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373

DIPTERA OF AUSTRALIA.

By FREDERICK A. A. SKUSE.

NEMATOCERA.—SUPPLEMENT I. 06 II

(Plate xvi.)

Since the publication of the first and subsequent numbers of this series of memoirs a very considerable amount of new material has been accumulated from various sources, including new and unrecorded genera and species relating to nearly every family of the division Nematocera. Descriptions of some of these, together with notes and corrections concerning those previously characterised, are commenced with this Supplement.

I am indebted for much of the material at my command to the courtesy of the Trustees of the Australian Museum, Sydney; Prof. McCoy, Director of the National Museum, Melbourne; Mr. De Vis, Curator of the Queensland Museum, Brisbane; Mr. J. G. O. Tepper, of the Adelaide Museum, South Australia; Mr. Henry Tryon, of the Queensland Museum; Mr. W. W. Froggatt, of the Macleay Museum; and Mr. R. Helms, of the Australian Museum. The sources from which specimens have been received and the collectors' names are appended to the descriptions.

The present Supplement deals with the families Cecidomyidæ and Sciaridæ. Thirty-one new species are described; three genera, *Spaniocera* and *Lestremia* (Cecidomyidæ), and *Zygoneura* (Sciaridæ), are recorded for the first time from Australia; and some interesting galls of Cecidomyidæ are described and figured.

Fam. CECIDOMYIDÆ.

Sub-fam. I. CECIDOMYINA.

Genus CECIDOMYIA, Meig.

*Cecidomyia*, Meig., Proc. Linn. Soc. N.S.W., (2), III. p. 60, 1888.

Sub-genus *CECIDOMYIA*, Loew.*Cecidomyia*, Loew, l.c., p. 61.a. *Flagellar joints of the antennæ pedicelled in ♂, and sessile in ♀.*432. *CECIDOMYIA ACACIÆ-LONGIFOLIÆ*, sp.n. (Pl. XVI, figs. 1-1b.)

♂.—Length of antennæ.....	0.060 inch	...	1.54 millimètres.
Expanses of wings.....	0.090 × 0.040	...	2.27 × 1.01
Size of body.....	0.105 × 0.020	...	2.67 × 0.50
♀.—Length of antennæ.....	0.037 inch	...	0.90 millimètre.
Expanses of wings.....	0.105 × 0.042	...	2.67 × 1.06
Size of body.....	0.110 × 0.027	...	2.79 × 0.68

Antennæ black or dark brown, 2-+16-jointed in both sexes; in ♂ flagellar joints longer than broad, about twice the length of pedicels, verticils greyish, moderately dense, long; in ♀ flagellar joints cylindrical, sessile, the basal ones not quite twice as long as broad, verticillate-pilose. Front densely covered with whitish or pale yellowish scales. Hypostoma and palpi pale brownish or brownish-yellowish with minute white hairs. Thorax black or dark brown, opaque, with two dense longitudinal rows of golden-yellow hairs from humeri to scutellum; also lateral borders with golden-yellow hairs; pleuræ and pectus deep brown; scutellum and metanotum reddish ferruginous-brown, the former with yellow hairs; origin of wings reddish or ferruginous-brown; a small patch of white scales anterior to the origin of the wings. Halteres ochraceous, reddish or ferruginous, the club microscopically pubescent. Abdomen in the ♂ ochraceous, in the ♀ reddish or ferruginous; superior segments densely covered with black or dark brown scales, the posterior margins of segments sparingly beset with white hairs, and venter with white squamose pubescence; genitals ochraceous or brownish-ochreous, covered above with dark scales and white pubescence. Legs slender. Coxæ brownish or brownish-ochreous, with white pubescence. Femora pale yellow or ochreous at base, clothed with white scales, with black scales above and at the apex. Tibiæ and tarsi covered with

black scales; hoary reflections. Wings broad, hyaline, with a dense blackish pubescence; membrane, especially in the ♂, with dull reflection; veins dark. Costal and first longitudinal vein with black scales and pubescence; cross-vein extremely indistinct; first longitudinal vein visible for the whole of its length; second longitudinal vein straight, reaching the margin considerably before the apex of the wing; third longitudinal reaching posterior margin opposite or immediately beyond tip of first longitudinal vein, its anterior branch nearly straight and very pale. (Description drawn from fresh specimens).

*Hab.*—Sydney (Skuse). Bred from bunches of brown, woody, cylindrical galls formed on the flower-stalks of *Acacia longifolia*. The full-grown galls are usually from 12 to 18 mm. long, and occur in bunches of from two to twenty or thirty tubes; these tubes are rarely straight, being usually coalescent at the base and bending in an outward direction for their apical half. They are slightly constricted at the mouth, and clothed inside with a white pubescence which evidently serves to facilitate the egress of the pupa (Pl. XVI, figs. 1-1b).

There are two broods in the year; the galls of the first brood are full-grown in August; the second, which first appear in September, are full-grown in December or the beginning of January. A white cocoon is formed at the bottom of the tubes, and after the emergence of the perfect insect the pupa-case is left projecting from the orifice.

c. *Flagellar joints of the antennæ sessile in ♂ and ♀.*433. *CECIDOMYIA NUBILIPENNIS*, sp.n.

♂.—Length of antennæ.....	0.047 inch	...	1.18 millimètres.
Expanses of wings.....	0.085 × 0.035	...	2.14 × 0.88
Size of body.....	0.100 × 0.120	...	2.54 × 0.50

Antennæ half the length of entire body, 2-+11-jointed, black; flagellar joints cylindrical, sessile, shorter towards the end, the

terminal two sub-globose, the last with a very minute nipple-shaped process; verticils short. Front black or deep brown with yellow hairs. Face dull yellow. Palpi dark brown. Thorax black, dull, with two longitudinal rows of yellow hairs; lateral borders with yellow hairs; pleuræ deep brown; scutellum yellowish-brown, with yellow hairs; origin of wings ochreous or yellowish-brown. Halteres black, reddish at base, the club yellow. Abdomen reddish, all the segments with a broad band of black scales, and a small patch of white scales at the sides. Legs short and robust, black, the coxæ with white hairs. Wings rounded, densely covered with black hairs, the latter more dense at the apex and forming a conspicuous black patch over the posterior branch of the third longitudinal vein; also the anterior branch densely covered with the hairs; violaceous reflection; veins black or deep brown. Costal and first longitudinal veins very densely clothed with black hairs, the latter vein joining at about middle the length of wing; second longitudinal vein nearly straight, a little bent posteriorly at the tip, joining the margin at the apex of the wing; third longitudinal vein turning abruptly to the posterior margin, hidden by the black hairs. (Description drawn from fresh specimen).

*Hab.*—Elizabeth Bay, near Sydney (Skuse). October. A single specimen taken on a window.

*Obs.*—Very distinct from any other described species known to me, and easily recognized by the black cloud over the posterior branch of the third longitudinal vein.

#### Sub-genus DIPLOSIS, Loew.

*Diplosis*, Loew, l.c., p. 68.

A. Second longitudinal vein reaching the margin of the wing at or before the apex.

1. Flagellar joints of the antennæ in the ♂ alternately single and double. (All ♀'s with unspotted wings, the ♂'s not being known, are located provisionally in this group).

#### 434. DIPLOSIS FRENELE, sp.n. (Pl. xvi., fig. 2).

♀.—Length of antennæ... 0.025 inch ... 0.62 millimètre.

Expanse of wings..... 0.065 × 0.026 ... 1.66 × 0.64

Size of body..... 0.080 × 0.013 ... 2.02 × 0.32

Antennæ pale greyish, joints sub-cylindrical, twice as long as broad, with very short verticils. Front dark brown. Hypostoma and palpi sordid-ochreous or brownish. Thorax dark brown, with two longitudinal rows of yellow hairs, pleuræ, collare, scutellum, metathorax and an oblong patch next to scutellum, between the longitudinal rows of hairs, reddish-fulvous. Halteres red, the base of stem yellowish. Abdomen red, the terminal segment more yellowish, with pale hairs. Legs rather short, yellowish-grey. Wings hyaline, covered with a yellowish or brownish-yellow pubescence; veins pale; weak silvery reflections. Second longitudinal vein reaching the margin at the tip of the wing; cross-vein indistinct; third longitudinal vein very pale and indistinct, straight before the fork, the anterior branch twice the length of the posterior, slightly arcuated. (Description drawn from fresh specimen).

*Hab.*—Wagga Wagga district, N.S.W. (Skuse). Bred from sub-globular, brown, smooth, valvate, fruit-like galls, about 5 mm. in diameter, consisting of three thin valves with a median carinated line; found growing on the branchlets of the Desert pine (*Frenele Endlicheri*), in November (Pl. xvi., fig. 2). Each capsule contains only a single larva. It is not known whether the larva undergoes its transformation within the gall, or drops to the ground on the splitting of the valves; the latter is probably the case.

#### 22. DIPLOSIS CÆCA, Sk.

*D. cæca*, Sk., l.c., p. 76.

Five old specimens recently found in the collection of the late Mr. W. S. Macleay belong to this species, and are labelled "*Cecidomyia muscorum*; on dead insects, N.S.W." I know nothing of this habit from personal observation.

B. SECOND LONGITUDINAL VEIN REACHING THE MARGIN OF THE WING BEYOND THE APEX.

1. Hair-whorls of the flagellar joints in the ♂ equally long on the upper and under sides. (All ♀'s with unspotted wings, the ♂'s not being known, are located provisionally in this group).

a. *Wings unspotted.*

28. DIPLOSIS ADUSTA, Sk.

*D. adusta*, Sk., 1 c., p. 82.

♂.—Length of antennæ.....	0.100 inch	...	2.54 millimètres.
Expanse of wings.....	0.100 × 0.040	...	2.54 × 1.01
Size of body .....	0.060 × 0.015	...	1.54 × 0.38

The ♀ only was described originally, though in mistake stated to be ♂ at the head of the description. The ♂ antennæ are brown; flagellar joints globose, the alternate joints not noticeably larger than the intermediate ones; alternate pedicels slightly shorter than the intermediate ones; verticillate hairs moderately long and dense, brownish; terminal joint with a slender projection. (Description drawn from dried specimens).

*Hab.*—Sydney (Froggatt). September.

29. DIPLOSIS ARANEOSA, Sk.

*D. araneosa*, Sk., l.c. p. 82.

Similarly to the last, the type is erroneously stated to be a ♀. The ♂ only is at present known.

435. DIPLOSIS ALBULIPENNIS, sp.n.

♂.—Length of antennæ.....	0.125 inch	...	3.16 millimètres.
Expanse of wings.....	0.105 × 0.045	...	2.67 × 1.13
Size of body.....	0.105 × 0.020	...	2.67 × 0.50
♀.—Length of antennæ.....	0.075 inch	...	1.89 millimètres.
Expanse of wings.....	0.120 × 0.045	...	3.04 × 1.13
Size of body.....	0.105 × 0.020	...	2.67 × 0.50

♂ and ♀. Antennæ brown, the basal joints ochreous-yellow; verticils short, moderately dense, yellow; terminal joint with a slender projection; ♂ alternate joints twice the length of intermediate, the basal half narrower, the intermediate ones globose; pedicels, except towards the base, longer than the small joints; ♀ subcylindrical, constricted below the middle, rather long, more than twice the length of the pedicels. Front brown or brownish. Hypostoma brownish or brownish-ochreous. Palpi ochreous-yellow. Thorax brown or brownish, levigate, with two paler convergent lines from collare to scutellum, beset with golden-yellow hairs; pleuræ, scutellum, and metanotum ochreous-yellow, sometimes more brownish. Halteres ochreous-yellow. Abdomen ochreous or brownish-ochreous, clothed with yellow hairs. Legs long and slender, ochreous or brownish-ochreous, densely pubescent. Wings pellucid, with a slightly bluish tint, covered with a pale pubescence which imparts to them a whitish appearance; veins brown; rather weak margaritaceous reflections. First longitudinal vein distinct, gradually running into the costa, joining opposite or somewhat beyond the base of the fork of the third vein; cross-vein indistinct, situated about middle of first longitudinal; second longitudinal considerably arcuated, reaching margin beyond the apex of wing; branches of the third longitudinal pale and indistinct. (Description drawn from dried specimens).

*Hab.*—Sydney (Skuse); Dunoon, Richmond River, N.S.W. (Helms); Burpengary, near Brisbane, Queensland (Dr. T. L. Bancroft), one specimen in Coll. Queensland Museum. February to April.

*Obs.*—Evidently approaching *D. adusta*, Sk., or *D. araneosa*, Sk.

436. DIPLOSIS HELMSI, sp.n.

♂.—Length of antennæ.....	0.080 inch	...	2.02 millimètres.
Expanse of wings.....	0.055 × 0.025	...	1.39 × 0.62
Size of body.....	0.040 × 0.010	...	1.01 × 0.25
♀.—Length of antennæ.....	0.030 inch	...	0.76 millimètre.
Expanse of wings.....	0.057 × 0.025	...	1.44 × 0.62
Size of body.....	0.045 × 0.010	...	1.13 × 0.25

♂ Antennæ greyish; alternate joints less than twice the length of the intermediate globose ones; pedicels twice the length of the smaller joint towards tip of antennæ; verticillate hairs pale, some scale-like, rather short, dense; ♀ antennæ brown; joints cylindrical, with very short pedicels; verticils short, yellowish; ♂ and ♀ terminal joint with a slender projection. Front, hypostoma, and palpi brown or brownish. Thorax yellow, sometimes very pale, sometimes more brownish, levigate, with yellowish hairs. Halteres pale yellow. Abdomen brown, sometimes deep brown, sometimes lighter or more yellowish-brown, densely haired; genitalia yellow. Legs long and slender. Coxæ usually pale yellow. Remaining joints brown or brownish, the tip of the tibiae, base of third tarsal and whole of two following joints yellow. Wings of about same size and shape in both sexes, pellucid, with a very faint brownish tint, densely covered with a very short pale pubescence; silvery reflection; veins pale ochreous. Costal very distinct; cross-vein not distinguishable; second longitudinal vein reaching the margin beyond the apex of wing; third longitudinal straight until it forks, the branches indistinct. (Description drawn from dried specimens).

*Hab.*—Dunoon, Richmond River, N.S.W. (Helms). Twenty-two specimens in March and April.

*Obs.*—Probably comes nearest to *D. sulfurea*, Sk., but very distinct from any species hitherto described from Australia.

### 35. DIPLOSIS PARILIS, Sk. (Pl. xvi., fig. 3).

*D. parilis*, Sk., l.c., p. 87.

Bred from irregular-oval, reddish-brown blisters, 3 to 4 mm. long, having an ochreous-yellow or pale brownish slit (1 to  $1\frac{1}{2}$  mm. in length) in the middle; occurring very numerous on the upper side of the leaves of *Eucalyptus corymbosa*, obtained by Mr. Froggatt, in November, at Waverley, near Sydney. The blisters extend through the leaf, being represented on the under side by very slightly raised brown patches. As many as forty or fifty blisters sometimes occur in one leaf; they are usually dispersed over the surface, but occasionally form clusters of three

or four. It appears that the larvæ abandon the blisters before assuming their next state; the presence of the longitudinal opening also supports this conclusion.

The ♀ only has been described; and although several specimens of this insect were bred there was not a ♂ among them.

### 437. DIPLOSIS EUCALYPTI, sp.n. (Pl. xvi., fig. 4).

♀.—Length of antennæ ..... 0.040 inch ... 1.01 millimètres.

Expanse of wings..... 0.080 × 0.013 ... 2.02 × 0.32

Size of body..... 0.070 × 0.025 ... 1.77 × 0.62

Antennæ half the length of the wings; joints of scapus greyish-ochreous; flagellar joint cinereous, cylindrical, with very short pedicels; the terminal joint with a minute projection. Front, hypostoma and palpi greyish-ochreous. Thorax brown above, sublevigate, with two convergent pale ochreous lines to the scutellum; pectus tinged with brownish; pleuræ, scutellum and metanotum ochreous. Halteres ochreous, paler yellow at base of stem, with yellowish pubescence. Abdomen ochreous or brownish-ochreous, densely clothed with yellowish hairs; ovipositor yellow. Legs brown, the femora beneath and at tip, tibiae at tip, and the last three joints of tarsi, pale yellow. Wings hyaline, densely covered with brownish pubescence; rather deeply ciliated; veins brownish; brassy reflections. Costal vein tolerably strong; first longitudinal vein joining opposite base of fork; cross-vein extremely indistinct; second longitudinal distinct, gently arcuated, reaching the margin beyond the apex of the wing; third longitudinal pale, turning abruptly towards the border, the anterior branch very pale, nearly three times the length of posterior. (Description drawn from fresh specimen).

*Hab.*—Botany, N.S.W. (Froggatt and Skuse). Bred from woody swellings on the stems of *Eucalyptus hæmastoma* in December.

*Obs.*—This species most resembles *D. conspecta*, Sk.

### 42. DIPLOSIS MOLLIPES, Sk.

*D. mollipes*, Sk., l.c., p. 92.

Mr. Helms obtained specimens of this species at Dunoon, Richmond River, N.S.W., in March and April.

2. Antennæ in the ♂ decorated with long hairs on the upper side.

52. DIPLOSIS VIOLACEA, Sk.

*D. violacea*, Sk., l.c., p. 101.

I have found this species in large numbers about Sydney in the months December to April. Mr. Helms obtained specimens at Dunoon, Richmond River, N.S.W., in April.

55. DIPLOSIS NEGOTIOSA, Sk.

*D. negotiosa*, Sk., l.c., p. 104; *D. fallax*, Sk., (♀), l.c., p. 85.

After comparing numerous additional specimens *D. fallax* is considered identical with *D. negotiosa*. This appears to be one of our commonest species.

56. DIPLOSIS ACTIOSA, Sk.

*D. actiosa*, Sk., l.c., p. 105.

Some specimens, darker coloured than those from which this species was originally described, were obtained by me at the Quarantine Grounds, North Head, near Sydney, in September.

Sub-genus ASPHONDYLIA, Loew.

*Asphondylia*, Loew, l.c., p. 108.

60. ASPHONDYLIA LOEWI, Sk.

*A. Loewi*, Sk., l.c., p. 108.

♂.—Length of antennæ..... 0·105 inch ... 2·67 millimètres.  
 Expanse of wings..... 0·120 × 0·055 ... 3·04 × 1·39  
 Size of body..... 0·110 × 0·025 ... 2·79 × 0·62

This species was described from a single ♀ specimen; another specimen recently obtained appears to be a ♂, and conforms with my description in everything but the size. The antennæ are 2- + 12-jointed, nearly as long as the entire body.

*Hab.*—Waverley, near Sydney, N.S.W. (Froggatt). One specimen in September.

Sub-genus HORMOMYIA, Loew.

*Hormomyia*, Loew, l.c., p. 110.

438. HORMOMYIA OMALANTHII, sp.n. (Pl. xvi., fig. 5).

♀.—Length of antennæ..... 0·070 inch ... 1·77 millimètres.

Expanse of wings ..... 0·120 × 0·050 ... 3·04 × 1·27

Size of body..... 0·135 × 0·030 ... 3·42 × 0·76

Antennæ longer than the head and thorax combined, brown, with a short blackish pubescence, 2- + 12-jointed; basal joints small; the flagellar joints cylindrical to sub-cylindrical, progressively diminishing in length and thickness, the terminal ones almost elliptical. Head black or deep brown. Palpi dusky. Thorax gibbose, entirely deep brown or black, shining, with two longitudinal rows of black hairs, also some black hairs on the sides. Halteres brown, with black pubescence. Abdomen deep brown, covered with black scales and hairs. Legs moderately long and slender, brown, covered with a black pubescence. Wings hyaline, with a blackish pubescence; veins brown; opaline reflections. Costal veins with a black pubescence; first longitudinal vein wide of the costa, running obliquely into it, before the middle of the wing; second longitudinal strong, somewhat arcuated towards the tip, meeting tip of costa a little beyond the apex of wing; third longitudinal vein distinct, the branches pale; fork large, the anterior branch rather more than twice the length of the posterior. (Description drawn from dried specimen).

*Hab.*—Mount Kembla, Illawarra District, N.S.W. (Skuse). Bred from dark brown, woody, smooth, somewhat shining, globular, hollow galls, 5 mm. in diameter, found in clusters along the midrib on the underside of the leaves and in dense masses around the stems of *Omalanthus populifolius*; obtained in the month of November. The galls were ripe when collected, and the imago emerged a few days after. The larva does not construct a cocoon, and on the emergence of the imago the pupa-case is left hanging to the gall.

Sub-genus EPIDOSIS, Loew.

*Epidosis*, Loew, l.c. p. 115.

439. EPIDOSIS GRANDIPENNIS, sp.n.

♂.—Length of antennæ..... 0.150 inch ... 3.81 millimètres.  
 Expanse of wings..... 0.190 × 0.060 ... 4.81 × 1.54  
 Size of body.. ..... 0.135 × 0.020 ... 3.42 × 0.50

Antennæ brown, 2- + 13-jointed; joints sub-elliptical, with long verticils; pedicels long, once and a half to twice the length of the joints. Hypostoma, front, and palpi brown. Thorax dark brown, nearly black, shining, with two rows of brown hairs; pleuræ tinged with ochreous-yellow, especially at origin of wings; metanotum somewhat tinged with ochreous-yellow; pectus and scutellum dark brown. Halteres brownish, whitish at apex of club, densely covered with minute hairs. Abdomen slender, dark brown, opaque, clothed with yellowish hairs. Legs extremely long and slender (the hind pair measuring 9mm. in length), brown, the terminal joints of tarsi paler; densely clothed with short hairs. Wings long, proportionately broad, hyaline, densely covered with brownish pubescence; veins brown, the anterior branch of the third vein pale; bronzy and roseous reflections. First longitudinal vein wide of the costa, joining it opposite base of fork of third vein; cross-vein distinct for the whole of its length; second longitudinal vein hardly sinuose before the cross-vein, considerably arcuated towards the apex, reaching the margin beyond the apex of the wing; third longitudinal running almost parallel with posterior margin, turning abruptly to the margin; anterior branch gently arcuated. (Description drawn from dried specimen).

*Hab.*—Mossman's Bay, near Sydney (Skuse). One specimen in September.

*Obs.*—Allied to *E. distenta*, Sk.

66. EPIDOSIS DISTENTA, Sk.

*E. distenta*, Sk., l.c., p. 115.

Mr. Helms obtained a few ♀ specimens at Dunoon, Richmond River, N.S.W., in March and April.

Genus SPANIOCERA, Winnertz.

*Spaniocera*, Winn., l.c., p. 126.

440. SPANIOCERA AUSTRALIS, sp.n.

♂.—Length of antennæ..... — inch ... — millimètres.  
 Expanse of wings..... 0.052 × 0.022 ... 1.32 × 0.55  
 Size of body..... 0.040 × 0.008 ... 1.01 × 0.20

Antennæ yellowish-brown, the flagellar joints (mostly lost in the specimen before me) long, cylindrical, with a microscopic pubescence. Head dark brown, somewhat shining; palpi yellowish. Thorax dark brown, somewhat shining; pleuræ and metathorax tinged with obscure fulvous. Halteres white, the stem with microscopic brown scales. Abdomen covered with minute dark brown scales; ♂ forceps sordid yellowish. Legs moderately long, very slender, sordid whitish, clothed with minute scales. Wings hyaline, densely covered with minute, brown, scaly hairs. Venation similar to that figured by Winnertz (Linn. Entom. VIII. pl. iv. fig. 8, 1853), but the third vein disappears considerably before the wing-margin. (Description drawn from dried specimen).

*Hab.*—Hogan's Brush, Narara Creek, near Gosford, N.S.W. (Skuse). One specimen in August, in dense bush.

*Obs.*—This genus has hitherto been only known by one or two European species.

Genus LASIOPTERA, Meigen.

*Lasioptera*, Meig., l.c., p. 127.

A. *Wings without a white spot on the middle of the anterior border.*441. *LASIOPTERA VIRGATA*, sp.n.

♂.—Length of antennæ.....	0.020 inch	...	0.50 millimètre
Expanse of wings.....	0.090 × 0.030	...	2.27 × 0.76
Size of body.....	0.090 × 0.015	...	2.27 × 0.38
♀.—Length of antennæ.....	0.030 inch	...	0.76 millimètre.
Expanse of wings.....	0.085 × 0.040	...	2.14 × 1.01
Size of body .....	0.095 × 0.020	...	2.39 × 0.50

Antennæ in the ♂ rather shorter, in the ♀ 2- + 20-jointed, rather longer than the thorax; joints of the scapus brown, with niveous scales; flagellar joints black, sessile, sub-elliptical, with tolerably long, sparse, verticils. Head covered with yellow scales. Eyes contiguous on the front. Facies and palpi covered with niveous scales. Thorax adorned with yellow scales, with two longitudinal rows of long yellow hairs, and yellow hairs at the humeri and on the lateral borders; some niveous scales and hairs under the root of the wings; pleuræ deep brown; scutellum covered with yellow scales, and fringed with long hairs; metathorax deep brown. Halteres ochraceous or very pale brown, microscopically scaled. Abdomen in the ♂ as wide as the thorax and about three times its length, in the ♀ somewhat more robust; dorsal segments black or very deep olivaceous-brown, bordered posteriorly with a broad band of silvery scales; covered with white scales beneath; appearing pale brown where the scales are removed; ♂ forceps pale brown, scaly; ♀ ovipositor ochraceous, more than half the length of the abdomen. Legs long and slender, densely clothed with scales. Coxæ deep brown, with white scales and hairs; femora pale yellowish or whitish at the base, brownish for the apical half on the upper side; tibiæ brownish or dusky, sometimes ochraceous beneath; tarsi almost fuliginous, with weak greyish reflections in a certain light, the last two joints, and sometimes also the tip of the third joint white. Wings pale brown at the root, hyaline, with a weak cupreo-roseous reflection; pubescence

and marginal cilia appearing grey; no pubescence immediately under the second longitudinal vein for almost the whole of its length. Costal vein covered with deep brown scales and hairs; first longitudinal not discernible; second longitudinal yellowish; third longitudinal very pale, the interior branch scarcely visible but for the wing-fold. (Description drawn from fresh specimens).

*Hab.*—Elizabeth Bay (Skuse). November.

442. *LASIOPTERA WILDI*, sp.n.

♂.—Length of antennæ.....	0.020 inch	...	0.50 millimètre.
Expanse of wings.....	0.075 × 0.030	...	1.89 × 0.76
Size of body.....	0.070 × 0.013	...	1.77 × 0.32
♀.—Length of antennæ.....	0.022 inch	...	0.55 millimètre.
Expanse of wings.....	0.075 × 0.030	...	1.89 × 0.76
Size of body.....	0.070 × 0.013	...	1.77 × 0.32

Antennæ black, joints of scapus usually brownish-ochreous, in ♂ 2- + 13- or 2- + 14, in ♀ 2- + 16-jointed; joints sessile, sub-globular, progressively diminishing in size. Palpi yellowish or brownish-yellow. Front with golden-yellow scales. Thorax covered with golden-yellow scales, principally arranged in two double longitudinal rows; pleuræ and scutellum brown, with some white scales; metanotum brown; some long yellow hairs laterally about the base of wings. Halteres yellow. Abdomen covered superiorly on each segment with black scales, each segment bordered posteriorly with two lateral patches of white or pale yellowish scales; venter yellowish, with white scales; ♂ forceps with white hairs; ♀ ovipositor ochreous. Coxæ, femora, and tibiæ ochreous-yellow, the latter bordered anteriorly with brown; tarsi brown, with pale reflections when viewed at a certain obliquity. Wings yellow at the root, hyaline, with blue and violaceous reflections; brownish pubescence. Costal vein brown, densely scaled; first longitudinal yellow, joining some distance beyond the middle of the wing; third longitudinal vein very pale. (Description drawn from dried specimens).



*Hab.*—Botanical Gardens, Brisbane, Q. (C. J. Wild). March.  
*Specimens in Coll. Queensland Museum.*

*Obs.*—This species should probably be classified between *L. corusca*, Sk., and *L. helvipes*, Sk.

### 83. LASIOPTERA MISCELLA, Sk. (Pl. XVI., fig. 6)

*L. miscella*, Sk., l.c., p. 131.

♂.—Length of antennæ..... 0.035 inch ... 0.88 millimètre.  
Expanse of wings.....  $0.065 \times 0.030$  ...  $1.66 \times 0.76$   
Size of body.....  $0.060 \times 0.015$  ...  $1.54 \times 0.38$

The ♀ only has been described. ♂ antennæ 2-+23- or 2-+24-jointed. Halteres bright fulvous. Scutellum reddish-brown. Incisions between abdominal segments reddish; anal segment fulvous; forceps brown. Legs with white scales beneath. (Description drawn from fresh specimens).

*Hab.*—Botany (Froggatt and Skuse). Bred from malformed, coalescent leaf-stalks of *Eucalyptus hemastoma*, in November.

#### Sub-family II. LESTREMINA.

#### Genus CAMPYLOMYZA, Meigen.

*Campylomyza*, Meig., l.c., p. 133.

#### *b. Wings rounded at the base.*

#### 443. CAMPYLOMYZA GRANDIUSCULA, sp.n.

♂.—Length of antennæ..... 0.045 inch ... 1.13 millimètres.  
Expanse of wings.....  $0.075 \times 0.033$  ...  $1.89 \times 0.84$   
Size of body.....  $0.060 \times 0.013$  ...  $1.54 \times 0.32$

Antennæ more than  $\frac{2}{3}$  the length of entire body, 2-+12-jointed, dark brown; flagellar joints globose or oval, with rather long yellowish verticillate hairs; pedicels as long as the joints. Palpi brown. Front blackish. Thorax deep brown, levigate, with two converging rows of golden-yellow hairs; also the borders with some golden-yellow hairs; pleuræ and pectus dark brown; scu-

tellum yellowish-brown. Halteres brownish. Abdomen deep brown, clothed with yellow hairs. Legs slender, moderately long, greyish-brown with yellowish reflection. Wings almost hyaline, densely covered with short brownish hairs; no scales or scaly hairs; veins brown; cupreous reflections. First longitudinal vein wide of the costa, joining beyond half the length of the wing; second longitudinal arcuated beyond the cross-vein, reaching the margin immediately below the apex of the wing; cross-vein distinct, situated somewhat before midway between origin of third longitudinal vein and tip of first longitudinal. (Description drawn from dried specimen).

*Hab.*—Sydney (Skuse). August.

*Obs.*—This it at once easily distinguished from the other Australian species by its much larger size; and belongs to that section of the genus in which the wings have a prominently rounded base. Nearly twice the size of *C. amplipennis*, Sk.

#### Genus LESTREMIA, Macquart.

*Lestremia*, Macq., l.c. p. 144.

#### 444. LESTREMIA SYDNEYENSIS, sp.n.

♀.—Length of antennæ..... 0.020 inch ... 0.50 millimètre.  
Expanse of wings.....  $0.085 \times 0.033$  ...  $2.14 \times 0.84$   
Size of body.....  $0.070 \times 0.013$  ...  $1.77 \times 0.32$

Antennæ the length of the head and thorax taken together, 2-+10-jointed, sooty or dark brown, with short verticillate hairs. Front and hypostoma dark brown or black. Palpi brown. Thorax dark brown, opaque, with two rows of golden-yellow hairs; humeri, base of wings, and scutellum ochreous-yellow, the latter with golden-yellow hairs. Halteres yellow, the club somewhat brownish. Abdomen umber brown, darker on the superior segments, clothed with yellow hairs; terminal lamellæ ovate. Legs very slender, the hind pair considerably longer than the others; greyish-brown, densely covered with a minute pubescence. Wings with the posterior angle and apex rounded, hyaline,

densely covered with extremely microscopic pubescence intermixed with very short (but much longer) hairs; costa, first and second longitudinal veins and cross-vein brown, distinct, the rest pale; rich cupreous reflections. First longitudinal vein joining costa before the middle and a little beyond the cross-vein; cross-vein obliquely situated; second longitudinal uniting with the tip of costa opposite the middle of the fork; the fork rather more than twice the length of the petiole, its anterior branch reaching the margin immediately below the apex of the wing; fourth longitudinal vein branching at the base of wing.

*Hab.*—Sydney (J. D. Ogilby). One specimen in June.

*Obs.*—This is the first species of *Lestremia* described from Australia. The venation is similar to that figured by Winnertz (V. z-b. G. Wien, XX. 1870, pl. II. fig. 1).

#### Fam. SCIARIDÆ.

##### Genus SCIARA, Meigen.

*Sciara*, Meig., l.c., p. 672.

#### I. FIRST LONGITUDINAL VEIN JOINING THE COSTA OPPOSITE OR BEYOND THE BASE OF THE FORK.

A. Halteres black or brown, the stalk wholly or partly yellow, yellowish or whitish.

1. Palpi black or brown.

A. Cross-vein situated before the middle of the first longitudinal vein.

b. *Tip of the second longitudinal vein and tip of the posterior branch of the fork equally near the apex of the wing.*

#### 445. SCIARA RECONDITA, sp.n.

♀.—Length of antennæ.....	0·057 inch	...	1·44 millimètres.
Expanse of wings.....	0·125 × 0·045	...	3·16 × 1·13
Size of body.....	0·110 × 0·020	...	2·79 × 0·50

Antennæ black or sooty-brown, slender, with a short pale pubescence; as long as head and thorax taken together; joints of scapus sparsely pubescent; flagellar joints sub-sessile, about 3 times as long as broad, progressively diminishing in thickness. Head black, sub-levigate. Eyes contiguous above. Palpi brown. Thorax black, sub-levigate, with three almost parallel rows of yellow hairs reaching to the scutellum; pleuræ and metanotum black; scutellum deep reddish-brown, with black hairs. Halteres reddish-brown. Abdomen black or very deep brown, clothed with short brown hairs; in the middle about as broad as thorax; lamellæ of the ovipositor black, elongate. Legs deep umber-brown, the tarsi black. In the fore- and intermediate-legs the tibiæ and tarsi of about equal length; in the hind-legs the tibiæ a little longer than the tarsi. Spurs very short. First joint of the tarsi twice the length of the second; second a little longer than third, about equal to fourth and fifth combined; the last two about equal in length. Wings pellucid, with a greyish-brown tint, the costa and first two longitudinal veins deep brown; margaritaceous reflections. First longitudinal vein reaching the costa exactly opposite the base of the fork; cross-vein distinct, situated immediately before the middle of the first longitudinal; petiole much paler than the fork, about the length of the posterior branch; branches parallel; tip of the anterior one scarcely divergent. *fg* twice and half the length of *gh*; *kl* somewhat shorter than *lm*.

*Hab.*—Mossman's Bay, near Sydney (Skuse). September.

*Obs.*—Follows *S. Macleayi*, Sk., in the classification.

B. Cross-vein situated at the middle of the first longitudinal vein.

a. *Tip of the second longitudinal vein nearer the apex of the wing than the tip of posterior branch of the fork.*

#### 446. SCIARA TRYONI, sp.n.

♂.—Length of antennæ.....	0·120 inch	...	3·04 millimètres.
Expanse of wings.....	0·160 × 0·060	...	4·06 × 1·54
Size of body.....	0·130 × 0·030	...	3·30 × 0·76

♀.—Length of antennæ..... 0·085 inch ... 2·14 millimètres.  
 Expanse of wings..... 0·200 × 0·070 ... 5·08 × 1·77  
 Size of body..... 0·210 × 0·035 ... 5·33 × 0·88

♂.—Antennæ rather slender, nearly as long as entire body, brown, with dense, pale yellow pubescence; joints of scapus fulvous or brownish-fulvous, with a few short brown hairs; flagellar joints 3 to 5 or 6 times as long as broad, subsessile, progressively diminishing in thickness. Head black. Eyes contiguous above. Palpi brown. Thorax brownish-fulvous, sub-nitidous, with two scarcely noticeable sparse rows of very short brown hairs; scutellum with some distinct brown hairs; pectus rather paler fulvous than the rest of the thorax. Halteres black, the base of stem fulvous. Abdomen deep brown or black, somewhat shining, densely clothed with moderately long black hairs; terminal segment and forceps yellowish-brown, with black hairs. Coxæ fulvous. Fore and intermediate femora fulvous; the hind pair brown or black, usually somewhat paler at the base. Tibiæ and tarsi black. In the fore-legs the tarsi about  $\frac{1}{2}$  longer than the tibiæ; in the intermediate-legs the tibiæ and tarsi of about equal length; in the hind-legs the tibiæ  $\frac{1}{2}$  longer than the tarsi. Spurs brown or yellowish-brown, about the length of last joint of tarsi. First joint of tarsi  $2\frac{1}{2}$  to 3 times the length of the second; second about  $\frac{2}{3}$  longer than third, and equal to fourth and fifth together. Wings pellucid, with a pale greyish-brown tint, more brownish between second longitudinal and costa; veins dark brown; opaline reflections. First longitudinal vein reaching costa a little beyond the base of the fork; cross vein distinct, situated at the middle of the first longitudinal vein; petiole much paler than the fork, somewhat longer than posterior branch; posterior branch shorter than the anterior, both slightly divergent at the tips. *fg* about  $2\frac{1}{2}$  times the length of *gh*; *kl* about  $\frac{3}{4}$  the length of *lm*.

♀.—Antennæ slender, a little longer than the head and thorax taken together, the pubescence shorter than in the ♂; flagellar joints  $2\frac{1}{2}$  to 4 times as long as broad, the terminal joint longer. Lamellæ of the ovipositor ovate, black. Wings distinctly darker

than in the ♂, considerably darker between second longitudinal and costa. *fg* twice the length of *gh*; *kl* about  $\frac{1}{2}$  the length of *lm*.

*Hab.*—Brisbane (H. Tryon and F. Allbon), Hamilton, Upper Nth. Pine, Queensland (C. J. Wild); several specimens in Coll. Queensland Museum. January to March.

*Obs.*—Very distinct from any other species known to me.

C. Cross-vein situated beyond the middle of the first longitudinal vein.

b. Tip of the second longitudinal vein and the tip of the posterior branch of the fork equally near the apex of the wing.

#### 447. SCIARA TEPPERI, sp.n.

♀.—Length of antennæ..... 0·070 inch ... 1·77 millimètres.  
 Expanse of wings..... 0·175 × 0·060 ... 4·43 × 1·54  
 Size of body..... 0·150 × 0·027 ... 3·81 × 0·68

Antennæ as long as the head and thorax taken together, black, covered with pale yellowish-grey pubescence; joints of the scapus sparingly haired; flagellar joints sessile, 2 to  $2\frac{1}{2}$  times as long as broad, progressively diminishing in thickness. Head black or deep brown, sub-levigate. Eyes contiguous above. Palpi deep brown or black. Thorax black, levigate, with two longitudinal, convergent rows of short brown hairs to the scutellum: some longer black hairs laterally; humeri very slightly tinged with yellowish-brown. Halteres black or deep brown, the stem more or less yellowish-brown. Abdomen dusky reddish-brown, the terminal segments and lamellæ black or nearly so; lamellæ of ovipositor oval. Legs deep umber-brown, the tarsi more dusky. In the fore- and intermediate-legs the tibiæ and tarsi of about equal length; in the hind-legs the tibiæ not quite  $\frac{1}{4}$  longer than the tarsi. Spurs honey-yellow. First joint of the tarsi  $2\frac{1}{2}$  times the length of the second; second joint  $\frac{1}{2}$  longer than third, and equal to fourth and fifth combined; fifth rather longer than fourth. Wings yellowish-brown at the root, pellucid, with a pale greyish-brown tint; opaline reflections. Costal and first two longitudinal veins black. First longitudinal vein reaching costa

opposite the base of the fork; cross-vein distinct, situated beyond the middle of the first longitudinal; petiole almost as distinct as the fork, the length of the posterior branch; branches not divergent at the tips; both arcuated at the base. *fg* three times the length of *gh*; *kl* slightly shorter than *lm*.

*Hab.*—Mount Lofty, near Adelaide, South Australia (J. G. O. Tepper); *two specimens in Coll. Adelaide Museum.* October and November.

448. *SCIARA PROMISCUA*, sp.n.

♀.—Length of antennæ.....	0.053 inch	...	1.27 millimètres.
Expanse of wings.....	0.150 × 0.055	...	3.81 × 1.39
Size of body.....	0.155 × 0.025	...	3.93 × 0.62

Antennæ slender, rather longer than head and thorax combined; black or deep brown, densely covered with short pale yellowish pubescence; joints of the scapus deep brown, sparingly pubescent; flagellar joints sub-sessile, 2 to  $2\frac{1}{2}$  times as long as broad, the terminal joint slender. Head black, almost opaque. Eyes contiguous above. Palpi deep brown. Thorax black, sub-levigata, with two longitudinal, convergent rows of tolerably long black hairs to the scutellum; lateral borders and scutellum also with moderately long black hairs; humeri very slightly tipped with yellowish-brown. Halteres black or very dark brown, yellowish towards base of stem. Abdomen very deep reddish-brown, the posterior segments black; clothed with very short brown hairs; lamellæ of the ovipositor black, oval. Legs pitch brown, the tip of first and the following joints of tarsi black. In fore- and intermediate-legs the tibiæ somewhat longer than the tarsi; in the hind-legs the tibiæ  $\frac{1}{2}$  longer than the tarsi. Spurs honey-yellow, the length of fourth tarsal joint. First joint of the tarsi  $2\frac{1}{2}$  times the length of the second; second joint  $\frac{1}{2}$  longer than the third, and equal to fourth and fifth taken together; fifth joint rather longer than the fourth. Wings pellucid, greyish-brown; the costal and first two longitudinal veins brown; margaritaceous reflections. First longitudinal vein joining opposite or slightly beyond the base of the fork; cross-vein distinct, situated somewhat

beyond the middle of the first longitudinal vein; petiole paler than the fork, shorter than the posterior branch; branches slightly divergent at their tips. *fg* about  $4\frac{1}{2}$  times the length of *gh*; *kl* three-fourths the length of *lm*.

*Hab.*—Mount Kosciusko, N.S.W., 5000 ft. (Helms); *two specimens in Coll. Australian Museum.* March.

II. FIRST LONGITUDINAL VEIN JOINING THE COSTA BEFORE THE BASE OF THE FORK.

A. Halteres black or brown, the stalk wholly or partly yellow, yellowish or whitish.

1. Palpi black or brown.

B. Cross-vein situated at the middle of the first longitudinal vein.

449. *SCIARA CONTERMINA*, sp.n.

♀.—Length of antennæ.....	0.065 inch	...	1.66 millimètres.
Expanse of wings.....	0.140 × 0.050	...	3.55 × 1.27
Size of body.....	0.135 × 0.025	...	3.42 × 0.62

Antennæ slender, longer than the head and thorax taken together, black or deep brown, with a short pale pubescence; joints of scapus black, sparingly pubescent; flagellar joints sessile, sub-sessile towards the tip, 2 to about  $2\frac{1}{2}$  times as long as broad. Head black, almost opaque, with a greyish bloom. Eyes contiguous above. Palpi brown. Thorax black, levigate, with a slight greyish bloom; three almost parallel rows of short brown hairs, the intermediate one not quite reaching the scutellum; lateral borders and scutellum with tolerably long black hairs; humeri very slightly tipped with yellowish-brown. Halteres brown, the stem ochreous or brownish-ochreous. Abdomen dusky-brown, with short brown hairs; terminal segments and lamellæ of ovipositor blackish, the latter elongate-oval. Legs dusky-brown, the terminal joints of tarsi blackish. In the fore- and intermediate-legs the tibiæ and tarsi of about equal length; in the hind-legs the tibiæ a little longer than the tarsi. Spurs honey-yellow. First joint of the tarsi rather more than twice

the length of the second; second joint nearly  $\frac{1}{3}$  longer than the third, and equal to the fourth and fifth combined. Wings pellucid, with a grey tint, the costal and first two longitudinal veins deep brown; margaritaceous reflections. First longitudinal vein reaching the costa a little before the base of the fork; cross-vein distinct, situated at the middle of the first longitudinal; tip of the second longitudinal vein and tip of the posterior branch of the fork equally near the apex of the wing; petiole paler than the fork, as long as the posterior branch; branches parallel, very slightly divergent at the extreme tips, the posterior branch less arcuated at the base than the anterior one. *fg* from  $1\frac{1}{4}$  to  $1\frac{1}{2}$  times the length of *gh*; *kl* about  $\frac{5}{8}$  the length of *lm*.

*Hab.*—Mount Kosciusko, N.S.W., 5000 ft. (Helms); two specimens in Coll. Australian Museum. March.

*Obs.*—Closely resembling *S. finitima*, Sk., from which it may be distinguished by its longer antennæ, rather darker wings, &c.

C. Cross-vein situated beyond the middle of the first longitudinal vein.

a. Tip of the second longitudinal vein nearer the apex of the wing than the tip of the posterior branch of the fork.

† Thorax with two longitudinal rows of hairs.

450. *SCIARA FLAVICOXIS*, sp.n.

♀.—Length of antennæ..... 0.042 inch ... 1.06 millimètres.  
Expanse of wings..... 0.100 × 0.037 ... 2.54 × 0.90  
Size of body..... 0.100 × 0.016 ... 2.54 × 0.40

Antennæ black, slender, somewhat longer than the head and thorax combined; second joint of scapus brown; flagellar joints sub-sessile, all but terminal joint twice as long as broad, the latter slender. Head black, almost opaque. Eyes contiguous above. Palpi black. Thorax black, nitidous, with two longitudinal indistinct rows of black hairs, extending to the scutellum; lateral borders and scutellum with tolerably long black hairs. Halteres black, the stem yellow. Abdomen deep brown, paler beneath,

rather densely clothed with short brown hairs; ovipositor black, the terminal lamellæ very small, oval. Coxæ and femora yellow, the hind femora tinged with brownish. Tibiæ and tarsi brown, the terminal joints of the latter black. In the fore-legs the tibiæ and tarsi of about equal length; in the intermediate-legs the tibiæ about  $\frac{1}{2}$  longer than the tarsi; (tarsi of hind legs lost). Spurs short, brown. First joint of the tarsi 3 times the length of the second; second about  $\frac{1}{3}$  longer than third, and about equal to the fourth and fifth taken together; fifth joint somewhat longer than the fourth. Wings pellucid, almost hyaline, with brilliant, chiefly chalybeous, reflections; costal and first two longitudinal veins blackish-brown. First longitudinal vein reaching the costa a short distance before the base of the fork; petiole paler than the fork, as long as or scarcely longer than the posterior branch of the fork; branches not divergent, but parallel at the tips. *fg* not quite twice the length of *gh*; *kl* a little shorter than *lm*.

*Hab.*—Dunoon, Richmond River, N.S.W. (Helms). One specimen in April.

†† Thorax with three longitudinal rows of hairs.

451. *SCIARA EXPOSITA*, sp.n.

♀.—Length of antennæ..... 0.060 inch ... 1.54 millimètres.  
Expanse of wings..... 0.140 × 0.050 ... 3.55 × 1.27  
Size of body..... 0.135 × 0.022 ... 3.42 × 0.55

Antennæ black or deep brown; slender, about half the length of the body; flagellar joints sub-sessile, about twice as long as broad. Head black, almost opaque. Eyes contiguous above. Palpi black or deep brown. Thorax black, almost opaque, with a greyish bloom, and three longitudinal rows of extremely minute hairs, the intermediate one most indistinct and not reaching the scutellum; lateral borders and scutellum with minute hairs. Halteres entirely brown. Abdomen obscure fulvous, the terminal segments black, clothed with short brown hairs; in the middle as broad as the thorax; the lamellæ of the ovipositor black, oval. Legs deep unber-brown, the tarsi black. In the fore-legs the tarsi

about  $\frac{1}{3}$  longer than the tibiae; in the intermediate-legs the tibiae and tarsi of equal length; in the hind-legs the tibiae about  $\frac{1}{6}$  longer than the tarsi. Spurs short, brown. First joint of the tarsi 3 times the length of the second; second joint  $\frac{1}{4}$  longer than the third and about the length of fourth and fifth taken together. Wings pellucid, with a pale greyish tint, darker between the second longitudinal and costal veins; costal and first two longitudinal veins deep brown; rich margaritaceous reflections. First longitudinal vein reaching the costa a short distance before the base of the fork; cross-vein distinct, situated beyond the middle of the first longitudinal vein; petiole quite as distinct as the fork, not  $\frac{3}{4}$  the length of the posterior branch; branches considerably arcuated posteriorly, running almost parallel for the greater part of their length, the posterior one slightly divergent at the extreme tip. *fy* twice the length of *gh*; *kl* about  $\frac{2}{3}$  the length of *lm*.

*Hab.*—Berowra, Hawkesbury district, N. S. W. (Skuse) January.

452. *SCIARA ADJUNCTA*, sp.n.

♀.—Length of antennæ.....	0.040 inch	...	1.01 millimètres.
Expanse of wings.....	0.110 × 0.040	...	2.79 × 1.01
Size of body.....	0.100 × 0.016	...	2.54 × 0.40

Antennæ black, with a pale yellowish pubescence; slender, about as long as the head and thorax combined; joints of scapus with a sparse minute pubescence; flagellar joints sub-sessile, 2 to 3 times as long as broad, the terminal joint about  $\frac{1}{4}$  longer than the one immediately preceding. Head black, almost opaque. Eyes contiguous above. Palpi black. Thorax black, almost opaque, with three longitudinal indistinct rows of very minute yellowish hairs, the intermediate row extending beyond the middle; scutellum with some moderately long black hairs. Halteres black, the stem yellowish. Abdomen deep sooty-black, not quite as black as thorax, clothed with very short hairs; lamellæ of the ovipositor black, oval. Coxæ brown, the fore and intermediate pairs tinged with ochreous on the apical half. Femora ochreous. Tibiæ brown. Tarsi black. In the fore- and intermediate-legs

the tarsi a little longer than the tibiae; in the hind-legs the tibiae very slightly longer than the tarsi. Spurs very short, honey-yellow. First joint of the tarsi in the fore- and intermediate-legs  $2\frac{1}{2}$  times the length of the second, in the hind-legs very slightly more than 3 times the length; second joint  $\frac{1}{4}$  longer than the third, and equal to the fourth and fifth taken together; the latter two of equal length. Wings pellucid, with a pale greyish tint and brilliant reflections; the costal and first two longitudinal veins deep brown or blackish. First longitudinal vein joining costa a short distance before the base of the fork; cross-vein distinct; petiole paler than the fork, a little shorter than the posterior branch; posterior branch very slightly bent at its base, nearly straight; branches parallel, scarcely divergent at the extreme tips. *fy* somewhat longer than *gh*; *kl* somewhat shorter than *lm*.

*Hab.*—Dunoon, Richmond River, N.S.W. (Helms). April.

*Obs.*—Closely related to *S. frequens*, Sk.

- b *Tip of the second longitudinal vein and tip of the posterior branch of the fork equally near the apex of the wing.*  
 † *Thorax with two longitudinal rows of hairs.*

453. *SCIARA MARGINATA*, sp.n.

♀.—Length of antennæ.....	0.060 inch	...	1.54 millimètres.
Expanse of wings.....	0.180 × 0.065	...	4.56 × 1.66
Size of body .....	0.160 × 0.035	...	4.06 × 0.88

Antennæ black, densely covered with a pale pubescence; as long as the head and thorax combined; joints of the scapus moderately haired; flagellar joints sub-sessile, twice as long as broad, the terminal joints longer. Head black, levigate. Eyes almost contiguous above. Palpi black. Thorax black, sub-nitidous, with two longitudinal rows of short black hairs extending to the scutellum; some long hairs on the lateral borders and scutellum. Halteres black, the base of stem dusky brown. Abdomen black, sub-levigate, densely clothed with short black hairs; as broad as the thorax; lamellæ of the ovipositor black

oval. Legs black, the coxæ and femora sometimes deep brown. In the fore-legs the tarsi a little longer than the tibiæ; in the intermediate-legs the tibiæ and tarsi of equal length; in the hind-legs the tibiæ a little longer than the tarsi. Tibial spurs brown. First joint of tarsi in the fore-legs slightly more than twice the length of the second; in the intermediate-legs  $2\frac{1}{2}$ , and in the hind-legs about three times its length; second joint about  $\frac{1}{2}$  longer than the third, and equal to the fourth and fifth combined; fifth rather longer than the fourth. Wings pellucid, with a pale brownish tint, distinctly darker from immediately below the second longitudinal vein to costa; opaline reflections; costal and first two longitudinal veins black. First longitudinal vein reaching costa considerably before the base of the fork; petiole paler than the fork, as long or slightly longer than the anterior branch; extreme base of the fork as pale as the petiole, branches almost parallel, somewhat divergent towards the tips. *fg* from 5 to 6 times the length of *gh*; *kl* considerably longer than *lm*.

*Hab.*—North Shore, near Sydney (Helms). Five specimens in August.

*Obs.*—Considerably resembling *S. amula*, Sk., from which it can however be readily distinguished by the venation of the wings.

454. *SCIARA INFIXA*, sp.n.

♀.—Length of antennæ.....	0.065 inch	...	1.66 millimètres.
Expanse of wings.....	0.155 × 0.050	...	3.93 × 1.27
Size of body.....	0.165 × 0.025	...	4.18 × 0.62

Antennæ dark brown, densely covered with pale yellow pubescence; slender, almost as long as the head and thorax combined; joints of scapus with tolerably long hairs; flagellar joints sub-sessile, rather more than twice as long as broad, the terminal joint longer. Head black, almost opaque. Eyes contiguous above. Palpi black. Thorax black, levigate, with a slight grey bloom; traversed by two very distinct longitudinal rows of rather long black hairs to scutellum; lateral borders and scutellum with some longer black hairs. Halteres black, the basal portion

of stem ochreous. Abdomen umber-brown, the terminal segments black, clothed with very short brown hairs; lamellæ of the ovipositor black, oval. Legs brown; the tip of first and the last four tarsal joints black. In the fore-legs the tibiæ and tarsi of equal length; in the intermediate-legs the tibiæ somewhat longer than the tarsi; in the hind-legs the tibiæ nearly  $\frac{1}{4}$  longer than the tarsi. Spurs as long as the last joint of tarsi, honey-yellow. First joint of the tarsi in the fore- and intermediate-legs  $2\frac{1}{2}$  times the length of the second, in the hind-legs about three times its length; second joint in the fore- and intermediate-legs slightly longer than the third, in the hind-legs  $\frac{1}{4}$  longer; the length of the fourth and fifth taken together. Wings pellucid, with a pale greyish tint, and brilliant reflections; costal and first two longitudinal veins dark brown. First longitudinal vein joining costa a little before the base of the fork; cross-vein distinct; petiole paler than the fork, very slightly shorter than the posterior branch; branches very slightly divergent at the tips; the anterior branch  $\frac{1}{2}$  longer than the posterior. *fg* three times the length of *gh*; *kl* considerably longer than *lm*.

*Hab.*—Mount Kosciuszko, N.S.W., 5000 ft. (Helms); in *Coll. Australian Mus.* One specimen in March.

†† *Thorax with three longitudinal rows of hairs.*

455. *SCIARA CONSANGUINEA*, sp.n.

♀.—Length of antennæ.....	0.037 inch	...	0.90 millimètre.
Expanse of wings.....	0.108 × 0.042	..	2.73 × 1.06
Size of body.....	0.108 × 0.018	...	2.73 × 0.45

Antennæ dark brown or black, densely covered with a pale pubescence; very slender, as long as the head and thorax combined; flagellar joints sub-sessile, twice as long as broad, the terminal one longer. Head black or deep brown, levigate. Eyes contiguous above. Palpi brown. Thorax black, sub-nitidous, with three double longitudinal almost parallel rows of short brown hairs; also some long hairs on the lateral border and scutellum. Halteres dark brown, the stem sordid ochreous.

Abdomen umber-brown, paler between the segments, the terminal segments black; wider in the middle than the thorax; lamellæ of the ovipositor black, oval. Coxæ and femora sordid yellow; brown in the hind-legs; tibiæ and tarsi brown, the terminal joints of the latter black. In the fore-legs the tarsi somewhat longer than the tibiæ; in the intermediate-legs the tibiæ and tarsi of equal length; in the hind-legs the tibiæ somewhat longer than the tarsi. Spurs short, yellow. First joint of the tarsi 3 times the length of the second; second joint longer than the third and slightly shorter than the fourth and fifth together; the latter two of equal length. Wings pellucid, almost hyaline, with a very faint brownish tint, and having brilliant reflections; costal and first two longitudinal veins deep brown. First longitudinal vein joining the costa some distance before the base of the fork; cross-vein distinct; petiole paler than the fork, equal in length to the anterior branch; branches slightly, the anterior scarcely, divergent towards the tips; posterior branch slightly undulated. *fg* almost 4 times the length of *gh*; *kl* somewhat longer than *lm*.

*Hab.*—Mossman's Bay, near Sydney (Froggatt). August.

*Obs.*—Comes between *S. dolosa*, Sk., and *S. festina*, Sk.

#### 456. SCIARA SERENIPENNIS, sp.n.

♂.—Length of antennæ .....	0.070 inch	...	1.77 millimètres.
Expanse of wings.....	0.090 × 0.033	...	2.27 × 0.84
Size of body.....	0.085 × 0.016	...	2.14 × 0.40

Antennæ black, densely covered with a yellowish or brownish pubescence; slender, nearly as long as entire body; flagellar joints sub-sessile,  $2\frac{1}{2}$  to 3 times as long as wide. Head black, levigate. Eyes contiguous above. Palpi dark brown. Thorax black, sub-nitidous, with three longitudinal rows of yellowish or brownish hairs; intermediate row short, with minute hairs, scarcely reaching middle of thorax; lateral ones double or treble, reaching scutellum; some long hairs on the lateral borders and scutellum. Halteres black, the stem brown. Abdomen black, levigate, sparingly clothed with short yellowish hairs; not quite as wide as

the thorax; forceps black. Legs blackish-brown. In the fore-legs the tarsi  $\frac{1}{4}$  longer than the tibiæ; in the intermediate-legs the tarsi scarcely  $\frac{1}{2}$  longer than the tibiæ; in the hind-legs, the tibiæ and tarsi almost equally long, the latter very slightly longer. Spurs yellow, short. First joint of the tarsi about twice the length of the second; second joint about  $\frac{1}{4}$  longer than the third, and equal to the fourth and fifth combined. Wings hyaline, with rich golden reflections; costal and first two longitudinal veins dark brown. First longitudinal vein joining the costa considerably before the base of the fork; cross-vein very distinct; petiole very pale, much paler than the fork, the same length as the posterior branch; anterior branch  $\frac{1}{8}$  longer than the posterior; branches slightly divergent at the tips. *fg*  $3\frac{1}{2}$  times the length of *gh*; *kl* shorter than *lm*.

*Hab.*—Mount Kosciusko, N.S.W., 5000 ft. (Helms); in *Coll. Australian Mus.* March.

*Obs.*—Allied to *S. festina*, Sk.

c. *Tip of the posterior branch of the fork nearer the apex of the wing than the tip of the second longitudinal vein.*

#### 111. SCIARA MÆSTA, Sk.

*S. mæsta*, Sk., l.c., p. 691.

One ♀ specimen from Hamilton, Upper Nth. Pine, Queensland (C. J. Wild), in January; in *Coll. Queensland Museum*.

#### 457. SCIARA CONJUNCTA, sp.n.

♂.—Length of antennæ.....	0.075 inch	...	1.89 millimètres.
Expanse of wings.....	0.085 × 0.030	...	2.14 × 0.76
Size of body.....	0.090 × 0.016	...	2.27 × 0.40

Antennæ black, with a minute pale pubescence; moderately slender,  $\frac{5}{8}$  the length of entire body; flagellar joints with very short pedicels, 2 to 3 times as long as broad. Head black, sub-nitidous. Eyes contiguous above. Palpi brown or black. Thorax black, nitidous, with three longitudinal rows of short brown hairs; the intermediate row single, short and indistinct; lateral ones



reaching scutellum; lateral borders and scutellum with some long hairs. Halteres wholly black. Abdomen as wide as the thorax, black, sub-levigate, with short brown hairs; forceps narrower than the anal segment, black. Legs blackish-brown. In the fore- and intermediate-legs the tarsi about  $\frac{1}{2}$  longer than the tibiae; in the hind-legs the tibiae and tarsi of equal length, nearly  $\frac{1}{4}$  longer than the tarsi of the other legs. Spurs short, yellow. First joint of the tarsi rather more than twice the length of the second; second  $\frac{1}{4}$  to  $\frac{1}{2}$  longer than the third, and equal to fourth and fifth taken together; fourth and fifth of equal length. Wings hyaline, with brilliant blue and violaceous reflections; costal and first two longitudinal veins dark brown. First longitudinal vein reaching costa some distance before the base of the fork; petiole very pale and indistinct, a little shorter than the posterior branch of the fork; posterior branch nearly straight, only very slightly undulated; branches parallel for the greater part of their length, slightly divergent at the tips. *fg* 4 times the length of *gh*; *kl* slightly shorter than *lm*.

*Hab.*—Woronora, N.S.W. (Skuse). Eleven specimens in September.

*Obs.*—This species I place between *S. audax*, Sk., and *S. vecors*, Sk.

## 2. Palpi yellow.

B. Cross-vein situated at the middle of the first longitudinal vein.

a. *Tip of the second longitudinal vein nearer the apex of the wing than the tip of the posterior branch of the fork.*

## 458. SCIARA PRECELLENS, sp.n.

♀.—Length of antennæ.....	0.060 inch	...	1.54 millimètres.
Expanse of wings.....	0.165 × 0.057	...	4.18 × 1.44
Size of body.....	0.110 × 0.025	...	2.79 × 0.62

Antennæ dark brown or black, with a brownish pubescence; slender, longer than the head and thorax combined; joints of

scapus yellow (light reddish-brown in one specimen), sparingly pubescent; flagellar joints sub-sessile, 2 to 3 times as long as wide; the terminal joint slender, about twice the length of the penultimate one. Head black, sub-opaque. Palpi yellow. Thorax usually ochreous-yellow, somewhat shining, with three broad brown stripes; intermediate stripe short, disappearing before the pronotum; lateral ones starting before the humeri, extending to the scutellum; lateral borders and scutellum with long black or brown hairs; pleuræ brown or ochreous-brown; scutellum and metanotum varying from yellow to deep blackish-brown. Halteres deep brown or black, the basal half of stem yellow. Abdomen deep brown or blackish, the incisions paler; venter ochreous or ochreous-brown, clothed with short black or brown hairs; lamellæ of the ovipositor deep brown or black, short and rounded. Coxæ and femora yellow or brownish-yellow, with blackish hairs. Tibiæ and tarsi cinereous, the terminal joints of latter black (in one specimen the tarsi entirely black). In the fore-legs the tarsi nearly  $\frac{1}{2}$  longer than the tibiae; in the intermediate-legs the tarsi a little longer than the tibiae; in the hind-legs the tibiae slightly longer than the tarsi. Spurs yellow. First joint of the tarsi in the fore-legs  $2\frac{1}{2}$ , in the intermediate-legs 3, and in the hind-legs nearly 4 times the length of the second; second joint about  $\frac{1}{2}$  longer than the third, and longer than the fourth and fifth combined; the latter two of equal length. Wings hyaline, brilliantly iridescent; all the veins (except petiole) distinct, deep brown or blackish. First longitudinal vein reaching the costa a short distance before the base of the fork; cross-vein distinct, situated at the middle of the first longitudinal vein; petiole extremely indistinct, except close to the fork, longer than the posterior branch and almost as long as the anterior; branches almost equally arcuated at the base, directed downwards for the anterior half, slightly divergent at the tips. *fg* not  $\frac{1}{2}$  longer than *gh*; *kl* shorter than *lm*.

*Hab.*—Sydney, and Narara, Hogan's Brush, near Gosford, N.S.W. (Skuse); Dunoon, Richmond River, N.S.W. (Helms). Three specimens.

*Obs.*—I took two specimens in August, the other specimen was captured by Mr. Helms in March. This species is quite unlike any other known to me.

- b. *Tip of second longitudinal vein and tip of the posterior branch of the fork equally near the apex of the wing.*

### 123. SCIARA LUCULENTA, Sk.

*S. luculenta*, Sk., l.c. p. 705.

Seven ♀ specimens obtained by Mr. Helms at Mount Kosciusko, N.S.W., in March, at an elevation of 5000 ft., appear to undoubtedly belong to this species, but exhibit some differences. The antennæ are rather shorter (1.89 mm.), and the wings a little larger. Joints of scapus sometimes brown. Thorax with three dark brown stripes, or altogether deep brown or blackish, with a greyish bloom; pleuræ and pectus dark brown or black; scutellum and metanotum brown or dark brown. Coxæ and femora ochreous or brownish-ochreous. Wings pellucid, with a yellowish tint; veins dark brown. First longitudinal vein joining the costa a little nearer the base of the fork; petiole scarcely more than  $\frac{1}{2}$  the length of the anterior branch of the fork, almost as long as the posterior branch. *fg* twice the length of *gh*.

- c. *Tip of the posterior branch of the fork nearer the apex of the wing than the tip of the second longitudinal vein.*

### 124. SCIARA FUMIPENNIS, Sk.

*S. fumipennis*, Sk., l.c. p. 706.

One specimen from Mount Kosciusko, N.S.W., 5000 ft. (Helms); in *Coll. Australian Museum*.

- C. Cross-vein situated beyond the middle of the first longitudinal vein.

- b. *Tip of the second longitudinal vein and tip of the posterior branch of the fork equally near the apex of the wing.*

### 459. SCIARA CRASSICORNIS, sp.n.

♂.—Length of antennæ.....	0.045 inch	...	1.13 millimètres.
Expanse of wings.....	0.066 × 0.025	...	1.67 × 0.62
Size of body.....	0.060 × 0.015	...	1.54 × 0.38

Antennæ dark brown or black, densely covered with yellowish pubescence; rather stout, two-thirds the length of the entire body; flagellar joints sub-sessile, 2 to 3 times as long as broad, progressively decreasing in thickness. Head deep brown or black, levigate. Eyes contiguous above. Palpi yellow. Thorax deep brown or black, sub-nitidous, with three longitudinal single rows of very short yellowish hairs; intermediate row very short; lateral ones reaching the scutellum; humeri slightly tipped with ochreous; lateral borders and scutellum with a few tolerably long black hairs. Halteres brown, the stem more or less yellow. Abdomen deep brown or black, narrower than the thorax; the anterior incisions and venter brownish-ochreous; densely clothed with very short black hairs; forceps slender, black. Coxæ and femora yellow. Tibiæ and tarsi greyish, with a minute black pubescence. In the fore-legs the tarsi somewhat longer than the tibia; in the intermediate-legs the tibia and tarsi of equal length; in the hind-legs the tibia a little longer than the tarsi. Spurs yellow. First joint of the tarsi 3 times the length of the second; second  $\frac{1}{2}$  to  $\frac{1}{3}$  longer than the third, and about equal to the fourth and fifth combined. Wings hyaline or almost so, with brilliant chalybeous and green reflections; costal and first two longitudinal veins black or deep brown. First longitudinal vein reaching the costa a considerable distance before the base of the fork; cross-vein distinct; petiole invisible, exactly as long as the anterior branch of the fork; base of fork indistinct, branches parallel, tips slightly divergent. *fg* twice the length of *gh*; *kl* equal to *lm*.

*Hab.*—Dunoon, Richmond River, N.S.W. (Helms). March and April.

### 126. SCIARA WINNERTZI, Sk.

*S. Winnertzi*, Sk., l.c., p. 709.

This does not appear to be a common species. I took a single ♂ specimen during September last, at Woronora, N.S.W.

- c. *Tip of the posterior branch of the fork nearer the apex of the wing than the tip of the second longitudinal vein.*

132. *SCIARA SPECTABILIS*, Sk.

*S. spectabilis*, Sk., l.c., p. 716.

Several specimens from Dunoon, Richmond River, N.S.W. (Helms), in March and April. Very common about Sydney during March. I have also taken a single example in the month of December.

B. Halteres yellow or whitish.

1. Palpi black or brown.

B. Cross-vein situated at the middle of the first longitudinal vein.

- c. *Tip of the posterior branch of the fork nearer the apex of the wing than the tip of the second longitudinal vein.*

460. *SCIARA HELMSI*, sp.n.

♀.—Length of antennæ.....	0.035 inch	...	0.88 millimètre.
Expanse of wings .....	0.090 × 0.035	...	2.27 × 0.88
Size of body .....	0.075 × 0.013	...	1.89 × 0.32

Antennæ black, densely covered with a pale pubescence; slender, somewhat longer than the head and thorax combined; flagellar joints sub-sessile, twice as long as wide. Head black or deep brown, sub-opaque. Eyes contiguous above. Palpi brown. Thorax black, sub-levigate, with a greyish bloom, traversed by three longitudinal double rows of short yellow hairs; lateral borders and scutellum with some moderately long black hairs. Halteres pale yellow. Abdomen black or deep brown, wider than the thorax; clothed with short yellowish or brownish hairs; lamellæ of the ovipositor small, elliptical. Legs brown, the coxæ and terminal joints of tarsi black. In the fore-legs the tarsi scarcely longer than the tibiæ; in the intermediate-legs the tibiæ and tarsi of equal length; in the hind-legs the tibiæ about  $\frac{1}{2}$  longer than the tarsi. Tibial spurs yellow. First joint of the tarsi rather more than twice the length of the second; second joint

about  $\frac{1}{4}$  longer than the third, and equal to the fourth and fifth combined; the latter two of about equal length. Wings pellucid, almost hyaline, with a slightly greyish tint; margaritaceous reflections; costal and first two longitudinal veins brown. First longitudinal vein reaching the costa a little before the base of the fork; cross-vein tolerably distinct; petiole very pale, about  $\frac{3}{4}$  the length of the posterior branch of the fork; branches slightly and gradually divergent. *fg* twice the length of *gh*; *kl* equal to *lm*.

*Hab.*—Mount Kosciusko, N.S.W. (Helms); *two specimens in Coll. Australian Museum.* March.

*Obs.*—Closely allied to *S. notata*, Sk.

C. Cross-vein situated beyond the middle of the first longitudinal vein.

- c. *Tip of the posterior branch of the fork nearer the apex of the wing than the tip of the second longitudinal vein.*

461. *SCIARA EXSEQUIALIS*, sp.n.

♂.—Length of antennæ.....	0.070 inch	...	1.77 millimètres.
Expanse of wings.....	0.083 × 0.030	...	2.09 × 0.76
Size of body.....	0.080 × 0.015	...	2.02 × 0.38
♀.—Length of antennæ.....	0.037 inch	...	0.90 millimètre.
Expanse of wings.....	0.105 × 0.037	...	2.67 × 0.90
Size of body.....	0.085 × 0.016	...	2.14 × 0.40

♂.—Antennæ black, with a pale pubescence; moderately slender, more than  $\frac{3}{4}$  the length of entire body; flagellar joints with minute pedicels,  $2\frac{1}{2}$  to 4 times as long as wide, the terminal joint considerably longer than the penultimate one. Head black, sub-opaque. Eyes contiguous above. Palpi dark-brown or black. Thorax black, sub-opaque, with three longitudinal double rows of short yellow hairs; lateral borders and scutellum with tolerably long black hairs. Halteres yellow. Abdomen black, clothed with yellow hairs; as wide as or rather wider than the thorax; forceps wider than the anal segment, black. Legs dark brown, the tarsi black. In the fore-legs the tarsi not quite  $\frac{1}{4}$  in the inter-

mediate-legs about  $\frac{1}{2}$ , and in the hind-legs nearly  $\frac{1}{2}$ , longer than the tibiae. Spurs yellow. First joint of the tarsi twice the length of the second; second joint  $\frac{1}{2}$  longer than the third and equal to the fourth and fifth combined; the latter two of equal length. Wings pellucid, almost hyaline, with a pale greyish tint; rather brilliant reflections; costal and first two longitudinal veins dark brown. First longitudinal vein reaching the costa considerably before the base of the fork; cross-vein tolerably distinct; petiole very pale, as long as or slightly shorter than the posterior branch of the fork; branches slightly and gradually divergent; posterior branch a little undulated. *fg* twice the length of *gh*; *kl* shorter than *lm*.

♀.—Antennae short, slender; flagellar joints sessile. Abdomen robust, deep brown, almost black, lighter between the segments; lamellae of the ovipositor small, oval. In the fore-legs the tarsi  $\frac{1}{2}$ , in the intermediate legs  $\frac{1}{2}$ , and in the hind-legs very slightly, longer than the tibiae. First longitudinal vein reaching the costa a short distance before the base of the fork; petiole shorter than the posterior branch of the fork. *fg* slightly more than twice the length of *gh*.

*Hab.*—Benalla, Victoria (Helms). Eight specimens in November.

*Obs.*—The venation of the wings at once distinguishes this species.

#### Genus ZYGONEURA, Meigen.

*Zygoneura*, Meig., Syst. Besch. VI. 1830, p. 304, pl. 65, fig. 15; Macquart, S. à B., Dipt., I. 1834, p. 158; Zetterstedt, Dipt. Scand.; Walker, Ins. Brit. III. 1856, p. 57; Schiner, F. A., Dipt., 1864; Winnertz, V. z.-b. G., Wien, XVIII. p. 11, 1867.

Characters the same as in *Sciara* with the following differences:—Antennae: the first joint of the scapus more bowl-shaped; in ♂ the flagellar joints oval, long-stalked and verticillate. Thorax glabrous. Tibiae without lateral spines. Wings: the branches of fork undulated, the anterior one much arcuated at the base, so that the fork appears bulged.

Only two species of the genus have hitherto been described, *Zygoneura sciarina*, Meig., from Europe, and *Z. toxoneura*, O. Sack., North America.

#### 462. ZYGONEURA MACULIPENNIS, sp.n.

♂.—Length of antennae..... 0.070 inch ... 1.77 millimètres.  
 Expanse of wings..... 0.090 × 0.033 ... 2.27 × 0.84  
 Size of body..... 0.090 × 0.015 ... 2.27 × 0.38

♀.—Length of antennae..... 0.070 inch ... 1.77 millimètres.  
 Expanse of wings..... 0.108 × 0.037 ... 2.74 × 0.90  
 Size of body..... 0.125 × 0.020 ... 3.16 × 0.50

♂.—Antennae slender, nearly as long as entire body, black, densely covered with greyish pubescence; joints of scapus brown, sparingly pubescent; flagellar joints cylindrical, 2 to 3 times as long as broad, with short pedicels. Head black, nitidous. Eyes contiguous above. Palpi yellow. Thorax black, nitidous, with three very indistinct rows of very short hairs; a few short hairs on lateral borders. Halteres black, the stem yellow. Abdomen black, sub-nitidous, densely clothed with black or dark brown hairs; forceps black. Coxae and femora yellow, the hind femora with the apical half brown; tibiae greyish-yellow; tarsi blackish, the basal half of the first joint greyish-yellow. In the fore-legs the tibiae very slightly shorter than the tarsi; in the intermediate-legs the tibiae slightly longer than the tarsi; in the hind-legs the tibiae about  $\frac{1}{2}$  longer than the tarsi. In all the legs the first joint of the tarsi as long as, in the hind pair very slight longer than, the remaining joints taken together. Tibial spurs short, yellow. Wings pellucid, almost hyaline, with an indistinct pale brownish cloud over the basal portion of the fork of the third longitudinal vein; veins brown; brilliant reflections. First longitudinal vein joining the costa considerably before the base of the fork; cross-vein distinct, situated considerably beyond the middle of the first longitudinal vein; petiole longer than the posterior branch of the fork; anterior branch very much arcuated, the posterior one undulated; their tips not divergent; tip of posterior branch slightly nearer apex of wing than tip of second longitudinal vein. *fg* twice the length of *gh*; *kl* longer than *lm*.

♀.—Antennæ rather more than half the length of entire body; the apical half of eleventh flagellar joint and the three terminal joints entirely white or pale yellowish. Lamellæ of ovipositor oval. Clouding over the base of the fork larger and usually more distinct than in ♂, extending below the fork; also an indistinct pale clouding in the anal angle of wing.

*Hab.*—Sydney, and Hogan's Brush, Narara Creek, near Gosford, N.S.W. (Skuse). Five specimens in August.

*Obs.*—This species seems to differ from the type of the genus, and resembles *Z. toxoneura*, O.-Sack., in not having the joints of the antennæ verticillate, and having the pedicels short. The white-tipped antennæ of the ♀, if constant, afford a striking character.

#### EXPLANATION OF PLATE.

Fig. 1-1a. Galls formed by *Cecidomyia acacia-longifolia* on flower-stalks of *Acacia longifolia*; 1b, pupa of *C. acacia-longifolia*.

Fig. 2. Galls formed by *Diplosis frenela* on branchlets of the Desert pine, *Frenela Endlicheri*.

Fig. 3. Blisters formed by *Diplosis parilis* on the leaves of *Eucalyptus corymbosa*.

Fig. 4. Woody swellings formed by *Diplosis Eucalypti* on stems of *Eucalyptus hæmastoma*.

Fig. 5. Galls formed by *Hormomyia omalanthi* on the mid-rib on underside of leaves and in dense masses around the stems of *Omalanthus populifolius*.

Fig. 6. Malformed, coalescent leaf-stalks formed by *Lasioptera miscella* on *Eucalyptus hæmastoma*.

#### NOTES AND EXHIBITS.

Mr. Sloane showed specimens of several species of Coleoptera from the Richmond River District described in the Rev. T. Blackburn's paper.

Mr. J. H. Maiden exhibited a "core" of the caudex of *Xanthorrhoea arborea*, R. Br., together with transverse and longitudinal sections of the "core." He drew attention to its structure, which shows the distribution of fibro-vascular bundles and general arrangement of an endogenous stem, together with concentric rings (or rather markings in the form of concentric rings), and what strongly resemble medullary rays, reminding one of the structure of an exogenous stem. He cannot at present find any published references to the structure of this "core," but is continuing his inquiries. He also exhibited a fine section of an endogenous stem, 20 inches in diameter, from an unknown source, as it was found floating in the harbour. The botanical origin of this specimen is uncertain, and provoked discussion.

Mr. J. D. Ogilby exhibited two snakes from New Guinea, namely, *Brachysoma triste*, a rare Australian snake not previously recorded from New Guinea; and a death-adder (*Acanthophis*), much less robust than the southern species (*A. antarctica*), but not agreeing exactly with *A. lævis*, Macleay. The two specimens exhibited form part of a collection obtained by Sir William Macgregor at St. Joseph's River, and subsequently officially forwarded to the Australian Museum for identification.

Mr. Froggatt showed two large apple-shaped galls nearly two inches in diameter found on *Eucalyptus* sp., in the vicinity of King's Sound, N.W. Australia. They are the female galls of an undescribed species of gall-making Coccid (family *Brachyscelidae*), and in the green state, along with the contained Coccus, are eaten by the natives of the Kimberley District.

Mr. Fletcher exhibited one living and several spirit specimens of *Notaden Bennettii*, Gthr., from three different localities, namely, Dandaloo, on the Bogan River (collected by Mr. A. Fletcher), Warren, on the Macquarie (collected by Mr. Thacher), and Narrabri (collected by Mr. Henry Deane); and he remarked that though this toad has hitherto been rare in collections yet in its native haunts it is at times not uncommon; and in two of the localities above-named he had been informed that during April and May of this year considerable numbers had appeared, though possibly the recently prevalent floods may have been concerned in bringing them prominently under notice. From what he had seen of living specimens in captivity the animals were expert burrowers, and from what he had heard as to their avoidance of water, their comparatively sudden appearance followed shortly afterwards by a noticeable diminution in numbers, he was inclined to think that the species perhaps resembled the American spadefoot toad (*Scaphiopus*) in keeping generally out of sight except during a short breeding period.

Mr. Ogilby remarked that Mr. Helms, who is still away on a collecting expedition for the Australian Museum, had recently sent down specimens of the same species from Bourke.

Mr. Etheridge exhibited the aboriginal weapons and implements described in his paper.

Mr. Skuse exhibited specimens of the Diptera described in his paper.

WEDNESDAY, 30TH JULY, 1890.

The President, Professor W. J. Stephens, M.A., F.G.S., in the Chair.

Mr. Albert Gale, Technical Education Branch, Department of Public Instruction; and Dr. Mann, F.R.G.S., Sydney, were elected Members of the Society.

The President announced that Mr. T. G. Sloane had been elected to a seat on the Council, *vice* Dr. Hurst, resigned on account of absence from the Colony.

#### DONATIONS.

"Reichenbachia.—Orchids Illustrated and Described by F. Sander, &c." Vol. II., Parts 11 and 12 (1889); "Berliner Entomologische Zeitschrift." XXXIII. Band, Heft 2 (1889). *From Sir William Macleay, F.L.S., &c.*

"The Journal of the Bombay Natural History Society." Vol. V., No. 1 (1890). *From the Society.*

"Matabele Land and the Victoria Falls." 2nd Edition, Appendix IV.—Entomology." By J. O. Westwood, M.A., F.L.S., with Additions by A. Sidney Olliff, and W. L. Distant. *From A. Sidney Olliff, Esq., F.E.S.*

"The University of Melbourne.—Matriculation Examination Papers." October Term, 1883, and February, 1884; "Examination Papers." October Term, 1883, and February, 1884. *From the University.*