

# NEW AUSTRALIAN ASILIDÆ (DIPTERA).

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(Read 13th October, 1913.)

The present paper describes seventeen new species of *Asilidæ* ("Robber Flies"), eight of these being from Western Australia, and nine from Tasmania. The West Australian species were collected by Mr. G. H. Hardy, of the Tasmanian Museum, the Tasmanian species by myself. New genera are also proposed for two previously undescribed species.

## LEPTOGASTER, Meig.

Of this genus five Australian species have been previously described; four new species are now added, three of these being from Tasmania, and one from Western Australia. As the species belonging to this genus are somewhat difficult to determine, I am giving a table showing the distinguishing characters of all the Australian species.

### *Table of the Australian Species of Leptogaster.*

- |  |                                |
|--|--------------------------------|
| 1. Posterior legs partly or wholly black.  | 2                              |
| Posterior legs yellow or brown.  | 3                              |
| 2. Abdomen black.  | <i>bancroftii</i> , Ricardo.   |
| Abdomen yellow at base.  | <i>dissimilis</i> , Ricardo.   |
| 3. Second submarginal (cubital or cubital fork) cell contracted at the wing margin.                              | 4                              |
| Second submarginal cell not contracted at the wing margin.   | 5                              |
| 4. Cross-vein closing second basal cell joins the corner of fourth posterior cell. Large species.                | <i>antipoda</i> , Bigot.       |
| Cross-vein closing second basal cell joins peduncle of fourth posterior cell at about its middle. Small species. | <i>occidentalis</i> , Sp. nov. |
| 5. Wings smoky. Thorax with three dark stripes; hind femora very dark brown; large robust species.               | <i>fumipennis</i> , Sp. nov.   |
| Wings clear.   |                                |
| Thorax reddish brown, with one median black stripe; hind femora reddish-yellow.                                  | <i>australis</i> , Ricardo.    |
| Thorax black; hind femora brown.   | <i>geniculata</i> , Macq.      |
| Thorax brown (with three dark stripes in male); hind femora brown; very small species.                           | <i>vernalis</i> , Sp. nov.     |

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Thorax olive; hind femora orange. *æstiva*, Sp. nov.

Of these species, *L. bancrofti*, *dissimilis*, and *australis* are from Queensland, *geniculata* from Queensland, New South Wales, and Tasmania, *occidentalis* from Western Australia, and *antipoda*, *fumipennis*, *vernalis*, and *æstiva* from Tasmania.

*Leptogaster vernalis*, Sp. nov.

A very small delicate species. Thorax brown, with three broad, dark brown, longitudinal stripes in the male, which occupy the greater part of the dorsal surface; in the female thorax lighter, and practically unstriped; abdomen black (male), or dark brown (female); legs brown, with base of posterior femora and tibiæ whitish.

Length. Male, 7.5-8 mm; female, 10.5 mm.

Locality. Bagdad Valley, Tasmania.

*Male*. Face and moustache white; front pale yellowish. Antennæ black. Thorax brownish, with one median and two lateral broad brown stripes, that occupy the greater part of the dorsal surface; sides and scutellum pale grey. Abdomen black, with segmentations very indistinctly paler; the first segment with a few white bristles on either side. Legs brown, with knees darker; posterior femora and tibiæ whitish at the base, the latter with white bristles; tarsi with basal half of first joint white, remainder brown. Wings clear, veins black; cross-vein closing second basal cell joins the peduncle of fourth posterior cell at about two-thirds of its length.

*Female*. Much larger than the male. Thorax brown, indistinctly striped. Abdomen dark olive brown. Legs as in the male, except that the knees are barely darkened, and first joint of tarsi is two-thirds whitish.

This species can only be confused with *L. geniculata* and *L. æstiva*. From the former it may be distinguished by the colouring of the thorax and its smaller size, also by its occurring in the early instead of the late summer; from the latter species by its brown legs with barely contrasted knees, instead of orange legs with conspicuously contrasted black knees, and also by its smaller size.

This species is on the wing from early in November to the middle of January. It may be swept from long grass on high ground.

*Leptogaster æstiva*, Sp. nov.

A medium-sized species. Thorax and abdomen olive, the former indistinctly striped; all femora bright orange, with black knees.

Length. Male, 10·5 mm; female, 13·5 mm.

Locality. Bagdad Valley, Tasmania.

*Male.* Face white; front pale yellowish; moustache white, scanty. Antennæ black. Thorax olive, faintly striped, with the sides pale grey. Abdomen olive; first segment with a few white bristles on either side. Legs with all femora orange, the posterior pair whitish at base; anterior and middle tibiæ orange below, brownish above; posterior tibiæ brown, pale at the base, and becoming gradually darker towards the apex, with a few white bristles; tarsi black, with the exception of the first joint, which is three-fourths white. Wings clear, veins black; the cross-vein closing the second basal cell joins the peduncle of fourth posterior cell at about two-thirds of its length.

*Female* resembles the male, but is larger; the abdomen has sides and segmentations grey, the grey colour encroaching conspicuously on the second and third segments, in which the olive colour is reduced to a dorsal stripe, narrow above and broader below.

This species can only be confused with *L. geniculata* and *L. vernalis*, from both of which it may be distinguished by its bright orange femora.

This species may be found amongst long grass on the hills, in company with *L. vernalis*; I have only met with it during the month of January.

*Leptogaster fumipennis*, Sp. nov.

A large robust species. Thorax brown, with three broad brown longitudinal stripes; abdomen dorsally black, sides and segmentations grey; femora very dark brown; wings with veins very conspicuous, and suffused with brown round the discal cross-vein.

Length. Female, 14·5-15 mm.

Locality. Bagdad Valley, Tasmania.

*Female.* Face yellow or yellowish white; moustache white; back of head with a row of stiff black bristles. Antennæ black. Thorax brown, with three very broad, shining, longitudinal, dark brown stripes; sides grey; scutellum covered with grey tomentum. Abdomen unusually robust, dorsally olive-black, with sides, shoulders of segments, and segmentations (to a varying degree) grey; first segment posteriorly with (usually) four black bristles on each side and a few white hairs. Legs dark brown, with knees black; posterior tibiæ whitish at base, with black and white bristles, which vary considerably in different individuals.

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tarsi black, except three-fourths of the first joint, which is yellowish. Wings large, veins very conspicuous, the region surrounding the discal cross-vein suffused with brown.

This species seems to be subject to considerable variation; one of my specimens has the face black, and the thorax only indistinctly striped. It can, however, in any case be easily recognised by its large size and unusually robust abdomen, in conjunction with its dark legs, and wings suffused centrally with brown.

This species is fairly common in the bush in the Bagdad Valley, Tasmania; it seems to have a fondness for settling on dead twigs and undergrowth. It occurs during the month of December.

*Leptogaster occidentalis*, Sp. nov.

A small species having the second submarginal cell considerably narrowed on the wing margin, owing to the bending upwards of the lower branch of the cubital fork; thorax greenish-black, indistinctly striped; abdomen black, with segmentations grey; anterior and middle legs bright orange, posterior pair darker.

Length. Male, 8 mm.

Locality. Perth, Western Australia.

*Male.* Face and moustache, which is very scanty, white, Antennæ black. Thorax greenish-black, with indistinct traces of median stripes; sides dusted with grey. Abdomen black, with the segmentations indistinctly marked with grey. Legs: Anterior and middle femora and tibiæ bright orange, with knees brown; posterior femora orange brown, indistinctly banded with darker across the middle, base white, and knees black; posterior tibiæ brown, with basal half whitish; all tarsi with first joint white, excepting the extreme end, which, with the remaining joints, is brown, with segmentations darker; claws black. Wings short, the second submarginal (or cubital) cell considerably narrowed on the wing margin, owing to the upward bend of the lower branch of the cubital fork; the veinlet closing the second basal cell meets the peduncle of the fourth posterior cell at about its middle.

This species can be distinguished from all other Australian species of the genus, except *L. antipoda*, by the contracted second submarginal cell; from *L. antipoda*, which is a Tasmanian species, it can be distinguished by its smaller size, stouter build, much shorter wings, more brightly coloured legs, and the position of the veinlet closing the second basal

cell, which, in this species, joins the peduncle of the fourth posterior cell at about its middle, instead of, as in *L. antipoda*, joining the fourth posterior cell itself.

No other species of this genus is at present known to occur in Western Australia.

#### CHRYSOPOGON, Röder.

Of this genus, distinguished by the stout spine on each side of the thorax, front tibiæ with a terminal claw, and antennæ without any distinct style, there are two undescribed species from Western Australia in Mr. G. H. Hardy's collection.

##### *Chrysopogon rufulus*, Sp. nov.

Thorax black; abdomen dorsally black, sides and apex red, with white lateral spots; legs red; antennæ with first two joints red, third black.

Length. Female, 12 mm.

Locality. Perth, Western Australia.

*Female*. Face bright yellow; front black; moustache of white bristles, with a few smaller black ones at sides, small, directed forwards, fanlike. Antennæ with the first two joints reddish-yellow, third reddish-black, the actual base of first joint being also black. Thorax dull black, dusted with yellow tomentum, which is thicker on the sides; scutellum shining black, slightly reddish at the tip. Abdomen shining black, minutely punctate, the sides and apex red, with a white spot on each side of the second, third, and fourth segments posteriorly; first segment with a stiff spine-like bristle on either side. Legs with all femora and tibiæ bright yellowish-red, with black bristles; tarsi with the first joint reddish, remainder black. Wings brownish, the first and fourth posterior cells both widely open.

The only other species of the genus to which this species bears any resemblance are *C. punctulus* (*Ricardo*), and *C. nigricans* (next to be described), from both of which it may be distinguished by its red, instead of black, legs.

##### *Chrysopogon nigricans*, Sp. nov.

Thorax black; abdomen black with red sides and apex, and white lateral spots; legs black; antennæ with first joint, except extreme tip, black, second red, third black.

Length. Female, 12-14 mm.

Locality. Perth, Western Australia.

*Female*. Face silvery white; front black; moustache



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small, composed of white bristles, projecting forwards, fan-like; back of head with black bristles. Antennæ with basal three-fourths of first joint deep black, apex and second joint red, third black. Thorax dull black, with silvery tomentum on shoulders and at sides, and a little white pubescence; scutellum shining black. Abdomen shining black, minutely punctate, with sides and apex red, and a white spot on each side of the second, third, and fourth segments posteriorly; first segment with a stiff spine-like bristle on either side. Legs black, with black bristles; posterior tibiæ with long whitish pubescence beneath. Wings brown, the first posterior cell widely open, but the fourth conspicuously contracted on the wing margin.

This species can be distinguished from *C. punctulatus* by the red sides and apex of abdomen; from *C. rufulus* by its black legs; to the other species of the genus it bears no resemblance.

#### OPSEOSTLENGIS,\* Gen. nov.

This genus is proposed for an undescribed West Australian species in the collection of Mr. G. H. Hardy. It resembles *Chrysopogon*, but is distinguished by the antennæ, which have the third joint considerably broadened, and provided with a short pointed style, by the convex face, and by the curious comb-like moustache, described below.

Face convex, the moustache arising from the middle of the face (instead of the lower part of the face, as in *Chrysopogon*); the moustache composed of a single row of about eighteen long, parallel, very stiff bristles, which first project slightly forwards, and then descend almost vertically, reaching far below the face, the length of the moustache being about the length of the face from the vertex to the oral margin, and presenting the stiff appearance of a comb. Antennæ shorter than in *Chrysopogon*, the first and second joints of almost equal length, the third as long as the first two together, considerably broadened, and provided with a short pointed style. Thorax with a stout spine on each side, as in *Chrysopogon*. Abdomen broad, and becoming gradually broader towards the apex, the fifth segment being broader than the second. Legs with bristles. Wings with the first and fourth posterior cells wide open, the anal cell barely closed on the wing margin.

#### *Opseostlengis insignis*, Sp. nov.

Thorax, abdomen, and legs black, the latter having the

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\* ὄψεως σπλεγγίς, face comb.

knees pale yellow; abdomen coarsely punctate; wings dark brown, with a hyaline spot at base of first posterior cell.

Length. Female, 17 mm.

Locality. Perth, Western Australia.

*Female.* Face white; front black; moustache composed of very long, stiff, white bristles. Antennæ with the first and second joints dark reddish, the third black, paler at the base, the style small and pointed. Thorax and scutellum greenish-black, with grey tomentum, with a stout spine and a few short black bristles at sides. Abdomen blue-black, coarsely punctate; the first segment with a stiff, spine-like bristle, and long white hairs, on either side. Legs deep black with the knees pale yellow; femora and tibiæ with black bristles and black pubescence. Wings brown, very dark on costa towards the base, with a pale spot at base of first posterior cell; first and fourth posterior cells widely open.

#### ERYTHROPOGON,\* Gen. nov.

This genus is proposed for an undescribed Tasmanian species. It is most nearly allied to *Brachyrrhopala*, but is at once distinguished from that genus by the extremely long antennæ. The abdomen is an elongated club-shape, with a long narrow stalk, a feature that, in conjunction with the long antennæ, gives it a close resemblance to one of the hymenoptera.

Face long and flat, descending in a straight line from the antennæ to the moustache; the latter very small, and confined to the oral margin. Antennæ are placed extremely high, and project horizontally forwards in a line with the vertex; they are four times the length of the head, the first joint twice as long as the second, the third three times the length of the first and second together, much broader than either of them, and terminated by a rounded tip, that seems somewhat separated from the rest of the joint, although it does not form a distinct style. Thorax has the shoulders produced into prominent tubercles. Abdomen long and club-shaped, much constricted towards the base, and more petiolate than in *Brachyrrhopala*. Legs: Front tibiæ with a small and inconspicuous apical curved spine; femora practically bare; tibiæ with a few bristles. Wings large, with all the posterior cells open.

#### *Erythropogon ichneumoniformis*, Sp. nov.

Thorax black; abdomen with basal half red, apical half

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\* ἐρυθρός πώγων, red beard.

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reddish-black, fourth segment with a white tomentose spot on either side; legs yellowish-red; antennæ with two first joints red, third black.

Length. Male, 15 mm; female, 13-17 mm.

Locality. Bagdad Valley, Tasmania.

*Male.* Face red-brown, with a few scattered white hairs; moustache composed of a few pale golden bristles; front, which owing to the height of the antennæ is very small, black. Antennæ with the two first joints red, the third, which is about three times the length of the first and second together, black and strap-like. Thorax black, without bristles, but with a little white pubescence at sides, more particularly towards the rear; scutellum red-brown, without bristles or pubescence. Abdomen with the three first joints red, the remainder reddish-black. Legs: Anterior and middle pairs yellowish-red, posterior pair somewhat darker; the tarsi similarly coloured to the femora and tibiæ and not darkened; hind tibiæ with white bristles. Wings yellow-brown, with all posterior cells open, though the fourth is slightly, and the anal cell considerably, contracted on the wing margin.

*Female* resembles the male very closely, but the thorax is slightly browner, and the fourth abdominal segment bears a white tomentose spot on each side, which are not discernable in my single specimen of the male.

This species is subject to variation, both as regards size and depth of colouration. It occurs somewhat sparingly in the bush at Bagdad, Tasmania, during the month of February, and the first few days of March. It may usually be met with resting on low vegetation.

#### SAROPOGON, Loew.

This genus contains five Australian species. The species are small; antennæ with a distinct terminal style; scutellum with marginal bristles; and front tibiæ with a terminal claw.

#### *Saropogon rubescens*, Sp. nov.

Thorax black; abdomen red, with base and apex black; legs reddish-yellow; antennæ reddish-yellow, with black bristles.

Length. Female, 14 mm.

Locality. Perth, Western Australia.

*Female.* Face covered with golden-yellow tomentum, which extends slightly above the antennæ; vertex black; moustache yellow, very scanty. Antennæ reddish-yellow, with black



bristles. Thorax black, shoulders red-brown, bordered below with yellow tomentum, posterior margins with whitish tomentum; scutellum pale grey, with two black marginal bristles. Abdomen with first segment black, with red side-margins; second red, suffused with black in centre; third, fourth, and fifth red; apex suffused with black. Legs reddish-yellow, posterior pair redder than the others; posterior knees, and tips of tarsal joints, black; tibiæ with black bristles. Wings tinged with brown; first posterior cell wide open; fourth very slightly contracted; anal cell almost closed on the wing-margin.

This species seems to be nearly allied to *S. sergius*, Walk, but may be distinguished by the colouring of the thorax and abdomen, and by the antennæ bearing black instead of yellow bristles.

#### BATHYPOGON, Loew.

This genus is distinguished by having the vein closing the fourth posterior cell almost in a line with that closing the discal cell, also by the short wings. It is allied to *Stenopogon*, but the face is much broader than in that genus. The Australian species are nearly allied; they are best distinguished by the colour of the legs and bristles.

#### *Bathypogon tristis*, Sp. nov.

Thorax and abdomen black, both with black bristles; legs altogether black, without a trace of red bristles on legs black, with the exception of a single white bristle on each of the posterior femora; moustache yellow.

Length. Male, 16 mm.

Locality. Perth, Western Australia.

*Male.* Face reddish; front black; moustache yellow, with a few white hairs below; beard white. Antennæ with two basal joints red. Thorax black, indistinctly striped in centre, with black bristles, and short black pubescence; sides of thorax with white tomentum; scutellum blackish, with white tomentum, which is not confined to the outer margin, and four black bristles. Abdomen black; first segment with black bristles, bordered on outer margins with white bristles; second segment with five black bristles on each side posteriorly; remaining segments with smaller black bristles; all segments with a little white pubescence. Legs entirely black, with short white pubescence; bristles black, with the exception of a single white bristle on each of the posterior femora. Wings brown, with the apex somewhat darker.

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This species can be distinguished easily from all the described Australian species with the exception of *B. nigrinus*. From *B. aoris* it is distinguished by the bristles on legs and thorax being black instead of white (*B. aoris*, too, is a stouter and more robust species); from *B. pedanus* by the black instead of pale reddish tibiæ; from *B. brachypterus*, which is a much more brightly coloured species, and from *B. nigrinus*, by its black instead of red and black femora. From *B. nigrinus*, however, to which it bears a close resemblance, a few further distinctions seem to be desirable. *B. nigrinus* was described by Miss Ricardo from Queensland specimens. I have not any of these for comparison, but possess a Tasmanian specimen that seems to belong to the same species. On comparing this with *B. tristis* I find the following distinctions:—

<i>B. tristis</i> , Sp. nov.	<i>B. nigrinus</i> , Ricardo.
Moustache yellow.	Moustache black and white.
Abdomen with conspicuous black bristles.	Abdomen practically without bristles, the few on first segment white.
Femora black.	Femora red and black.
Posterior femora with one white bristle.	Posterior femora with bristles entirely black.
Bristles on fore tarsi black.	Bristles on fore tarsi white.
Wings brown.	Wings hyaline, with tips shaded.

#### LAPHRIA, Meig.

In Mr. G. H. Hardy's collection are two females of an undescribed species of *Laphria*. It is not quite a typical *Laphria*, as the antennæ are club-shaped, and the abdomen bears lateral bristles, but as the remaining characters are normal, it seems unnecessary to place it in a distinct genus, more especially as the shape of the antennæ varies in other Australian species.

#### *Laphria clavata*, Sp. nov.

Thorax dull black; abdomen violet with white lateral spots, and black lateral bristles; legs entirely black; wings grey-brown.

Length. Female, 15 mm.

Locality. Perth, Western Australia.

*Female*. Head greatly excised behind; face silvery-grey; moustache large and bushy, composed of long black and

white hairs; beard long, white. Antennæ rather short, the third joint club-shape and about the same same length as the first two joints together; all joints black, the second with long black bristles at apex. Thorax dull black, indistinctly striped in front, with a few black bristles on posterior margin; scutellum black, with two or four marginal black bristles. Abdomen violet, with lateral white spots on second, third, and fourth segments; each segment with a black bristle on either side, and white pubescence. Legs entirely black; middle and posterior femora with a few black bristles; posterior tibiæ with many black bristles; pubescence of legs black and white. Wings brown or dark grey; first posterior cell widely open; fourth closed a considerable distance above the wing margin; anal cell closed.

The only other Australian species of *Laphria* with entirely black legs is *L. ornatipennis* from Queensland, a species with parti-coloured wings (yellowish with brown markings), and bluish-black abdomen.

#### NEOITAMUS, Ost-sack.

In this genus the ovipositor is very long, laterally compressed, and apparently including the sixth and seventh abdominal segments; pubescence on thorax short from anterior margin to centre of dorsum, and long from that point to the scutellum; legs with the tibiæ (usually) red, yellow, or yellow-brown.

##### *Table of Australian Species of Neoitamus.*

- |   |                                |
|---|--------------------------------|
| 1. Wings spotted or irregularly suffused or shaded.   | 2                              |
| Wings hyaline or unicolourous.  | 3                              |
| 2. Wings grey round posterior border and at apex.   |                                |
|   | <i>fraternus</i> , Macq.       |
| Wings slightly suffused with brown at apex of second basal cell, at discal cross-vein, and at base of cubital fork. | <i>caliginosus</i> , Sp. nov.  |
| Wings distinctly spotted.   | <i>maculatus</i> , Sp. nov.    |
| 3. Legs jet-black.  |                                |
| Abdominal segmentations yellow.   | <i>flavicinctus</i> , Sp. nov. |
| Legs always partly yellow or red.   |                                |
| Medium-sized black and grey species femora entirely black.  | 4                              |
| Small brownish species; femora red or light brown beneath.  | 5                              |
| 4. Thorax with one broad median stripe; scutellum with four bristles, usually yellow.                               | <i>hyalipennis</i> , Ricardo.  |
| Thorax with two narrow median stripes; scutellum with two long black bristles.                                      | <i>vulgatus</i> , Sp. nov.     |

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5. Thorax with one broad median stripe; posterior thoracic bristles white. *graminis*, Sp. nov.

Thorax with two median stripes; posterior thoracic bristles black.

Scutellar bristles, and hairs fringing first abdominal segment, black. *brunneus*, Sp. nov.

Scutellar bristles, and hairs fringing first abdominal segment, yellow. *mistipes*, Macq.

Of these species *N. mistipes* occurs in South Australia, *N. maculatus* in Western Australia, *N. hyalipennis* in Victoria and Tasmania, and *N. fraternus*, *caliginosus*, *flavicinctus*, *vulgatus*, *graminis*, and *brunneus* in Tasmania.

An additional species, *N. planiceps*, was described by Schiner, the locality being given as "Australia," but its position is doubtful, and it may not be identifiable. *N. varius* and *N. bulbosus* are New Zealand species, and, therefore, are not included in the foregoing table, but Miss Ricardo is of opinion that *N. varius* may be identical with *N. fraternus*. I might mention that although *N. fraternus* was described by Macquart from Tasmania, I have not so far met with any species that agrees with his description.

The Australian species belonging to this genus seem to be confined to the southern half of the continent; they appear to reach their maximum development in Tasmania.

*Neoitamus flavicinctus*, Sp. nov.

Thorax black with yellow stripes; abdomen black, with segmentations yellow, more distinct in female than in the male; legs jet-black; posterior tibiæ and first joint of posterior tarsi with short, thick, ruddy pubescence on their inner sides; wings tinged with brown, darker towards the tips.

Length. Male, 13.5 mm.; female (including ovipositor), 15 mm.

Locality. Bagdad Valley, Tasmania.

*Male.* Face covered with golden tomentum; front black; moustache large and bushy, black. Antennæ black; first two joints with black bristles, the third scarcely longer than the first and second together. Thorax with two black median stripes, divided by a thin yellow line, and bordered outwardly with yellow; sides of dorsum broadly black, bordered with yellow below; scutellum yellowish, with numerous long, marginal, black and yellow hairs. Abdomen black, with segmentations yellow, and yellow hairs and pubescence; genitalia large and prominent with black pubescence. Legs jet-black, with abundant black bristles, hairs, and pubescence;

posterior tibiæ and first joint of posterior tarsi, with, in addition, short, dense, ruddy pubescence, which is especially conspicuous on the inner sides of the tibiæ. Wings brownish, darker towards the tips.

*Female* resembles the male, but the abdomen is broader, and the yellow segmentations more distinct; ovipositor long and narrow.

This species is very distinct from any other Australian member of the genus; it can be recognised at once by its black and yellow colouring, and black legs.

This seems to be a somewhat scarce species. I have only met with it near the tops of the lofty, bush-covered hills that bound the Bagdad Valley on its eastern side. Time of occurrence, January.

*Neoitamus vulgatus*, Sp. nov.

Thorax black and grey or black and yellowish; scutellum with two long, black, terminal bristles; abdomen black, with segmentations indistinctly grey; femora black; tibiæ with basal half, or two-thirds, dark red; wings brownish.

Length. Male, 14 mm.; female (including ovipositor), 15.5 mm.

Locality. Tasmania.

*Male*. Face covered with yellowish-grey tomentum; front black, with a little light tomentum; moustache black above, white beneath. Thorax with two black median stripes, divided by a yellowish line, bordered outwardly with yellowish-grey, and with two broad lateral black stripes, which are broken up by light cross-lines into four distinct patches, in this respect differing from *N. hyalipennis*, which has the side-stripes almost entire; bristles black; scutellum grey, with two long, black, terminal bristles. Abdomen black, with segmentations grey, the latter frequently indistinct. Legs: femora black; anterior and middle tibiæ with basal two-thirds dark red, apex black; posterior tibiæ with basal half dark red, and apical half black; anterior and middle tarsi with first joint two-thirds red, posterior first tarsal joint red only at base; remaining joints black, but reddish at base; legs with black and a few white bristles, and a little black pubescence; hind tibiæ and first joint of hind tarsi with yellowish pubescence. Wings tinged evenly with brown.

*Female*, except for the broader abdomen, and long, laterally compressed ovipositor, resembles the male in all respects.

This species bears a close resemblance to both *N. caliginosus*



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(next to be described) and *N. hyalipennis*, Ricardo. From the former it can be at once distinguished by the absence of any suffused patches on the wings; from the latter by its smaller size, thorax with two narrow instead of one broad median stripe, scutellum with two black instead of (usually) four yellow bristles, and by the coloured portions of the tibiæ being dark red instead of pale yellowish-red. With reference to *N. hyalipennis*, described by Miss Ricardo from Victoria, it may be as well to mention that Tasmanian specimens show a certain amount of variation; two of my specimens have the wings perfectly hyaline, but in two others they are distinctly tinged with brown, whilst one specimen has the weak scutellar bristles black instead of yellow, although it does not show any other variation from the type.

*N. vulgatus* is a common Tasmanian species. It may be found settled on logs or fallen branches in the bush. It appears on the wing about the beginning of December, and may be found throughout the summer.

*Neoitamus caliginosus*, Sp. nov.

Thorax black and brown; scutellum with two long terminal bristles, one white and one black; abdomen black, with well-marked white segmentations; femora black; tibiæ red, with apices black; wings hyaline, suffused with brown at apex of second basal cell, at discal cross-vein, and at base of cubital fork.

Length. Female, 12-14 mm.

Locality. Bagdad Valley, Tasmania.

*Female*. Face covered with grey tomentum; moustache white, with a few black hairs intermixed; front black. Antennæ black, the first two joints with long black hairs. Thorax with two median, narrowly-divided, brownish-black stripes, and two broad lateral stripes; sides of thorax light brown; bristles black; scutellum brownish-grey, with two long, terminal bristles, one white and one black. Abdomen black, with segmentations conspicuously white; black bristles at sides, and a little short, white pubescence on dorsum. Legs with femora black; tibiæ red, with apex black, the hind pair darker than the others; first joint of tarsi and base of other joints red, remainder black. Wings hyaline, with the apex of second basal cell, the discal cross-vein, and base of the cubital fork (also sometimes base of second posterior cell) suffused with brown. To the naked eye this merely gives the impression of the veins being darkened in the areas specified, but examination with a low-power pocket lens shows the presence of suffused portions of the wings.

This species bears a close resemblance to *N. vulgatus*, but may be distinguished by the irregularly suffused wings, by the abdomen bearing black instead of white bristles, and by the moustache being almost wholly white, instead of half black and half white.

This species frequents tree trunks in the bush, where it occurs somewhat sparingly during January and February.

*Neotamias maculatus*, Sp. nov.

Thorax black, indistinctly striped; abdomen black, with segmentations white; femora black; tibiæ uniformly reddish-black; wings with four brown spots.

Length. Female, 11-13 mm.

Locality. Western Australia.

*Female.* Face and front black; moustache black, with a few white hairs below; beard white. Thorax black, very indistinctly striped, and grey on posterior margin, with black hairs and bristles; scutellum black, with two long, black, terminal bristles, and black hairs. Abdomen black, with segmentations white; marginal bristles white. Legs with the femora black; the tibiæ and tarsi uniformly reddish-black; the middle and posterior femora, and all the tibiæ, with black bristles; pubescence black and white, especially long on the anterior femora. Wings brown, with four brown spots, which are situated at apex of second basal cell, at the discal cross-vein, base of the cubital fork, and base of the second posterior cell; there is also a small hyaline spot inside, and near the base of, the cubital fork.

This species can only be confused with *N. caliginosus*, from which it is distinguished by having the wings boldly spotted instead of faintly suffused, by the black instead of white moustache, by the thorax being black instead of brownish, by the abdominal bristles being white instead of black, and by the darker tibiæ.

*Neotamias graminis*, Sp. nov.

(This, and the following species, differ from those already described by being brown instead of black, by their small size, and by their femora being not wholly black.)

Thorax yellow-brown, with one broad dorsal and two lateral brownish-black stripes; abdomen brownish-black, with conspicuous light yellow-brown segmentations; femora black above and red beneath; tibiæ light yellow-brown, with apex black; thoracic bristles white.

Length. Male, 11.5 mm; female, 12.5 mm.

1913.

Locality. Bagdad Valley, Tasmania.

*Male.* Face and front covered with pale yellow tomentum; moustache pale yellow, scanty, without any black bristles. Thorax yellow-brown, with a broad median and two lateral brownish-black stripes; sides bright yellow brown; bristles white; scutellum covered with yellow-brown tomentum, with two weak yellow bristles. Abdomen brownish-black with conspicuous light yellow-brown segmentations, and yellow bristles at sides; genitalia prominent. Legs with the femora broadly black above, red beneath; anterior and middle tibiæ red, with black bristles, posterior tibiæ yellow-brown, with white bristles; apices of tibiæ and tarsi black. Wings tinged with brown.

*Female* resembles the male, but the legs are lighter, the tibiæ being all pale yellow-brown, with apices black, and the wings are hyaline.

This species can be easily distinguished from both *N. mistipes*, Macq. and *N. brunneus*, Sp. nov. (the only nearly allied species) by the bristles on the thorax being white instead of black, and by the thorax bearing one broad, instead of two narrow, median stripes.

*N. graminis* occurs on high open ground, where it may be found during January and February, resting on the stems of long grass.

*Neotilamus brunneus*, Sp. nov.

Thorax light brown, with two dark median stripes, and black bristles; abdomen brown, with segmentations indistinctly paler; legs light brown; femora black above.

Length. Male, 12 mm; female, 11 mm.

Locality. Mangalore, Tasmania.

*Male.* Face covered with yellowish-white tomentum; moustache pale yellow, with a few black hairs above. Antennæ with the first joint red, remainder black. Thorax light brown, with two dark brown median stripes, and three brown, suffused spots on either side; bristles black; scutellum grey-brown, with two long, marginal, black bristles. Abdomen brown, with segmentations paler; first segment with a row of black bristles on posterior margin, second with a long white bristle on each side; dorsum of abdomen with black, and sides with white, short stiff pubescence. Legs light brown, with upper surface of femora black, and apices of tibiæ and last four joints of tarsi darkened; posterior femora with one long and about three short black bristles; all tibiæ with white and black bristles. Wings

very slightly tinged with brown; anterior veins brown, posterior veins black.

*Female* resembles the male very closely, but the thorax is somewhat lighter, and less distinctly marked.

This species bears some resemblance to *N. graminis*, but can be easily distinguished by the thoracic bristles being black instead of white, by its lighter colouring, moustache with black hairs above, instead of being entirely yellow, and thorax with two instead of one median stripe. From *N. mistipes*, *Macq.*, a South Australian species, it may be distinguished by its smaller size, lighter coloured legs, and by the scutellar bristles, and bristles fringing first abdominal segment, being black instead of yellow.

*N. brunneus* may be met with somewhat sparingly settled on the surface of roads, especially in the neighbourhood of the bush. I have only met with it during the month of January.

In addition to the above, there is another undescribed species of *Neoitamus*, from Western Australia, in Mr. G. H. Hardy's collection, but as it is a single female, with no very marked characteristics, I refrain from describing it until further material is available.