DIPTERA OF AUSTRALIA.

By Frederick A. A. Skuse.

NEMATOCERA.—SUPPLEMENT II.

(Plate xix.)

The present contribution includes descriptions of additional species belonging to the families Mycetophilidæ, Simulidæ and Bibionidæ. Mycetophilidæ:—(*Lygistorrhina*, gen. nov., 1; *Heteropterna*, Sk., 1; *Platyura*, Meig., 3; *Sciophila*, Meig., 5; *Neoempheria*, O.-Sack., 1; *Stenophragma*, gen. nov. (syn. *Homaspis*, Sk., *præoc.*), 3; *Acrodicrania*, Sk., 1; *Clastobasis*, gen. nov., 1; *Sceptonia*, Winn., 1; *Mycetophila*, Meig., 1; *Delopsis*, gen. nov. 1; *Dynatosoma*, Winn., 1; *Brachydicrania*, Sk., 1; and *Synplasta*, gen. nov., 1). Simulidæ:—(*Simulium*, Lat., 1). Bibionidæ:—(*Plecia*, Wied., 1; *Dilophus*, Meig., 3; and *Scatopse*, Geoff., 1). *Neoempheria*, *Sceptonia* and *Dynatosoma* are recorded for the first time from Australia. Among the Bibionidæ it will be noticed that *Plecia melanaspis*, Wied., *Plecia fulvicollis*, Fabr., both originally described from Java, and *Scatopse notata*, Linn., a well-known European species, are found to inhabit Australia. Altogether, five genera and twenty-six species are proposed as new.

It is here necessary to direct special attention to the rectification of an erroneous interpretation of the alar-venation in the Mycetophilidæ, as exemplified in my former paper on this family (P.L.S. N.S.W., (2), III., pp. 1124-1222, pls. 31-32, 1888); more particularly as I have there promulgated the error not only in my descriptions but in an attempt to translate Winnertz's system of classification of groups and genera (V. z.-b. G. Wien, XIII., pp. 656-665, 1865), with the substitution of Loew's terminology (Mon. Dipt. N. Amer., I., pp. xv-xxiv., 162). The same mistake

is also committed in my paper on the Bibionidæ (l.c., pp. 1363-1386, pl. 39). The blunder arose from the fact that the second longitudinal vein is wanting in the wings of the Mycetophilidæ and Bibionidæ, whereas it was considered to be present by me. What is apparently the second longitudinal vein is in reality the homologue of the third longitudinal vein in other families. Consequently all the succeeding veins and cells in the wings likewise received incorrect names.

Baron Osten-Sacken has favoured me with the following notes on the terminology of the venation :—

"It is a sore subject in Dipterology ; it is not worked up yet as it ought to be. Schiner, in one of his papers, reproached Loew for having worked twenty-five years on Diptera without settling the terminology of the venation. Loew did it for the first time in Mon. N. Amer. Dipt., I., (1862), when he was called upon to write a general introduction to Dipterology. This essay is obscure and unsatisfactory. On p. xvii. for example ("In most Diptera," etc.), Loew should have quoted instances of the structures he describes. On p. xxiv. he should have repeated in figs. 2 and 3 the lettering of fig. 1, in order to show the correspondence of the veins and cells in the three different wings. Why did he not do it? The answer will result I think of what follows :

"It was Schiner, a couple of years later (Verh. Zool. Bot. Ges. Wien, XIV., p. 193-211, 1864), who laid the foundation of a theory of the venation. He showed that Orthorhapha and Cyclorhapha have their respective venations built on a different plan. In the Orthorhapha the discal cell is formed by the forking of the fourth vein (Schiner's Discoidal-ader) ; in the Cyclorhapha the fourth vein does not fork ; the so-called discal cell is formed by the fourth and fifth vein (Postical-ader of Schiner) ; compare l. c., p. 207, "Betrachtet Man die Eigenthümlichkeit," etc. In other words, the discal cell of the Orthorhapha is not homologous with the so-called discal cell of the Cyclorhapha ; and the so-called posterior transverse vein of the Orthorhapha is not homologous with the posterior transverse vein of the Cyclorhapha. Loew did not

know that when he wrote his paper on the terminology, and hence its insufficiency, which he must have felt after he had written it. But Schiner also did not carry out his theory very thoroughly ; in some points it seems to me that he is in contradiction with himself.

" In the meantime, for ordinary descriptive purposes, we have a nomenclature which is conventional, but nevertheless useful, because it contains as little innovation as possible. In most wings of the Diptera the small or anterior cross-vein is an easily discernible object ; it is always placed between the third and fourth veins. We call discal cell the well-known cell in the middle of the wing, although, as I said before, the discal cell of the Orthorhapha is not homologous with that of the Cyclorhapha. We call first posterior cell, the cell which has the small cross-vein at its basis. All the rest is, in most cases, easily found. But not always,—the interpretation of some venations is very difficult.

" I can understand, for instance, that you found some difficulty in translating Winnertz's terms into those of Loew. Loew (l.c.) gives no hint whatever about the Mycetophilidæ. But in Schiner (V. z.-b. G. Wien, p. 200, tab. 3, fig. 1) we find a figure of a wing of *Mycetophila*, with the nomenclature of the venation. The longitudinal veins are :—Mediastinal-ader (Loew's auxiliary vein) ; subcostal-ader (Loew's first longitudinal vein) ; cubital-ader (Loew's third longitudinal vein) ; then follow the small cross-vein and the fourth longitudinal vein. The second longitudinal vein is wanting, and this a peculiarity of the Mycetophilidæ.*

" In order to verify whether Loew had adopted for the Mycetophilidæ the same interpretation of the venation as Schiner (that is, whether he likewise omitted the second vein) I have examined his descriptions of Mycetophilidæ in Century IX. (Berl. Ent. Zeits., 1869), and in the Beschr. Europ. Dipteren. I find that, like Schiner, he always took for the third vein (Schiner's cubital),

* " This occasional absence of one or the other of the longitudinal veins induced Schiner to give them names (Mediastinal, Cubital, etc.), instead of merely numbering them (first, second, etc.). But the latter method has the advantage of priority, having been adopted by Meigen and developed by Loew."—Osten-Sacken, *in litt.*, 16th March, 1889.

the vein which in *Platyura*, *Macrocera*, etc., has the little branch at the end (an instance to the contrary in Beschr. Eur. Dipt., I., p. 16, in the description of *Macrocera fastuosa* must be a *lapsus*). The two veins forming the large forks (*klmn* and *apqr* of your Pl. 32, fig. 17*) Loew would call the fourth and fifth veins (and Schiner would use the equivalent terms of Discoidal-ader and Postical-ader). Compare for instance Loew, Century IX., p. 139, No. 18, *Sciophila obtruncata*, "primum venæ longitudinalis *quartæ* segmentum a primo *quintæ* segmento longitudine paulo superatur."

"Therefore in your paper on Mycetophilidæ wherever you say *second* longitudinal vein, it should read *third*; and wherever you have *third* it should be *fourth* and so on, to the end. The names of the cells should also be changed. The *first posterior cell* is always the cell which has the small cross-vein at the base, therefore your cell F. Your G is the second posterior. C is the anterior, H the posterior basal cell; the latter here reaches the margin of the wing.

"In the Mycetophilidæ you hit upon one of the most difficult cases, because even Schiner's figure explains the matter incompletely. He has no name for your cell I (within the fork *pqr*). In reality it is the fourth posterior cell; but as there is no third posterior cell in this case (owing to the extent of H, the posterior basal cell) it may perhaps be more expedient not to name this cell, but, in case of necessity, to describe it as *the cell included within the fork of the fifth longitudinal vein.* Schiner may have meant it so in omitting to name this cell."

Fam. MYCETOPHILIDÆ.

Lygistorrhina, gen.nov.

Head small, rounded, narrower than the thorax; exserted from the thorax; front rather narrow. Eyes large, approximate beneath. Ocelli three, arranged in a small triangle on the vertex, the anterior one very small. Proboscis very long and slender, rather more

* P.L.S.N.S.W., (Ser. 2), Vol. III., 1888.

than half the length of the entire body (Pl. XIX., fig. 2, head, antennæ, and proboscis with parts displayed.*) Palpi (apparently) wanting. Antennæ porrected, cylindrical, short, 2-+14-jointed ; flagellar joints longer than broad, progressively diminishing in thickness, with a microscopic pubescence. Thorax short, ovate, very gibbose ; scutellum small ; metanotum large, acclivous. Abdomen slender, somewhat compressed from the sides, narrowed at the base and extremity, seven-segmented ; terminal lamellæ of the ovipositor elongate-elliptical. Legs long and slender ; coxæ somewhat elongate, as in *Sciara ;* fore and intermediate femora slender, the hind pair dilated, a little longer than the other pairs ; fore and intermediate tibiæ and tarsi very slender ; hind tibiæ incrassated towards the apex, nearly twice the length of the fore pair ; hind tarsi thicker than those of the other legs. Fore tibiæ with one, intermediate with two very small spurs ; hind pair with two unequal spurs ; no lateral spines. Wings shorter than the abdomen, moderately broad, rounded off at the base, incumbent in repose ; microscopically pubescent. Costal vein extending much beyond the tip of the third longitudinal vein, but not reaching the apex of the wing ; auxiliary vein incomplete, very short, close to the first longitudinal ; first longitudinal vein short, reaching the costa considerably before the middle of the wing ; second longitudinal wanting, possibly represented by a pale vein-like incrassation between the first longitudinal vein and the base of the third longitudinal ; no cross-vein between the longitudinal veins ; third longitudinal vein originating at the base of the wing, tolerably straight, terminating in the costa opposite the tip of the posterior branch of the fork of the fourth longitudinal vein ; fourth longitudinal incomplete, the petiole and base of fork wanting ; fork of fifth longitudinal vein small, the anterior branch detached at the base ; sixth longitudinal vein very rudimentary.

Obs.—The insect for which this genus is proposed reminds one more of the Sciaridæ than of the Mycetophilidæ, especially in the

* The proboscis was originally filiform and somewhat bent in the dried specimen before me ; its component parts were displayed as figured on the application of moisture.

situation of the head, size of the coxæ, and length of the first longitudinal vein; while the character of the proboscis and the venation of the wings afford characters very distinctive from any hitherto described genus in either family.

463. Lygistorrhina insignis, sp.n. (Pl. xix., fig. 1.)

♀.—Length of antennæ.....	0·33 inch	...	0·84 millimètre.
Expanse of wings.....	0·095 × 0·037	...	2·39 × 0·90
Size of body.....	0·130 × 0·017	...	3·30 × 0·42

Head and antennæ black; the latter densely covered with a microscopic pubescence. Proboscis rather more than half the length of entire body, sordid ochreous, growing dusky towards the tip. Thorax deep brown, opaque, covered with very short black hairs; pleuræ somewhat shining. Halteres yellow. Abdomen black, somewhat shining, clothed with short black hairs, the third, fourth and fifth segments bordered anteriorly with ochraceous; terminal lamellæ yellow. Legs with a dense microscopic pubescence. Coxæ deep brown, the anterior pair sordid ochreous. Femora ochreous; the hind pair broadly flattened, longer than the others, with almost the apical half deep brown or black. Tibiæ sordid ochreous; the hind pair almost twice the length of the anterior pair, gradually thickened towards the apex, deep brown or black at the apex. Tarsi black; the metatarsus in the hind-legs nearly the length of the remaining joints taken together. Wings hyaline, with a pale greyish cloud above the fork of the fifth longitudinal vein, and the apex infuscated with greyish; brilliantly iridescent; veins deep brown. Venation as described in the generic diagnosis.

Hab.—Dunoon, Richmond River, N.S.W. (Helms). A single specimen in March.

Sub-section V.—CEROPLATINÆ.

Genus Ceroplatus, Bosc.

Ceroplatus, Bosc, Proc. Linn. Soc. N.S.W. (2), III., p. 1163, 1888.

141. Ceroplatus Mastersi, Sk.

C. Mastersi, Sk., l.c., p. 1164, pl. xxxi., fig. 3.

Very numerous on windows in Sydney during March, April, and May. A few specimens have been taken in August. This insect also occurs in Queensland (F. Allbon), in March; *specimens in Coll. Queensland Museum.* I have recently bred this species from luminous larvæ inhabiting damp rotten wood obtained by Mr. J. J. Fletcher at Blue Mountains, N.S.W.

Genus Heteropterna, Sk.

Heteropterna, Sk., l.c., p. 1166, pl. xxxi., figs 4-4e.

464. Heteropterna affinis, sp.n.

♂.—Length of antennæ..... 0·042 inch ... 1·06 millimètres.
Expanse of wings..... 0·145 × 0·060 ... 3·66 × 1·54
Size of body..... 0·240 × 0·040 ... 6·09 × 1·01

Remarkably like *H. Macleayi*, Sk., in size and colouring; the differences are as follows:—Antennæ rather shorter, sooty-brown. Palpi and hypostoma reddish-fulvous. Thorax with two convergent ochraceous lines from the humeral spots, meeting just before scutellum; pleuræ deep brown or black with very little ochraceous. Hind femora only slightly brown at the tip. In the fore-legs the tarsi rather more than twice the length of the tibiæ; in the hind-legs the tarsi a little longer than the tibiæ; the metatarsal joint about the length of and not thicker than the tibiæ in the fore-legs.

Hab.—Dunoon, Richmond River, N.S.W. (Helms). Two specimens in March.

Obs.—Very closely related to *H. Macleayi*, Sk., but readily distinguished by the form of the hind-legs, the lines on the thorax, and the colour of the antennæ. I cannot see any difference in the wings, or in the colour of the abdomen (which is deep brown or black, with the third to fifth segments bordered anteriorly with ochraceous in both species).

Genus Platyura, Meigen.

Platyura, Meig., l.c., p. 1169, pl. xxxi., figs. 5-6.

b. *Sixth longitudinal vein not reaching the posterior margin.*

465. Platyura contingens, sp.n.

♀.—Length of antennæ.....	0·037 inch	...	0·90 millimètre.
Expanse of wings.....	0·160 × 0·055	...	4·06 × 1·39
Size of body.....	0·170 × 0·032	..	4·31 × 0·80

Antennæ shorter than the thorax; entirely dark brown or black, covered with a minute pale pubescence. Hypostoma and proboscis brown. Front black or sooty-brown. Palpi yellow. Thorax cinereous, opaque, densely covered with short black hairs; lateral and hind margins setiferous; humeri slightly tipped with yellowish-brown; pleuræ and metathorax dark brown, with a hoary bloom; scutellum yellowish-brown, setiferous. Halteres yellowish-brown, the stem pale ochreous. Abdomen dark brown, the second to last segment sordid yellowish-brown anteriorly; densely clothed with black hairs. Fore and intermediate coxæ pale ochreous, the latter with a longitudinal brown marking on the apical half in front; hind coxæ dark brown; all with short black hairs, more numerous on the fore pair; femora pale ochreous, the intermediate pair somewhat tinged with brownish at the base, densely covered with short black hairs; tibiæ darker than the femora; tarsi almost black, on account of their dense pubescence. Tibial spurs black. In the fore-legs the tibiæ about $\frac{2}{7}$ longer than the metatarsal joint. Wings somewhat shorter than the body, pellucid, almost hyaline, distinctly infuscated (more especially anteriorly) at the apex; veins deep brown. Costal vein extending beyond tip of third longitudinal vein one-third the distance from that to the tip of the anterior branch of the fourth longitudinal vein; anterior branch of the third longitudinal vein at an angle of 45°, its base situated at a point about $\frac{1}{4}$ the distance from tip of first longitudinal vein to tip of third longitudinal; auxiliary

vein joining the costa opposite the inner end of the marginal cell; petiole and base of fork less distinct than the rest of the fork; posterior branch of the fourth and anterior branch of the fork of the fifth longitudinal vein not reaching the margin.

Hab.—Sydney (Skuse). October.

Obs.—Most similar to *P. conformis*, Sk., from which it may be distinguished by the colour of the thorax and intermediate and hind coxæ, distinctly infuscated apex of wings, position of the anterior branch of third vein, and the incomplete sixth longitudinal.

466. Platyura gracilis, sp.n.

♂.—Length of antennæ.. ...	0·065 inch ...	1·66 millimètres.
Expanse of wings	0·120 × 0·042 ...	3·04 × 1·06
Size of body.....	0·140 × 0·020 ...	3·55 × 0·50

Antennæ longer than the thorax, slender; joints of scapus sordid ochreous; flagellar joints 2-4 times as long as wide, the terminal joint considerably longer than the penultimate; dusky brown or blackish, the pubescence hoary. Hypostoma, proboscis and palpi brown or yellowish-brown. Front and vertex black or sooty-brown. Thorax sordid yellowish-brown, ochreous at the humeri, sub-levigate, with three longitudinal, slightly convergent, rows of black hairs, the lateral rows double anteriorly; lateral borders and scutellum setiferous. Halteres brown, the stem sordid ochreous, pubescent. Abdomen yellowish-brown or brownish-ochreous, the segments bordered posteriorly with sooty-brown or blackish; densely clothed with black hairs; ♂ holding forceps sooty-brownish or blackish. Coxæ and femora ochreous-yellow; the former with black hairs in front; tibiæ cinereous; tarsi black. Tibial spurs black. In the fore-legs the tibiæ somewhat longer than the metatarsal joint. Wings rather shorter than the body, pellucid, almost hyaline; the costal and first two longitudinal veins black or deep brown. Costal vein extending beyond the tip of the third longitudinal vein slightly more than three-fourths the distance from that to the tip of the anterior branch of the fork of the fourth longitudinal vein; auxiliary vein reaching the costa

opposite or slightly beyond the inner end of the marginal cell; anterior branch of the third longitudinal at an angle of about 45°, its base situated about mid-way between the tips of the first and third longitudinal veins; fork of the fourth longitudinal vein $2\frac{1}{2}$ times the length of the petiole, the latter in direct line with the posterior branch; sixth longitudinal vein very short and indistinct.

Hab.—Hogan's Brush, Narara Creek, near Gosford, N.S.W. (Skuse). August.

Obs.—Perhaps most nearly allied to *P. monticola*, Sk. It however differs greatly in the venation of the wings; and the antennæ are a little longer.

467. Platyura Richmondensis, sp.n.

♂.—Length of antennæ.....	0·042 inch	...	1·06 millimètres.
Expanse of wings.....	0·125 × 0·042	...	3·16 × 1·06
Size of body.....	0.150 × 0·025	...	3·81 × 0·62

Antennæ about the length of the thorax; dark brown, almost black; pubescence of the flagellar joints hoary when viewed at a certain obliquity; terminal joint with a very small nipple-shaped projection. Hypostoma and proboscis dark brown. Palpi yellowish-brown. Front dark brown or black. Thorax sordid yellowish-brown, opaque, densely covered with short black hairs; lateral borders and scutellum setiferous; pleuræ and metanotum brown or brownish. Halteres brown, the stem yellow. Abdomen deep brown or black, the posterior half of second and following segments ochraceous; densely clothed with black hairs; ♂ forceps ochraceous or sordid ochraceous. Fore coxæ ochreous-yellow; intermediate and hind pairs brown, the intermediate pair tinged with ochreous; all with short black hairs in front. Femora ochreous-yellow, densely covered with very short dark hairs; tibiæ greyish; tarsi almost black. Tibial spurs black. In the fore-legs the tibiæ $\frac{1}{5}$ longer than the metatarsus. Wings rather shorter than the body, hyaline; the apex clouded with pale brownish, intensified into dark brown at tip of third longitudinal

vein and costa; anterior branch of third longitudinal vein enveloped in a small squarish dark brown, almost black cloud; tips of branches of fifth longitudinal vein faintly clouded with pale brownish; the costa and first two longitudinal veins black or deep brown. Costal vein extending beyond the tip of the third longitudinal vein $\frac{1}{2}$ the distance from that to the tip of the anterior branch of the fourth longitudinal vein; anterior branch of the third longitudinal vein vertical, its base situated at a point $\frac{1}{3}$ the distance from the tip of the first longitudinal vein to the tip of the third longitudinal; petiole and base of fork and tip of posterior branch of the fourth longitudinal vein pale; auxiliary vein reaching the costa opposite or immediately before the inner end of the marginal cell; both branches of the fifth longitudinal vein not quite reaching the margin; sixth longitudinal vein disappearing half way to the margin.

Hab.—Dunoon, Richmond River (Helms). March.

Obs.—Very unlike any other described Australian species.

148. Platyura fulva, Sk.

P. fulva, Sk., l.c., p. 1176.

Two ♂'s and ♀ specimen from Dunoon, Richmond River, N.S.W. (Helms), in March. The abdomen of the ♂ is brown.

Genus Antriadophila, Sk.

Antriadophila, Sk., l.c., p. 1183, pl. xxxi., fig. 8.

155. Antriadophila nigra, Sk.

A. nigra, Sk., l.c., p. 1188.

Two specimens from Botanical Gardens, Brisbane, Q. (H. Tryon), in March; *in Coll. Queensland Museum.*

Sub-section VI.—SCIOPHILINÆ.

Genus Sciophila, Meigen.

Sciophila, Meig., l.c., p. 1189.

I. Base of the fork of the fifth longitudinal vein situated before the proximal end of the first posterior cell.

a. *In the fore-legs the tibiæ longer than the metatarsus.*

468. Sciophila McCoyi, sp.n.

♀.—Length of antennæ.....	0·150 inch	...	3·81 millimètres.
Expanse of wings.....	0·290 × 0·100	...	7·35 × 2·54
Size of body.....	0·270 × 0·060	...	6·85 × 1·54

Antennæ slender, longer than the head and thorax combined; joints of scapus and first three or four flagellar joints ochraceous-yellow, the remaining joints dark brown, with hoary pubescence; flagellar joints 2½ to 3 times longer than broad. Hypostoma, proboscis, and palpi ochraceous-yellow. Front brown, the vertex black. Thorax dark brown, levigate, the humeri and two small spots, one above, the other before, the origin of wings, ochraceous-yellow; three dense convergent rows of black hairs extending to the scutellum; lateral borders and scutellum densely beset with long black hairs, longer on the scutellum; pleuræ brown, with ochraceous markings; scutellum and metathorax ochraceous; the anterior half of metanotum brownish. Halteres yellow, the club brown. Abdomen brown, somewhat shining, all the segments bordered posteriorly with ochraceous-yellow; venter and ovipositor ochraceous-yellow. Coxæ ochraceous-yellow, the fore pair more brownish; femora brownish-ochreous; tibiæ and tarsi cinereous. Tibial spurs black. In the fore-legs the tibiæ slightly longer than the metatarsal joint. Wings pellucid, almost hyaline, somewhat infuscated with greyish behind the fork of the fifth longitudinal vein, and between the apical portions of the first and third longitudinal veins; three small, but distinct, brown clouds: one at each end of the marginal cell, the cloud at the proximal end rather larger than the other, reaching the base of fourth longitudinal; the third largest, roundish, enveloping base of fork of fourth longitudinal; also subcostal cross-vein and base of fork of fifth longitudinal vein each with a less distinct, very small

cloud. Auxiliary vein reaching the costa somewhat beyond the middle of the marginal cell; subcostal cross-vein situated slightly before the middle; marginal cell not quite $2\frac{1}{2}$ times as long as wide; petiole scarcely shorter than the posterior branch of the fork; base of the fork of the fifth longitudinal vein situated considerably before the proximal end of the first posterior cell.

Hab.—Victoria. *Type specimen in the National Museum, Melbourne.*

Obs.—Dedicated to Prof. McCoy, the learned Director of the National Museum of Melbourne, to whom I am indebted for the pleasure of describing this species.

469. Sciophila pictithorax, sp.n.

♂.—Length of antennæ.....	0·115 inch	...	2·92 millimètres.
Expanse of wings.....	0·200 × 0·065	...	5·08 × 1·66
Size of body.....	0·180 × 0·035	...	4·56 × 0·88

Antennæ slender, nearly $\frac{1}{3}$ longer than the head and thorax combined; joints of scapus yellow; flagellar joints dark brown, almost black, with a hoary pubescence. Hypostoma and proboscis yellow. Palpi deep brown or black. Front brown, the vertex blackish. Thorax ochreous-yellow, with two cuneate brown stripes to middle, and a small round brown spot at each side below the humeri; the posterior half with two large, almost confluent, somewhat shining, dark brown patches; beset with scattered black hairs; pleuræ yellow, the lateral callosity of the metanotum and callosity above the middle coxæ brown; scutellum dark brown; metanotum ochreous, tinged with brown on the posterior half. Halteres pale yellow, the club brown. Abdomen brown, the sides and posterior half of second and third segments ochreous-yellow, and the sides and posterior margins of the remaining segments less distinctly ochreous; rather densely clothed with brown hairs; venter ochreous-yellow; forceps brownish-ochreous, densely haired. Coxæ and femora ochreous-yellow, the hind coxæ with a brownish longitudinal spot; tibiæ brownish; tarsi brown, the terminal

joints blackish. Tibial spurs black. In the fore-legs the tibiæ very slightly longer than the metatarsal joint. Wings almost hyaline, the apex slightly infuscated anteriorly ; a brownish cloud enveloping marginal cell and origin of petiole, and a round pale cloud over base of fork ; the extreme base of fork of fifth longitudinal slightly brown. Auxiliary vein terminating before the distal end of marginal cell, the subcostal cross-vein at its tip ; marginal cell about $\frac{1}{3}$ longer than wide ; petiole much shorter than the posterior branch of the fork ; base of the fork of the fifth longitudinal vein situated before the proximal end of the first posterior cell.

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

470. Sciophila Richmondensis, sp.n. (Pl. xix., fig. 3).

♂.—Length of antennæ.....	0·115 inch	...	2·92 millimètres.
Expanse of wings.....	0·150 × 0.060	...	3·81 × 1·54
Size of body.....	0·155 × 0·030	...	3·92 × 0·76
♀.—Length of antennæ.....	0·105 inch	...	2·67 millimètres.
Expanse of wings.....	0·180 × 0·070	...	4·56 × 1·77
Size of body.....	0·180 × 0·037	...	4·56 × 0·90

♂.—Antennæ slender, rather more than $\frac{1}{3}$ longer than the head and thorax combined ; joints of scapus and first one or two flagellar joints fulvous-yellow ; remaining flagellar joints dusky brown, with a hoary pubescence. Hypostoma and proboscis fulvous-yellow. Palpi brown or brownish. Front brown, the vertex blackish. Thorax ochreous, somewhat shining, with three cuneate brown stripes ; intermediate one geminate, extending beyond the middle, sometimes wanting ; lateral ones terminating at scutellum ; beset with black hairs ; pleuræ slightly tinged with brownish above the intermediate coxæ ; scutellum brownish, setiferous ; metanotum often brown above. Halteres entirely ochreous-yellow, or the club brown. Abdomen : the first five segments ochreous, deeply bordered posteriorly with black, the remaining two segments

entirely black ; ♂ forceps brownish-ochreous. Coxæ and femora ochreous ; tibiæ dark cinereous ; tarsi black. Tibial spurs black. In the fore-legs the tibiæ longer than the metatarsus. Wings pellucid, the apex clouded with pale greyish ; marginal cell more or less clouded with brown, often only its proximal end and small cross-vein ; veins brown. Auxiliary vein terminating opposite the middle of marginal cell ; the subcostal cross-vein before its tip ; marginal cell twice as long as wide ; petiole about $\frac{1}{5}$ longer than the posterior branch of the fork ; base of the fork of the fifth longitudinal vein situated a little before the proximal end of first posterior cell.

♀.—Antennæ somewhat longer than the head and thorax combined. Thorax with the intermediate stripe very indistinct or wanting. Lamellæ of ♀ ovipositor brownish-ochreous. Marginal cell usually deeply clouded. Petiole very little longer than the posterior branch of the fork.

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

471. Sciophila humeralis, sp.n.

♂.—Length of antennæ.....	0·110 inch	...	2·79 millimètres.
Expanse of wings.....	0·135 × 0·050	...	3·42 × 1·27
Size of body.....	0·150 × 0·030	...	3·81 × 0·76

Antennæ slender, considerably longer than the head and thorax combined ; joints of scapus and basal half of first flagellar joint yellow ; remaining flagellar joints dusky brown, with a hoary pubescence. Hypostoma brown. Proboscis and palpi yellow. Front black or deep brown. Thorax black or deep brown, somewhat shining, yellow at the humeri ; beset with black hairs ; pleuræ deep brown, yellow immediately beneath the origin of the wings ; scutellum and metanotum deep brown. Halteres pale yellow, the club deep brown. Abdomen black or deep brown, the first five segments brownish-yellow anteriorly ; somewhat shining, densely clothed with black hairs ; ♂ forceps brownish-yellow.

Coxæ and femora pale yellow, the hind femora infuscated with brownish at the base; tibiæ dark greyish; tarsi black. Tibial spurs black. In the fore-legs the tibiæ $\frac{1}{5}$ longer than the metatarsus. Wings pellucid, almost hyaline; veins black or deep brown. Auxiliary vein terminating in the costa somewhat beyond the middle of the marginal cell; the sub-costal cross-vein situated mid-way between the tip of the auxiliary vein and the proximal end of marginal cell; marginal cell twice as long as wide; petiole equal in length to the anterior branch of the fork; base of the fork of the fifth longitudinal vein situated a little before the proximal end of first posterior cell.

Hab.—Hogan's Brush, Narara Creek, near Gosford, N.S.W. (Skuse). August.

II. Base of the fork of the fifth longitudinal vein situated opposite the proximal end of the first posterior cell.

a. *In the fore-legs the tibiæ longer than the metatarsus.*

472. SCIOPHILA SYLVICOLA, sp.n.

♂.—Length of antennæ.....	0·130 inch	...	3·30 millimètres.
Expanse of wings.....	0·180 × 0·170	...	4·56 × 1·77
Size of body.....	0·200 × 0·035	...	5·08 × 0·88

Antennæ moderately robust, considerably longer than the head and thorax combined; joints of scapus and base of first flagellar joint yellow; remaining flagellar joints dark brown, with a hoary pubescence. Hypostoma, proboscis, and palpi sordid yellowish-brown. Front sordid yellowish, the vertex dark brown. Thorax brown, somewhat shining, with three convergent longitudinal indistinct paler lines, beset with double rows of black hairs; lateral borders and scutellum setiferous; pleuræ considerably tinged with sordid ochreous-yellow. Halteres yellow, the club brownish. Abdomen black or deep brown, somewhat shining, the first five or six segments more or less distinctly marked at the sides with yellowish-brown or reddish-fulvous; densely clothed with black hairs. Coxæ and femora sordid ochreous; tibiæ

cinereous; tarsi black. Tibial spurs black. In the fore-legs the tibiæ about $\frac{1}{4}$ longer than the metatarsus. Wings pellucid, with a slightly greyish tint; veins deep brown. Auxiliary vein terminating in the first longitudinal vein at about the middle of the marginal cell; subcostal cross-vein wanting; marginal cell more than twice as long as wide; petiole about $\frac{1}{6}$ longer than the posterior branch of the fork; base of the fork of the fifth longitudinal vein situated opposite the proximal end of first posterior cell.

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

Genus NEOEMPHERIA, Osten-Sacken.

Empheria (præoc.), Winnertz, V. z.-b. G. Wien, XIII., p. 738, pl. XIX., figs. 9a-b., 1863; *Neoempheria*, O.-Sack., Catl. Dipt. N. Amer., 2nd ed., p. 9, 1878.

Agrees almost entirely with *Sciophila*, differs in the following:—Eyes round; antennæ somewhat compressed, cylindrical; the spine on the intermediate coxæ of ♂ always wanting; costal vein extending beyond the tip of the third longitudinal vein, but not reaching as far as the apex of the wing; auxiliary vein joining sometimes somewhat beyond the marginal cell; base of the wings sometimes obtusely cuneiform.

473. NEOEMPHERIA SIGNIFERA, sp.n. (Pl. XIX., fig. 4).

♂.—Length of antennæ.....	0·035 inch	...	0·88 millimètre.
Expanse of wings.....	0·110 × 0·040	...	2·79 × 1·01
Size of body.....	0·120 × 0·025	...	3·04 × 0·62
♀.—Length of antennæ.....	0·035 inch	...	0·88 millimètre.
Expanse of wings.....	0·110 × 0·040	...	2·79 × 1·01
Size of body.....	0·120 × 0·025	...	3·04 × 0·62

♂ and ♀.—Antennæ short, rather slender, about the length of the thorax; joints of scapus and first one or two flagellar joints yellow; remaining flagellar joints brown, with a minute pale pubescence. Hypostoma and proboscis brown or brownish.

Palpi dark brown or black. Front brown ; the ocelli situated on a black spot. Thorax brown, levigate, sometimes with three indistinct, narrow dark brown stripes to the scutellum ; covered with black hairs ; lateral borders setiferous ; pleuræ pale ochreous ; scutellum brownish-ochreous or pale brownish ; metathorax deep brown or black. Halteres yellow, the club sometimes slightly infuscated. Abdomen black, somewhat shining, the first segment, the incisions, and a more or less distinct lateral spot on the fourth segment, yellow ; clothed with black hairs ; venter and genitalia ochreous or brownish-ochreous. Coxæ and fore and intermediate femora yellow, the latter rather greyish on account of their pubescence ; hind femora dark brown ; tibiæ cinereous ; tarsi black. Tibial spurs black. In the fore-legs the tarsi more than twice the length of the tibiæ ; the tibiæ somewhat longer than the metatarsal joint. Wings hyaline, with a brown fascia before the middle, and the apex entirely infuscated ; brilliantly iridescent ; veins dark brown. Costal vein extending beyond the tip of the third longitudinal vein less than $\frac{1}{4}$ the distance from that to the tip of the anterior branch of the fork ; auxiliary vein joining the costa about opposite the middle of the marginal cell ; sub-costal cross-vein immediately before the marginal cell ; the latter very little longer than wide ; a supernumerary longitudinal vein or incrassated wing-fold from the inner end of the first posterior cell, not reaching the margin, running nearer to the fourth than to the third longitudinal vein ; petiole a little shorter than the posterior branch of the fork ; the latter with the branches straight, divaricate ; base of the fork of the fifth longitudinal vein situated a little before the proximal end of the first posterior cell.

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

Stenophragma, gen.nov.

Homaspis (*præoc.* Förster, Hym., 1869), Sk., l.c., p. 1191, pl. xxxi., figs. 9-9b.

Since the name *Homaspis* was proposed for this genus, it has been ascertained from the 'Zoological Record,' 1888, recently to hand, that Förster had previously employed the same for one of his numerous divisions of Ichneumonidæ (Verh. Ver. Rheinl., XXV., p. 198, 1869); consequently this genus has to be re-named.

474. STENOPHRAGMA PICTICORNIS, sp.n. (Pl. XIX., fig. 5).

♂.—Length of antennæ.....	0·160 inch	...	4·06 millimètres.
Expanse of wings.....	0·220 × 0·083	...	5·58 × 2·09
Size of body.....	0·240 × 0·040	...	6·09 × 1·01

Antennæ slender, more than half the length of the entire body; joints of the scapus yellow; flagellar joints 2 to 4 times as long as broad, brown, broadly ringed with yellow in the middle, densely covered with a very short greyish pubescence. Front and vertex black or deep brown, with some golden-yellow hairs. Hypostoma and palpi black or deep brown, the terminal joints of the latter yellowish-brown. Thorax deep brown with a (sometimes indistinct) median testaceous or ochraceous stripe, and indistinct lateral stripes; densely covered with yellowish hairs; borders setiferous with black hairs; pleuræ, scutellum and metathorax deep brown, sometimes with an indistinct yellowish spot above the fore and intermediate coxæ. Halteres yellow, the club black. Abdomen slender, deep brown, rather densely clothed with brown or blackish hairs; forceps yellowish, tinged with brown, densely haired. Coxæ deep brown; femora, tibiæ and tarsi brownish-yellow. Tibial spurs yellow. In the fore-legs the tarsi more than twice the length of the tibiæ; the tibiæ and metatarsal joint of equal length. Wings pellucid, with numerous pale brown cloudings, darker brown over the marginal cell; posterior basal cell clear from its base to the base of the fifth longitudinal vein, where it meets an irregular clear fascia which broadens as it reaches the costa; an irregular clear fascia across the apex of the wing, from immediately beyond the tip of the first longitudinal vein; two or three clear streaks behind the fifth longitudinal vein, in the

posterior angle ; and a clear spot near the distal end of the anterior basal cell, another in the fork of the fifth longitudinal vein, and a third at the apex of the wing, beneath the tip of the third longitudinal vein ; veins brown. Auxiliary vein joining the costa a little beyond the distal end of the marginal cell ; sub-costal cross-vein situated opposite inner end of the marginal cell ; first longitudinal vein reaching the costa opposite the tip of the posterior branch of the fourth longitudinal vein ; marginal cell nearly twice as long as wide ; costal vein extending beyond the tip of the third longitudinal vein about $\frac{2}{7}$ the distance from that to the tip of the anterior branch of the fourth longitudinal vein ; posterior branch of the fork of the fifth longitudinal vein sinuated, a little more than half the length of the anterior branch ; sixth longitudinal vein not reaching as far as the base of the fork of the fifth longitudinal vein ; seventh longitudinal vein wanting.

Hab.—Gawler (Mrs. Kreusler), and Mount Lofty (J. G. O. Tepper), S. Australia ; *one specimen in Coll. S. Aust. Museum.* June.

Obs.—Only two specimens before me.

476. Stenophragma hirtipennis, sp.n.

♂.—Length of antennæ.....	0·070 inch	...	1·77 millimètres.
Expanse of wings.....	0·130 × 0·042	...	3·30 × 1·06
Size of body.....	0·140 × 0·020	...	3·35 × 0·50

Antennæ slender, longer than the head and thorax combined ; joints of the scapus yellow ; flagellar joints about 3 times as long as wide, yellowish-brown, densely covered with a minute pale pubescence. Front and vertex dark brown, with yellowish hairs. Hypostoma brown or yellowish-brown. Palpi dark brown. Thorax umber-brown, somewhat shining, covered with short golden-yellow hairs ; borders setiferous ; pectus ochreous-yellow ; scutellum and metanotum umber-brown. Halteres pale yellow, with deep brown or black club. Abdomen slender, dark brown, densely clothed with brown hairs ; forceps sordid yellowish-brown. Coxæ,

femora and tibiæ yellow ; tarsi brown. In the fore-legs the tarsi more than twice the length of the tibiæ ; the tibiæ and metatarsal joint of equal length. Wings nearly the length of the entire body, pellucid, with the following cloudings :—a greyish or very pale brownish cloud over the marginal cell, and another behind the posterior branch of the fifth longitudinal vein ; a very indistinct, scarcely visible fascia from the costa to basal portion of anterior branch of fifth longitudinal vein, and a greyish or pale brownish fascia across the wing from tip of first longitudinal vein to tip of anterior branch of the fork of the fifth longitudinal vein ; apex of wing clouded with greyish or pale brownish ; microscopical pubescence densely intermixed with short hairs ; veins brown. Auxiliary vein joining the costa somewhat before the distal end of the marginal cell ; sub-costal cross-vein situated somewhat before the inner end of the marginal cell ; first longitudinal vein reaching the costa opposite a point about mid-way between the tips of posterior branch of the fourth and anterior branch of the fifth longitudinal veins ; marginal cell very small, not square, wider anteriorly ; costal vein extending beyond the tip of the third longitudinal vein about $\frac{1}{6}$ the distance from that to the tip of the anterior branch of the fork of the fourth longitudinal vein ; posterior branch of the fork of the fifth longitudinal vein less than half the length of the anterior branch ; sixth longitudinal vein terminating a considerable distance before the base of the fork of the fifth longitudinal vein ; seventh longitudinal vein wanting or very rudimentary.

Hab.—Hogan's Brush, Narara Creek, near Gosford, N.S.W. (Skuse). August.

151. STENOPHRAGMA MERIDIANA, Sk.

Homaspis meridiana, Sk., l.c., p. 1192, pl. XXXI, figs. 9-9b.

SECTION III.

Sub-section VII.—MYCETOPHILINÆ.

A. *Three ocelli on the front.*

Genus Acrodicrania, Sk.

Acrodicrania, Sk., l.c., p. 1194, pl. xxxii., figs. 10-10a.

477. Acrodicrania angustifurca, sp.n.

♀.—Length of antennæ.....	0·045 inch	...	1·13 millimètres.
Expanse of wings.....	0·125 × 0·045	...	3·16 × 1·13
Size of body.....	0·120 × 0·020	...	3.04 × 0·50

Antennæ moderately slender, about the length of the head and thorax combined; joints of the scapus and base of the first flagellar joint yellow; flagellar joints brown, with a minute hoary pubescence. Hypostoma dark brown. Palpi yellow. Front dark brown or black. Thorax brown, more yellowish at the humeri, levigate, densely covered with long and short brown hairs; pleuræ and metathorax dark brown or blackish. Halteres clear yellow. Abdomen dark brown or black, the segments (? first two) with almost the anterior half yellow, clothed with brown or blackish hairs; lamellæ of the ovipositor deep brown. Coxæ and femora yellow, the hind femora deep brown or black at the apex; tibiæ yellowish-grey; tarsi dusky, the metatarsal joint lighter. Tibial spurs yellow; the lateral spines black. In the fore-legs the tibiæ $\frac{1}{3}$ longer than the metatarsal joint; the tarsi about $\frac{2}{3}$ longer than the tibiæ. Wings pellucid, with a very pale greyish tint; an indistinct fascia of pale brownish near the tip, immediately before the tip of the third longitudinal vein, disappearing before the posterior margin; veins dark brown. Auxiliary vein joining the costa before the inner end of the first posterior cell; first longitudinal vein joining the costa considerably beyond the base of the fork; the cross-vein opposite the latter; costal vein extending beyond the tip of the third longitudinal vein $\frac{1}{2}$ the distance from that to the tip of the anterior branch of the fork; fork of the fourth longitudinal vein rather narrow, the branches running almost parallel towards the tips; the tips pale; rudimentary sixth longitudinal vein and a short stump of seventh longitudinal vein present.

Hab.—Mossman's Bay (Skuse). September.

Obs.—Closely related to *A. fasciata*, Sk., but easily distinguished *inter alia* by the shape of the fork of the fourth longitudinal vein.

158. Acrodicrania atricauda, Sk.

A. atricauda, Sk., l.c., p. 1195, pl. xxxii., fig. 10.

Specimens have been received from the following additional localities :—Waterloo, Walcha, New England district, N.S.W. (J. F. Schofield), in June : Glass Mountains, Queensland (C. J. Wild), in September ; *specimens in Coll. Queensland Museum.*

160. Acrodicrania fasciata, Sk.

A. fasciata, Sk., l.c., p. 1198.

Very abundant in Sydney during June of the present year. Also, I have bred this species in numbers from decaying wood-débris in November. A single specimen was recently obtained at Benalla, Victoria (Helms).

Clastobasis, gen.nov.

Head roundish, flattened in the fore part, situated deep in the thorax ; front broad, the anterior border produced triangularly, the point between the joints of the scapus ; vertex high. Eyes oval. Ocelli large, the middle one smaller, situated almost in line with but somewhat behind the other two. Palpi prominent, four-jointed ; first joint small, second tolerably long and robust, third a little longer than the second, more slender, fourth very long and slender, about equal in length to the second and third combined. Antennæ slender, porrected, arcuated, 2-+14-jointed ; first joint of the scapus obconical, longer than the second, the second cupuliform, both setiferous at the apex ; flagellar joints cylindrical, progressively diminishing in thickness, with minute downy pubescence. Thorax ovate, highly arched, hairy ; lateral borders setiferous ; scutellum lunate, setiferous ; metanotum large, acclivous. Abdomen (of the ♀) seven-segmented, somewhat

flattened, narrowed at the base and towards the extremity; ovipositor short, thick, inconspicuous; legs long and slender; intermediate and hind femora moderately broad; tibiæ spurred, and with lateral spines; fore pair with some minute spines along the outer side, intermediate pair with two sparse rows of long spines on the outer and some very small spines on the inner side, hind pair with two sparse rows of long spines and a row of very short spines on the outer side; in the hind-legs the tibiæ and tarsi of about equal length. Wings a little longer than the entire body, moderately broad, with rounded off base; microscopically pubescent. Auxiliary vein moderately long, the apical two-thirds of its length very pale and indistinct, directed towards, but not reaching the costa; sub-costal cross-vein invisible; costal vein not extending beyond the tip of the third longitudinal vein, terminating considerably before the apex of the wing; inner end of first posterior cell situated opposite the middle of the first longitudinal vein; the distance from the inner end of the first posterior cell to the distal end of the anterior basal cell about $\frac{1}{3}$ longer than the distance from the latter to the tip of the first longitudinal vein; inner end of the second posterior cell situated a little before the distal end of anterior basal cell; the fork of fourth longitudinal vein with a tolerably long petiole, the branches somewhat convergent towards the tips, the anterior one reaching the margin much below the apex of the wing; anterior branch of the fifth longitudinal vein detached at its base, the base situated considerably before the inner end of the first posterior cell and opposite the tip of the auxiliary vein; sixth longitudinal vein long, incomplete; seventh longitudinal vein a mere stump.

Obs.—Allied to *Acrodicrania*, Sk., *Leia*, Meig., and *Ateleia*, Sk., but at once distinguished from each by the incomplete auxiliary vein, the length and shape of the second posterior cell, and by the costal vein not extending beyond the tip of the third longitudinal vein. The following described is remarkable for its party-coloured antennal joints.

478. Clastobasis Tryoni, sp.n. (Pl. xix., fig. 6.)

♀.—Length of antennæ.....	0·045 inch	...	1·13 millimètres.
Expanse of wings.....	0·135 × 0·045	...	3·42 × 1·13
Size of body.....	0·130 × 0·030	...	3·30 × 0·76

Antennæ slender, shorter than the head and thorax combined; joints of the scapus yellow; flagellar joints with the basal half white and the apical half black or deep brown, densely covered with a pale microscopic pubescence. Front ochreous or brownish-ochreous, with yellowish hairs; ocelli black, distinct, especially the lateral ones. Hypostoma and palpi yellow. Thorax ochreous or brownish-ochreous, somewhat shining, densely covered with yellowish hairs; lateral borders setiferous; pleuræ and scutellum ochreous or brownish-ochreous, the latter with two long brown setæ; metanotum tinged with brown. Halteres yellow. Abdomen ochraceous or yellowish-brown, the segments bordered posteriorly, sometimes also marked in the middle, with deep brown or black; densely covered with short brown hairs; genitalia inconspicuous. Legs long. Coxæ and femora ochreous; tibiæ and tarsi brownish- or greyish-ochreous; tibial spurs brownish-ochreous, the lateral spines brown. In the fore-legs the tarsi $2\frac{1}{2}$ times the length of the tibiæ; the tibiæ and the metatarsal joint of equal length. Wings longer than the abdomen, pellucid, with a pale yellowish tint, which is more pronounced anteriorly; brilliant reflections; veins yellowish-brown. Venation as described in the generic diagnosis.

Hab.—Brisbane, Queensland (H. Tryon); two specimens found on a window in March; *in Coll. Queensland Museum.*

B. *Three ocelli, one on the inner border of each of the compound eyes, the third one situated in the middle of the anterior border of the front.*

Genus Sceptonia, Winnertz.

Sceptonia, Winn., V. z.-b. G. Wien, XIII. p. 907, pl. xxi. fig. 33, 1863.

Head longish-round, flattened, situated deep in the thorax; front broad, the anterior border produced triangularly in the middle, the point reaching the base of the antennæ. Eyes small, round. Ocelli small, the middle one very small, situated in a depression at the base of the frontal triangle. Palpi porrected, arcuated, four-jointed, the first joint very small, the fourth the longest. Antennæ almost cylindrical, slender, arcuated, porrected, 2-+14-jointed; joints of the scapus cyathiform, setiferous at the apex; flagellar joints cylindrical, somewhat compressed from the side, with a short downy pubescence. Thorax longish-oval, arched, with the anterior border projecting a little over the head, and frequently forming with it an uninterrupted arcuated line; mesothorax with short hair, not setiferous, only some long hairs at the sides before and behind the origin of the wings; scutellum semi-circular, setiferous on the border; metathorax small, somewhat pointed. Abdomen of the ♂ with six segments, of the ♀ with seven segments, the seventh segment always retracted; short, broadly compressed from the side, strongly narrowed at the base, truncated at the extremity; anal segment of the ♂ very small, usually entirely withdrawn; ovipositor of the ♀ short, small, with two longish-oval lamellæ. Legs robust; coxæ and femora broad; tibiæ almost clavate, with strong spurs at the apex; fore tibiæ without lateral spines; intermediate tibiæ with a weak spine on the inner side; hind tibiæ with two rows of strong spines on the outer side; metatarsi of the hind legs spinulose. Wings longer than the abdomen, longish-oval, with broadly-cuneiform base, microscopically pubescent. Auxiliary vein incomplete, bent anteriorly, gradually disappearing; costal vein extending beyond the tip of the third longitudinal, terminating much before the apex of the wing; the third longitudinal vein arched, running almost parallel with the costa; the costa and first and third longitudinal veins lying close together; apex of anterior basal cell not situated beyond the middle of the petiole of the fourth longitudinal fork; anterior branch of the fifth longitudinal wanting, therefore no fork; sixth longitudinal vein wanting; seventh longitudinal very long.

479. Sceptonia ornatithorax, 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.....	0·100 × 0·021	...	2·55 × 0·52

Antennæ slender, nearly as long as the head and thorax taken together; joints of the scapus and base of first flagellar joint yellow; flagellar joints dusky brown, with a dense, somewhat hoary, pubescence. Head dark brown, yellow at the sides and anteriorly. Hypostoma and palpi yellow. Thorax yellow anteriorly with a median cuneate, translucent, shining brown, very slightly raised elevation, not extending half-way to the scutellum; hinder portion of thorax black with a large yellow spot laterally, immediately in front of the base of the wings; almost opaque; densely covered with very short, golden-yellow hairs; pleuræ yellow, with a black spot immediately before the origin of the wings, and tinged with brown above the coxæ; scutellum and metathorax black, the former with black setæ. Halteres yellow. Abdomen brown, the first segment entirely yellow and the following segments slightly bordered posteriorly with ochreous-yellow; densely clothed with brown hairs; venter yellow. Coxæ and femora pallid; in the hind-legs the coxæ deep brown or black at the base, and the femora margined behind with deep brown or black; anterior coxæ and all the femora densely covered with dark minute pubescence; tibiæ cinereous; tarsi black. Tibial spurs black. In the fore- and intermediate-legs the femora rather shorter and narrower than the coxæ; in the hind-legs rather broader and longer. Hind tibiæ twice the length of the fore pair; the latter about equal in length to the metatarsi of the fore-legs. Intermediate tibiæ with one, hind tibiæ with two rows of spines on the outer side. Metatarsi of the hind-legs spinulose. Wings pellucid, with a slightly yellowish tint; brilliantly iridescent; veins dark brown. Costal vein extending beyond the tip of the third longitudinal vein less than half the distance from that to the tip of the anterior branch of the fork; auxiliary vein very

short, bent anteriorly; petiole short, forming a straight line with the posterior branch of the fork; both branches apparently, but not quite, reaching the margin; fifth longitudinal vein straight, without a branch; seventh longitudinal vein nearly reaching the margin.

Hab.—Sydney (Skuse). A single specimen found on a window in June.

c. *Two ocelli, one on the inner border of each of the compound eyes.*

Genus Mycetophila, Meigen.

Mycetophila, Meig., l.c., p. 1211, pl. xxxii., figs. 15-15a.

480. Mycetophila nigriventris, sp.n.

♀.—Length of antennæ.....	0·073 inch	...	1·85 millimètres.
Expanse of wings.....	0·150 × 0·055	...	3·81 × 1·39
Size of body.....	0·150 × 0·035	...	3·81 × 0·88

Antennæ slender, longer than head and thorax taken together; joints of scapus and (sometimes) first flagellar joint yellow, both joints of scapus with short black bristles at the apex; flagellar joints brown. Hypostoma and front black, the latter with a yellow pubescence. Palpi yellow. Thorax brown, opaque, densely covered with brown and yellowish pubescence; black setæ laterally; pleuræ and metathorax black or deep brown; scutellum ochraceous, tinged with brown, with long black setæ. Halteres pale yellow. Abdomen much compressed from the sides, black, the last three or four segments sometimes slightly bordered posteriorly with ochraceous; densely clothed with yellowish hairs; ovipositor and terminal lamellæ brown. Legs robust. Coxæ, femora and tibiæ yellow; the hind femora slightly tipped with dark brown at the apex; tibiæ slightly more brownish-yellow than the preceding joints, the hind pair slightly tipped with dark brown at the apex; fore tibiæ with a few minute spines on the outer side, the intermediate with three ranges of long black spines, one on the inner and two on the outer side, and the hind pair with two ranges on

the outer side; tarsi brown. Tibial spurs deep brown or black. In the fore-legs the tarsi twice the length of the tibiæ, the latter somewhat longer than the metatarsal joint. Wings the length of entire body, pellucid, slightly yellow anteriorly; a small distinct brown spot between the first longitudinal vein and petiole of the fork of the fourth longitudinal, including the small cross-vein; a paler clouding between the tips of the costal and third longitudinal veins, extending backwards in the first posterior cell and reaching the anterior branch of the fork about the middle; basal portion of the fork indistinctly clouded; and lastly, one or two very indistinct clouds between the fourth and fifth longitudinal veins. Inner end of the second posterior cell opposite that of the sub-marginal; base of the fork of the fifth longitudinal vein situated opposite the inner end of second posterior cell; sixth longitudinal vein not reaching the base of the fork of the fifth longitudinal vein.

Hab.—Hogan's Brush, Narara Creek, Gosford, N.S.W. (Skuse), one specimen in August; Mount Kosciusko, N.S.W., 5000 ft. (Helms), March; *a single specimen in Coll. Australian Museum.*

Genus Delopsis, gen.nov.

Head somewhat longish-round, flattened, situated deep in the thorax; front broad, the anterior border produced triangularly in the middle, the point reaching the basal joints of the antennæ. Eyes oval. Ocelli two, large. Palpi prominent, incurved, four-jointed; first joint small, second robust, about two and a half times the length of the first, third slender, clavate, about the length of the first two combined, fourth very slender, clavate, the length of the first three combined. Antennæ porrected, arcuated, 2-+14-jointed; first joint of the scapus obconical, much longer than the second, the second cyathiform, setiferous at the apex; flagellar joints cylindrical, progressively diminishing in thickness, with a short downy pubescence. Thorax longish-ovate, gibbose, the anterior margin projecting somewhat over and closely applied

to the head (as in *Sceptonia*); densely covered with short longitudinally disposed hairs; setiferous about the origin of the wings; scutellum semi-circular, with long setæ; metanotum very short, steep, gibbose, almost hidden by the scutellum. Abdomen with six segments in both sexes; somewhat flattened; narrower than the thorax; narrowing at the base and apex; genitalia not conspicuous in either sex. Legs robust; coxæ broad; femora short, broadly flattened, especially the hind pair; tibiæ spurred, the fore pair without lateral spines, intermediate pair with three ranges of strong spines on the outer and one on the inner side, hind pair with three ranges of rather stronger spines on the outer side; intermediate and hind tarsi spinulose.. Wings about the length of the entire body, elongate, rounded off at the base; microscopically pubescent, the hairs not arranged in longitudinal rows. Auxiliary vein short, complete, bent anteriorly; costal vein not extending beyond the tip of the third longitudinal vein and not reaching the apex of the wing; small cross-vein situated much before the middle of the first longitudinal vein; petiole of the second posterior cell very short, equal in length to cross-vein; inner end of second posterior cell acute, situated opposite inner end of submarginal cell; fork of the fifth longitudinal vein very long, narrow, acute at the base, with the branches straight, its inner end situated before the middle of the anterior basal cell; sixth longitudinal vein short, incomplete; seventh strong, complete.

Obs.—Allied to *Mycetophila*, Meig.; differing in the shape of the thorax and in the venation of the wings, and at once distinguished by the length of the fork of the fifth longitudinal vein and the complete seventh longitudinal vein.

481. DELOPSIS FLAVIPENNIS, sp.n. (Pl. XIX., fig. 7).

♂.—Length of antennæ.....	0·050 inch	...	1·27 millimètres.
Expanse of wings.....	0·120 × 0·045	...	3·04 × 1·13
Size of body.....	0·120 × 0·035	...	3·04 × 0·88

♀.—Length of antennæ.....	0·060 inch	...	1·54 millimètres.
Expanse of wings.....	0·130 × 0·045	...	3·30 × 1·13
Size of body	0·150 × 0·037	...	3·81 × 0·90

♂ and ♀.—Antennæ slender, nearly as long as the head and thorax combined; joints of scapus brownish-yellow, minutely pubescent, somewhat setose at the apex; flagellar joints brown, microscopically pubescent, progressively decreasing in thickness and slightly increasing in length. Hypostoma and front ochreous-brown, the latter somewhat shining, densely covered with minute pubescence. Palpi yellow. Thorax dark brown, or black, levigate, ochreous or ochreous-brown anteriorly and at the humeri; densely covered with very short yellowish-brown hairs; pleuræ dark brown, ochraceous or ochreous-brown above the fore-coxæ, and before and beneath the origin of the wings; scutellum tinged with ochraceous, with long black setæ; metanotum dark brown or black. Halteres yellow. Abdomen brown, with a somewhat silky gloss, the segments appearing ochraceous-brown bordered posteriorly with deep brown when viewed at a certain obliquity; densely clothed with brown decumbent hairs; venter and genitalia ochreous or ochreous-brown. Legs robust. Coxæ and femora ochreous; the base of the hind coxæ dark brown; and the hind femora with the outer margin tinged with brown; tibiæ brownish-ochreous, with brown spurs and spines; tarsi brown, blackish towards the extremity. In the fore-legs the tarsi three times the length of the tibiæ; the metatarsal joint nearly $\frac{1}{6}$ longer than the tibiæ. Wings pellucid, with a yellowish tint; brilliant opaline reflections; veins dark brown. Small cross-vein at one-third the length of the first longitudinal vein; branches of both forks straight and gently divergent; the inner end of the fork of the fifth longitudinal vein situated before the middle of the anterior basal cell; sixth longitudinal vein incomplete, terminating a little beyond the inner end of the fork of the fifth longitudinal vein; seventh longitudinal vein strong, complete.

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

Genus Dynatosoma, Winnertz.

Dynatosoma, Winn., V. z. b. G. Wien, XIII., p. 947, pl. xxi., fig. 37, 1863.

Head, on account of the height of the vertex, somewhat longish-round, flattened anteriorly, situated deep in the thorax; front broad, the anterior margin not triangularly produced. Eyes somewhat longish-round. Ocelli large. Palpi porrected, incurved, four-jointed; the first joint small, the second and third almost equally long, the fourth filiform, as long as or longer than the second and third combined. Antennæ almost cylindrical, somewhat arcuated, porrected, 2-+14-jointed; joints of the scapus cyathiform, setiferous at the apex; flagellar joints cylindrical, a little compressed from the side, with short downy pubescence. Thorax oval, highly arched, with a short pubescence, longer hair on the lateral borders and above the fore-coxæ, setiferous on the hind border; scutellum semi-circular, setiferous on the border; metathorax acclivous, somewhat arched. Abdomen of the ♂ with six segments, of the ♀ with seven segments, compressed from the side, narrowed at the base; anal segment of ♂ terminating in a forceps; ♀ ovipositor with two small lamellæ. Legs robust; femora, especially the hind ones, broadly compressed; tibiæ spurred; the fore pair with a short spine on both the inner and the outer side; the hind pair with three rows of stronger spines on the outer side and one row of weaker spines on the inner side, or else with only one or two stronger spines on the inner side; hind tarsi spinulose. Wings longer than the abdomen, longish-oval, base rounded off, microscopically pubescent. Auxiliary vein running parallel with the first longitudinal vein, and bent downwards into it; costal vein not extending beyond the tip of the third longitudinal vein; small cross-vein situated before the middle of the first longitudinal vein, and before or over the base of the fork of the fourth longitudinal vein; branches of the fifth longitudinal not convergent, the base of the fork opposite or beyond the base of the fork of the fourth longitudinal vein; sixth longitudinal very stout, long, broken off under the fork of the fifth longitudinal; seventh longitudinal short.

482. DYNATOSOMA SYDNEYENSIS, sp.n. (Pl. XIX., fig. 8).

♀.—Length of antennæ.....	0·045 inch	...	1·13 millimètres.
Expanse of wings.....	0·130 × 0·045	...	3·30 × 1·13
Size of body.....	0·150 × 0·030	...	3·30 × 0·76

Antennæ slender, as long as the head and thorax taken together; joints of the scapus and base of first flagellar joint ochraceous; flagellar joints brown, longer than broad, with a hoary pubescence. Front ochreous-brown. Hypostoma and palpi pale yellow. Thorax ochreous-brown, opaque, densely and evenly covered with minute black hairs; borders setiferous; pleuræ ochreous with brown callosities; scutellum brown or brownish, with two black setæ; metanotum light brownish or ochreous-brown. Halteres pallid or pale ochreous, with a brownish club. Abdomen deep brown or black, the segments bordered posteriorly with ochreous, densely clothed with short black hairs; anal segment deep brown or black; lamellæ of the ovipositor elongate, brown. Coxæ and femora ochreous or pale ochreous, the femora infuscated with brownish beneath on the basal half; tibiæ cinereous or brownish; tarsi black. Tibial spurs black. Intermediate tibiæ with a row of small spines on the outer side; hind tibiæ with two rows of strong spines on the outer side. In the fore-legs the tarsi nearly three times the length of the tibiæ; the metatarsal joint very slightly longer than the tibiæ. Wings pellucid, with a yellowish tint, brilliantly iridescent; veins dark brown. Auxiliary vein very short, distinct, ending in the first longitudinal vein; petiole of the fork very short; the branches of the latter indistinct at the wing margin; inner end of the second posterior cell opposite that of the marginal cell; fork of the fifth longitudinal vein divaricate but narrow, its base opposite the inner end of the first posterior cell; sixth longitudinal vein short, terminating opposite the middle of the anterior basal cell.

Hab.—Sydney (Skuse). Five specimens in June.

Obs.—This species seems to differ from the typical European species *D. fuscicornis*, Meig., and *D. nigricoxa*, Zett., principally

in not having spines on the anterior tibiæ, and in the shortness of the auxiliary and sixth longitudinal veins; but these differences are of minor importance.

Genus Brachydicrania, Sk.

Brachydicrania, Sk., l.c., p. 1215, pl. xxxi., figs. 16-16a.

483. Brachydicrania fascipennis, sp.n. (Pl. xix., fig. 9).

♂.—Length of antennæ.....	0·045 inch	...	1·13 millimètres.
Expanse of wings.....	0·110 × 0·040	..	2·79 × 1·01
Size of body.....	0·130 × 0·025	...	3·30 × 0·62
♀.—Length of antennæ.....	0·045 inch	...	1·13 millimètres.
Expanse of wings.....	0·130 × 0·045	...	3·30 × 1·13
Size of body.....	0·150 × 0·027	...	3·81 × 0·68

♂ and ♀.—Antennæ slender, as long as the head and thorax combined; joints of the scapus and base of first flagellar joint yellow, with short brown hairs; flagellar joints dusky brown, with a minute hoary pubescence. Front and hypostoma dusky brown, the former with a minute yellowish pubescence. Palpi yellow. Thorax brown, almost opaque, more or less distinctly tinged with ochreous on the margins; densely covered with minute brown or blackish hairs; indistinctly traversed by two convergent, single, sparse rows of black hairs; borders setiferous; pleuræ ochreous, with brown callosities; scutellum and metanotum brown. Halteres pale ochreous or whitish, the club brown (except at the tip). Abdomen deep brown or black, covered with brown hairs; the first segment usually narrowly bordered posteriorly with pale yellowish or whitish; the first and second bordered laterally beneath with yellow; and the third to last usually marked with a more or less distinct triangular yellow spot laterally, more distinctly in the ♀ than in the ♂; genitalia yellowish-brown. Coxæ and femora pale ochreous or whitish; the hind coxæ with a small, more or less distinct, brownish streak

beneath, and the posterior two pairs with a very small brown spot laterally at the apex; tibiæ cinereous; tarsi and tibial spurs black. In the fore-legs the tarsi three times the length of the tibiæ; the metatarsal joint somewhat longer than the tibiæ. Wings pellucid, with a fascia across the middle, and the apex pale brownish; brilliantly iridescent; veins dark brown. First longitudinal vein joining the costa opposite a point before the tip of the posterior branch of the fork of the fourth longitudinal vein; tips of the branches of the latter and the anterior branch of the fork of the fifth longitudinal vein pale; sixth longitudinal reaching nearly to the base of the fork of the fifth.

Hab.—Sydney and Hogan's Brush, Narara Creek, near Gosford, N.S.W. (Skuse). June to August. Fifteen specimens.

171. Brachydicrania fumosa, Sk.

B. fumosa, Sk., l.c., p. 1218.

In fresh specimens the thorax and abdomen are black, the third to sixth abdominal segments being more or less distinctly marked anteriorly at the sides with ochreous.

172. Brachydicrania abbreviata, Sk.

B. abbreviata, Sk., l.c., p. 1219.

Sydney (May to December), numerous specimens (Skuse); Dunoon, Richmond River, N.S.W. (Helms), in March and April. The ochreous markings beneath the segments vary considerably.

Genus Synplasta, gen.nov.

Head roundish, the fore part compressed, situated deep in the thorax; front broad, the anterior border only very slightly produced in the middle. Eyes longish-round. Ocelli two, tolerably large. Palpi prominent, incurved, four-jointed; first joint very small; second short, robust; third about twice the length of the second; fourth very slender, about equal in length to all the others combined. Antennæ porrected, somewhat arcuated, 2-+14-jointed; joints of scapus cupuliform, the second slightly larger

than the first, somewhat setiferous at the apex; flagellar joints somewhat compressed from the side, densely covered with a minute downy pubescence. Thorax ovate, highly arched, densely covered with a short pubescence; lateral and hind borders setiferous; scutellum semi-circular, setiferous; metathorax steep. Abdomen slender, in the ♂ with six, in the ♀ with seven segments; narrowed at the base; sub-cylindrical, a little compressed from the side; anal joint of the ♂ large; ♀ ovipositor short, with two elongate lamellæ. Legs long and slender; intermediate and hind femora rather broadly compressed; tibiæ spurred, and having lateral spines; fore pair without spines, intermediate pair with a range of small spines on the outer side, hind pair with two ranges of tolerably long spines on the outer side; metatarsus of the hind tarsi with minute prickles. Wings longer than the abdomen, oblong, with moderately rounded base, microscopically haired in longitudinal rows.* Auxiliary vein very short, bent posteriorly, ending in the first longitudinal vein; costal vein extending slightly beyond the tip of the third longitudinal vein; cross-vein situated before the middle of the first longitudinal vein; second posterior cell with a short petiole, its inner end situate opposite that of the submarginal cell; tips of the fourth longitudinal fork somewhat divergent, especially the anterior branch; branches of the fifth longitudinal fork arcuated, the tips not divergent; the fork narrow, its inner end situated a little before that of the second posterior cell; sixth longitudinal vein long, incomplete; seventh longitudinal stout, long, and incomplete.

Obs.—Allied to *Brachydicrania*, Sk., but distinguished from it chiefly by the complete auxiliary vein and the length of the fork of the fifth longitudinal vein.

484. SYNPLASTA ANNULIVENTRIS, sp.n. (Pl. XIX., fig. 10.)

♂.—Length of antennæ.....	0·055 inch	...	1·39 millimètres.
Expanse of wings.....	0·125 × 0·047	...	3·16 × 1·18
Size of body.....	0·150 × 0·030	...	3·81 × 0·76

* As in *Mycetophila* and *Brachydicrania*.

♀.—Length of antennæ.....	0·050 inch	...	1·27 millimètres.
Expanse of wings.....	0·125 × 0·047	...	3·16 × 1·18
Size of body.....	0·150 × 0·030	...	3·81 × 0·76

♂ and ♀.—Antennæ slender, as long as the head and thorax combined; joints of the scapus yellow; flagellar joints progressively diminishing in thickness, brown, with a minute hoary pubescence. Front yellowish-brown. Hypostoma and palpi pale yellow. Thorax yellowish-brown, opaque, densely covered with short brown hairs; lateral borders with black setæ; pleuræ ochreous, with brownish callosities; scutellum and metanotum brown or yellowish-brown, the former with black setaceous hairs. Halteres yellow, with brownish club. Abdomen dark brown, all the segments bordered posteriorly with yellow; clothed with dark brown or black hairs; ♂ forceps brownish-ochreous, densely beset with black hairs; ♀ ovipositor and lamellæ brown. Legs long and slender. Coxæ and femora yellow, the latter slightly darker on account of a microscopic pubescence; femora yellowish-cinereous, with brown spurs and black spines; tarsi black or blackish. In the fore-legs the tarsi three times the length of the tibiæ; the metatarsal joint a little longer than the tibiæ. Wings pellucid, with a yellowish tint; brilliantly iridescent; veins brown. First longitudinal vein joining the costa considerably before the tip of the posterior branch of the fork of the fourth longitudinal vein; petiole of the fork very short; inner end of the second posterior cell situated opposite that of the submarginal cell; tips of the branches of the fork of the fifth longitudinal vein not divaricate; the fork narrow, arcuated, its inner end situated a little before that of the second posterior cell, and about opposite the middle of the cross-vein; sixth longitudinal vein reaching beyond the base of the fork of the fifth longitudinal vein; sixth longitudinal vein stout, incomplete.

Hab.—Berowra, N.S.W. (Masters and Skuse). September.

Fam. SIMULIDÆ.

Genus Simulium, Latreille.

Simulium, Latr., l.c., p. 1364, pl. xxxix., figs. 1-1b.

485. Simulium ornatipes, sp.n.

♂.—Length of antennæ.....	0·017 inch	...	0·42 millimètre.
Expanse of wings.....	0·105 × 0·050	...	2·67 × 1·27
Size of body.....	0·090 × 0·030	...	2·27 × 0·76
♀.—Length of antennæ.....	0·017 inch	..	0·42 millimètre.
Expanse of wings.....	0·120 × 0·055	. .	3·04 × 1·39
Size of body..... ..	0·100 × 0·035	...	2·54 × 0·88

♂.—Antennæ short, black or dark brown, lighter towards the tip, covered with a microscopic hoary pubescence; the joints of the scapus usually fulvous, sometimes brown or black; 2 + 9-jointed; first flagellar joint larger than the second joint of the scapus; the next seven joints short; terminal joints narrower, ovate. Eyes, proboscis and palpi black; face hoary, with a silvery-white pubescence. Thorax velvety-black, with two indistinct lines, the lateral margins, a large patch at the humeri, and the posterior portion, covered with shining silvery and golden pubescence; pleuræ and metanotum black; squama behind the halteres densely fringed with long golden-yellow hairs; scutellum covered with silvery and golden pubescence. Halteres pale fulvous or ochreous, the stem brown. Abdomen black, anterior segments sparingly covered, and the last two or three margined posteriorly, with golden pubescence. Fore coxæ yellow, the intermediate and hind pairs yellow, black at the apex, with golden-yellow or silvery pubescence; tibiæ yellow in the middle, black at the base and apex, with golden pubescence; tarsi black, the basal half of the metatarsal and second joint in the hind-legs usually yellow. In the hind-legs the metatarsus robust, longer than the remaining joints of the tarsi. Wings longer than the entire body, hyaline,

with violaceous reflections; costa, first two longitudinal veins and cross-vein brownish, the rest pale. Venation normal.

♀.—Differs from the ♂ as follows:—Head and front with a silvery-white pubescence. Thorax covered with silvery-white pubescence, with three short, broad, dark stripes, the intermediate one traversed by a fine median silvery or golden line. Abdomen tolerably densely covered with silvery-white pubescence.

Hab.—Waterloo Swamps, near Sydney (Skuse), in June; near Louth, Darling River, N.S.W. (Helms), *several specimens in Coll. Australian Museum.*

Obs.—This is the second species of the genus described from Australia. It is at once distinguished from *S. furiosum*, Sk., by the number of joints to the antennæ, the clothing of the body and the coloration of the legs.

Fam. BIBIONIDÆ.

Genus Bibio, Geoffroy.

Bibio, Geoff., l.c., p. 1366, pl. xxxix., fig. 2.

174. Bibio imitator, Walker.

Bibio imitator, Walk., l.c., p. 1368, p. xxxix, fig. 2, ♂.

Occurs also in Queensland Botanical Gardens, Brisbane (H. Stokes); *specimen in Coll. Queensland Museum.*

To the synonymy of this species must be added *B. elegans*, Jænnicke (Abh. Natur. Ges. VI., p. 317, 1867), of which I have now seen the description.

I have bred specimens of this species in considerable numbers from earth during the month of September.

Genus Plecia, Wiedemann.

Plecia, Wied., l.c., p. 1371, pl. xxxix., figs. 3-6.

I. The anterior branch of the third vein originating near the small cross-vein, and running alongside the posterior branch; body black, the disk of the thorax alone more or less reddish.

486. Plecia melanaspis, Wiedemann.

Penthetria melanaspis, Wied., Auss. Zwf., I., p. 72, 1828; *Crapitula Motschulskii*, Gimmerth., Bull. de Moscou, 1845; *Plecia ignicollis*, Walk., List Dipt. Brit. Mus., I., p. 116, 1848.

♂.—Length of antennæ.....	0·042 inch	...	1·06 millimètres.
Expanse of wings.....	0·350 × 0·135	...	8·88 × 3·42
Size of body.....	0·300 × 0·060	...	7·62 × 1·54

Antennæ short, rather longer than the head, tolerably stout, 2-+11-jointed, the last flagellar joint small, nipple-shaped; black, with minute hairs. Head, eyes, and palpi black. Thorax black, the posterior two-thirds of the disk reddish-fulvous. Halteres black. Abdomen black, pubescent. Legs black, shining, with a black pubescence; the femora of the hind-legs somewhat dilated towards the tip. Wings brown, ample; stigma not noticeable; veins dark brown. Auxiliary vein joining the costa beyond the proximal end of the first posterior cell; anterior branch of the third longitudinal vein originating close to the small cross-vein, running parallel with the posterior branch for the greater part of its length, and joining the costa considerably beyond the tip of the first longitudinal vein; small cross-vein almost opposite, but slightly beyond, the inner end of second posterior cell; middle cross-vein short, situated very much nearer the base of the fork of the fifth longitudinal vein than to the inner end of the second posterior cell; sixth longitudinal vein complete.

Hab.—N.S.W. A single specimen in the collection of the late Mr. W. S. Macleay.

Obs.—Baron Osten-Sacken (Ann. Mus. Genov., XVI., p. 9, 1881) points out Loew's assertion (Berl. Ent. Zeits., II., p. 106, 1858) that *Crapitula Motschulskii* occurs in the greater part of Asia and in European Russia. *Plecia melanaspis*, Wied., was first described from Java, from whence it has since been obtained by Prof. Beccari. A specimen in the Macleay collection from Nepaul cannot in my opinion be separated from this species.

II. The anterior branch of the third vein originating a long distance beyond the small cross-vein, and short and oblique.

183. Plecia fulvicollis, Fabricius.

P. fulvicollis, Fab., Syst. Antl. 1805; Wiedemann, Auss. Zwf., I., p. 73, 1828; *P. dorsalis*, Walker, Journ. Proc. Linn. Soc. Lond., I., p. 5, 1857; *P. amplipennis*, Sk., Proc. Linn. Soc. N.S.W., III., p. 1372, pl. xxxix., fig. 3, 1888.

I now believe my *P. amplipennis* to be the same as *P. fulvicollis*, Fab. This species has already been recorded from Sumatra, Java, Ternate, Celebes, Yule Island, and New Guinea. The specimens from which my description was taken were collected in Northern Queensland, while a few others, which seem to exhibit some scarcely important variations, came from New Hebrides and New Guinea.

186. Plecia dimidiata, Macquart.

P. dimidiata, Macq., Proc. Linn. Soc. N.S.W., III., p. 1377, pl. xxxix., fig. 6, ♂, 1888.

Additional localities for this species may be recorded :—Benalla, Victoria (Helms), in November; South Australia (J. G. O. Tepper), *specimens in Coll. S. Aust. Museum ;* Brisbane (Dr. J. Bancroft), Ashgrove, Brisbane, and Hamilton, Upper North Pine, Queensland (C. J. Wild), *several specimens in Coll. Queensland Museum.*

The specimens from Hamilton, Upper North Pine, Q., differ in having the thorax opaque instead of nitidous, and the antennæ seem to be 2-+7-jointed, but these differences, unsupported by any others, do not appear to me to be of specific significance.

Genus Dilophus, Meigen.

Dilophus, Meig., l.c., p. 1378, pl. xxxix, figs. 7-8.

487. Dilophus varipes, sp.n.

♂.—Length of antennæ.....	0·015 inch	...	0·38 millimètre.
Expanse of wings	0·150 × 0·060	...	3·81 × 1·54
Size of body.....	0·180 × 0·037	...	4·56 × 0·90

Antennæ very short, black, 2-+8-jointed. Head, eyes, proboscis and palpi black. Proboscis very short. Thorax entirely black, nitidous, with two longitudinal single rows of tolerably long black hairs; two ranges of rather weak prothoracic spines. Halteres dark brown or black. Abdomen slender, black, nitidous, clothed with tolerably long black hairs. Coxæ and femora black, nitidous; tibiæ dark brown or black, testaceous at the base; fore and intermediate tarsi black, the hind pair testaceous. Fore femora a little shorter than and twice as broad as the intermediate pair, about half the length of the hind pair; the latter slender at the base, with the apical two-thirds fusiform. Fore and intermediate tibiæ short, slender, about the same length as their respective femora; hind pair long, claviform; fore pair with three or four spines in front, immediately before the middle, and a coronet of spines at the apex. In the hind-legs the first four tarsal joints enormously dilated, the first joint about as wide as the apex of the femora, the rest progressively decreasing in size. Wings shorter than the entire body, pellucid, almost hyaline, with a slightly yellowish tint; stigma prominent, brown; costal, first two longitudinal veins and cross-vein brown, the rest paler; brilliant reflections. Costal vein extending beyond the tip of the third longitudinal vein, rather less than half way from that to the tip of the anterior branch of the fork; auxiliary vein long, pale, joining the costa immediately beyond the cross-vein; sub-costal cross-vein indistinct, situated opposite the base of the fork of the fifth longitudinal vein; tip of the first longitudinal vein enveloped in the stigma, disappearing before reaching the costa; middle cross-vein situated at or before the base of the fork of the fourth longitudinal vein; sixth longitudinal vein long, indistinct, not reaching the wing-border.

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

Obs.—At first sight this species appears most like *D. longirostris*, Macq., but the short rostrum will at once distinguish it.

488. Dilophus lecticollis, sp.n.

♀.—Length of antennæ..... 0·016 inch ... 0·40 millimètre.
Expanse of wings..... 0·180 × 0·070 ... 4·56 × 1·77
Size of body..... 0·180 × 0·037 ... 4·56 × 0·90

Antennæ very short, 2- + 9-jointed ; joints of scapus greyish ; flagellar joints black. Head, eyes, proboscis and palpi black. Proboscis short. Thorax brownish-testaceous, nitidous, with yellow hairs ; pectus and metanotum tinged with blackish ; two ranges of prothorax spines. Halteres dark brown or black, the stem yellowish. Abdomen very dark brown or black, shining, the incisions ochreous ; clothed with yellow hairs ; lamellæ of the ovipositor black. Legs testaceous, the fore tibiæ and tarsi, last three or four joints of the intermediate tarsi and last joint of the hind tarsi brown. Fore femora short, dilated, about same size as fore coxæ, half the length of hind femora ; the latter slender at the base, with the apical two-thirds fusiform. Fore and intermediate tibiæ short, of about equal length ; hind pair long, slender at the base, claviform ; the fore tibiæ with four prominent spines in front before the middle, and a coronet of the same at the apex. Tarsi slender, somewhat thicker in the hind-legs. Wings as long as the entire body, pellucid, almost hyaline ; stigma prominent, brown ; costal, first two longitudinal veins, the cross-vein and base of fourth longitudinal vein brown, the rest paler ; brilliant reflections. Costal vein extending beyond the tip of the third longitudinal vein half way from that to the tip of the anterior branch of the fork ; auxiliary vein long, yellow, joining the costa opposite the distal end of the cross-vein ; sub-costal cross-vein indistinct, situated somewhat before the base of the fork of the fifth longitudinal vein ; tip of the first longitudinal vein enveloped in the stigma, appearing to reach the costa ; middle cross-vein situated at the base of the fork of the fourth longitudinal vein ; sixth longitudinal vein long, not reaching the wing-border.

Hab.—Waterloo, Walcha, New England, N.S.W. (J. F Schofield). May.

489. Dilophus desistens, Walker.

D. desistens, Walk., Trans. Ent. Soc. Lond. (n.s.), Vol. V., p. 332, 1861.

"♀.—*Nigra abdomine sub-tuberculata, pedibus testaceis, femoribus tibiis tarsisque apice nigris, coxis femoribusque anticis dilatatis, his sub-spinosis, alis albidis, venis albis, stigmate pallide fusco, halteribus testaceis.*"

"Black; abdomen tuberculated; legs testaceous; femora, tibiæ and tarsi with black tips; fore coxæ and fore femora dilated, the latter minutely spinose; wings whitish; veins white; stigma pale brown; halteres testaceous.

"Length of the body $1\frac{3}{4}$ lines; of the wings 3 lines.

Hab.—"New South Wales."

Obs.—This description was overlooked by me until recently; and Walker does not mention the species in his "Notes" published in 1874. The above-described does not appear, from the description, to be identical with any known species, but may possibly be the same as *D. pictipes*, Sk.

Genus Scatopse, Geoffroy.

Scatopse, Geoff., l.c., p. 1382, pl. xxxix., figs. 9-10.

189. Scatopse notata, Linnæus.

Tipula notata, Linn., Faun. Suec., 1773 (1761); Fabricius, Ent. Syst., IV., 1794; *Hirtea albipennis*, Fab., Suppl., 1798; *S. notata*, Meigen, Syst. Beschr., I., p. 300, 1818; *S. punctata*, Meig., l.c., p. 301; *S. notata*, Zett., Ins. Lapp., 1828; Macquart, S. à B. Dipt., I., p. 181, 1834; Loew, Linn. Entom., I., p. 325, pl. iii., fig. 1, 1846; Walker, Ins. Brit., III., p. 141, 1856; *S. longipennis*, Sk., P.L.S.N.S.W., III. (Ser. 2nd), p. 1383, pl. xxxix., fig. 9, 1888.

Obs.—"I agree with you in thinking that your *Scatopse longipennis* is the same as the common European *S. notata*. I have received numerous specimens from New Zealand, which I cannot, distinguish from *S. notata*. They are probably imported in ships." —Osten-Sacken, *in litt.*, 18th May, 1889.

190. SCATOPSE FENESTRALIS, Sk.

S. fenestralis, Sk., l.c., p. 1384, p. xxxix., fig. 10, ♀.

Originally described from N.S.W. Several specimens were recently received from Brisbane, Queensland (J. C. Wild and F. Allbon); *in Coll. Queensland Museum.*

490. SCATOPSE RICHMONDENSIS, sp.n. (Pl. XIX., fig. 11.)

♀.—Length of antennæ.....	0·016 inch	...	0·40 millimètre.
Expanse of wings.....	0·080 × 0·035	...	2·02 × 0·88
Size of body.....	0·090 × 0·017	...	2·27 × 0·42

Antennæ short, 2-+8-jointed, longer than the head, black, densely covered with minute hairs. Head black, levigate, with microscopic pubescence. Eyes bronzy black. Palpi yellow. Thorax black, nitidous, densely covered with microscopic pubescence; pleuræ, pectus, scutellum and metanotum black. Halteres black. Abdomen black (the incisions pale) sub-nitidous, densely covered with minute hairs. Coxæ, femora and tibiæ black; the tarsi pale yellow. Fore coxæ and femora considerably dilated, the latter short. Wings pellucid, with a somewhat greyish tint, brilliantly iridescent; the costal and first two longitudinal veins dark brown, the rest pale. First longitudinal vein joining the costa at a point $\frac{3}{4}$ the distance from the base of the wing to the tip of the second vein; the latter joining the costa before the middle of the wing; cross-vein small; costal vein extending very slightly beyond the tip of the second vein; petiole a little arcuated at the base, considerably shorter than the posterior branch of the fork; anterior branch bent anteriorly at the tip, reaching the margin before the apex of the wing; posterior branch not reaching the margin; base of the fork situated a little beyond the middle of the wing; wing-fold and following vein almost straight and parallel, not reaching the margin; the last longitudinal vein strongly bisinuate, also not reaching the margin.

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

EXPLANATION OF PLATE.

Plate xix.

Fig. 1. Wing of *Lygistorrhina insignis* (♀).

Fig. 2. Head of *Lygistorrhina insignis* (viewed from above); with mouth-parts displayed.

Fig. 3. Wing of *Sciophila Richmondensis.*

Fig. 4. ,, *Neoempheria signifera.*

Fig. 5. ,, *Stenophragma picticornis.*

Fig. 6. ,, *Clastobasis Tryoni.*

Fig. 7. ,, *Delopsis flavipennis.*

Fig. 8. ,, *Dynatosoma Sydneyensis.*

Fig. 9. ,, *Brachydicrania fascipennis.*

Fig 10. ,, *Synplasta annuliventris.*

Fig. 11. ,, *Scatopse Richmondensis.*