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*A Revision of the Asilidæ of Australasia.*  
By GERTRUDE RICARDO.

IN a collection of Diptera sent me several years ago by Mr. French from the Melbourne Museum, for determination, were a certain number of Asilidæ. In attempting to name them I found great confusion in the nomenclature of the species, and of their generic place, from Australia. The following paper is an attempt to clear up some of these errors, but no doubt there will still be much to revise when more material is available. The majority of the old species were described by Macquart and Walker, who both worked at about the same time—Walker from 1849–1856 and Macquart from 1838–1855; in consequence there are very

many synonyms between these two authors. Since then a few species have been described by Schiner and Thompson, and a few older ones were described by Wiedemann and Fabricius.

Most of Macquart's species have been seen by me in the Paris Museum through the kindness of M. Bouvier, and in especial of M. Surcouf, and compared with Walker's species in the Brit. Mus. Coll.

The pagination here used for Macquart's Dipt. Exot. is that of the original work, first published in Mém. Sci. Agri. et Arts de Lille, 1838–1855; the one usually used is unfortunately that of the reprint, which did not retain the original pagination. Priority is given to Macquart's names over those of Walker as a rule, as the descriptions appear the best. Williston and Hine are followed in placing the genus *Leptogaster* in a separate subfamily and in the arrangement of the subgenera of *Asilus*.

The species from Australia, New Zealand, and Tasmania only, are described; those from other parts of the Australasian Region are, as a rule, merely given with their references. Judging from Walker's species, not many of the species of the continent extend beyond it.

All types are in the British Museum Coll. unless otherwise specified.

#### Asilidæ.

- |  |                       |
|--|-----------------------|
| 1. Marginal cell of wings open .....   | 2.                    |
| Marginal cell of wings closed.....   | 3.                    |
| 2. Antennæ with a slender terminal arista. Very slender species .....                          | <i>Leptogastrinæ.</i> |
| Antennæ with no slender terminal arista, but with or without a terminal style or bristle ..... | <i>Dasypogoninæ.</i>  |
| 3. Antennæ with a terminal bristle .....   | <i>Asilidæ.</i>       |
| Antennæ usually without a terminal bristle .....   | <i>Laphrinæ.</i>      |

#### LEPTOGASTER, Meigen.

Illiger's Magazine f. Ins. ii. p. 269. 53 (1803).

*Gonyptes*, Latr. Hist. Nat. d. Crust. et d. Ins. xiv. p. 309. 477 (1804).

The following species are recorded from Australasia:—

- 1 species according to White { *Leptogaster geniculatus*, Macq., Dipt. Exot. Suppl. 4, p. 400, pl. ix. fig. 6 (1849). [*Leptogaster pedanius*, Walker, List Dipt. ii. p. 484 (1849), et vii. Suppl. 3, p. 774 (1855).]
- Leptogaster antipoda*, Bigot, Ann. Soc. Entom. France, (5) viii. p. 445 (1878).

*atumnalis* White To these are here added three new species—*L. australis*, *bancrofti*, *dissimilis*.

*sumipennis* " *Leptogaster geniculatus*, Macq.  
*ternalis* " *Leptogaster pedanius*, Wlk.

*occidentalis* " Macquart's type seen in Paris Museum, 12. 1. 11, a male from Tasmania.

*S. Tasmania* p. 150 (1916)

Walker's type a male from New South Wales.

In Brit. Mus. Coll. are females and a male from Burpengary, S. Queensland (*T. L. Bancroft*), 1904.

A small species, with clear wings, yellowish legs, thorax and abdomen black.

Length 9–10 mm.

In Macquart's type the *legs* are somewhat darker than in those of Walker's type. The first two joints of the *antennæ* in Macquart's type are reddish, not black as stated, and the small transverse vein of the *wing* is in the middle of the discal cell, not very near the base as shown in figure.

Macquart's description is as follows:—

Length 5 lines. ♂.

Palpi with white hairs. Beard and moustache white; face with yellowish tomentum. Forehead brown. Antennæ: the first two joints black (in reality reddish), the third wanting. Abdomen: anterior and posterior borders of segments ash grey. Legs fawn-coloured, with coxæ grey; some black colour on the anterior and middle legs; posterior legs wanting. Wings clear. From Tasmania.

To this the following particulars may be added:—*Thorax* greyish, with three black short stripes. Knees of *legs* narrowly black, apices of tarsi also black; bristles on the last four tarsi and on the apex of the first hind tarsus black, elsewhere pale yellowish. The small cross-vein of the *wing* is at or slightly below the middle of discal cell and the fourth posterior cell is pedunculated at its base; the cross-vein closing the second basal cell joins the pedunculated part at about the middle. The wings are shorter than the body, measuring 5–6 mm.

#### *Leptogaster antipoda*, Bigot.

From Tasmania.

Described as having testaceous legs, the posterior femora widely brown at base, with another narrower brown band before the apex.

#### *Leptogaster bancrofti*, ♂ ♀, sp. n.

Type (♂) from Mr. French's Coll., Victoria (1898).

Type (♀) from Queensland (1909) (*Dr. Bancroft*).

A black species with yellowish legs, but the hind legs darker, almost wholly black. Wings clear, the small cross-vein at the middle of discal cell, and the cross-vein closing second basal cell also joining the stalk of fourth posterior cell at about the middle. Length 12 mm.; wings 6–7 mm. *Face* covered with greyish tomentum, the moustache yellow. *Antennæ* black. *Forehead* the same as face. *Thorax* reddish

brown or reddish grey, with a medium and lateral black stripes, sides of thorax ashy grey. *Abdomen* black, with well-marked grey segmentations. *Legs* reddish yellow, the knees of fore legs and joints of tarsi black; the posterior femora blackish on apical half, the extreme apex red; the posterior tibiæ almost wholly blackish; the first joint of hind tarsi pale yellow, black at its apex, and the other joints chiefly black; bristles of tarsi black, except on the first joint, where they are yellowish.

*Leptogaster australis*, ♂, sp. n.

Type (♂) and another from Townsville, Queensland (F. Dodd), 1903.

A species distinguished from *L. geniculatus*, Macq., by its larger size, by the reddish-brown thorax with one median black stripe, and by the cross-vein closing the second basal cell joining the peduncle of the fourth posterior cell at two-thirds of its length.

Length 14 mm.

*Face* covered with silvery-grey tomentum, the scanty moustache pale yellow. *Antennæ* black, the first two joints reddish. *Forehead* yellowish above the antennæ, black at the vertex. *Thorax* reddish brown, with greyish tomentum on dorsum, bordering the black stripe, which does not reach the posterior border; sides covered with yellowish tomentum, breast reddish brown; *scutellum* same colour as thorax. *Abdomen* obscurely yellow, covered with grey tomentum; the last three segments blackish, with very fine whitish pubescence; genitalia reddish; underside blackish. *Legs* reddish yellow, the first joint of the tarsi paler, almost white, the remaining joints reddish brown; knees black and the apical two-thirds of the hind tibiæ are reddish brown; tibiæ with scattered white bristles; pubescence on legs very slight, most noticeable on the hind pair, where it is almost wholly white; coxæ reddish brown, with white tomentum. *Wings* hyaline, tinged with brown on the basal half; this is hardly noticeable in the second male; all cells open; the cross-vein at or beyond the middle of discal cell. Halteres yellow.

*Leptogaster dissimilis*, ♀, sp. n.

Type (♀) and another from Stannary Hills, N. Queensland, about 3000 feet (Dr. T. L. Bancroft), 1909; and another female from Queensland from the same collector.

A handsome species, distinguished by the reddish-yellow legs marked with black on the knees, and with the apical half of the club-shaped hind femora deep black; the apices of tibiæ, the hind pair widely, black.

Length 16 mm.

Face greyish yellow, the scanty moustache pale yellow. *Antennæ* black, the second joint reddish. *Forehead* darker than face. *Thorax* reddish brown, blackish in the centre, sides with yellowish tomentum. *Abdomen* blackish, the first four joints almost wholly reddish yellow, in the other female not so distinctly so, only the first two joints being dull yellowish. *Legs* reddish yellow; the knees, apical half of hind femora, apices of tibiæ, and all the tarsi except the first joint black. *Wings* tinged yellow at base, the small cross-vein about the middle of discal cell, the cross-vein closing the second basal cell joins the stalk of fourth posterior cell at two-thirds of its length.

This species is distinguished from *Leptogaster bancrofti* by its larger size, the yellow base of abdomen, the yellow tomentum on sides of thorax, the posterior tibiæ less widely black, and by the situation of the cross-vein closing second basal cell.

The following species are recorded from other parts of the Australian Region :—

- L. albimana*, Wlk., from Aru.—Type in B. M. Coll., much damaged. Hind legs with black or brown bands. Röder records it from Ceylon.
- L. annulipes*, Dol., from Amboina.
- L. angelus*, Ost.-Sack., from Celebes.
- L. exacta*, Wlk., from New Guinea.—Type in B. M. Coll.; also with brown bands on the hind legs.
- L. ferruginea*, Wlk., from Aru.—Type in B. M. Coll.; also with black or brown bands on the hind legs.
- L. fulvipes*, Bigot, from New Guinea.
- L. habilis*, v. d. Wulp, from Timor.
- L. hirticollis*, v. d. Wulp, from Timor.
- L. inflata*, Ost.-Sack., from Celebes.
- L. longipes*, Wlk., from Aru.—Type in B. M. Coll.; much damaged, with very slender legs.
- L. magnicollis*, Wlk., from Ceram.—Type in B. M. Coll.; a very large robust yellowish species.
- L. moluccana*, Dol., from Amboina.
- L. munda*, Wlk., from Celebes.—Type in B. M. Coll.; bands present on hind legs.
- L. tarsalis*, Walk., from Batjan and Ceram.—Type in B. M. Coll., with brownish legs, the first joint of tarsi white.
- L. unicolor*, Dol., from Amboina.
- L. varipes*, v. d. Wulp, from Padang. = *laevis* Wulp f. *sumatra*  
*2 imitator* Walker
- All the Walker types have the fourth posterior cell pedunculated. From a cursory examination of the descriptions of species of the other authors these types do not appear to be identical with any.

#### DASYPOGONINÆ.

The following genera are represented in the Australasian Region :—

*Damalis*, Fabr.; *Acnephalum*, *Codula*, *Microstylum*, *Brachyrrhopala*, Macquart; *Cabasa*, *Phellus*, Walker; *Bathypogon*, *Saropogon*, *Stenopogon*, *Stichopogon*, Loew; *Chrysopogon*, Röder; *Deromyia*, Philippi. New genera added: *Neocyrtopogon*, *Neosaropogon*, *Psilozona*, *Rachipogon*. Of doubtful occurrence the following: *Ancylorrhynchus*, Latr.; *Selidopogon*, Bezzi.

Table of Genera. *see Hardy Proc Linn Soc 51 for Subgenera*

- |  |                               |
|--|-------------------------------|
| 1. Fore tibiæ with a curved spine . . . . .  | 2.                            |
| Fore tibiæ with no such curved spine . . . . .   | 10.                           |
| 2. Third joint of antennæ usually with no very distinct terminal style . . . . .         | 3.                            |
| Third joint of antennæ with a distinct terminal style . . . . .                          | 9.                            |
| 3. Thorax humpbacked, bright-coloured. All posterior cells open. Small species . . . . . | <i>Cabasa</i> , Wlk.          |
| Thorax not humpbacked or bright-coloured. Posterior cells not always open . . . . .      | 4.                            |
| 4. Thorax armed with a stout spine on each side . . . . .                                | <i>Chrysopogon</i> , Röder.   |
| Thorax not armed with a stout spine on each side . . . . .                               | 5.                            |
| 5. Abdomen club-shaped, narrower at base . . . . .                                       | <i>Brachyrrhopala</i> , Macq. |
| Abdomen not club-shaped nor narrower at base . . . . .                                   | 6.                            |
| 6. Face very convex . . . . .  | <i>Neocyrtopogon</i> , g. n.  |
| Face not very convex . . . . .   | 7.                            |
| 7. Antennæ notched at apex of third joint . . . . .                                      | <i>Rachipogon</i> , g. n.     |
| Antennæ not notched at apex of third joint. . . . .                                      | 8.                            |
| 8. Fourth posterior cell narrowed at border or open . . . . .                            | <i>Neosaropogon</i> , g. n.   |
| Fourth posterior cell closed far from border . . . . .                                   | <i>Deromyia</i> , Philippi.   |
| 9. Fourth posterior cell open or closed. Small species . . . . .                         | <i>Saropogon</i> , Loew.      |
| 10. No pulvilli to tarsi. Hairy species, bee-like in appearance . . . . .                | <i>Acnephalum</i> , Macq.     |
| Pulvilli present. Species not hairy or bee-like in appearance . . . . .                  | 11.                           |
| 11. Second posterior cell encroaching on the first cell . . . . .                        | <i>Microstylum</i> , Macq.    |
| Second posterior cell not encroaching on the first cell . . . . .                        | 12.                           |
| 12. Very large species. Middle tibiæ with a stout prolongation . . . . .                 | <i>Phellus</i> , Walk.        |
| Not very large species. Middle tibiæ simple . . . . .                                    | 13.                           |
| 13. Abdomen club-shaped. Moustache confined to oral opening . . . . .                    | <i>Codula</i> , Macq.         |
| Abdomen not club-shaped. Moustache not always confined to oral opening . . . . .         | 14.                           |
| 14. Moustache reaching antennæ. Face with a tubercle . . . . .                           | 15.                           |
| Moustache not reaching antennæ. Face with no tubercle . . . . .                          | 16.                           |

new genera  
~~*Brachyrrhopala* White~~  
~~*Chrysopogon* White~~  
~~*Stenopogon* & S~~  
~~*Saropogon* White~~

15. Face fairly broad, with tubercle nearly reaching the antennæ. Fourth posterior cell closed, in a parallel line or nearly so with the vein closing discal cell . . . . . *Bathypogon*, Loew.  
 Face very narrow, and narrower at antennæ, with a keel-shaped tubercle reaching nearly to the antennæ. Fourth posterior cell closed or narrow, not parallel with discal cell . . . . . *Stenopogon*, Loew.
16. Blue-black shining species. Fore and middle tibiæ fringed with hairs . . . . . *Psilozona*, g. n.

CABASA, Walk.

Dipt. Saund. i. p. 100 (1851); id., List Dipt. pt. vi. Suppl. 2, p. 499 (1854); Schiner, Verh. zool.-bot. Ges. Wien, xvi. pp. 652, 653, 703 (1866).

This genus was formed by Walker for one species from Tasmania, *Cabasa rufithorax*, which he later stated was a variety of *Dasympogon pulchellus*, Macq.; the second species from the same locality, which he named *Dasympogon venno*, had likewise been described previously by Macquart under *Dasympogon*.

The genus is allied to *Brachyrrhopola*, but easily distinguished by the humpbacked thorax. Schiner did not include it in his table. Walker omitted any mention of the presence of the curved spine on fore tibiæ, which is very distinct in the known species, which are small, the thorax bright-coloured, the abdomen blackish, the wings brownish. The antennæ long, the third joint nearly twice as long as the first two together.

The species as yet recorded in the genus are four, only the first two being from Tasmania, the others from Batchian and Aru Island.

- Cabasa pulchella*, Macq., Dipt. Exot. Suppl. i. p. 190, pl. vii. fig. 9 [*Dasympogon*] (1844). *Cabasa rufithorax*, Walker, Dipt. Saund. i. p. 100 (1851).  
*Cabasa rubrithorax*, Macq., Dipt. Exot. Suppl. 4, p. 370 [*Dasympogon*] (1849). *Dasympogon venno*, Walker, List Dipt. ii. p. 359 (1849), et vi. Suppl. 2, p. 500 (1854).  
*Cabasa honesta*, Walker, Proc. Linn. Soc. London, iii. p. 83 [*Dasympogon*] (1859), et v. p. 277 [*Dasympogon*] (1861).  
*Cabasa glabrata*, Walker, Proc. Linn. Soc. London, v. p. 277 [*Dasympogon*] (1861).

*Cabasa pulchella*, Macq.

*Cabasa rufithorax*, Walker.

Macquart's type is in the Paris Museum, seen by me, 12. 4. 11, apparently a female.

Walker's type is identical, a female from Tasmania; others in Brit. Mus. Coll. from Hobart (*J. J. Walker*), a

male from Mackay, Queensland (*G. Turner*), and a specimen from Dandenong Ranges, Victoria, in Mr. French's Coll.

Macquart's description is as follows:—

Thorax red. Abdomen violet (♂), black (♀). Moustache black. Antennæ and legs black. Wings brown. Length 5 lines, ♂ ♀. Palpi black, with black hairs.

Face shining black, with white tomentum at the sides; moustache plain, black. Forehead shining black. Antennæ: third joint fairly long, curved outwardly. Thorax shining red; with a black dorsal elongated spot, another at the base of wings, and one small black spot on shoulders. Scutellum black. Abdomen a brilliant violet (♂), black with green reflections (♀). Legs: anterior legs with small spine. Halteres yellow. Wings brown. In two specimens the male has the second posterior cell stalked; the female has it slightly so in the right wing, on the left one with no stalk but pointed at the base.

From Tasmania.

An easily recognized species.

*Cabasa rubrithorax*, Macquart.

*Dasypogon venno*, Walker.

Macquart's type (♂) seen in Paris Museum, 12. 4. 11. Walker's type is identical with it.

Walker's type (♂ or ♀?) from Van Diemen's Land.

The species is only distinguished from *Cabasa pulchella* by the wings, which are brown on the basal half only as far as the apex of the discal cell, and is rather smaller in size.

Macquart's description is as follows:—

Length 3 lines, ♂. Face and forehead black, with grey tomentum; moustache plain, yellowish. Antennæ: the first two joints black, the third is wanting. Thorax shining red, with a dorsal band and its posterior border blackish green; chest and scutellum black. Abdomen depressed, shining black, with faint green reflections. Legs black, almost naked; posterior tibiæ swollen at apex. Halteres fawn-coloured, large, becoming wider from base to apex. Wings: the two anterior thirds brown; the remainder hyaline; venation normal.

From Tasmania.

*Cabasa glabrata*, ♂, Walker.

Type (♂) from Batchian.

This type and the following one Walker failed to recognize as belonging to the above genus created by himself.

It differs from *C. rubrithorax* and *C. pulchella* by its

wholly yellow *legs*, only the tarsi becoming brownish. *Thorax* and breast-sides the same colour as legs. *Abdomen* black. *Wings* pale brownish.

*Cubasa honesta*, ♀, Walker.

Type (♀) from Aru Island.

Distinguished by the colouring of the *legs* from the other species. *Legs* black, the coxæ, the extreme apices of femora, and the tibiæ (with the exception of the apices) reddish yellow. *Antennæ* black. *Thorax* black, but covered with brownish-yellow tomentum; breast-sides the same, with a broad shining reddish-yellow stripe. *Abdomen* blue-black, with narrow testaceous posterior borders.

CHRYSOPOGON, Röder.

Berlin. ent. Zeit. xxv. p. 213 (1881); id., Stett. ent. Zeit. liii. p. 243 (1892).

Founded for *C. crabroniformis*, Röder; *C. mülleri*, Röder, was added in 1892. The author distinguishes the genus from *Laparus*, Loew (now *Neolaparus*), by the stout spine on each side of the *thorax* and by the closed or very much narrowed first posterior cell; this last distinction will not hold good, as two of the species now added to this genus both have the cell open, but possess the stout spine on the thorax which will serve to divide the genus from *Neolaparus*. *Dasyzogon albopunctatus*, Macq., of which *Dasyzogon spinther*, Wlk., is a synonym, was placed by Schiner under *Neolaparus*, but belongs to this newer genus.

The genus will now include the following species:—

- C. albopunctatus*, Macq., Dipt. Exot. Suppl. 1, p. 193, pl. vi. fig. 7 [*Dasyzogon*] (1846); Schiner, Verh. zool.-bot. Ges. Wien, xvi. p. 700 (1866), et xvii. p. 369 [*Dasyzogon*] (1867). *Dasyzogon spinther*, Walker, List Dipt. ii. p. 337, et vi. Suppl. 2, p. 478 (1854).
  - C. crabroniformis*, Röder, Berlin. ent. Zeit. xxv. p. 213 (1881).
  - C. mülleri*, Röder, Stett. ent. Zeit. liii. p. 243 (1892).
  - C. fasciatus*, sp. n.
  - C. punctatus*, sp. n.
  - C. queenslandi*, sp. n.
  - C. splendidissimus*, sp. n.
1. First posterior cell closed or narrower.
    - Wings yellowish . . . . . 2.
    - First posterior cell open, hardly narrower.
      - Wings brownish or hyaline . . . . . 3.
  2. Abdomen reddish yellow, with black spots.
    - Antennæ yellow. Legs red, the femora black . . . . . *splendidissimus*, sp. n.
    - Abdomen black, with transverse yellow spots. Antennæ black. Legs red . . . . *mülleri*, Röder.

Abdomen reddish yellow, the base and third and fourth segments black . . . . .	<i>crabroniformis</i> , Röder.
3. Abdomen black, with golden-yellow narrow bands . . . . .	<i>fuscatus</i> , sp. n.
Abdomen reddish yellow, base and fourth segment black . . . . .	<i>albopunctatus</i> , Macq.
Abdomen yellowish, with broad black bands on each segment . . . . .	<i>queenslandi</i> , sp. n.
Abdomen black, with white spots . . . . .	<i>punctatus</i> , sp. n.

*Chrysopogon albopunctatus*, Macq.

*Dasyopogon spinther*, Walker.

Type of *D. spinther*, Wlk., a male from W. Australia (*Clifton*), and other specimens from Fremantle (*J. J. Walker*) and Champion Bay, W. Australia (*Du Boulay*).

Walker's type agrees with the description given by Macquart, but in common with the other specimens it has a narrow black band on the posterior half of the second segment, which is also narrowly black anteriorly, and the femora have a black band on the upper sides in Walker's type and some of the specimens.

Macquart's type is not to be found in the Paris Museum.

Macquart's description is as follows:—

Thorax with testaceous tomentum, white-spotted. Abdomen testaceous, with white spots; the base and the fourth segment black. Moustache yellow. Legs testaceous. Wings reddish.

Length 9 lines (♀). Face with golden tomentum and moustache pale yellow. Antennæ: the first two segments testaceous, the third wanting. Forehead black, anteriorly with golden tomentum. Thorax with reddish-brown tomentum; spots on shoulders white tomentose, as well as two small spots at base of wings; sides with a transverse band of golden tomentum and two similarly coloured spots on each side of it; scutellum testaceous; a golden tomentose spot on each side of the metathorax. Abdomen: first segment black, second and third testaceous, fourth and anterior border of fifth black; rest of abdomen testaceous; a small yellowish-white tomentose spot on each side of the second, third, and fourth, on the posterior border. Legs testaceous, with a spine. Wings reddish; the centre of cells almost clear, the fourth posterior cell open.

New South Wales (*MM. Guérin, Reiche*).

The species is easily recognized by the yellowish abdomen with black bands; Macquart overlooked the spine on thorax. The third joint of *antennæ* is the same colour as the others, but twice as long as the two together, narrow, cylindrical. *Wings* brownish yellow on fore border, the first and fourth

posterior cells open but narrower at border, the small transverse vein beyond the middle of discal cell.

*Chrysopogon crabroniformis*, Röder.

In Brit. Mus. Coll. one female from Queensland.

Röder created the genus for this species.

A handsome black and fulvous insect, with a stout *abdomen* fulvous at base and apex, with a broad black band on the third and fourth segments. *Legs* fulvous. *Face* golden yellow, with a yellow moustache. *Wings* golden yellowish, dark brown at apex and pale brown on posterior border; the first posterior cell closed far from border, the fourth open, the anal cell not quite closed.

Length 20 mm.

*Chrysopogon mülleri*, Röder.

Described as black. Length 29–30 mm. From Victoria.

*Face* with yellow tomentum. Moustache pale yellow. *Antennæ* black. *Thorax* brownish, with three darker median stripes, with pale yellowish triangular spots on the shoulders, suture, and posterior border, and at apex of *scutellum*, the spine on each side of thorax is present. *Abdomen* at base pitchy black, from the third segment yellow, bordered on each segment with black, leaving yellow spots, which are small on the third, then larger, leaving only a black spot on the sixth segment. *Legs* very stout, deep red; tibiæ at apices darker. *Wings* tinged yellowish, with reddish veins; first posterior cell closed or very narrow.

*Chrysopogon fasciatus*, ♂ ♀, sp. n.

Type ♂ ♀, both from Maekay, Queensland (*G. Turner*).

A species with black golden-banded abdomen, red legs and antennæ, and greyish-brown wings; all posterior cells and the anal cell open.

Length, ♂ 17, ♀ 15 mm.

Black. *Face* covered with grey tomentum and greyish or yellowish short pubescence; moustache composed of only a few yellowish or whitish bristles. *Palpi* reddish, with some coloured pubescence. *Antennæ* reddish yellow, long; the first joint a little longer than the second, both with reddish-yellow hairs; third joint slender, nearly twice as long as the first two. *Forehead* black, with a few reddish-yellow hairs at sides. *Thorax* black, with some short fulvous tomentum on dorsum; shoulders and sides with golden tomentum; prothorax with a yellowish pubescent stripe, and thorax with similar stripes three in number; scutellum black, with

golden tomentum. *Abdomen* same width throughout, black, punctuated, the first segment black, the second and third with narrow golden tomentose bands posteriorly, the fourth and fifth with the same and with traces of another one on their anterior borders, the sixth almost wholly covered with golden tomentum; underside black, with broad greyish-yellow tomentose bands; genital organs of male not protruding, ovipositor of female developed on underside. *Legs* stout, red; coxæ black, with greyish tomentum; tarsi slightly brown; fore tibiæ with the curved spine black, posterior tibiæ swollen at apex. Halteres yellow. *Wings* brownish in male, greyish brown in female, paler at base, veins on fore border and at base yellow, elsewhere brown ♀, brown in ♂; first posterior cell open, not narrower at border; anal cell very narrow at border, small transverse vein just beyond the middle of discal cell. In spite of the first posterior cell being open, this species clearly belongs to the genus, having the spine on the thorax very stout and black.

*Chrysopogon punctatus*, sp. n.

Type (♂) and another from S. Queensland (*Dr. T. L. Bancroft*), 1908.

A handsome small black species marked with white spots. Legs black. Wings deep brown.

Length 12 mm.

*Face* covered with silvery-grey tomentum and with a central deep black stripe. Moustache of pale yellow bristles. Proboscis black, large. *Palpi* black, with black hairs and some white ones at base. *Antennæ* black, the third joint wanting. *Forehead* black. Prothorax, thorax, breast, and scutellum black. *Thorax* with four small spots, sides and base, stripes on breast and scutellum wholly, with glistening white tomentum. *Abdomen* black, same coloured spots on side of each segment. *Legs* black, the coxæ with glistening white tomentum. *Wings* brown, paler on hind border, and first posterior cell almost wholly hyaline.

*Chrysopogon queenslandi*, sp. n.

Type (♂) from Queensland (*C. M. Kelsall*), 1910; type (♀) from Queensland (*F. P. Dodd*), 1907.

A small yellow-and-black species, abdomen and legs short and robust. Prothorax much developed. Head as wide as thorax. Wings with all posterior cells open.

Length 14 mm.

*Male*.—*Face* blackish, with silvery-grey tomentum; moustache of pale yellow bristles arranged round oral

opening. *Palpi* blackish, with paler hairs. *Antennæ* reddish yellow; the first two joints small, with a few yellow hairs and black bristles on apex of second joint on lower border; the third joint bare, cylindrical, almost twice as long as the first two joints together; the small spine distinct, the style blunt, blackish. *Forehead* shining black in the centre. Hind border of head armed with two bristles, the short hairs round head are yellowish. *Prothorax* black. *Thorax* blackish brown, with grey tomentum; three black stripes visible; shoulders and sides covered with golden tomentum; breast black, with glistening white tomentum and with two shining blue-black stripes, the first one opposite the first pair of legs, the second one, which is blacker and subdivided, below the base of wings; the stout spine is black, placed just above the base of wings. *Scutellum* covered with golden-yellow tomentum. *Abdomen* yellow, black at base, and with broad black bands on anterior border of segments; on sides of segments a tomentose square grey spot appears. *Legs* reddish yellow; *coxæ* black, with grey tomentum; femora largely black; apices of tibiæ and the tarsi reddish brown or blackish. *Wings* clear, the first posterior cell a little narrower at opening; anal cell not quite closed; genital organs small.

*Female* similar to the male, but the dark bands on abdomen are wider and blue-black; ovipositor large, black. *Legs* more largely reddish.

A female from West Australia is probably a specimen of this species, though the black bands on abdomen are almost wholly obsolete.

*Chrysopogon splendidissimus*, ♂ ♀.

Type ♂, type ♀, and another male, all from West Australia; the males from Champion Bay (*H. Du Boulay*) and the female from W. Australia (*G. Clifton*).

A large handsome species with a reddish-yellow thorax and abdomen, the latter black at its base and on the sides of the third and fourth segments, underside black; antennæ and legs yellowish, femora black. *Wings* yellow, grey at apex and on inner border, the first posterior cell closed.

Length, ♂ 23–30 mm.; ♀ 23 mm. without ovipositor.

*Fulvous*. *Face* wrinkled, reddish with golden tomentum; the moustache composed of golden-coloured bristles bordering the mouth. *Palpi* reddish yellow with yellow hairs. The hairs round head above and below black. *Antennæ* reddish yellow, the first two joints with yellow pubescence; the third joint twice as long as the first two, with a short

rudimentary end style. *Forehead* same colour as face. *Thorax* black, reddish yellow on the dorsum, with golden tomentum, the spine reddish yellow; *scutellum* black. *Abdomen* the same width throughout; the first segment and anterior border of second black, shining; the third with an isosceles triangular black spot at each side, the apices extending nearly to the middle of the segment along the posterior border; on the fourth there is a similar but ill-defined smaller spot in the female type, in the males the sides of the fourth and fifth segments are narrowly black, pubescence on dorsum chiefly fulvous, on the sides of abdomen black; underside wholly black; ovipositor of female short, fulvous; genital organs of male small, almost hidden, fulvous. *Legs* same colour as greater part of abdomen, the coxæ and femora shining black, with black pubescence. *Wings* yellowish, with yellow veins tinged with grey at apex and on inner border, all posterior cells except the first widely open, the anal cell open, but very narrow, at border, small transverse vein just beyond the middle of discal cell. Halteres yellowish.

The *antennæ* in this species and in *C. queenslandi* have the small style on the lower border of the third joint, and the upper border is excised and armed with a small spine. In the other species the end of joint seems broken off. Probably this characteristic will prove generic; the genus, however, is easily distinguished by the spine on thorax.

#### BRACHYRRHOPOLA, Macquart.

Dipt. Exot. Suppl. ii. p. 51 (1847).

This genus was formed by Macquart for his species *B. ruficornis*, from Tasmania, to which, later, a second species was added by Röder, originally named by Macquart *Dasyopogon maculinervis*; and Professor Röder added two new species, one of which, however, is a synonym of a species erroneously placed by Macquart under *Codula*, who also had described one species earlier under *Dasyopogon* which belongs to this genus.

The genus belongs to the group with a curved spine at end of fore tibiæ, and is characterized by the club-shaped *abdomen* and the *wings* with all posterior cells and the anal cell open. *Antennæ* hardly the length of head as Macquart states; the first joint a little long, the second short, the third three times as long as the first joint, nearly straight above, a little convex below, and attenuated at the base: Bigot in his description of the type (*sic*) of *B. maculinervis*

which he sent to Prof. Röder (see Wien. ent. Zeit. ii. p. 273) speaks of them as two and a half times as long as the head. Legs nearly naked, posterior femora with a few small bristles, the posterior tibiæ swollen at apex.

The following are the species as yet recorded in this genus, all from Australia and Tasmania:—

43. *limbipennis*, Macq., Dipt. Exot. Suppl. i. p. 190, pl. vii. fig. 8 [*Dasy-pogon*] (1844). *B. maculinervis*, Macq., Dipt. Exot. Suppl. iv. p. 369, pl. vi. fig. 8 [*Dasy-pogon*] (1849); Röder, Stett. ent. Zeit. liii. p. 242 (1892). *Dioctria tasmanicæ*, Walker, Dipt. Saund. i. p. 85 (1851), et List Dipt. vi. Suppl. 2, p. 388 (1854).  
*B. nitidus*, Macq., Dipt. Exot. Suppl. i. p. 189 [*Dasy-pogon*] (1844).  
*B. ruficornis*, Macq., Dipt. Exot. Suppl. ii. p. 52, pl. i. fig. 7 (1846). (Type of genus.) Röder, Wien. ent. Zeit. ii. p. 273 (1883) et Stettin. entom. Zeit. liii. p. 242 (1842); Froggatt, Australian Insects, p. 302 (1907).  
*B. fenestrata*, Macq., Dipt. Exot. Suppl. iv. p. 374, pl. vii. fig. 2 [*Codula*] (1849). *B. victoriæ*, Röder, Stett. ent. Zeit. liii. p. 242 (1892).  
*B. maculata*, Röder, Wien. ent. Zeit. ii. p. 274 (1883), et Stett. ent. Zeit. liii. p. 242 (1892).  
*B. fulva*, sp. n.

- |   |                            |
|---|----------------------------|
| 1. Wings hyaline, tinged yellow on fore border; abdomen and legs red .....          | <i>nitidus</i> , Macq.     |
| Wings brownish, hyaline in centre .....   | 2.                         |
| Wings hyaline, brown at base .....  | 3.                         |
| Wings hyaline, brown on the fore border .....                                       | 4.                         |
| Wings anteriorly golden, with a transverse brown band .....                         | 5.                         |
| 2. Abdomen black with narrow yellow bands . . . . .                                 | <i>fenestrata</i> , Macq.  |
| Abdomen reddish yellow, black at base and with black bands on apical segments ..... | <i>fulva</i> , sp. n.      |
| 3. Abdomen black with yellow bands .....  | <i>ruficornis</i> , Macq.  |
| 4. Abdomen reddish brown or blackish brown . . . . .                                | <i>limbipennis</i> , Macq. |
| 5. Abdomen ochraceous, with the fourth segment and spots black .....                | <i>maculata</i> , Röder.   |

*Brachyrrhopola limbipennis*, Macq. = *Erythripogon* see Hardy Lim Soc 1884 51

*Brachyrrhopola maculinervis*, Macq. [*Dasy-pogon*]. (3) 1926 p. 307

*Dioctria tasmanicæ*, Walker.

Type of *B. limbipennis*, ♀, Macq., seen in Paris Museum, 12. 4. 11, is a male, not a female as on label and in description, identical with a specimen of *D. tasmanicæ*, and comes from Tasmania.

The type of *B. maculinervis*, described as a mutilated headless female, appears from the description and the figure of the wing to be identical with Macquart's earlier species.

In Brit. Mus. Coll.: type of *D. tasmanicæ*, a male, from Tasmania, and a male and female from Melbourne (*French*); others from Burpengary, S. Queensland (*Dr. T. L. Bancroft*),

and from Hobart (*J. J. Walker*). In Mr. French's coll. specimens from Victoria.

A species easily recognized by the dark colouring on fore border of wing. Reddish brown, with two yellowish narrow segmentations on abdomen.

Type (♂) 12 mm. Bigot gives 18–21 mm. for *B. maculinervis*. Specimens range from 12–20 mm.

*Face* covered with greyish or yellowish tomentum, and with two black shining stripes starting together from below the antennæ and becoming broader and separated below. Moustache of many weak white bristles continued up the face as whitish hairs. *Palpi* large, red, with many black bristly hairs. *Antennæ* red, the first two joints with black hairs; the third about twice as long as the first two together, with a distinct style. *Forehead* black, shining, with numerous long white hairs. *Thorax* reddish, black on dorsum, with scanty white pubescence, sides reddish, black anteriorly, with three greyish or yellowish tomentose stripes, one on the prothorax and the others above the second and third pairs of legs. *Scutellum* reddish. *Abdomen* reddish, shining, somewhat darker at base, the third and fourth segments with very narrow pale yellow posterior borders; hairs at sides whitish, and a little pubescence of the same colour on dorsum. Genital organs in male prominent, with long white pubescence; in the female the ovipositor small, ending in a circlet of spines. *Legs* the same colour as abdomen, the tibiæ at base bright yellow, femora largely black below, bristles black. *Wings* large, hyaline, with deep brown colouring on the fore border, extending from the base to the apex, filling the first broad cell and the base of the second one, reaching across the base of it and of discal and fourth posterior cells, then bordered by the third longitudinal vein till it reaches the fork, where it spreads slightly beyond the posterior vein of fork, leaving the apex of second submarginal cell clear.

This description is chiefly taken from Walker's type and from the specimen identified with *D. limbipennis*, both males, together with a female from Melbourne.

Some of the other specimens vary in the following particulars, but appear to be the same species, none of them varying in the extent of colouring of the wing:—The *face* is black in the centre or reddish. Moustache black. Only the posterior tibiæ are yellow at base, or none are yellow, the knees above representing this colour. The yellow segmentations on *abdomen* are absent.

[To be continued.]





*A Revision of the Asilidæ of Australasia.*

By GERTRUDE RICARDO.

[Continued from p. 488.]

*Brachyrrhopola nitidus*, Macq.

Type seen in Paris, apparently a male, from 'Tasmania, is no doubt a species of this genus, though not recognized as such by Macquart.

A species with reddish *abdomen* and *legs* and the *wings* clear, slightly tinged dull yellowish on the fore border, with black veins.

*Face* with bright yellow tomentum, no tubercle; moustache pale yellow. *Palpi* red. *Antennæ* reddish, the third joint with indistinct terminal spine. *Thorax* red with black markings. *Abdomen* slender, narrower at base; the first segment black, the second partly black, the others with very narrow darker segmentations. *Legs* red, fore tibiae with the curved spine, the femora not incrassate. *Wings* with the fourth posterior cell a little narrower at border, anal cell not quite closed.

The following is the original description:—

Slender, shining, testaceous. *Thorax* with brown stripes. *Abdomen* with black side stripes on the anterior segments.

Moustache yellow. Antennæ and legs testaceous. Wings reddish.

Length 7 lines, ♂ ♀. Palpi testaceous with yellow hairs. Beard yellowish. Face with golden tomentum; moustache plain, yellow. Forehead black, with slight yellowish tomentum. Thorax testaceous, with blackish bands. Abdomen slender, testaceous, the first two segments with a longitudinal black stripe on the scales. Anterior legs with a spine.

Wings: neuration normal; the first transverse vein situated beyond the middle of discal cell.

From Tasmania.

*Brachyrrhopola ruficornis*, Macq.

Type of the genus. From Tasmania.

Mr. Froggatt records it from Mackay, Queensland.

Macquart describes it as follows:—

Black, shining. Scutellum testaceous. Abdomen with yellow bands. Antennæ and legs red. Wings with the anterior half brown. Length 3 lines, ♀?

Face with white tomentum; a stripe and a small protuberance black; moustache white. Forehead black. Antennæ: a little brown at the apex. Thorax with scanty yellow tomentum and indistinct stripes; sides with a white spot below base of wings, prolonged to and including the intermediate coxæ. Abdomen with scanty yellow tomentum. Coxæ black, the anterior half of the posterior femora and base of intermediate pair black; anterior tarsi black. Halteres yellow. Wings: the anterior half reddish brown; central and external basal cells hyaline; the posterior half hyaline; a little brownish at base of second submarginal cell. From Tasmania (*M. Bigot*). In the figure of insect the abdomen is marked with two light narrow stripes at base of abdomen and with a light apex. The colouring of wing is brown at base, crossing the lower part of discal cell and entering the base of fourth and fifth posterior cells; the first basal cell is almost wholly and the second one partly hyaline.

*Brachyrrhopola fenestrata*, Macq.

*Brachyrrhopola victoriae*, Röder.

In Brit. Mus. Coll. a female from Victoria (*French Coll.*).

The species was described by Macquart under his new genus *Codula*, with the type of the genus, viz. *Codula limbipennis*; but it is no doubt a species of *Brachyrrhopola*, a

genus founded by him in 1846 three years earlier, and from the description of *B. victoriae* there is no doubt Röder was redescribing a specimen of *C. fenestrata*.

Type in Paris Museum seen by me, a male.

A small black species with yellow bands on the second, third, sixth, and seventh segments of the club-shaped abdomen.

Face broad, with yellowish-grey tomentum at sides, leaving a black stripe in the centre. Moustache of yellow hairs. *Antennæ* reddish (not black, as Macquart says); the third joint long, with indistinct style and minute spine. Head excised behind a little, with black incurved hairs. *Legs* long and slender, black; apical half of femora red; tibiæ red, black at apices, bristles white and black. *Wings* brownish, all posterior cells open. There are no signs of stripes on the *thorax*, as given in Macquart's figure of this insect. *Scutellum* is red with whitish hairs. The curved spine on the fore tibiæ is present, in spite of Macquart describing it as absent.

His description is as follows:—

Black. Abdomen white at apex, segments 2 and 3 with red margins. Legs red. Wings brown with clear spaces.

Length 3 lines, ♂. Face shining black; moustache white. Forehead and antennæ black. Thorax with two small indistinct grey tomentose stripes. Abdomen shining; posterior border of second and third segments fawn-coloured; sixth and seventh yellowish white on posterior borders. Legs fawn-coloured; coxæ black, femora on anterior half black; fore legs with no spines at apex (this is an error); tarsi black; first joint of posterior pair fawn-coloured, black at apex. Wings a little brownish, discal cell and base of first posterior white; base of wing clear.

From Tasmania.

### *Brachyrrhopola maculata*, Röder.

Described as from New South Wales.

Length, ♂ 15 mm., ♀ 20 mm.

♂. *Antennæ* golden yellow. Face and moustache yellow. *Thorax* golden yellow with black stripes. *Scutellum* ochraceous. *Abdomen* club-shaped, ochre-yellow, the first segment somewhat dark, second one with two separated black spots, which are also present on the third, the fourth wholly black, the fifth black at sides. *Legs* ochre-yellow. Wings tinged golden yellow at base on fore border, darker towards apex, hyaline on posterior border. All cells open.

The female has the *wings* more golden yellow.

*Brachyrrhopola fulva*, ♀, sp. n.

Type (♀) and another from Mackay, Queensland (G. Turner).

A small species, the *wings* identical with those of *B. fenestrata*, but easily distinguished from it by the yellowish *abdomen*, with the base and last segments more or less blackish; *face* golden yellow; the *thorax* with stripes and short golden pubescence.

Length  $9\frac{1}{2}$  mm.

*Face* black in centre, shining, sides covered with golden tomentum; moustache yellow, the hairs paler at tips; palpi black with black hairs, scanty black hairs below and round head. *Antennæ* reddish yellow; first two joints stout, almost equal in length, the third long; the antennæ longer than the depth of head. *Thorax* blackish brown, with three median brown stripes shining through the yellow tomentum and pubescence, which is most apparent on the shoulders and anteriorly; sides of thorax and head black, with two golden-haired stripes; some long yellow hairs on thorax posteriorly; *scutellum* reddish. *Abdomen* reddish yellow; the first segment and anterior border of second black, remainder of second segment and the third shining yellowish, almost bare; the fourth, fifth, and sixth segments black on anterior borders, the last band the narrowest; the last three segments with short golden pubescence on the yellow part, the same pubescence appears but very sparsely on the other segments; the abdomen is club-shaped, the first two segments being narrower, the others convex; underside concave, blackish, yellow at base. *Legs* reddish yellow; coxæ, base of femora, and apices of anterior and posterior tibiæ and fore tarsi black. *Wings* greyish, on the fore border and base yellowish brown, with a brown band crossing the base of discal cell; the basal cells and discal cell almost entirely and the first posterior cell on its basal half hyaline; the small transverse vein below the middle of the discal cell. Halteres yellow.

This species is very probably identical with *Codula quadricincta*, Bigot, but without seeing the type it is impossible to decide.

The following Walker types belong to this genus:—

*Brachyrrhopola claviventris* [*Dioctria*], from Dorey, New Guinea. Wings clear.

*B. inopinus* [*Dasyppogon*], from New Guinea. Wings dark on fore border.

*B. indecorus* [*Dasyppogon*], from New Guinea. Wings brown at apex.

*B. semifilatus* [*Dasyppogon*], from Gilolo. Wings clear.

*B. solutus* [*Dasyppogon*], from Gilolo. Wings clear.

## NEOCYRTOPOGON, gen. nov.

Distinguished by the very convex *face*, absence of antennal style, and by the posterior cells all being open.

Formed for one species, viz. :—

*Neocyrtopogon bifasciatus*, sp. n.

Type ♂, type ♀, from Townsville, Queensland (*F. P. Dodd*), and two other females. One male from Moreton Bay, Queensland.

A handsome species with slender fulvous abdomen, black at base and on second and fourth segments, with wings yellow at base and on fore border, with the apex and hind border widely grey. Legs and antennæ reddish yellow. Face very convex, deep golden yellow. Thorax with black bands and golden tomentum.

Length 19–20 mm.

Fulvous. *Head* wider than deep, the *face* very convex, projecting far above the plane of eyes; the moustache very scanty, confined to the oral opening; *face* dull golden covered with yellow tomentum, the cheeks below, near the mouth, black, the bristles of moustache reddish yellow, the beard yellowish. *Palpi* red, with reddish pubescence. *Antennæ* reddish yellow; the first and second joints about equal in length, with scanty reddish pubescence; the third joint long and slender, with no distinct terminal style. *Forehead* same colour as face for half its depth, then black with three ocelli on vertex, a few reddish-yellow hairs on the black part, and those round the head posteriorly the same colour. *Thorax* dull fulvous, with a short broad black stripe on dorsum produced in the middle, reaching as a narrow stripe the anterior border of thorax, the shoulders and sides with golden tomentum, sides armed with reddish-yellow bristles, intermixed with these are some minute short yellow ones. *Scutellum* fulvous. *Abdomen* reddish yellow, sometimes more yellow; the first segment black, fulvous on its posterior border, the second and third in the male slightly restricted, a black narrow band in the middle of the second one, the fourth wholly black, the fifth black on the sides and dusky on its anterior border, on sides of the first segment a tuft of yellow bristly hairs; abdomen devoid of pubescence, shining, in the female, in the male minute fulvous bristles are apparent especially towards the apex; genital organs prominent, with fulvous pubescence; apex of abdomen in female armed with strong reddish bristles and with some fulvous pubescence; underside black, reddish yellow on the second

and third segments, and in the male at the apex. *Legs* fulvous, the same colour as the abdomen; the coxæ black, the knees, apices of tibiæ, and the last joint of the tarsi usually brown. *Wings* yellow at base and on fore borders as far as the apex of the first basal cell, the centre of which and the apical half of the second basal cell with the apex of the wing, almost the whole of the discal cell and hind border of wing greyish brown, veins yellow on the yellow part, brown on the darker parts; all posterior cells and anal cell open, but the first and fourth posterior slightly narrowed at opening, and anal cell very narrow. Halteres yellowish.

RACHIOPOGON, gen. nov.

Distinguished from other genera in the division with curved spine to fore tibiæ, by the formation of third joint of *antennæ*, which is almost twice as long as the first two joints together, with no style to its blunt apex but notched on its upper side. Moustache confined to oral opening. *Thorax* and *scutellum* with bristles. *Legs* bare, armed with bristles. *Wings* with posterior cells open, but the fourth considerably narrower at border; the first vein from the discal cell bulges on its basal half into the first posterior cell.

Formed for one species originally described from Moreton Bay, N. Australia, in Mr. Gibbon's Coll.

*Rachiopogon grantii*, Newman.

Trans. Ent. Soc. London, n. ser. iv. p. 57 [*Dasyopogon*] (1857).

The species is represented in Brit. Mus. Coll. by one female from S. Queensland (*Dr. T. L. Bancroft*), 1908. Newman's type is not in the Brit. Mus. Coll.

A handsome black fly, with fulvous wings and anterior and middle tibiæ on their basal half fulvous.

Length 20 mm.

*Face* slightly raised at oral opening, covered with golden-yellow tomentum, greyer at the sides. Moustache composed of yellow bristles placed round the oral opening. *Palpi* black, with strong black bristles at apex and with black hairs. Proboscis longer. Beard black. *Antennæ* blackish, the first joint of antennæ same colour as face but darker; the first two joints short, with a few black hairs, the third cylindrical, the notch at apex is best seen from behind, armed with a very short blunt spine. *Thorax* black, with about five black bristles at sides, beginning a short distance below shoulders. *Scutellum* black, with two bristles.

*Abdomen* dull black, the same width throughout, till the fifth, which with the last two segments is considerably narrower; the last two segments shining; on the posterior half of the first four segments some dull fulvous short pubescence is apparent. *Legs* dull black; the apices of fore femora, the basal half of fore tibiæ, and the basal third of middle tibiæ fulvous, fore and middle coxæ with white hairs; the legs are armed with black bristles of varying length, two very long ones are present on each side of the middle tibiæ, and a shorter one on the fore tibiæ. *Wings* fulvous, a little paler at apex and on posterior border, veins fulvous; the second posterior cell bulges into the first posterior on its basal half, the first posterior not narrower at border, the fourth narrower at border but not closed; the anal cell very narrow but not quite closed, the fork of third vein is long, the small cross-vein is placed beyond the middle of discal cell. Halteres fulvous.

#### NEOSAROPOGON, gen. nov.

Distinguished from *Saropogon* by the large size of the species, by the absence of any visible style to third joint of *antennæ*, by the fourth posterior cell of *wing* being not quite closed or widely open, and by the moustache being composed of numerous bristles about the same size arranged fan-like above the oral opening.

In two of the species included in this genus the first vein from the discal cell bulges at the base into the first posterior cell, and the fourth posterior cell is much narrowed at border; in the third species, *N. princeps*, it is widely open.

The species as yet known are:—

Neosaropogon princeps, Macquart, Dipt. Exot. Suppl. iii. p. 179, pl. i. fig. 14 [*Dasyopogon*] (1848); v. d. Wulp, Tijds. v. Entom. xix. p. 172 [*Laparus*] (1876); Bigot, Ann. Soc. Ent. France, (5) viii. p. 222 [*Plesiomma*] (1878); Williston, Trans. Amer. Ent. Soc. Philad. xviii. p. 76 [*Dasyopogon*] (1891); Kertész, Cat. Dipt. p. 121 [*Neolaparus*] (1909); Froggatt, Australian Insects, p. 300 [*Saropogon*] (1907).—*Dasyopogon allia*, Walker, List Dipt. ii. p. 334 (1849), et vi. Suppl. ii. p. 487; Kertész, List Dipt. p. 63 [*Isopogon*] (1909). *Dasyopogon caryus*, Walker, l. c.; Kertész, l. c. [*Isopogon*]. *Dasyopogon numicius*, Walker, l. c. p. 335; Kertész, l. c. [*Isopogon*].

Neosaropogon salinator, Walker, List Dipt. ii. p. 325 [*Dasyopogon*] (1849), et vi. Suppl. ii. p. 477 [*Dasyopogon*] (1854); Kertész, Cat. Dipt. p. 66 [*Heteropogon*] (1909).

Neosaropogon claripennis, sp. n.

#### *Neosaropogon princeps*, Macq.

*Dasyopogon canus*, Walker.

*Dasyopogon numicius*, Walker.

*Dasyopogon allia*, Walker.

Macquart's type was recorded from New South Wales, and he notes another specimen as from Brazil.

Macquart's type (♀) and three other female specimens, all varying in size, were seen by me in the Paris Museum. In the type the third segment is almost wholly dark, in the other specimens only dark on the anterior border as in the specimens in the British Museum. Apex of abdomen furnished with circle of spines.

Walker's three types were described from unknown localities.

There are specimens in the Brit. Mus. Coll. from Australia, New South Wales. Mr. Froggatt records a specimen from Mittagong, New South Wales.

This species cannot belong to *Neolaparus*, owing to the different formation of the moustache and the absence of antennal style. It is distinguished from the other two species placed in this genus by the more open fourth posterior cell, the last part of its upper vein not turning sharply downwards, and the first vein from the discal cell does not bulge into the first posterior cell. It varies in size greatly, judging from the specimens in the British Museum Coll., which measure from 22–25 mm. (males), 15–22 (females).

The moustache is composed of stout bristles. The *antennæ* are reddish yellow; the first two joints with yellowish hairs and some bristles; the third bare, cylindrical, in one male nearly three times as long, in two females only twice as long as the first two joints together. The bristles at sides of thorax are rather short and yellow, the *scutellum* apparently devoid of them.

### *Neosaropogon salinator*, Walker.

Type (♀) and another female from Port Essington, N. Australia, and a male and female from Port Darwin, N. Australia (*Buckland*).

Distinguished from *Neosaropogon claripennis*, sp. n., by the shorter, more club-shaped third antennal joint, by the wholly yellow legs (only the coxæ are darker), and the more distinctly banded abdomen.

Length 23–27 mm.

Yellowish, with black bands on abdomen. *Face* pale yellow, the bristles yellowish white. *Antennæ* reddish yellow; the first two joints with yellow hairs and a few black bristles; the third bare, rather club-shaped, about one and a half times as long as the first two joints together. *Thorax* greyish brown, with traces of three black stripes; sides with

yellowish tomentum; four black bristles above and two below root of wing, *scutellum* with two long black ones. *Abdomen* dull yellowish, with blackish bands on the anterior borders of segments, becoming broader towards the apex, which in the female is almost wholly black. *Legs* yellow; the coxæ black, covered with greyish tomentum and long yellowish hairs. *Wings* faintly tinged brown at apex; venuration as in *N. claripennis*, but the fourth posterior cell is rather more open. Halteres yellow.

*Neosaropogon claripennis*, sp. n.

Type (♂) and another from Townsville, Queensland (*F. P. Dodd*), and type (♀) and another from same locality.

A species with dark reddish-brown abdomen, indistinctly marked with black; legs lighter, reddish yellow, with tarsi black. Antennæ reddish yellow. Wings clear; fourth posterior cell narrowed at opening.

Length 23 mm. One female measures only 16 mm.

Dark reddish brown. Head wider than it is deep. *Face* slightly convex, a dull yellowish deep chamois-leather colour, with golden tomentum; moustache of long yellow bristles. *Palpi* black, with yellowish pubescence. Beard yellowish. *Antennæ* reddish yellow; the third joint nearly three times as long as the first two joints together, cylindrical, bare, ending in an obtuse point; the first two joints with hairs. *Forehead* blackish, but covered with yellowish tomentum; hairs round head stout, reddish yellow. *Thorax* black, when not denuded more or less covered with dull brownish-yellow tomentum; shoulders and sides with golden-yellow tomentum; dorsum with short black bristles; sides with yellowish-red hairs and two long black bristles above root of wing, four or more below root of wing, and shorter ones at base of thorax; *scutellum* with two long black bristles, colour and tomentum as in thorax. *Abdomen* reddish, indistinct blackish markings on the middle segments, base of first segment black, some short yellow hairs at sides and long ones at apex in the male; dorsum almost bare, but very short black hairs are apparent when closely examined; in the female the *abdomen* appears lighter in colour, more yellowish; in both sexes on side of first segment at the base is a tuft of stout bristle-like yellow or reddish hairs, apex of female with short red bristles; underside reddish brown or reddish yellow, with blackish segmentations. *Legs* reddish yellow; coxæ black, with some white hairs; knees of posterior tibiæ and the last four tarsi on all the legs black; femora with very few black bristles,

tibiæ and tarsi with numerous ones. *Wings* hyaline: veins yellow; the first vein from the discal cell bulges at the base into the first posterior cell, which is open at border; the fourth is also open, but the last part of its upper vein from the transverse vein enclosing the discal cell turns so sharply downwards that it almost closes the cell, leaving only a narrow opening at border. Halteres yellow.

[To be continued.]





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A REVISION OF THE *ASILIDÆ*  
OF AUSTRALASIA.

BY  
GERTRUDE RICARDO.

*A Revision of the Asilidæ of Australasia.*

By GERTRUDE RICARDO.

[Continued from vol. ix. p. 594.]

## DEROMYIA, Philippi.

Verh. zool.-bot. Ges. Wien, xv. p. 705 (1865).

*Diogmites*, Loew, Berlin. ent. Zeitschr. x. p. 21 nota (1866).

This genus has been as yet confined to the American continent, but the species described below appears to belong to the genus, which is distinguished by the closed fourth posterior cell of wing before it reaches the margin, by the absence of a style to antennæ, by the comparatively long first two joints of antennæ, and by the wide head. The face has no tubercle and the moustache is almost confined to the oral opening. My new genus *Neosaropogon* is distinguished from it by the fourth posterior cell of wing being open or only narrower at border.

*Deromyia australis*, sp. n.

Type (♀) and two other females from Stannary Hills, N. Queensland, circa 3000 feet (*Dr. T. L. Bancroft*), 1909.

An *Asilus*-looking species, with hyaline wings, blackish abdomen, reddish-yellow antennæ and legs.

Length of type 18 mm., others 16 mm.

Head wider than thorax.

Face covered with pale golden tomentum, flat, raised at oral opening almost as a tubercle, on which the pale yellow bristles forming the moustache are placed. Palpi reddish yellow, with long pale yellow hairs. Proboscis long. Beard white. Antennæ reddish yellow: the first two joints with thick black hairs; the second slightly the longest; the third club-shaped, hardly longer than the first two joints together. Forehead darker than face, with six long black bristles on the ocelligerous tubercle. Hind part of head with bristle-like yellow hairs. Thorax greenish grey, with greyish-yellow tomentum, with three black bristles above the transverse suture at sides and numerous ones beyond; breast-sides paler in colour; prothorax well developed; scutellum armed with two black bristles. Abdomen blackish, with narrow dull reddish posterior borders to segments; sides of dorsum yellowish, grey tomentum on anterior borders and at sides of segments; pubescence very scanty, short, yellowish; ovipositor prominent below.

Legs reddish yellow; hind tarsi and apices of tibiæ black; femora devoid of bristles, tibiæ and tarsi with strong yellow ones. Wings hyaline, greyish at apex; veins brown, the small transverse vein situated just beyond the middle of discal cell; the first posterior cell slightly narrower at border, the fourth closed far from border; anal cell very much narrowed at border, but open.

#### SAROPOGON, Loew.

Linn. Ent. ii. p. 439 (1847).

For species from New Zealand see Hutton, Trans. New Zealand Inst. xxxiii. p. 18 (1900), et p. 195 (1901). <sup>also Hardy</sup>

The species as yet recorded from the Australasian Region are confined to Australia, Tasmania, and New Zealand, viz. :—

Saropogon sergius, Walker, List Dipt. ii. p. 347 [*Dasyopogon*] (1849), et vi. Suppl. 2, p. 477 [*Dasyopogon*] (1854); Kertész, Cat. Dipt. p. 73 [*Lasiopogon*] (1909).—*Dasyopogon festinans*, ♂, Walker, Dipt. Saund. i. p. 92 (1851), et List Dipt. vi. Suppl. 2, p. 405 (1854).

Saropogon viduus, Walker, List Dipt. ii. p. 354 et vi. Suppl. 2, p. 483 [*Dasyopogon*] (1849); Hutton, Trans. New Zealand Inst. xxxiii. p. 19 (1901).

Saropogon discus, Walker, List Dipt. ii. p. 358 (1849), et vi. Suppl. 2, p. 483 [*Dasyopogon*] (1854); Hutton, Trans. New Zealand Inst. xxxiii. p. 19 (1901).—*Saropogon hudsoni*, Hutton, l. c. p. 20.

Saropogon suavis, Walker, Trans. Ent. Soc. London, n. ser. iv. p. 327 [*Dasyopogon*] (1857); Kertész, Cat. Dipt. p. 132 [*Dasyopogon*] (1857).—*Dasyopogon gamaras*, Walker, List Dipt. ii. p. 346 (1849), et vi. Suppl. 2, p. 486 (1854); Kertész, Cat. Dipt. p. 73 [*Lasiopogon*] (1909).

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- simulans* Hutt Saropogon limbinervis, Macquart, Dipt. Exot. Suppl. 5, p. 71 [*Dasypogon*] (1855); Bigot, Ann. Soc. Ent. France, (5) viii. p. 222 (1898).  
*besens* " Saropogon antipodus, Schiner, Novara Reise, Dipt. p. 166 (1863); Hutton, Trans. New Zealand Inst. xxxiii. p. 20 (1901).  
 Saropogon semirufus, Bigot, Ann. Soc. Ent. France, (5) viii. p. 414 (1878).  
 Saropogon chathamensis, Hutton, Trans. New Zealand Inst. xxxiii. p. 20 (1901).  
 Saropogon clarkii, Hutton, l. c. p. 19.  
 Saropogon extenuatus, Hutton, l. c. p. 21.  
 Saropogon fugiens, Hutton, l. c. p. 20.  
 Saropogon fascipes, Hutton, l. c. xxxiv. p. 195 (1901).  
 Saropogon proximus, Hutton, l. c. xxxiii. p. 19 (1901).

*Note*.—Saropogon aphidus, Wlk., from unknown locality. Type appears to be lost.

### *Saropogon sergius*, Walker.

*Dasypogon festinans*, ♂, Walker.

Type (♂) from New South Wales (presented by Haslar Hospital), in bad preservation.

A reddish species, with reddish-yellow legs and antennæ.

Length 15 mm.

Face covered with golden-yellow tomentum. Moustache of pale yellow bristles. Palpi ferruginous, with yellowish hairs. Antennæ reddish yellow; the first two joints with yellowish hairs and bristles, the third about one and a half times as long as the first two joints together. Forehead blackish, a broad black stripe extending to base of antennæ. Hind part of head with a thick fringe of yellow bristly hairs. Thorax (denuded) reddish brown, with black stripes. Scutellum reddish brown. Abdomen reddish brown, the first segment black; two black lateral stripes begin on the second and extend to posterior border of third segment. Genital organs prominent. Underside reddish yellow, shining. Legs reddish yellow. Wings (broken); Walker describes them as "colourless, with a slight tawny tinge on the fore part; wing ribs and veins black"; the small transverse vein beyond the middle of discal cell; the transverse vein closing the discal cell joins the fourth vein just below the fork.

*Dasypogon festinans*, a male type from unknown locality, is identical with this type.

From the description of *Dasypogon nitidus*, Macq., from Tasmania, it is possibly the same species as this.

### *Saropogon viduus*, Walker.

Type (♀) and others from New Zealand.

A wholly black species, with clear wings, clouded at apex.

Length 12-14 mm.

Face black, covered with grey tomentum. Moustache of long black bristles. Palpi black, with black hairs. Antennæ with many black hairs on the first two joints; the third joint bare, not much longer than the first two joints together. Forehead with black hairs. Thorax brownish black, with grey tomentose stripes; sides and breast black, with grey tomentum, which is more silvery white on the sides of breast. Scutellum with some grey tomentum. Abdomen black, somewhat shining, small silvery white spots appear on the sides usually from the second segment onwards. Legs black, with black bristles and hairs. Wings large, veins brown, apex tinged brown, small transverse vein beyond the middle of discal cell.

The co-type of *Saropogon clarkii* in Brit. Mus. Coll. is almost identical with the above type and specimens, also from New Zealand; the only difference apparent is the position of the small transverse vein of wing, which in Hutton's co-type is at or below the middle of discal cell and is clouded with brown, fore border tinged brown, not extending beyond the first submarginal cell. Abdomen more blue-black, with the white tomentose spots at side more apparent.

*Saropogon discus*, Walker.

*Saropogon hudsoni*, Hutton.

Type (♀) and another from New Zealand, and a co-type of *Saropogon hudsoni*.

A black robust species with a broad black abdomen, red at apex. Legs red, tarsi blackish. Wings clear.

Length 12 mm.

Face covered with pale yellowish tomentum. Moustache of pale yellow bristles. Palpi black, with pale hairs. Antennæ black, the first two joints with black hairs and bristles, the third joint nearly once and a half as long as the first two joints together, the usual style present. Forehead blackish, with some long black hairs at sides. Hind part of head with black bristly hairs. Thorax blackish, with some tawny tomentum and indistinct black stripes; sides and breast with greyish tomentum. Scutellum black, covered with tawny tomentum. Abdomen black, sides and apex bright testaceous, the fifth and sixth segments being so on their posterior borders, and the last two segments entirely so. Underside reddish yellow. Legs reddish yellow; the tarsi

black; coxæ blackish, with grey tomentum. *Wings* hyaline, very faintly greyish at apex; veins brown; small transverse vein just beyond the middle of discal cell; anal cell very narrow at border.

The co-type of *Saropogon hudsoni*, presented to the British Museum by the late Capt. F. W. Hutton, is identical with the Walker type. He records his species from Mount Peel, Nelson.

*Saropogon suavis*, Walker.

*Dasyopogon gamaras*, Walker.

Type (♂) from Australia.

A small, slender, reddish species, with a general resemblance to a *Leptogaster* species.

Length 11 mm.

*Face* covered with golden-yellow tomentum. Moustache of pale yellow bristles. *Palpi* ferruginous, with yellowish hairs. *Antennæ* (third joint destroyed): Walker describes them as "tawny, the third joint nearly linear, black above." *Forehead* blackish, covered with some golden-yellow tomentum. *Thorax* (denuded) reddish. *Scutellum* similar. *Abdomen* wholly reddish, slender. *Legs* reddish, middle and posterior femora and apices of posterior tibiæ black. *Wings* tinged yellow, veins brown, fourth posterior cell slightly narrowed at opening, the small transverse vein just beyond the middle of discal cell.

Though the third joint of *antennæ* is wanting, there is little doubt this species is a true *Saropogon*.

*Dasyopogon gamaras*, a male type from unknown region, is identical, but a little larger, measuring 14 mm., and stouter; there is a tinge of black on the second and third segments of abdomen.

*Dasyopogon analis*, Macq., Dipt. Exot. Suppl. 4, p. 369 (1849).—Type seen by me in Paris Museum may possibly be identical with this species. Head of type is gone. A small species with yellow abdomen. *Wings* clear, tinged yellow and slightly clouded on cross-veins; all posterior cells open. In Walker's types none of the black markings mentioned by Macquart are present.

*Saropogon limbinervis*, Macquart.

This species is placed in this genus by Bigot, who had Macquart's type before him.

It is described as black, the fifth segment of *abdomen* testaceous. *Legs* black. *Wings* with veins shaded brown.

Length 6 lines. ♀.

*Saropogon antipodus*, Schiner.

Described as brown-red. *Face* golden yellow. *Antennæ* black-brown. *Thorax* with golden-yellow stripe and spots, scutellum and breast-sides golden yellow. *Abdomen* shining reddish, the first two segments partly black. *Legs* bright rusty yellow, femora with black stripe, tarsi brownish. *Wings* tinged very pale brownish yellow, with brown veins; the second posterior cell very narrow at base, the fourth narrowed a little at opening.

Length 6 lines.

Auckland. One female.

*Saropogon semirufus*, Bigot.

From Australia.

A species described as red and black. *Face* with a shining black stripe. *Abdomen* blackish, red at sides and apex. *Antennæ* fawn-coloured. *Wings* pale brown.

Length 12 mm.

*Saropogon clarkii*, Hutton.

Co-type (♂) in Brit. Mus. Coll., presented by Capt. F. W. Hutton, from New Zealand.

A large black species. *Face* brownish, with whitish-grey tomentum. Moustache black, composed of stout bristles. *Forehead* with bristly black hairs. *Thorax* with two grey tomentose narrow stripes; shoulders grey tomentose and scutellum the same. *Abdomen* blue-black, shining; genital organs black, with black pubescence. *Legs* wholly black. *Wings* hyaline, tinged brown on the fore border at base and where the second vein has its origin.

Length 16 mm.

*Saropogon fugiens*, Hutton.

Co-type (♂) presented by Capt. F. W. Hutton, from New Zealand; males and females from same locality (*Hudson, Cochrane*).

A blue-black species with golden tomentum on face, on sides and dorsum of *thorax*, and on *scutellum*. *Legs* reddish, the femora blackish above; tibiæ black at apices, largely so

on the posterior pair. *Wings* hyaline or clouded brown, small transverse vein just beyond the middle of discal cell. *Abdomen* blue-black, shining; in some of the specimens a reddish line at sides is visible; genital organs in male black, with black pubescence; in female a circle of spines at apex of abdomen.

Length of co-type 12 mm.

#### ACNEPHALUM, Macquart.

Dipt. Exot. i. (2) p. 167 (1838).

One species is recorded from Australia.

*A. punctipenne*, Macq. Suppl. 5, p. 71 (1854), unknown to me. The type of *A. coon*, Walker, from unknown locality, is not to be found in the Brit. Mus. Coll.

#### MICROSTYLUM, Macquart.

Dipt. Exot. i. (2) p. 142 (1838).

One species, *M. testaceum*, Macq. [*Dasypogon*] Suppl. 1, p. 188 (1844), is recorded from Australia. Unknown to me, and not in the Paris Museum.

It is described as testaceous; the *abdomen* black, apex testaceous. *Legs* black, the femora testaceous. *Wings* yellow, the fourth posterior cell closed.

Length 12 lines.

#### PHELLUS, Walker.

Dipt. Saund. i. p. 110 (1851).

This genus was formed for one species.

*Phellus glaucus*, Walker.

Dipt. Saund. i. p. 110, pl. iv. fig. 6 (1851); id., List Dipt. vi. Suppl. 2, p. 503 (1854); Froggatt, Australian Insects, p. 300, pl. xxviii. fig. 12 (1907).

Type (♀) and another from West Australia. Two males from Swan River, W. Australia. Froggatt states that it is found in the interior of W. Australia.

This genus is not identical with *Phoneus*, Macq., or *Obelophorus*, Schiner, as suggested by this latter author, but is probably nearly related to the latter genus peculiar to Chili, from which it is distinguished by the short stout prolongation on the middle tibiae. The *face* is covered with hairs, the *forehead* broad, the ovipositor of female long, the abdomen hairy, the antennae with a long third joint. The

wing with an appendix and the first posterior cell narrowed at opening, the fourth and anal cell closed. The legs are stout and hairy, more especially the hind tarsi and apex of hind tibiæ; the curious prolongation of middle tibiæ is short, armed with very stout short spines on outer border, and on inner border with thick hairs.

CODULA, Macquart.

Dipt. Exot. Suppl. 4, p. 374 (1849).

This genus, formed by the author for *C. limbipennis* from New South Wales, is allied to his genus *Brachyrrhopola*, to which his second species of *Codula* belongs, but it is at once distinguished by the absence of the curved spine on fore tibiæ, the moustache is composed of fewer hairs and confined to the oral opening, and the abdomen is stouter and shorter. With Macquart's second species and one placed by Bigot in this genus transferred to *Brachyrrhopola*, only Macquart's typical species and one nearly allied to it remain in the genus.

*Codula limbipennis*, Macq., Dipt. Exot. Suppl. 4, p. 374, pl. vii. fig. 2 (1849).

*Codula vespiformis*, Thoms., Eugen. Resa, Diptera, p. 464 (1869).

*Codula limbipennis*, Macquart.

Type ♂ seen in Paris Museum by me, from E. Australia. A species with a stout club-shaped abdomen, black and yellow in colouring. Wings deep brown on fore border.

Face black, covered with bright yellow tomentum, leaving a black stripe in the middle. Moustache composed of five or six long yellow bristly hairs. Palpi black, with black pubescence. Antennæ long, the third joint twice as long as the first two together, yellow. Thorax black with dull yellowish tomentum, two bright orange spots above the shoulders. Abdomen black, with bright orange tomentum beginning from the posterior border of the third segment, the fourth entirely black in the centre, the other segments wholly covered with the bright orange tomentum; under-side black, with two orange-coloured segmentations only. Legs black, knees and hind tibiæ yellow. Wings clear, deep brown on the fore border, extending through both basal cells, then in a straight line to the apex, bordered by the third vein, not extending beyond its first forked branch.

Macquart's description is as follows:—

Thorax black. Abdomen red. Legs black; tibiæ red.

Wings brown on external border. Length 5 lines ♂. Palpi with black hairs. Beard black. Face with yellow tomentum: a black denuded space under the antennæ; moustache black. Forehead black. Antennæ fawn-coloured, the third joint brown at apex. Thorax dull with some grey tomentum, the shoulder spot fawn-coloured; sides shining. Abdomen: the first, second, and anterior border of third segment black, the remainder bright fawn-coloured; the fourth with a large blackish transverse dorsal spot, the seventh very small, black; underside wholly shining black. Femora fawn-coloured at apices; anterior and intermediate tibiæ black, at base fawn-coloured; posterior pair fawn-coloured. Anterior and intermediate tarsi black, posterior pair fawn-coloured. Wings hyaline, with a wide brown fore border; base of the second submarginal cell very narrow.

From east coast of New South Wales.

*Codula vespiformis*, Thomson.

One male from Burpengary, Queensland, in Brit. Mus. Coll.

Thomson described his type, a male from Sydney, as related to *C. limbipennis*, Macquart, but easily distinguished by the colour of abdomen.

*Face* golden yellow with a short black median stripe, raised at oral opening, which is covered by the moustache composed of yellow bristles. *Antennæ* reddish yellow; the third joint long cylindrical, notched on upper border, no style apparent. *Forehead* black, shining, with some grey and black hairs. *Thorax* black, with golden yellow tomentose spots on prothorax, shoulders, and two spots on lower border the same colour; one stout fulvous spine-like bristle at side of thorax above base of wing. *Scutellum* black, with horizontal golden-yellow tomentose stripes. *Abdomen* club-shaped, black, reddish golden tomentose on posterior border of second segment as a narrow band, a similar but wider band on posterior border of third segment, a very narrow one on posterior border of fourth, and fifth and sixth wholly reddish golden except at the sides; underside wholly black; on sides of first segment appears a small black bristle. *Legs* reddish yellow; femora with exception of apices black, apices of fore tibiæ and the tarsi fuscous. *Wings* hyaline, fore border deep brown, reaching the discal cell and almost filling up the basal cells, on apical half it does not extend beyond the third vein; all cells open, the fourth posterior and anal cells narrowed at border.

Length of specimen 15 mm.

BATHYPOGON, Loew.

Progr. Realschule, Meseritz, 1851, p. 13 (1851).

This genus was formed by Loew for his species *B. asiliformis* from Australia, and Schiner added *B. brachypterus*, Macq., besides other species from Chili.

The genus belongs to the group of *Dasyopogoninae* with no spine on fore tibiæ and is distinguished by the rather short wings with the fourth posterior cell closed and the first widely open, the vein closing the fourth posterior cell is nearly on a line with the one closing the discal cell; the face has a distinct tubercle, with the moustache reaching the antennæ, which have a style-like bristle on the end of the third joint. It appears to be distinguished from *Stenopogon* by the broader face.

The statement in Schiner's table that the wings in this genus in proportion are long and narrow, is somewhat misleading, so far as concerns its relationship to the other Australian genera of *Dasyopogoninae*, from which it is clearly distinguished by the rather short narrow wings, often not reaching far beyond half the length of the abdomen.

The following described and one new species, all from Australia, now belong to this genus.

The differences between some of the species are very small and probably with the advent of fresh material some will hardly be maintained as distinct.

*Bathypogon brachypterus*, Macq., Dipt. Exot. i. (2) p. 160, pl. iii. fig. 3 [*Dasyopogon*] (1838); id., Suppl. ii. p. 50 [*Dasyopogon*] (1847); Rond. Nuov. Ann. Sci. Nat. Bologna, (3) ii. p. 105 [*Astylum*] (1850).—*Proctacanthus postica*, Walker, List Dipt. vii. Suppl. 3, p. 655 (1855).

*Bathypogon aoris*, Walker, List Dipt. ii. p. 321 [*Dasyopogon*] [*Xiphocerus*] (1849), et vi. Suppl. 2, p. 480 [*Dasyopogon*] (1854); Kertész, Cat. Dipt. p. 100 [*Ancylorrhynchus*] (1909).—*Bathypogon asiliformis*, Loew, Progr. Realschule, Meseritz, 1851, 31 (1851). ? *Asilus mutillatus*, Walker, List Dipt. vii. Suppl. 3, p. 739 (1855).

*Bathypogon pedanus*, Walker, List Dipt. ii. p. 320 [*Dasyopogon*] (1849), et vi. Suppl. 2, p. 481 [*Dasyopogon*] (1854); Kertész, Cat. Dipt. p. 102 [*Ancylorrhynchus*] (1909).

*Bathypogon testaceovittatus*, Macq., Dipt. Exot. Suppl. v. p. 70, pl. ii. fig. 1 [*Dasyopogon*] (1855); Bigot, Ann. Soc. Entom. France, (5) viii. p. 221 (1878).

*Bathypogon maculipes*, Bigot, Ann. Soc. Entom. France, (5) viii. p. 433 (1878).

*Bathypogon nigrinus*, sp. n.

- |   |                             |
|---|-----------------------------|
| 1. Tibiæ reddish . . . . .  | 2.                          |
| Tibiæ black . . . . .   | 3.                          |
| 2. Femora red and black; bristles on legs and<br>thorax chiefly white . . . . . | <i>brachypterus</i> , Macq. |

- |   |                          |
|---|--------------------------|
| Femora red and black; bristles on legs and thorax chiefly black ..... | <i>nigrinus</i> , sp. n. |
| Femora black; bristles on legs white, on thorax black .....           | <i>pedanus</i> , Wlk.    |
| 3. Bristles on legs and thorax chiefly white ....                     | <i>avis</i> , Wlk.       |

*Bathypogon brachypterus*, Macquart.

*Proctacanthus postica*, Walker.

This species is erroneously placed in Kertész's catalogue under *Astylum*, a genus formed by Rondani for a species from Venezuela with no terminal bristle or style to the third joint of antennæ.

Type (♀) from New S. Wales seen by me in Paris Museum, 12. 4. 11.

In Brit. Mus. Coll.: type of *Proctacanthus postica*, Walker, from Melbourne (Mr. Baby's coll.), a female from New S. Wales (Saunders coll.), and another from Mackay, Queensland (*G. Turner*) (1894). In Mr. French's coll. a female from Victoria.

Macquart's description is as follows:—

Black. Abdomen ashy grey below. Femora and tibiæ red below.

Length 8 lines. ♀.

Face and forehead yellowish grey; moustache reaching to the base of antennæ, yellowish white; the upper hairs black. Beard and hairs of palpi white. Hind part of head with yellow hairs. Antennæ black. Thorax black; stripes on side and scutellum with grey tomentum. Abdomen black, with scattered small yellow hairs; sides and belly ashy grey. Legs: femora and tibiæ red; with a black stripe above, which is wider on the posterior ones; posterior legs black; tarsi black, with yellow hairs, which are also present on the tibiæ. Wings rather short, slightly yellowish; brownish at the apex; the fourth posterior cell closed, with a very oblique posterior vein, the posterior vein of fork of third vein longer than the anterior one.

New South Wales.

The *antennæ* have a short terminal style. Moustache black above, then yellow. In the specimens before me there are no black hairs on upper part of moustache. The small cross-vein of *wing* is situated slightly beyond the middle of the discal cell.

Length of specimens 18–20 mm.

Walker's type is probably a specimen of this species; the type is in very bad preservation.

*Bathypogon aoris*, Walker.*Bathypogon asiliformis*, Loew.? *Asilus mutillatus*, Walker.

Type female from Adelaide (Ent. Club), other females and males from Mackay, Queensland (*G. Turner*) (1894), and Burpengary, Queensland (*Dr. T. L. Bancroft*), 1904.

Distinguished from *Bathypogon brachypterus* by the wholly blackish femora, and by the blackish tibiæ, bristles on legs chiefly yellowish, the small cross-vein of wing is situated about the middle of the discal cell.

Two of the females and one male from Queensland have the femora largely reddish as in *B. brachypterus*, but the tibiæ remain blackish; perhaps eventually the two species may be merged in one.

Length 17–26 mm.

The type of *Asilus mutillatus*, Walker, from Australia, abdomen missing, is evidently a species of this genus, apparently similar to *B. aoris*, with the exception of the small cross-vein of wing, which is distinctly below the middle of the discal cell.

Loew suggested that his species *B. asiliformis* might be identical with *Dasypogon plumbeus*, Fabr. (Ent. Syst. iv. p. 382; id. Syst. Antl. p. 165; Wiedem. Ausszweifl. Ins. i. p. 413 [*Asilus*]; see Kertész's Cat. for further refs.), but that the description of this last is too poor to serve for recognition of the species, and further concluded *Dasypogon bæbius*, Walker (List Dipt. ii. p. 333), placed in the same group as *Dasypogon plumbeus* by Walker, might be identical; this last type is apparently destroyed, not being in the Brit. Mus. Coll. From Loew's description his species is evidently identical with *B. aoris*. The Fabrician and Walker species might well be deleted from list.

*Bathypogon pedanus*, Walker.

Type (♀) and another from Swan River, W. Australia (Ent. Club).

Distinguished from *B. brachypterus* by the wholly black femora, and from *B. aoris* by the pale reddish tibiæ; the posterior pair are darker. *Thorax* black, with very distinct whitish-grey sides; shoulders red.

Length 18 mm.

*Bathypogon testaceovittatus*, Macq., said by him to be

allied to *Bathypogon aoris*, Walker, was placed by Bigot in this genus, probably correctly, judging from the figure of *wing* given by Macquart; it is described by him as having the sides of *thorax* and *abdomen* testaceous. If the figure of the *wing* is correct this species is distinguished by the rounded angle of the anterior branch of the fourth vein emitted from the discal cell.

*Bathypogon maculipes*, Bigot, from Australia, measuring 22 mm., is described as having the anterior and intermediate femora black, but reddish in the middle, and the posterior pair with an elongated reddish spot. The anterior tibiæ with a similar smaller reddish spot, the bristles of tibiæ whitish.

Neither of these species is known to me.

*Bathypogon nigrinus*, sp. n.

Type (♂) and a series of males and one female from Burpengary, S. Queensland (*Dr. T. L. Bancroft*).

A species very similar to *B. brachypterus*, Macq., but distinguished by the black (not yellow) bristles on the *legs* (yellow bristles are only present on the fore tarsi) and by the paler indistinct red of the fore tibiæ, which are covered with short white pubescence, and by the first two joints of *antennæ* being red, not black.

Length 16–18 mm.

*Face* reddish, with some little grey tomentum, at the sides of the face and below the antennæ appearing grey, being covered with a silvery white and grey tomentum; the tubercle large, taking up most of the face; moustache reaching its whole length, formed of strong black bristles, with a few white ones below. *Palpi* black, with yellowish-white hairs. Beard white. *Antennæ* black; the first two joints red, with yellowish-white long hairs; the first joint twice the length of the second, the third broad, with a style-like ending. *Forehead* black, with yellowish-grey tomentum, which is silvery-white above antennæ; pubescence of black hairs, at vertex very stout, black, spine-like bristles; round head white hairs. *Thorax* brownish, with two median and side black stripes, posteriorly covered with silvery-grey tomentum, which also covers the sides. *Scutellum* black, bordered with same-coloured tomentum and with black bristles. Sides of thorax with long black bristles. *Abdomen* black, covered with short white hairs and with black bristles at the segmentations; sides covered with grey

tomentum; underside blackish. *Legs* armed with bristles, which are black, on the fore tarsi some yellow ones; coxæ red, with white tomentum and long white hairs and one black bristle below; femora black above, with white pubescence, below red, with long white hairs; tibiæ yellowish red on the outside, black on the inside, with white pubescence; underside of fore tarsi with yellow pubescence; tarsi reddish, covered with white pubescence. *Wings* hyaline, brownish at apex and on posterior border; the small transverse vein oblique, about the middle of the discal cell; the fourth posterior cell and the anal closed; the transverse veins closing the discal and fourth posterior cell are not quite in a straight line. Halteres reddish yellow.

## STENOPOGON, LOEW.

Linn. Ent. ii. p. 453 (1847).

The genus is distinguished by the very narrow *face*, with a keel-shaped tubercle, the face becoming narrower still at antennæ, the moustache reaching nearly to the antennæ. *Wings* with the first posterior cell more or less narrower at border, the fourth closed or open. In the Australian species the front posterior cell is hardly narrower at border.

The following species are recorded from Australia:—

- Stenopogon elongatus*, Macq., Dipt. Exot. Suppl. 1, p. 194, pl. vii. fig. 6 (1844), et Suppl. 2, p. 50 [*Dasypogon*] (1846).—*Dasypogon flavifacies*, Macq., l. c. Suppl. 4, p. 363, pl. vi. fig. 6 (1849). *Dasypogon digentia*, ♂, Walker, List Dipt. pt. ii. p. 316 (1849), et part vi. Suppl. 2, p. 480 (1854); Kertész, Cat. Dipt. p. 101 [*Ancylorrhynchus*] (1909). *Dasypogon lanatus*, ♀, Walker, l. c. p. 317, et part vi. Suppl. 2, p. 486 (1854); Kertész, l. c. [*Ancylorrhynchus*] (1909). *Dasypogon thalpius*, ♂, Walker, l. c. p. 317, et part vi. Suppl. 2, p. 481 (1854); Kertész, l. c. [*Ancylorrhynchus*] (1909). *Dasypogon agave*, Walker, l. c. p. 317, et pt. vi. Suppl. 2, p. 480 (1854). *Stenopogon fraternus*, Bigot, Ann. Soc. Ent. France, (5) viii. p. 421 (1878).
- Stenopogon nicoteles*, ♂, Walker, List Dipt. pt. ii. p. 320 (1849), et pt. vi. Suppl. 2, p. 481 [*Dasypogon*] (1854); Kertész, Cat. Dipt. p. 102 [*Ancylorrhynchus*] (1909).

*pernis* White

*Stenopogon elongatus*, Macq.

- Dasypogon flavifacies*, ♀, Macq.  
*Dasypogon digentia*, ♂, Walker.  
*Dasypogon lanatus*, ♀, Walker.  
*Dasypogon thalpius*, ♂, Walker.  
*Dasypogon agave*, ♂, Walker.  
*Stenopogon fraternus*, Bigot.

Macquart's types both seen by me in Paris Museum, 12. 4. 11. *S. elongatus*, ♂ ♀, from New South Wales; *D. flavifacies*, a female (not a male) from Tasmania.

In Brit. Mus. Coll. :—

Type of *D. digentia*, a male from New South Wales. Haslar Hospital.

Type of *D. lanatus*, a male from Van Diemen's Land (*J. Brynce*).

Type of *D. thalpius*, a male from Perth, W. Australia (*G. Clifton*).

Type of *D. agave*, a male from Swan River, W. Australia.

Also a series of males and females from S. Australia, Tasmania, Queensland, and W. Australia.

Macquart's description is as follows :—

Elongated, black. Abdomen narrow, the apex testaceous. Moustache golden. Antennæ black. Legs testaceous.

Length 9 lines. ♂ ♀.

Palpi black, with black hairs. Face black; moustache and beard golden yellow, the first reaching the antennæ. Forehead black, with black hairs. Antennæ black; the first joint a little elongated, with black hairs below. Thorax black, with black hairs; sides with greyish-yellow tomentum and whitish hairs. Abdomen narrow, 6 lines long, black, with whitish tomentum and long whitish hairs below; genital organs a little swollen, testaceous; the anterior half of the last two segments testaceous. Legs with black bristles and whitish hairs; anterior femora black, testaceous at the apex, posterior ones black, the posterior half below testaceous; tibiæ black at apex; anterior tibiæ with no spines; tarsi black. Wings clear, a little yellowish; apex slightly brownish.

From New South Wales. Coll. M. Fairmaire and M. Bigot. One specimen in the coll. of Marquis Spinola comes from Sydney Island, Oceania.

Macquart further remarks, in the second Supplement, that the species which appears common in Tasmania affords him several subforms. One female differs from the type by the entire black abdomen, ovipositor, and femora; another has the femora entirely testaceous; in the males the abdomen is black and the genital organs blackish testaceous.

These remarks are fully borne out by an examination of Walker's type and others in the Brit. Mus. Coll. *D. digentia* has the abdomen entirely black. In some specimens the testaceous colouring, if present, is confined to the last segment. The bristles on the legs are often fulvous instead of

black or partly so. Macquart's type of *D. flavifacies* has the abdomen and femora entirely black.

Length of specimens, males from 17-23 mm., females from 20-25 mm.

*Stenopogon fraternus* from the description is no doubt the same as *S. elongatus*.

*Stenopogon nicoteles*, Walker.

Type (♂) from Swan River, West Australia (*Dr. Richardson*).

A small black species allied to *S. elongatus*, but the moustache is silvery white below, with black hairs above. *Face* black, covered with silvery-white tomentum. *Thorax* black, with grey tomentose stripes. *Abdomen* black, covered with brownish tomentum. *Legs* black, the tibiæ pale reddish yellow, the posterior pair almost wholly blackish; bristles on legs pale yellow. *Wings* hyaline; small transverse vein below the middle of discal cell.

Length  $14\frac{1}{2}$  mm.

#### PSILOZONA, gen. nov.

Formed for two species from Queensland.

Blue-black shining species. Fore and middle tibiæ and tarsi fringed with hairs, the tarsi broad. *Wings* with the fourth and anal cells closed, the veins closing the fourth posterior and discal cell almost parallel. *Face* shining, broad, somewhat raised above oral opening; the moustache composed of strong bristles, not confined to the oral opening, but not extending up the face; the *forehead* broad, shining, with hairs at sides. Head broader than it is high, excised in centre. Fore tibiæ have no curved spine. *Antennæ* with a distinct style.

*Psilozona albitarsis*, sp. n.

One male type and two females (type 1903) from Townsville, Queensland (*F. P. Dodd*), 1904 and 1903.

A blue-black species, with brownish *wings*. The male with white-haired fore tarsi and the base and apex of *abdomen* white-haired. Female with *abdomen* bare, long, and pointed at apex, the fore tibiæ with black hairs.

Length, ♂ 17, ♀ 23 mm.

♂. *Face* black, shining, with whitish tomentum at the

sides. Moustache composed of numerous strong black bristles, with some yellowish ones below, not extending to the sides, which have soft whitish pubescence. *Palpi* black, clothed with coarse, white, fairly long hairs, and with some stout black bristles at the apices. Proboscis slightly longer. Beard of thick white pubescence. *Antennæ* black, the third joint reddish yellow, the first two joints with black hairs, the third bare, with a distinct style, longer than the first two joints together and broader. *Forehead* black, with grey pubescence. Hind part of head with whitish hairs. *Thorax* black, with sparse greyish pubescence on the dorsum; the shoulders covered with ashy-grey tomentum; two stripes of grey tomentum apparent; sides whitish, with white pubescence; breast-sides black, with a broad horizontal whitish stripe and white pubescence; one long black bristle on side of thorax beyond the transverse suture and three shorter ones below on the breast-sides just above the suture. *Scutellum* black, with long whitish pubescence. *Abdomen* bluish, shining, the first three segments with whitish pubescence, fourth and fifth with very short, chiefly black pubescence, sixth and seventh with bristly yellowish hairs; anus with similar hairs; sides of abdomen with white hairs, except on the fourth and fifth segments, where it is short and black. *Legs* black, slender, the middle and anterior tibiæ and tarsi with thick fringes of black hairs, replaced on the fore tarsi by white hairs, which cover the tarsi on upper sides and are very noticeable. Hind tibiæ and tarsi armed with some short black bristles. *Wings* hyaline, brown on basal half, extending to the apex of first basal cell, and to the base of the discal cell, filling most of the anal cell, leaving the axillary to be almost hyaline; veins brown, the fourth posterior and anal cell closed, the transverse veins closing discal and fourth posterior cells almost parallel, the fourth at base not pedunculated, the small transverse vein situated beyond the middle of discal cell.

*Female* similar. *Abdomen* longer and pointed, the pubescence much less and shorter, white on the first two segments, then black; the first segment is blackish, the next three purplish, the remaining ones blue, metallic, shining; sides with short white hairs, intermixed with black on the first three segments, then black and shorter. *Legs*: the pubescence is wholly black. *Face* with the sides more widely covered with light tomentum, which is golden yellow; the hairs on first two joints of *antennæ* are yellow below, the hairs on palpi yellowish. *Wings* more wholly brown, only

the apex and centres of fourth and fifth cells and axillary lobe being hyaline.

*Psilozona nigratarsis*, sp. n.

Three males from Townsville, Queensland (*F. P. Dodd*), 1903.

A species very similar to *P. albitarsis*, but distinguished by the pale wings, the absence of white hairs on the fore tarsi, and by the presence of four black bristles on the breast-side just above the transverse suture in the type only. The moustache has more yellow hairs and fewer black bristles, the colouring on sides of face is golden yellow; the hairs on palpi, on lower part of the first two antennal joints, composing the beard, and round head are yellowish. *Thorax* not quite so pubescent. *Abdomen* with whitish pubescence only at base and a little short, scattered, white pubescence on the apex. The pubescence on fore legs less thick.

Length 18 mm.

DAMALIS, Fabr.

Syst. Antl. p. 147 (1805).

Only one species is recorded from Australia:—

*Damalis fuscipennis*, Macq., Dipt. Exot. Suppl. 1, p. 222 (1844).

This must be nearly allied to *Damalis pandens*, Walker, Proc. Linn. Soc. London, iv. p. 104 [*Discocephala*] (1860), from Celebes, the type in the Brit. Mus. Coll.; but that of *Damalis lugens*, Wlk., from New Guinea, is not to be found.

Doleschall recorded one species, *Damalis erythrophthalmus*, from Amboina.

[*Damalis speculiventris* ~~de~~ *meijere* = *D. pandens* Wlk.]

ANCYLORRHYNCHUS, Latreille.

Fam. Règn. Anim. p. 490 (1825).

*Xiphocera*, Macq., Suites à Buffon, i. p. 279 (1834).

See Kertész, Cat. Dipt. p. 100, for other synonyms.

This genus has not been recorded from Australia itself. All the Walker species placed in it in Kertész's Cat. belong to other genera; v. d. Wulp records one species from the Island of Waigou, *X. complacita*, and Doleschall one from Amboina, *X. rufithorax*.

## HETEROPOGON, Loew.

Linn. Ent. ii. p. 488 (1847).

*Dasyopogon bæbius*, Walker, is recorded from Australia. The type is not to be found in the Brit. Mus. Coll. It probably does not belong to this genus, in which it is placed in Kertész's Cat.; but, as stated above, Loew suggests it may be a *Bathypogon* species.

The following Walker species from unknown localities also placed here by Kertész do not belong to this genus, having curved spines on fore tibiæ, and the fourth posterior cell is closed, in line with the transverse vein closing discal cell; they appear to belong to a genus near *Deromyia*:—*ægon*, *animetus*, *cerretanus*, *copreus*, *silanus*, *politus*. Generically similar are *carvilius* under *Oligopogon* in Kertész's Cat., and *volcatius* under *Isopogon*; they do not appear to be from Australia.

*Dasyopogon fossius*, Walker, from unknown locality, is exactly similar to specimens labelled the same from S. Africa, and is evidently a South-African species; it has spines on the fore tibiæ.

[To be continued.]





*A Revision of the Asilidæ of Australasia.*

By GERTRUDE RICARDO.

[Continued from p. 160.]

DASYPOGON, Macquart.

Illiger's Magazine f. Ins. ii. p. 70 (1803).

The species from Australia and Tasmania not yet assigned to other genera from *Dasypogon* in *sensu lato* are the following :—

*Dasypogon australis*, Macq., Dipt. Exot. i. (2) p. 45 (1833).

*Dasypogon albonotatus*, Macq., l. c. Suppl. ii. p. 49 (1846).

*Dasypogon nigripennis*, Macq., l. c. Suppl. iii. p. 180, pl. i. fig. 10 (1847).

*Dasypogon nigrinus*, Macq., l. c. Suppl. iv. p. 66, pl. vi. fig. 9 (1849).

*Dasypogon carbo*, Walker, Dipt. Saund. i. p. 87 (1851).

The type of this last is probably destroyed, not being in the Brit. Mus. Coll.

*Dasypogon australis*, Macq.

Type a female seen by me in the Paris Museum, 12. 4. 11.

The head is gone, and Macquart makes no mention of it in his description ; it is therefore impossible to assign it to any genus, apparently it will belong to the *Dasypogon* genus in *sensu stricto*. It should be easily recognized by the *wings*, which are brown on the fore border, by the absence of spines on fore tibiæ, and by the black *abdomen*, with broad reddish-yellow segmentations, the apex has spines ; no ovipositor visible. *Legs* yellowish. *Thorax* black, shoulders reddish. *Scutellum* reddish, with long yellow bristles. The brown colouring on the *wings* extends along the fore border to the apex, as far as the posterior branch of fork of third vein, fills the first basal cell, the extreme base of the first posterior, and only touches the discal cell on its border ; the fourth posterior cell is wide open, anal not quite closed.

Macquart gives the length as 6 lines.

From New S. Wales.

*Dasypogon albonotatus*, Macquart.

From Tasmania.

Described as having a long, slender, black *abdomen*, with white spots at sides of second to fifth segments. *Face* and *forehead* golden yellow. Beard and the plain moustache white. *Legs* red, the anterior tibiæ with a curved spine.

*Wings* hyaline, a little yellowish at base and on fore border, apex grey, fourth posterior cell closed.

Length 8 lines. ♂.

*Dasypogon nigripennis*, Macquart.

Type is probably lost. From New S. Wales.

Described as black. *Face* white, with a black moustache confined to oral opening. Beard black. *Palpi* black with black hairs. *Legs* black, the fore tibiæ with a curved spine. *Wings* violet-black, centre of cells yellowish. In the figure of wing the fourth posterior cell is practically closed at border and anal cell closed. The figure of head shows the *antennæ* with the third joint about the length of the first two, with a short terminal style.

*Dasypogon nigrinus*, Macquart.

Type, a male, seen by me in Paris Museum, 12. 4. 11.

Furnished with a spine on the fore tibiæ and the *abdomen* is club-shaped, but the short *antennæ* seem to preclude it from belonging to the genus *Brachyrrhopola* or *Codula*. *Face* not very broad; no tubercle; moustache confined to oral opening, composed of yellow bristles; the face is covered with yellow tomentum. *Palpi* black with black hairs. *Antennæ* very short, the third joint conical, about as long as the first two together, the latter with black hairs, on the second a very strong black bristle is present. *Thorax* black (denuded). *Abdomen* black (denuded). Macquart states the first two segments are shining black, the fifth and sixth with testaceous segmentations; no pubescence is visible, but some white hairs at sides; genitalia large, protruding, but not club-shaped; underside reddish with white hairs. *Legs* red, stout, shining; femora largely black; tarsi black; bristles on legs black and yellow. *Wings* dark brown, hyaline at base, only the apices of the basal cells being brown; the fourth posterior cell is a little narrowed at the border; the anal half open; the small transverse vein is below the middle of discal cell; Macquart's figure of wing gives this incorrectly, and also makes the fourth posterior cell too narrow at border.

Length 10 mm.

From Tasmania.

The species from New Guinea or other parts of the Australian region are:—

*Dasypogon oclusus*, Meijere, Nova Guinea, v. Zool. p. 75 (1906), which the author suggests may be the same or nearly allied to, *Stichopogon congressus*, Wlk.

The Walker types of the following species described from unknown localities are not to be found in the Brit. Mus. Coll., viz. *Dasyopogon aphidnus*, *inserens*, and *occidens*, and might well be deleted from the list of species.

SELIDOPOGON, Bezzi.

Zeitschr. Hymen. u. Dipt. ii. p. 192 (1902).

Fore tibiæ with a curved spine.

*Selidopogon diadema*, Fabr., a European species extending to Asia Minor, has a number of synonyms, among others *Dasyopogon punctatus*, Fabr., which Macquart records as from New Holland, stating that a female he had seen was similar to the European specimens: see Dipt. Exot. Suppl. iii. p. 180, (1848). I have not seen any specimens of this species from Australia.

The genus extends through Europe, N. Africa, Asia Minor, and the American continent.

STICHOPOGON, Loew.

Linn. Ent. ii. p. 499 (1847).

*Stichopogon congressus*, Walker.

Proc. Linn. Soc. London, v. p. 302 (1861) [*Dasyopogon*]; Kertész, Cat. Dipt. p. 127 [*Dasyopogon*] (1909); Meijere, Nova Guinea, v. Zool. p. 75 (1906).

*Stichopogon albicapillus*, v. d. Wulp, Tyd. v. Entom. (2) vii. (xv.) p. 147 (1872); Kertész, Cat. Dipt. p. 83 (1909). From New Guinea.

*Stichopogon scalaris*, Bigot, Ann. Soc. Entom. France, (5) viii. p. 440 (1878). From Fiji Islands.

Type (♂) from Tidore, Celebes, and a ♀ from Sula Island.

See v. d. Wulp for description of this species.

DIOCTRIA, Meigen.

Illiger's Magaz. f. Ins. ii. p. 270 (1803).

*Methylla*, Hansen, Fulnea oris Dipt. pp. 145 et 198 (1883).

The type of *D. claviventris*, Walker, from New Guinea, and *D. tasmanica*, Walker, from Tasmania, are both species of *Brachyrrhopola*, the latter being a synonym of *B. maculiventrivis*, Macq.

*D. conopsoides*, F., from Australia, was unknown to Wiedemann and Schiner. From the description it is impossible to ascertain what genus it belongs to; it would seem therefore best to expunge the name from list.

*D. horsleyi*, Walker, from unknown locality, is not a

species of *Dioctria*, though it bears a general resemblance to the genus and has a long third antennal joint; but the fore tibiæ are armed with a very distinct curved spine. It cannot belong to the genus *Cyrtophrys*, Loew, the *antennæ* having no apparent style. The *abdomen* is black, reddish at the apex.

## LAPHRINÆ.

## Table of Genera.

- |  |    |  |
|--|----|--|
| 1. Fore tibiæ with a curved spine at apex . . . . .  | 2. |  |
| Fore tibiæ with no curved spine at apex . . . . .  | 3. |  |
| 2. Blue-black species marked with white abdominal spots. Moustache usually reaching nearly to antennæ, tubercle distinct on face . . . . . |    | <i>Thereutria</i> , Loew.                      |
| Small species. Moustache confined to oral opening, no tubercle on face . . . . .   |    | <i>Metalaphria</i> , g. n.                     |
| 3. Posterior transverse vein in a straight line, or almost so, with the vein closing discal cell . . . . .                                 | 4. |  |
| Posterior transverse vein not so placed . . . . .  | 6. |  |
| 4. Third joint of antennæ notched at apex, usually with a spine . . . . .  |    | <i>Clariola</i> , Kertesz.                     |
| Third joint of antennæ not notched . . . . .   | 5. |  |
| 5. Abdomen punctuate, third joint of antennæ longer than the first two joints together . . . . .   |    | <i>Atomosia</i> , Macquart.                    |
| Abdomen hardly punctuate, the third joint three times as long as the first two joints together . . . . .                                   |    | <i>Aphestia</i> .                              |
| 6. First posterior cell closed or very narrow. Abdomen bare . . . . .  |    | [ <i>Nusa</i> , Walker. = <u><i>Andren</i></u> |
| First posterior cell wide open or not very narrow . . . . .  | 7. |  |
| 7. Moustache confined to oral opening. Head orbicular, very much excised behind . . . . .  |    | <i>Maira</i> , Schiner.                        |
| Moustache not confined to oral opening. Head semicircular, not usually so much excised behind . . . . .                                    |    | <i>Laphria</i> , Meigen.                       |

## THEREUTRIA, LOEW.

Progr. Realschule Meseritz, 1851, p. 20 (1851).

*Scandon*, Walker, Ins. Saund., Dipt. i. p. 108 (1851).

This genus was formed by Loew for a new species from Australia, viz. *Thereutria calcar*, which Loew made the type of the genus. He separated the genus from *Laphria* by the presence of the curved spine on the fore tibiæ. It is as yet peculiar to the Australasian region. The species are distinguished by the blue-black *abdomen* often marked with white spots, by the blue-black *legs*, the tibiæ or femora often yellow, the latter usually stout, curved, the *face* with a prominent tubercle covered by the thick moustache, with often long hairs continued to the base of the *antennæ*, which

last have the third joint broad, longer than the first two joints together. *Wings* with the first and fourth posterior cells open, the anal cell closed.

The species as yet recorded in this genus are:—

*Thereutria luctuosa*, Macq., Dipt. Exot. i. (2) p. 155 [*Dasygogon*] (1838).

*Thereutria amaracus*, Walker, List Dipt. ii. p. 380 [*Laphria*] (1849) et vii. Suppl. 3, p. 559 [*Laphria*] (1855).—*Ommatius ialmus*, Walker, l. c. p. 479 et p. 759. *Dasygogon diversicolor*, Macq., Dipt. Exot. Suppl. iv. p. 368 (1849); Bigot, Ann. Soc. Ent. France, (5) viii. p. 219 (1878). *Dasygogon aurifacies*, Macq., l. c. p. 367, pl. vi. fig. 5. *Thereutria calcar*, Loew, Progr. Realschule Meseritz, 1851, p. 20 (1851). *Scandon compacta*, Walker, Ins. Saund., Dipt. i. p. 108, pl. iv. fig. 7 (1851), et List Dipt. vii. Suppl. 3, p. 563 (1855). *Laphria diversipes*, Macq., Dipt. Exot. Suppl. v. p. 73 (1855); Froggatt, Australian Insects, p. 295 (1907). *Thereutria caligula*, Bigot, Ann. Soc. Ent. France, (5) viii. p. 233 (1878). *Dasygogon diversipes*, Kirby, Ann. Mag. Nat. Hist. xiii. p. 458 (1884).

*Thereutria pulchra*, Schiner, Reise Novara, p. 169 (1868).

### *Thereutria luctuosa*, Macquart.

Type, a male, seen in Paris Museum, 12. 4. 11, described by Macquart as from unknown locality: a label below gives "New Holland"; no doubt this is correct, as the genus, at any rate as yet, is peculiar to Australasia. It is a species of *Thereutria* distinguished from *T. amaracus* and *T. pulchra* by the wholly black *legs* and brown *wings*. A blue-black species. *Abdomen* with white spots at sides of segments 2-6. *Face* with white lines on each side, flat, hardly raised at oral opening. *Moustache* white. *Antennæ* gone, except the first two joints, which are black, with black pubescence. *Wings* brownish, the fourth posterior cell narrowed at border, the anal almost closed.

### *Thereutria amaracus*, Walker.

*Ommatius ialmus*, Wlk.  
*Dasygogon diversicolor*, Macq.  
*Dasygogon aurifacies*, Macq.  
*Thereutria calcar*, Loew.  
*Scandon compacta*, Wlk.  
*Laphria diversipes*, Macq.  
*Thereutria caligula*, Bigot.  
*Dasygogon diversipes*, Kirby.

Type (♂) from Hunter River, New S. Wales, and other specimens from Burpengary, Queensland, and New S. Wales.

Two male specimens from New S. Wales (presented by J. Hunter) were described by Walker as *Ommatius ialmus*; in both the third joint of antennæ is wanting and Walker

made no mention of them in his description; they appear to me identical with the above. The type of *Dasygogon aurifacies*, Macquart, a male, was seen by me in the Paris Museum, 12. 4. 11, and is a species of *Thereutria* identical with *Thereutria amaracus*, Walker.

The drawing of the *wing* by Macquart, pl. vi. fig. 5, is incorrect, the submarginal cell should be closed not open, and the small transverse vein is beyond the middle of the discal cell. Type has the moustache black, two female specimens with it have it yellow. *Antennæ* now wanting, except the first two joints, which are black with black pubescence. *Legs* reddish; the tibiæ pale yellow with black apices, the anterior pair with curved spine, no black stripe on the femora.

From New S. Wales.

Macquart's description precedes the one of *D. diversicolor*, which apparently is the same species. Bigot, who had the type before him, declared it to be a species of *Thereutria*.

Loew's species is no doubt identical, judging from the description. *Scandon compacta* was declared to be identical with it by Schiner; the type is not to hand. The type of *Dasygogon diversipes*, Kirby, is a female from Sidney, New S. Wales.

*Laphria diversipes*, Macq., was described from Sidney Island, Oceania, and is evidently the same as *T. amaracus*. Mr. Froggatt describes it as being a common insect about Sidney, often taken on fences.

The specimen, a female, described by Bigot as *T. caligula*, appears to be an example of this species, as the only difference in the short description is the mention of the upper side of femora being black; in one of the specimens in the Brit. Mus. Coll. of *T. amaracus* there is a black stripe, very short however, beginning at the apex. Bigot gave Australia as the locality.

The species may be identified by the almost wholly reddish-yellow *legs*, the femora being testaceous, the tibiæ yellow, only their apices, the coxæ, and tarsi being black. *Abdomen* blue-black, with the typical white side spots on the second to fifth segments. *Wings* with the first posterior cell rather narrow, narrower at the border, the fourth open at border but narrowed, the anal cell closed at border; the males mentioned above have the moustache black, in the females it is yellow, otherwise males and females seem identical.

*Thereutria pulchra*, Schiner.

Described from one male specimen, from New S. Wales.

In Brit. Mus. Coll. six males from Burpengary, Queensland (*Dr. T. L. Bancroft*).

A black species, distinguished from *T. amaracus* by the wholly black femora, and the tibiæ are partly brassy yellow. Length 1.4 mm.

*Face* covered with yellowish tomentum. Moustache of black bristles surrounding mouth, not reaching up the face, tubercle small. *Antennæ* with black hairs on the first two joints. Beard white. Palpi with black hairs. *Forehead* with greyish tomentum and black hairs, hind part of head with black pubescence. *Thorax* with the usual white shoulder-spots and markings and with black pubescence. *Scutellum* black, with grey tomentum and black pubescence. *Abdomen* dull black, hardly shining, the white side-spots are present on the second, third, and fourth segments, covered with white hairs; sides of abdomen with white and black hairs; underside black. *Legs* slender, the femora not swollen; coxæ and femora black, with long white pubescence on the former and a few scanty white hairs on the latter, thickest on the posterior pair; fore tibiæ blackish, a dull yellowish-red tinge on the apical two-thirds below, covered with fulvous pubescence which appears white above, the others are black, dull yellow on outer border, with dense white pubescence, on the black part it is black; tarsi black, the posterior pair with the first joint yellow; pubescence chiefly black; all bristles on the legs are black. *Wings* hyaline, veins brown, narrowly yellow on fore border; neuration as in *Thereutria amaracus*.

#### METALAPHRIA, gen. nov.

A genus next to *Thereutria*, having a curved spine to the fore tibiæ. *Antennæ* with no style, the third joint long cylindrical. *Face* with no tubercle and the moustache confined to the oral opening. *Wings* with the first posterior cell widely open, the fourth very narrow at the border, almost closed, the anal cell the same.

The only species in general appearance resembles a *Saropogon* species.

as white-

*Metalaphria australis*, sp. n.

Type ♂, type ♀, from Upper Playford, Alexandria, N. Australia (*W. Stalker*), 1906.

A small species with a bluish-black *abdomen*, red at apex, with reddish-yellow *legs* and clear *wings*.

Length, ♂ 8 mm., ♀ 9 mm.

*Male*.—*Face* covered with pale golden-yellow tomentum. Moustache of fairly strong yellowish-white bristles round the oral opening. *Palpi* reddish yellow. Beard silvery white. *Antennæ* reddish yellow, the first two joints equal in length, with some short black pubescence and two stout bristles at apex of second joint; the third joint a little darker in colour, cylindrical, about one and a half times as long as the first two joints together. *Forehead* darker than face, with a few short black hairs and two black bristles on the ocelligerous tubercle; hind part of head with some bristly hairs, not at all excised behind. *Thorax* greenish brown, covered with yellowish-grey tomentum; a broad, brown, median stripe appears; beyond on each side three or more black short bristles are present, and on side of thorax just before the suture yellowish ones, and two longer weak ones beyond the base of wings; sides and breast with yellowish-grey tomentum. *Scutellum* same colour as thorax, armed with two yellowish bristles. *Abdomen* blue-black, shining and bare, the last two segments chiefly reddish; underside chiefly red. *Legs* reddish yellow, with some black bristles; hind femora almost bare, hardly incrassate. *Wings* clear; veins yellowish, the small transverse vein situated about the middle of the discal cell. Female is identical, the fourth posterior cell a little more open at border.

#### CLARIOLA, Kertész.

Termes Füzetek, xxiv. pp. 404-406 (1901).

Formed for *Clariola pulchra*, a male from New Guinea. The author places this genus between *Atomosia* and *Aphestia* in Schiner's table (Verh. zool.-bot. Ges. Wien, xvi. p. 662, 1866), from both of which it is distinguished by the peculiar third joint of *antennæ*, which has on the upper side before the middle a small projection with a spine, and also by its *Dioctria*-like appearance. *C. pulchra* is a small species, only 5.3 mm. The three new species from Queensland now added to this genus are large robust flies, very much larger than *C. pulchra*, and the projection on the third antennal joint is placed *beyond* the middle of the joint, otherwise they seem to agree in all the characters given of the genus, though the thorn or spine is not visible in one species, even when examined under a strong lens and magnified 28 times, but minute hairs fringe the apex.

1. Abdomen black, pubescence chiefly reddish brown. Legs yellowish . . . . . *pulchra*, Schiner.
- Abdomen and legs blackish, pubescence white. 2.

2. Moustache black and white. Abdomen with white-haired bands or spots on each segment. Wings brownish, yellower at base . . . . . *albohirta* sp. n.  
 Moustache white. Abdomen with the white pubescence only at base and apex. Wings blackish . . . . . *nigrescens*, sp. n.  
 Moustache reddish yellow. Abdomen with the white pubescence on apex. Wings blackish . . . . . *aurifacies*, sp. n.

*Cyanoneodya*  
*Herms*

*Cyanoneodya hornii* Hermann

*Clariola albohirta*, sp. n.

Types (♀ ♂) from Northern Queensland, and another female from Dandenong Ranges, Victoria, in Mr. French's collection.

A handsome, large, black species with brown wings, black legs, and abdomen marked with white-haired bands.

Length 19 mm.

Face with grey tomentum, which is whiter at the sides. Moustache consists of strong black bristles and some fine black and yellow hairs intermixed, reaching to the antennæ, in the ♀; in the male the moustache consists wholly of long silky yellow hairs; face with no perceptible tubercle; proboscis short, black; beard and hairs on under part of head white. Antennæ black, the first joint covered with grey tomentum in the ♀, cylindrical, longer than the second joint, which in the female is broader, both with black pubescence; on the underside of the first joint is a strong black bristle, and another is visible on the upper side of the second joint; in the male the one on the first joint is wanting; the third joint longer than the first two joints together, with the small tooth on the upper side towards the apex; the small spine Kertesz speaks of is not visible. Forehead black, with some grey tomentum and black hairs and bristles, the hairs on back of head chiefly whitish. Thorax blue-black, covered with very short grey pubescence, strong black bristles on the sides posteriorly, the pubescence longer at base of thorax and on the scutellum, which is armed with weak yellowish and black bristles. Abdomen blue-black, stout, one width throughout, shining, finely punctuated; the first two segments with silvery white hairs on their posterior borders, forming well-marked white bands; the third and fourth segments with only a few white hairs on the side anteriorly; the fifth segment with almost a complete white-haired band (in the male quite complete), the sixth segment with a complete white band, these last two bands are situated on the anterior borders of the segments; the seventh segment almost covered with white pubescence; sides of abdomen with some black bristles and fine hairs;

underside black. *Legs* long, fairly stout, blue-black; the coxæ with brown tomentum and black hairs, some white hairs on the anterior and middle ones; the femora with black pubescence, on their upper sides some fine white pubescence, which is thickest on the hind pair and extends below, a few yellow bristles appear on these last; tibiæ with dense white pubescence and with black bristles, the hind pair with a few yellow ones; the tarsi with chiefly black pubescence and bristles, but some white pubescence and a yellow bristle on first joint of posterior tarsi. *Wings* tinged brown, the subcostal cell ending in a point, the anterior branch of the third vein curved, the cross-veins closing the discal and fourth posterior cell almost in a line. Halteres yellow.

*Cyanonelys leucura* Hermann

[*Clariola nigrescens*, ♂ ♀, sp. n.]

Type ♂, type ♀, and three other males from S. Queensland (*Bancroft*).

A black, robust, but smaller species than *C. albohirta*, to which it is closely allied; distinguished from it by the moustache being almost wholly white in both sexes, but chiefly by the white-haired bands of *abdomen* only being present on the first two segments, and the apex with white pubescence.

Length, ♂ 14 mm., ♀ 15 mm.

*Face* covered with whitish tomentum, yellower at the sides; moustache wholly whitish (♂), white, the oral opening bordered with black bristly hairs (♀); beard white. *Antennæ* black, the first joint with long white hairs below and a few short black ones above, the second joint with black hairs above and below and a black bristle on its upper side at apex (♀), two in the male; the spine on the tooth on upper edge is here plainly perceptible. *Forehead* blackish, with yellowish-grey tomentum and white pubescence, a few black hairs intermixed, more numerous in the female. Back of head with white hairs. *Thorax* shining bluish black, with short white pubescence anteriorly, elsewhere black. The white bands on *abdomen* are situated on posterior borders of segments; abdomen convex, finely punctured, sides after the second segment with black hairs, the last two segments with white hairs. *Legs* blue-black, all the bristles black; the posterior tibiæ with a dense white fringe of hairs below, otherwise similar to those of *C. albohirta*. *Wings* blackish, paler at base and on posterior border; neuration as in *C. albohirta*.

*Cyanocephalus hyaliris* Hemmen[*Clariola aurifacies*, ♀, sp. n.]

Type ♀ and another from Townsville, Queensland (F. P. Dodd), 29.iii.1902; and a male and female from Mackay, Queensland (G. Turner).

A species distinguished from *Clariola albohirta* and *Clariola pulchra* by the golden-haired face and hind part of head, and by the blackish wings.

Length 19 mm. The specimens from Mackay only 15 and 16 mm.

It differs from *Clariola albohirta* in the following particulars:—*Face* black, covered with bright golden tomentum and with the monstache reddish golden, thick, occupying the whole of the middle of face to base of antennæ. Beard same colour. *Palpi* small, black, with black hairs. *Antennæ* similar to those of *C. albohirta*, but the spine on the projection of the third joint is here visible and there are two bristles on the first joint. *Forehead* same colour as face. Hind part of head similar in colouring of pubescence to that of the face. *Thorax* shining, blue-black with very short yellowish-white pubescence, hardly visible to the naked eye, some black hairs on the posterior border, black bristles at the sides; sides and breast the same. *Scutellum* the same, bordered with black bristly hairs. *Abdomen* punctuated blackish with greenish reflections at the apex, the white pubescence is only visible on the last four segments, chiefly at the sides; pubescence on the dorsum black and short except at the apex, where it is whitish; sides with black pubescence; underside brownish. *Legs* with no white hairs on the coxæ, no white pubescence is visible on the femora nor white bristles on these or on the tibiæ; the tarsi have dense white pubescence like the tibiæ, only the posterior pair with chiefly black pubescence and no yellow bristles. *Wings* blackish, a little lighter on the posterior border and apex, viewed against the light they appear brownish with clear spaces; the other female has lighter wings than the type; veins black; neuration as in *C. albohirta*, with the exception of the cross-veins not being exactly in a line, the one which closes the third posterior cell being a little above the other; the female has a short appendix.

The species from other parts of the Australasian region will include, besides *Clariola pulchra*, two of Walker's species placed under *Laphria*, viz. *Laphria complens*, type, from Celebes, and *Laphria obliquistriga*, also from Celebes.

[To be continued.]



Asulika

P<sup>E</sup>  
V



*A Revision of the Asilidæ of Australasia.*

By GERTRUDE RICARDO.

[Continued from vol. x. p. 360.]

SINCE the last part of this paper was published in the 'Annals' in September 1912, Dr. Hermann, of Erlangen, has sent me his monograph on the Laphrinæ of South America, in which, however, he includes some species from the Australasian Region. The monograph was published apparently in the early part of last year, so that the names of his new species will have priority over mine. The title of the work is "Beiträge zur Kenntnis der Südamerikanischen Dipterenfauna," published in Nova Acta Abh. der kaiserl. Leop.-Carol. Deutschen Akademie der Naturforscher, Band xevi. Nr. 1.

He forms four new genera for species from Australia and New Guinea (see p. 205), viz. *Cenochromyia*, *Epaphroditus*, *Adelodus*, and *Cyanonedys*.

*Cenochromyia* comprises two new species only, from New Guinea—*C. xanthogaster* and *C. guttata* (p. 115). *Epaphroditus* comprises *Laphria placens*, Wlk., from New Guinea (p. 118). *Adelodus* (p. 124) comprises two new species from Queensland and New South Wales, *A. rufipes* and *A. nigrocæruleus*; I have seen no examples of these.

*Cyanonedys* comprises three new species which I had placed in the genus *Clariola* (see 'Annals,' Sept. 1912, p. 357), viz. *Cyanonedys leucura* (p. 133: my *Clariola nigrescens*); *Cyanonedys lugubris* (p. 132: my *Clariola aureafacies*); *Cyanonedys hornii* (p. 133: my *Clariola albohirta*).

## ATOMOSIA, Macquart.

Dipt. Exot. i. p. 73 (1838).

Formed for species from America. No Australian species has been described as belonging to this genus so far, though one from New Guinea described by Walker under *Laphria* is placed here by v. d. Wulp; but a new species from Victoria appears to belong to this genus. I compared it with the type of *Atomosia affinis*, Macq., from Brazil, in the Paris Museum, and it appeared to agree with it in generic characters.

The genus belongs to the group with no curved spine on fore tibiæ, and has the cross-veins closing the discal and fourth posterior cells parallel.

*leucora*  
white

*Atomosia australis*, ♂ ♀, sp. n.

Types from Dandenong Ranges, Victoria.

A small blue-black species, with white-haired tibiæ. *Wings* shaded on the cross-veins.

Length 9 mm. (♂), 8 mm. (♀).

*Face* with grey tomentum, brown in centre below the antennæ; no tubercle present; moustache consists of rather long, weak, black hairs, reaching entirely over face as far as the antennæ; one or two white hairs near the mouth (♀); in the ♂ the face is more widely brown and the moustache consists of long yellow hairs below and black above. *Antennæ* black, the first joint quite twice as long as the second, which is small, the third about one and a half times as long as the first two, with no end-bristle, the first two joints with black pubescence; back of head with long black hairs, beard and pubescence on lower part of head white. *Thorax* brownish, with short fulvous pubescence; *scutellum* similar, with long weak bristles posteriorly. *Abdomen* blue-black, shining, the same width throughout, finely punctuate; sides and apex with fine white pubescence; underside brown; some black bristles at apex of abdomen. The male has the abdomen somewhat darker, the genital organs distinctly visible on the underside. *Legs* black, coxæ reddish brown, the femora with white hairs below, the tibiæ covered with white pubescence on the upper side and with black bristles on each border, the tarsi with black bristles and pubescence. *Wings* clouded with brown on the cross-veins; the anterior branch of third vein curved; the subcostal cell closed in a point, the first posterior and discal cell narrow, the second and third wide, the fourth closed, the cross-vein closing it is

a little *below* the one which closes the discal cell ; the second and third posterior cells are exactly above the discal and fourth posterior cell. Halteres yellow.

*Aphestia chalybæa*, Röder.

Stett. ent. Zeit. xlii. p. 386 (1881).

The type (a male) was described from Peak Downs, Australia ; no specimen in Brit. Mus. Coll. or Mr. French's Coll. The genus is distinguished by the long third joint of *antenna* and by the transverse veins closing the discal and fourth posterior cell being in a line. Röder describes his species as black. *Face* with white moustache and beard. *Abdomen* copper-coloured at base, steel-blue shining on posterior borders with white hairs ; the remaining segments shining copper-coloured. *Legs* steel-blue.

Length 7 lines.

Dr. Hermann suggests that this species may belong to his new genus *Adelodus* : see his remark, p. 125.

[*NUSA*, Walker.]

Dipt. Saund. i. p. 105 (1851).

*Andrenosoma*, Rond. Dipt. Ital. Prodrôme, i. p. 160 (1856).

*Elacotoma*, A. Costa, Atti R. Accad. Napoli, i. p. 49 (1863).

This genus is distinguished from *Laphria* by the closed or almost closed first posterior cell of *wing*. *Abdomen* more or less bare.

The only species recorded from Australia is *Nusa tectamus*, Walker.

*Andrenosoma betanura*  
[*Nusa tectamus*,] Walker.

List Dipt. ii. p. 374 [*Laphria*] (1849), et vii. Suppl. 3, p. 559 (1855) ;

Kertész, Cat. Dipt. p. 195 [*Laphria*] (1909).

*Andrenosoma vidua*, Bigot, Ann. Soc. Ent. France, (5) viii. p. 228 (1878).

Type (♀) from Port Essington, Arnhem Land, N. Australia (purchased from Mr. Gould), and a long series of males and females from Queensland (*Bancroft* and *Dodd*), and one male from Victoria. Mr. Froggatt records it from Queensland.

A large blue-black species with grey pubescence on *thorax* and base of *abdomen* and on *legs*. *Wings* clear, the first posterior cell closed at border.

Length 22–25 mm.

*Male*.—*Face* covered with dirty grey tomentum, silvery white at sides, and with long dirty grey hairs ; the tubercle,

which is large and takes up the greater part of face, is shining black in the middle and carries the moustache composed of long black bristles. *Palpi* blackish, with black bristly hairs. Beard whitish. Proboscis at base with long whitish pubescence. *Antennæ* blackish, the first joint two-thirds the length of the third joint, with white hairs and one long reddish-brown bristle at its apex; the second very short, not half the length of the first, with a long black bristle on each side; the third rather broad and flat, with no style. *Forehead* and hind part of head with whitish pubescence. *Thorax* blackish brown, with grey tomentum on shoulders and continued as stripes median and lateral; the pubescence on dorsum short, chiefly greyish, sides with longer hairs and with three or more black bristles above the base of wings and three weaker ones beyond; breast-sides with chiefly long greyish pubescence. *Scutellum* with grey tomentum and pubescence.

*Abdomen* metallic blue-black, the first two segments covered with long grey pubescence, which, however, does not attain the posterior border of second segment; the other segments bare; the anus with black hairs; sides of abdomen with two black bristles on the first segment and one each on the following four segments; underside with long pubescence black, except at the base, where it is greyish. *Legs* blue-black, with long greyish hairs on the femora and tibiæ, the tarsi armed with black bristles and a few bristly hairs; the posterior femora incrassate, with some stout black bristles on the apical half, the middle femora with two at the apex. *Wings* clear, veins brown, slightly shaded; the first posterior cell closed at border (in one male from Queensland it is almost open at the border and there is an appendix present); fourth and fifth posterior cells closed, the small transverse vein situated on the basal third of the discal cell.

*Female* is similar, but the pubescence at base of *abdomen* and on *legs* is much less, and on the hind femora, which are not so incrassate, it is largely black; the ovipositor long and pointed.

*Andrenosoma vidua*, Bigot, appears to me from the description to be identical with this species.

#### MAIRA, Schiner.

Verh. zool.-bot. Ges. Wien, xvi. p. 673 (1866).

This genus comprises blue-black metallic species with swollen hind femora, and all the legs, especially in the males,

with long pubescence ; the head orbicular and much excised behind ; the moustache confined, or almost so, to oral opening. The genus is chiefly confined to the Oriental and the Australasian Regions, but so far only three species have been described from Australia, Tasmania, and New Zealand.

The synonymy of some of the species is in the greatest confusion, largely owing to the difficulty of identifying Walker's species from his descriptions. Below is given what appears to be the correct synonymy for a few of the Walker species from the Australasian Region (Australia and New Zealand excepted) from examination of the types, but little can be done till the genus is thoroughly monographed. The species recorded from Australia and New Zealand are only two :—

*Maira ænea*, Fabr., Syst. Antl. p. 161 [*Laphria*] (1805). See Kertész's Cat. for full references.

*Maira auribarbis*, Macq., Dipt. Exot. Suppl. 3, p. 182 (1847), et Suppl. 4, p. 375 (♀) (1849).—*Lophria consobrina*, Proc. Linn. Soc. London, iii. p. 84 (1859); Bigot, Ann. Soc. Ent. France, (5) viii. p. 218 (1878); Kirby, Ann. & Mag. Nat. Hist. (5) xiii. p. 459 (1884).

#### *Maira ænea*, Fabr.

A species widely distributed, recorded from New Zealand. No specimens from there or from Australia are in the Brit. Mus. Coll. or Mr. French's Coll. *Laphria comes* ♂ ♀, *censors* ♂, and *replens* ♀, Walker (this latter is *not* a synonym of *Macra spectabilis*, Guérin, as given in Kertész's Cat.), are probably synonyms of this species.

There is one male in Brit. Mus. Coll. from New Hebrides.

#### *Maira auribarbis*, Macquart.

*Laphria consobrina*, Walker.

The male type was described from Java, and later Macquart recorded a female from Australia.

The type is apparently lost.

Macquart placed it under *Lumpria*, a genus confined to the American continent, with spines on underside of hind femora ; in Kertész's Cat. it is placed under this genus.

In Brit. Mus. Coll. :—Walker's type (♀) from Waigiou (not Aru Islands), and other specimens from New Hebrides, New Guinea, Aru Islands, and a male and female from Queensland.

From Macquart's description this species is probably the same.

Macquart described his species thus :—Violet. Moustache and beard golden-coloured. Legs with yellow hairs. Wings half brown and half hyaline.

Length  $6\frac{1}{2}$  lines. ♂.

Related to *L. aenea*. Palpi black, with black hairs. Face and moustache golden-coloured, with long black bristles. Forehead with grey tomentum. Antennæ black, the first joint with yellow hairs and black ones below. Thorax with shoulders and sides golden tomentose. Abdomen without spots or segmentations. Legs black, with violet reflections; femora and tibiæ with long yellow hairs. Wings: the anterior half hyaline, posterior half blackish brown; neuration as in *L. aenea*.

From Java, my collection (Suppl. iii. p. 182).

Male has been described. A female is placed with it, which differs as follows:—Posterior femora less incrassate; tibiæ with much fewer long hairs. Wings brownish, a little paler towards the base. The first transverse vein is situated on the third instead of the quarter of the discal cell. It comes from New South Wales, whilst the male is described from Java (Suppl. iv. p. 375).

The *face* in Walker's species is bright golden yellow, with the same coloured hairs above tubercle, which latter is blackish with grey tomentum; the moustache composed of eight long black bristles, the golden-yellow hairs intermixed with them; the second, third, and fourth segments of *abdomen* have traces of white spots, and underside has white segmentations. *Wings* clear at base and on fore border as far as stigma; elsewhere brownish.

Length 17 mm.

The other specimens vary somewhat in colouring of *wing*; one specimen from Amboyna has them entirely hyaline and they vary in size from 12–22 mm.

### *Maira gloriosa*, Walker.

Proc. Linn. Soc. London, iii. p. 84 [*Laphria*] (1859).

*Maira kollari*, v. d. Wulp, nec Dol. Tijds. v. Entom. (2) vii. (xv.) p. 201 (1872).

? *Maira spectabilis*, Schiner (nec Guérin), Verh. zool.-bot. Ges. Wien, xvii. p. 381 (1867).

Type (♀) from Aru Island and two males from same locality, either of which may be the type.

A specimen from Key Island is labelled "*gloriosa*," but as the abdomen is covered with short golden pubescence, as in *M. paradisiaca*, Wlk., I conclude the labels have got transposed. The three typical specimens have the abdomen bare, shining, purple and green metallic.

*Maira spectabilis*, Guérin.*Laphria congrua*, ♂, Walker.*Laphria consurgens*, ♀, Walker.*Laphria socia*, ♀, Walker.

These types all appear to be synonyms of the above.

*Laphria cærulea*, Boisduval, the female type, also labelled *L. iodisoma*, was seen by me in the Paris Museum, and appears to me to be the same as *M. spectabilis*; it is a large species, measuring 23 mm. Moustache of long black hairs, with some yellow ones below intermixed, and yellow hairs on face. *Antennæ* black, the third joint destroyed. *Thorax* dull blackish, with white spots on shoulders. *Abdomen* and *legs* metallic blue, the latter with long white hairs on all the femora and tibiæ, apices of latter with some black ones and the tarsi with long black hairs. *Wings* tinged brown, the fourth posterior and anal cell closed, the first posterior wide open.

*Maira paradisiaca*, Walker.

Proc. Linn. Soc. London, iii. p. 128 [*Laphria*] (1859).

Type (♂) from Key Island.

The species described by v. d. Wulp as *M. tomentosa* must be very near this species, if not the same.

To the Walker species under *Maira* in Kertesz's Cat. the following should be added:—

*Laphria setipes*, from Gilolo.*Laphria conveniens*, from Batjan and Gilolo.*Laphria flagellata*, from Gilolo.

## LAPHRIA, Meigen.

Illiger's Magazine f. Ins. ii. p. 270 (1803)

This genus is distinguished from *Maira*, Schiner, by the thicker moustache, which is not confined to the oral opening, but extends upwards; face usually with a tubercle. The character of the head being not or only very slightly excised behind seems rather a doubtful one; indeed authors, v. d. Wulp in particular, seem to differ as to the characters of *Maira*, which was divided off from *Laphria*.

The following species of *Laphria* in *sensu stricto* are recorded from Australia and Tasmania:—

*Laphria telecles*, Walker, List Dipt. ii. p. 374 (1849), et vii. Suppl. 3, 559 (1855).*Laphria rufifemorata*, Macq., Dipt. Exot. Suppl. 1, p. 201, pl. vii. fig. 16 (1846).*Laphria fulviceps*, Macq., l. c. Suppl. 4, p. 376, pl. vii. fig. 5 (? New Holland) (1849).

*Laphria ornatipennis*, Macq., *l. c.* p. 377, pl. vii. fig. 4.

*Laphria niveifacies*, Macq., *l. c.* p. 377, pl. vii. fig. 5; v. d. Wulp, Sumatra Exped. Dipt. p. 231 (1881); Kertesz, Cat. Dipt. p. 203 (1909) [*Maira*].

*Laphria flavifemorata*, Macq., *l. c.* p. 377, pl. vii. fig. 5.

*Laphria calopogon*, Bigot, Ann. Soc. Ent. France, (5) viii. p. 226 (1878).

*Laphria bancrofti*, sp. n.

*Laphria fulvipes*, sp. n.

*Laphria hirta*, sp. n.

*riana* White  
*mata* "  
*watu* "

- |  |                              |
|--|------------------------------|
| 1. Legs wholly black. Wings yellow, with dark apex and spots . . . . .                             | <i>ornatipennis</i> , Macq.  |
| Legs violet. Wings brownish, but with no dark apex or spots . . . . .                              | <i>niveifacies</i> , Macq.   |
| 2. Legs black and yellowish or red . . . . .   | 3.                           |
| 3. Abdomen bluish black, usually with white lateral spots . . . . .                                | 4.                           |
| Abdomen black, with fulvous lateral spots . .  | 6.                           |
| Abdomen bluish black, the apex reddish yellow.   | 7.                           |
| 4. Legs black, posterior femora yellow . . . . .   | <i>telecles</i> , Wlk.       |
| Legs black, all femora and tibiae yellow at base.  | <i>fulvipes</i> , sp. n.     |
| Legs black, all femora more or less yellow . .   | 5.                           |
| 5. Wings clear. Small species. Moustache black. No white spots visible on abdomen . . . . .        | <i>flavifemorata</i> , Macq. |
| Wings brownish. Larger species. Moustache black and white. Abdominal white spots present . . . . . | <i>rufifemorata</i> , Macq.  |
| 6. Legs black, middle and posterior femora and all tibiae yellow . . . . .                         | <i>hirta</i> , sp. n.        |
| 7. Legs black, femora and tibiae reddish yellow at base . . . . .                                  | <i>bancrofti</i> , sp. n.    |

*Laphria telecles*, Walker.

Types (♂ ♀) from W. Australia and another male from New South Wales.

A species distinguished by the yellow swollen posterior femora, with a blue-black shining *abdomen*, with white lateral spots on the second, third, and fourth segments; pubescence on them and on sides white and dense; underside blue-black, with white pubescence. The *face* is black, with a black moustache on the tubercle and dense silvery white hairs above reaching *antennae*, the first two joints of which have black pubescence. *Palpi* with black hairs. Beard white. *Legs* blackish, with dense white pubescence, thickest on the anterior and middle pair; some black hairs intermixed, and wholly black on tarsi. *Wings* brownish, paler at base; veins brown; the neuration as in *L. rufifemorata*.

Length, ♂ 19 mm., ♀ 13 mm.

*Laphria rufifemorata*, Macquart.

Type (♀) seen in Paris Museum, 12. 4. 11.

In Brit. Mus. Coll. are three females from Tasmania,

others from S. Australia (*Bakewell*) and Victoria; and in Mr. French's Coll. from Dandenong Ranges, Victoria.

Macquart omitted any mention of the white spots on abdomen.

A medium-sized black species, with blue-black *abdomen* marked with white spots. *Legs* black; femora yellow, the posterior pair much swollen and curved. *Wings* brownish.

Length, ♂ 13-16 mm., ♀ 9-17 mm.

*Face* black, with large prominent tubercle on lower part, some grey tomentum near eyes and under antennæ. Moustache of long black bristles on tubercle; above this some fine white or yellow hairs reaching to the antennæ. Beard of white silky hairs. *Forehead* black, with black pubescence, the hairs round the head black. *Antennæ* black, the first joint long, the second one very short, both with long black hairs; the third longer than the first two together, with no bristle at apex, nearly the same width throughout. *Thorax* blue-black, with silvery white tomentose shoulder-spots; pubescence black, even on the spots; sides of breast with silvery white tomentum and long white pubescence, tufts of white and black hairs intermixed near root of wings. *Scutellum* with two black bristles and white pubescence. *Scutellum* and *abdomen* shining blue-black or with purple reflections; on sides of second, third, and fourth abdominal segments is a silvery white spot; sides of abdomen with white hairs, in the ♀ they are black posteriorly; genital organs of ♂ prominent, in ♀ ovipositor pointed, sometimes visible and pointed, or covered by last segment; underside blackish. *Legs* black, the fore femora only yellow at base, sometimes only a mere spot at base or extending nearly halfway; middle and posterior pairs yellow for two-thirds of length, all somewhat swollen, but posterior pair more so than the others; the pubescence chiefly white and long; tibiæ with long black and white pubescence; tarsi with black pubescence and bristles. *Wings* hyaline, with a brown tinge round all veins, giving them a brown appearance; the first posterior cell is long and narrow, the small transverse vein being situated very near the base of discal cell, it is very slightly narrower at opening; fourth posterior cell closed some way from border of wing. Halteres yellow.

2 ♀ and 1 ♂ from Melbourne are identical but for the pubescence on the *legs*, which is chiefly black, not largely white as in the type, only pale-coloured on the light parts and black elsewhere.

*Laphria fulviceps*, Macquart.

In the description Australia is given with a query.

It is described as a black species with brown *wings*. *Antennæ* and *legs* fulvous.

Type is apparently lost.

*Laphria ornatipennis*, Macquart.

Type (♀) seen in Paris Museum, 12. 4. 11.

Moustache of stout black bristles, one or two yellow ones near mouth. Third joint of *antennæ* yellowish. *Scutellum* with long, black, fine bristles. Ovipositor with long yellowish hairs. No curved spines on fore tibiæ. *Wings* yellowish, with brown markings, situated at the apex, on discal, fourth and fifth posterior, and upper part of second basal cell; the apical marking does not extend beyond the base of fork of third vein, the second and third cells are only partially filled with brown, and the anal cell only in its upper half.

Macquart's figure of wing does not represent the brown colour very correctly.

In Brit. Mus. Coll. and Mr. French's Coll. male and female from Queensland.

A species easily recognized by the colouring of the *wings* yellow and brown and by the depressed, narrow, metallic bluish-black *abdomen*, with white lateral spots.

Length 17 mm.

The *wings* in these specimens are yellowish, the apex and posterior border brownish, the dark colouring extending to base of branch of third vein in a straight line from costal border to the posterior border to base of first posterior cell, continuing and occupying all the remaining posterior cells and most of the anal cell; base of wing nearly hyaline; the first posterior cell open, fourth closed, the small transverse vein on basal third of discal cell. The *scutellum* in male is armed with long bristles, yellow in the centre and black at the sides; in the female all are black. The ovipositor of female small, ending with long yellowish hairs. The third antennal joint in the female is wholly yellowish. The moustache in the male consists of golden, soft, long hairs.

*Laphria niveifacies*, Macquart.

This species, placed under *Maira* in Kertész's Cat., is more probably a species of *Laphria*, judging from the description of the moustache.

The type is apparently lost, as it was not to be found in the Paris Museum.

Macquart describes it thus:—

Violet black. Abdomen with white hairs. Moustache black. Legs violet. Wings half brown.

Length, ♀, 4 lines.

Beard white. Face with snowy white tomentum; moustache black, covering half the face. Antennæ: the first two joints black, the third wanting. Thorax and abdomen with blue, violet, and green reflections; hairs on sides white. Legs violet, with white hairs and black spots; posterior femora incrassate; posterior tibiæ swollen and curved. Wings: the anterior half hyaline, the posterior half brownish; neuration normal.

From Tasmania. Paris Museum.

In the figure of *wing* the small transverse vein is below the middle of discal cell, the first posterior cell narrower at border, the fourth and anal cells closed.

Wulp described a female specimen from Sumatra which he thought might belong to this species, measuring 6.5 lines. He placed it under *Maira*, on account of the incrassate posterior femora and metallic colour of the *legs*. The *wings* were black-brown at the apex, extending into the basal cells, and the white hairs at sides of abdomen were not apparent.

*Laphria flavifemorata*, Macquart.

Type (♀) seen in Paris Museum, 12. 4. 11.

A small species, measuring only 9 mm., blue-black in colouring, with yellow femora.

*Face* fairly broad, with a large prominent tubercle. Moustache composed of black bristles. Beard white. *Thorax* with some whitish tomentum at the sides and long soft black hairs at sides, with shorter ones on the dorsum. *Scutellum* identical. *Abdomen* bare, shining, no white spots visible, with short black hairs at sides. Femora below with white hairs, hind pair a little incrassate; tibiæ with long black hairs. *Wings* hardly brown, as Macquart describes, clear, with black veins, the first posterior cell narrowed at border, the fourth and anal closed; the small transverse vein very near the base of discal cell, just above the base of the fourth posterior cell.

This is a very much smaller species than *Laphria telecles*, Wlk., with which I compared it.

*Laphria calopogon*, Bigot.

A male from Australia.

Described as black, with long grey pubescence below *abdomen* and femora and on both sides of tibiæ. The borders of the second, third, and fourth segments of *abdomen* fawn-coloured or testaceous. Femora at base and fore tibiæ at base with red spots. *Wings* blackish.

*Laphria bancrofti*, ♀, sp. n.

Type (♂) from Mackay, Queensland (*G. Turner*).

Type (♀) from S. Queensland (*Bancroft*), and other females.

A species nearly allied to *L. fulvipes* and *L. hirta*, sp. n., but distinct from both, the bluish-black *abdomen* being reddish yellow at the apex.

Length, ♀ 11, ♂ 17 mm.

*Female*.—*Face* black, with yellow tomentum; the moustache consists of long, weak, black hairs, with shorter whitish hairs above and below. *Palpi* with black pubescence. Beard white. Hind part of head with black pubescence. *Thorax* dull black, with yellow tomentose spots on shoulders, one on each side on centre of dorsum, and a yellow border round posterior half of thorax; pubescence black, yellow posteriorly, with four long, red (in the other female white), bristly hairs between the scutellum and base of wings. *Scutellum* black, covered with grey or fulvous tomentum and some yellow pubescence. *Abdomen* blue-black, shining, with yellowish-white tomentose spots on the second, third, and fourth segments, the sixth and seventh segments wholly reddish yellow; the ovipositor blackish, with yellow and black hairs. *Legs* black, the posterior femora swollen and yellow on their basal half, on the others only yellow at their base, tibiæ widely yellow on the basal half; pubescence of legs long, white, on the tarsi short and black. *Wings* brownish, paler at the base; neuration as in *L. ruffifemorata*, with the exception of the first posterior cell, which is considerably narrowed at opening.

*Male*.—Identical, but the four long red bristles on *thorax* are replaced by three black ones. The spots on *abdomen* are not visible, and only the sixth segment is reddish yellow, and on the posterior border only; the genitalia are shining black and prominent; the middle and posterior femora are not yellow on their basal half.

*Laphria fulvipes*, ♀, sp. n.

Type (♀) and two others from Mackay, Queensland (*G. Turner*).

A small species with black legs, distinguished by the femora being yellow on their basal half and by the yellow tibiæ, which are black at their apices on the middle and anterior legs and on the posterior pair more widely so. From *L. hirta* it may be distinguished by the less pubescent *legs* and by the white spots on the dull black *abdomen*. The *face* has a black moustache, with long golden-yellow hairs above reaching to the antennæ; pubescence on forehead and

on hind part of head black. *Thorax* and *scutellum* dull black like the abdomen; the white tomentose spots on the latter appear on the first four segments at sides and have yellowish pubescence. *Legs* with black sparse pubescence. *Wings* with the neuration as in *L. rufifemorata*, but the first posterior cell is very considerably narrowed at opening. In all other particulars it is the same as *L. hirta*.

Length 12 mm.

*Laphria hirta*, ♂, sp. n.

A species with blue-black abdomen, but fulvous at sides instead of having white spots; legs very hairy, yellow, fore femora almost wholly black, the others black at apices; tibiæ black at apices, tarsi black.

Length 15 mm.

Type (♂) from Australia, 59. 10. 3.

*Face* covered with long, bright, fulvous hairs, the moustache appearing as long, black, isolated bristles on tubercle. *Palpi* with black hairs. Beard white. *Antennæ* with black hairs on first two joints. *Forehead* with black hairs, which extend over hind part of head, becoming white below. *Thorax* blue-black, with the usual white tomentose spots on shoulders and traces of a whitish border posteriorly and across suture. *Scutellum* blue-black, with black hairs. *Abdomen* blue-black, the fulvous colour appearing on side of each segment; pubescence on sides of abdomen fulvous; genital organs shining black, prominent; underside dull fulvous. *Legs* hairy, the coxæ black, with grey tomentum and some fulvous pubescence; the femora all swollen, and with tibiæ have long fulvous pubescence on the yellow parts, paler on the fore femora, and long black pubescence on the black parts, the tarsi with wholly black pubescence. Halteres red-brown. *Wings* brownish; neuration as in *Laphria rufifemorata*.

The species in the *Laphria* genus from New Guinea and other parts of the Australian Region are very numerous.

Of the Walker species, on an examination of the types the following remarks are based:—

*L. ampla*, from Amboyna, appears to be identical with *L. vulcanus*, Wied.

*L. argentifera* and *L. conveniens* probably belong to the genus *Maira*.

*L. declarata* appears allied to the genus *Atomosia*.

*L. aperta* and *L. tripars*, from New Guinea and Waigiou, appear identical; they are very small in size; Dr. Hermann places the latter in his new genus *Cenochromyia* (see p. 117). *L. pipunculoides*, also a very small species, has a striking character in the eyes, which take up nearly the whole of the head and are joined in the middle; Dr. Hermann places it in the genus *Clariola* (see p. 113).

The following species are from Celebes :—

- L. diotroides*, a very small species with a very narrow face, bearing a general resemblance to a *Leptogaster* species; Dr. Hermann places it in *Cenochromyia*, but incorrectly, the fourth posterior cell being open.
- L. partita* appears to be a species of *Maira*. *partialis* Bezzi, nomen novum. *partialis*
- Laphria disciplina*, from New Guinea, is very probably the same as *Laphria doryca*, Boisduval, Voyage de 'l'Astrolabe,' Entom. ii. p. 662, pl. xii. fig. 10 [*Dasygogon*] (1835), seen by me in the British Museum. The thorax is covered with bright fulvous tomentum; the antennæ, face, beard, and legs are the same colour; on the sides of thorax and breast a brown median stripe appears. Abdomen dull brownish red. Wings brown, with white streaks—one at apex, another between the first and second posterior cells, and smaller ones in the cells. *Laphria concludens*, Wlk., from Celebes, appears very nearly related, if not identical.

POGONOSOMA, Rondani. *see Ricardo Annali*

Rond. Dipt. Ital. Prodr. i. p. 160 (1856). 1927

No species are known from Australia itself. Two are recorded from Amboyna and Batjan I. by Doleschall and v. d. Wulp.

The genus is easily recognized by the presence of three cubital cells.

ASILINÆ.

The genera as yet recorded from Australia, Tasmania, and New Zealand are :—

*Asilus*, L.; *Ommatius*, Wied.; *Blepharotes*, Westwood; *Promachus*, *Erax*, *Proctacanthus*, Macq.; *Philodicus*, *Cerdistus*, *Neoitamus*, Loew; *Glaphyropyga*, Schiner; *Dysmachus*, Wlk.; *Heligmoneura*, Bigot; *Neoaratus*, Ricardo (*Aratus*, Wulp); and *Pararatus*, gen. nov.

From other parts of the Australasian Region occur species belonging to the genera *Pamponerus*, Loew; *Allocotosia* and *Emphysomera*, Schiner.

Table of Genera.

1. Style of antennæ feathered.....	2.
Style of antennæ bare .....	4.
2. Third joint of antennæ always considerably longer than the first two joints together.	<i>Allocotosia</i> , Schiner.
Third joint of antennæ short, usually shorter than the first two joints together .....	3.
3. Face with a tubercle .....	<i>Ommatius</i> , Wied.
Face quite flat, with no tubercle .....	<i>Emphysomera</i> , Schiner.
4. Abdomen extremely broad, depressed, with tufts of hairs at sides. Ovipositor short, not compressed .....	<i>Blepharotes</i> , Westwood.
Abdomen not extremely broad .....	5.

- |  |    |                              |
|--|----|------------------------------|
| 5. Wings with three submarginal cells . . . . .  | 6. |                              |
| Wings with two submarginal cells . . . . .   | 7. |                              |
| 6. Second submarginal cell at most half as long as the first submarginal cell . . . . .  |    | <i>Promachus</i> , Loew.     |
| Second submarginal cell as long or only a little shorter than the first submarginal cell . . . . .                                       |    | <i>Philodicus</i> , Wlk      |
| 7. Posterior branch of third vein curves forward to meet the costa at or before the tip of wing; an appendix sometimes present . . . . . | 8. |                              |
| Posterior branch of third vein terminates beyond the tip of wing; no appendix . . . . .  | 9. |                              |
| 8. Ovipositor cylindrical, with a terminal circlet of spines . . . . .   |    | <i>Proctacanthus</i> , Macq. |
| Ovipositor laterally compressed, without a terminal circlet of spines . . . . .  |    | <i>Erax</i> , Scop.          |

*Subgenera of Asilus.*

- |  |     |                               |
|--|-----|-------------------------------|
| 9. Ovipositor laterally compressed . . . . .   | 10  |                               |
| Ovipositor conical . . . . .   | 17. |                               |
| 10. Third joint of antennæ unusually long and broad, flattened . . . . .   |     | <i>Glaphyropyga</i> , Schiner |
| Third joint of antennæ normal shape, if long always very long. . . . .   | 11. |                               |
| 11. End lamellæ of ovipositor egg-shaped, wedged in; thorax with bristles disposed like a mane . . . . .                                       |     | <i>Dysmachus</i> , Wlk.       |
| End lamellæ of ovipositor free, style-like; thorax with bristles not disposed like a mane . . . . .  | 12. |                               |
| 12. Posterior border of eighth ventral segment in male more or less widened. Ovipositor in female not so long as in <i>Neoitamus</i> . . . . . |     | <i>Muchinus</i> , Loew.       |
| Posterior border of eighth ventral segment in male not widened . . . . .   | 13. |                               |
| 13. Legs prevailing shining yellow . . . . .   |     | <i>Heligmoneura</i> , Bigot.  |
| Legs prevailing black or light and opaque-coloured . . . . .   | 14. |                               |
| 14. Male genitalia club-like; ovipositor long, including the sixth and seventh segments. . . . .   | 15. |                               |
| Male genitalia not club-like; sixth and seventh segments not included in ovipositor . . . . .  | 16. |                               |
| 15. Large species; third posterior cell very wide. Tibiæ black. . . . .  |     | <i>Pararatus</i> , gen. nov.  |
| Small species; third posterior cell not very wide. Tibiæ usually testaceous . . . . .  |     | <i>Neoitamus</i> , Ost.-Sack  |
| 16. Face with a very small tubercle. Legs mainly black . . . . .   |     | <i>Cerdistus</i> , Loew.      |
| 17. Large species; wing very much curved outwards at costal border in the male . . . . .   |     | <i>Neoaratus</i> , Ricardo    |
| Wing not (or hardly) curved outwards at costal border in male . . . . .  | 18. |                               |
| 18. Abdomen with no bristles before the segmentations; large or middle-sized, usually bright-coloured species . . . . .                        | 19. |                               |

19. Abdomen with short close pubescence,  
nearly bare. Wings not white at base. *Asilus*, Linn.  
Abdomen with long fine outstanding pubes-  
cence. Wings usually white or pale at  
base ..... *Pamponerus*, Loew.

### ALLOCOTOSIA, Schiner.

Verh. zool.-bot. Ges. Wien, xvi. p. 845 (1866).

No species have been recorded in this genus from the Australian Region with the exception of three species from Celebes, viz. :—

*Allocotosia aurata*, Fabr., *scitula*, Wlk., and *vulpina*, Bigot ; the Walker species has also been recorded by Schiner from Amboyna.

### EMPHYSOMERA, Schiner.

Verh. zool.-bot. Ges. Wien, xvi. p. 845 (1866).

The only species as yet recorded from the Australasian Region are *E. nigra*, Schiner, Novara Reise, Dipt. p. 195 (1868), from Gilolo ; *E. peregrina*, v. d. Wulp, Tijd. v. Entom. (2) vii. (xv.) p. 253 (1872), from Ternate ; and *E. spathulata*, Dol., Nat. Tijd. Nederl. Ind. (4) iii. xvii. p. 89 (*Ommatius*) (1858), from Amboyna.

Walker's species *Ommatius platymelas* is the same as *E. spathulata*. *Ommatius invehens* and *bacchoides*, Walker, both belong to this genus from I. Waigiou and Ceram ; the latter type, a male, has the wing dilated on fore border as in *E. peregrina*.

The genus is easily distinguished by the flat face and club-shaped abdomen.

### OMMATIUS, Wiedemann.

Dipt. Exot. p. 213 (1821).

The following species are recorded from Australia and Tasmania :—

securus white  
losus "  
nis "

- Ommatius chinensis*, Fabr., Ent. Syst. iv. p. 333 [*Asilus*] (1794). For other references and synonyms see Kertész, Cat. Dipt. 1909.  
*Ommatius angustiventris*, Macq., Dipt. Exot. Suppl. iv. p. 293, pl. viii. fig. 10 (1849); Schiner, Verh. zool.-bot. Ges. Wien, xviii. p. 410 (1867).—*Ommatius coræbus*, Wlk., List Dipt. ii. pp. 473 et 759.  
*Ommatius lema*, Wlk., List Dipt. ii. p. 472 (1849), et vii. Suppl. 3, p. 759 (1855).  
*Ommatius dimidiatus*, Macq., Dipt. Exot. Suppl. iv. p. 394, pl. viii. fig. 11 (1849).  
*Ommatius vitticrus*, Bigot, Ann. Soc. Ent. France, (5) vi. Bull. lxxxv. 2 (1876).  
*Ommatius mackayi*, sp. n.  
*Ommatius queenslandi*, sp. n.

*Ommatius chinensis*, Fabricius.

For synonyms see Kertész, Cat 1909, p. 306.

A male and female 'from Burpengary, Queensland (*Dr. Bancroft*), answer to the description of the above species, which is recorded from China, Japan, Corea, Java, Sumatra, &c., but not as yet from the Australasian Region. The above specimens are identical with others in the Brit. Mus. Coll. from Amboyna, only differing in the colour of the bristles on the femora, which are chiefly white instead of black.

It is a large robust yellowish species, with black *legs*, the tibiæ reddish yellow. *Face* with yellow hairs, moustache and beard the same colour.

*Ommatius angustiventris*, Macquart.

*Ommatius coræbus*, Wlk.

Macquart's type a male seen by me in Paris Museum, 12. 4. 11. A specimen of *O. coræbus*, Wlk. (from Vigors Coll.), is identical with it, the moustache more white than yellow, and the bristles on the hind femora all black, whereas in the Macquart type some are white.

Walker's types, male and female, from unknown locality (Hardwicke Bequest).

This is a black species with yellow tibiæ; the *wings* dilated in the male.

Macquart's description is as follows:—

Black. Thorax with golden stripes. Abdomen narrow, with ashy-grey subpubescence. Moustache yellow; tibiæ red. Wings dilated. Length 9 lines, ♂. Palpi with yellowish hairs. Beard yellowish white. Face not very prominent, rather narrow, golden yellow; moustache yellow, only reaching halfway up the face. Forehead rather narrow; anteriorly golden yellow, the rest black. Antennæ close together, black. Eyes with green reflections. Thorax: the spaces between the black stripes as well as the sutures a bright golden yellow; the intermediate stripe divided longitudinally by a brownish testaceous stripe; sides yellowish white; scutellum ashy grey. Abdomen narrow, black, with slight grey tomentum and short white hairs scattered on sides and segmentations; genital organs in male small, consisting only of two claspers horizontally opposite each other, shining black. Legs black, with short yellowish hairs and black bristles; tibiæ pale yellow, the anterior pair with no spines, the intermediate and posterior ones black at apex. Wings hyaline, grey on fore border and at apex; the outer border abruptly dilated; stigma testaceous.

From east coast of New South Wales. Paris Museum.

*Ommatius lema*, Walker.

Type (♀) from New South Wales (Haslar Hospital).

A blackish species; the tibiæ dull yellowish red on their outer borders, femora incrassate. Moustache yellow. *Wings* pale brownish.

Length 18 mm.

*Face* blackish, with grey tomentum. Moustache composed of long yellowish hairs and about seven long black bristles, four above the oral opening and three near antennæ. *Palpi* brown, with long whitish hairs. Beard yellowish. *Antennæ* black. *Thorax* black, with grey tomentum on shoulders and at sides, and as faint stripes on dorsum; two short black bristles above root of wings and two beyond, and numerous weaker ones on posterior part of dorsum. *Scutellum* with two black ones on its border. *Abdomen* blackish, a few black hairs at anus. *Legs* black; coxæ covered with grey tomentum; fore tibiæ obscurely reddish, the others only yellowish red on their outer borders; posterior and middle femora armed below with four black bristles; fore femora with whitish pubescence below. *Wings* pale brownish, nearly clear on posterior border, the small transverse vein placed on the apical third of discal cell; fourth posterior cell with a short stalk.

The type from which this description is taken is in a dirty faded condition. It is distinguished from *O. angustiventris* by the incrassate femora, armed with four, not two, bristles, and by the less highly coloured tibiæ.

*Ommatius dimidiatus*, Macquart.

Type apparently lost; not to be found in the Paris Museum.

A female in the Brit. Mus. Coll. from N. Queensland is probably nearly allied to this species.

Macquart describes it as follows:—

Black. Legs red, femora above and the tibiæ below black. Length 4 lines, ♀.

*Palpi* with black hairs. *Face* shining black, with a little grey tomentum; moustache composed of black and yellowish bristles. *Antennæ* black. *Thorax* with indistinct grey stripes. *Abdomen* with slight grey tomentum. *Tarsi* black; the first joint yellow, black at apex. *Wings* clear, the discal cell with a long stalk.

From Tasmania. Paris Museum.

*Ommatius vitticus*, ♀, Bigot.

Described as dull brown. *Face*, beard, and moustache

grey, the latter with black bristles above. *Abdomen* with grey pubescence. *Wings* pale smoky. *Legs* testaceous, femora and tibiæ with a black stripe on outer border.

Length 15 mm.

*Ommatius mackayi*, sp. n.

Type (♂ ♀) from Mackay, Queensland (G. Turner, 1894).

A handsome yellowish species, with well-marked blackish stripes on *thorax*. *Legs* black, femora at base and tibiæ wholly yellow. *Wings* hyaline, in male dilated.

Length, ♂ 26, ♀ 20 mm.

*Male*.—*Face* blackish, with silvery white tomentum; tubercle not very prominent. Moustache reaching to quite the middle of face, which narrows considerably above, composed of long bristly white hairs, four long yellowish bristles conspicuous above. *Palpi* small. Beard white. *Antennæ* brownish, with the usual long feathered bristle. *Forehead* yellower than face; ocelligerous tubercle large, brown, with some yellowish bristles. Head much excised behind, the hairs at back yellowish. *Thorax* covered with bright fulvous tomentum, lighter on the shoulders, and marked with two central narrow black stripes and with shortened side-stripes; a few short black bristles appear in centre of dorsum anteriorly and some long fulvous hairs posteriorly; sides with pale yellow hairs and two strong black bristles above base of wing, two more below; breast-sides brownish, with white tomentum. *Scutellum* fulvous, bordered with some yellowish hairs.

*Abdomen* brownish, with bright fulvous tomentum on the first two segments; all segments with short, fairly thick, fulvous pubescence. Genital organs very prominent, blackish, sides with yellowish hairs, a tuft of long fulvous hairs on the first segment. *Legs* black, the coxæ covered with grey tomentum, the fore pair with long white hairs; the femora yellow below, the hind femora yellow at base; tibiæ yellow, hind pair black at apex; tarsi yellow on the first joint of fore and mid pair; pubescence of legs yellowish, bristles black. *Wings* much dilated on costal border, strongly rilled in the marginal and submarginal cells and less so in the first and second posterior cells; the small transverse vein beyond the middle of discal cell; veins brown.

*Female* identical; the stout bristles in moustache are darker in colour, hairs at back of head black and bristly, the bristles below base of wings are more in number. *Wings* not dilated and hardly rilled.

*Ommatius queenslandi*, sp. n.

Type (♂ ♀) from Stannary Hills, N. Queensland (Dr. T. L. Bancroft, 1909).

A small black species; *abdomen* with some grey tomentose spots. *Legs* black, *tibiæ* yellowish. *Wings* clear, not dilated in the male.

Length, ♂ 9, ♀ 14 mm.

*Male*. — *Face* brownish, with yellowish-grey tomentum. Moustache composed of long, yellow, bristly hairs. Tubercle not very prominent, but reaching to antennæ. Beard silvery white. *Antennæ* black, with long feathered bristle. *Fore-head* reddish brown, with black pubescence. Back of head with black hairs curved inwards. *Thorax* blackish brown, with grey tomentum on shoulders and at sides, on middle suture, and on posterior part of thorax; on this last appear numerous black bristles and white pubescence; some black pubescence on dorsum; sides with whitish hairs and two stout black bristles above base of wings; breast-sides covered with ashy-grey tomentum. *Scutellum* covered with grey tomentum, with yellowish hairs on border. *Abdomen* blackish brown, with grey tomentose side spots and very scattered grey pubescence; genital organs not very prominent, black hairs on last segments. *Legs* black; *tibiæ* yellow below, posterior pair yellow at base; femora with white pubescence and bristles black, which, however, are yellow on posterior incrassate pair; *tibiæ* with black bristles and yellow or whitish hairs. *Wings* hyaline; veins brown, small transverse vein beyond the middle of discal cell; cells anteriorly rilled.

*Female* identical. *Abdomen* with incisions of some segments ashy-grey tomentose; the grey pubescence is white and more abundant.

The following species have been recorded from New Guinea and other parts of the Australasian Region:—

*Ommatius annulatus*, *cnemideus*, Bigot; *aruensis*, *excurrens*, *fulvimanus*, *infernus*, *schlegelii*, *serenus*, *suffusus*, Wulp; *minimus*, *minor*, Dol.; *canus*, *discalis*, *lucifer*, *nanus*, *retrahens*, Walker. Of these last, *canus*, *nanus*, *retrahens* (and also *strictus* from Celebes) have no tubercle on face, but the abdomen is not club-shaped as in *Emphysomera*; the type of *discalis* appears to be missing.

[To be continued.]





*A Revision of the Asilidæ of Australasia.*

By GERTRUDE RICARDO.

[Continued from p. 166.]

BLEPHAROTES, Westwood in Duncan.

The Natural Libr. xxviii. p. 329 (1840).

*Blepharis*, Macq., Dipt. Exot. i. (2) pl. viii. fig. 1 (1838) [præocc. Cuv. Pisc. 1817; Serv. Orth. 1831].

*Craspedia*, Macq., Dipt. Exot. i. (2) p. 198 (1838) [præocc. Hübner. Lepid. 1816].

*Psecas*, Jænn., Abhandl. Senckenb. naturf. Ges. vi. p. 359 (1867).

The following species have been described and one new species is added:—

*Blepharotes coriarius*, Wied., Auss. zweifl. Ins. ii. p. 644 [*Asilus*] (1830);  
Macq., Dipt. Exot. i. (2) p. 198 [*Craspedia*] pl. viii. fig. 1 [*Blepharotes*] (1838);  
Erichson, Archiv f. Naturgesch. vii. 2 (1841); Schiner, Ann. & Mag. N. Hist. Ser. 8. Vol. xi. 28

Verh. zool.-bot. Ges. Wien, xvi. p. 690 [*Craspedia*] (1866); Loew, Zeitschr. f. d. ges. Naturwiss. N. F. x. (xliv.) 75 (1874); Froggatt, Australian Insects, p. 300 [*Craspedia*] (1907).

*macrostylus* Hardy }  
*punctatus* ✓  
*brisbanensis* "  
*flavus* .

*Blepharotes splendidissimus*, Wied., Auss. zweifl. Ins. ii. p. 645 [*Laphria*] (1830); Guérin, Icon. d. Règne Anim. vii. Ins. p. 536 nota [*Laphria*] (1835); Schiner, Verh. zool.-bot. Ges. Wien, xvi. p. 694 [*Craspedia*], et xvii. p. 383 [*Craspedia*] (1867); Loew, Zeitschr. f. d. Ges. Naturwiss. N. F. x. (xliv.) p. 75 (1874).—*Blepharotes abdominalis*, Westw. apud Duncan, The Nat. Libr. xxviii. p. 329, pl. xxxv. fig. 1 (1840).—*Craspediu audouinii*, Macq., Dipt. Exot. i. (2) p. 100 (1838).—*Psecas fasciatus*, Jænn., Abhandl. Senckenb. naturf. Ges. vi. p. 360, pl. xlv. fig. 2 (1867).

*Blepharotes vivax*, Hermann, Zeit. Hymen. et Dipt. vii. i. p. 76 [*Craspedia*] (1907).

*Blepharotes aterrima*, Hermann, *l. c.* [*Craspedia*] (1907).

*Blepharotes flavus*, sp. n.

The genus was established by Macquart for *Asilus coriarius*, Wied., and is peculiar to Australia and New Guinea. It is at once distinguished by the very broad abdomen adorned at the sides by bushy tufts of hairs and by the short terminal style of antennæ. The species described by Loew as *B. macrostylus* I have placed in a new genus, *Pararatus*, as, owing to the form of the female ovipositor, it could not possibly be included in this genus.

In neuration of the wing *Blepharotes* is allied to *Pararatus*, *Neoaratus*, and *Asilus in sensu stricto*; its place among the other genera appears doubtful. For the present I have followed Schiner, and placed it at the head of genera with antennal bristle bare.

### *Blepharotes coriarius*, Wiedemann.

Specimens of this species, male and female, are in the Brit. Mus. Coll. from W. Australia (*Fyson*), Melbourne, and Moreton Bay, and in Mr. French's Coll. from Dandenong Ranges, Victoria. Mr. Froggatt states that the species is widely distributed all over the interior of the continent, and can often be seen flying about with its beak buried in the back of a large cockchafer beetle, its long legs clasping its victim and sucking its blood.

The species is distinguished by the red colour of the abdomen, sides fringed with black tufts of hairs, white hairs appearing on the second, fifth, and sixth segments; underside black, with white pubescence. *Palpi* often have white hairs intermixed with the black ones. Fore femora armed with spines as well as the posterior ones.

40 Length, ♂, 87 mm.

*Blepharotes splendidissimus*, Wiedemann.*Blepharotes abdominalis*, Westwood.*Craspedia audouini*, Macq.*Psecas fasciatus*, Jænn.

Type of *C. audouini* seen in Paris Museum, 12. 4. 11, from Moreton Bay. Its identity with the Wiedemann species is correct.

Specimens of this species, males and females, are in the Brit. Mus. Coll. from Victoria, Moreton Bay, and Burpengary, S. Queensland (*Bancroft*), and in Mr. French's Coll. from Dandenong Ranges, Victoria. Mr. Froggatt remarks he has frequently captured this species flying about the Botanic Gardens, Sydney, in early summer.

The species is distinguished by the dark brown *wings* and black *abdomen*, the segmentations narrowly rufous; sides with black tufts of hairs.

Length from 25 mm.

*Blepharotes vivax*, ♀, Hermann.

From New South Wales.

Is described as allied to *B. coriarius*, but is smaller, and distinguished by brighter markings of the *thorax* and by the black *wings* with violet reflections.

Length 25 mm.

*Blepharotes aterrima*, ♀, Hermann.

From Dutch New Guinea.

Is described as black, sides of *thorax* with long yellow hairs. *Wings* very dark-coloured, with violet reflections.

Length 35 mm.

*Blepharotes flavus*, sp. n.

Type (♂) from Mackay, Queensland (*Turner*), and another from Townsville, Queensland (*F. P. Dodd*).

Type (♀) and another female from Burpengary, Queensland (*Dr. T. L. Bancroft*), and a male in Mr. French's Coll. from Victoria.

This species is nearly related to *B. coriarius*, Wied., but is distinguished by the lighter-coloured *abdomen*, which is yellowish, not deep fulvous red; the *wings* are usually rather paler, and the size of insect is smaller, the *abdomen* not so broad; the white hairs on the sides of this latter are present on each segment except the last two, not only on the third

and sixth as in the Wiedemann species. A tuft of white hairs is present on the *forehead*, which is usually absent in *B. coriarius*, and the white hairs on the coxæ are chiefly limited to the anterior pair. It is distinguished from *B. vivax*, Hermann, by the absence of any bright colouring on the *thorax*, and the *wings* are lighter, not black with violet reflections; the *abdomen* also paler.

*Male*.—*Abdomen* pale yellow, rather narrow compared with those of other species of this genus, bordered by black tufts of hair, with which white hairs are intermixed below.

Length 30 mm.

*Face* black, covered with yellowish tomentum, and with long pale yellow bristles forming the moustache, chiefly confined to the oral opening. *Palpi* with black hairs. Beard white. *Antennæ* black, the third joint long, with a short bristle. *Forehead* with black pubescence, and a tuft of white hairs anteriorly on each side. Hind part of head with long white hairs and some shorter black hairs at vertex. *Thorax* black, with some grey tomentum on dorsum; sides with black bristles and grey tomentum; breast black, with grey tomentose stripes. *Scutellum* dark brown, with black bristles. *Abdomen* with the first segment black, with black hairs, the remaining ones pale yellow, the posterior borders paler; the white hairs at sides are below the black ones and most apparent on the fourth, fifth, and sixth segments; underside dark brown, with chiefly black pubescence. *Legs* black, femora armed with black bristles, the pubescence on the fore coxæ long, yellowish white; a few are visible on the other coxæ, otherwise their pubescence is black. *Wings* dark grey, with reddish-yellow veins, the posterior branch of fork strongly curved, the second posterior cell wide, almost touching the former vein at one place; the third posterior very wide, twice the width of the second at its widest part; the fourth posterior closed, the anal closed near the border; the small transverse vein about the middle of the discal cell, which is long and narrow.

*Female*.—*Abdomen* is darker yellow and broader, not so glabrous as is that of *B. coriarius*; the white hairs at sides are more apparent than in the male. Ovipositor blackish, short, not compressed at sides.

Length 35 mm.

#### PROMACHUS, Loew.

Linn. Ent. iii. p. 390 (1848).

*Bactria*, Meg., in litt. apud Meig.

*Telejoneura*, Rond., Archivio per la Zool. iii. p. 48 (1863).

*Trupanea*, Macq., Dipt. Exot. i. (2) p. 207 (1838) [præocc. Schrank, Dipt. 1803].

The following species have been described as from Australia and Tasmania:—

*Promachus grandis*, Macq., Dipt. Exot. i. (2) p. 217 [*Trupanea*] (1838).

*Promachus clausus*, Macq., l. c. Suppl. i. p. 208 [*Trupanea*] (1846).

*Promachus tasmanensis*, Macq., l. c. Suppl. ii. p. 55 [*Trupanea*] (1847).

*Promachus rufipes*, Macq., l. c. Suppl. iii. p. 186 [*Trupanea*] (1847).

To these species is now added:—

*Promachus interponens*, Walker, Proc. Linn. Soc. London, v. p. 280 [*Trupanea*] (1861), described from I. Batjan, but now found in N.E. Queensland.

*Promachus doddi*, sp. n.

*Promachus floccosus*, Kirby, Trans. Ent. Soc. London, 1884, p. 273 (1884); Hutton, Trans. New Zealand Instit. xxxiii. p. 21 nota (1901), was omitted by Hudson from his list of New Zealand Diptera, as he believed there was a mistake in the locality and that the type came from Opobo, W. Africa, there being no such place in New Zealand. The type, a male, is labelled "Opobo, New Zealand, H. W. Marsden, 1880," and is apparently a specimen of *Promachus fuscatus*, Fabr.

*Promachus grandis*, Macquart.

Type, seen by me in Paris Museum, 12. 4. 11, in a very bad state; abdomen almost wholly destroyed.

Macquart describes it thus:—

Black; face and moustache yellow; beard white. Tibiæ chestnut-coloured. Wings brown.

Length 12 lines.

Epistome bordered with black bristles. Forehead with brownish tomentum. Thorax (denuded), sides with brownish tomentum. Abdomen with indistinct blue reflections; sex indistinguishable, owing to its state. Tibiæ and tarsi with yellow tomentum below. Wings with violet reflections.

From New South Wales.

But the type I saw has the *wings* greyish, veins yellow, with a pale streak on the fore border, the fourth posterior cell closed, the small transverse vein situated at the middle of discal cell. *Face* broad, covered with golden-yellow tomentum and some yellow hairs at sides. Moustache of yellow bristly hairs reaching halfway up the face, below at the sides there are stout black bristles. *Palpi* with black

bristly pubescence. *Antennæ* blackish, the third joint wanting. *Legs* very stout, black; femora incrassate, with black spines; tibiæ reddish, with black spines and some short, appressed, yellowish pubescence; underside of posterior tibiæ with thick bright fulvous pubescence, and some on the posterior femora.

*Promachus clausus*, ♂, Macq.

Dipt. Exot. Suppl. i. p. 208 [*Trupanea*] (1846).

Is described as a black species, the *abdomen* with white segmentations. *Wings* with the first posterior cell closed.  
Length 9 lines.

*Promachus rufipes*, ♂, Macq.

Is described as an ashy-grey species. *Abdomen* with dorsal black spots. Moustache white. *Palpi* with black hairs. *Legs* red.

Length 10 lines.

The name is preoccupied.

*Promachus tasmanensis*, ♂, Macq.

Is described as ashy grey. *Abdomen* with dorsal black spots. Moustache yellow. *Antennæ* and *legs* black; tibiæ testaceous.

Length 10 lines.

*Promachus interponens*, Walker.

Co-types two females from Batjan.

Male and female from N.E. Queensland (*C. M. Kelsall*), 1910.

A robust blackish species, with reddish *legs*; the *abdomen* in the female with the first four segments broad, the remaining ones gradually tapering to a point, sides and segmentations ashy grey. *Wings* with a grey streak in the first submarginal cell.

Length of co-types 27-28, ♂ 26 mm.

*Female*.—*Face* blackish, with grey tomentum; a few yellow and black hairs below antennæ; the tubercle well developed, carrying the moustache, which consists of stout black bristles continued round the oral opening, with a few long white hairs intermixed. *Palpi* blackish, with long bristly hairs. Beard white. *Antennæ* black, the first two joints with bristly black hairs, third wanting. *Forehead*

with a row of black bristly hairs each side and some yellow hairs. Hind part of head armed with very stout black bristles. *Thorax* black, with grey tomentum; two black bristles above base of wings, four or more below, and others on posterior border of thorax, intermixed with black hairs; sides with grey tomentum and white pubescence. *Scutellum* as thorax, armed with a double row of bristles. *Abdomen* black, with narrow ashy-grey segmentations on the first four segments, uniting with the ashy grey sides, the pubescence pale yellow or white; the last ~~three~~ <sup>two</sup> segments narrow, wholly black; the ovipositor black, as long as the last segment; underside ashy grey, with long white pubescence. *Legs* red, the femora largely black, only red below, the apices of the tibiæ and the tarsi wholly black; all the numerous bristles are black, pubescence on femora and tibiæ whitish, on coxæ white and long. *Wings* hyaline tinged with pale brown, the streak in first submarginal cell large and distinct; veins fulvous, the small transverse vein on basal third of discal cell.

*Male*.—Hairs intermixed in moustache are more numerous and pale golden yellow. *Antennæ* with some fulvous thick pubescence on lower side of first joint; the third joint with long terminal bristle. Beard and hairs on legs same colour as hairs of moustache. *Abdomen* narrower, the ashy-grey colour being replaced by the same golden-yellow colour present on all the posterior borders and sides of segments; genital organs black, prominent; red colour of *legs* more inclining to yellow.

*Promachus doddi*, ♀, sp. n.

Type (♀) from Townsville, Queensland (*F. P. Dodd*), and type (♂) and another and a female from Endeavour River, Queensland, in Mr. French's Coll., and other females from Burpengary, Queensland (*Bancroft*).

A large species with black oblong spots on the greyish *abdomen* reaching the anterior border of segments, but not attaining the side borders; *legs* reddish, with white pubescence, and moustache yellowish white.

Length, ♂ 25, ♀ 27 mm. (without ovipositor).

*Face* black, covered with whitish tomentum; the moustache above oral opening consists of strong yellowish bristles and some fine hairs intermixed, which latter are continued up middle of face to base of antennæ. *Palpi* in ♂ with a few long black bristles at the apex and whitish-yellow bristle-like hairs below, in the ♀ wholly whitish yellow. Beard

whitish. *Antennæ* brown, with black hairs on the first two joints, the third with a long bristle at end. *Forehead* black, covered with greyish tomentum, a row of black hairs next the eyes, and beyond these white hairs reaching to antennæ; back of head armed with black bristles and whitish hairs. *Thorax* covered with greyish tomentum, ground-colour brownish, with two distinct brown (♀), black (♂) median stripes; some very short, inconspicuous, black pubescence on dorsum; sides with black bristles and covered with grey tomentum below and white pubescence; thorax posteriorly and *scutellum* on its posterior border with black bristles, the latter black, with grey tomentum and some white hairs. *Abdomen* in ♂ stout, robust, appearing black on each segment, with the posterior borders and the sides grey, pubescence on dorsum chiefly black, at sides with thicker whitish pubescence; venter black, but covered with grey tomentum and with fine white hairs; genital organs black, with black hairs above and some white ones below; in the ♀ the black spots are smaller and more distinctly marked, the pubescence even on the black spot chiefly yellowish but shorter; ovipositor black, shining, with white pubescence below. *Legs* red, the coxæ, knees, and apices of tibiæ, and all tarsi black; posterior tibiæ more largely black, especially in the ♀; coxæ with long white pubescence; femora with white short pubescence, thickest on the posterior pair; bristles black, on the middle and posterior pairs with some yellowish ones on their lower borders; tibiæ with white pubescence and black bristles; tarsi with black pubescence and bristles, anterior pairs with some white pubescence. *Wings* hyaline, veins yellowish, small transverse vein below the middle of the discal cell.

This species differs from *P. rufipes* in having white-haired *palpi*, the black spots on *abdomen* not triangular, and in the femora and tibiæ being the same colour, with some white bristles, and the size of *P. rufipes* is only 20 mm.

A male from Endeavour River, Queensland, and a female, both in Mr. French's collection, differ from the above by having the moustache and the *palpi* of black and white hairs, and the femora have no white bristles; for the present they may be considered as only a variety of *P. doddi*.

The following species have been described from New Guinea and other parts of the Australasian Region:—

*sectilis* Austin  
*gen. typus* Scheyne  
*Promachus bifasciatus*, Macq.; *P. addens*, *complens*, *contradicens*, *gilolonus*, *transactus*, Wlk.; *P. inornatus*, Wulp;

*P. albicauda*, Wulp, *calorificus*, *concolor*, Wlk., from Celebes.

The type of *Promachus bifasciatus*, a female from Java, seen by me in Paris Museum, 12. 4. 11; the supposition that *P. strenua*, Wlk., is the same is correct.

#### PHILODICUS, Loew.

Linn. Ent. iii. p. 391 (1848).

The only species recorded from the Australasian Region is

*Philodicus canescens*, Walker.

List Dipt. vii. Suppl. 3, p. 608 [*Trupanea*] (1855); Kertész, Cat. Dipt. p. 218 [*Promachus*] (1909).

Type (♀) from New Holland.

A blackish species, with grey posterior borders on abdominal segments. *Wings* clear.

Length 21 mm.

*Face* covered with silvery-grey tomentum. Moustache of long yellow hairs. *Palpi* brown, with whitish hairs. Beard yellowish white. *Antennæ* black, the third joint wanting. *Forehead* with yellowish hairs at sides. Hind part of head with stout yellowish bristles and with white hairs. *Thorax* brownish, with grey tomentum on shoulders and sides, two narrow dark stripes on centre of dorsum, pubescence black; sides and breast with silvery-white tomentum; two stout black bristles above base of wings and numerous ones on posterior part of thorax. *Scutellum* covered with grey tomentum and with long white hairs. *Abdomen* long and slender, brownish black, with short greyish pubescence, the posterior borders of all segments grey tomentose. *Legs* black, with short grey pubescence, tibiæ yellowish, all bristles black. *Wings* hyaline, greyish at apex; veins fulvous, small transverse vein below the middle of discal cell, fourth posterior cell closed.

#### PROCTACANTHUS, Macquart.

Dipt. Exot. i. (2) p. 236 (1838).

The following species are recorded from Australia:—

*Proctacanthus durvillei*, Macq., *l. c.* p. 237.

*Proctacanthus spilogaster*, Thoms., *Eugen. Resa*, Dipt. p. 469 (1869).

The type of *Proctacanthus posticus*, Walker, is a *Bathypogon* sp. (see 'Annals,' ser. 8, vol. x. 1912, p. 152).

*Proctacanthus durvillei*, Macquart.

Seen in Paris, 12. 4. 11.

Type a female from Tasmania in bad preservation.

Blackish. *Face* very narrow above, below wider and wholly taken up by a tubercle, covered with yellowish tomentum and very short pubescence. Moustache seems destroyed. *Palpi* with black bristly hairs. *Antennæ* destroyed. Head excised behind. Beard yellow. *Scutellum* with remains of golden tomentum. *Abdomen* apparently blue-black, shining. *Legs* fairly stout, black; femora with white hairs below; tibiæ and tarsi with many reddish bristles; tibiæ reddish.

Macquart described it thus, and states it came from Bay of Jarvis, New South Wales (New Holland):—

Black. *Thorax* with yellow pubescence and three black stripes. *Tibiæ* testaceous.

Length 9 lines. ♀.

*Face*, moustache, and beard yellow. *Forehead* black, with slight grey tomentum and black hairs. *Abdomen* shining black with blue reflections. *Coxæ* and femora with whitish hairs; tibiæ and tarsi with yellow bristles. (*Wings* mutilated.)

*Proctacanthus spilogaster*, Thomson.

From Sydney.

Described as allied to *P. durvillei*, Macq.

Black, the *face*, spots on *thorax* and sides of *abdomen* yellow-haired; femora brown; tibiæ pale yellow, their base and apex and the tarsi black, these latter with the metatarsus yellow at base. *Wings* hyaline; veins brown, the transverse vein below the middle of discal cell.

Length, ♀, 17 mm.

ERAX, Scop.

Entomol. Carniol. p. 359 (1763).

*Efferia*, Coquill. Canada Ent. xxv. p. 175 (1893).

The following species are recorded from the Australasian Region, most of them from Australia:—

*Erax albiventris*, Macq., Dipt. Exot. Suppl. iv. p. 386 (1849).

*Erax asiloides*, Macq., *l. c.* p. 386, pl. viii. fig. 8.

- Erax caudatus*, Fabr., Syst. Antl. 171. 33 [*Dasypogon*] (1805). See Kertész, Cat. Dipt. p. 234 (1909), for further references.  
*Erax fuscipennis*, Macq., Dipt. Exot. i. (2) p. 225.  
*Erax plantaris*, Thoms., Eugen. Resa, Dipt. p. 468 (1869).  
*Erax salomon*, Macq., l. c. p. 226.  
*Erax varymystaceus*, Macq., Dipt. Exot. Suppl. ii. p. 56.

No specimens of this genus are present in the Brit. Mus. Coll. or Mr. French's Coll.

*Erax albiventris*, Macquart.

Type (a male) seen in Paris Museum, 12. 4. 11.

A large species, distinguished by the tomentose ashy-grey coloured sixth segment of *abdomen*, which is black, with yellowish-grey tomentose lateral spots.

*Face* broad, with a large tubercle. Moustache white, with black bristles intermixed. *Antennæ* black, the arista long, almost the length of antenna, the first two joints with white hairs. *Legs* stout, black; the tibiæ red, the hind pair broader on the apical half, with dense fulvous pubescence; the anterior femora with white hairs and no bristles, the others with black bristles. *Wings* dilated, with an appendix.

Macquart described it thus:—

Black. Thorax with ashy-grey pubescence and black stripes. Abdomen with broken silvery segmentations and the last segment but one silvery; underside white. Moustache above black, below yellow. Tibiæ testaceous. Wings dilated. ♂. Pl. viii. fig. 4.

Length 10 lines. ♂.

Palpi with black hairs. Beard white. Face with greyish-white tomentum; moustache yellowish, with black bristles above and at sides. Forehead and antennæ black. Thorax with the intermediate stripe bordered by a white line; sides with ashy-grey tomentum, changing to brownish. Abdomen with white hairs at sides; the second, third, and fourth segments bordered posteriorly with a silvery-white colour, widely interrupted in the middle, and comprising the whole width of the segments near the junction of the arches; fifth on posterior border almost wholly white; sixth entirely dull silvery white; seventh short, black, with a white spot on each side of the anterior border; underside white, with white hairs; genital organs large, brown. Legs black, with white hairs and black bristles; tibiæ testaceous, the anterior and intermediate ones black at apex; posterior pair a little swollen towards the middle behind. Wings dilated on external border, reddish grey.

From the east coast of New South Wales. Paris Museum.

*Erax asiloides*, Macquart.

Type probably destroyed.

Described as black. *Abdomen* with yellow segmentations. *Legs* black, posterior femora at base and tibiæ red. *Wings* with no appendix.

Length, ♀, 6 lines without ovipositor.

From the figure of wing this species hardly appears to belong to this genus.

*Erax caudatus*, Fabricius.

Placed by Schiner in this genus, but not known to him.

Described as a female, 11 lines.

Yellow, with brown stripes; *abdomen* black, with golden bands and light honey-yellow legs. Beard white. Moustache of seven yellowish bristles. *Wings* yellowish.

From Australia.

*Erax fuscipennis*, Macquart.

Described as black. *Thorax* golden-coloured, with black stripes. *Legs* black; tibiæ testaceous, black at apices. *Wings* brown.

Length  $9\frac{1}{2}$  lines. ♂.

*Erax plantaris*, Thoms.

Described as brown. Allied to *Neoaratus hercules*, Wied., but *wings* not dilated in the middle and colour of *abdomen* different. *Antennæ* yellow. *Abdomen* yellow, at base olive. *Legs* chestnut; knees and tarsi black, posterior tibiæ yellow.

Length 23 mm. ♂.

From Australia.

*Erax salomon*, Macquart.

Seen in Paris Museum, 12. 4. 11.

Type a male. *Abdomen* half gone and in a bad state.

*Face* with a large protuberant tubercle, bearing the moustache. *Antennæ* black, the first two joints with black hairs, the third reddish, small and conical, with a long terminal arista almost the length of the entire antenna. *Legs* black, tibiæ testaceous; the bristles mostly black, some yellow ones on the femora. *Wings* dilated, venation very similar to that of *Erax completus*, Macq. (see Dipt. Exot. i. (2) pl. ix. fig. 9), but the posterior branch of fork of third

vein does not curve towards the anterior border anything like so much, it ends just at the apex of wing; no appendix, but the rudiment of one is present.

Macquart describes it thus:—

Black. Abdomen (♂) black, the three apical segments silvery. Legs red; femora and posterior tarsi black.

Length  $9\frac{1}{2}$  lines. ♂.

Forehead and face with whitish tomentum; moustache black, mixed with white. Beard white. Antennæ black. Thorax anteriorly reddish grey, posteriorly slate-coloured, with black stripes and a black triangular spot on the posterior border. Abdomen whitish at the sides. Legs with black bristles, femora and the anterior and intermediate tibiæ with white hairs; posterior tibiæ black at apex. Wings a little brownish, dilated; the second submarginal cell with a very short appendix.

From the Solomon Islands, Port Praslin. M. Durville. Paris Museum.

Macquart also described, in Suppl. i. p. 210, a female from Sydney Island, Oceania, which he suggested might be the female of this species.

#### *Erax varymystaceus*, Macquart.

Described as having *abdomen* black, with sides and segmentations ashy grey. *Thorax* ashy grey, with black stripes. *Legs* black, tibiæ testaceous. *Wings* with an appendix.

Length 7 lines. ♀.

From New South Wales.

#### Subgenera of *Asilus*.

Williston in his 1908 edition of 'Manual of N. American Diptera' considered many of the subdivisions of the old genus *Asilus* very vague and often not based on true generic characters, and placed them in his table of genera as subgenera. Prof. Hine in "Robberflies of the Genus *Asilus*," Ann. Ent. Soc. America, ii. no. 2, pp. 136-172, follows Williston.

#### GLAPHYROPYGA, Schiner.

Verh. zool.-bot. Ges. Wien, xvi. p. 674 (1866).

There are only two species recorded in this genus—*G. himantocerus*, Wied., from Brazil, for which Schiner formed the genus, and *G. australasiæ*, Schiner, 'Novara' Reise, Dipt. p. 187 (1866), from Australia.

Length 7 lines.

The description of this reads suspiciously like that of *Heligmoneura lascus*, Walker; but this genus is distinguished by the broad third joint of *antennæ*, almost the same width throughout; this last particular is true of *H. lascus*, but the width is not very great. Schiner gives no idea of the proportion of the width to the length.

♂  
[DYSMACHUS, Loew.]

Dipt. Südafrik. p. 143 (1860).

*Lophonotus*, Macq., Dipt. Exot. i. (2) (1838), præocc. Steph. Lepid. 1829.

The genus distinguished by the mane-like bristles on dorsum of thorax is only represented in the Australasian Region as yet by one species from Melbourne, viz.:—

*Nichoritanus rulis*  
[*Dysmachus rulis*] Walker.

List Dipt. pt. vii. Suppl. iii. p. 737 (*Asilus*) (1855).

Type (♂) from Melbourne (Baly Coll.).

A small dull-coloured species with hyaline wings. *Legs* black, *tibiæ* reddish.

Length 12 mm.

*Face* blackish, covered with dull yellowish tomentum; tubercle occupies centre of face, not very large; the moustache, consisting of strong black bristles, reaches to the antennæ; the oral aperture surrounded at sides by dull yellowish hairs, a few of these are intermixed with the moustache below. *Antennæ* blackish, the first two joints together not so long as the third joint, both with thick black hairs; the third joint long, cylindrical, with a short style-like arista. *Forehead* with some long black hairs, longest on the ocelligerous tubercle. Hind part of head with yellowish hairs and black incurved bristles at vertex. *Thorax* brownish, with stripes of yellowish tomentum, the black hairs long, bristly, disposed like a mane, reaching the whole length of the thorax. *Scutellum* paler coloured, with two long black bristles. *Abdomen* brownish, with some yellowish tomentum, black bristles on posterior borders of segments not reaching the centre, dorsum with short black pubescence, sides of basal segments with larger yellowish hairs. Genital organs black, fairly large and prominent. *Legs* black, the coxæ and underside of femora with long yellowish hairs, the *tibiæ* dull reddish on basal two-thirds, first joint of tarsi same colour; pubescence yellowish on the

tibiæ, elsewhere chiefly black. *Wings* hyaline, veins reddish, the small cross-vein beyond the middle of discal cell, the first posterior cell almost the same width throughout, the fourth closed.

MACHIMUS, Loew.

Linn. Ent. iv. p. 1 (1849).

This genus has not been recorded before from the Australasian Region; but two species are known from the Oriental Region, one being *Asilus atratulus*, Wlk., the type of which is in the Brit. Mus. Coll., from Java, a species with the legs black. I believe *Asilus antilco*, Walker, belongs to this genus, but it is in bad preservation. There is a female from Queensland which also appears to belong to this genus, but is a different species.

*Machemus antilco*, Walker. = ~~*Mechitanus armatus* Inagy~~ see *Handley*  
List Dipt. ii. p. 458 (1849), et vii. Suppl. 3, p. 737 (1855).

Type (♀) from Port Stephen.

Length 15 mm.

A blackish species. *Face* black, with yellowish tomentum at sides, the tubercle distinct, the moustache consisting of numerous black bristles and hairs. *Antennæ* black, the first two joints with black hairs. The *thorax* black with grey stripes. *Legs* black; the tibiæ yellow, black at apex; the fore femora armed below with at least four stout short bristles and incrassate, on the hind femora these bristles are present but not so strong, and they are not so incrassate. *Wings* hyaline, the small transverse vein beyond the middle of discal cell. Abdomen very dirty and ovipositor not quite complete.

HELIGMONEURA, Bigot.

Thoms., Archiv. Entom. ii. p. 356 (1858).

*Mochtherus*, Loew, Linn. Ent. iv. p. 58 (1849) [præocc. Schmidt, Goebel Coll., 1846].

*Neomochtherus*, Ost.-Sack., Cat. Dipt. N. Amer. ed. 2, pp. 82 & 235 (1878).

The only species recorded from the Australasian Region are:—

II. *lascus*, Wlk., List Dipt. ii. p. 466 [*Asilus*] (1849), et vii. Suppl. 3, p. 743 [*Asilus*] (1853); Hutton, Cat. New Zealand Dipt. &c. p. 30 [*Asilus*], et Trans. New Zealand Inst. xxxiii. p. 22 [*Stenoprosopis*] (1901).

II. *lauta*, v. d. Wulp, Tijd. v. Ent. (2) vii. (xv.) p. 242 [*Mochtherus*] (1872), et Cat. Dipt. S. Asia, p. 96 [*Mochtherus*] (1896).

*H. gnava*, v. d. Wulp, *l. c.* p. 243, pl. xii. fig. 3 (1872), et xix. p. 174 (1876); Ost.-Sack. Ann. Mus. Civ. Genova, xvi. p. 423 [*Mochtherus*] (1882).

*H. patruelis*, v. d. Wulp, is recorded from Celebes.

*Heligmoneura lascus*, Walker.

Types (♂ ♀) from Colenso, New Zealand, also recorded by Hutton from Auckland and Wellington, New Zealand.

The types presented by Dr. Hooker are not identifiable, but there are male and female specimens from New Zealand (Col. Sinclair, 1845) and others (Col. Botton, 1854), which agree with the description given by Walker. This species and another new species from New Zealand, *S. meridionalis*, were placed by Hutton in the genus *Stenoprosopis*, containing species from America, with the exception of one from Bengal; this species, however, belongs to *Heligmoneura*, having the face very narrow, raised round the mouth, forming a very slight tubercle (in *Stenoprosopis* the face has no tubercle and the moustache is composed of only a few long hairs), and appears nearly allied to *H. gnava*, v. d. Wulp, from Java, Obi, Halmahera, and Waigiou. *Stenoprosopis meridionalis*, Hutton, Trans. New Zealand Inst. xxxiii. p. 23, will probably prove to be a species of *Heligmoneura*.

*H. lascus* is described as a small species with reddish-yellow legs, the abdomen black, with rather broad greyish or dull yellowish segmentations. Wings clear, grey at apex and round posterior border.

Length 12–13 mm.

Description from fresh specimens from New Zealand (*Cockayne*).

*Male*.—Face very narrow, blackish, covered with dense yellowish pubescence; tubercle small, extending the whole width of face above the oral opening; the moustache consists of glistening long white hairs which surround the oral opening, three or four yellow bristly hairs are visible above. Beard of sparse white hairs. Palpi reddish yellow with white hairs. Antennæ blackish, the second joint and base of third pale reddish yellow; the first joint long, narrow, the second joint broader and about a third shorter, both with yellowish hairs at sides; the third joint long, conical, with terminal arista two-thirds its length. Hind part of head with white hairs, reddish yellow and stouter at vertex. Thorax and abdomen with the ground-colour dull yellowish marked with brown stripes and spots, the thorax with black bristles at side. Scutellum dull yellowish, with two reddish-yellow bristles. Abdomen with

irregularly oval-shaped, blackish-brown, large spots on centre of each segment, reaching the anterior but not the posterior border, the last segment almost wholly black; the genital organs large, shining black; dorsum with sparse, yellow, short pubescence and longer hairs at sides, thickest on the first segment; underside almost wholly blackish, shining. *Legs* yellowish, shining, upperside of femora blackish, apices of tibiæ and tarsal joints brown; bristles on legs chiefly yellowish or white. *Wings* hyaline, apex and posterior border grey; veins brown, the small transverse vein just beyond middle of discal cell; first posterior cell long and narrow, the fourth closed.

*Female* identical; the ovipositor long, black, including the seventh and eighth segments, compressed at sides.

[To be continued.]







*A Revision of the Asilidæ of Australasia.*

By GERTRUDE RICARDO.

[Concluded from p. 425.]

PARARATUS, gen. nov.

Allied to *Aratus*, v. d. Wulp (now *Neoaratus*), in having no bristles on the abdomen, and in the neurulation of the *wing*, but is distinguished from it by the non-dilatation of the *wing* on its fore border in both sexes, and by the genital organs, which in the male are very large and club-shaped; the ovipositor of the female is compressed at the sides, bringing it thus near *Neoitamus* in this respect, from which, however, the neurulation of *wing* and large size of the species distinguish it. It is also allied to *Blepharotes* in the large genital organs of male. From *Asilus* in *sensu stricto* it is distinguished by the character of these organs.

Type and only species of genus from Victoria, New S. Wales.

*Pararatus macrostylus*, Loew.

Zeitschr. f. d. ges. Naturwiss. N. F. x. (xliv.) p. 75 (*Blepharotes*) (1874).

One male and one female in Brit. Mus. Coll. from Champion Bay, W. Australia (*Du Boulay*). Four males from Mallee District, Victoria, in Mr. French's coll.

Loew divided this species off from *Blepharotes coriarius*, stating he had often seen specimens of both species in  
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collections under *B. coriarius*. After carefully studying his description of his new species I am convinced the above specimens are identical with his species *macrostylus* and that they do not belong to the genus *Blepharotes*, though it is very unlike Loew to have overlooked the following characters which preclude it from belonging to *Blepharotes*, viz.: ovipositor of female, which is long and compressed at sides; short style of *antennæ* and short third joint, the absence of thick tuft-like hairs at sides of *abdomen*, and the very much slighter build of *legs*; these last three characters were noticed by Loew in his description, but of the ovipositor he makes no mention. The neuration of *wings* is very similar. Small males of *Blepharotes flava* have a slight general resemblance to this species, but the thick tuft-like hairs at sides of *abdomen* will at once distinguish them.

This is a large species: *abdomen* fulvous with reddish-yellow pubescence and black apex; *thorax* blackish; *wings* large, hyaline. *Legs* wholly black.

Length 27–35 mm.

*Male*.—*Face* blackish, covered with yellowish tomentum; the tubercle large, occupying the lower part of face, bearing the moustache composed of long white hairs. *Palpi* black, with black hairs. *Antennæ* black, the third joint with a long terminal bristle; the first two joints short, the first the longest, both with black hairs; the third conical, with a rather long tapering point, the joint a little longer than the first two joints together, the bristle nearly as long as the joint. *Forehead* brownish black, with white pubescence, white hairs on hind part of head, a few black hairs at vertex. *Thorax* brownish black, with black pubescence and two long bristles before the suture, two beyond, and several on posterior part of thorax; sides and breast with white pubescence. *Scutellum* same colour, with three stout bristles on posterior border. *Abdomen* flat, rather broad compared with *Asilus* species, at its widest about 5 mm., becoming narrower at apex; the first segment black with black pubescence, the others bright reddish yellow with fulvous pubescence; sides with fairly long, fine, yellowish-white hairs, thickest on the second segment, not disposed as tufts; posterior border of last segment and the genital organs black, the latter large and prominent with black pubescence; underside black, bare, with black hairs at sides. *Legs* blackish, all the femora armed with black bristles; coxæ with long white hairs, pubescence elsewhere and all bristles black. *Wings* hyaline, the posterior branch of fork strongly curved; the second posterior cell broad at base, bulging into the first, the third

wide, the fourth closed, the anal cell closed some way from the border; the small transverse vein is situated about the middle of the discal cell; veins black at base and on fore border, then reddish. Halteres black.

*Female* identical. Ovipositor blackish, long, including the sixth and seventh segments, compressed at sides.

#### NEOITAMUS, Osten-Sacken.

Cat. Dipt. N. Amer. ed. 2, pp. 82 & 235 (1878)

*Itamus*, Loew, Linn. Ent. iv. p. 84 (1849), præocc. Schmidt, Goeb. Coll., 1846.

The following species are recorded from Australia, Tasmania, and New Zealand:—

*Neoitamus varius*, Walker, List Dipt. ii. p. 457 (1849), et pt. vii. Suppl. 3, p. 742 [*Asilus*] (1835); Hutton, Trans. New Z. Inst. xxxiii. p. 22 [*Itamus*] (1901).—*Asilus fraternus* (? females only), Macq., Dipt. Exot. Suppl. i. p. 219 (1844); v. d. Wulp, Sumatra Exp. Dipt. p. 25 [*Itamus*] (1881). *Asilus bulbus*, Walker, var. B, List Dipt. pt. ii. p. 466 (1849). *Itamus melanopogon*, Schiner, 'Novara' Reise, Dipt. p. 190 (1868).

*Neoitamus mistipes*, Macq., Dipt. Exot. Suppl. iv. p. 398, pl. ix. fig. 3 [*Asilus*] (1849).

*Neoitamus bulbus*, Walker, List Dipt. ii. p. 465 [*Asilus*] (1849), et vii. Suppl. 3, p. 743 [*Asilus*] (1855).—*Itamus inquisitor*, Nowicki, Mem. d. Krakauer k.-k. Akad. d. Wiss. ii. p. 21 [*Itamus*] (1875), et Beitr. z. Kenntniss d. Dipt. Fauna Neu Seelands, 21 [*Itamus*] (1875).

*Neoitamus planiceps*, Schiner, 'Novara' Reise, Dipt. p. 189 [*Itamus*] (1868).

*Neoitamus hyalipennis*, sp. n.

The synonymy of these species here given differs considerably from that given by Kertész in his Cat. Dipt., but I believe, from the examination of Walker's types, this will prove correct.

*Asilus sydneyensis* does not belong to this genus.

*Neoitamus varius*, Walker.

*Asilus fraternus*, Macq. (females only).

*Asilus bulbus*, Walker, var. B.

*Itamus melanopogon*, Schiner.

Macquart's type (male) and his original series of specimens of females seen in Paris Museum, 12. 4. 11, from Tasmania. The females were identical in all respects with a specimen of Walker's *Asilus varius* which I took for comparison; the male and another male specimen were identical, with the exception of the genitalia, which were not so swollen and large, but more long oval, and the white hairs on abdomen were not

so numerous or long as in the male specimen of *varius*. It appears probable that Macquart's male belongs to another species of *Neotamus*, but the question must be left in abeyance till further material is available, and for this reason priority is given to Walker's name.

In Brit. Mus. Coll.

Types of *Asilus varius* consist of two males, co-types, one presented by Col. Sinclair, one from Mr. Earl's collection; and three females, co-types, added in the 7th volume 'List Dipt. Brit. Mus.,' from Auckland, presented by Col. Bolton; a long series of specimens are in the collection from New Zealand.

A small blackish species, the *legs* bluish black; *tibiæ* reddish yellow. *Wings* hyaline, greyish round the posterior border and at apex.

Length, ♂ 17–18 mm., ♀ 18 mm.

*Face* black, with white or yellowish tomentum at sides; tubercle large, black, shining; the moustache composed of many black bristles and a few long white hairs below. *Antennæ* with black hairs on the first two joints. Beard white and the hairs round head white. Head excised a little behind, with black incurved hairs at occiput. *Thorax* black, with two ashy-grey or yellowish tomentose stripes, grey at sides, the pubescence on dorsum black and some short black bristles present, with longer ones at the sides. *Scutellum* the same, with four large black bristles on posterior border, often yellow in the female. *Abdomen* black, with grey or whitish segmentations and short black pubescence, some white hairs at base on segmentations and yellow bristles at sides; genitalia in male club-shaped, large, swollen at tips, black and shining with black hairs and a few white ones intermixed; ovipositor in female long, including the sixth and seventh segments of abdomen. *Legs* black; femora with long white hairs below, the middle and posterior pair with bristles on underside; *tibiæ* testaceous; bristles on legs black. *Wings* with the small transverse vein at or beyond middle of discal cell.

Walker's var. B of *bulbus*, a female, is identical with the types of *varius*.

*Itamus melanopogon* is identical, judging from the description given by Schiner; the type came from Auckland.

The original description of *N. fraternus*, by Macquart, of male and female is very short. V. d. Wulp described more fully a female specimen from Rawas, Sumatra, he considered to be identical with it; the only difference in the description appears to be that the outsides of *tibiæ* have a black stripe

and the first joint of fore tarsi is brown-yellow. The ovipositor he mentioned as including the last three segments of abdomen, and being shining black.

*Neoitamus mistipes*, Macquart.

Type, a female, seen in Paris Museum, 12. 4. 11. A male specimen I took for comparison is identical with this type; the bristles on the legs are more largely white in the male than in the female type, which has only a few white ones on the middle and posterior femora.

In Brit. Mus. Coll.

Male and female from Mt. Gambier, S. Australia (*W. Wesche*), 1905, and another male and female from same locality.

A blackish species; the *abdomen*, especially in the male, covered with yellowish tomentum; tibiæ yellowish, femora yellow below; bristles on the *legs* chiefly yellow. *Wings* hyaline.

Length 14 mm.

*Male*.—*Face* covered with pale yellow tomentum, the tubercle distinct; moustache composed of weak yellowish-white bristles and two black longer ones above. Beard white. *Antennæ* blackish, the first two joints with black hairs, the third joint conical with a long terminal arista. *Forehead* brown, with black hairs at the sides. Hind part of head with dull yellow hairs. *Thorax* blackish brown, covered with yellowish tomentum, two median and a lateral interrupted stripe on each side black; shoulders covered with ashy-grey tomentum; between the median and lateral stripes long blackish hairs, shorter ones on anterior part of thorax; sides and posterior part of thorax with stout black bristles. *Scutellum* covered with ashy-grey tomentum; two weak, yellow, long bristles on its posterior border. *Abdomen* blackish brown, besides the yellowish tomentum, which is most apparent on the sides, the dorsum is covered with very short yellow hairs; first segment with a fringe posteriorly of yellow hairs; sides of segmentations with yellow bristles, often continued along posterior border of segment, sides with short yellow hairs. Genital organs black, shining, large, club-shaped. *Legs* black, the underside of all femora and the tibiæ for two-thirds of their length yellow; the coxæ covered with grey tomentum and with long white hairs; femora with long white hairs below; tibiæ with some long weak yellow bristles on their outer borders, the bristles on tarsi yellow. *Wings* clear; veins brown, the small transverse

vein just beyond the middle of discal cell; the vein closing fourth posterior cell convex, the second posterior cell wide at its base.

*Female* identical. The black bristles on upper part of moustache more numerous. The tomentum of *thorax* more grey than yellow. Ovipositor long, the last two segments included in it, black, shining, with some pale yellow hairs at sides.

This species and *N. hyalipennis* are both distinguished from *N. fraternus* by the quite clear wings.

*Neoitamus bulbus*, Walker.

*Itanus inquisitor*, Nowicki.

Types, two female co-types (not a male and female as Walker states); one measures 22 mm. in length, the other 14 mm., which roughly corresponds to Walker's length  $6\frac{1}{2}$ –10 lines, so that it appears probable he mistook one of these females for a male. Both are in a very dirty dilapidated condition, but they correspond fairly to the long careful description given by Nowicki and appear to be the species he was describing. It may be distinguished from *N. fraternus* at once by the presence of spines on the fore femora below and by the colour of the *legs*, which are chestnut-coloured, the femora with a black stripe below; apices of tibiæ and all the tarsi black, the moustache is entirely black. Nowicki mentions some yellowish-white hairs; his type also came from New Zealand.

The var. B of Walker does not belong to this species, but is identical with *N. varius*, Wlk.

*Neoitamus planiceps*, ♂, Schiner. = *armatus* Macq. see *handy*

From Australia, described from one male specimen only.

Schiner remarks it cannot be the same as *Asilus setifemoratus* or *rufotarsus*, Macquart, and describes the fore femora as armed with four black bristles below, which precludes it from being identical with *N. fraternus*, Macq. *Legs* are black, the tibiæ yellow, so that it can hardly be the same as *N. bulbus*, Wlk., or *N. mistipes*, Macq.

*Neoitamus hyalipennis*, sp. n.

Co-types, one male and two females from Mr. French's coll., Mallee District, Victoria.

This species is at once distinguished from *N. mistipes* by the wholly black femora. A black species with a very thick

black moustache. *Legs* stout, armed with many bristles. *Tibiæ* only yellow at their base.

Length, ♂ 16, ♀ 20 mm.

*Male*.—*Face* covered with grey tomentum; the tubercle large, black; the moustache composed of many black bristly hairs, with white ones below and in the middle. Beard white. *Antennæ* black, the black hairs on the first two joints thick and long. Hind part of head at vertex with black hairs, curled upwards, elsewhere white. *Thorax* black, with grey tomentum and black stripes, the dorsum with black pubescence, rather approaching in their arrangement species of *Dysmachus*; black bristles at sides strong and numerous, posteriorly the black hairs are long and bristly. *Scutellum* with short whitish pubescence and four weak, long, yellow bristles on its posterior border. *Abdomen* blackish, with grey tomentum at sides; dorsum with short white hairs; segmentations with grey tomentum, sides with longer white hairs. *Genitalia* black, shining, long, club-shaped, with black pubescence. *Legs* black; *coxæ* with grey tomentum and long white hairs; fore femora with long blackish hairs below, shorter ones above intermixed with white ones, the middle pair with short black pubescence and strong black bristles below and at apex, the hind pair with shorter black bristles below; *tibiæ* yellow at base, the fore *tibiæ* with long black hairs below and shorter ones above and with stout black bristles, the others the same, but with no long black hairs; *tarsi* with black bristles, fore *tibiæ* at apex and *meta-tarsi* with short yellowish pubescence below. *Wings* clear, veins black; second posterior cell wide at its base, the vein closing fourth posterior convex; the small transverse vein situated on two-thirds of discal cell.

*Female* identical. Ovipositor as in *N. mistipes*.

The species of *Neoitamus* from other parts of the Australasian Region (not Australia) are *Neoitamus griseus*, Wied., *involutus*, and *longistylus*, Wlk., from New Guinea and elsewhere. *Neoitamus melanopygus* and *spinicauda*, v. d. Wulp, from Celebes.

*Neoitamus involutus*, Walker.

Proc. Linn. Soc. v. p. 281 [*Asilus*] (1861), et vi. p. 7 [*Asilus*] (1862);

Ost.-Sack., Ann. Mus. Civ. Genova, xvi. p. 423 [*Itamus*] (1882).

*Asilus normalis*, Walker, Proc. Linn. Soc. London, vi. p. 18 (1862).

These two types appear identical.

The types of *normalis*, male and female, come from Ternate; the specimens, females, of *involutus* from Ternate and Gilolo.

## CERDISTUS, LOEW.

Linn. Ent. iv. p. 74 (1849).

Schiner recorded the one species of this genus from Australia, and another species of Walker is added here, so that two species are recorded from this region as follows:—

*strictus* Hardy  
*fornis* " } *Cerdistus maricus*, Walker, Dipt. Saund. i. p. 141 [*Asilus*] (1851), et  
List Dipt. vii. Suppl. 3, p. 737 [*Asilus*] (1855).  
*Cerdistus sydneyensis*, Schiner, 'Novara' Reise, Dipt. p. 187 (1868).

*Cerdistus maricus*, Walker.

This small species appears to belong to the above genus, but does not answer to the description of Schiner's species.

Type (♂) from Port Philip (*Hunter*) and another female from Queensland (*Dr. T. L. Bancroft*).

Black. *Abdomen* with grey segmentations. *Legs* black, the tibiae and first joint of tarsi obscurely reddish yellow, the hind legs more distinctly so. Moustache black above, white below. *Wings* hyaline.

Length 12 and 14 mm.

*Face* blackish, with white tomentum at sides; in the fresh female the *face* is more brownish, the tubercle small, the moustache not reaching beyond it, composed of stout black bristles above and long, soft, white hairs below, in the type the black bristles are not so apparent. Beard white. *Antennæ* black; the first two joints with black pubescence, the style of the third long. Head deeply excised behind. *Thorax* black, with white tomentose stripes and sides; two black bristles situated on side at suture, one above the other, and weak yellowish ones behind; on dorsum short black hairs and white ones posteriorly. *Scutellum* black, with whitish tomentum and two weak yellow long bristles. *Abdomen* black, with whitish-grey segmentations, and with white hairs at the sides; short black hairs on anterior border of segmentations, and at sides of segmentations a few black hairs. Ovipositor about as long as the last two segments, brown and shining. *Legs* with black bristles; on the hind tibiae a few white ones intermixed; femora with short white hairs below. *Wings* hyaline, the small transverse vein beyond the middle of the discal cell; the fourth posterior and anal cells closed, the former with a short stalk; veins black.

*Cerdistus sydneyensis*, Schiner. = *Neoitamus sydneyensis* see Hardy

Described as black. *Abdomen* with grey segmentations.

*Legs* black, the base of all femora and tibiæ rusty yellow. *Face* with white tomentum; the moustache black, with some white hairs below. *Wings* hyaline, but broadly and distinctly tinged with grey round the whole border. 5 lines.

Schiner records four pair from Sydney.

#### NEOARATUS, Ricardo.

*Aratus*, v. d. Wulp, Termés. Füzetek, xxi. p. 236 (1893) (præocc. Howard, Hym. 1896).

This genus was formed for *Asilus hercules*, Wied., by v. d. Wulp, who satisfied himself as to the probability of the correctness of the three synonyms (see below); he also suggested that *Rhadiurgus macquarti*, Bigot, and *Asilus tasmaniae*, Macq., might belong to this genus, which he characterized as follows:—

*Face* moderately broad, with prominent tubercle, which, with the thick moustache, takes up two-thirds of the face. *Antennæ* small in proportion, the two basal joints same length; the third rather shorter than the two together, pointed at end, with a naked arista. *Thorax* short-haired, only posteriorly with some long hairs, but without bristles. *Abdomen* fine-haired, slender, no bristles at sides; eighth segment hidden (correct only of ♂); genital organs small; ovipositor egg-shaped, with two small lamellæ at end. *Legs* stout, femora not incrassate. *Wings* shorter than body, in the male dilated on the fore border; the submarginal cell rilled in both sexes; the discal cell long and narrow, the upper vein from it very much bent outwards, so that the second very broad posterior cell bulges very considerably into the first one; the fourth is closed, also the anal cell.

This last character is common to the large species of *Asilus*, such as *rufiventris*, *rufithorax*, *pelago*, *hyagnis*, and the submarginal cell is frequently rilled in them, and even the fore border of wing very slightly dilated, so that it appears as if the very great dilatation of wing on fore border in *Neoaratus hercules* is the only character that divides it off from *Asilus in sensu stricto*, and it remains the only species in the genus. *Rhadiurgus macquarti* is a male from New Caledonia; Bigot makes no mention in his description of the wing being dilated; without seeing his type it is impossible to decide whether he placed it in the right genus.

*Neoaratus hercules*, Wied., Auss. zweifl. Ins. i. p. 425 [*Asilus*] (1830).

Type of genus.—*Asilus plicatus*, Wied., l. c. ii. p. 643 (1830);

Froggatt, Australian Insects, p. 299 (1907). *Asilus giganteus*, Macq.,

Dipt. Exot. Suppl. ii. p. 59, pl. i. fig. 9 (1847). *Asilus grandis*,

Macq. l. c. Suppl. iii. p. 190, pl. iii. fig. 1 (1848).



*Asilus jacksonii*, ♀, Macq., l. c. p. 261. ? *Asilus tasmania*, ♂, Macq., l. c. p. 261; v. d. Wulp, Termés. Füzetek, xxi. p. 237 [? *Aratus*] (1898). ? *Asilus nigritarsis*, Macq., Suites à Buffon, i. p. 304 (1834). *Asilus amythaon*, ♀, Walker, List Dipt. ii. p. 423 (1849). *Asilus maso*, ♀, Walker, l. c. p. 424.

*Asilus pelago*, Walker, l. c. p. 419, et vii. Suppl. iii. pp. 729, 731, 735 (1855); Schiner, Verh. zool.-bot. Ges. Wien, xvii. p. 400 (1867).

*Asilus blasio*, Walker, List Dipt. ii. p. 441 (1849), et vii. Suppl. iii. pp. 730, 731, 738 (1855).

*Asilus discutiens*, Walker, Ins. Saund. i. p. 135 (1851), et List Dipt. vii. Suppl. 3, p. 736 (1855).—*Asilus malcolus*, Walker, List Dipt. ii. p. 418 (1849), et vii. Suppl. 3, p. 736 (1855).

*Asilus hyagnis*, Walker, Ins. Saund. ii. p. 139 (1851). *sericeiventris* Macq.

### *Asilus inglorius*, Mackay.

*Asilus amycla*, ♀, Walker.

*Asilus centho*, ♂, Walker.

*Asilus planus*, ♀, Walker.

The types of *amycla* and *centho* are from New S. Wales; the type of *planus* from Australia.

There is a long series of specimens in the Brit. Mus. Coll. from Burpengary, Queensland. The identification of this apparently common species with *Asilus inglorius*, Mackay, is given on the authority of Schiner, who confidently asserts it, but the original description consists of merely a few lines. Schiner suggested that *A. planus* and probably *A. amycla* were synonyms of it, and was correct. The species is easily distinguished by the bushy bright yellow hairs on the three basal segments of *abdomen* and by the red *legs* with tarsi black.

Length, ♂ 25, ♀ 24 mm.

A series of this species is labelled in the Paris Museum as *Asilus sericeiventris*, evidently a MS. name only of Macquart's.

♂ ♀.—*Face* black, covered with greyish tomentum and with whitish or yellowish short pubescence. Moustache consists of bristly yellow hairs on the not very prominent tubercle, with weaker hairs below. *Palpi* black, with bristly yellow hairs. Beard pale yellowish or white. *Antennæ* reddish, the basal joints with yellowish hairs; bristle on third joint long. *Forehead* black, with grey tomentum and strong yellowish hairs on each side, at vertex some strong yellow bristles; pubescence on hind part of head pale yellow. *Thorax* brownish, with grey tomentose stripes and markings; pubescence on dorsum black, scanty, with very strong black bristles at sides and posteriorly. *Scutellum* as thorax, bordered with black bristles. *Abdomen* brownish, with a black median stripe, and covered with grey tomentum; pubescence largely fulvous, black on the median stripe; the pale yellow tufts on

basal segments nearly meet in the middle; sides of abdomen with yellow bristles on posterior border of each segment; underside brownish, with pale yellow pubescence; ovipositor of female distinct; genital organs of male blackish. *Legs* red; coxæ, knees, and tarsi black, coxæ covered with grey tomentum and with yellowish pubescence; femora with short black pubescence above, and longer yellowish hairs below, bristles chiefly black; tibiæ with short black and yellow pubescence, the latter, more fulvous in colour, as a thick short fringe on the underside of fore pair, all are swollen at apex, bristles black; tarsi with black bristles and pubescence, with fulvous pubescence on the underside of the basal joints of fore pair. *Wings* hyaline, tinged yellowish, grey at the apex, veins reddish; neuration as in *Neoaratus hercules*, but the costa is not produced outwardly in either sex; small cross-vein is at about the middle of the discal cell.

*Asilus murinus*, Macq.

Type seen in Paris Museum, 12. 4. 11.

In Brit. Mus. Coll. a male and two females, from New South Wales.

Macquart's description is as follows:—

Greyish. *Legs* red; tarsi black.

Length, ♂ 9, ♀ 10 lines.

Face and forehead whitish yellow; moustache white, only occupying the lower part of face; a few black bristles below. Beard white. Thorax yellowish, with the intermediate stripe divided. Abdomen of a somewhat reddish grey, with white bristles; genital organs, ♂ and ♀, black. Knees slightly black. *Wings* hyaline, a little yellowish, at apex greyish. From New S. Wales. Paris Museum.

A dusky dull-coloured species with red *legs*. *Face* covered with greyish tomentum, tubercle prominent. Moustache composed of many stout yellowish or white bristles with black ones *above*. The first two joints of *antennæ* black, with black bristly pubescence. *Forehead* a little darker than face, with black hairs. *Thorax* blackish, with yellow tomentose stripes and markings. Pubescence on dorsum black. *Scutellum* covered with grey pubescence, some stout black bristles on posterior border. *Abdomen* black, covered with olive-coloured tomentum and with some appressed yellowish pubescence; hairs at sides yellowish; the eighth segment of abdomen deep black, with some black hairs; ovipositor very small (♀); in the male the eighth segment is hidden or very

small, the genital organs rather large, swollen, black, with black hairs; underside of abdomen black, covered with grey tomentum. *Legs* red, knees and tarsi black, bristles chiefly black. Pubescence white on fore coxæ and femora below, where it is long, short elsewhere with some black hairs. *Wings* tinged slightly yellow, greyish at apex and on fore border; neuration as in *Neoaratus hercules*; small transverse vein just below middle of discal cell.

Length of specimens 25–27 mm.

*Asilus rubrithorax*, Macquart.

A male seen by me in Paris Muscum, 12. 4. 11; not the actual type, which is said to be in very bad preservation, but this specimen one of a series of specimens of the species. I also saw a female. A specimen I took for comparison is identical. The *thorax*, described as reddish, is denuded; the third joint of *antennæ* is reddish above.

In Brit. Mus. Coll. specimens from New South Wales.

A species with blackish *abdomen*, covered with grey tomentum; black and yellow striped *thorax*; reddish *legs*; *wings* clear.

Length 28 mm.

*Face* black, covered with greyish tomentum; tubercle large and prominent on lower part of face. Moustache of black bristly hairs, with long yellow ones below round mouth. *Palpi* with long yellowish and black hairs. *Antennæ* long, black, the first two joints with yellowish and black hairs, the third joint with a long arista. *Forehead* same colour as face, with black pubescence; on vertex and round head the hairs are white. Beard white. *Thorax* black, with grey tomentose stripes and markings, and rather long black pubescence on dorsum; sides black, with grey tomentum, black bristles above and greyish pubescence below. *Scutellum* covered with greyish tomentum and with yellowish and some black bristles. *Abdomen* blackish, with yellowish-grey tomentum and black pubescence and with yellow bristly hairs on posterior borders of segments at sides and whitish pubescence on sides; underside same colour, with whitish pubescence; genital organs in male prominent, black and fulvous; ovipositor in female distinct. *Legs* deep red, the knees, apices of tibiæ, and all tarsi black, the femora black on their upper outer borders; pubescence on coxæ and under part of femora whitish, on tibiæ short and whitish, all bristles black; posterior femora armed with row of short black bristles. *Wings* hyaline, grey at apex, veins brown; the second posterior cell bulging somewhat into the first posterior cell, but

its base outside the third vein not so wide as the part inside above discal cell in the male, in the female it is as wide as the small transverse vein just below the middle of discal cell.

*Asilus rufiventris*, Macquart.

Type seen by me in Paris Museum, 12. 4. 11.

Specimens in Brit. Mus. Coll. from Victoria, Moreton Bay, and Toowoomba, Queensland.

A handsome species, not unlike *Asilus pelago*, Wlk., but easily distinguished by the reddish femora, the tibiæ pale yellow, and by only the ovipositor in the female being black; in the Walker species the last segment is also black.

Macquart describes it thus:—

Thorax chestnut, with black stripes. Abdomen red. Femora testaceous, tibiæ red, tarsi black.

Length 13 lines, ♂ ♀.

Face, moustache, and forehead pale yellow. Beard white. Antennæ with the first two joints testaceous, the third black. The intermediate stripe of thorax divided by a whitish line. Sexual organs brown, ♂ ♀. Posterior femora elongated. Wings yellow, apex brownish.

From New South Wales.

*Asilus sydneyensis*, Macquart.

*Asilus jacksonii*, Macq.

? *Asilus tasmaniæ*, Macq.

? *Asilus nigritarsis*, Macq.

*Asilus amythaon*, Wlk.

*Asilus maso*, Wlk.

Type of *A. sydneyensis*, a male, seen in Paris Museum, 12. 4. 11: from Sydney. Type of *A. jacksonii*, a female, seen at the same time, is identical: from New South Wales. *Asilus tasmaniæ*, from the description, would appear to be identical, also a male: from Hobart Town. *Asilus nigritarsis*, the same: from Hobart Town and New Guinea.

Type of *Asilus amythaon*, a female, is from Hunter River, New South Wales (presented by Lord Derby). Type of *Asilus maso*, a female, from unknown locality.

Face narrow, broader below, covered with yellowish tomentum; the tubercle large, taking up almost half the face, some moustache on it composed of numerous white bristles and some black ones above. *Palpi* with black pubescence. *Antennæ* black, the first two joints with black bristly hairs. *Forehead* very similar to face, with black hairs. *Thorax* blackish, with yellow tomentose stripes and markings, black

bristles on sides and posteriorly, sides with grey tomentum. *Scutellum* covered with yellowish tomentum and some black bristles. *Abdomen* bright fulvous, blackish at base, at apex deep shining black, with no bristles, but some golden-yellow pubescence at sides and on segmentations; these last are blackish; genital organs large, black, with blackish pubescence. *Legs* red, knees and tarsi black, fore coxæ and femora with white hairs; all bristles black, middle and posterior femora below with bristles. *Wings* hyaline, yellowish, tinged grey at apex and on fore border; neuration as in *Neoratus hercules*, but the fore border is hardly perceptibly dilated; small cross-veins just below the middle of discal cell.

The species is very similar in general appearance to *Asilus rufiventris*, but is smaller, and the antennæ are dark and moustache not wholly yellow. The ovipositor in the female of this species is very small, appearing beyond the eighth segment of abdomen, which is black with black hairs.

Length, ♂ 24-26, ♀ 22-24 mm.

Schiner was of opinion that *Asilus nigritarsis* was the same as this species, but does not give the name priority owing to its being preoccupied; he also gave *Asilus tasmanicæ* as a synonym.

#### *Asilus pelago*, Walker.

Type (male) from Swan River.

Type (female) from New South Wales (presented by Haslar Hospital), and others from Swan River and Adelaide.

This is a handsome species, with reddish-yellow *abdomen*, sides and apex black, femora black, tibiæ yellow on basal half.

Length, ♂ 23, ♀ 27 mm.

*Male*.—*Face* black, covered with pale yellow tomentum on upper part; tubercle not prominent, bearing the thick yellowish-white moustache, composed of long weak bristles. Beard the same colour. *Palpi* blackish, with black bristly hairs. Antennæ brown, the third joint conical, rather short and broad compared with those of *Asilus rufiventris*, with a long terminal arista. Hind part of head with whitish hairs and with short black bristles at vertex. *Thorax* brownish, with black stripes; sides with stout black bristles and two below base of wing; posterior part of dorsum with numerous black bristles and hairs, the whole of dorsum with short black pubescence. *Scutellum* with two long, incurved, black bristles, and hairs or shorter bristles interspersed. *Abdomen*

reddish yellow, the first two segments almost wholly blackish, the eighth and genital organs black; underside dull rufous where the upper part is reddish yellow; dorsum almost bare, a tuft of black hairs on sides of first segment, and black hairs on remaining ones at sides; short yellow pubescence on dorsum. *Legs* black, the coxæ and fore femora below with white hairs, the middle and posterior femora with black bristles below; the tibiæ yellow on basal two-thirds, with short yellow pubescence; elsewhere pubescence is black; all bristles black. *Wings* hyaline, the veins yellowish, the small cross-vein beyond the middle of discal cell, submarginal cell rilled.

*Female* identical; the ovipositor conical, black, a little longer than the last segment.

*Asilus blasio*, Walker.

Type (♂) from Perth, W. Australia (purchased G. Clifton).

Two males and six females from Dandenong Ranges in Mr. French's Coll., from which the description is given; the type is very old and worn.

A well-marked species, with black-striped *thorax* and *abdomen* and red *legs*, with knees, tarsi, and short stripes on the femora black.

Length, ♂ 15–19, ♀ 16–22 mm.

*Face* black, with yellowish tomentum, whitish below the antennæ; tubercle prominent, large, bearing the black moustache, some white bristles intermixed, chiefly below. *Palpi* black, with long black pubescence and some white hairs. Beard of long white pubescence. *Forehead* greyish, with black pubescence, hairs round hind part of head white, with black bristles at the vertex. *Thorax* grey, with five black stripes, the median one divided, those next to it short, not reaching the shoulders, the outer ones a little longer; pubescence black, longer posteriorly; sides and breast covered with stripes of yellowish tomentum and some scanty white pubescence; black bristles on sides and posterior part of thorax; *scutellum* covered with yellowish-grey tomentum and with black bristles posteriorly. *Abdomen* covered with yellowish-grey tomentum, with a wide, black, median dorsal and narrower lateral stripes; pubescence on dorsum follows the colours; weak yellow bristles are apparent on the sides of each segment as far as the sixth one, with yellowish-white hairs below; on the last two segments bristles and pubescence are black; anus of female black, shining, with black hairs; the genitalia of male prominent, black; underside of

abdomen black, with greyish tomentum and white pubescence. *Legs* bright red; knees, apices of tibiæ, all tarsi black; in some of the specimens (not in the type) a black streak is present on basal half of hind femora; pubescence of legs black; on femora below are white hairs; all bristles black, some stout ones on underside of middle and posterior femora. *Wings* hyaline, grey; veins blackish, the small cross-vein a little above the middle of the discal cell; first posterior cell hardly narrower where the first vein from the discal cell borders it, as the second posterior cell hardly bulges at base; fourth posterior cell closed. Halteres reddish yellow.

*Asilus discutiens*, Walker.

*Asilus malleolus*, Walker.

Type (female) from New South Wales (Saunders Coll.), and a male from the same place (*J. J. Walker*); another from Van Diemen's Land (*Jensen*).

Type of *malleolus* (male) from unknown locality.

Var. B is not to be identified.

In the Paris Museum a long series of this species is labelled in Macquart's handwriting "*Asilus unilineatus*," evidently only a MS. name.

The species is nearly allied to *Asilus inglorius*, Macleay, but is distinguished by the more robust form of the males and by the darker colouring of the *abdomen* in both sexes and by the thick hairs on abdomen being continued on the sides of the third segment. It is blackish in colour, with tufts of yellow hairs and short yellowish pubescence on the abdomen. *Palpi* with *black* pubescence, and the yellow moustache has some black hairs above and below. The yellow bristles on the *legs* mentioned by Walker appear only as two paler bristles on the posterior tibiæ in the female, and are not present in the male.

*Asilus hyagnis*, Walker. = *ferugineiventris* Macq.

Type (male) from New South Wales (Saunders Coll.). Two males and three females from Burpengary, Queensland (*Dr. T. L. Bancroft*), 1904.

This species is apparently distinct, not a synonym of any of Macquart's, as far as can be judged without seeing all the types of the latter author. The redescription is based on the fresh specimens.

Species with reddish *legs*, armed partly with white bristles

on the femora and tibiæ. *Abdomen* olive-coloured, with greyish-yellow tomentum. *Wings* hyaline, grey at base.

Length 23 mm.

*Face* black, covered with yellowish-grey tomentum; the moustache on the prominent tubercle consists of yellowish-white bristles; palpi black, with yellowish-white hairs. Beard whitish. *Antennæ* with black pubescence on the first two joints; forehead same as the face, with some white hairs; hind part of head with yellowish-white hairs. *Thorax* black, with greyish stripes and markings; pubescence short and black, some black bristles on sides and posteriorly; sides and breast covered with ashy-grey tomentum, and long white hairs on breast. *Scutellum* as thorax, armed posteriorly with two strong black bristles. *Abdomen* covered with greyish-yellow tomentum and with short fulvous pubescence, at the sides with yellowish hairs, and some yellow bristles on each segment at the sides and before the segments; genital organs prominent, black; underside of abdomen chiefly covered with greyish tomentum. *Legs* reddish yellow, shining; coxæ grey, with yellowish-white pubescence; femora with some long, scanty, yellowish bristly hairs below and short black pubescence above, with short and long yellowish bristles; on the middle femora there are some stout black ones; anterior and middle tibiæ with weak yellowish hairs and some very short black pubescence, the posterior pair with short black and yellow pubescence; the bristles on the anterior and middle pair are yellow, long and short ones, with some black ones at their extreme apices and on the underside of the middle pair; the posterior tibiæ with strong yellow bristles; tarsi largely black at their apices, with yellow and black bristles, but only black ones on the posterior pair, pubescence black, yellowish below. Halteres yellow. *Wings* hyaline, the grey shading extends from the apex almost to the base of the two branches of the third longitudinal vein and as far as the fifth posterior cell; venation as in *Asilus inglorius*, Macleay, but the small transverse vein is below the middle of the discal cell; veins yellowish.

#### ASILUS in sensu lato.

*Asilus* ~~alcatus~~ <sup>*Nealcatus*</sup> *cædicus*, *margitis*, and *villicatus*, Walker, are not true *Asilus* species, but their genus, owing to state of types, is impossible to determine.

The same is the case with *Asilus exilis*, *laticornis*, and *varifemoratus*, Macq.

The following species not known to me must remain in *Asilus* in *sensu lato* for the present:—

*Asilus acutangulatus*, <sup>Aspilota</sup> ~~armatus~~, *australis*, [~~Cognatus~~ <sup>Vittipes</sup> ferrugineiventris], <sup>Aspilota</sup> ~~gineiventris~~, *filifera*, *fulvipubescens*, *longiventris*, *nigrinus*, *ruficoxatus*, *rufometatarsus*, [~~setiferioratus~~ <sup>Aspilota</sup> vittipes], Macq.; *belzebul*, Wied. (v. d. Wulp could not find this type in the Leyden Museum; Wiedemann described it from unknown locality, but later Macquart recorded a male he thought was a specimen of this species from New South Wales); *regius*, Jacnicke; *smithii*, Hutton.

*Asilus crabroniformis*, L., in Kertes's Cat., has Tasmania given with a query as one of the localities in which it occurs; but this is probably an error on the part of Walker (see Verrall, 'British Flies,' vol. v. p. 649, 1909).

The following Walker types from Australia and Van Diemen's Land are not to be found in the Brit. Mus. Coll., and should be expunged from any future list:—

*Asilus elicitus*.

*Asilus alicis*. . . ? *Neodarnus* *vittipes* n. sp. Hardy

*Asilus luctificus* ?

*Asilus alligans*. . . *gineiventris* Macq. n. sp. Hardy

The following types from unknown localities are also not to be found:—*Asilus eanes*, *halmus*, and *inumbatus*.

*Asilus antiorus* and *corythus* are species of the genus *Proctacanthus*.

The following types of Walker cannot be placed in their correct genus, owing to their imperfect condition; all, with the exception of *Asilus alceus*, are small species which will not belong to *Asilus* in *sensu stricto*.

*Asilus obumbratus*, Walker.

Dipt. Saund. p. 145 (1851), et List Dipt. vii. Suppl. 3, p. 735 (1855).

Type (female) from New South Wales (Saunders Coll.) seems allied to the genus *Cerdistus*, but the ovipositor ends in a fork. It is a small black species with apparently dull yellow legs.

*Asilus alceus*, Walker.

List Dipt. ii. p. 425 (1849), et vii. Suppl. 3, p. 736 (1855).

? *Asilus trachalus*, Walker, Dipt. Saund. i. p. 143 (1851), et l.c. p. 738.

This type is from Van Diemen's Land (*R. Buller*), in bad preservation. A medium-sized greyish-black species.

Schiner placed it in the genus *Neoitamus*, but it does not belong to that genus, and the species Schiner described in Verh. z.-b. Wien, xvii. p. 408 (1867), must be an altogether different species from this type, which is apparently an *Asilus* species, though the sides of *abdomen* have strong black bristles; ovipositor small, conical. *Legs* red, tarsi blackish, fore femora with some black bristles below. Moustache chiefly yellow.

The type of *Asilus trachalus* from same locality, a female in a very greasy state, is probably identical with the above.

*Asilus cædicius*, Walker.

List Dipt. ii. p. 457 (1849), et vii. Suppl. 3, p. 735 (1855).

Type from New Holland (abdomen destroyed) and another female may possibly belong to the genus *Eutolmus*, but are in too imperfect a state for identification. A small black species, with the tibiæ partly yellow.

*Asilus margitis*, Walker. ?? *Neoitamus caliginosa* White - see Hardy

List Dipt. ii. p. 461 (1849), et vii. Suppl. 3, p. 737 (1855).

Type (female) from Melbourne has lost its abdomen. A small black species with tibiæ dull testaceous. Walker suggests his *Asilus cædicius* may be a variety of this species.

*Asilus villicatus*, Walker.

Dipt. Saund. i. p. 147 (1851), et List Dipt. vii. Suppl. 3, p. 734 (1855).

The type (a female), from New South Wales, is very small; the male type mentioned by Walker is not to be found. It was suggested by Schiner that it might be identical with his *Neoitamus melanopogon*, now identical with *Neoitamus varius*, Walker; this is not the case, and the species hardly seems to belong to the genus *Neoitamus*. Till further material is available, its correct generic place must be left uncertain. In size and general appearance it seems related to *Asilus exilis*, Macquart.

The following three types of Macquart, seen by me in the Paris Museum, 12. 4. 11, could not be placed in their correct genus either owing to being isolated specimens or because of their state of preservation.

*Asilus exilis*, Macquart.

Type (a male) seen by me in Paris Museum, 12. 4. 11.

A very small species, measuring 12 mm.

*Face* narrow, with a distinct tubercle. *Moustache* composed of many white and black hairs. *Antennæ* black, the first two joints with black hairs, the third conical, with a long arista. *Thorax* black, marked with grey tomentose stripes and with black bristles at sides and posteriorly; *scutellum* with white bristles. *Abdomen* blackish, with lighter segmentations and pale pubescence. *Legs* black, tibiæ and coxæ reddish, femora with white hairs below. *Genitalia* club-shaped, with fine filaments below.

*Asilus villicatus*, Wlk., might possibly be identical.

*Asilus laticornis*, Macquart.

Type (a female) in very bad preservation, with the antennæ destroyed, seen by me in Paris Museum, 12. 4. 11.

It is evidently a small species of the genus *Asilus in sensu lato* with the neuration of wings normal, the fourth posterior cell closed, the small transverse vein situated just beyond the middle of discal cell. *Abdomen* with a short conical ovipositor, the segmentations greyish tomentose. *Legs* black, tibiæ apparently testaceous.

In Macquart's figure of the *antennæ* the third joint is short, about as long as the first two together, and broad, with a terminal arista shorter than the joint itself.

*Asilus varifemoratus*, Macquart.

Type seen in Paris Museum, 12. 4. 11; part of the abdomen gone.

A small species. *Moustache* white, *antennæ* black. *Abdomen* black, the pubescence white; segmentations appear to be reddish. *Legs* black, femora with white hairs below; tibiæ yellow-red, black at apices; tarsi yellow-red, black at apices, bristles largely white. *Wings* clear, grey at apex, the fourth posterior cell closed.

Of the *Asilus* species of Walker from other parts of the Australasian Region, *Asilus areolaris* ♂ ♀ and *areolatus* ♂, from Celebes, are species of *Pamponerus*. *Asilus determinatus* and *introducens* are nearly allied to *Asilus discutiens*, Wlk., having tufts of bright-coloured or white hairs on basal segments, but the ovipositor in females seems entirely different.

*Asilus condecorus* type appears to be lost. *Asilus biligatus*, *didymoides*, *depulsus*, and *tenuicornis* appear to be species of *Asilus in sensu stricto*. The generic place of *Asilus complens*, *lavis*, and *superveniens* appears to me doubtful.

#### PAMPONEURUS, Loew.

Linn. Ent. iv. p. 135 (1849).

This genus was divided off from *Asilus* by Loew, being distinguished by the long outstanding pubescence on abdomen, whereas in *Asilus* the abdomen is almost bare. Wings with two strongly marked colours, usually whitish at base. Face with a large tubercle; moustache nearly reaching the antennæ.

The species are few.

The type of genus is the widely spread European *P. germanicus*; the only other species are *P. nigritulus*, v. d. Wulp, from Molucca Isles, *P. mendax*, Wlk., from Celebes, and *P. areolaris* ♂ ♀ and *areolatus* ♂, Wlk. [*Asilus*], also from Celebes.

The typical colouring of wing is only present in the male of *areolaris*, a species very similar to *mendax*, but the legs are almost wholly reddish yellow.

#### *Pamponeurus mendax*, Walker.

Trans. Ent. Soc. London, 2 ser. iv. p. 130 (1857), et Proc. Linn. Soc. London, v. p. 260 [*Asilus*] (1861); v. d. Wulp, Tijd. v. Entom. xli. p. 135, pl. iv. figs. 9-10 (1898), et xlii. p. 55 (1899).

Type (male) from Menado, Celebes.

Wings milky white at base. It has been fully redescribed by v. d. Wulp.

#### *Pamponeurus nigritulus*, v. d. Wulp.

Tijd. v. Entom. (2) vii. (xv.) p. 235 (1872), et Tijd. v. Entom. xli. p. 137 (1898).

From Moluccas.

Described as black, the pleuræ and abdominal segmentations grey. Face yellowish or grey; moustache black, with a few whitish hairs below. Abdomen rather broad, black or blue-black; the hairs on sides of first two segments whitish, elsewhere black. Wings pale brownish, grey at apex.

Length 7-8 lines.

## EUTOLMUS, Loew.

Linn. Ent. iii. p. 459 (1848).

A species described by Macquart as *Asilus armatus* (see Dipt. Exot. Suppl. 1, p. 219, pl. viii. fig. 17, 1846) has been placed, evidently in error, under *Eutolmus* in Kerteszs's Cat. The reference given to Loew, Besch. Europ. Dipt. ii. p. 164, note 2 (1871), refers to *Machimus armatus*, Jaenn., a European species now stated to be a synonym of *Machimus pilipes*, Meig. From the figure of *Asilus armatus* it is evidently not a species of *Eutolmus* or *Machimus*, if the figure is at all correct. *Neotolmus* sp.

The genus has thus not yet been recorded from the Australasian Region nor from the Oriental Region.



Further Notes on Aschelae of Australia

1) I Jan 1918



*Further Notes on the Asilidæ of Australia.*

By GERTRUDE RICARDO.

FROM small collections of Asilidæ sent me by Mr. C. Gibbons and Mr. Frank Taylor for identification the following descriptions of new species and notes on old species are taken, with the addition of any new material in the Brit. Mus. Coll. The types are almost all presented to the Brit. Mus. Coll. by the kindness of the two above-named gentlemen.

*DASYPOGONINÆ.*

*Bathypogon testaceovittatus*, ♂ ♀, Macq. Dipt. Exot., Suppl.  
v. p. 70, pl. ii. fig. 1 (*Dasytrogon*).

Two females from Sydney (*C. Gibbons*) I believe belong to the above species.

These females agree with the description with the exception of the bristles on the tarsi, which are black, not white as stated by Macquart, but the rounded angle of the anterior branch of the fourth vein emitted from the discal cell is present, though not quite so exaggerated as given in the figure; the white hairs below the first two joints of the *antennæ* are here more reddish and black. *Forehead* with black bristly hairs. *Thorax* with white tomentum on the testaceous sides. Præsutural bristles three in number—one supraalar, two postalar,—all black, and three or four weak dorso-central bristles on each side, pubescence on dorsum black and numerous. *Scutellum* brown, with grey tomentum and four black bristles on its posterior border. *Abdomen* with two black bristles on each side of the first segment; dorsum with short white pubescence, and the usual circle of spines at apex. Femora and tibiae with short white pubescence also present on the first joint of the tarsi and partly on the other joints; all the legs with numerous black bristles.

*Bathypogon brachypterus*, Macq. Dipt. Exot. i. pt. 2, p. 160, pl. iii. fig. 3 [*Dasypogon*] (1838); id. Suppl. ii. p. 50 [*Dasypogon*] (1846); Ricardo, Ann. & Mag. Nat. Hist. (8) ix. pp. 151, 152 (1913).

A male and female from Queensland and a female from Sydney have a good many black bristles on the legs, and the four bristles on the scutellum are black, not yellow. Others from Queensland have the pale colour of the legs more yellow than red, and are smaller in size.

This appears to be a rather variable species, differing in size and general appearance.

#### NEODIOCTRIA, gen. nov.

Established for one species from Sydney which has a superficial resemblance to *Dioctria aelandica*, of Europe, but is at once distinguished by the shape of the *antennæ*, which are not situated on a projection, and the first two joints are almost equal in length, in other respects the characteristics of the genus are very similar to those of *Dioctria*, the *abdomen* is slender. *Wings* large. *Legs* slender and nearly bare. *Scutellum* with no bristles, moustache on face almost confined to the oral margin.

*Neodioctria australis*, ♂ ♀, sp. n.

Type (male) from Sydney in Gibbons Coll.

Type (female) in Brit. Mus. Coll. from Australia, and other males and females in Gibbons Coll., all from Sydney.

A handsome reddish-yellow species with large black spots on the *thorax* and the *abdomen*. *Legs* reddish yellow, the hind pair largely black. *Wings* blackish.

Length, ♂ 15–20, ♀ 15–20 mm.

*Male*.—*Face* brownish, covered with golden-yellow tomentum; moustache consists of yellow bristly hairs round the oral margin and continued above, but not reaching the middle of the face. Beard golden yellow. *Palpi* black, with black hairs and a few reddish ones at apex. *Antennæ* black, longer than the head (depth), the first two joints similar in shape, and almost the same length, with black hairs and bristles below, the third joint longer than the first two joints together, with a short obtuse spine at apex. *Fore-head* black, with a few black hairs. Hind part of head bordered with strong reddish-yellow bristles, collar also with same-coloured longer bristles. *Thorax* reddish yellow, the large black spot covering almost all the dorsum produced anteriorly, so that the shoulders are reddish yellow; there are three præsutural reddish-yellow bristles and two similar supraalar bristles; dorsum almost bare; a few short black hairs are discernible on the median line, on shoulders, and at sides; breast-sides bright reddish yellow, with some yellow tomentum. *Scutellum* same colour, bare, with a very few short black hairs on dorsum. *Abdomen* with a large oblong black spot on each segment forming a stripe, though each spot has rounded angles posteriorly, and the first segment is almost entirely black, its posterior border being reddish yellow at the sides only; underside almost entirely pale yellow. *Genitalia* small, with black hairs and a few short yellow ones. *Legs* reddish yellow, the hind femora black except at their extreme base, and the hind tibiæ black on the apical two-thirds; tarsi except the first joint chiefly black; the femora are slightly incrassate, bare, with some very short black pubescence; all the tibiæ with reddish-yellow stout bristles and black short pubescence; the tarsi with the same bristles, the hind pair with some black ones. *Wings* blackish grey, veins black, all the cells open, the fourth slightly narrower at border and the anal cell very narrow at border, the small transverse vein at the middle of the discal cell.

*Female* identical, the præsutural bristles one less in number

and the supraalar apparently one more in number; the seventh segment of *abdomen* is entirely yellowish in the type only, the last segment greyish yellow with a fringe of red short spines. The hind tibiæ are only black on the apical third in the type only; the small transverse vein of wing is beyond the middle of the discal cell. *Wings* in both sexes with very small alulæ, as in species of *Dioctria*.

*Neosaropogon nigrinus*, ♂, sp. n.

Type (male) and three other males from Kuranda, Queensland (*F. P. Dodd*), and two in Mr. Taylor's Coll. from Queensland.

A handsome species, nearly allied to *N. claripennis*, Ricardo, but distinguished by the darker abdomen, antennæ, and tarsi.

Length 18 mm.

*Face* covered with golden-yellow tomentum. Moustache composed of long stout yellowish bristles round the oral opening. *Palpi* black with black pubescence. Beard yellowish. *Antennæ* blackish, the third joint nearly three times as long as the first two joints together, ending in an obtuse knob on its lower border at apex. *Forehead* same as face, with black hairs at sides and on ocelligerous tubercle; bristles at vertex round head are black, then yellowish hairs. *Thorax* blackish, the shoulders and sides covered with yellow tomentum, sides with black hairs. Præsutural bristles two in number, stout and long; two supraalar and two postalar bristles, two very stout long dorso-central bristles, and a few short finer ones intermixed; dorsum of thorax nearly bare, a few fulvous hairs are discernible. *Scutellum* with two black bristles, covered with yellow tomentum. *Abdomen* long and slender, blackish, with dull fulvous spots on the sides, and the last three segments are almost wholly reddish yellow; genitalia rather large, black above and reddish yellow below, with long yellowish tuft-like hairs; dorsum with very fine yellowish pubescence, not at all prominent, sides of first segment with yellow hairs and three or four usually reddish bristles; underside of abdomen dark. *Legs* reddish yellow, the fore femora with a broad black stripe on their upper sides, the others with a less well-marked dark stripe; tibiæ bright yellow with black apices, and all the tarsi black; femora with long yellow hairs below and short black pubescence on dorsum; tibiæ with fringes of yellow hairs at sides and on the pale parts and black pubescence at apex, and

armed with fairly numerous black bristles; tarsi with stout black bristles. *Wings* as long as the abdomen, clear, pale yellowish at the extreme base; veins brown, the first vein from the discal cell bulges moderately into the first posterior cell; the small transverse vein is on the apical third of the discal cell; fourth posterior cell open but very narrow at the border, anal cell the same.

*LAPHRINÆ.*

*Nusa queenslandi*, ♂, sp. n.

Type (male) from Stannary Hills, N. Queensland, circa 3000 feet (*Dr. T. L. Bancroft*), 1909, 145.

The only species of this genus recorded from Australia is *N. tectamus*, *Wlk.*, a large species distinguished by the grey hairs at base of abdomen. This is a blue-black shining species considerably smaller, and the abdomen is bare. Legs with white and black pubescence.

Length 16 mm.

*Face* black, with white tomentum at sides. Moustache consists of stout black bristles, with long white hairs below and white hairs at sides of face. *Palpi* black, with some short reddish hairs at apex. *Antennæ* blackish brown, the first two joints with black hairs below and a strong black bristle on underside of the second joint. *Forehead* with black bristles on the central tubercle and whitish hairs at sides and round head, and one black bristle each side. *Prothorax* armed with a circlet of black bristles. *Thorax* with some sparse black pubescence, shoulders greyish white. *Scutellum* the same, with a fringe of weak black bristles on its posterior border. *Abdomen* with a white spot at the side of the second, third, and fourth segments, two stout black bristles on side of second segment, and one on nearly all the remaining segments, with black hairs at sides and white ones on the pale spots. Genitalia prominent, with black and yellow hairs. *Legs* blackish, with black pubescence, the femora with some white hairs, the tibiæ with chiefly white hairs and with black bristles, the tarsi armed with numerous strong black bristles. *Wings* brownish, paler on posterior border, the first posterior cell closed near the border, fourth and anal cell also closed.

A female or male from Eidswold, Queensland, though much smaller (only measuring 12 mm.), appears to be identical with this male, though the white pubescence on the legs

is not so marked; the end-segment of abdomen being destroyed, it is not possible to determine the sex; the first posterior cell of wing is very narrow, but not absolutely closed.

*Trichotamus* ASILINÆ.  
 [*Dysmachus*] *rudis*, Walker, List Dipt. vii., Suppl. 3, p. 737,  
 254 (1855) [*Asilus*]; Ricardo, Ann. & Mag. Nat. Hist.  
 (8) xi. p. 422 (1911); White, R. S. Tasmania, p. 172  
 (1916).

This has been placed in a new genus *Trichotamus* by the late Mr. A. White, who draws attention to the difference in the ovipositor from *Dysmachus*, the lamellæ being free, not wedged in as in the last-named genus. Owing to the War, Mr. White's paper has not yet been forwarded to this country, but owing to his brother's kindness I have had the MS. to study.

Mr. Gibbons sent me males and females of this species from Sydney. These differ somewhat from the type in the colour of the legs, which are darker, the tibiæ only dull red at the base, not reddish yellow on the basal two-thirds, and the first joint of tarsi is black, not yellow; the whole insect is darker than Walker's type. The female has a short ovipositor, not including the seventh segment, though it is much compressed laterally.

In the Brit. Mus. Coll. a female from Mangalore, Tasmania, presented by A. White, has the legs very similar to those of the type, and the moustache has white hairs below the black ones; in the specimens from Sydney the moustache is wholly black.

*Cerdistus australis*, ♂ ♀, sp. n.

Type (male) and two other males, type (female); all from Sydney. In Mr. Gibbons's Coll.

A small black species distinguished from *Cerdistus maricus*, Wlk., and *Cerdistus sydneyensis*, Schiner, by the entirely black legs in the males. Schiner's species has the wings tinged with grey, which does not appear in this species.

Length 13 mm.

*Male*.—*Face* blackish brown, with a little white tomentum at sides and below. Tubercle small, with moustache composed of black bristles and some white ones below. Beard

white. *Antennæ* blackish, the first two joints with black hairs. *Forehead* with black hairs. *Thorax* brownish, with grey tomentum and with black stripes, the median one broad, the side ones shorter; dorsum covered with short black hairs and long black bristles posteriorly, one or two are white. *Scutellum* with two white bristles on its outer border. *Abdomen* black, with grey segmentations, those on the second and third segments broadest; pubescence on dorsum black, hairs at sides white and black with white and black bristles; genitalia black, with black hairs and long black bristles. *Legs* black, the fore femora with long white pubescence and bristly white hairs, the middle and hind pair with shorter white pubescence and bristles; fore tibiæ with two long black bristles on outer side and other black and white shorter bristles; pubescence white, rufous on the inside, middle and hind pair with white and black bristles; tarsi with black bristles only. *Wings* clear, small vein beyond the middle of discal cell.

*Female* is identical, but the fore and middle tibiæ are obscurely reddish, and the white bristles of the moustache are rather more numerous; ovipositor nearly as long as the last two segments together.

*Scutellum*  
*Cerdistus sydneyensis*, Schiner, 'Novara' Reise, Dipt. p. 187 (1868).

One male and one female from Sydney, in Mr. Gibbons's Coll.

One male from Hornsby, in Mr. Gibbons's Coll.

This is a small species distinguished by the reddish-yellow bases of tibiæ and femora; the bristles on the legs are largely white, most numerous on the underside of the hind femora; the two bristles on margin of scutellum are black, the bristles on sides of abdomen black.

The type was described as from Sydney.

*Cerdistus maricus*, Walker, Insecta Saunders, Dipt. i. p. 141 (1851); id. List Dipt. Brit. Mus. vii., Suppl. 3, p. 735 (1855); Ricardo, Ann. & Mag. Nat. Hist. (8) xi. p. 436 (1913).

In my description of the above the two weak yellow long bristles on scutellum are present on the specimen from Queensland (a female); in the type (a male) they are black. Another female in Mr. Gibbons's Coll. from Sydney has them yellow.

*Neoitamus gibbonsi*, ♂ ♀, sp. n.

Type (male) in Brit. Mus. Coll., presented by C. Gibbons, 20. 2. 16, from Sydney.

Type (female) from Sydney, and other males and females from the same place and by the same collector.

This species will not belong strictly to this genus, as the ovipositor of the female, though long, does not include the sixth or seventh segment; but, as remarked by the late Mr. Arthur White in his last paper, species from Australia placed in this genus are many of them not typical and may require later to be removed to a new genus peculiar to Australia.

It is a large species nearly allied to my *Neoitamus hyalipennis*, but distinguished from it by the ovipositor not including the seventh segment, by the moustache being wholly black, and the base of the hind femora more or less reddish yellow.

Length, ♂ 16-17, ♀ 18-24 mm.

*Male*.—*Face* with a very large tubercle, blackish with pale tomentum, thickest at the sides. Moustache composed of many short black bristles. *Palpi* black, with white hairs. Beard white. *Antennæ* black, the first two joints and the forehead with black bristly hairs. *Thorax* with the usual stripes very distinct, the middle one not divided and the side ones continued from the anterior border to the posterior border; the præsutural, supraalar, and postalar bristles each two in number; dorso-central bristles numerous, some stout and some hair-like, with short black hairs continued to anterior border rather *Dysmachus*-like. *Scutellum* with at least two stout black bristles, intermixed with finer hair-like ones which also cover the dorsum. *Abdomen* blackish, with some grey tomentum, and the segmentations grey; sides grey; the pubescence on dorsum is thick and black, but short, sides with white hairs. Genitalia long and narrow, longer than the last two segments together, shining black, with short black hairs. *Legs* black, the hind femora reddish at their extreme base, in some of the specimens this colour is extended; the tibiæ reddish yellow for two-thirds of their length; fore femora with long black and white hairs above and below, the others with short black pubescence and black bristles; tibiæ and tarsi with black bristles. *Wings* clear, the small transverse vein almost in the middle of the discal cell, which is very narrow.

*Female* identical. The ovipositor, though not including

the seventh segment, is very long, almost the length of the last four segments.

A male and female from Tasmania seem to belong to this species; the male has some white hairs in the moustache.

*Neoitamus australis*, ♂ ♀, sp. n.

Type (male) and another, type (female) and another; all from Sydney (*C. Gibbons*).

A small species, distinguished from *Neoitamus varius*, Wlk., by the white bristles on thorax and by its lighter colouring. *Legs* reddish yellow, with black streaks. *Moustache* pale yellow.

Length, ♂ 10-11, ♀ 14 mm.

*Male*.—*Face* covered with silky yellow tomentum, tubercle very small. *Moustache* composed of long bristle-like yellow hairs. *Antennæ* blackish brown. *Postocular* bristles pale. *Thorax* covered with yellowish-grey tomentum, the stripes dark blackish brown, the median one broad, not divided, but becoming narrower posteriorly. The præsutural bristles two in number (one black, one white), one supraalar, one postalar, both long and white in colour; dorso-central bristles weak, white, four in number; pubescence on dorsum scanty, black; a median line of hairs from the anterior border extends beyond the suture composed of short but distinct hairs. *Scutellum* with two long white bristles on its margin. *Abdomen* covered with grey tomentum and with a large black spot on each segment; a long yellowish bristle at the side of most of the segments, three longer ones between the fourth and the fifth segments, and yellow hairs intermixed; pubescence on dorsum short, white. *Genitalia* large, black, with black pubescence. *Legs* long, slender, the coxæ black, the femora reddish yellow on their basal halves with the exception of the hind pair, which are black at their extreme base; only the middle and posterior ones have black bristles, and then only few in number; all have some soft hairs below; tibiæ reddish yellow, black at their apices, the tarsi on their anterior joints reddish, then black; tibiæ and tarsi with black bristles. *Wings* grey, the small transverse vein beyond the middle of the discal cell.

*Female* similar. *Ovipositor* includes only the seventh segment, as in *Neoitamus varius*, which does not include the sixth as stated by me in the *Ann. & Mag. Nat. Hist.* (8) xi. p. 432(1913), and in both species the seventh is only included in a modified degree.

This species will belong to the late Mr. White's subgenus

*Rhabdotoitamus*, formed by him for species of *Neoitamus* with the femora striped or partly yellow.

*Ommatius distinctus*, ♂ ♀, sp. n.

Male (type) in Brit. Mus. Coll. from Townsville, Queensland (*F. P. Dodd*), 1904, 284; another in Mr. Gibbons's Coll. from Eidswold, Queensland; another from Kuranda, Queensland (*F. P. Dodd*), in Mr. Taylor's Coll.; and a female (type).

A species distinguished in the male by the dilated wing and by the brown spot on apex of wing, which is absent in the female. Moustache black and white. *Legs* yellowish, with black stripes.

Length, ♂ 13-14, ♀ 13 mm.

*Male*.—*Face* with a fairly large tubercle, not, however, very prominent, covered with whitish tomentum. Moustache composed of whitish long bristly hairs and two long black bristles above; in one male there are four of these. Beard whitish. *Antennæ* dull brown, the feathered arista twice as long as the antennæ themselves. Hind part of head with white bristles and white hairs below. *Thorax* blackish blue with grey tomentum; two præsutural bristles, one supraalar bristle, and one postalar bristle, nearly all white; the dorso-central bristles chiefly white; the dorsum almost bare of pubescence. *Scutellum* the same colouring, with two white bristles. *Abdomen* blackish, with grey tomentum and some grey hairs; sides with longer grey hairs. Genitalia rather stout and prominent, black. *Legs* yellowish red, with black stripes on the upper sides of the fore and middle femora, the hind pair with the apical half only, black above; the hind tibiæ black at apex; the last four joints of all the tarsi dusky; the femora all incrassate, the middle pair with noticeable black bristles, the hind pair with four or more white ones, the hind and fore pairs with long fine white hairs below; the fore tibiæ with the same, and the others with shorter white pubescence; the bristles on the legs almost entirely black. *Wings* clear, the anterior border very much dilated in the middle, the veins coalescing and forming a black thick border; the brown spot is at the extreme apex, reaching across the anterior branch of the third vein; the small transverse vein is this side of the middle of the discal cell.

*Female* seems identical, but the black bristles on moustache are more numerous and those on the thorax are largely black, those on the middle tibiæ white. *Wings* at apex are very faintly grey.





Nusa & Poponosoma

August 1927



*Notes on the Two Genera NUSA and Pogonosoma*  
(Laphrinæ). By GERTRUDE RICARDO.

Asilidæ.

LAPHRINÆ.

NUSA, Walker.

Dipt. Saund. pt. ii. p. 105 (1851).

[*Dasythrix*, Loew, Progr. Realeschule Meseritz, p. 21 (1851); id. Dipt. Süd-Afrik. i. p. 126 (1860).]

Priority must be given to Walker's name, as, with the kind help of Major Austen, I discovered the publication of

Loew's paper did not take place till Sept. 27th, 1851, whereas Walker's paper was published on June 3rd, 1851. This latter author gives a very short diagnosis of the genus, and does not mention the characteristic venation of the wing—viz., the absence of the ambient vein of wing posteriorly, and the failure of the veins to reach the hind border, or, if they do so, they become very fine. Loew gives an ample description of the genus in his Dipt. Süd-Afrik.

Walker established the genus for two species from East India, and, as far as I am aware, he does not mention it again except in the Dipt. Brit. Mus., Suppl. 3—a mere repetition. On examining these two species, I find they belong to the genus *Dasythrix*, Loew (which, as stated above, must give priority to Walker's genus), and have nothing to do with the genus *Andrenosoma*, Rondani. The genus *Nusa*, Walker, must be no longer confused with *Andrenosoma*, to which it bears no kind of resemblance.

The confusion seems to have originated with Williston, who, in Trans. Amer. Ent. Soc. Philad. xviii. p. 80 (1891), sinks *Nusa* under *Andrenosoma*, Rondani. V. d. Wulp, in his Cat. Dipt. S. Asia (1896), places the two species of *Nusa* under Rondani's genus, which was founded in 1856, and after 1896 Aldrich and other American authors give *Nusa* priority, while the late Professor Hermann, in his Beiträge Kennt. südamerik., Dipt. Fauna, p. 239 (1912), does the same, making *Nusa æqualis* the type of the genus, and alluding with approval to the figure of it in Ins. Saundersiana. His long notes on this genus under the name of *Nusa* will now apply to *Andrenosoma*, which must take the place of *Nusa* in Kertész's Cat., and my species *Nusa africana*, and *queenslandi* and *tectamus*, Walker, will be respectively *Andrenosoma* species.

The genus *Andrenosoma*, Rondani, is richest in species in the Neotropical and Palæarctic Regions; only one species is mentioned from the Oriental Region, viz., *crassipes*, Fabr., from Sumatra.

The genus *Dasythrix*, now *Nusa*, was formed for species from S. Africa; a few species are also recorded from Arabia and S. America, one from S. Europe, and one from Algeria.

#### Table of Species in the Oriental Region.

- |   |                          |
|---|--------------------------|
| 1. Third joint of antennæ not elongated.....  | 2.                       |
| Third joint of antennæ elongated .....  | 3.                       |
| 2. Legs entirely blackish brown. Abdomen<br>black, with tomentose white spots at<br>sides ..... | <i>æqualis</i> , ♀, Wlk. |

- Legs blackish, tibiae and tarsi dull reddish brown. Scutellum and black abdomen with pale pubescence . . . . . *elva*, ♂, Wlk.
- Legs with distinctly yellow knees. Abdomen brownish, with lighter tomentose segmentations . . . . . *formio*, ♂ ♀, Wlk.
3. Tibiæ extensively yellowish at base. Abdomen blackish, with pale segmentations. Moustache pale . . . . . *grisea*, ♂ ♀, Hermann.
- Black species. Legs and moustache black. Abdomen with four pale side-spots . . . . . *yerburyi*, ♂ ♀, sp. n.
- Legs black. Moustache pale. Abdomen ashy white on the basal half . . . . . *alibasis*, ♂, sp. n.

*Nusa equalis*, ♀, Walker.

Ins. Saund., Dipt. part ii. p. 105, pl. iv. fig. 4 (1851); List Dipt. Brit. Mus. vii., Suppl. 3, p. 564 (1855).

Type (female in poor preservation) from East India. Type of the genus.

It may be distinguished from *Nusa formio*, Wlk., by the absence of any reddish-yellow or honey-yellow colour on the legs. The third joint of the antennæ is somewhat longer, the moustache pale yellow. Abdomen black, with white tomentose spots at sides, not covered apparently with tawny pubescence and tomentum as in the above-mentioned species. In both these species the third joint of the antennæ is chiefly reddish or tawny.

*Nusa elva*, Walker.

List Dipt. Brit. Mus. ii. p. 445 [*Asilus*] (1849); id. vii., Suppl. 3, p. 553 (1855).

Type (male) from North Bengal (Miss Campbell's Coll.).

This small species was described under *Asilus* by Walker, who apparently overlooked the peculiar venation and other particulars; neither does he mention the sex. This species has a general resemblance to some of the African species, and has, like them, the short third joint of antennæ.

A black species, with distinct ashy-grey segmentations on the abdomen, and the scutellum is covered with the same coloured tomentum.

Length 15 mm.

*Male*.—Face covered with ashy-grey tomentum. Moustache composed of numerous strong black bristles and a few short white hairs at sides. Antennæ with the two first joints largely tawny and with black bristles; these latter are very strong on the back of the head. Thorax blackish, with grey tomentum at sides and on shoulders, the pubescence black,

with stout black bristles at sides. *Scutellum* bordered with a thick row of black bristles and a few black hairs intermixed.

*Abdomen* black; the pale tomentose segmentations become wider at the sides, pubescence and the bristles at sides black. *Genitalia* rather large, the upper pincers partly tawny, pubescence black. *Legs* blackish, the tibiæ and tarsi reddish brown, pubescence black, long soft hairs on undersides of femora and tibiæ, the tips sometimes inclining to tawny colour, bristles black and numerous. *Wings* clear, veins reddish brown.

Walker, when he created the genus *Nusa* in 1851, evidently overlooked the fact that his species here mentioned would belong to it.

*Nusa formio*, ♀ ♂, Walker.

Ins. Saund. Dipt. part ii. p. 106 (1851); id. List Dipt. Brit. Mus. vii., Suppl. 3, p. 564 (1855).

Type (female) from East India.

Three females and four males from Trincomalee, Ceylon (*Yerbury*).

This species is distinguished from *Nusa grisea*, Hermann, from Formosa, by the shorter rounder shape of the third joint of antennæ; in *N. grisea* this joint is distinctly elongated and longer than the first joint, whereas in this species it is not so long. The honey-yellow colour of the legs in the Formosan species is here confined to the knees, otherwise it generally resembles *N. grisea*. The *ovipositor* is small, armed with stout black bristles; the *genitalia* of the males is also rather small, with long narrow upper pincers, the lower pair shorter. Thoracic and scutellar bristles very stout, the shorter stout ones on the legs yellowish or whitish. *Moustache* composed of yellowish-white bristles, with black bristles on the lower part of the face. In the type and one or two of the other specimens two or more stray black bristles appear in the middle of the moustache.

There are several specimens in the Brit. Mus. Coll. allied to these three species, but different, not in sufficiently good preservation and chiefly isolated specimens, so that it is not advisable to describe them.

*Nusa yerburyi*, ♂ ♀, sp. n.

Type (male) from Hiniduma, Ceylon, 28. iv. 92 (*Yerbury*).

Type (female) from Kottawa, Ceylon, 19. iv. 92 (*Yerbury*).

A robust, medium-sized, blackish species with wholly black

legs and black moustache. Third joint of antennæ elongated, reddish at apex.

Length, ♂ 21, ♀ 22 mm.

*Male*.—*Face* covered with ashy-grey tomentum. *Moustache* composed of black bristles and hairs; a few short white hairs above and two longer yellow ones. Palpi and proboscis with black hairs. *Antennæ* black, the first two joints with many black bristly hairs, the third joint longer than the first, the basal narrow part black, the apical broadened part black at the base only. Ocelligerous tubercle with two very stout black bristles. Hind part of head with two very stout ones and smaller ones on each side. Collar black, covered with yellowish-brown tomentum and with black bristles and hairs. *Thorax* black, with two well-marked, triangular, yellowish-brown, tomentose spots on the shoulders, which are bordered below with a lighter grey tomentose band, extending along the sides of thorax; a very narrow stripe the same colour as the shoulders is visible at the suture proceeding from the sides, distinct in the female, probably denuded in the male. Dorsum of thorax with fine black hairs, longer anteriorly and posteriorly, armed at sides with the usual very stout black bristles. *Scutellum* the same colour as thorax, with yellow-brown tomentum, and armed on posterior border with a row of very stout black bristles. *Abdomen* brownish black, with very narrow lighter segmentations and black pubescence, bristles at sides yellow with pale hairs. *Ovipositor* black, shining, short, but swollen with black pubescence. *Legs* with black pubescence, which is long and soft on the tibiæ, the femora with fine pale hairs, white and thick on the anterior pair, all bristles black. Underside of the fore and posterior tibiæ with a thick short brush of golden-yellow hairs. *Wings* dusky, the first and fourth cell closed as usual, the veins not so attenuated as in some species; the veinlet from the dorsal cell is so, and does not reach the border; some pale streaks are visible on the basal part of wings.

*Female* identical, but hairs below proboscis white, soft, and long. Palpi with white pubescence. Third joint of antennæ dusker. *Legs* more heavily armed with bristles, especially the anterior tibiæ and tarsi. *Abdomen* stouter. *Ovipositor* very short.

*Nusa albibasis*, ♂, sp. n.

Type (male) from Kaleewa, Chindwin, Upper Burma, May 1893 (*Lt.-Col. E. Y. Watson*).

Another male from Yoonzalein Valley, Burma, April 1891 (*Col. Bingham*).

A species at once distinguished by the pale ashy-white tomentum on the first three segments of the black abdomen. Moustache pale yellow. Legs black.

Length, type 22, second male 18 mm.

*Face* protuberant as in all the species here mentioned, covered with ashy-grey tomentum. *Moustache* composed of yellowish-white long soft hairs. *Antennæ* with reddish bristly hairs on the lower sides of the first two joints, the third joint elongated, nearly as long as the first two together. Bristles on ocelligerous tubercle and posterior part of head stout, black. Collar brownish black, with black bristles in the centre and white hairs at sides. *Thorax* brownish black, with some grey tomentum; two dark median stripes are visible; pubescence on dorsum thick, black, short, but longer posteriorly, the ashy-grey tomentose shoulders with short black hairs; the stout black bristles at sides and posteriorly are numerous. *Scutellum* the same colour as the thorax, but the pale ashy-white colour of abdomen is visible on the anterior half of scutellum. *Abdomen* blackish, the pale segments with white pubescence; this pale colour is continued on the sides of the segments, reaching in a narrow line to the centre of the fourth segment; pubescence on the dark parts black, white at the sides of abdomen. *Genitalia* rather large, black and shining, with black pubescence. *Legs* black, with white pubescence and yellow bristles. *Wings* clear, veins not strikingly attenuated.

### ANDRENOSOMA, Rondani.

#### Subgenus POGONOSOMA, Rondani.

Founded by Rondani in 1856 for species with three submarginal cells; but, as v. d. Wulp and Hermann point out, this is hardly a good enough character to divide it from *Andrenosoma*, Rondani, some specimens having been found with the dividing vein which separates the first submarginal cell into two absent in one wing and present in the other. Hermann states if it is retained it should be looked upon as a subgenus of *Andrenosoma* (*Nusa*).

The subgenus seems widely distributed in the Oriental Region (where there are eight species), the Palæarctic and Nearctic Regions (both represented by four species each).

Rondani made *Laphria maroccanum*, Fabr., the type of the genus.

*Pogonosoma fusifera*, ♀, Walker.

Proc. Linn. Soc. Lond. i. p. 12 (1856) (*Laphria*); v. d. Wulp, Col. Dipt. S. Asia, p. 89 (1896) (*Andrenosoma*).  
[*Pogonosoma analis*, de Meijere, Tijds. Ent., Suppl. lvi. p. 53 (1913).]

This species (a female from Singapore) was correctly placed in *Andrenosoma*, but, having the three submarginal cells, it falls into this subgenus.

De Meijere's species (a male from Java and a female from Sumatra) is evidently identical with it, from the description. In Walker's type, measuring about 15 mm., the first posterior cell is almost closed on one wing and narrowly open on the other, as in de Meijere's types, which measure 18 mm.

There is a much damaged specimen measuring 25 mm. from Siam (presented by H.R.H. Prince of Champon) in the Brit. Mus. Coll., probably a male, having the last segments of the abdomen foxy red, with the same coloured pubescence as described by de Meijere.

The female has these last segments blackish, but covered with the foxy-red pubescence. Prof. de Meijere considers *Pogonosoma beccarii*, Rondani, from Borneo, also with a red apex to abdomen, as distinct from his species.

*Pogonosoma cedrusa*, ♀, sp. n.

This specimen was sent me for identification in January 1924 by Dr. C. F. C. Beeson at Dehra Dun, stating that it had been bred from wood. He kindly gave me permission to keep it for the National Collection. No species of this subgenus has as yet been described from India, though *Pogonosoma fusifera*, Walk., is from Singapore, and *Pogonosoma funebris*, Hermann, is from Formosa (a co-type of this species is in the Brit. Mus. Coll.), and is distinguished from this Indian species by the dull black colouring of abdomen, the incrassate femora, and the darker wings.

*Pogonosoma semifusca*, v. d. Wulp, must be nearly allied to this new species, which is distinguished from it by the brighter blue metallic colouring of the abdomen, the simple hind femora, the shorter ovipositor, and the less well-defined colouring of the wings.

Type (female) from Fagn, 8000 ft., Simla Hills, 8. iv. 1922 (C. F. C. Beeson). Bred from *Cedrus deodara*.

A medium-sized species, with purple bluish shining metallic abdomen. Face with black bristles and white hairs. Legs

nearly the same colour as the abdomen, with white pubescence. Wings tinged brown.

Length 19 mm.

*Face* blackish brown, the tubercle large, covered with stout black bristles, forming the moustache, a few fine white hairs intermixed. Cheeks with long fine white hairs, a few shorter black ones on each side below the antennæ. Palpi with black hairs. Beard white. Hind part of head with bristly black hairs, becoming weaker and reaching round to the proboscis. On the ocelligerous tubercle two weak black bristles. *Antennæ* with the first two joints blackish brown and with stout black bristles (third broken off). *Thorax* dull blue, with brighter metallic glittering patches on the sides, devoid of the brownish-yellow tomentum on dorsum, which is nearly bare of pubescence anteriorly, but the sides have long soft black hairs disposed in groups; prealar bristles stout, three in number, postalar two in number. Posterior part of dorsum with rather numerous weak black hairs, and the tomentum here is whitish. *Scutellum* dark blue, somewhat shining, with no bristles (denuded); on the specimen from Khasi Hills there are two weak black ones. *Abdomen* almost devoid of pubescence, sides of anterior segments with long white hairs; on the posterior segments shorter black hairs predominate; on each segment one or more stout black bristles are present on the sides, and the second, third, and fourth have small triangular white tomentose spots. *Ovipositor* short, no longer than the last segment. *Legs* dull bluish, but the anterior pair are more brownish than blue, and the same is the case with the middle pair; pubescence long, white, thickest on the tibiæ; on the femora it is black above and intermixed with white hairs below; the tarsi with black hairs and bristles; there are numerous long black bristles on the tibiæ and one or more stout ones on the hind femora towards the apices; the underside of tibiæ with thick brush-like foxy-red hairs. *Wings* tinged brown, paler at the extreme base, with clear white spots in all the cells on the posterior border except the apical one, and including the fourth posterior cell; the first posterior cell is widely open, the brown colouring is more intense on the anterior border in the centre. Halteres pale.

A very much damaged specimen from Khasi Hills, India (*F. W. L. Sladen*), seems identical with the type; it is also a female. A female from Trincomalee, Ceylon, is very nearly allied to these, but appears somewhat different.















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