. Hypopygium orange. *Legs* yellow, tip of hind-femora and tibiae narrowly black. Middle tibiae with four dorsal, four external, one ventral, and five to six (one long) internal bristles. *Wings* as in preceding species but fCu placed before *r-m*. Halteres yellow.

♀ Similar to male (the only female, the allotype, has two ventral bristles on the middle tibiae, but this may be an individual character).

Length of body, 3½ mm.; wing, 4 mm.

Type: Wellington, 1st Dec., 1921, in Cawthron Inst. coll.

Allotype: Goose Bay (Tonn.), 3rd Feb., 1925.

Paratypes: Ohakune, 8th Mar., 1923; Wairakei, 6th Mar., 1923; Nelson, 16th Mar., 1923 (Tonn.).

Specimens in Brit. Mus.: Ohakune (Harris).

43. **Mycetophila solitaria** n. sp. Tonn.

♂ *Head* brown; basal half of antennae dark orange, the rest gradually brown; palpi dark orange. Mesonotum rather shining, dark orange with three wide black stripes, the middle one cuneiform nearly fused with lateral ones behind; disc of scutellum black; postnotum broadly black in middle; pleurae mostly brown. *Abdomen* brown with hind-border of segments 2-6 yellowish. *Legs* yellow, posterior coxae with a slight dark shadow on middle. Hind femora broadly black at tip. Middle tibiae with four dorsal, three external, one ventral and four to five (one long) internal bristles. *Wings* yellowish-grey without markings; fCu below origin of *r-m*. Halteres yellow.

♀ Similar to male but a little lighter coloured; mesonotal dark bands not so wide, median one with a distinct yellowish line in middle anteriorly.

Length of body and wing, 3½ mm.

Type: Nelson (Tonn.), 16th Mar., 1923, in Cawthron Inst. coll.

Allotype: Nelson (Tonn.), 16th Mar., 1923.

Paratypes: Nelson, 20th Sept., 1923; Kaikoura, 23th Feb., 1922; Ohakune, 8th Mar., 1923.

Specimens in Brit. Mus.: Queenstown, Ben Lomond and Elgin Bay (Curtis); Governors Bay (Tapley); Ohakune (Harris); Greymouth (O-S coll.).

This species is rather variable in size, the wing-length of the largest specimens being 4 mm. and of the smallest 2½ mm.

44. **Mycetophila fagi** Marsh. (Fig. 284.)

Marshall, *Trans. N.Z. Inst.*, 28, 1896, p. 303.

= *M. variabilis* Marsh., *ibid.* p. 304.

This species is well characterized by the ringed antennae, the three spots on the mesonotum and the chaetotaxy of the middle tibiae as well as the completely yellow legs. The pteropleurites carry four long bristles.

It is the most common of the New Zealand *Mycetophila* and is found everywhere on the three Islands practically the whole year round. Some aberrant specimens may present only two external bristles on the middle tibiae.

45. **Mycetophila unispinosa** n. sp. Tonn.

♂ *Head* dark orange; antennae orange on basal third, then gradually darker; palpi orange, last segment darker. *Thorax* dark orange mesonotum dull. *Abdomen* brown with hind-margin of segments 2-6 yellow, hypopygium orange. *Legs* yellow posterior coxae slightly dark on their middle. Middle tibiae with four to five dorsal, three external, five ventral (one long with one small above and three small below), and six to eight internal (two long) bristles. *Wings* yellowish with a rather large but not strong spot on *r-m* and fM; fCu below *r-m*. Halteres yellow, base of knob somewhat darker.

♀ Similar to male, *abdomen* somewhat lighter.

Length of body, 4 mm.; wing, 4½ mm.

Type: Otira, 10th Feb., 1922, in Cawthron Inst. coll.

Allotype: Hilltop (Tonn.), 15 Feb., 1925.

Paratypes: Maitai Valley, Nelson, 17th Mar., 1922; Dun Mt., 5th Jan., 1922; Nehotupu, 5th Feb., 1923; Waiho, 28th Jan., 1922; Ohakune, 8th Mar., 1923; Goose Bay, 4th Feb., 1925 (Tonn.).

Specimens in Brit. Mus.: Queenstown (Curtis); White Rock (Campbell); Ohakune (Harris); Raetihi.

46. **Mycetophila impunctata** n. sp. Edw.

♀ *Head* ochreous above, face blackish. Antennae brownish-ochreous, the last six to eight segments blackish; first flagellar segments four to five times, the next five segments about three times as long as broad, remaining segments rather shorter. Palpi blackish. *Thorax* uniformly ochreous, bristles black; dorsocentral and acrostichal series more distinct than usual, and the middle pair of scutellar bristles rather wide apart. Four propleural bristles; pteropleura with three distinct bristles and a few short hairs. *Abdomen* ochreous, darker

dorsally except on the hind margins of the segments; segments 5-7 blackish beneath; genitalia ochreous. *Legs* ochreous; front coxae darkened outwardly; bristles black. Middle tibiae with three dorsal, three external, one ventral and two internal bristles. *Wings* slightly yellowish, anterior veins darkened, no markings; fCu beyond fM. Knob of halteres brownish.

Length of body or wing, 5 mm.

Type: Ben Lomond, 5,000 ft. (L. Curtis), in Brit Mus. coll. A damaged specimen, 3rd Dec., 1922, same locality.

This species seems quite distinct from others of this group by the presence of only three dorsal bristles on the middle tibiae. It is superficially extremely similar to the European *M. fungorum* Deg. (*punctata* Mg.)

47. **Mycetophila filicornis** n. sp. Tonn.

♂ *Head* brownish; basal third of antennae orange the rest gradually darker; palpi brown. *Thorax* brownish-orange; mesonotum with a black spot above wing-base and a dark marking in front of scutellum, this one dark except on sides; postnotum brown on middle, pteropleurites with three long bristles and a few smaller ones. *Abdomen* brown, hind-margin of segments indistinctly yellow; Hypopygium orange. *Legs* entirely yellow. Middle tibiae with four dorsal, three external, one ventral, and four to five (one long) internal bristles. *Wings* slightly yellowish, unmarked but sometimes for a very slight shadow round *r-m;* fCu a little after fM. Halteres yellow.

♀ Similar to male, *abdomen* somewhat lighter.

Length of body and wing, 3 mm.

Type: Tahunanui, Nelson (Tonn.), 24th July, 1922, in Cawthron Inst. coll.

Allotype: Otira, 10th Feb., 1922.

Paratypes: Deans Bush, Christchurch, 14th Mar., 1923; Nehotupu, 24th Feb., 1923; Goose Bay, Kaikoura, 4th Feb., 1925; Cass, 20th Feb., 1925; Ohakune, 8th Mar., 1923; Nelson, 20th Sept., 1923.

Specimens in Brit. Mus.: Stewart Is.; Ben Lomond and Queenstown (Curtis); Leith Valley (Howes); Waiho (Tonn.); Ohakune (Harris).

48. **Mycetophila furtiva** n. sp. Tonn.

♀ *Head* brown; palpi dark orange, scape and base of third segment orange, the rest of antennae brown. *Thorax* brown, mesonotum more or less ochreous on sides anteriorly and on both sides of scutellum. *Abdomen* brown, hind-border of segments yellow, genitalia yellowish. *Legs* yellow, tip of hind coxae slightly dark, the extreme tip of hind femora dark. Middle tibiae with four dorsal, two external, one ventral, and five (one long) internal bristles. *Wing* subhyaline with a rather weak central spot on *r-m* and fM; fCu below fM.

Length of body and wing, 2½ mm.

Type: Waiho, 17th Jan., 1922, in Cawthron Inst. coll.

49. **Mycetophila conica** n. sp. Tonn.

♂ *Head* brown; antennae brownish somewhat orange at base, first five joints of flagellum incrassate but gradually decreasing in width

so that the whole antenna, which is not longer than thorax, appears conical; palpi brownish-orange. Mesonotum brownish-orange; pleurae more or less brownish; pteropleurites with three to four bristles. *Abdomen* brown; hypopygium orange. *Legs* entirely yellow. Middle tibiae with four dorsal, two external, one ventral and three (one long) internal bristles. *Wings* greyish, unmarked; fCu under *r-m*. Halteres dark orange.

♀ Somewhat lighter than male on mesonotum and halteres; anal lamellae orange. Antennae short but normal, not conical.

Length of body and wing, 2½ mm.

Type: Dun Mt., Nelson (Tonn.), 5th Jan., 1922.

Allotype: Nelson (Tonn.), 9th Oct., 1923.

Specimens in Brit. Mus.: Queenstown (Curtis); Governors Bay (Tapley).

50. **Mycetophila integra** n. sp. Tonn.

♂ *Head* orange; antennae with yellowish-orange base, brownish from the fourth segment onwards but base of each segment up to ninth or tenth is narrowly orange so that the antennae appear ringed; palpi ornage, last segment darker. *Thorax* yellowish-orange; pteropleurites with four bristles; mesonotum with small dark spot in front of scutellum and above wing-base. *Abdomen* obscure yellow, more brownish towards extremity; hypopygium yellow. Middle tibiae with four dorsal, two external, one ventral and three (one long) internal bristles. *Wings* subhyaline with a hint of a dark shadow on *r-m;* fCu under fM. Halteres yellow.

♀ Similar to male; anal lamellae orange; central wing shadow more distinct.

Length of body and wing, 2½ mm.

Type: Maitai Valley, Nelson, 16th Mar., 1922.

Allotype: *idem.*

Paratypes: *idem* and Nelson, 15th Dec., 1921; Kaikoura, 22nd Feb., 1922; Ohakune, 8th Mar., 1923; Cass, 20th Feb., 1925 (Tonn.).

Specimen in Brit. Mus.: Queenstown (Curtis); Governors Bay (Tapley); Ohakune (Harris).

51. **Mycetophila media** n. sp. Tonn.

♂ *Head* and palpi dark orange; basal third of antennae lighter orange, the rest gradually darker; antennae rather long, segments of flagellum three to four times as long as wide. *Thorax* dark orange, a slight darker streak in front of and on disc of scutellum. Pteropleurite with three to four bristles. *Abdomen* brown. *Legs* completely yellow. Middle tibiae with four dorsal, two external, no ventral and three (all small) bristles. *Wings* yellowish unmarked; fCu below fM. Halteres orange.

♀ Similar to male; venter yellowish, anal lamellae dark,

Length of body 3 mm., wing 3½ mm.

Type: Mt. Arthur (Tonn.), 27th Dec., 1921.

Allotype: *idem.*

Paratypes: *idem* and 21st Dec., 1921; Hilltop, 15th Jan., 1925.

In Brit. Mus.: Ben Lomond (Curtis).

52. **Mycetophila spinigera** n. sp. Tonn. (Fig. 277.)

♂ *Head* orange; palpi brown; antennae with scape and third segment yellow-orange; antennae as long as in the preceding species. *Thorax* bright orange without any dark markings. Pteropleurites with two to three bristles and a few hairs. *Abdomen* brown, lateral and hind-margin of segments yellow. Claspers of hypopygium as in fig. 277. *Legs* completely yellow. Middle tibiae with three to four dorsal and two external bristles, three very small ventral spines and one bristle and two small spine internally. *Wings* yellowish, unmarked. fCu much after fM. Halteres brownish.

♀ Similar to male; size somewhat larger; brown colouration of *abdomen* darker.

Length of body 2½ mm., wing 3 mm.

Type: Mt. Arthur (Tonn.), 26th Dec., 1921, in Cawthron Inst. coll.

Allotype and paratypes: *idem.*

53. **Mycetophila subtenebrosa** n. sp. Tonn.

♂ *Head* and its appendages brownish; basal third of antennae orange. *Thorax* brownish, a small ochreous area on each side of mesonotum posteriorly and on sides of scutellum and postnotum. Pteropleurites with four long bristles. *Abdomen* brown with hind-border of segments narrowly yellow. Hypopygium yellowish. *Legs* entirely yellow. Middle tibiae with dorsal, two external, one ventral and five (two long) internal bristles. *Wings* yellowish, *r-m* and fM darker but no dark shadow on membrane; fCu distinctly after fM. Knob of halteres dark.

Length of body and wing, 3 mm.

Type: Aniseed Valley, Nelson (Tonn.), 4th Dec., 1923, in Cawthron Inst. coll.

Paratype: Cass, Feb., 1925.

54. **Mycetophila harrisi** n. sp. Edw. (Fig. 274.)

Head blackish. Antennae with scape brownish-ochreous, flagellum dark brown, segments about twice as long as broad. Palpi blackish-brown, rather lighter in female. *Thorax* almost uniformly blackish-grey, only sides of scutellum ochreous, bristles black. Three rather short pteropleural bristles, besides a few small hairs. *Abdomen* black, posterior margins of tergites narrowly and indistinctly pale in ♀; anal lamellae of ♀ orange. Hypopygum of the *fungorum* type, claspers narrow, lower division remarkably large and ear-shaped, without spine. *Legs* bright ochreous, coxae and under sides of femora unmarked; hind-femora rather stout and narrowly black at tip. Middle tibiae with four dorsal (five in ♀), two external, four to five very short ventral and three to five internal bristles; ventral bristles placed nearer inner side than usual and perhaps do not correspond to ventral bristles of other species. Hind tibiae with four (♀) or five (♂) external bristles. *Wings* slightly brownish, veins all dark; a small dark cloud over *r-m;* fCu well beyond fM, further in ♂ than in ♀. Halteres yellowish.

Length of body and wing, about 3½ mm.

Type ♂ : Ohakune (T. R. Harris), July-Aug., 1922; allotype ♀, Jan., 1924, in Brit Mus. coll.

This is very much like *M. griseofusca,* differing in hypopygium and chaetotaxy.

55. **Mycetophila intermedia** n. sp. Edw. (Fig. 275.)

♂ Closely resembles *M. harrisi,* differing as follows:—

Wings without dark cloud over *r-m;* fCu below fM. Hypopygium relatively larger; upper claspers broader; lower claspers not so large and provided with two or three blunt spines.

Type: Ohakune (T. R. Harris), May-July, 1923, in Brit. Mus. coll.

This species is somewhat intermediate between *M. harrisi* and *M. griseofusca,* but seems to be quite distinct from both, being much nearer to the former in its chaetotaxy.

56. **Mycetophila tenebrosa** n. sp. Edw.

♀ *Head* blackish, as are antennae and palpi. Flagellar segments fully twice as long as broad. *Thorax* almost wholly blackish-grey, only the sides of scutellum brownish-ochreous. Three fairly well-developed pteropleural bristles. *Abdomen* wholly black, including the rather long and slender anal lamellae. *Legs* rather slender, brownish-ochreous; coxae all more or less darkened outwardly; femora, especially front pair, darkened beneath; tips of hind femora not at all darkened. Middle tibiae with four dorsal, two external, no ventral, and four short internal bristles. Hind-tibiae with four external and three to five small internal bristles. *Wings* rather smoky; a slightly darker cloud over *r-m;* veins all dark; fCu a little beyond fM. Halteres yellowish.

Length of body or wing, 4½ mm.

Type: Ohakune (T. R. Harris), Oct.-Nov., 1923, in Brit. Mus. coll.

The black anal lamellae will distinguish this from most of the other dark-coloured species. *M. nigricans* is rather similar, but has the anal lamellae nearly round, and the hind femora stouter.

36. Genus EPICYPTA Winn.

This genus has been recorded, so far, only from Europe and North America.

The two known New Zealand species can be easily distinguished by their wings: those of *E. immaculata* being completely hyaline and those of *dilata* having conspicuous dark markings and a dilated anal field.

Epicypta immaculata n. sp. Tonn. (Fig. 83.)

♂ *Head* blackish-brown; antennae brown with orange base, segments of flagellum scarcely longer than broad. *Thorax* dark brown, mesonotum shining with anterior part more or less orange also some orange parts around scutellum (mesonotum is often entirely black). *Abdomen* blackish-brown; hypopygium small, orange. Pubescence of body yellowish-brown. *Legs* yellow, tip of hind femora broadly black. Mil-tibiae with four dorsal, three external, two very long ventral, and no internal bristles. Hind-tibiae with bristles irregularly

arranged. *Wings* subhyaline, anterior border slightly yellowish. Costa produced well over tip of R_5 at about the third of distance between R_5 and M_1; fCu below *r-m*. Halteres yellow.

♀ Similar; anal lamellae dark, rather long.

Length of body, 2½ mm.; wing, 3 mm.

Type: Kaikoura (Tonn.), 28th Feb., 1922, in Cawthron Inst. coll.

Allotype: Wellington (Tonn.), 10th Mar., 1923.

Paratypes: Numerous specimens from nearly all parts of N.Z. from Sept. and Apl.

Epicypta dilatata n. sp. Tonn. (Fig. 84.)

♂ *Head* blackish, palpi and basal half of antennae orange, the rest gradually darker; segments of flagellum a little longer than wide. *Thorax* dull blackish-brown, shoulders orange, pubescence yellowish. *Abdomen* dark brown somewhat shining, pubescence of the margin of segments yellowish the rest brown. *Legs* yellowish; tip of posterior coxae, base of all femora below, tip of hind femora and tibiae dark. Middle tibiae with four dorsal, two external, one ventral, and one internal bristles; all these bristles with exception of dorsal ones short. *Wings* with extensive dark markings; the proximal one extends in most of costal cell, a part of basal cell and in base of cell R_1, R_5 and M_2. The whole wing-tip is dark but more intensively near tip of R_5. The two fasciae are connected by a shadow in cell Cu_1 and between Cu_1 and M_4. Anterior part of anal field darkish. Costa produced well beyond tip of R_5, about midway to tip of M_1; R_5 and M_1 strongly divergent. Anal field much dilated although not so much as in *Mycetophila dilatata*. Halteres yellowish white.

Length of body and wing, 2¾ mm.

Type: Reefton (Tonn.), 13th Jan., 1922, in Cawthron Inst. coll.

37. Genus ZYGOMYIA Winn.

This genus, which is very extensively represented in New Zealand is known also from Europe, Canary Is., North America and Australia.

KEY TO SPECIES.

1. Wings clear or with indefinite very slight dark shadow	2.
Wing with distinct and definite dark markings	3.
2. Palpi yellow; pubescence of mesonotum irregularly arranged	1. *immaculata* Tonn.
Palpi dark; pubescence of notum adpressed, regularly arranged	2. *similis* Tonn.
3. Wing tip clear	4.
Wing tip dark	5.
4. Subapical dark band narrower in cell M_2; mesonotum ferrugineous	3. *bifasciata* Tonn.
Subapical dark band of about equal width all through	4. *bivittata* Tonn.
5. Anterior border of the wing completely brown with exception of the very base, this dark colouration extending lower than the costal cell all through	6. *costata* Tonn.
Wings with different markings	6.

6. Distal part of the wing brownish on the anterior part of the membrane only ..... 5. *obsoleta* Tonn.

Distal half of the wing with a distinct shadow on the posterior part of the membrane ..... 7.

7. Distal wing half brownish with or without a clear spot in its middle and if present, this spot not extending in cell R_1 ..... 8.

Distal wing half with a transverse dark band more or less complete and with a dark apex, these two fasciae sometimes united along the hind border of the wing ..... 23.

8. Distal wing half with a more or less large clear spot in this dark area ..... 15.

Distal wing half completely brownish ..... 9.

9. Knob of halteres dark ..... 7. *nigrohalterata* Tonn.

Knob of halteres yellowish ..... 10.

10. Distal dark marking extending on more than half the wing, especially towards the hind border; rather large dark species ..... 8. *grisescens* Tonn.

Distal dark marking restricted to the apical half of the wing or a little less and well delimited from the basal clear portion of the wing ..... 11.

11. Central dark marking extending below fM towards the hind margin of the wing although sometimes rather faint there ..... 12.

Central dark marking restricted to *r-m* and fM ..... 13.

12. Abdomen with hind margin of segments yellow ..... 9. *ruficollis* Tonn.

Abdomen completely black.

Hypopygium as in fig. 303 ..... 11. *brunnea* Tonn.

Hypopygium as in fig. 302 ..... 10. *nigriventris* Tonn.

13. Halteres with dark knob; thorax completely dark brown ..... 12. *apicalis* Tonn.

Halteres yellow; mesonotum more or less orange..... 14.

14. Thorax mostly orange; 3 external and 2-3 ventral bristles on the middle tibiae ..... 13. *rufithorax* Tonn.

Thorax mostly brownish; 3 external and no ventral bristles on middle tibiae; hypopygium with long lateral lamellae ..... 14. *longicauda* Tonn.

15. Subapical spot small, placed in cell R_5 only or scarcely extending in cell M_2 ..... 16.

Subapical clear spot larger, extending in cell R_5 and M_2 and touching M_3 ..... 18.

16. Halteres with black knob ..... 15. *crassicauda* Tonn.

Halteres entirely yellow ..... 17.

17. Vein R_5 and M_1 arcuate in front of the clear subapical spot. Hypopygium exceedingly large ..... 16. *crassipyga* Tonn.

These veins straight; hypopygium small ..... 17. *guttata* Tonn.

18. Central dark fascia extending against Cu ..... 18. *varipes* Edw.

Central fascia not extending below fM ..... 19.

19. Halteres with black knob; shoulders orange, disc of notum black.

Hypopygium as in fig. 294 ..... 20. *flavicoxa* Marsh.

Hypopygium as in fig. 296 ..... 19. *humeralis* Tonn.

Halteres yellow; colouration of notum different ..... 20.

20. Mesonotum more or less ferrugineous	21.
Mesonotum dark, with or without three darker stripes	22.
21. Proximal limit of apical dark fascia nearly straight	21. *marginata* Tonn.
Apical fascia indented in cell M_2	22. *acuta* Tonn.
22. Mesonotum with three darker bands	23. *albinotata* Tonn.
Mesonotum with no distinct darker stripes. Hypopygium as in fig. 304	24. *truncata* Tonn.
Hypopygium as in fig. 293	25. *unispinosa* Tonn.
23. Middle dark fascia reaching at most as far as M_3 and often not reaching M_1	28. *cluta* Edw.
Middle dark fascia nearly always reaching the hind border of the wing	24.
24. Middle dark band narrower than the clear spaces on either sides of it	26. *trifasciata* Tonn.
Middle dark fascia wider than the clear spaces on either sides	25.
25. A slight brown shadow in anal field	27. *nigrita* Tonn.
No distinct shadow in anal field	29. *fusca* Marsh. 30. *distincta* Tonn. 31. *filigera* Edw. 32. *penicillata* Edw.

1. **Zygomyia immaculata** n. sp. Tonn.

♂ *Head* brown; palpi orange; first five antennal segments orange, the rest gradually darker, flagellar segments about twice as long as wide. *Thorax* brown, mesonotum slightly ochreous on sides anteriorly and in front of scutellum; pubescence of disc partly yellowish, partly black, and not arranged regularly. *Abdomen* brown rather dull; *legs* entirely yellow; middle tibiae with four dorsal, three external, three ventral (the middle one longer), and two to three internal bristles. *Wings* greyish somewhat darker anteriorly, unmarked but for a very slight and indistinct shadow on *r-m*. Halteres yellow.

Length of body, 3 mm.; wing, 3½ mm.

Type: Otira (Tonn.), 9th Feb., 1922, in Cawthron Inst. coll.

Paratype: Mt. Arthur (Tonn.), 20th Dec., 1921.

The number of ventral bristles on the middle tibiae is variable.

2. **Zygomyia similis** n. sp. Tonn.

♀ *Head* brown; palpi dark; antennae brown with scape and base of third segment orange. *Thorax* ferrugineous-brown, the notum with slight cinereous reflection and short, equal and regularly arranged pubescence on disc. *Abdomen* brown, lamellae dark. Legs completely yellow; middle tibiae with five dorsal, three external, five ventral (of unequal length), and six internal bristles. *Wings* as in *Z. immaculata*, without markings. Halteres yellow.

Length of body, 3 mm.; wing, 3½ mm.

Type: Waiho (Tonn.), 17th Jan., 1922.

3. **Zygomyia bifasciata** n. sp. Tonn.

♂ *Head* brownish, antennae orange on their first third, then gradually darker, flagellar segments not twice as long as broad; palpi

dark orange. Mesonotum and scutellum dark orange, the rest of thorax brown. *Abdomen* rather shining brown, hypopygium orange; pubescence of body brown. *Legs* entirely yellow; middle tibiae with five dorsal, three external, three ventral, and three internal (one long) bristles. Wings with central fascia on *r-m* and fM not extending in costal cell but prolonged below M_4; a further transverse rather wide band under last part of R_1, this band being only half as wide in cell M_3; apex of wing clear. Halteres yellow.

♀ Similar to male but the two dark fasciae of wings touching along the branches of M; cell M_3 is therefore dark on its first two-third and includes there a small roundish clear spot.

Length of body, 2½ mm.; wing, 3 mm.

Type: Lake Brunner (Tonn.), 5th Feb., 1922, in Cawthron Inst. coll.

Allotype: Maitai Valley, Nelson (Tonn.), 17th Mar., 1922.

Paratypes: Kaikoura, 22nd Feb., 1922; Khandallah, 30th Nov., 1921; Waiho, 30th Jan., 1922 (Tonn.).

Specimens in Brit. Mus.: Ohakune (Harris).

4. **Zygomyia bivittata** n. sp. Tonn. (Fig. 88.)

♂ *Head, thorax* and *abdomen* blackish-brown with slight cinereous reflection in certain positions; pubescence yellowish. The first four segments of antennae orange, the rest gradually darker, flagellar segments about twice as long as wide; palpi orange. *Legs* yellowish; tip of coxae darkish, tip of hind femora rather broadly black, tip of middle femora and posterior tibiae very slightly darkened. Middle tibiae with five dorsal, three external, two to four (only one long) ventral, and two to three internal bristles. *Wings* subhyaline with dark markings as follow: a transverse zig-zag narrow band extending from costa on *r-m*, fM and from there fainter, towards hind-border of wing, a very wide subapical band leaving only tip of cell R_5 and M_3 clear. Sc is rather long and extends to middle of basal cell. Halteres with yellow stem and dark knob.

Length of body, 3 mm.; wing, 3½ mm.

Type: Mt. Arthur, 26th Dec., 1921 (Tonn.), in Cawthron Inst. coll.

Allotype Kaitouna, 19th Feb., 1922.

Specimen in Brit. Mus.: Leith Valley (Howes).

5. **Zygomyia obsoleta** n. sp. Tonn.

♀ *Head, thorax* and *abdomen* completely brown; base of antennae and palpi yellow. Anal lamellae dark. *Legs* entirely yellow. Middle tibiae with four dorsal, two external, one ventral, and one to two internal bristles. *Wing* with dark markings very faint and arranged as follow: one spot on *r-m* and fM and an apical shadow distinct only on anterior border of distal half of wing. Halteres entirely yellow.

This species comes rather near *Z. apicalis* but the markings are much fainter and the apical one does not extend on the posterior half of the wing.

Length of body and wing, 2 mm.

Type: Waiho (Tonn.), 20th Jan., 1922.

6. **Zygomyia costata** n. sp. Tonn.

♀ *Head* and appendages brown; antennae paler at base, segments of flagellum conspicuously shorter than broad, the whole antenna not much longer than head. *Thorax* dull brownish-black, shoulders orange, pubescence of notum yellowish. *Abdomen* rather shining, brownish black pubescence of margin of segments yellow, the rest dark; anal lamellae orange. *Legs* yellow, hind femora broadly black at tip middle tibiae, with four dorsal, two external, two ventral, and one internal bristles. *Wings* rather broad with whole anterior border except the very base uniformly brownish, this shadow extending also on posterior part of distal half of membrane but being there rather faint and including a clear spot in cell R_5 and M_3, this spot not touching vein R_6. *r-m* exceedingly short. Halteres whitish.

Length of body and wing, 2 mm.

Type: Nelson (Tonn.), 1st Nov., 1923, in Cawthron Inst. coll.

7. **Zygomyia nigrohalterata** n. sp. Tonn. (Fig. 292.)

♂ *Head* and appendages brown, base of antennae paler; segments of flagellum about twice as long as broad. *Thorax* dull brown, slightly ferrugineous. *Abdomen* dark brown; hypopygium orange. Pubescence of body dark. *Legs* completely yellow; middle tibiae with four dorsal, three external, four ventral, and five internal (one long) bristles. *Wing* subhyaline with a darkish spot on *r-m* and fM; the apical half of wing uniformly brownish. Halteres with yellow stem and dark knob.

♀ Similar to male; antennae darker at the base; anal lamellae dark.

Length of body and wing, 2½ mm.

Type: Mt. Arthur, Dec., 1921, in Cawthron Inst. coll.

Allotype and paratypes: *idem.*

The chaetotaxy of the middle tibiae is variable; it is sometimes: 4. 2. 3. 4-5.

8. **Zygomyia grisescens** n. sp. Tonn.

♂ *Head* brown, palpi black, rather short; antennae brown with scape orange, segments of flagellum, as an average, three times as long as wide. *Thorax* dull ferrugineous brown with brownish-yellow adpressed regularly arranged pubescence on disc of notum. *Abdomen* brown, hypopygium with two long dorsal lamellae. *Legs* yellowish tip of posterior coxae, base of posterior femora below and tip of posterior tibiae slightly darkened. Middle tibiae with three dorsal, three external, two ventral, and four internal bristles. *Wing* nearly completely smoky with base clear and a clear space after r-m between R_1 and M_3. Halteres yellow.

Length of body, 3¼ mm.; wing, 3¾ mm.

Type: Mt. Arthur (Tonn.), 21st Dec., 1921, in Cawthron Inst. coll.

One specimen in Brit. Mus.: Mt. Grey (Campbell), 23rd Feb., 1924; the formula of the middle tibiae of this specimen is different: 5. 3. 4-5. 4-5., the structure of the hypopygium is, however, exactly similar.

9. **Zygomyia ruficollis** n. sp. Tonn. (Fig. 93.)

♀ *Head* orange basal third of antennae orange, the rest gradually darker, segments of flagellum about twice as long as wide; palpi dark. *Thorax* completely orange-yellow. *Abdomen* brown with hind-border of segments yellow, chiefly on sides; lamellae dark orange. *Legs* yellow, tip of hind tibiae dark. Mid-tibiae with five dorsal, four external three ventral and four internal bristles. *Wing* with a central fascia extending from costa over *r-m*, fM and from there exceedingly faint to posterior margin of wing; apical two-fifth entirely dark but more intensely towards anterior border. Halteres yellow with base of knob dark.

Length of body and wing, 3 mm.

Type: Wellington (Tonn.), 1st Dec., 1921, in Cawthron Inst. coll.

Paratype: Christchurch, Horseshoe Lake (Heighway), 17th Sept., 1924.

10. **Zygomyia nigriventris** n. sp. Tonn. (Fig. 302.)

♂ *Head, thorax* and *abdomen* dark brown; mesonotum somewhat ferrugineous; pubescence dark. Palpi short, brown; antennae moderately long, flagellar segments not twice as long as wide; scape dark orange, the rest dark. Hypopygium according to fig. 302. *Legs* entirely yellow; middle tibiae with five dorsal, two to three external, three ventral, and three to four internal bristles. *Wings* with a transverse zig-zag band from costa across *r-m* and fM to posterior border of wing but much fainter below M_3 apical two-fifth completely brown and more strongly anteriorly. Halteres yellow.

♀ Similar to male, anal lamellae dark.

Length of body, 2 mm.; wing, 2½ mm.

Type: Mt. Arthur, 26th Dec., 1921, in Cawthron Inst. coll.

Allotype and paratypes: *idem.*

11. **Zygomyia brunnea** n. sp. Tonn. (Fig. 303.)

♂ *Head* and appendages brown, antennae scarcely paler at base. *Thorax* brown, mesonotum slightly ferrugineous with cinereous sides in certain light. *Abdomen* brown; hypopygium as in fig. 303. Pubescence of body yellowish. *Legs* yelow, tip of posterior coxae and base of posterior femora below brownish. Middle tibiae with four to five dorsal, two external, two to three ventral and three internal bristles. *Wing* exactly as in the preceding species. Halteres yellow.

♀ Similar to male, anal lamellae dark.

Length of body and wing, 2½ mm.

Type: Mt. Arthur, 22nd Dec., 1922, in Cawthron Inst. coll.

Allotype: *idem.*

Paratypes numerous from many parts of N.Z.

This is one of the most common species of the genus. It can be easily confused with the preceding one from which it differs only by some detail of structure of the hypopygium.

12. **Zygomyia apicalis** n. sp. Tonn.

♂ *Head, thorax* and *abdomen* completely dark brown, the mesonotum a little lighter; pubescence of body dark. Palpi and antennae entirely dark Antennae moderately long, flagellar segments one and

a half times as long as wide. Hypopygium with two rather long hairy inferior appendages. *Legs* entirely yellow. Middle tibiae with five dorsal, two external, three ventral, and four internal bristles. *Wings* with moderately dark brownish markings as follow: a spot on *r-m* and fM, the whole distal half of the membrane dark but more intensively anteriorly. Halteres with yellowish stem and dark knob.

Length of body and wing, 2½ mm.

Type: Waiho (Tonn.), 20th Jan., 1922, in Cawthron Inst. coll.

Paratype: *idem* 30th Jan., 1922.

13. **Zygomyia rufithorax** n. sp. Tonn.

♂ *Head* and appendages brown; base of antennae orange. *Thorax* yellowish-orange with exception of disc of scutellum, middle of postnotum and some parts of pleurae darker. *Abdomen* brown; hypopygium orange. *Leg* yellow entirely; middle tibiae with five dorsal, three external, three ventral, and three to four internal (one long) bristles. *Wing* with a central brownish spot on *r-m* and fM and a dark fascia covering completely distal two-fifths of the membrane which is darker anteriorly. Halteres orange.

♀ Similar to male, anal lamellae more or less orange.

Length of body 2, mm.; wing 2½ mm.

Type: Otira (Tonn.), 10th Feb., 1922, in Cawthron Inst. coll.

Allotype: Mt. Arthur, 21st Dec., 1922.

Paratypes: Mt. Arthur, 24th Dec., 1921; Otira, 10th Feb., 1922; Khandallah, 30th Nov., 1921; Nelson, 12th Dec., 1921; Waiho, 30th Nov., 1922 (Tonn.).

Specimens in Brit. Mus.: Ohakune (Harris); Leith Valley (Howes); Queenstown (Curtis).

14. **Zygomyia longicauda** n. sp. Tonn.

♂ *Head* and appendage brown, base of antennae orange; antennae rather long; flagellar segments twice as long as wide. Mesonotum dark orange, the rest of the *thorax* somewhat darker. *Abdomen* brown, also hypopygium which is provided with rather long lateral lamellae. *Legs* yellow, tip of hind-tibiae brown. Mid-tibiae with four dorsal, two external, no ventral, and three to four internal (all small) bristles. *Wings* as in *rufithorax*. Halteres orange.

Length of body and wing, 2½ mm.

Type: Maitai Valley (Tonn.) 7th Mar., 1922, in Cawthron Inst. coll.

15. **Zygomyia crassicauda** n. sp. Tonn.

♂ *Head* and appendages brown, base of antennae paler. *Thorax* brown, propleurae orange. *Abdomen* brown; hypopygium very large, about one-third of abdomen, much swollen and roundish, its colour dull brown, paler below where there is roundish shining space. *Legs* yellow; middle tibiae with five dorsal, three external, two to three ventral, and two internal bristles. *Wings* with a small central dark spot on *r-m* and fM and a dark apical fascia on the last two within the middle of which there is a small round clear spot in cell R_5 Halteres with yellow stem and black knob.

Length of body, 2 mm.; wing, 2½ mm.

Type: Otira, 10th Feb., 1922 (Tonn.), in Cawthron Inst. coll.

16. **Zygomyia crassipyga** n. sp. Tonn.

♂ *Head* and appendages brown, base of antennae slightly paler. *Thorax* brown, slightly ferrugineous on notum. *Abdomen* brown. Hypopygium very large, about two-fifth of abdomen, brown with yellowish clasper. Pubescence of body dark. *Legs* entirely yellow; middle tibiae with five dorsal, three external, three ventral, and one internal bristles. *Wing* with the central fascia extending from costa on to *r-m* and fM. Apical brown fascia darker anteriorly and with a small round subapical clear spot in cell R_5, the space between this spot and wing-tip not being as dark as the rest of the fascia. Veins R_5 and M_1 somewhat arcuate in front of the little subapical clear spot. Halteres yellow.

♀ Base of antennae and mesonotum someyhat paler. Tip of posterior coxae, base of posterior femora and hind knees slightly dark. Anal lamellae dark.

Length of body, 2 mm.; wing, 2½ mm.

Type: Waiho (Tonn.), 28th Jan., 1922, in Cawthron Inst. coll.

Allotype: Kaikoura, 23rd Feb., 1922.

Paratype: Otira, 10th Feb., 1922.

Specimen in Brit. Mus.: Ohakune (Harris).

17. **Zygomyia guttata** n. sp. Tonn.

♂ *Head* and appendages brown, antennae slightly paler at base, moderately long, the flagellar segments scarcely longer than wide. *Thorax* brown, sides of mesonotum slightly greyish. *Abdomen* brown; hypopygium very small. *Legs* yellow, posterior coxae and femora slightly and narrowly darkened at tip, extremity of posterior tibiae distinctly darkened; middle tibiae with five dorsal, three external, three ventral and one to two internal bristles. *Wing* with central dark fascia extending from costa on to *r-m* and stem of M but scarcely on fM; apical fascia on distal two-fifth of wing, conspicuously darker anteriorly and with a roundish clear spot in middle of cell R_5, this spot extending slightly and inconspicuously in cell M_3. Halteres yellowish-white.

Length of body, 1⅝ mm.; wing, 2 mm.

Type: Nelson (Tonn.), 4th Mar., 1922, in Cawthron Inst. coll.

18. **Zygomyia varipes** n. sp. Edw.

♀ *Head* blackish-grey, with black bristles and pale pubescence. Antennae black, scape hardly lighter; flagellar segments about half as long again as broad. Palpi brownish. *Thorax* blackish-brown, slightly dusted with grey, shoulders narrowly ochreous; bristles black, pubescence pale. Three strong pteropleural bristles. *Abdomen* blackish somewhat shining, anal lamellae small and dark. *Legs* ochreous; all coxae with distinct black marks on outer side at tip; front femora dark beneath; posterior femora with about the basal and apical thirds black; hind tibiae black at tip. Middle tibiae with four dorsal, three external, one ventral, and two internal bristles. *Wings* with the ground-colour clear; a well-marked dark band extending from costa, where it is broadest, through base of cell M_1 to Cu,

above which it again broadens towards base of wing; tip broadly dark, including a clear spot which just touches R_5 and M_3 and is slightly constricted at M_1. Halteres white.

Length of body or wing, 3 mm.

Type: Queenstown (L. Curtis), 25th Mar., 1923, in Brit. Mus. coll.

19. **Zygomyia humeralis** n. sp. Tonn. (Fig. 296.)

♂ *Head* brown; palpi yellow; antennae brown with orange scape. *Thorax* dull blackish-brown with anterior corners of mesonotum orange and its side greyish; its pubescence rather long, yellowish. *Abdomen* shining dark brown; hypopygium as in fig. 296. *Legs* yellow; tip of hind-femora broadly dark; mid-tibiae with four dorsal, three external, one ventral, and two internal bristles. *Wing* with a dark marking on *r-m* and fM; the whole of costal cell but its base darkish; distal half of wing dark with a clear spot in cells R_5 and M_3, this spot not touching vein R_5. Halteres with yellow stem and black knob.

♀ Similar to male; size somewhat larger. Anal lamellae orange.

Length of body and wing, $1\frac{3}{4}$ mm.

Type: Nelson (Tonn.), 13th Oct., 1923, in Cawthron Inst. coll.

Allotype: Kaikoura, 22nd Feb., 1922.

Paratypes: Cass, 27th Nov., 1924; Christchurch, 17th Dec., 1924; Nelson, 1st Sept., 1923; and 15th Dec., 1921.

The antennae are sometimes completely dark.

20. **Zygomyia flavicoxa** Marsh. (Figs. 90, 294.)

Marshal, *Trans N.Z. Inst*, 28, 1896, p. 297.

This species and the preceding one are scarcely distinguishable but by the structure of the male's hypopygium. Fig. 294 is made after the hypopygium of the type.

Besides Wanganui and Lincoln, this species is known from Ohakune (Harris); Governors Bay (Tapley); Christchurch (Campbell).

21. **Zygomyia marginata** n. sp. Tonn.

♂ *Head* brown; palpi dark orange; antennae brown with paler base, their length moderate, flagellar segments only a little longer than wide. *Thorax* brown, mesonotum somewhat paler with some cinereous reflections in certain positions. Abdomen brown; hypopygium with dorsal lamellae rounded on the outside and pointed at tip. *Legs* entirely yellow; mid-tibiae with five dorsal, three external, two ventral, and one internal bristles. *Wing* with a rather large central fascia on *r-m* and fM and extending against costa; apical fascia darker on anterior border and with a clear spot in middle across the cells R_5 and M_3. Halteres yellow.

♀ Similar to male; anal lamellae dark.

Length of body and wing, $2\frac{1}{2}$ mm.

Type: Otira, 10th Feb., 1922 (Tonn.), in Cawthron Inst. coll.

Allotype: Nelson (Tonn), 27th June, 1922.

Paratypes: Otira, 10th Feb., 1922; Lake Brunner, 4th Feb., 1922; Nelson, 27th June, 1922.

Specimens in Brit. Mus.: Ohakune (Harris); Governors Bay (Tapley); Queenstown (Curtis).

22. **Zygomyia acuta** n. sp. Tonn. (Fig. 85.)

Very similar to *Z. marginata* from which it differs chiefly by the hypopygium, the superior lamellae being fusiform, acute at apex which carries a bristle. Mesonotum paler. Middle tibiae with five dorsal, three external, three ventral, and three internal (one long) bristles. The first half of cell M_3 is clear, the limit of apical dark fascia is therefore in that cell not on the same level as that of the cells above and below as it is the case in *Z. marginata* and the allied species. Female with dark anal lamellae.

Type: Waiho (Tonn.), 30th Jan., 1922, in Cawthron Inst. coll.

Allotype: *idem.*

23. **Zygomyia albinotata** n. sp. Tonn. (Fig. 92.)

♂ *Head* and its appendages brown; antennae slightly lighter at base; flagellar segments as an average not twice as long as wide. *Thorax* brown with a slight grey pruinosity; mesonotum with three darker stripes not distinct in all positions and more or less fused together. *Legs* yellow, tip of posterior coxae and base of posterior femora below dark; tip of hind-femora and tibiae darkened. Mid-tibiae with four dorsal, three external one to two ventral and three to four (one long) internal bristles. *Wing* with a rather large central dark fascia on *r-m* and fM and extending on costa; apical fascia darker anteriorly and with a clear space in middle of cells R_5 and M_3. Halteres yellow.

♀ Similar to male; anal lamellae dark orange.

Length of body and wing 2½ mm.

Type: Mt. Arthur (Tonn.) 22nd December, 1921. In Cawthron Inst. coll.

Allotype and paratypes: *idem.*

24. **Zygomyia truncata** n. sp. Tonn. (Fig. 304.)

Very closely related to *Z. albinotata* from which it differs mainly in the hypopygium, the superior lamellae of which is shown in Fig. 304. Middle tibiae with four dorsal, two external, two ventral, and two to three internal bristles.

Type: Mt. Arthur (Tonn.), 26th Dec., 1921, in Cawthron Inst. coll.

Allotype: Dun Mount., Nelson (Tonn.), 5th Feb., 1922.

25. **Zygomyia unispinosa** n. sp. Tonn. (Fig. 293.)

Very similar to *Z. albinotata* for size and colouration as well as for wing-pattern, but there is no distinct stripes on mesonotum. The middle tibiae carry only one ventral bristles. By the shape of the superior lamellae of the hypopygium it comes nearer to *Z. marginata* from which it differs, however, by the larger size, the colouration of the *legs* and by the larger subapical clear spot of the wing.

Length of wing and body, 3 mm.

Type: Mt. Arthur, 21st Dec., 1921 (Tonn.), in Cawthron Inst. coll.

Paratype: one male *idem.*

26. **Zygomyia trifasciata** n. sp. Tonn. (Fig. 94.)

♂ *Head* and appendages dark; antennae lighter at base, flagellar segments twice as long as wide. *Thorax* ferrugineous-brown. *Abdomen* brown, hind-border of segments slightly yellowish. *Legs* yellow; middle tibiae with four dorsal, three external, two ventral and two to four internal bristles. *Wing* with a central spot on *r-m* and fM and a dark tip; midway between these two dark fasciae there is a rather narrow transverse dark band from R_1 to M, the clear spaces on each side being wider than the dark band itself. Halteres with a darkish knob.

Length of body and wing, 2½ mm.

Type: Dun Mt., Nelson (Tonn.), 5th Jan., 1922, in Cawthron Inst. coll.

27. **Zygomyia nigrita** n. sp. Tonn. (Fig. 289.)

♂ *Head* and body completely dark; palpi and antennae brown, base of antennae slightly lighter; mesonotum dull with greyish reflection. Pubescence of body yellowish. *Legs* yellow, tip of all coxae base of posterior femora below and tip of hind-tibiae darkened. Mid-tibiae with four dorsal, three external, two ventral, and three internal bristles. *Wing* with a central spot on *r-m* and fM; a very slight shadow in anal field at level of fM; a transverse band between third fifth and second third of wing, darker anteriorly; last quarter of wing dark, this last fascia separated from preceding one by a transverse clear band which does not quite reach posterior border. Halteres yellow.

♀ Similar to male; anal lamellae dark orange.

Length of body and wing, 2½ mm.

Type: Tahunanui, Nelson (Tonn.), 21st July, 1922, in Cawthron Inst. coll.

Allotype: *idem.*

Paratypes: Nelson, 28th Sept., 1923 and 9th Oct., 1923.

28. **Zygomyia eluta** n. sp. Edw. (Figs. 95, 295.)

Head blackish, as are palpi and antennae, the latter only slightly brownish at base; flagellar segments about half as long as broad. *Thorax* uniformly blackish-grey; hair brownish; bristles black; three strong propleural and two pteropleural bristles. *Abdomen* blackish, with scanty pale hair; hind margins of segments narrowly pale; hypopygium small and hidden. *Legs* ochreous, tarsi and spurs dark; coxae unmarked; middle tibiae with three to four dorsal, two to three external, one ventral and two to three small internal bristles; bristles beneath first hind tarsal segment very little longer than the diameter of the segment. *Wing* mainly clear; a slight dark seam over *r-m* and stem of median fork; a narrow and faint brownish band from costa a short distance before tip of R_1, reaching at most as far as M_3, but often not reaching M_1; tip of wing slightly darkened. Venation normal; Sc short. Halteres yellow.

Length of body, 2½-3 mm.; wing, 2½-3 mm.

Type ♂: Governors Bay (J. F. Tapley), in Brit. Mus. coll.; and numerous paratypes ♂ ♀, Aug.-Sept., 1922; Queenstown (L. Curtis); 1 ♂ 2 ♀, 10th Sept., 1923; Ohakune (T. R. Harris); 1 ♂, Aug., 1922.

29. **Zygomyia fusca** Marsh. (Figs. 87, 290, 291.)
Marshall, *Trans N.Z. Inst.*, 28, 1896, p. 298.

A drawing of the type's hypopygium is given in figs. 290-91.

The type's locality is not known, but this species which is not uncommon has been collected again at: Queenstown (Curtis); Governors Bay (Tapley); Ohakune (Harris); Maitai Valley, Nelson (Tonn.), 22nd Mar., 1922; Lake Brunner, 2nd Feb., 1922.

30. **Zygomyia distincta** n. sp. Tonn. (Fig. 298.)

♂ *Head* and appendages brown, base of antennae slightly lighter. *Thorax* brown pubescence rather shaggy on disc of mesonotum. *Abdomen* brown; hypopygium as in fig. 298. *Legs* entirely yellow; mid-tibiae with four dorsal, three external, one ventral, two to three internal bristles. *Wing* with a small darkish spot on *r-m* and fM, not extending to the costa; a rather wide transverse band from tip of R_1 to hind-border which is united there to dark apical fascia. Halteres yellow.

♀ Similar to male, the two dark fasciae of the last half of the wing not, or scarcely, united along the hind-border.

Length of body, 2¼ mm.; wing, 2¾ mm.

Type: Waiho 17th Jan., 1922 (Tonn.), in Cawthron Inst. coll.

Allotype: Purau Creek (Tonn.), 20th Feb., 1922.

31. **Zygomyia filigera** n. sp. Edw. (Fig. 300.)

Closely resembles *Z. fusca* Marshall in colour and chaetotaxy, differing as follows:—

Average size a little larger. Antennae rather longer, the flagellar segments in male over twice as long as broad. *Thorax* with a more distinct reddish tinge. Male claspers much longer and more slender, fully as long as the combined length of fifth and sixth abdominal segments.

Type ♂: Ohakune (T. R. Harris), in Brit. Mus. coll.; paratypes *idem* 3 ♂ 2 ♀, Sept., 1922; May-July, 1923; and Oct.-Nov., 1923.

32. **Zygomyia penicillata** n. sp. Edw. (Fig. 301.)

♂ Closely resembles *Z. fusca* differing only in the details of structure of the hypopygium; chiefly in the form of the claspers, which are stouter and quite straight, bearing a denser branch of hairs.

Type: Governors Bay (J. F. Tapley), 15th Aug., 1923, in Brit. Mus. coll.; paratype ♂: *idem*, Dec., 1923.

EXPLANATION OF PLATES.

FIG. 1.—*Centrocnemis basalis* Tonn.
FIG. 2.—*Centrocnemis tillyardi* Tonn.
FIG. 3.—*Centrocnemis nitida* Tonn.
FIG. 4.—*Nervijuncta osten-sackeni* Tonn.
FIG. 5.—*Nervijuncta marshalli* Edw.
FIG. 6.—*Nervijuncta marshalli* (variety).
FIG. 7.—*Nervijuncta punctata* Tonn.
FIG. 8.—*Nervijuncta filicornis* Edw.
FIG. 9.—*Nervijuncta nigricornis* Tonn.
FIG. 10.—*Nervijuncta ruficeps* Edw.
FIG. 11.—*Nervijuncta hudsoni* Marsh.
FIG. 12.—*Nervijuncta wakefieldi* Edw., large male
FIG. 13.—*Nervijuncta wakefieldi* Edw., small male
FIG. 14.—*Nervijuncta flavoscutellata* Tonn., large male
FIG. 15.—*Nervijuncta flavoscutellata* Tonn., small male
FIG. 16.—*Nervijuncta longicauda* Edw.
FIG. 17.—*Nervijuncta pulchella* Edw.

FIG. 18.—*Nervijuncta hexachaeta* Edw.
FIG. 19.—*Nervijuncta tridens* Hutton.
FIG. 20.—*Nervijuncta bicolor* Edw.
FIG. 21.—*Nervijuncta nigrescens* Marsh.
FIG. 22.—*Heterotricha novae-zealandiae* Tonn.
FIG. 23.—*Arachnocampa luminosa* Skuse.
FIG. 24.—*Macrocera pulchra* Tonn.
FIG. 25.—*Macrocera montana* Marsh.
FIG. 26.—*Macrocera scoparia* Marsh.
FIG. 27.—*Macrocera ngairae* Edw.
FIG. 28.—*Macrocera hudsoni* Tonn.
FIG. 29.—*Macrocera unipunctata* Tonn.
FIG. 30.—*Macrocera fenestrata* Edw.
FIG. 31.—*Macrocera milligani* Tonn.
FIG. 32.—*Paramacrocera brevicornis* Edw.
FIG. 33.—*Cerotelion bimaculatus* Tonn.

FIG. 34.—*Cerotelion hudsoni* Marsh.
FIG. 35.—*Cerotelion leucoceras* Marsh.
FIG. 36.—*Platyura maculipennis* Tonn.
FIG. 37.—*Platyura punctifusa* Edw.
FIG. 38.—*Platyura lamellata* Tonn.
FIG. 39.—*Platyura exigua* (var.) Tonn.
FIG. 40.—*Platyura campbelli* Tonn.
FIG. 41.—*Platyura harrisi* Edw.
FIG. 42.—*Sciara nubeculosa* Edw.
FIG. 43.—*Sciara annulata* Mg.
FIG. 44.—*Scythroprochroa* nitida Edw.
FIG. 45.—*Ohakunea bicolor* Edw.
FIG. 46.—*Mycomyia flavilatera* Tonn.
FIG. 47.—*Mycomyia furcata* Edw.
FIG. 48.—*Taxicnemis hirta* Marsh.
FIG. 49.—*Aneura fusca* Tonn.

FIG. 50.—*Aneura bispinosa* Edw.
FIG. 51.—*Aneura longicauda* Tonn.
FIG. 52.—*Aneura boletinoides* Marsh.
FIG. 53.—*Parvicellula ruficoxa* Tonn.
FIG. 54.—*Parvicellula fascipennis* Edw.
FIG. 55.—*Synapha apicalis* Tonn.
FIG. 56.—*Synapha parva* Edw.

FIG. 57.—*Allocotocera cephasi* Edw.
FIG. 58.—*Allocotocera dilatata* Tonn.
FIG. 59.—*Phthinia longiventris* Tonn.
FIG. 60.—*Aphelomera skusei* Marsh.
FIG. 61.—*Neotrizygia obscura* Tonn.
FIG. 62.—*Paracycloneura apicalis* Tonn.
FIG. 63.—*Cycloneura flava* Marsh.
FIG. 64.—*Cycloneura aberrans* Tonn.
FIG. 65.—*Sygmolea melanoxantha* Edw.

FIG. 66.—*Anomalomyia guttata* Hutt., pale variety.
FIG. 67.—*Anomalomyia guttata* Hutt., dark variety.
FIG. 68.—*Anomalomyia viatoris* Edw.
FIG. 69.—*Anomalomyia minor* Marsh., pale wing.
FIG. 70.—*Anomalomyia affinis* Tonn.
FIG. 71.—*Paradoxa fusca* Marsh.
FIG. 72.—*Cawthronia nigra* Tonn.
FIG. 73.—*Paracycloneura apicalis* Tonn.
FIG. 74.—*Moryaniella fusca* Tonn.
FIG. 75.—*Tetragoneura rufipes* Tonn.
FIG. 76.—*Tetragoneura fusca* Tonn.
FIG. 77.—*Tetragoneura spinipes* Edw.
FIG. 78.—*Trichoterga monticola* Tonn.
FIG. 79.—*Exechia flata* Edw.
FIG. 80.—*Exechia hiemalis* Marsh.
FIG. 81.—*Allodia fragilis* Marsh.

FIG. 82.—*Allodia maculata* Tonn.
FIG. 83.—*Epicypta immaculata* Tonn.
FIG. 84.—*Epicypta dilatata* Tonn.
FIG. 85.—*Manota maorica* Edw.
FIG. 86.—*Zygomyia acuta* Tonn.
FIG. 87.—*Zygomyia fusca* Marsh.
FIG. 88.—*Zygomyia bifasciata* Tonn.
FIG. 89.—*Zygomyia bivittata* Tonn.
FIG. 90.—*Zygomyia flavicoxa* Marsh.
FIG. 91.—*Zygomyia sp. inc.*
FIG. 92.—*Zygomyia albonotata* Tonn.
FIG. 93.—*Zygomyia ruficollis* Tonn.
FIG. 94.—*Zygomyia trifasciata* Tonn.
FIG. 95.—*Zygomyia eluta* Edw.
FIG. 96.—*Mycetophila ornatissima* Tonn.
FIG. 97.—*Mycetophila latifascia* Edw.
FIG. 98.—*Mycetophila nitens* Tonn.
FIG. 99.—*Mycetophila marshalli* End.

FIG. 100.—*Mycetophila marshalli* variety.
FIG. 101.—*Mycetophila consobrina* Tonn.
FIG. 102.—*Mycetophila griscescens* Tonn.
FIG. 103.—*Mycetophila diffusa* Tonn.
FIG. 104.—*Mycetophila similis* Tonn.
FIG. 105.—*Mycetophila curtisi* Edw.
FIG. 106.—*Mycetophila sylvatica* Tonn.
FIG. 107.—*Mycetophila virgata* Tonn.
FIG. 108.—*Mycetophila elegans* Tonn.
FIG. 109.—*Mycetophila phyllura* Edw.
FIG. 110.—*Mycetophila howletti* Marsh.
FIG. 111.—*Mycetophila vulgaris* Tonn.
FIG. 112.—*Mycetophila elongata* Tonn.
FIG. 113.—*Mycetophila marginepunctata*, var. *ruapehuensis* Edw.

FIG. 114.—*Mycetophila marginepunctata* Tonn.
FIG. 115.—*Mycetophila marginepunctata*, var. *rotundipennis* Edw.
FIG. 116.—*Mycetophila variabilis* Marsh.
FIG. 117.—*Mycetophila colorata* Tonn.

FIG. 118.—*Mycetophila fumosa* Tonn.
FIG. 119.—*Mycetophila dilatata* Tonn.
FIG. 120.—*Neopnyxia nelsoniana* Tonn., from the side.
FIG. 121.—*Neopnyxia nelsoniana* Tonn., from above.
FIG. 122.—*Neopnyxia nelsoniana* Tonn., integuments strongly magnified.

FIG. 123.—*Centrocnemis fumipennis* Tonn., Hypopygium, left apical half.

FIG. 124.—*Centrocnemis tillyardi* Tonn., Hypopygium, left apical half.
FIG. 125.—*Centrocnemis fumipennis* Tonn., Hypopygium, from the side.
FIG. 126.—*Centrocnemis tillyardi* Tonn., Hypopygium, from the side.
FIG. 127.—*Centrocnemis trivittata* Edw., Hypopygium (half), from beneath.
FIG. 128.—*Centrocnemis trivittata* Edw., Hypopygium, from the side.
FIG. 129.—*Centrocnemis basalis* Tonn., Hypopygium, from the side.
FIG. 130.—*Centrocnemis basalis* Tonn., Hypopygium, tip of internal clasper.
FIG. 131.—*Centrocnemis nitida* Tonn., Hypopygium, from the side.
FIG. 132.—*Centrocnemis nitida* Tonn., Hypopygium (half), from beneath.
FIG. 133.—*Nervijuncta osten-sackeni* Tonn., clasper from beneath.
FIG. 134.—*Nervijuncta flavoscutellata* Tonn., hypopygium from the side.
FIG. 135.—*Nervijuncta punctata* Tonn., hypopygium from above.
FIG. 136.—*Nervijuncta nigrescens* Marsh., hypopygium from above.

FIG. 137.—*Nervijuncta ruficeps* Edw., hypopygium from the side.
FIG. 138.—*Nervijuncta ruficeps* Edw., inside of clasper at base.
FIG. 139.—*Nervijuncta longicauda* Edw., hypopygium from the side.
FIG. 140.—*Nervijuncta wakefieldi* Edw., hypopygium (half) from above.
FIG. 141.—*Nervijuncta wakefieldi* variety, hypopygium (half) from above.
FIG. 142.—*Nervijuncta wakefieldi* variety, clasper.
FIG. 143.—*Nervijuncta hexachaeta* Edw., hypopygium from the side.
FIG. 144.—*Nervijuncta hexachaeta* Edw., inside of clasper.
FIG. 145.—*Nervijuncta tridens* Hutt., hypopygium (half) from above.
FIG. 146.—*Nervijuncta harrisi* Edw., hypopygium from the side.
FIG. 147.—*Nervijuncta harrisi* Edw., inside of clasper.

FIG. 148.—*Nervijuncta hudsoni* Marsh., hypopygium from the side.
FIG. 149.—*Nervijuncta nigricoxa* Edw., hypopygium (half) from above.
FIG. 150.—*Nervijuncta nigricoxa* Edw., clasper.
FIG. 151.—*Nervijuncta bicolor* Edw., hypopygium (half) from above
FIG. 152.—*Nervijuncta bicolor* Edw., clasper.
FIG. 153.—*Nervijuncta parvicauda* Edw., hypopygium from above.
FIG. 154.—*Arachnocampa luminosa* Skuse, hypopygium from below.
FIG. 155.—*Cerotelion bimaculatus* Tonn., hypopygium from the side.
FIG. 156.—*Cerotelion bimaculatus* Tonn., hypopygium from above.
FIG. 157.—*Cerotelion niger* Tonn., clasper.
FIG. 158.—*Cerotelion leucoceras* Marsh., clasper.

FIG. 159.—*Platyura subbrevis* Tonn., hypopygium from above.
FIG. 160.—*Platyura brevis* Tonn., hypopygium from above.
FIG. 161.—*Platyura lamellata* Tonn., hypopygium from the side.
FIG. 162.—*Platyura proxima* Tonn., hypopygium from the side.
FIG. 163.—*Platyura marshalli* Tonn., hypopygium from the side.
FIG. 164.—*Platyura brookesi* Edw., hypopygium from the side.
FIG. 165.—*Platyura punctifusa* Edw., hypopygium from above.

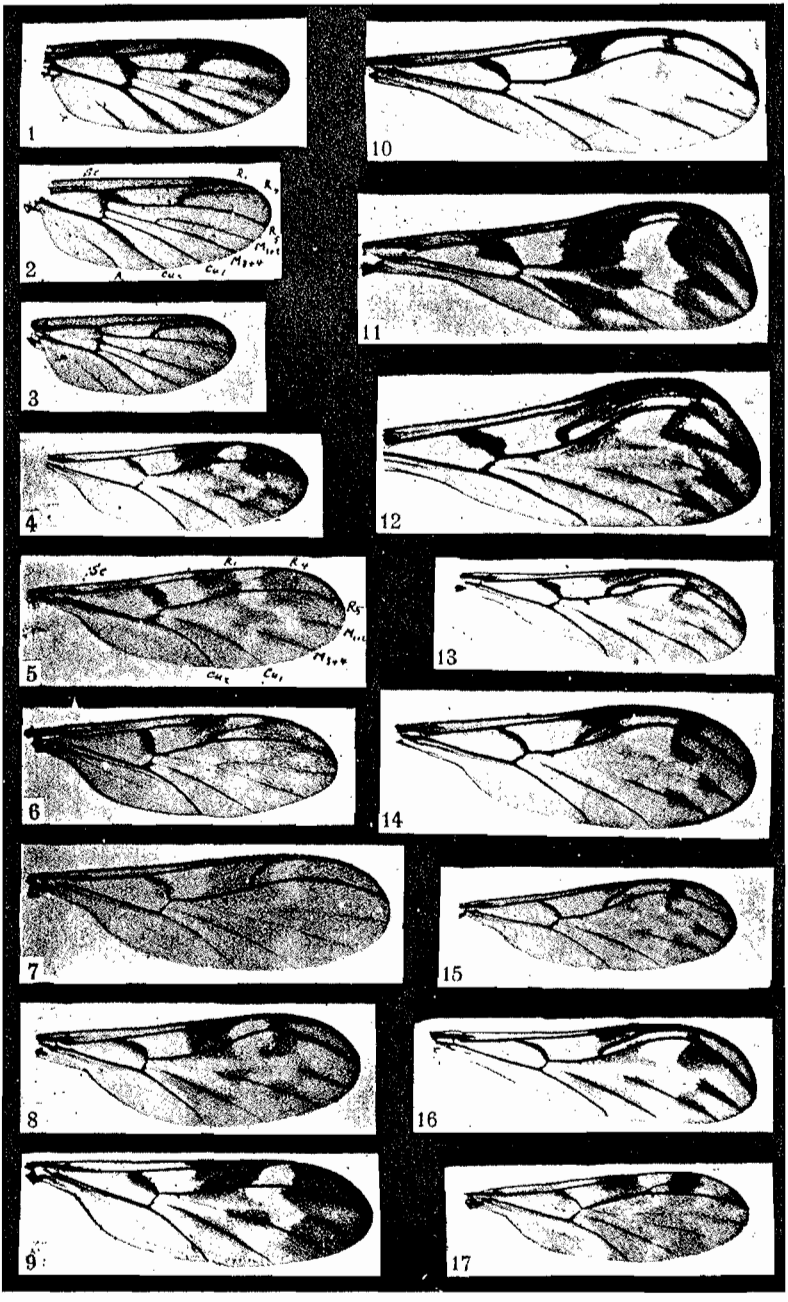
FIG. 166.—*Mycomyia plagiata* Tonn., hypopygium (half) from above.
FIG. 167.—*Mycomyia plagiata* Tonn., hypopygium (half) from beneath.
FIG. 168.—*Mycomyia furcata* Edw., hypopygium (half) from above.
FIG. 169.—*Mycomyia furcata* Edw., hypopygium (half) from beneath.
FIG. 170.—*Mycomyia furcata* Edw., clasper.
FIG. 171.—*Mycomyia flavilatera* Tonn., hypopygium (half) from above.
FIG. 172.—*Mycomyia flavilatera* Tonn., hypopygium from beneath.

FIG. 173.—*Sciara rufulenta* Edw., clasper.
FIG. 174.—*Sciara rufulenta* variety, clasper.
FIG. 175.—*Sciara vicarians* Edw., clasper.
FIG. 176.—*Sciara ovalis* Edw., clasper.
FIG. 177.—*Sciara constrictans* Edw., clasper.
FIG. 178.—*Sciara agraria* Felt., clasper.
FIG. 179.—*Sciara agraria* Felt., clup of hairs.
FIG. 180.—*Sciara zealandica* Edw., clasper.
FIG. 181.—*Sciara jejuna* Edw., clasper.
FIG. 182.—*Sciara annulata* Mg., clasper.
FIG. 183.—*Sciara nubeculosa* Edw., clasper.
FIG. 184.—*Sciara sp. inc.*, clasper.
FIG. 185.—*Sciara marcilla* Hutt., clasper.
FIG. 186.—*Sciara tapleyi* Edw., clasper.
FIG. 187.—*Sciara harrisi* Edw., clasper.
FIG. 188.—*Sciara griseinervis* Edw., clasper.
FIG. 189.—*Sciara philpotti* Tonn., hypopygium (half) from above.
FIG. 190.—*Ohakunea bicolor* Edw., tergite of hypopygium.
FIG. 191.—*Ohakunea bicolor* Edw., claspers.

FIG. 192.—*Neopnyxia nelsoniana* Tonn., middle leg.
FIG. 193.—*Neopnyxia nelsoniana* Tonn., hind leg.
FIG. 194.—*Neopnyxia nelsoniana* Tonn., front leg.
FIG. 195.—*Taxicnemis flava* Marsh., hypopygium (half) from above.
FIG. 196.—*Taxicnemis flava* Marsh., clasper.
FIG. 197.—*Taxicnemis flava* Marsh., side piece from beneath.
FIG. 198.—*Allocotocera anaclinoides* Marsh., hypopygium from beneath.
FIG. 199.—*Aneura fagi* Marsh., hypopygium from beneath (half).
FIG. 200.—*Aneura longipalpis* Tonn., hypopygium from beneath (half)
FIG. 201.—*Aneura bispinosa* Edw., hypopygium from beneath (half)
FIG. 202.—*Aneura boletinoides* Marsh., hypopygium from beneath (whole).
FIG. 203.—*Aneura fusca* Tonn., hypopygium from beneath (half).
FIG. 204.—*Aneura filiformis* Tonn., hypopygium from beneath (half).

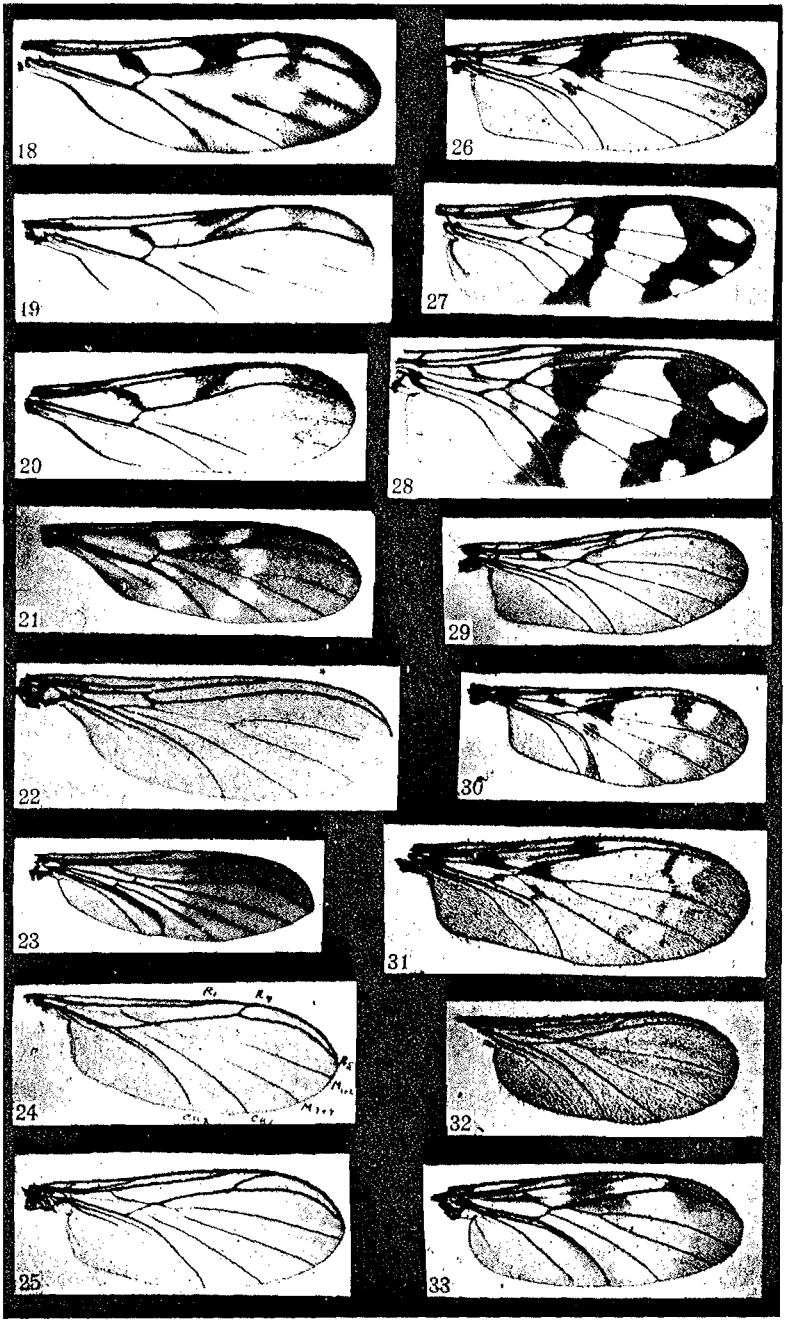
FIG. 205.—*Aneura pallida* Edw., hypopygium from beneath (half).
FIG. 206.—*Aneura longicauda* Tonn., hypopygium from the side.
FIG. 207.—*Aneura appendiculata* Tonn., hypopygium from beneath (half).
FIG. 208.—*Parvicellula hamata* Edw., inner clasper.
FIG. 209.—*Parvicellula hamata* Edw., hypopygium from above (half).
FIG. 210.—*Parvicellula nigricoxa* Tonn., hypopygium from above (half).
FIG. 211.—*Parvicellula gracilis* Tonn., hypopygium from above.
FIG. 212.—*Parvicellula triangula* Marsh., hypopygium from above.
FIG. 213.—*Parvicellula apicalis* Tonn., hypopygium from above.
FIG. 214.—*Parvicellula ruficoxa* Tonn., hypopygium from above.
FIG. 215.—*Parvicellula subhamata* Tonn., hypopygium from above.
FIG. 216.—*Aneura nitida* Tonn., hypopygium from beneath (half).

FIG. 217.—*Aphelomera forcipata* Edw., hypopygium from above.
FIG. 218.—*Aphelomera forcipata* Edw., hypopygium, sternal plate.
FIG. 219.—*Aphelomera marshalli* Edw., hypopygium from above.
FIG. 220.—*Aphelomera marshalli* Edw., hypopygium, sternal plate.

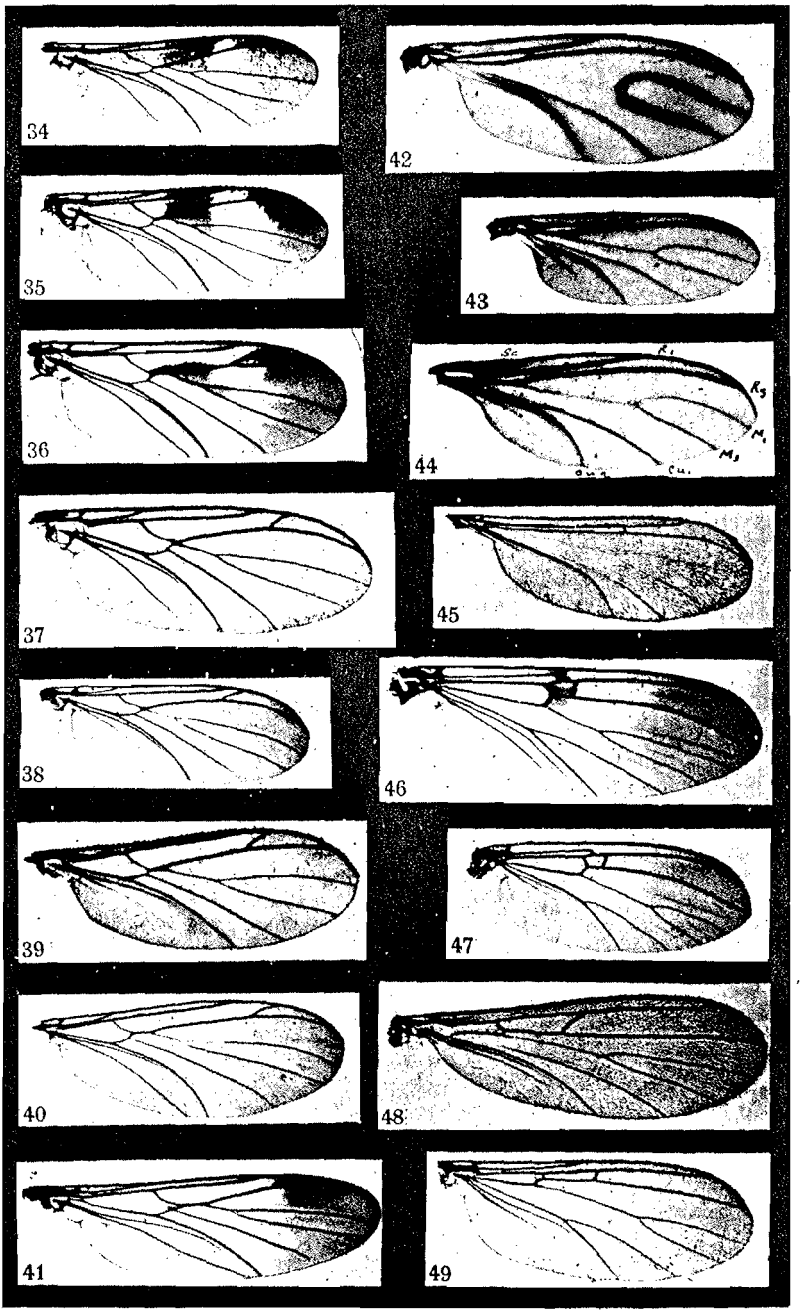


FIGS. 1-17.

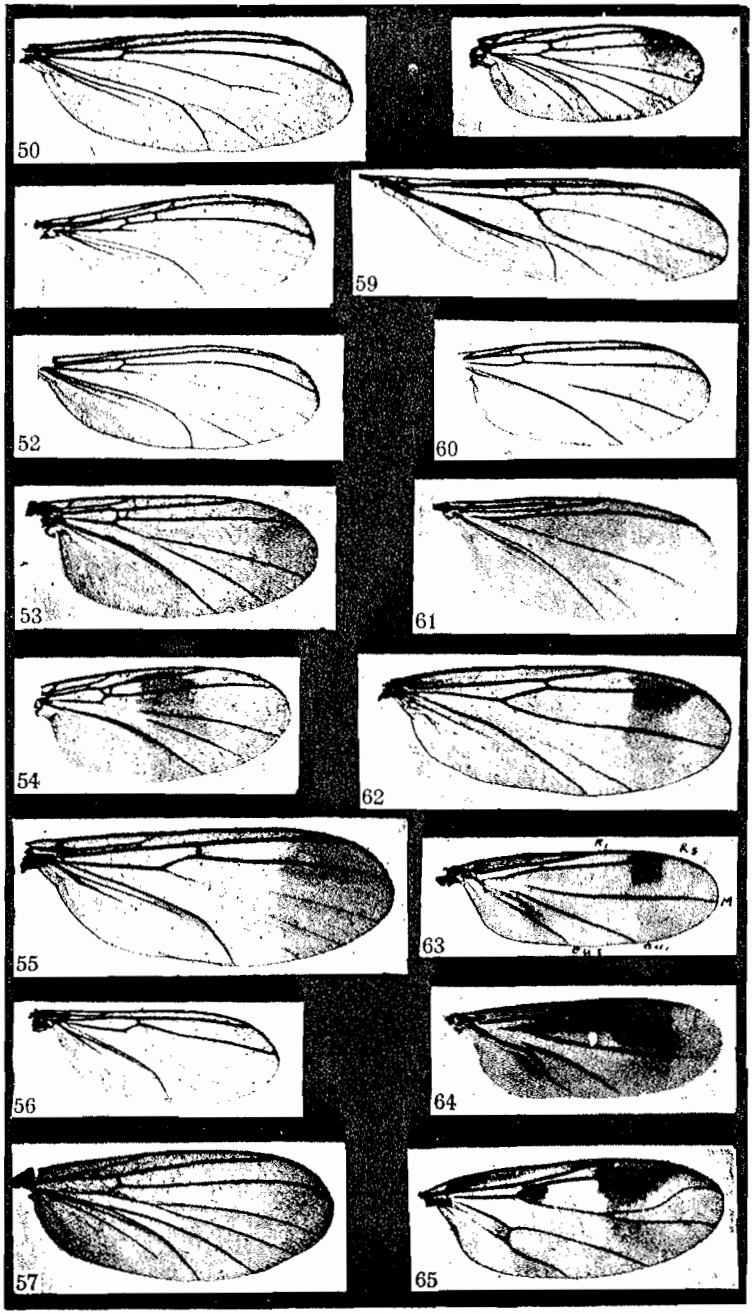
Face p. 876.



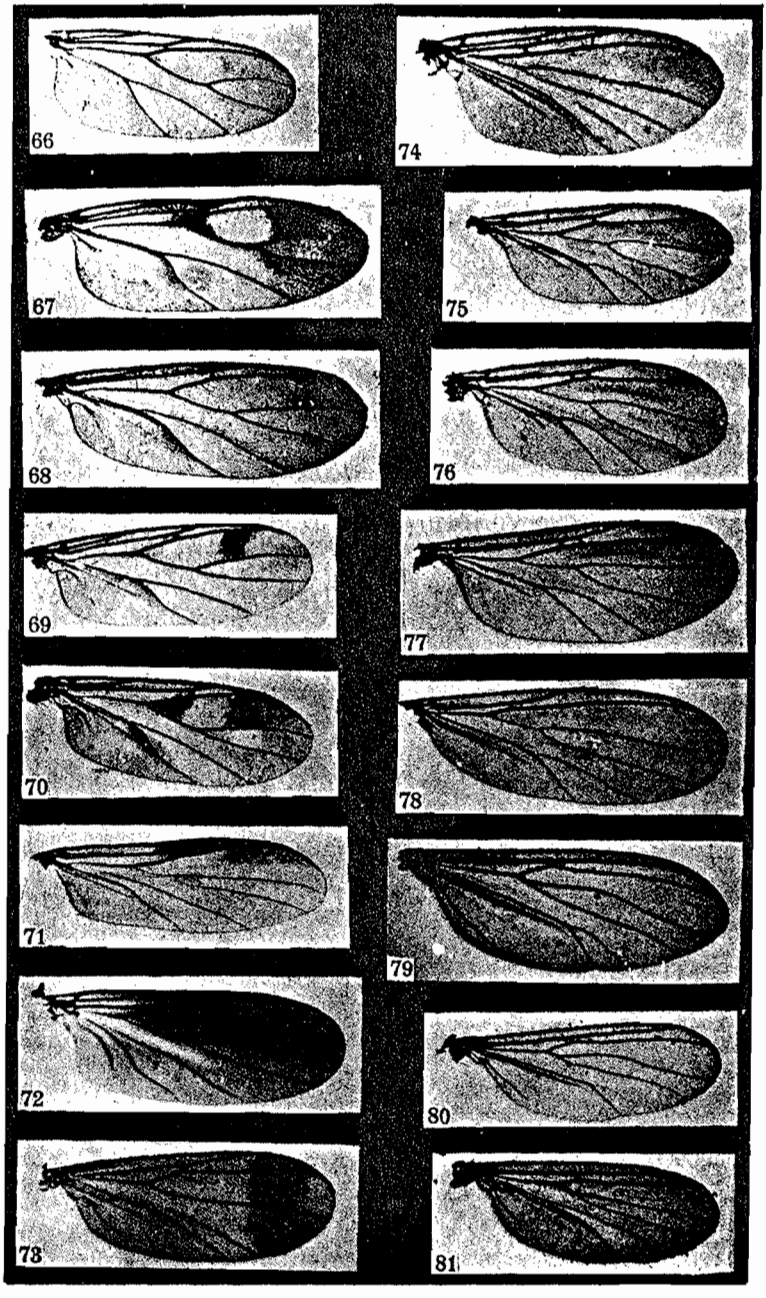
FIGS. 18-33.



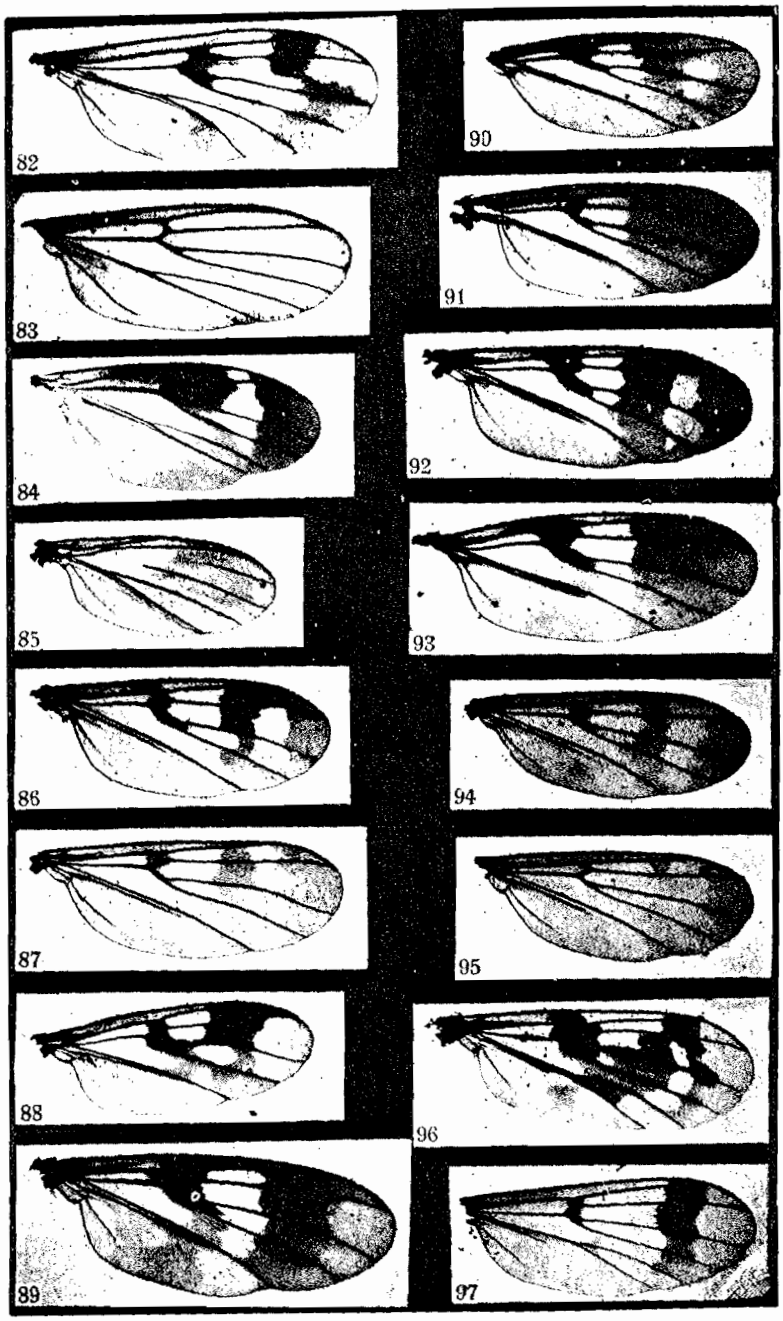
FIGS. 34-49.



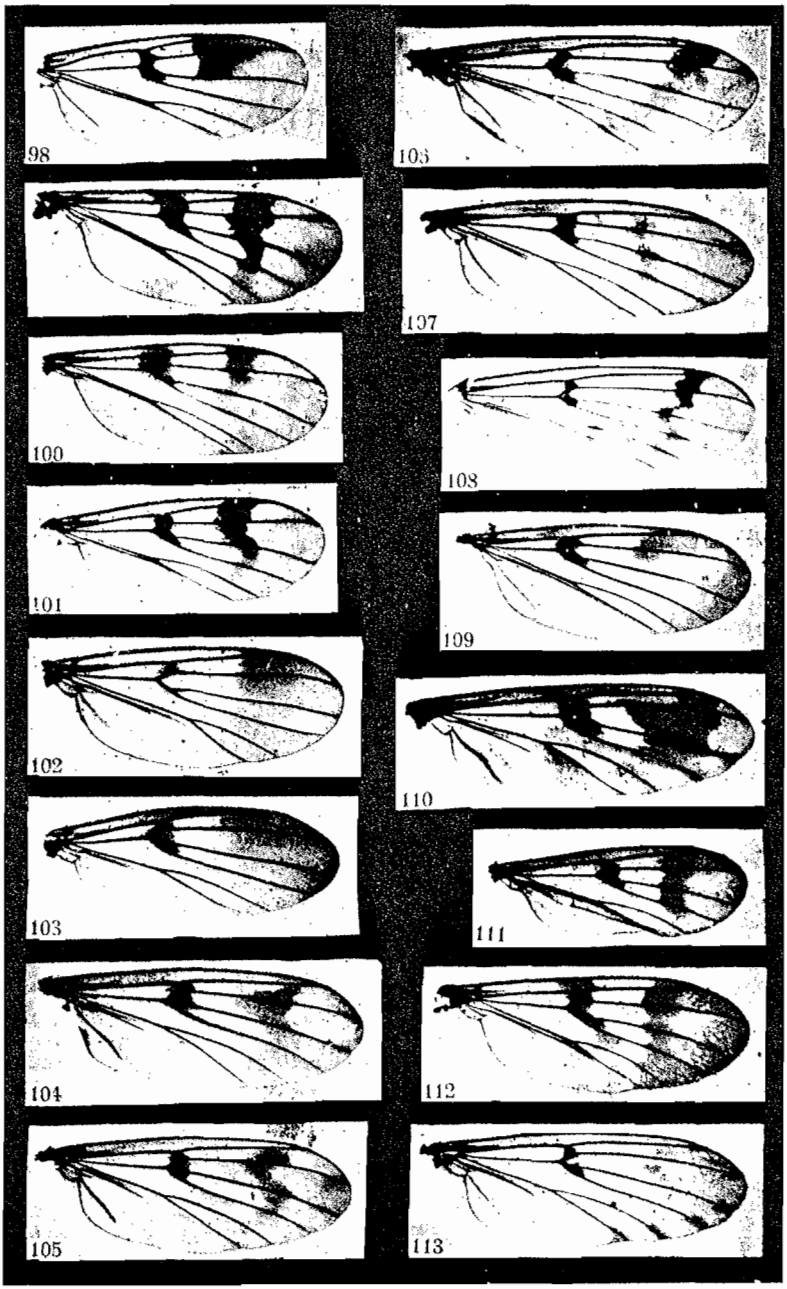
FIGS. 50-65.



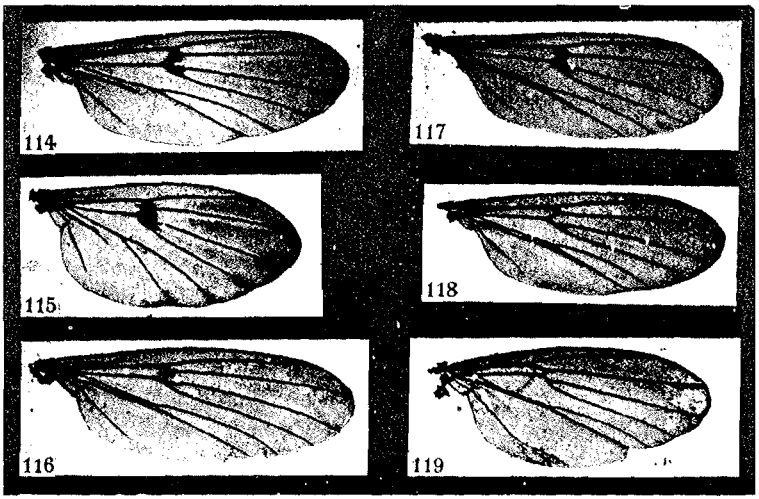
FIGS. 66-81..

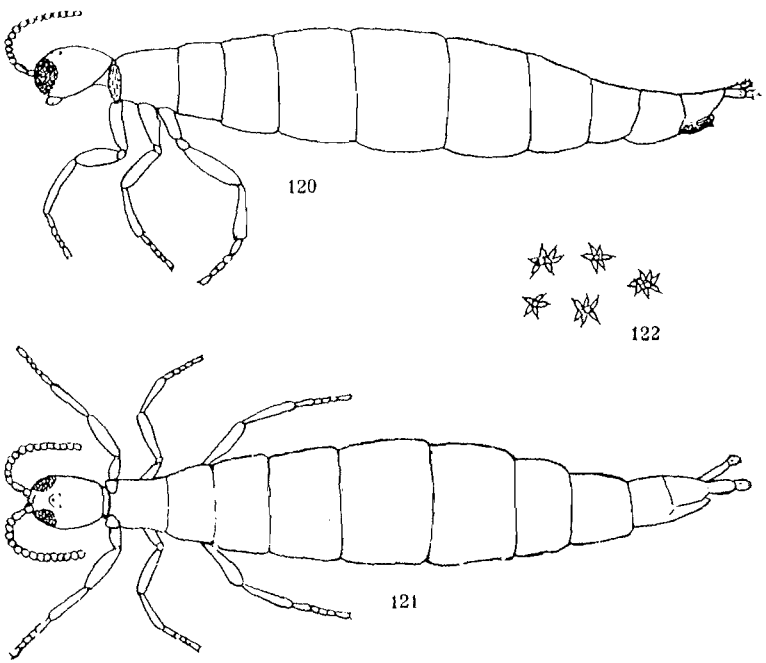


FIGS. 82-97.

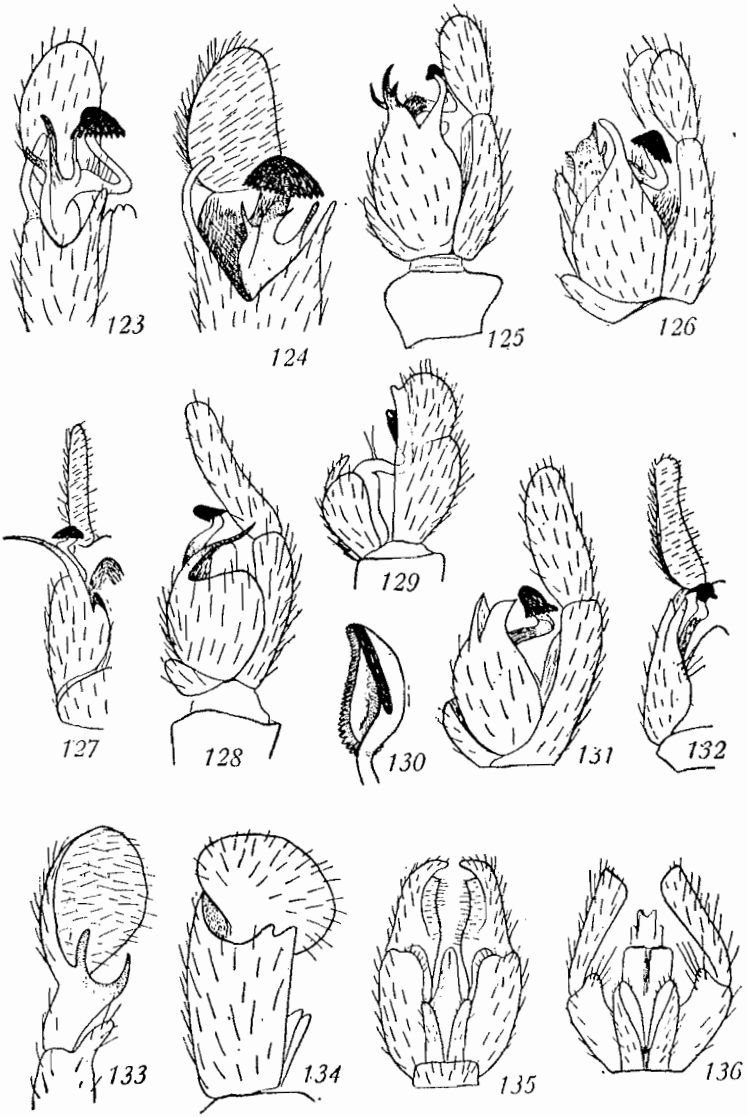


FIGS. 98-113.

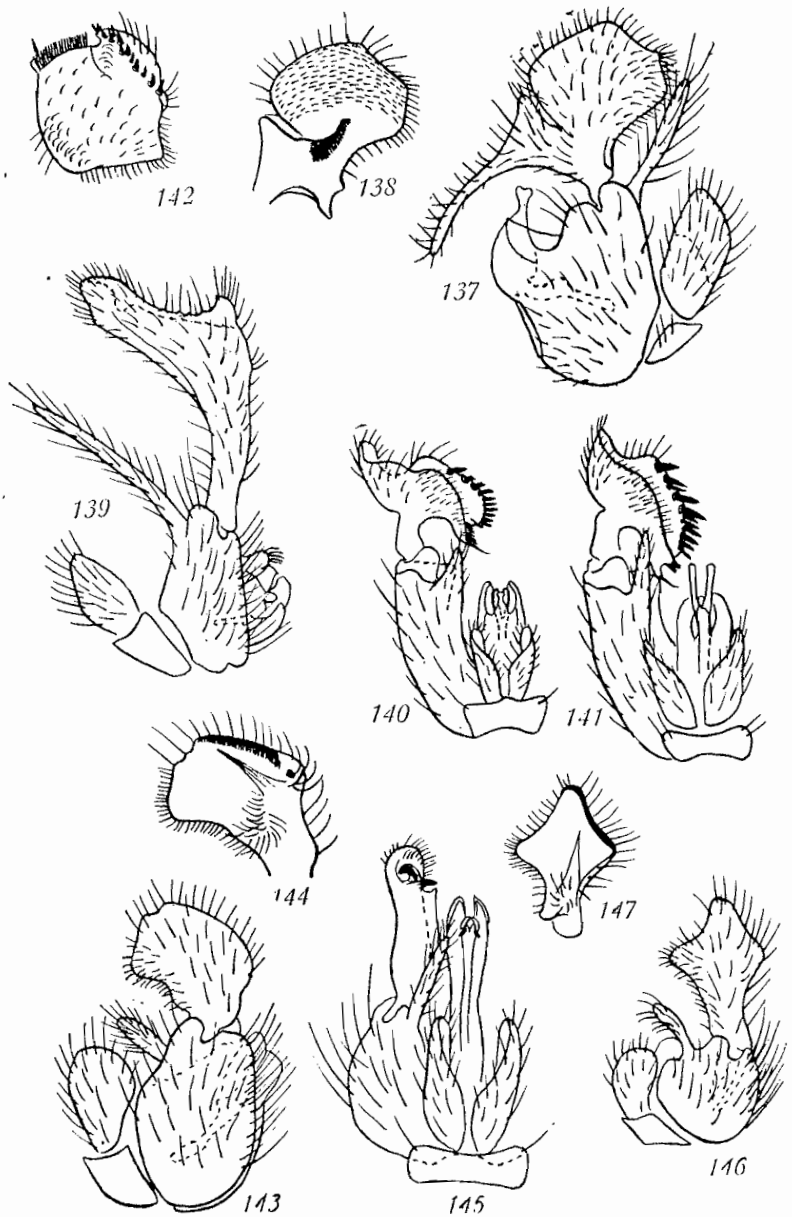




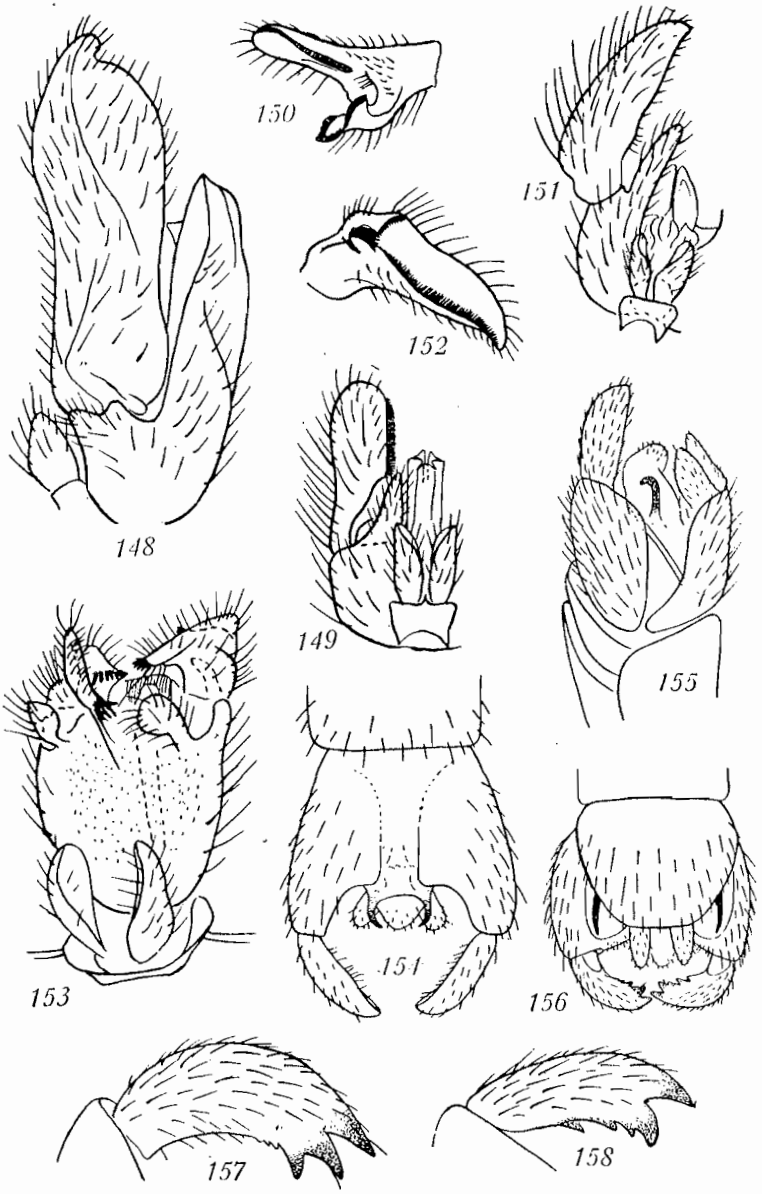
FIGS. 114-122.



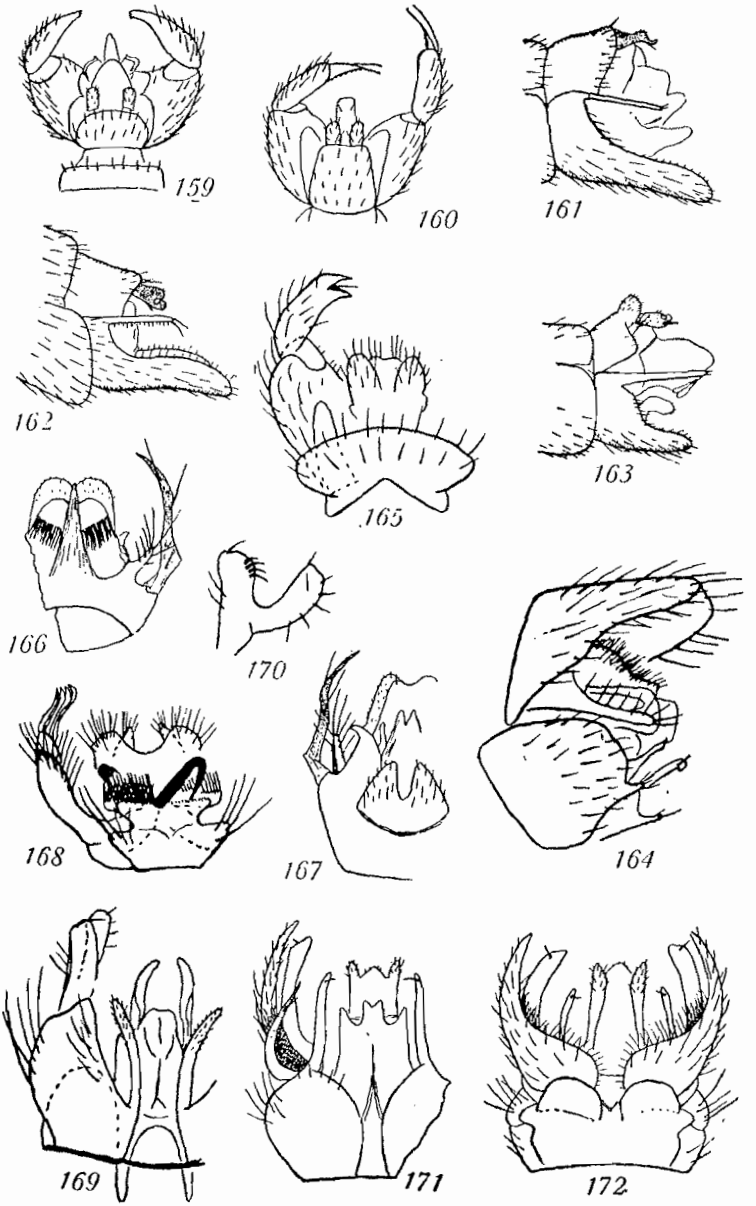
FIGS. 123-136.



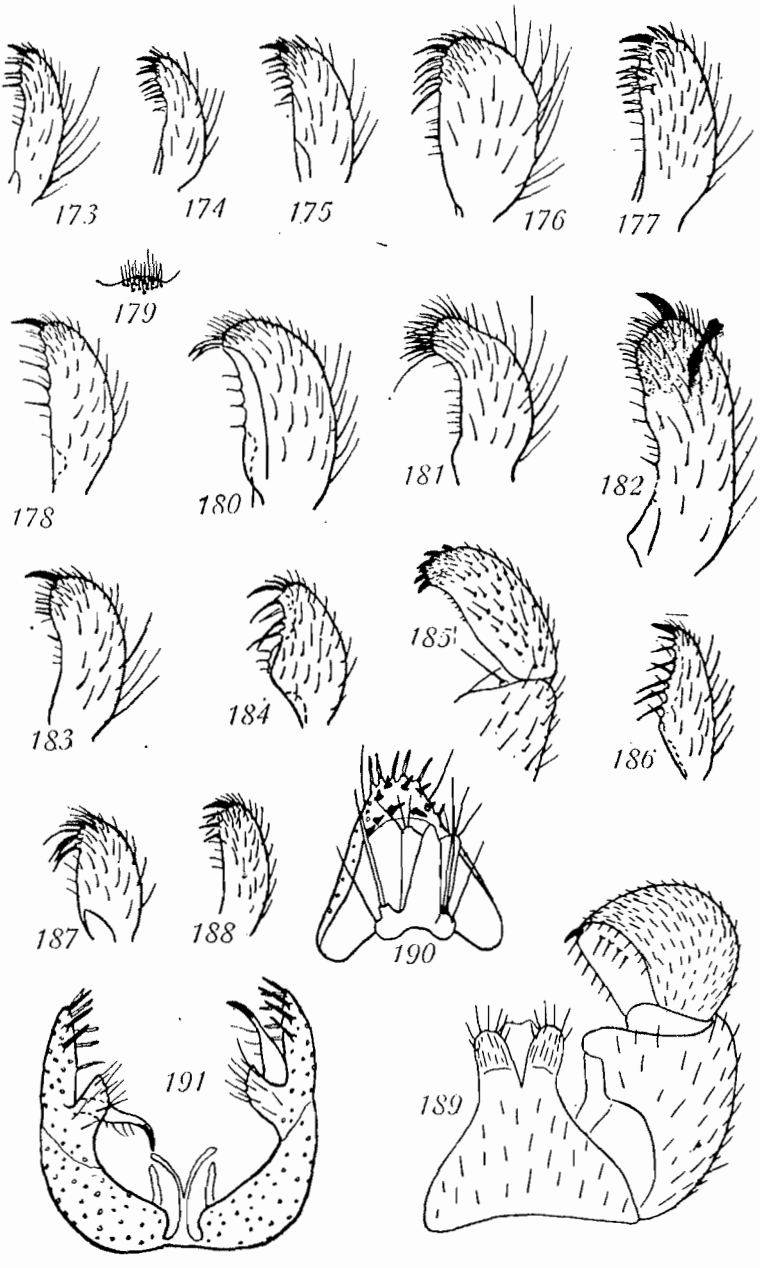
FIGS. 137-147.



FIGS. 148-158.



FIGS. 159-172.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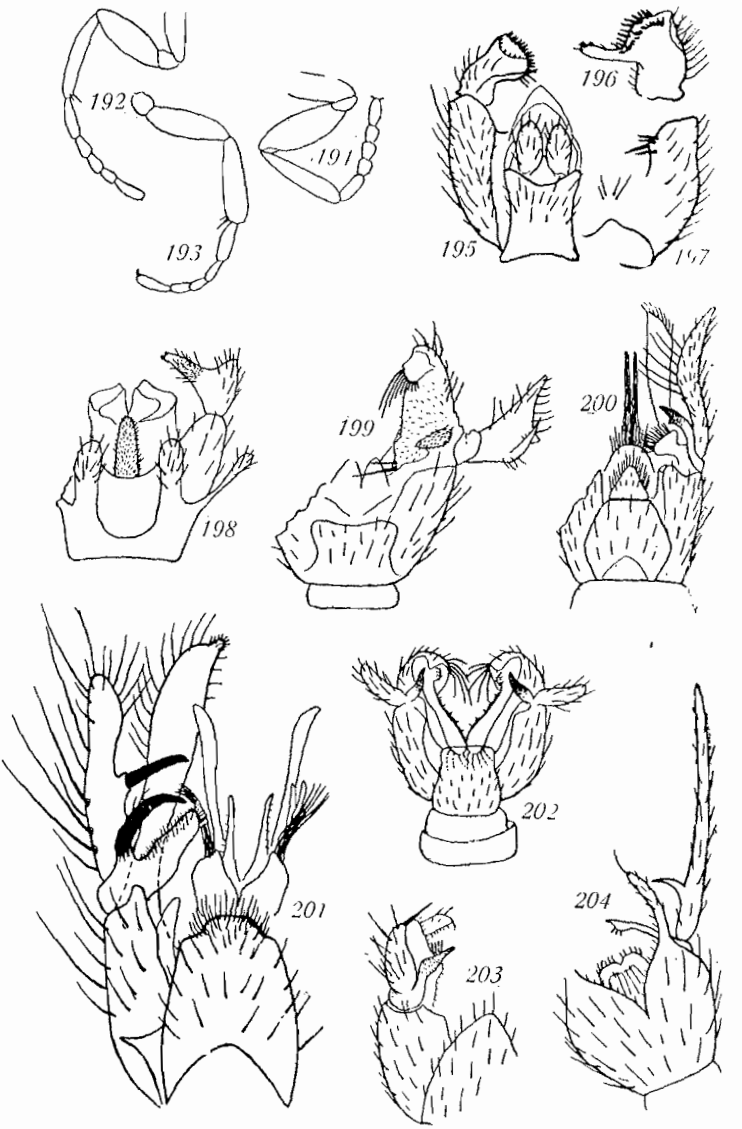
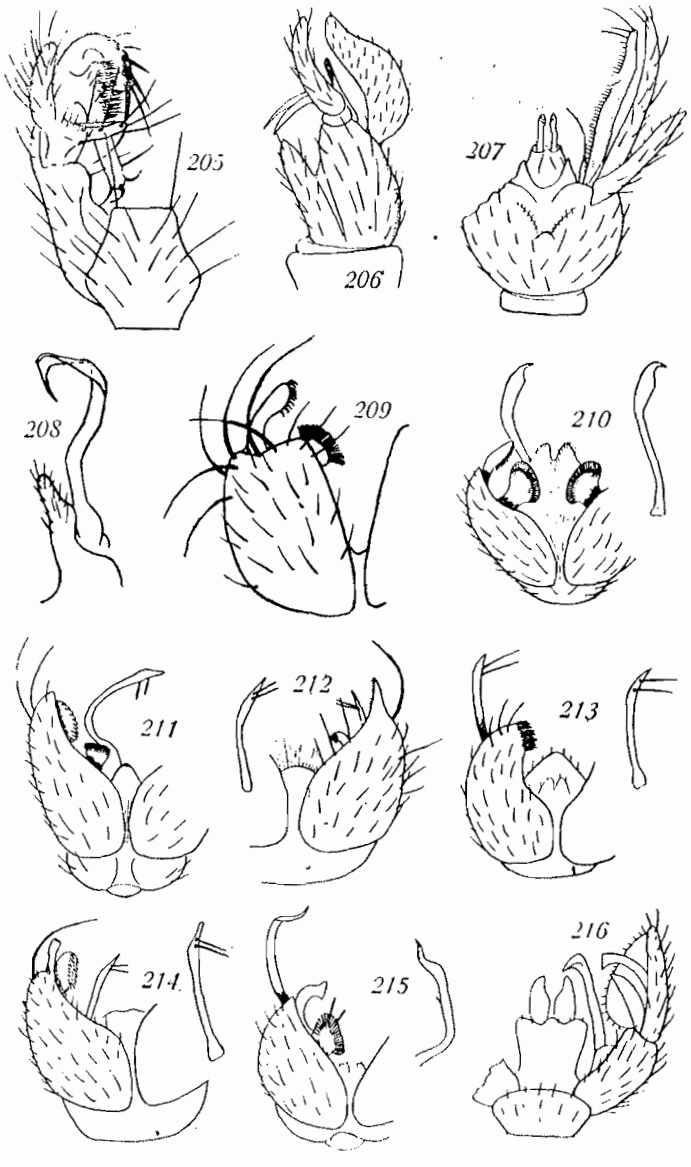
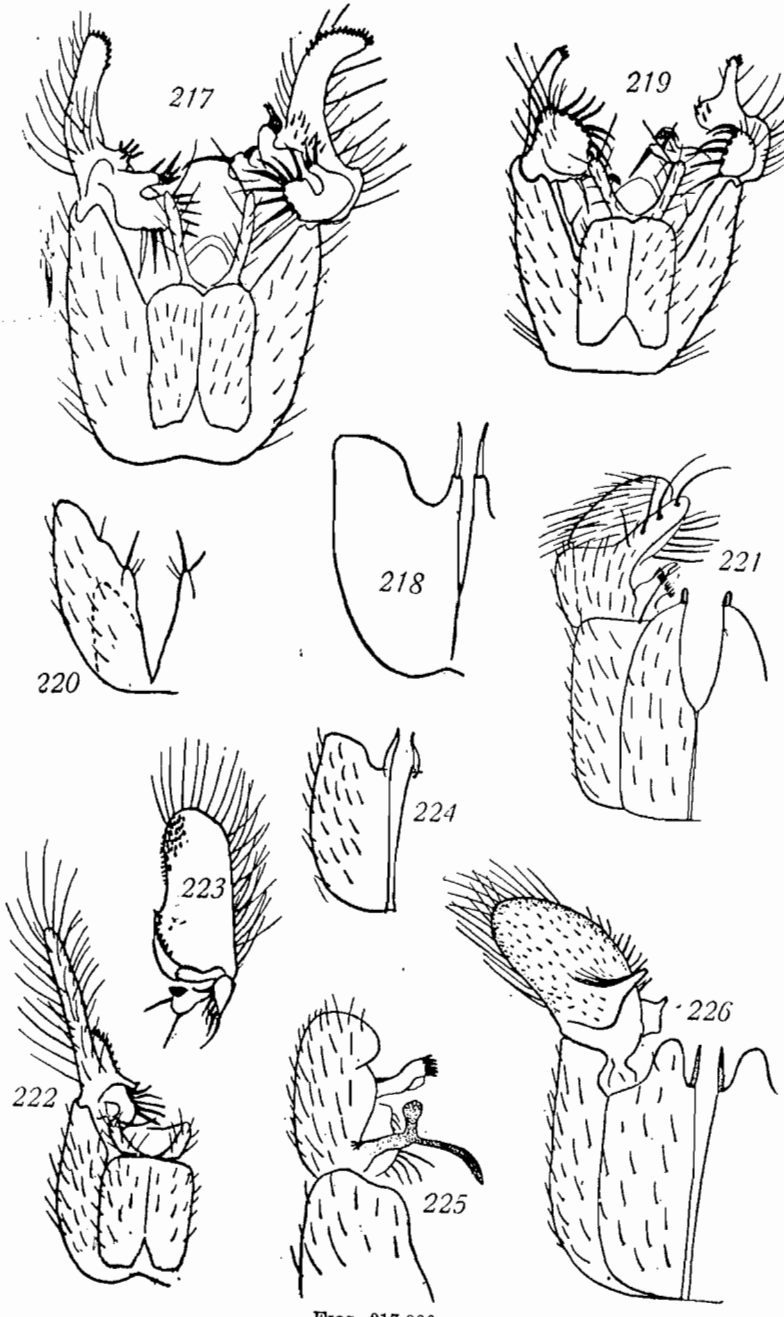
FIGS. 173-191.



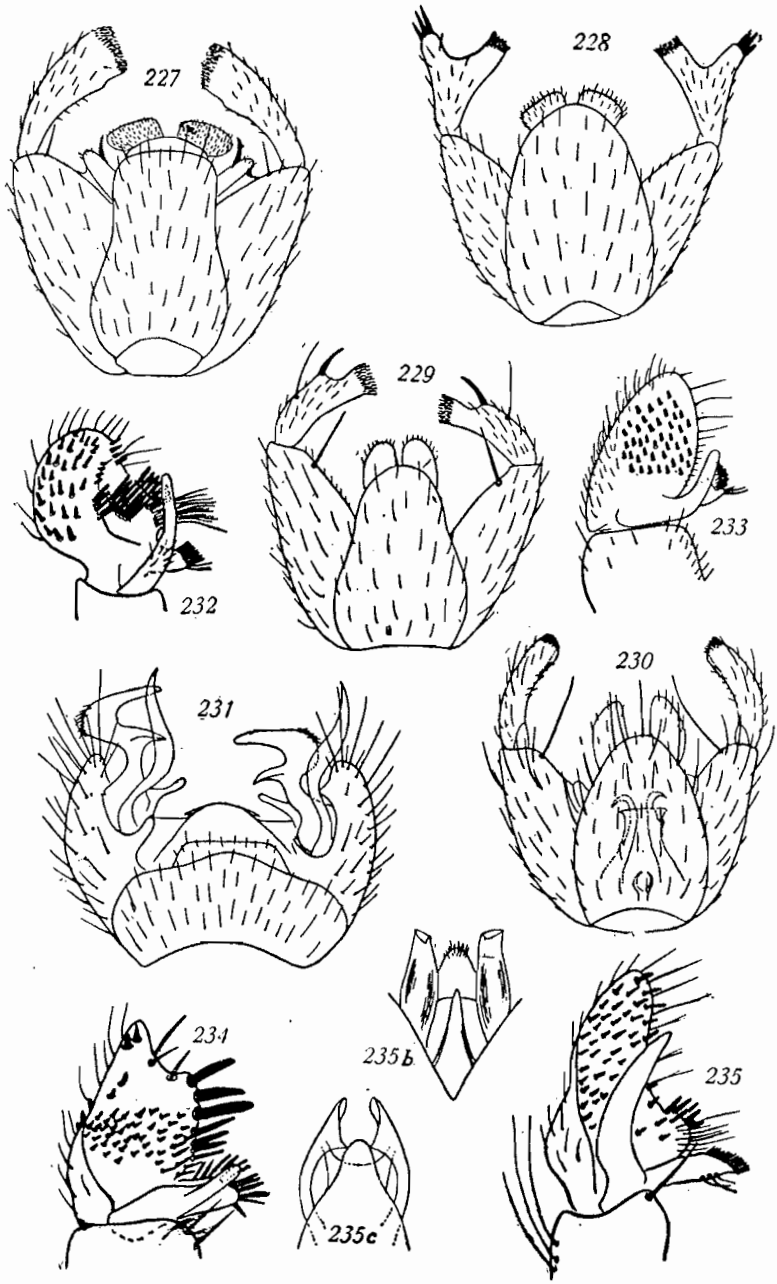
FIGS. 192-204.



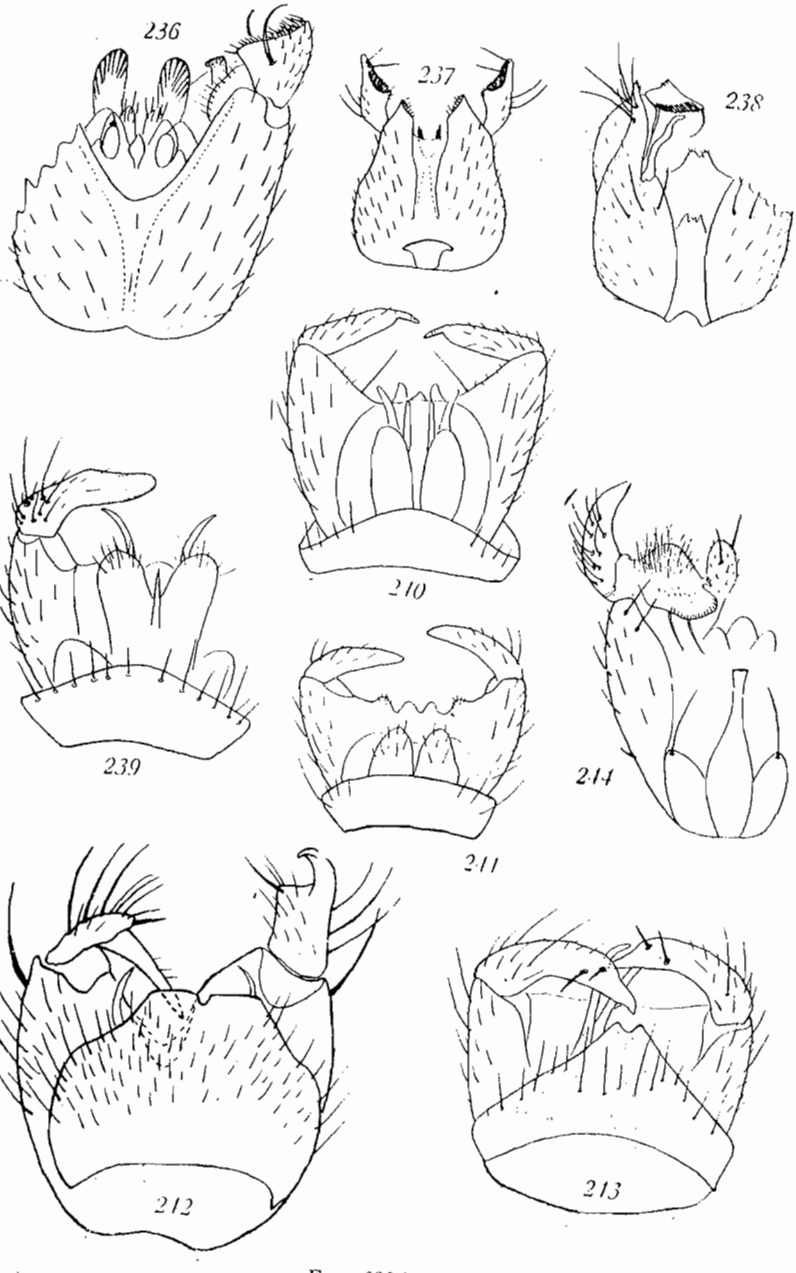
FIGS. 205-216.



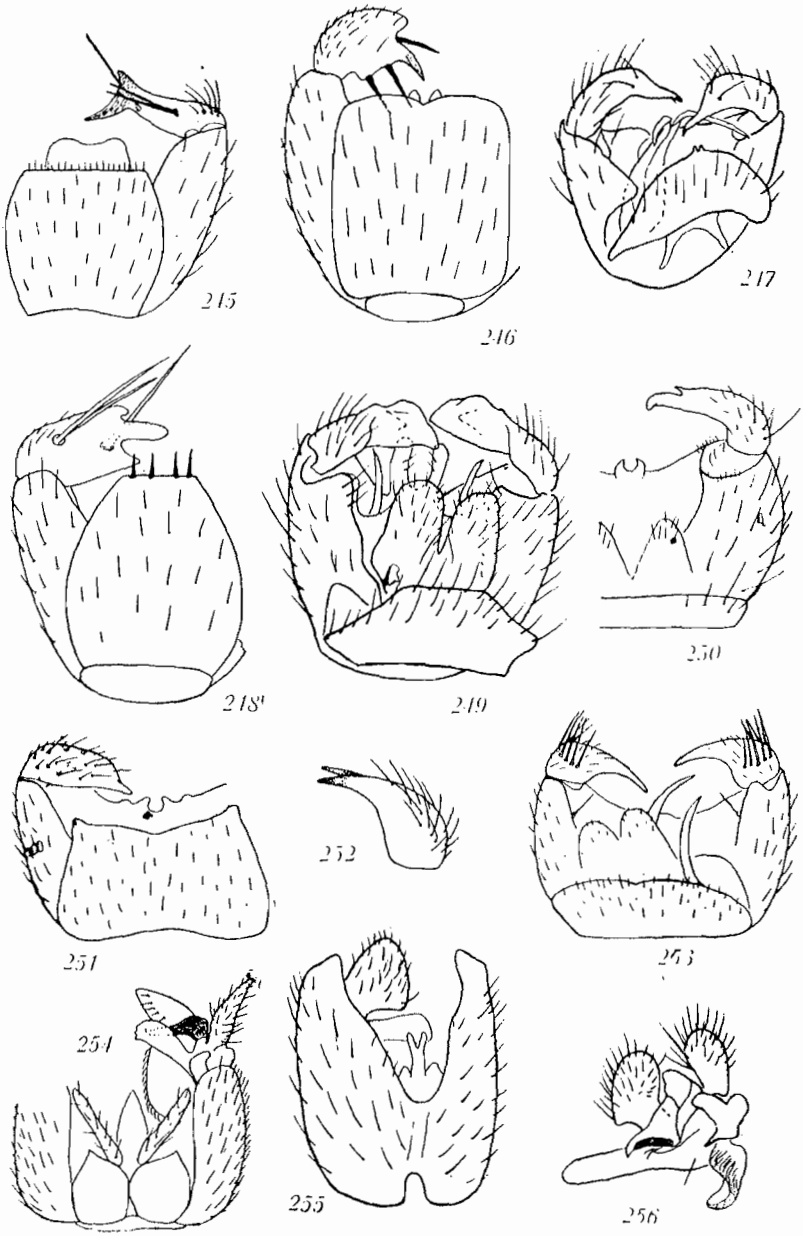
FIGS. 217-226.



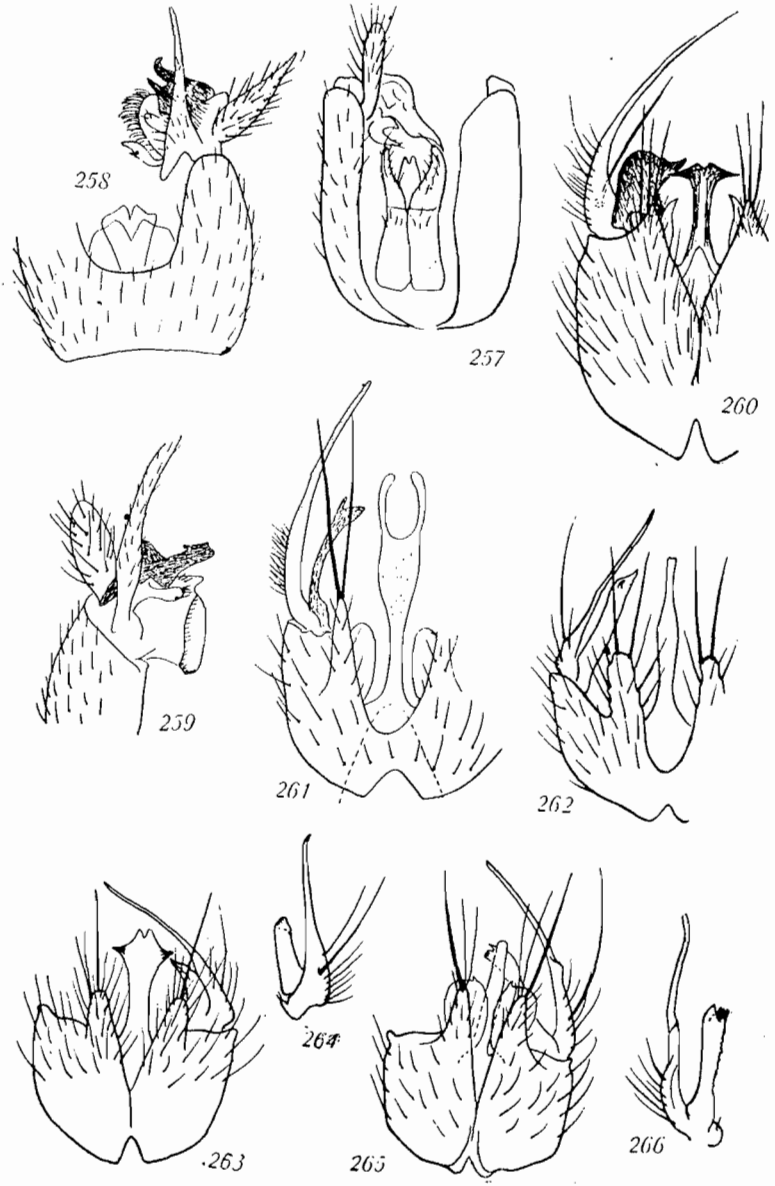
FIGS. 227-235c.



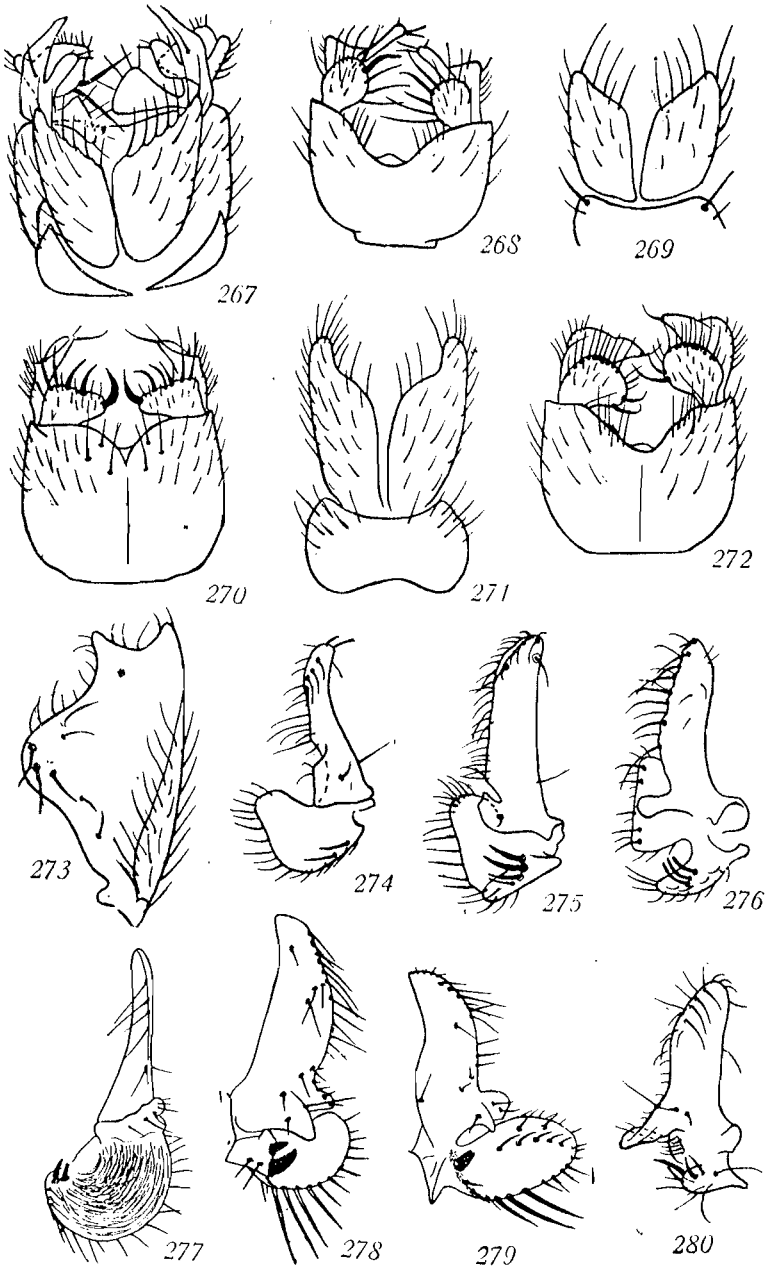
FIGS. 236-244.



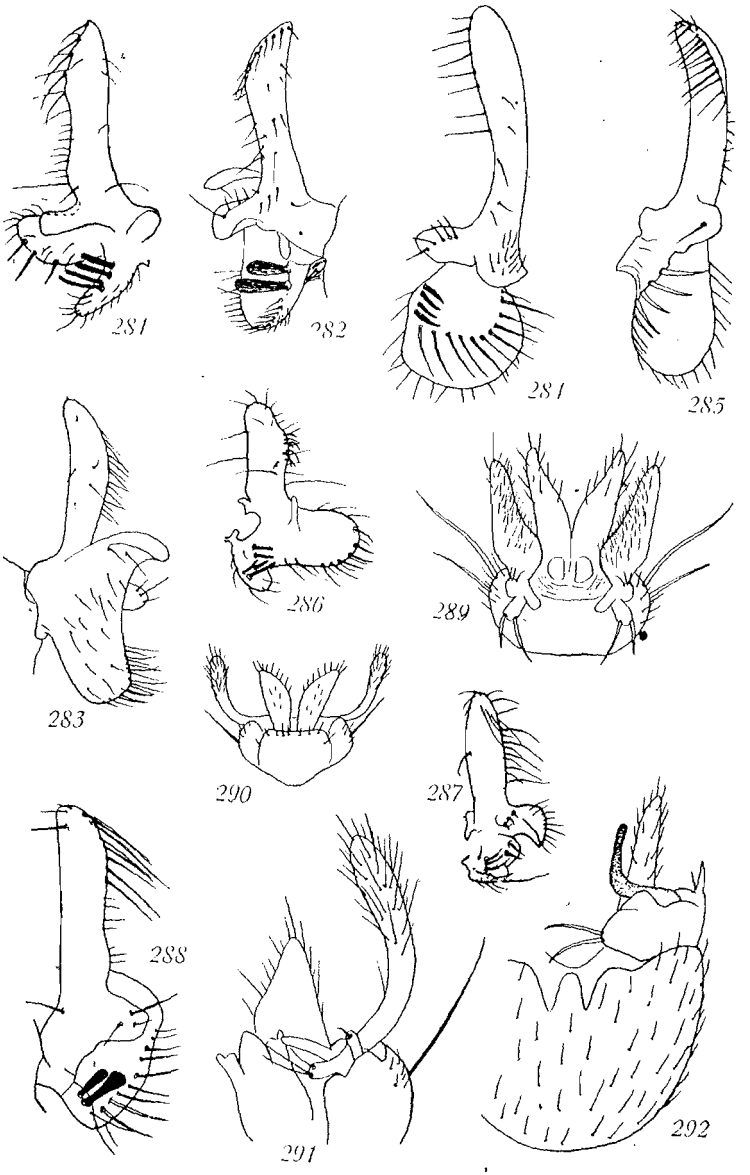
FIGS. 245-256.



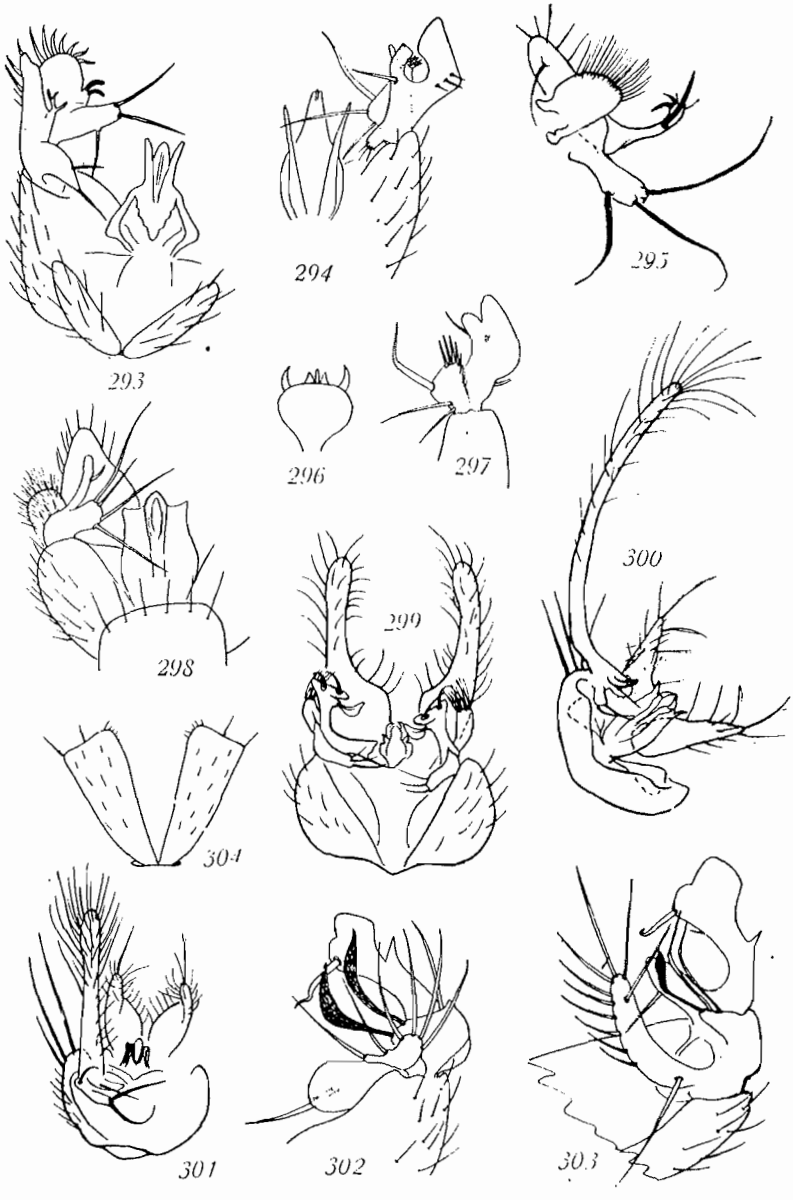
FIGS. 257-266.



FIGS. 267-280.



FIGS. 281-292.



FIGS. 293-304.

FIG. 221.—*Aphelomera elongata* Tonn., hypopygium from beneath (half).
FIG. 222.—*Aphelomera longicauda* Edw., hypopygium from above.
FIG. 223.—*Aphelomera longicauda* Edw., hypopygium clasper.
FIG. 224.—*Aphelomera longicauda*, hypopygium sternal plate.
FIG. 225.—*Aphelomera opaca* Tonn., clasper.
FIG. 226.—*Aphelomera skusei* Marsh., hypopygium from below (half)

FIG. 227.—*Synapha pulchella* Tonn., hypopygium from above.
FIG. 228.—*Synapha cawthroni* Tonn., hypopygium from above.
FIG. 229.—*Synapha gracilis* Tonn., hypopygium from above.
FIG. 230.—*Synapha similis* Tonn., hypopygium from above.
FIG. 231.—*Heterotricha novae-zealandiae* Tonn., hypopygium from above.
FIG. 232.—*Anomalomyia minor* Marsh., clasper.
FIG. 233.—*Anomalomyia basalis* Tonn., clasper.
FIG. 234.—*Anomalomyia viatoris* Edw., clasper.
FIG. 235.—*Anomalomyia flavicauda* Edw., clasper.
FIG. 235*b*.—*Anomalomyia obscura* Tonn., aedeagus.
FIG. 235*c*.—*Anomalomyia affinis* Tonn., aedeagus.

FIG. 236.—*Cycloneura flava* Marsh., hypopygium from above (half).
FIG. 237.—*Cycloneura triangulata* Tonn., hypopygium from above
FIG. 238.—*Paracycloneura apicalis*, hypopygium from above (half).
FIG. 239.—*Tetragoneura ultima* Tonn., hypopygium from above (half).
FIG. 240.—*Tetragoneura opaca* Tonn., hypopygium from above.
FIG. 241.—*Tetragoneura proxima* Tonn., hypopygium from above.
FIG. 242.—*Tetragoneura spinipes* Edw., hypopygium from above.
FIG. 243.—*Tetragoneura rufipes* Tonn., hypopygium from above.
FIG. 244.—*Trichoterga monticola* Tonn., hypopygium from above (half).

FIG. 245.—*Tetragoneura obscura* Tonn., hypopygium from above (half).
FIG. 246.—*Tetragoneura distincta*, hypopygium from above (half).
FIG. 247.—*Tetragoneura flexa* Edw., hypopygium from above.
FIG. 248.—*Tetragoneura venusta* Tonn., hypopygium from above (half).
FIG. 249.—*Tetragoneura obliqua* Edw., hypopygium from above.
FIG. 250.—*Tetragoneura minima* Tonn., hypopygium from above (half).
FIG. 251.—*Tetragoneura minuta* Tonn., hypopygium from above (half).
FIG. 252.—*Tetragoneura nigra* Marsh., clasper.
FIG. 253.—*Tetragoneura fusca* Tonn., hypopygium from above.
FIG. 254.—*Allodia maculata* Tonn., hypopygium from above.
FIG. 255.—*Allodia quadriseta* Edw., hypopygium from beneath.
FIG. 256.—*Allodia quadriseta* Edw., clasper.

FIG. 257.—*Allodia quadriseta* Edw., hypopygium from above (half).
FIG. 258.—*Allodia fragilis* Marsh., hypopygium from above.
FIG. 259.—*Allodia rufithorax* Tonn., clasper.
FIG. 260.—*Exechia filata* Edw., hypopygium from above (half).
FIG. 261.—*Exechia novae-zealandiae* Tonn., hypopygium from above.
FIG. 262.—*Exechia biseta* Edw., hypopygium from above.
FIG. 263.—*Exechia howesi* Edw., hypopygium from above.
FIG. 264.—*Exechia howesi* Edw., clasper.
FIG. 265.—*Exechia hiemalis* Marsh., hypopygium from above (half).
FIG. 266.—*Exechia hiemalis* Marsh., clasper.

FIG. 267.—*Mycetophila grisescens* Edw., hypopygium from above.
FIG. 268.—*Mycetophila nitens* Tonn., hypopygium from below.
FIG. 269.—*Mycetophila nitens* Tonn., anal lamellae.

FIG. 270.—*Mycetophila nitidula* Edw., hypopygium from below.
FIG. 271.—*Mycetophila nitidula* Edw., anal lamellae.
FIG. 272.—*Mycetophila subnitida* Edw., hypopygium from below.
FIG. 273.—*Mycetophila phyltura* Edw., clasper.
FIG. 274.—*Mycetophila harrisi* Edw., clasper.
FIG. 275.—*Mycetophila intermedia* Edw., clasper.
FIG. 276.—*Mycetophila pollicata* Edw., clasper.
FIG. 277.—*Mycetophila spinigera* Tonn., clasper.
FIG. 278.—*Mycetophila clara* Tonn., clasper.
FIG. 279.—*Mycetophila colorata* Tonn., clasper.
FIG. 280.—*Mycetophila curtisi* Edw., clasper.

FIG. 281.—*Mycetophila crassitarsis* Edw., clasper.
FIG. 282.—*Mycetophila subspinigera* Tonn., clasper inside.
FIG. 283.—*Mycetophila subspinigera* Tonn., clasper outside.
FIG. 284.—*Mycetophila fagi* Marsh., clasper.
FIG. 285.—*Mycetophila vulgaris* Tonn., clasper.
FIG. 286.—*Mycetophila tapleyi* Edw., calsper.
FIG. 287.—*Mycetophila similis* Tonn., clasper.
FIG. 288.—*Mycetophila trispinosa* Tonn., clasper.
FIG. 289.—*Zygomyia nigrita* Tonn., hypopygium from below.
FIG. 290.—*Zygomyia fusca* Tonn., hypopygium from above.
FIG. 291.—*Zygomyia fusca* Tonn., clasper.
FIG. 292.—*Zygomyia nigrohalterata*, hypopygium from below (half).

FIG. 293.—*Zygomyia unispinosa* Tonn., hypopygium from above (half).
FIG. 294.—*Zygomyia flavicoxa* Marsh., hypopygium from above.
FIG. 295.—*Zygomyia ebuta* Edw., clasper.
FIG. 296.—*Zygomyia humeralis* Tonn., aedeagus.
FIG. 297.—*Zygomyia humeralis* Tonn., clasper.
FIG. 298.—*Zygomyia distincta* Tonn., hypopygium from below.
FIG. 299.—*Zygomyia diffusa* Edw., hypopygium from below.
FIG. 300.—*Zygomyia filigera* Edw., hypopygium from below (half).
FIG. 301.—*Zygomyia penicillata* Edw., hypopygium from below (half).
FIG. 302.—*Zygomyia nigriventris* Tonn., clasper.
FIG. 303.—*Zygomyia brunnea* Tonn., clasper.
FIG. 304.—*Zygomyia truncata* Tonn., anal lamellae.