

REVISION OF AUSTRALIAN LEPIDOPTERA\*—*HYPSIDAE*,  
*ANTHELIDAE*.

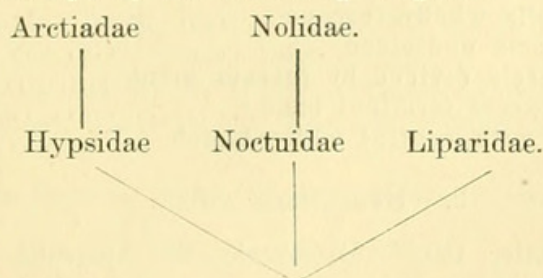
By A. JEFFERIS TURNER, M.D., F.E.S.

Fam. *HYPSIDAE*.

Tongue present. Head, thorax, abdomen, and femora smooth. Forewings with 1 absent, areole present, 8 and 9 stalked from areole, 5 approximated to 4 at origin. Hindwings with frenulum present, 1 absent, discocellulars angled, 5 arising from below angle and approximated to 4, 6 and 7 usually stalked, 8 approximated and connected with cell before middle, or shortly anastomosing with cell at  $\frac{1}{3}$  or  $\frac{1}{4}$ .

A small family, represented in Australia by fourteen species, all of which have been well described by Mr. Meyrick, but there has been some confusion in the synonymy, and some of the names adopted by him must be altered. I formerly substituted *Asota* Hb. for the long-recognised *Hypsa* Hb., on the ground that the former name occurs first in his Verzeichniss, but I now consider that this change was unnecessary, and that it would be better to regard *Hypsa* as a *nomen conservandum*.

Undoubtedly the *Hypsidæ* are allied to the *Liparidæ*, the presence of a tongue and the general smooth scaling being the only definite distinctions, but it is impossible to merge the two groups unless we are prepared for much larger amalgamations. In some genera, such as *Nyctemera* and the European *Callimorpha*, there is a short anastomosis of the hindwing subcostal with the cell rather near its base (about  $\frac{1}{4}$ ), and this brings the family into very close relationship to the *Arctiadae*, which I have no doubt is a direct derivative. It might, indeed, be a more natural arrangement to restrict the *Hypsidæ* to those genera in which the hindwing subcostal does not anastomose, and to remove *Callimorpha*, *Nyctemera* and *Argina* to the *Arctiadae*. It is difficult, if not impossible, to separate the *Noctuidæ* from the *Arctiadae* by any definite character, but if the *Nolidæ* are, as Hampson suggests, descended from the *Sarothripinae* section of the *Noctuidæ*, they must be regarded as a distinct family approximated to the *Arctiadae* by convergence. We may illustrate our conception of these relationships by the following diagram:—



Although the Australian genera of this family all retain the primitive areole, it is possible that exotic genera exist, in which it has been lost.

\*Continued from These Proceedings, vol. xlv., 1920 (1921), p. 499.



1. Hindwings with 8 anastomosing with cell at about  $\frac{1}{4}$  . . . . . 2  
Hindwings with 8 approximated only, or connected . . . . . 4
2. Palpi porrect . . . . . 3  
Palpi ascending, reaching vertex . . . . . *Argina*
3. Forewings with 10 connate with 8, 9 from areole . . . . . *Exitelica*  
Forewings with 10 arising separately from areole . . . . . *Nyctemera*
4. Hindwings with 3 and 4 connate, 5 well separate . . . . . *Digama*  
Hindwings with 3, 4, 5 approximated . . . . . 5
5. ♂ without costal retinaculum, palpi with terminal joint about  $\frac{1}{2}$   
second . . . . . *Agape*  
♂ with costal retinaculum, palpi with terminal joint about as long as  
second . . . . . *Hypsa*

## Gen. 1. EXITELICA,\* nov.

Palpi moderate, porrect; basal joint long, rough-scaled beneath; second and terminal joints short, smooth. Antennae of ♂ very shortly bipectinate, towards apex simple; of ♀ simple. Forewings with areole narrow, 10 connate with 7, 8, 9, which are stalked. Hindwings with 3, 4, 5 well separate at origin, 6 and 7 connate or stalked, 8 anastomosing shortly with cell at about  $\frac{1}{4}$ , cell about  $\frac{3}{8}$ .

Beside the neururation of the forewings this differs from *Nyctemera* in the shorter palpi and different antennae.

## 1. EXITELICA AEGROTA.

*Nyctemera separata* Meyr., Proc. Linn. Soc. N. S. Wales, 1886, p. 762, *nec* Wlk. *Leptosoma aegrotum* Swin., Cat. Oxf. Mus., i., p. 145, Pl. v., f. 15 (1892). *Nyctemera mackieana* Luc., Proc. Roy. Soc. Q'land, 1898, p. 60.

N. Q'land: Cape York, Claudie River, Cooktown, Cairns, Innisfail, Ingham, Atherton, Mackay.

## Gen. 2. NYCTEMERA.

*Nyctemera* Hb., Verz., p. 178.

Palpi rather long, porrect, smooth, but basal joint hairy, terminal joint rather long ( $\frac{1}{2}$ ). Antennae in ♂ with long double pectinations, apex sometimes simple; in ♀ also bipectinate. Forewings with 10 arising from areole well separate from 8, 9; 7 connate or separate. Hindwings with 3, 4, 5 well separated at origin, 6 and 7 connate or stalked, 8 anastomosing shortly with cell at about  $\frac{1}{4}$ , cell  $\frac{3}{8}$  to  $\frac{2}{3}$ .

Type, *N. lactinia* Cram. from the Archipelago and India.

1. Both wings with cilia whitish-ochreous . . . . . *amica*  
Both wings with cilia wholly fuscous . . . . . 2
2. Forewings with fascia undivided . . . . . *drucei*  
Forewings with fascia divided by fuscous veins . . . . . 3
3. Hindwings white except terminal band . . . . . *baulus*  
Hindwings fuscous with central white blotch . . . . . *secundiana*

## 2. NYCTEMERA AMICA.

*Agagles amica* White, Grey's Discoveries in Australia, ii., Appendix, p. 482.—*Nyctemera amica* Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 760.—*Nyctemera plagiata* Gn., Ent. Mo. Mag., 1868, p. 2.

\* ἑξιτηλικός, faded.



Q'land.: Eidsvold, Gympie, Nambour, Brisbane, Toowoomba, Nanango, Cunnamulla, Stanthorpe; N.S. Wales: Glen Innes, Newcastle, Sydney; Vic.: Melbourne, Gisborne; Tas.: Hobart, Triabunna; S. Aust.: Mt. Lofty; W. Aust.: Yallingup.

### 3. NYCTEMERA DRUCEI.

*Nyctemera crescens* Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 761, *nec* Wlk.—*Deilemerna drucei* Swin., Trans. Ent. Soc., 1903, p. 73.—*D. dinawa* B.-Bak., Nov. Zool., 1904, p. 411, Pl. 6, fig. 37.

N. Q'land.: Cooktown, Cairns, Herberton. Also from New Guinea.

### 4. NYCTEMERA BAULUS.

*Leptosoma baulus* Bdv., Voy. Astrol., Lep., p. 200 (1832). *Nyctemera mundipicta* Wlk., Jour. Linn. Soc., Zool., 1859, p. 184. *N. fasciata* Wlk., Cat. Brit. Mus., vii., p. 1665. *N. integra* Wlk., *ib.*, xxxv., p. 1879. *N. tertia* Meyr., Ent. Mo. Mag., xxiii., p. 15; Proc. Linn. Soc. N.S. Wales, 1886, p. 761.

N. Q'land.: Thursday Is., Cairns, Atherton, Herberton.

Also from New Caledonia, New Hebrides, Fiji, and the Malayan Archipelago.

### 5. NYCTEMERA SECUNDIANA.

*Nyctemera secundiana* Luc., Proc. Linn. Soc. N.S. Wales, 1891, p. 280.

It is still uncertain whether this is anything more than a form of the preceding, as Meyrick believed.

N. Q'land.: Cairns, Ingham, Herberton; Q'land.: Rockhampton, Brisbane, Mt. Tambourine, National Park (3000 ft.), Toowoomba.

### Gen. 3. ARGINA.

*Argina* Hb., Verz., p. 167.

Palpi rather long, ascending, in ♂ appressed to frons, in ♀ more oblique, slightly roughened anteriorly; terminal joint moderate. Antennae of ♂ bidentate, towards apex simple; of ♀ simple. Forewings with areole rather narrow, 7, 8, 9 stalked from areole, 10 connate with them. Hindwings in ♂ produced to a sharp tooth at tornus; cell long ( $\frac{2}{3}$ ), 3, 4, 5 separate, 6 and 7 connate or short-stalked, 8 anastomosing shortly with cell at about  $\frac{1}{4}$ .

Type, *A. cribraria* Clerck.

### 6. ARGINA CRIBRARIA.

*Phalaena cribraria* Clerck, Icon. Ins., ii., Pl. 54, f. 4. *Nyctemera cribraria* Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 763.

N. Aust.: Melville Island; N. Q'land.: Thursday Island, Cape York, Cooktown, Innisfail, Ingham, Dunk Island, Atherton, Herberton, Townsville; Q'land.: Duaringa, Brisbane.

Also from New Guinea, China, Ceylon, India, Africa, and Madagascar

### Gen. 4. DIGAMA.

*Digama* Moore, Lep. E. I. Co., p. 297.

Palpi long, ascending, appressed to frons, smooth; terminal joint long ( $\frac{2}{3}$ ). Antennae of ♂ sometimes bipectinate, towards apex simple; of ♀ simple. Fore-



wings with 4 and 5 approximated at origin, 8 and 9 stalked from areole, 7 connate or approximated, 10 widely separate. Hindwings with 3 and 4 connate, 5 separate, 6 and 7 connate, 8 closely approximated to cell from  $\frac{1}{4}$  to middle, not connected.

Type, *D. hearseyana* Moore, from India.

#### 7. DIGAMA MARMOREA.

*Digama marmorea* Butl., Trans. Ent. Soc., 1877, p. 363; Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 772. *D. piepersiana* Snel., Tijd. v. Ent., 1879, p. 81, Pl. 7, f. 2.

N. Aust.: Roebuck Bay, Daly River; N. Q'land.: Cairns, Innisfail, Atherton; Q'land.: Duaringa, Gayndah, Brisbane, Helidon, Toowoomba, Dalby.

Also from New Hebrides and Celebes.

#### Gen. 5. AGAPE.

*Agape* Snel., Tijd. v. Ent., 1888, p. 115; Jordan, Nov. Zool., 1896, p. 60.

Palpi long, ascending, appressed to frons, smooth; terminal joint  $\frac{1}{2}$ . Antennae in ♂ simple, ciliated. Forewing in ♂ without subcostal retinaculum; 8 and 9 stalked from areole, 7 connate or separate, 10 separate. Hindwings with 3, 4, 5 approximated, 6 and 7 connate, 8 approximated and connected with cell at  $\frac{1}{4}$ .

Type, *A. chloropyga* Wlk.

#### 8. AGAPE CHLOROPYGA.

*Hypsa chloropyga* Wlk., Cat. Brit. Mus., ii., p. 455; Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 771.—*H. analis* Wlk., *ib.*, vii., p. 1677.—*Agape cyanopyga* Feld., Reise Nov., Pl. 106, f. 4.

N. Q'land.: Cape York, Cooktown, Atherton, Herberton, Townsville, Bowen; Q'land.: Brisbane; N.S. Wales: Port Macquarie.

Also from Ceram and Amboyna.

#### Gen. 6. HYP SA.

*Hypsa* Hb., Verz., p. 172.

Palpi very long, ascending, appressed to frons, smooth; terminal joint as long, or nearly as long, as second joint. Antennae in ♂ with cilia and bristles, the latter often very long. Forewings with 8 and 9 stalked from areole, 7 separate, 10 widely separate. Hindwings with 3, 4, 5 separate, 6 and 7 usually approximated, 8 approximated and connected with cell at  $\frac{1}{4}$ .

Type, *H. monycha* Cram., from India.

- |                                                                         |                  |
|-------------------------------------------------------------------------|------------------|
| 1. Hindwings white .. .. .                                              | 2                |
| Hindwings orange-ochreous .. .. .                                       | 3                |
| 2. Forewings without central streak .. .. .                             | <i>basilissa</i> |
| Forewings with white central streak from base .. .. .                   | <i>dama</i>      |
| 3. Hindwings without dark spots .. .. .                                 | <i>orbona</i>    |
| Hindwings with dark spots .. .. .                                       | 4                |
| 4. Forewings with an irregularly dentate, whitish, antemedian fascia .. | <i>plagiata</i>  |
| Forewings without antemedian fascia .. .. .                             | 5                |
| 5. Forewings with base whitish-ochreous .. .. .                         | <i>iodamia</i>   |
| Forewings with base orange .. .. .                                      | <i>alciphron</i> |

#### 9. HYP SA BASILISSA.

*Hypsa basilissa* Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 767.

N. Aust.: Pt. Darwin, Melville Is.; N. Q'land.: Cooktown, Cairns.



10. *HYPSA DAMA*.

*Noctua dama* Fab., Spec. Ins., ii., p. 216. *Hypsa dama* Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 768.

N. Aust.: Pt. Darwin; N. Q'land.: Cape York, Cooktown, Cairns, Innisfail, Ingham, Dunk Is., Townsville.

Also from New Guinea.

11. *HYPSA ORBONA*.

*Hypsa orbona* Vollen., Tijd. v. Ent., vi., p. 137, Pl. ix., f. 4. (1863); Jord., Nov. Zool. 1897, p. 328.—*H. significans* Wlk., Cat. Brit. Mus., xxxi., p. 215, (1864).—*H. australis* Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 770, *nec.* Bdv.

N. Aust.: Pt. Darwin; N. Q'land.: Cooktown, Cairns, Mackay. Also from New Guinea.

12. *HYPSA ALCIPHRON*.

*Phalaena alciphron* Cram., Pap. Exot., ii., 1777, Pl. 133E.—*Noctua caricæ* Fab., Ent. Syst., iii., 2, 1794, p. 27; Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 769.

N. Aust.: —; N. Q'land.: Cape York, Cooktown, Innisfail, Townsville, Mackay.

Also from the Archipelago and India.

13. *HYPSA PLAGIATA*.

*Hypsa plagiata* Wlk., Cat. Brit. Mus., ii., 457; Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 768.—*H. discneta* Wlk., *ib.*, xxxi., p. 216.

N. Aust.: Darwin; N. Q'land.: Innisfail, Herberton, Townsville, Bowen; Q'land.: Rockhampton, Gympie, Brisbane, Southport, Nanango; N.S. Wales: Clarence River.

14. *HYPSA IODAMIA*.

*Hypsa iodamia* H-Sch., Auss. Schmet., f. 119.—*H. nesophora* Meyr., Proc. Linn. Soc. N.S. Wales, 1886, p. 770.

Q'land.: Brisbane, Coolangatta, Toowoomba; N.S. Wales: Newcastle, Sydney.

Mr. R. Illidge, who has bred large numbers of this and the preceding species from larvae on the Moreton Bay fig, has obtained intermediate forms. He could detect no differences in the larvae, and suggests that both forms are one species. This seems to me hardly possible; perhaps the intermediates are hybrids.

## INDEX TO GENERA.

Agape	5	Digama	4	Hypsa	6	Nyctemera	2
Argina	3	Exitelica	1				

INDEX TO SPECIES.  
Synonyms in Italics.

<i>aegrota</i>	1	<i>chloropyga</i>	8	<i>fasciata</i>	4	<i>plagiata</i>	2
<i>alciphron</i>	12	<i>crescens</i>	3	<i>integra</i>	4	<i>plagiata</i>	13
<i>amica</i>	2	<i>cribraria</i>	6	<i>iodamia</i>	14	<i>piepersiana</i>	7
<i>analís</i>	8	<i>cyanopyga</i>	8	<i>mackieana</i>	1	<i>secundiana</i>	5
<i>australis</i>	11	<i>dama</i>	10	<i>marmorea</i>	7	<i>separata</i>	1
<i>basilissa</i>	9	<i>dinawa</i>	3	<i>mundipicta</i>	4	<i>significans</i>	11
<i>baulus</i>	4	<i>discreta</i>	13	<i>nesophora</i>	14	<i>tertiana</i>	4
<i>caricæ</i>	12	<i>drucei</i>	3	<i>orbona</i>	11		



## Fam. ANTHELIDAE.

Tongue absent (except in *Munichryia*). Antennae pectinated to apex in both sexes. Head, thorax, abdomen, and femora hairy. Forewings with 1 absent, 5 approximated to 4 at origin, areole very long, 7, 8, 9, 10 all arising separately from areole (except that 7 and 8 are connate or stalked in *Aprosita*); a subapical cross-vein connects 9 and 10 soon after their separation, and may be prolonged towards or to 11. Hindwings with basal costal projection and well-marked humeral angle, frenulum well-developed in ♂, absent in ♀; 1 absent, 5 from below angle and approximated to 4, 11 present or absent, 12 widely separate or approximated to cell.\*

This is a small family of about 50 species peculiar to the Australian region. At least one species is known from New Guinea, but the family is not recorded elsewhere. The genus *Anthela*, to which belong six-sevenths of the known species, is distributed fairly evenly throughout Australia, including both inland and coastal regions, from Cape York to Hobart, and from Brisbane to Perth. The internal classification of the family is simple. *Gephyroneura* and *Munichryia* are separable by the subapical crossbar extending to 11 in the forewing, and by 12 of the hindwing being approximated to the cell, so that 11 is short or replaced by an anastomosis. These two genera are very distinct from the rest and could be regarded as a subfamily. Of the remaining genera *Nataxa* and *Aprosita* are simple developments of *Anthela*, while *Pterolocera* and *Chelepteryx* are nearly related collaterally.

I have already (Trans. Ent. Soc., 1919, p. 415) given my reasons for separating this family from the *Liparidae*. They differ in the structure of the areole. Only in a very few genera of *Liparidae*, such as *Redoa*, is the areole very long, and then it is very narrow, and the branch veins from it do not arise separately. The subapical cross-bar is peculiar to the *Anthelidae*, and in view of the rarity of any new structural development in any family of *Lepidoptera*, it is of great importance. Present in all species, it is in some individuals represented only by a fold in the wing membrane. In abnormal examples of some species the cross-bar between 8 and 9 fails to develop, leaving the areole open; analogous abnormalities occur in other families. In the hindwing, 12 is usually widely separate from the cell; the comparative approximation in *Pterolocera* and *Chelepteryx* is merely secondary to a narrowing of the hindwings. Only in *Munichryia* and *Gephyroneura* does a true approximation or anastomosis occur, strictly comparable to that characteristic of the *Liparidae*. We can hardly suppose that the more archaic condition in the hindwings of *Anthela* is due to a reversion, and must therefore assume that the ancestor of the group, allied to *Munichryia* in the forewings, was nearer *Anthela* in the hindwings. The absolute want of any tendency to the approximation of the origins of 9 and 10 from the areole, which leads to the loss of that structure in many genera of the *Liparidae*, is remarkable. Certainly the antennae and absence of a tongue concur in both families, but the latter character breaks down in *Munichryia*. The only point left to connect the two families is the origin of vein 5 in both wings. From this we may conclude that, while there may be a real relationship between them, it must be remote. This conclusion is strengthened by the differences in the coupling-apparatus of the wings. The *Anthelidae* have a basal costal ex-

---

\*Vein 1 is usually known as 1c. The subcostal in the hindwings I have hitherto called 8 according to usage. In the future I propose to call it 12. 11 is the first branch of the radial in both wings.



pansion and a well-marked humeral angle; while the frenulum and subcostal retinaculum are well-developed in the ♂, but both frenulum and retinaculum are absent in the ♀.

- |                                                                                   |                     |
|-----------------------------------------------------------------------------------|---------------------|
| 1. Forewings with subapical bar not reaching vein 11 .. . . .                     | 2                   |
| Forewings with subapical bar running from 11 to 9 .. . . .                        | 6                   |
| 2. Posterior tibiae without middle spurs .. . . .                                 | 3                   |
| Posterior tibiae with middle spurs .. . . .                                       | <i>Chelepteryx</i>  |
| 3. Hindwings with 12 approximated to middle of cell, ♀ apterous ..                | <i>Pterolocera</i>  |
| Hindwings with 12 well separated from cell, ♀ with wings fully developed          | 4                   |
| 4. Palpi almost obsolete .. . . .                                                 | <i>Nataxa</i>       |
| Palpi normally developed .. . . .                                                 | 5                   |
| 5. Forewings with 7 and 8 connate or stalked from areole; or areole open .. . . . | <i>Aprosita</i>     |
| Forewings with 7, 8, 9, 10 arising separately from areole .. . .                  | <i>Anthela</i>      |
| 6. Tongue obsolete .. . . .                                                       | <i>Gephyroneura</i> |
| Tongue present .. . . .                                                           | <i>Munichryia</i>   |

#### Gen. 1. PTEROLOCERA.

*Pterolocera* Wlk., Cat. Brit. Mus., iv., p. 884.

Palpi moderately long, porrect; second joint with very long hairs beneath; terminal joint long. Antennae of ♂ bipectinate to apex, pectinations very long. Posterior tibiae without middle spurs. Forewings with 4 and 5 separate, all veins from areole separate, subapical cross-bar from 10 to 9 beyond their bifurcation. Hindwings with 3, 4, 5 separate, 6 and 7 connate or approximated, 12 somewhat approximated to cell about middle, not connected.

♀ apterous with simple antennae and rudimentary tibial spurs.

#### 1. PTEROLOCERA AMPLICORNIS.

*Pterolocera ampicornis* Wlk., Cat. Brit. Mus., iv., 1855, p. 884.—*P. insignis* H-Sch., Lep. Exot., 1858, f. 459.

♂. 35—54 mm. Head and thorax densely hairy; pale ochreous-brown, brown, or reddish-brown. Palpi  $1\frac{1}{2}$  to 2; brownish or fuscous. Antennae whitish or grey; pectinations fuscous. Abdomen brownish, reddish-brown, or pale ochreous-brown; in pale examples the dorsum of basal segments may be darker brown. Legs reddish-brown or brown; tarsi usually fuscous. Forewings broadly or narrowly triangular; costa straight or slightly sinuate, apex pointed, termen bowed, slightly oblique; pale ochreous-brown, brown, reddish-brown, or fuscous-brown; veins sometimes more or less outlined with fuscous; sometimes a faint postmedian fuscous line, or this may be represented by dots on veins; sometimes two, fuscous, antemedian dots in middle and above dorsum; cilia concolorous. Hindwings with termen only slightly rounded; as forewings. Under-side similar.

Very variable both in shape and colour of forewings, with some tendency to form local races, but these again are variable. Western Australian examples are usually redder, and in some of them the dots on the forewings are exaggerated.

♀. Apterous; dark-fuscous; nearly smooth above, rather hairy beneath; antennae simple; tibial spurs rudimentary. A very un-moth-like insect.

Q'land.: Toowoomba; Vic.: Melbourne, Gisborne, Walpeup; Tas.: Hobart, Cradle Mt., Strahan; S. Aust.: Adelaide, Renmark, Wilpena; W. Aust.: Albany, Nannup, Beverley, Waroona, Perth, Cunderdin, Kalgoorlie.



## Gen. 2. NATAXA.

*Nataxa* Wlk., Cat. Brit. Mus., v., p. 1179.

Palpi very short, nearly obsolete. Antennae of both sexes bipectinate to apex, pectinations of ♀ short. Posterior tibiae without middle spurs. Forewings with 4 and 5 connate or approximated, all veins from areole separate, subapical crossbar from 10 to 9 shortly beyond their bifurcation. Hindwings with 4 and 5 connate or approximated, 6 and 7 connate or short-stalked, 12 diverging widely from cell, connected with it at  $\frac{1}{2}$  by 11, which is strongly developed.

There is only one species.

## 2. NATAXA FLAVESCENS.

*Perna ? flavescens* Wlk., Cat. Brit. Mus., v., p. 1128.—*Nataxa flavifascia* Wlk., *ib.*, v., p. 1179.—*N. rubida* Wlk., *ib.*, xxxii., p. 512.—*Dicreaga ochrocephala* Feld., Reise Nov., Pl. 100, f. 2.

♂. 22—31 mm. Head reddish-ochreous. Antennae fuscous. Thorax brown or reddish-brown. Thorax fuscous-brown, underside and tuft paler. Legs brownish; anterior coxae ochreous. Forewings elongate-triangular, costa sinuate, apex pointed, termen nearly straight, strongly oblique, longer than dorsum; fuscous more or less suffused with reddish; ill-defined reddish spots near base, on costa before apex, and sometimes on mid-costa; an ochreous costal spot at  $\frac{3}{5}$ , from which a slender ochreous line usually proceeds to  $\frac{2}{3}$  dorsum; cilia very short, fuscous. Hindwings with termen nearly straight; colour as forewings, but with more reddish suffusion; usually a fine, curved, postmedian, ochreous line; cilia short, ochreous. Underside similar.

♀. 30—40 mm. Head ochreous. Thorax fuscous. Abdomen fuscous, usually with a series of whitish spots on bases of segments on mid-dorsum, and two lateral series on underside, the last dorsal spot is enlarged. Forewings with costa gently arched, termen slightly bowed; fuscous; a whitish blotch on costa from  $\frac{1}{4}$  to middle, containing two subcostal blackish dots, first beyond  $\frac{1}{4}$ , second beyond middle; a whitish spot on costa slightly beyond middle, from which usually proceeds a fine sinuate white line to  $\frac{2}{3}$  dorsum; cilia fuscous. Hindwings with termen rounded; fuscous with ill-defined antemedian and postmedian curved transverse lines; cilia fuscous. Underside similar.

The two sexes differ much, and the ♂ is variable.

Q'land.: Gympie, Brisbane; N.S. Wales: Lismore; Vic.: Melbourne, Gisborne; Tas.: —.

## Gen. 3. APROSITA.

*Aprosita* Turner, Trans. Roy. Soc. S. Aust., 1914, p. 456.

Palpi 2; second joint with dense long hairs beneath; terminal joint moderate. Head, thorax and abdomen densely clothed with long rough hairs. Posterior tibiae without median spurs. Forewings with 5 from above lower angle of cell, 6 connate or short-stalked from upper angle, areole very long, sometimes open between 9 and 8, 7 and 8 connate or stalked from areole, subapical crossbar from 10 to 9 usually, but not always, developed. Hindwings with discocellulars strongly angled inwards, 3, 4, 5 separate, 6 and 7 connate or stalked, 11 present, 12 widely separate from cell.

The connecting bar between 9 and 8 of the forewings is often feebly developed, and may be absent, leaving the areole open. The subapical crossbar is of the usual type, but sometimes fails to chitinise.



## 3. APROSITA OBSCURA.

*Trichiura obscura* Wlk., Cat. Brit. Mus., vi., p. 1481.—*Diaphone nana* Feld., Reise Nov., Pl. 99, f. 14.—*Aprosita ulothrix* Turn., Trans. Roy. Soc. S. Aust., 1914, p. 457.

♂. 25—32 mm. Head and thorax grey; sometimes an ochreous-tinged tuft of hairs in front of antenna. Palpi 2; dark-fuscous; terminal joint and apex of second joint whitish-ochreous. Antennae whitish, irrorated with fuscous; pectinations fuscous. Abdomen grey. Legs grey with some whitish hairs. Forewings broadly triangular, costa short, straight, apex very obtusely rounded, termen rounded, scarcely oblique; markings very distinct, dark-fuscous, interruptedly edged with whitish-ochreous; a line from  $\frac{1}{3}$  costa obliquely outwards to mid-disc, then obliquely inwards to  $\frac{1}{3}$  dorsum, with a small outward tooth above dorsum; second line from  $\frac{2}{3}$  costa to  $\frac{2}{3}$  dorsum slightly wavy, toothed outwards above middle; a short bar sometimes connects the two lines in middle of disc; sometimes a subterminal line of short streaks on veins; cilia grey. Hindwings with termen strongly rounded; pale-grey; sometimes a pale-fuscous, angulated, antemedian line; sometimes faint fuscous streaks on veins forming a subterminal line; cilia pale-grey. Underside grey; a fuscous median line on both wings.

♀ Unknown.

N. Aust.: Macdonnell Ranges; Q'land.: Duaringa, Blackwater (120 miles west of Rockhampton), near Emerald; N.S. Wales: Broken Hill; S. Aust.: Ooldea.

An inland species.

## Gen. 4. ANTHELA.

*Anthela* Wlk., Cat. Brit. Mus., iv., p. 853.

Palpi moderate, porrect; second joint with loose or appressed hairs; terminal joint short or minute. Posterior tibiae without middle spurs. Forewings with 4 and 5 separate, all veins from areole separate, subapical crossbar from 10 to 9 shortly beyond their bifurcation, sometimes partly or wholly coincident with 9. Hindwings with 4 and 5 separate, 6 and 7 approximated, connate, or stalked, 12 gradually diverging from cell, connected with it before middle by 11, which is often imperfectly or not developed.

Type, *A. ferruginosa* Wlk.

A large genus with some variations in the palpi and neurulation, but the latter occur within the limits of the same species in many instances. I recognise 40 species, of which 11 are here described for the first time. Deducting these, there remain 29 species, which have received no fewer than 87 names. This excessive synonymy is due to the great variability of many of the species not having been previously recognised. The sexes often differ, sometimes considerably, in colour, wing-shape, and distinctness of marking. Apart from sexual differences, many species vary much in colour, and in the development of lines on the wings; in some examples these may be very distinct and characteristic, in others of the same species they may be completely obsolete.

Owing to the variability of some of the species the following tabulation must be used with caution:—

1. Wings wholly unicolorous .. . . .	2
Wings not wholly unicolorous .. . . .	7
2. Forewings with apex obtusely rounded .. . . .	3
Forewings more or less pointed .. . . .	4



3. Forewings purple-reddish (♂) or pale brownish-ochreous (♀) . . . *phoenicias*
- Forewings dark ochreous-brown (♂) . . . *adriana*
4. Forewings with termen not oblique . . . *elizabetha*
- Forewings with termen oblique . . . 5
5. Antennae white . . . *leucocera*
- Antennae not white . . . 6
6. Wings grey . . . *clementi*
- Wings reddish or whitish (♂) or brownish (♀) . . . *rubicunda*
7. Forewings without discal dots . . . 8
- Forewings with one or two discal dots . . . 11
8. Forewings with blackish costal edge . . . *linopepla*
- Forewings without blackish costal edge . . . 9
9. Forewings with brownish interneural streaks . . . *neurospasta*
- Forewings without interneural streaks . . . 10
10. Forewings with a nearly straight postmedian line . . . *varia* ab.
- Forewings without postmedian line, but with subterminal dots . . *elizabetha*
11. Forewings with only one discal dot . . . 12
- Forewings with two discal dots or spots . . . 16
12. Wings more or less reddish . . . 13
- Wings pale-ochreous or whitish-grey without reddish tinge . . . 14
13. Forewings with reddish lines . . . *hyperythra*
- Forewings with lines represented by fuscous dots . . . *ferruginosa*
14. Forewings with discal spot white-centred . . . *unisigna*
- Forewings with discal dot wholly fuscous . . . 15
15. Forewings without ochreous tinge, usually with an antemedian line *achromata*
- Forewings pale ochreous-grey, no antemedian line . . . *habroptila*
16. Both wings with second discal spot enlarged into a white blotch . . *guenei*
- Wings not so marked . . . 17
17. Forewings dark-fuscous with four transverse denticulate white lines  
*denticulata*
- Forewings not so . . . 18
18. Hindwings dark-fuscous with orange terminal band . . . *ostra*
- Hindwings not so . . . 19
19. Forewings wholly without transverse lines . . . 20
- Forewings more or less marked with transverse lines . . . 23
20. Forewings reddish or brown . . . *asterias*
- Forewings yellow . . . 21
- Forewings fuscous or grey . . . 22
21. Forewings with costa straight, apex slightly produced . . . *callixantha* ab.
- Forewings with costa more or less arched, apex not produced . . *canescens* ab.
22. Forewings with discal spots blackish, sometimes pale-centred . . *ocellata* ab.
- Forewings with discal spots whitish . . . *figlina*
- Forewings with discal spots brownish-ochreous . . . *reltoni*
23. Forewings with discal spots large, blackish; sometimes pale-centred . . 24
- Forewings with discal spots dot-like or not blackish . . . 26
24. Forewings with a white crenated line, its loops touching subterminal line  
and termen . . . *oressarcha*
- Forewings without such line . . . 25
25. Wings pale-ochreous . . . *ochroptera*
- Wings mostly fuscous . . . *ocellata*
26. Forewings with postmedian line nearly straight, but sharply bent in-  
wards beneath costa . . . 27
- Forewings with postmedian line not so formed . . . 28
27. Forewings with discal dots not white-centred . . . *varia*
- Forewings with discal dots white-centred, at least on underside . . *acuta*
28. Forewings fuscous without ochreous or brownish tinge . . . 29
- Forewings brownish, yellow, or reddish . . . 35
29. Hindwings ochreous or ochreous-tinged . . . 30
- Hindwings not ochreous-tinged . . . 32
30. Hindwings deep-ochreous . . . *ariprepes* ♂
- Hindwings pale-ochreous or ochreous-tinged . . . 31
31. Forewings with an angulated median line, touching second discal spot  
*stygiana* ♂



- Forewings with a sinuate postmedian line touching second discal spot  
*magnifica* ♂
32. Hindwings fuscous . . . . . 33  
 Hindwings whitish . . . . . 34
33. Forewings with a broad, whitish, strongly dentate, subterminal suffusion . . . . . *asciscens*  
 Forewings with a fine whitish subterminal line . . . . . *magnifica* ♀
34. Abdomen reddish-brown on dorsum . . . . . *magnifica* ♀ ab.  
 Abdomen grey . . . . . *tetraphrica*
35. Forewings with postmedian line bent inwards to before middle of dorsum  
*allocota*  
 Forewings with postmedian line not so bent . . . . . 36
36. Forewings with apex acute . . . . . 37  
 Forewings with apex not acute . . . . . 39
37. Wings reddish . . . . . 38  
 Wings yellow . . . . . *calixantha*  
 Wings brownish . . . . . *repleta*
38. Forewings with broad postmedian line, hindwings with termen well rounded . . . . . *phaeodesma*  
 Forewings with fine postmedian line, hindwings with termen only slightly rounded . . . . . *addita*
39. Head whitish . . . . . *excellens*  
 Head not whitish . . . . . 40
40. Wings yellow or pale ochreous-grey . . . . . 41  
 Wings reddish or brownish . . . . . 42
41. Forewings with discal spots white-centred . . . . . *heliopa*  
 Forewings with discal spots not white-centred . . . . . *canescens*
42. Wings without fuscous marginal or submarginal band or shade . . . *pyrrhica*  
 Wings with fuscous marginal or submarginal band or shade . . . . . 43
43. Wings orange-ochreous with dark terminal band (♂) or ochreous-brown (♀) . . . . . *connexa*  
 Wings reddish or brownish (♂) or grey (♀) without terminal band . . *nicothoe*

4. *ANTHELA PHOENICIAS*.

♂ *Anthela phoenicias* Turn., Trans. Roy. Soc. S. Aust., 1902, p. 182.—♀ *A. aspilota* Turn., *ib.*, p. 182.

♂. 35—40 mm. Head and thorax purple-reddish. Palpi 2½; terminal joint moderate; purple-reddish. Antennae purple-reddish. Abdomen and legs purple-reddish. Forewings broadly triangular, costa straight, apex obtusely rounded, termen bowed, scarcely oblique; purple-reddish; cilia concolorous. Hindwings with termen rounded; as forewings. Underside similar.

♀. 44—46 mm. Differs from ♂ in being uniformly pale-ochreous, without reddish tinge.

I formerly identified this with *rubicunda* Swin., but, having now a series, I find it differs from this in the shape of the forewings. The coloration of the ♂ appears constant in Queensland, but a ♂ from Fort Darwin is pinkish-grey.

N. Aust.: Port Darwin (W. K. Hunt in S. Aust. Mus.); N. Qld.: Claudie R., Cairns, Stannary Hills; Qld.: Emerald, Brisbane, Stanthorpe.

5. *ANTHELA RUBICUNDA*.

*Darala rubicunda* Swin., Ann. Mag. Nat. Hist., (7), ix., 1902, p. 419.—*D. pudica* Swin., *ib.*, p. 419.

♂. 40—43 mm. Head, palpi, and thorax purple-reddish, pinkish, grey, or grey-whitish. Antennae reddish or whitish; pectinations fuscous. Palpi 1½ to 2; terminal joint very short; reddish or whitish. Abdomen reddish or whitish, with some ochreous suffusion towards base of dorsum. Legs reddish or whitish. Forewings triangular, costa straight, apex round-pointed, termen bowed, oblique;



purple-reddish, pinkish, grey, or whitish; cilia concolorous, or pinkish. Hindwings with 6 and 7 connate or stalked, 11 present but usually weak; termen rounded; colour as forewings. Underside similar.

Best distinguished from *phoenicias* by the longer, pointed forewings with more oblique termen; the palpi appear also to be rather shorter, with shorter terminal joints. Unlike that species the coloration appears to be very variable.

S. Aust.: Bungaree (Hawker, in South Australian Museum); N.W. Aust.: Roeburne, Hammersley Range, Monte Bello Is., Wyndham.

There is a ♀ in the South Australian Museum from Beverley, W.A. (Duboulay),—expansion 60 mm., colour uniform pale-brown, wings rather thinly sealed,—which I refer to this species, but further evidence is required to confirm this.

#### 6. ANTHELA ADRIANA.

*Darala adriana* Swin., Ann. Mag. Nat. History., (7), ix., 1902, p. 419.

♂. 30—40 mm. Head, palpi, and thorax brown. Antennae ochreous-grey. Abdomen and legs brownish. Forewings triangular, costa straight, apex rounded, termen bowed, scarcely oblique; ochreous-brown, sometimes with a dull-purplish suffusion; cilia concolorous. Hindwings with termen strongly rounded; 6 and 7 stalked, 11 present, as forewings.

Smaller than *rubicunda* and much more dingy in colour. There are four examples, including the type, in the British Museum.

N. Qld.: Herberton (F. P. Dodd); N. Aust.: Roebuck Bay; N.W. Aust.: Sherlock River.

#### 7. ANTHELA LEUCOCERA,\* n.sp.

♂. 48 mm. Head bright reddish-brown. Palpi 2; reddish-brown, external surface fuscous. Antennae white, pectinations fuscous. Thorax bright reddish-brown, becoming duller posteriorly. Abdomen dull reddish-brown. Legs fuscous; coxae and femora bright reddish-brown. Forewings triangular, costa straight, apex pointed, termen bowed, scarcely oblique; dull reddish-brown without markings; cilia concolorous. Hindwings with termen gently rounded; 6 and 7 stalked, 11 absent; as forewings. Underside similar.

The white antennae contrast strikingly with the general reddish-brown colouring. Type in Coll. Lyell.

N.S.W.: Hornsby, near Sydney, in March; one specimen.

#### 8. ANTHELA CLEMENTI.

*Darala clementi* Swin., Ann. Mag. Nat. Hist., (7), ix., 1902, p. 81.

♂ ♀. 36—50 mm. Head, palpi, antennae, and thorax grey. Abdomen pale-grey. Legs grey. Forewings triangular, costa straight, apex tolerably pointed, termen strongly bowed, slightly oblique; grey irrorated with ochreous-whitish; sometimes a fuscous spot at end of cell; cilia ochreous-whitish. Hindwings with termen strongly rounded; connecting bar between 8 and cell imperfectly developed; grey mixed with ochreous-whitish; cilia ochreous-whitish.

Very similar to *rubicunda*, but wholly different in coloration. There are five examples, including the type, in the British Museum, and three in the Oxford Museum from Towranna Plains, between Yule River and Sherlock River, N.W. Aust. There is also a pair in Coll. Lyell from Roeburne.

\* λευκοκερος white-horned.



9. *ANTHELA ELIZABETHA*.

*Odonestis elizabetha*, White, Grey's Discovery in Australia, ii., Appendix, p. 478.—*Darala rubescens*, Wlk., Cat. Brit. Mus., xxxii., p. 370.

♂. 44—50 mm. Head brown or ochreous-grey-whitish; face and palpi brown. Antennae ochreous-whitish; pectinations fuscous. Thorax brown or ochreous grey-whitish. Abdomen pale-ochreous. Legs brown. Forewings triangular, costa nearly straight, apex tolerably pointed, termen bowed, not oblique; ochreous-grey-whitish, sometimes brownish-tinged; sometimes a subterminal series of ochreous-fuscous dots (but these are absent in two out of three examples); cilia concolorous. Hindwings with 11 absent; termen nearly straight, apex broadly rounded; pale reddish; cilia ochreous-grey-whitish or concolorous.

There are three examples, including both White's and Walker's types, in the British Museum. The latter is an example with brown head and thorax and slightly brownish forewings. The wing shape of this species is characteristic.

W. Aust.: Albany.

10. *ANTHELA LINOPEPLA*,\* n.sp.

♀. 45 mm. Head and thorax white. Palpi  $1\frac{1}{2}$ ; fuscous. Antennae white; pectinations fuscous-tinged. Abdomen white; dorsum of second and penultimate segments ochreous-tinged. Legs whitish; anterior pair pale-fuscous. Forewings triangular, costa gently arched, apex round-pointed, termen bowed, oblique; white; a narrow fuscous costal streak from base to apex; cilia white. Hindwings with termen slightly rounded; 6 and 7 connate, 11 present; white; cilia white. Underside similar.

N. Aust.: Thirty miles east of Darwin, in April; one specimen received from Mr. G. F. Hill.

11. *ANTHELA NEUROSPASTA*.

*Anthela neurospasta* Turn., Trans. Roy. Soc. S. Aust., 1902, p. 182.—*A. ochroneura* Turn., Proc. Roy. Soc. Q'land., 1915, p. 25.

♂. 36 mm. Head and thorax whitish. Palpi 2; pale-ochreous. Antennae white; pectinations fuscous. Abdomen pale-ochreous, tuft and underside whitish. Legs whitish; anterior and middle pairs fuscous anteriorly. Forewings broadly triangular, costa straight, apex obtusely rounded, termen bowed, scarcely oblique; whitish, with ochreous-brown interneural streaks; in dark examples the white is reduced to little more than streaks on veins; cilia whitish. Hindwings with termen rounded; 6 and 7 connate, 11 absent; as forewings. Underside similar, but with dark colouring more broadly suffused.

N. Aust.: Stapleton; N.W. Aust.: Wyndham. (The locality Cooktown was probably based on an error.)

12. *ANTHELA FERRUGINOSA*.

*Anthela ferruginosa* Wlk., Cat. Brit. Mus., iv., p. 854.—*Darala parva* Wlk., *ib.*, iv., p. 892.—*D. minuta* Swin., Cat. Oxf. Mus., i., p. 210.

♂. 26—34 mm. ♀. 34—38 mm. Head and thorax dark-reddish, sometimes rather paler. Palpi  $2\frac{1}{2}$ ; reddish, terminal joint whitish-ochreous. Antennae whitish; pectinations fuscous. Abdomen more or less reddish. Legs reddish;

\* λινοπεπλος, clothed in linen.



tibiae and tarsi paler and ochreous-tinged. Forewings triangular, costa straight, apex round-pointed, termen bowed, not, or only slightly, oblique; reddish, varying somewhat in tinge, occasionally with some fuscous irroration; antemedian line usually marked only by fuscous dots on cubitus and anal veins, but sometimes more developed; a fuscous subcostal discal spot at  $\frac{3}{4}$ , rarely with whitish centre; a series of fuscous dots on veins parallel to termen at  $\frac{1}{2}$ ; cilia concolorous. Hindwings with termen rounded; 6 and 7 connate or short-stalked, 11 absent; reddish; discal spot and subterminal dots and cilia as forewings. Underside similar but subterminal dots may be absent.

AB. 1. A small ♀ (29 mm.) from Birchip without reddish tinge, subterminal dots absent in forewings, indistinct in hindwings, but with general fuscous irroration.

AB. 2. A large reddish ♀ (42 mm.) from Ferntree Gully, with all markings obsolete except discal spot on forewings.

Walker's type is a faded ♀, not a ♂ as he states.

Qld.: Bundaberg, Eidsvold, Brisbane, Toowoomba, Killarney; N.S. Wales: Sydney; Vic.: Gippsland, Brentwood, Birchip, Ferntree Gully, Inverloch (on coast midway between Western Port Bay and Wilson Promontory); S. Aust.: Murray Bridge; Tas.: —.

### 13. ANTHELA HYPERYTHRA,\* n.sp.

♂. 34—36 mm. Head and thorax pale-reddish. Palpi  $2\frac{1}{2}$ ; reddish-ochreous. Antennae pale-reddish; pectinations fuscous. Abdomen pale-reddish, dorsum of three basal segments ochreous. Legs whitish-ochreous; coxae and femora reddish. Forewings triangular, costa almost straight to near apex, apex round-pointed, termen strongly bowed, slightly oblique; pale-reddish, with general whitish irroration; a darker median discal dot; an indistinct antemedian line; a dark line at  $\frac{3}{4}$  parallel to termen; cilia pale-reddish irrorated with whitish. Hindwings with termen strongly rounded; 6 and 7 connate or short stalked, 11 absent or feebly developed; reddish with some whitish irroration, but darker than forewings; cilia reddish. Underside reddish without markings.

♀. 42 mm. Much paler, with markings obsolete.

N. Aust.: Darwin, in November and December; 5 specimens received from Mr. F. P. Dodd.

### 14. ANTHELA ACHROMATA.

*Anthela achromata* Turn., Trans. Ent. Soc., 1904, p. 481.

♂. 26—34 mm. Head whitish. Palpi 2; brownish. Antennae whitish; pectinations fuscous. Thorax and abdomen whitish-grey. Legs whitish-ochreous or pale-reddish, with whitish-ochreous hairs. Forewings triangular, costa nearly straight, apex tolerably pointed, termen slightly bowed, slightly oblique; whitish-grey or pale-grey; costal edge towards base reddish; markings fuscous, usually distinct, sometimes nearly obsolete; a wavy transverse line at  $\frac{1}{4}$ ; a discal dot beneath midcosta; a series of dots or short streaks on veins, sometimes united into a crenulate line, at  $\frac{3}{4}$ ; cilia concolorous. Hindwings with termen rounded; 6 and 7 connate or stalked, 11 present or absent; as forewings, but without first line; discal dot and second line may be obsolete. Underside similar, but with slight reddish suffusion; first line on forewings not developed.

\* ὑπερυθρος, somewhat red.



N. Aust.: Darwin, Stapleton; N. Qld.: Thursday Island, Cairns, Stannary Hills, Mt. Garnet, Mt. Molloy.

15. *ANTHELA HABROPTILA*,\* n.sp.

♂. 46 mm. Head and thorax pale ochreous-grey. Palpi 2; pale-fuscous. Antennae white; pectinations grey. Abdomen and legs whitish-ochreous. Forewings triangular, costa nearly straight, apex round-pointed, termen bowed, slightly oblique; pale ochreous-grey; a fuscous discal dot beneath midcosta; a very faint line from  $\frac{2}{3}$  costa, slightly curved outwardly, then straight to  $\frac{2}{3}$  dorsum; a subterminal line of fuscous dots on veins; cilia pale ochreous-grey. Hindwings with termen rounded; 6 and 7 stalked, 11 absent; as forewings, but slightly paler and without markings, except a few subterminal dots. Underside similar; but forewings without postmedian line; hindwings with two discal dots and subterminal line of dots fuscous.

W. Aust.: Kalgoorlie, in June (Duboulay); one ♂ type in National Museum, Melbourne.

16. *ANTHELA UNISIGNA*.

*Anthela unisigna*, Swin., Trans. Ent. Soc., 1903, p. 447.

♂. 60 mm. Head brown; face fuscous, sides brown. Palpi brown, apices fuscous. Antennae grey-whitish, pectinations fuscous. Thorax brown mixed with fuscous, some of the hairs whitish towards apex. Abdomen reddish-brown; tuft ochreous-whitish. Legs brown; tarsi fuscous mixed with whitish-ochreous. Forewings triangular, costa straight to  $\frac{2}{3}$ , thence gently arched; apex tolerably pointed, termen bowed, moderately oblique; ochreous-whitish; a straight, transverse, fuscous line from costa beyond middle to  $\frac{2}{3}$  dorsum; in this a white, subcostal, discal spot outlined with dark-fuscous; a broad terminal band of fuscous suffusion; cilia whitish mixed with fuscous. Hindwings with termen slightly rounded; 11 present; whitish-ochreous, more yellowish towards base; a moderate fuscous terminal band; cilia whitish mixed with fuscous. Underside whitish; forewings with discal spot as on upper side, transverse line faintly marked, a yellowish suffused streak from base to discal spot.

Described from the British Museum type.

N.W. Aust.: Sherlock River.

17. *ANTHELA GUENEL*.

*Teara guenei* Newm., Trans. Ent. Soc., 1856, p. 284, Pl. 18, f. 9.

♂ ♀. 48—62 mm. Head ochreous; face in ♂ fuscous, in ♀ ochreous. Palpi 1; in ♂ fuscous, in ♀ ochreous. Thorax fuscous or ochreous-fuscous. Abdomen in ♂ ochreous-fuscous, in ♀ ochreous with four blackish rings posteriorly. Legs fuscous; coxae and femora ochreous. Forewings triangular, in ♀ elongate-triangular, costa gently arched, apex round-pointed, more pointed in ♀, termen slightly bowed, slightly oblique, more strongly in ♀; dark-fuscous; costal edge ochreous; a nearly circular, rather large, white spot beneath  $\frac{1}{4}$  costa; a large white blotch slightly beyond middle; cilia ochreous. Hindwings with termen slightly rounded; 6 and 7 connate or stalked, 11 present or absent; as forewings but basal spot smaller. Underside similar.

\* ἄβροπτιλος, soft-winged.



This appears to be a rare species. The ordinary discal spots are enlarged, the posterior especially, so as to give it, in conjunction with the uniform dark-fuscous colouration and yellowish cilia of both wings, a very distinctive facies. I suggest that it is a mimic of *Nyctemera amica* White.

Qld.: Crow's Nest, near Toowoomba, in September; N.S. Wales: Sydney.

#### 18. ANTHELA DENTICULATA.

*Teara denticulata* Newm., Trans. Ent. Soc., 1856, p. 283.—*Darala basigera* Wlk., Cat. Brit. Mus., xxxii., p. 372.—*D. undulata* Feld., Reise Nov., Pl. 98, f. 11.

♂ ♀. 46—54 mm. Head and thorax fuscous. Palpi  $1\frac{1}{2}$ ; fuscous. Antennae white; pectinations fuscous. Abdomen fuscous, towards apex mixed with whitish. Legs fuscous; middle and posterior tibiae white at base and apex. Forewings triangular, costa nearly straight, very slightly sinuate, apex pointed, termen bowed, slightly oblique; fuscous; markings white; a sub-basal angulated transverse line; a discal spot at  $\frac{1}{3}$  and another about middle; a finely crenulate line from costa beyond middle, through, or just posterior to, second discal spot, slightly curved outwards beneath costa, thence oblique to mid-dorsum; a third line at  $\frac{2}{3}$ , similar to median line, except that its anterior edge only is crenulate, the posterior edge nearly straight; a terminal line more or less crenulate; cilia fuscous. Hindwings with termen gently rounded; 6 and 7 connate, 11 absent or weakly developed; white with fuscous markings; a waved transverse line at about  $\frac{1}{4}$ ; a crenulate transverse median line; a subterminal band, crenulate posteriorly; cilia fuscous. Underside of both wings similar to upperside of forewings.

Vic.: Melbourne; S. Aust.: Adelaide; W. Aust.: Kalgoorlie.

#### 19. ANTHELA OSTRA.

*Anthela ostra* Swin., Trans. Ent. Soc., 1903, p. 447.—*A. chrysocrossa* Turn., Proc. Roy. Soc. Q'land., 1915, p. 24.

♂. 38 mm. Head fuscous; back of crown ochreous. Palpi  $2\frac{1}{2}$ ; fuscous, under-surface ochreous. Antennae pale-ochreous, pectinations fuscous. Thorax fuscous, bases of patagia ochreous. Abdomen with dense long hairs especially posteriorly; fuscous. Legs fuscous; upper surface of posterior tibiae irrorated with ochreous. Forewings triangular, costa straight, apex round-pointed, termen bowed, oblique; fuscous with some ochreous irroration; markings ochreous; a costal streak from base, gradually attenuating to about  $\frac{2}{3}$ ; a circular discal spot beneath  $\frac{1}{3}$  costa, and another rather larger beneath mid costa; a fine, deeply crenulate, subterminal line; cilia pale-ochreous, bases partly fuscous. Hindwings with termen rounded; 6 and 7 short-stalked, 11 absent; dark-fuscous; an ochreous discal dot before middle; a narrow, orange-ochreous, terminal band, deeply indented anteriorly, with slight fuscous irroration; cilia ochreous. Underside of forewings ochreous with some fuscous suffusion, central discal spot only, and a subterminal series of dark-fuscous interneural spots; of hindwings as upper side, but with two ochreous discal spots, at  $\frac{1}{3}$  and  $\frac{2}{3}$ , the latter larger.

This species is nearest to *A. denticulata* Newm.

N. Aust.: Batchelor, Adelaide R.

#### 20. ANTHELA ASTERIAS.

*Darala asterias* Meyr., Trans. Roy. Soc. S. Aust., 1891, p. 192.—*D. uniformis* Swin., Cat. Oxf. Mus., i., 1892, p. 210.—*Anthela niphomacula* Low., Trans. Roy. Soc. S. Aust., 1905, p. 175.—*A. callispila* Low., *ib.*, p. 175.



♂. 42—50 mm. Head, thorax, and abdomen reddish-brown or ochreous-brown. Palpi  $2\frac{1}{4}$ ; reddish- or ochreous-brown. Antennae reddish- or ochreous-brown; pectinations fuscous. Legs reddish- or ochreous-brown. Forewings triangular, costa straight to near apex, apex pointed, termen slightly bowed, slightly oblique; reddish-brown, ochreous-brown, or pale-pink; two white discal spots edged with fuscous; first beneath costa at  $\frac{1}{3}$ , second beneath costa slightly beyond middle; rarely the basal spot is not developed; cilia concolorous. Hindwings with termen more or less rounded; 6 and 7 connate or stalked, 11 present; as forewings, but without discal spots, or with one minute spot only. Underside similar, but discal spots on forewing may be obsolete; spot on hindwing better developed, and rarely preceded by a smaller spot.

N. Qld.: Stannary Hills, near Herberton; Qld.: Rockhampton, Duaringa, Emerald, Gayndah, Charleville; N.S. Wales: Broken Hill; S. Aust.: Beltana.

Meyrick's type is said to be from Melbourne, but I doubt whether this is correct; the species, however, probably occurs in the north-west of Victoria.

#### 21. ANTHELA FIGLINA.

*Darala figlina* Swin., Ann. Mag. Nat. Hist., (7), ix., 1902, p. 81.

♂. 30—32 mm. Head grey; face whitish-ochreous. Palpi rather short (scarcely over 1); grey mixed with whitish-ochreous. Antennae whitish-grey, pectinations darker. Thorax grey. Abdomen grey; base of dorsum ochreous-brown. Legs grey. Forewings triangular, costa straight, apex tolerably pointed, termen nearly straight, scarcely oblique; grey, closely irrorated with whitish-ochreous; two whitish discal spots; first beneath  $\frac{1}{3}$  costa, oval; second before  $\frac{2}{3}$ , somewhat rectangular; cilia whitish-ochreous. Hindwings, termen only slightly rounded; 11 present; as forewings.

There are three examples in the British Museum and two examples in the Oxford Museum.

N.W. Aust.: Towranna Plains, between Yule River and Sherlock River.

#### 22. ANTHELA RELTONI.

*Darala reltoni* Luc., Trans. Nat. Hist. Soc. Q'land., i., 1895, p. 106.—*Anthela pyromacula* Low., Trans. Roy. Soc. S. Aust., 1905, p. 76.

♂. 50—56 mm. Head, palpi, and thorax fuscous. Antennae fuscous. Abdomen fuscous, dorsum sometimes ochreous-tinged. Legs fuscous. Forewings broadly triangular, costa straight to middle, thence gently arched, apex rather acutely pointed, termen bowed, slightly oblique; fuscous finely irrorated with whitish; veins narrowly darker fuscous; a small circular brownish-ochreous discal spot at  $\frac{3}{5}$  (at end of cell), narrowly outlined with fuscous; preceded by a fine longitudinal dark-fuscous line in cell, in one example interrupted by a narrow, longitudinal, elongate, brownish-ochreous spot; sometimes a dark-fuscous streak in disc above and parallel to vein 1; cilia fuscous. Hindwings with termen rounded; colour and cilia as forewings, but paler and without spots. Underside fuscous, with a minute pale spot at end of cell in each wing.

Qld.: Charleville; the type now in Queensland Museum; Adavale, in May. Two specimens, the latter in my own collection. N.S. Wales: Broken Hill (Lower).

#### 23. ANTHELA VARIA.

*Darala varia* Wlk., Cat. Brit. Mus., iv., p. 890.—*D. integra* Wlk., *ib.*, iv., p. 893.—*D. humata* Wlk., *ib.*, iv., p. 895.—*Colussa odenestaria* Wlk., *ib.*, xxi., p.



288.—*Darala pinguis* Wlk., *ib.*, xxxii., p. 372.—*Colussa uvaria* Wlk., *ib.*, xxxv., p. 1576.—*D. latifera* Wlk., Trans. Ent. Soc., 1862, p. 266.—*D. caniceps* Wlk., *ib.*, p. 269.—*D. limonea* Butl., Cist. Ent., i., 1874, p. 291.—*D. succinea* Luc., Proc. Linn. Soc. N.S. Wales, 1891, p. 290.—*D. scortea* Luc., *ib.*, 1891, p. 290.

♂. 62—76 mm. Head, thorax, and abdomen yellow or pinkish, rarely pale-grey; face fuscous or purple-fuscous, rarely yellow. Palpi  $1\frac{1}{2}$ ; fuscous or purple fuscous. Antennae yellow, very rarely whitish; pectinations fuscous. Legs fuscous or purple-fuscous, often irrorated with whitish; coxae and femora ochreous-tinged, yellow, or pinkish; apices of femora white. Forewings triangular, costa straight to past middle, thence arched, apex pointed, termen slightly sinuate beneath apex, slightly oblique; yellow or pinkish, rarely grey or ochreous-grey; markings fuscous, rarely reddish; sometimes a crenulate transverse line at about  $\frac{1}{4}$ ; a discal dot beneath  $\frac{1}{3}$  costa, and another larger beyond middle, not white-centred, rarely obsolete; exceptionally an outwardly curved crenulate line at about  $\frac{1}{3}$ , touching, or just beyond, first discal dot; a line from  $\frac{1}{5}$  costa to  $\frac{3}{5}$  dorsum always present, edged posteriorly with yellow, nearly straight, but sharply bent inwards just beneath costa; occasionally this is followed by some purple-fuscous suffusion; a deeply crenulate subterminal line, sometimes reduced to a series of dots, or wholly obsolete; cilia yellowish or pinkish, rarely grey. Hindwings with termen rounded, tornus prominent, or forming a rounded projection; 6 and 7 stalked, 11 present or absent; as forewings, but without discal dots and antemedian lines; subterminal line sometimes closely followed by a similar but more suffused parallel line. Underside similar, but forewings without antemedian lines; hindwings with two discal dots.

♀. 82—110 mm. Forewings with costa strongly arched throughout, apex acute, strongly produced, termen more strongly sinuate; as in ♂ but with more tendency as a rule to obsolescence of markings except postmedian line; sometimes a short, pale, oblique streak from apex.

By an unfortunate error I formerly (Trans. Ent. Soc., 1894, p. 480) attributed the name *acuta* to this species instead of to the following. Both *varia* and *acuta* are characterised by the nearly straight postmedian line bent inwards beneath costa. They are closely allied and both extremely variable, so that it is not easy to give absolutely distinctive characters. The discal dots can usually be relied on, but I have seen a ♀ from Kuranda in which these are wholly white.\* *A. varia* is a larger insect, and the ♀ may be distinguished from *acuta* by this, and the more strongly produced apex of forewings.

N. Qld.: Kuranda near Cairns, Stannary Hills; Qld.: Rockhampton, Brisbane, Stradbroke I.; N.S. Wales: Glen Innes; Vic.: Melbourne, Bairnsdale, Merrigum (120 miles north of Melbourne).

#### 24. ANTHELA ACUTA.

*Darala acuta* Wlk., Cat. Brit. Mus., iv., p. 889.—*D. excisa* Wlk., *ib.*, iv., p. 889.—*D. ferruginea* Wlk., *ib.*, iv., p. 890.—*D. conspersa* Wlk., *ib.*, iv., p. 891.—*D. simplex* Wlk., *ib.*, iv., p. 891.—*D. plana* Wlk., *ib.*, iv., p. 892.—*D. subfalcata* Wlk., *ib.*, iv., p. 894.—*D. falcata* Wlk., *ib.*, iv., p. 895.—*D. cinerascens* Wlk., *ib.*, iv., p. 900.—*Ennomos ? potentaria* Wlk., *ib.*, xxvi., p. 1519.—*D. rufifascia* Wlk., *ib.*, xxxii., p. 370.—*D. delineata* Wlk., *ib.*, xxxii., p. 371.—*D. quadriplaga* Wlk., Trans. Ent. Soc., 1862, p. 269.

♂. 34—62 mm. Head, thorax, and abdomen grey, brownish, ochreous, or reddish; face usually fuscous. Palpi  $1\frac{1}{2}$ ; fuscous or reddish. Antennae yellow

\* Perhaps these represent a distinct species not yet clearly differentiated.



or yellowish; pectinations fuscous. Legs fuscous or reddish with whitish irroration; coxae and femora grey or ochreous; apices of femora white. Forewings triangular, costa gently arched, apex acute, termen sinuate, scarcely oblique; grey, whitish-grey, brownish, or ochreous, sometimes with reddish or fuscous discal and terminal blotches and spots, sometimes with fine fuscous irroration; lines fuscous or reddish; sometimes an outwardly-curved dentate line at  $\frac{1}{4}$ ; a whitish dot nearly always ringed with fuscous beneath costa at  $\frac{1}{4}$ , and another in middle; rarely a curved dentate median line at  $\frac{1}{3}$ ; a nearly straight post-median line from  $\frac{1}{3}$  costa to  $\frac{2}{3}$  dorsum, sharply bent inwards beneath costa, edged posteriorly by a pale, usually ochreous-tinged line, always present; a subterminal series of dots on veins sometimes united to form a crenulate line; cilia usually concolorous. Hindwings with termen rounded, tornus rather prominent; 6 and 7 connate or stalked, 11 present or absent; as forewings, but with only one discal dot, and that not white-centred, or with none. Underside similar, but less strongly marked; hindwings with two discal dots.

♀. 54—68 mm. Forewings narrower, costa more strongly arched, apex acute and sometimes slightly produced.

Southern examples have the wings more or less irrorated with fuscous. The aberration of the ♂ with blotched wings is common in Southern Queensland and New South Wales. Specimens from North Queensland are rather larger and not so easily distinguished from *varia*.\* An occasional aberration has the discal dots of the forewings large and wholly fuscous on the upperside.

N. Qld.: Cape York, Cooktown, Cairns, Atherton; Qld.: Rockhampton, Brisbane, Mt. Tambourine; N.S. Wales: Glen Innes, Ebor, Dorrigo, Gosford, Sydney; Vic.: Melbourne, Western Port, Wandin, Wilson's Promontory, Inverloch, Trafalgar, Gisborne, Meeniyah; Tas.: Hobart, Swansea, Sheffield, Ulverstone.

## 25. *ANTHELA ORESSARCHA*,† n.sp.

♂. 54—60 mm. Head, thorax, and abdomen pale-fuscous. Palpi 2, terminal joint rather long; whitish-ochreous; external surface of second joint fuscous. Antennae whitish; pectinations fuscous. Legs pale-fuscous. Forewings triangular, costa slightly arched, apex round-pointed, termen bowed, oblique; pale-fuscous; slightly reddish towards base; veins darker-fuscous; an outwardly-curved whitish line from  $\frac{1}{3}$  costa to  $\frac{1}{3}$  dorsum, posteriorly suffusedly edged with dark-fuscous; a longitudinally oval discal spot beneath  $\frac{1}{3}$  costa, dark fuscous, sometimes with white centre; a second discal spot below middle, circular, dark-fuscous with white centre; a whitish line from  $\frac{2}{3}$  costa, sharply outwardly curved beneath costa, then inwardly oblique to mid-dorsum; a similar line, but less sharply curved, and edged anteriorly with dark-fuscous, from  $\frac{3}{4}$  costa to  $\frac{3}{4}$  dorsum; a strongly crenated whitish line, acutely dentate anteriorly, the apices of dentations touching third line on veins, the rounded crenations posteriorly touching termen; ciliations pale-fuscous. Hindwings with termen slightly rounded; 6 and 7 stalked, 11 absent; as forewings, but without first line; discal dots faint or obsolete. Underside similar, but without first and second line on forewings; second line and discal dots with white centres present in hindwings.

♀. 75—78 mm. Forewings with apex more acutely pointed, termen more oblique; first line faintly marked. Hindwings with apex more acute, termen nearly straight.

\* Perhaps these represent a distinct species not yet clearly differentiated.

† ὄρεσσαρχος, lord of the mountain.



N.S. Wales: Mt. Kosciusko (5000ft.) in January; six specimens taken in the hotel, into which they had been doubtless attracted by light.

26. *ANTHELA CNECIAS*,\* n.sp.

♀. 84 mm. Head ochreous-whitish; face whitish-ochreous. Palpi about 1; whitish-ochreous. Antennae ochreous-whitish; pectinations in ♀ 1, fuscous. Thorax and abdomen pale-ochreous. Forewings elongate-triangular, costa straight to  $\frac{3}{4}$ , thence arched, apex round-pointed, termen bowed, oblique; pale-ochreous; a broad whitish streak along costa nearly to apex, interrupted at  $\frac{2}{3}$ ; a longitudinally elongate discal spot at  $\frac{1}{3}$ , whitish outlined with fuscous; a similar, but transversely elongate, somewhat reniform spot slightly beyond middle; a slender whitish line, slightly sinuate, from  $\frac{3}{4}$  costa to beyond middle of dorsum; cilia pale-ochreous. Hindwings with apex prominent, termen slightly rounded; 11 present; pale-ochreous; a fuscous, pale-centred discal spot at  $\frac{1}{3}$ ; cilia pale-ochreous. Underside similar, but with two whitish, fuscous-edged spots on hindwings.

Nearly allied to *A. ocellata*, but much larger, differently coloured, and of more simple pattern. The ♀ example, which I have described, is in the British Museum, and is labelled "Tasmania." It was described by Walker (Cat. Brit. Mus., iv., p. 887) as *ocellata* var.  $\gamma$ .

27. *ANTHELA OCELLATA*.

*Darala ocellata* Wlk., Cat. Brit. Mus., iv., 1855, p. 887.—*Ommatoptera tetrophthalma*, H.Sch., Ausser. Schmet., 1856, f. 506,507.—*Darala ochroptera* Low., Trans. Roy. Soc. S. Aust., xvi., 1892, p. 14.—*Anthela symphona* Turn., Trans. Ent. Soc., 1904, p. 480.—*Colussa psammochroa* Low., Trans. Roy. Soc. S. Aust., 1908, p. 112.—*Anthela nigristigma* Fawcett, Proc. Zool. Soc., 1917, p. 248.

♂. 40—46 mm. Head brown. Palpi  $1\frac{1}{2}$ ; brown. Antennae whitish; pectinations 7, fuscous. Thorax brown with some fuscous admixture. Abdomen pale-brown. Forewings triangular, costa straight to near apex, apex round-pointed, termen bowed, slightly oblique; brown-whitish, centre of disc and base sometimes suffused with fuscous; dark-fuscous discal spots at  $\frac{1}{3}$  and middle, the second sometimes with some central whitish scales; sometimes a dark-fuscous line, more or less interrupted, from near base of costa obliquely outwards, then rounded to  $\frac{1}{3}$  dorsum, nearly touching first discal spot; usually a fine fuscous line, sometimes edged posteriorly with whitish, from  $\frac{2}{3}$  costa obliquely outwards, curved outwards beneath costa, and thence nearly straight to  $\frac{3}{4}$  dorsum; shortly posterior to this a dark-fuscous line, sometimes reduced to a series of dots on veins; terminal edge rarely fuscous; cilia whitish-brown. Hindwings with termen slightly rounded; 6 and 7 stalked, 11 absent; rarely a postmedian, whitish, transverse line; a subterminal series of minute fuscous dots; cilia whitish-brown. Underside whitish-brown with subterminal series of fuscous dots, and two, whitish-centred, discal spots on each wing.

♀. 54—67 mm. Antennal pectinations  $1\frac{1}{2}$ . Forewings more elongate; as in ♂, but markings less distinct; sometimes with a broad, whitish, costal streak; discal spots often whitish in centre. Hindwings fuscous-whitish.

This species shows geographical variations, as well as a strong tendency to individual variation. Brisbane examples may have all the markings, except the discal spots, obsolete; the fuscous lines, when present, are usually slender.

\* *κνηχος*, pale yellowish.



Victorian examples resemble closely the more heavily marked Brisbane ♂, but the ♀ often has a whitish costal suffusion, and postmedian white lines, which are not developed in the Brisbane ♀. Tasmanian examples are more distinct, both sexes are darker, the ♂ with much fuscous suffusion and distinct postmedian white lines, the ♀ with a broad, whitish, costal suffusion, but it is impossible to separate them specifically from the mainland form. *A. ochroptera* Low. (= *psammochroa* Low.) is a local race from north-west Victoria and South Australia, in which the wings are whitish or ochreous-whitish, the markings dark and strongly marked.

N. Qld.: Ingham, Townsville; Qld.: Gympie, Nanango, Brisbane; N.S. Wales: Sydney; Vic.: Melbourne, Mildura; Tas.: Launceston, Hobart; S. Aust.: Mt. Lofty, Cootanoorina, Cockburn.

#### 28. *ANTHELA ARIPREPES*,\* n.sp.

♂. 64 mm. Head and thorax grey with some whitish hairs. Palpi short (1); second joint densely hairy beneath; terminal joint rather long; fuscous with some whitish hairs. Antennae fuscous with a few whitish scales on stalk. Abdomen yellow, towards base mixed with fuscous; tuft pale-yellow; underside whitish. Legs fuscous; apices of femora and tibiae pale yellow. Forewings triangular, costa nearly straight to  $\frac{3}{4}$ , arched before apex, apex rectangular, termen slightly bowed, slightly oblique; fuscous uniformly irrorated with whitish, appearing dark-grey; a large circular white spot, narrowly outlined with dark-fuscous, beneath  $\frac{1}{3}$  costa, and a similar, rather smaller, spot beneath mid costa; lines fuscous; a very indistinct, dentate, outwardly curved line at  $\frac{1}{2}$ ; a fine, acutely dentate line from  $\frac{2}{3}$  costa, curved at first outwardly and then inwardly to  $\frac{3}{4}$  dorsum; a similar line from  $\frac{5}{8}$  costa to  $\frac{4}{5}$  dorsum; cilia concolorous. Hindwings with termen rounded; 6 and 7 stalked, 11 absent; yellow; a fuscous discal spot before middle; a curved, slightly dentate, fuscous median, transverse line; a curved, dentate, fuscous, transverse line at  $\frac{3}{4}$ ; a broad, dark-grey, terminal band with slight yellowish irroration; cilia dark-grey, apices whitish. Underside whitish with grey irroration; disc of forewings suffused with yellow, except towards costa and termen; discal spots with thicker dark-fuscous rings and smaller white centres; no basal line; postmedian line of both wings reddish; subterminal line as on upperside; a faint, whitish, wavy, submarginal line; two, pale-centred, fuscous, discal spots on hindwing.

This, with *A. magnifica*, *asciscens*, and *stygiانا*, forms a natural group. Besides other characters, it differs from *magnifica* in the postmedian line being denticulate, more strongly curved, and posterior in situation, while that of the hindwings is median, not at  $\frac{1}{3}$ . Type in National Museum, Melbourne.

Vic.: Lake Hattah (near extreme N.E. corner of Victoria) in February (J. E. Dixon); one specimen.

#### 29. *ANTHELA STYGIANA*.

*Darala stygiانا*, Butl., Ann. Mag. Nat. Hist., (5), ix., 1882, p. 88.

♂. 74 mm. Head, palpi, and thorax fuscous with a few whitish hairs. Antennae grey-whitish, pectinations fuscous. Abdomen fuscous, sides, except at base, brown, tuft and underside whitish. Legs fuscous; tips of coxal hairs reddish-brown. Forewings rather narrowly triangular, costa straight to  $\frac{2}{3}$ , thence strongly arched, apex tolerably pointed, termen bowed, oblique; fuscous, min-

\* ἀριπρεπής, splendid.



utely irrorated with whitish; a minute, white, subcostal, discal dot at  $\frac{1}{3}$ ; a fuscous line from midcosta obliquely outwards, angled inwards beneath costa, thence slightly inwardly curved, ending on mid-dorsum; a whitish discal spot, in this line at angle; two wavy fuscous lines from dorsum before middle to about mid-disc; a faint, very slender, transverse line from  $\frac{3}{4}$  costa to  $\frac{2}{3}$  dorsum; a faint, fuscous, subterminal line, strongly and coarsely dentate, the large teeth approaching near termen; cilia fuscous, barred with whitish on veins. Hindwings with termen moderately rounded; 11 present; pale-ochreous, towards base suffused with reddish-ochreous, and beyond middle with fuscous; a broad, straight, fuscous line at  $\frac{1}{3}$ ; a fine, crenulate, fuscous line at  $\frac{2}{3}$ ; cilia fuscous with a few whitish bars. Underside ochreous-whitish with less fuscous suffusion than on upperside, lines and discal dots present, an additional fuscous median dot on hindwings before first line.

Described from the British Museum type.

N.S. Wales: Deniliquin (Lucas, Proc. Linn. Soc. N.S. Wales, 1891, p. 288).

### 30. ANTHELA MAGNIFICA.

*Darala magnifica* Luc., Proc. Linn. Soc. N.S. Wales, 1891, p. 286.—*D. xantharcha* Meyr., Trans. Roy. Soc. S. Aust., 1891, p. 191.—*Anthela tritonea* Swin., Trans. Ent. Soc., 1903, p. 448.

♂. 65—100 mm. Head dark-fuscous; face ochreous or brownish. Palpi  $1\frac{1}{2}$ ; fuscous with some whitish hairs, or sometimes mostly pale-ochreous. Thorax dark-fuscous with some whitish hairs. Abdomen whitish, base and a variable extent of dorsum fuscous; sometimes the whole of dorsum is reddish-brown. Legs fuscous, more or less mixed with reddish-brown; apices of femora and tibiae whitish-yellow; anterior tibiae sometimes with whitish hairs. Forewings broadly triangular, costa straight to  $\frac{3}{5}$ , thence strongly arched, apex round-pointed, termen straight, slightly oblique; fuscous with uneven whitish irroration; markings dark-fuscous; an irregularly-bent, outwardly-curved line from  $\frac{1}{2}$  or  $\frac{1}{4}$  costa to  $\frac{1}{2}$  or  $\frac{1}{4}$  dorsum; a broadly suffused line from  $\frac{1}{3}$  costa to  $\frac{2}{3}$  dorsum, sometimes obsolete; sometimes a white-centred discal spot at  $\frac{1}{3}$ ; a larger, similar median spot; a sinuate line from  $\frac{3}{5}$  costa to  $\frac{2}{3}$  dorsum, just beyond, or touching, second discal spot; a slender wavy line at  $\frac{1}{2}$ , thickened on costa, sometimes edged posteriorly with whitish; a crenated, whitish, subterminal line from just before apex to tornus; cilia fuscous. Hindwings with termen rounded; 6 and 7 approximated, connate, or short-stalked, 11 present; pale-yellowish suffused with pale-fuscous except towards base, sometimes the median area is whitish; a straight, transverse, pale-fuscous shade at about  $\frac{1}{3}$ ; two, indistinct, wavy, subterminal lines, immediately followed by a whitish line; a fuscous terminal band; cilia fuscous. Underside whitish, with more or less grey irroration; forewings with two, rather large, whitish, discal spots edged with fuscous; anterior half of disc more or less suffused with ochreous, lines as on upper side, but first two obsolete; hindwings similar, but without ochreous suffusion; discal spots small or obsolete.

♀. 75—108 mm. Forewings narrower, costa evenly arched, apex acute; markings as in ♂ but more obscure, or partly obsolete. Hindwings fuscous, sometimes whitish towards base; a wavy or crenulate, whitish, submarginal line. Underside as in ♂, or almost wholly fuscous.

I have seen the type of *xantharcha* Meyr., which is in the South Australian Museum. It is a small ♂ (65 mm.) with the abdomen reddish-brown on dorsum,



and the forewings with second and third lines approximated. An example from Cunnamulla is almost exactly similar, and so is another from Victoria. On the other hand, examples from Northam, Western Australia, are almost the same as those from Duaringa, Queensland, being much larger, the males having the abdomen whitish on dorsum, except towards base, which is fuscous. These forms cannot be separated specifically, nor is it easy to see how they can be regarded as local races; perhaps the differences are climatic.

Qld.: Duaringa, Jandowae, Cunnamulla; Vic.: Lake Hattah; S. Aust.: Koolunga; W. Aust.: Beverley, Northam; N.W. Aust.: Derby (W. D. Dodd).

### 31. *ANTHELA ASCISCENS*.

*Darala asciscens* Luc., Proc. Linn. Soc. N.S. Wales, 1891, p. 288.

♂. 85 mm. Head dark-fuscous. Palpi 2; fuscous, with a few whitish hairs. Antennae white mixed with fuscous; pectinations fuscous. Thorax dark-fuscous with a few whitish and reddish hairs. Abdomen reddish-brown; base of dorsum dark-fuscous; tuft and underside whitish. Legs dark-fuscous with whitish and reddish hairs; apices of femora and tibiae pale-yellow. Forewings triangular, costa strongly arched, apex rounded-rectangular, termen nearly straight, moderately oblique; whitish irrorated rather densely with fuscous; markings dark-fuscous; an obscure line from costa near base, strongly and acutely angled outwards beneath costa, and ending on  $\frac{1}{3}$  dorsum; the area between this line and base is more or less blotched with whitish; an obscure line from  $\frac{1}{3}$  costa roughly parallel to the preceding, ending on  $\frac{1}{3}$  dorsum; a minute white discal dot in second line; a larger, white, median, discal spot lying in a fuscous longitudinal bar which extends from first dot to termen; a postmedian line from  $\frac{2}{3}$  costa curved outwards around second discal spot, and then inwards to  $\frac{2}{3}$  dorsum; a fine line, straighter than the preceding, before  $\frac{4}{5}$ ; a very strongly dentate subterminal line from apex, preceded by a broad, irregular, whitish suffusion; terminal area with broadly suffused longitudinal bars; cilia fuscous barred with white. Hindwings with termen gently rounded; 6 and 7 connate, 11 present; fuscous, darker towards base; a white tornal suffusion giving rise to an indistinct whitish subterminal line; cilia as forewings. Underside of forewings fuscous with some brownish suffusion as far as postmedian line; two whitish discal dots; postmedian area as upperside, but paler; underside of hindwings as forewings.

♀. 95 mm. Similar to ♂, but abdomen with tuft and underside not whitish; forewings with termen more bowed, paler and with markings less distinct; hindwings with a strong, dentate, whitish, subterminal line.

Qld.: Duaringa, Jandowae.

### 32. *ANTHELA TETRAPHRICA*,\* n.sp.

♂. 50 mm. ♀. 63 mm. Head grey-whitish. Palpi  $1\frac{1}{2}$ , terminal joint short and concealed in long hairs; fuscous. Antennae reddish; pectinations fuscous. Thorax fuscous with some grey-whitish hairs. Abdomen grey. Legs grey; tibiae and tarsi fuscous mixed with reddish. Forewings elongate-triangular, costa moderately and evenly arched, apex tolerably pointed, termen bowed, strongly oblique; whitish-grey with fuscous irroration, which is less marked towards base and termen; markings fuscous; an outwardly curved line from  $\frac{1}{3}$  costa to  $\frac{1}{3}$  dorsum; a small grey-centred spot beneath costa at  $\frac{1}{3}$ , and another

\* τετραφρικος, four times rippled.



slightly beyond middle; an outwardly curved line from  $\frac{1}{3}$  costa to mid-dorsum, passing just outside first spot; an oblique, wavy, fine line from  $\frac{1}{3}$  costa to  $\frac{1}{2}$  dorsum; a wavy outwardly-curved line slightly beyond this, followed by a grey submarginal line; cilia grey. Hindwings with termen scarcely rounded; 6 and 7 stalked, 11 present; grey-whitish; two, fine, grey, slightly wavy, transverse lines; first at  $\frac{2}{3}$ , nearly straight; second subterminal, slightly sinuate; some grey suffusion in terminal half of disc; cilia grey. Underside grey, with lines as on upperside, two discal spots in forewing, one in hindwing.

W. Aust.: Northam; one ♀ specimen received from Mr. L. J. Newman, who has another. Beverley; one ♂ in South Australian Museum.

### 33. ANTHELA ALLOCOTA,† n.sp.

♀. 64 mm. Head and palpi whitish-ochreous. Antennae grey. Thorax and abdomen ochreous-grey-whitish. Legs fuscous; coxae and femora whitish-ochreous. Forewings triangular, costa strongly arched, apex subrectangular, termen slightly bowed, oblique; ochreous-grey-whitish with fine brownish irroration; a whitish discal spot edged with fuscous beneath  $\frac{1}{4}$  costa, and another beneath costa before middle; a finely denticulate fuscous line from  $\frac{2}{3}$  costa at right angles for a short distance, then abruptly bent inwards and sinuate to dorsum slightly before middle, posteriorly edged with ochreous; traces of a fuscous subterminal line, best marked near costa and dorsum; cilia ochreous-grey-whitish. Hindwings with termen rounded, tornus rather prominent; 6 and 7 connate, 11 present; as forewings, but without discal spots; a dentate fuscous transverse line at  $\frac{1}{3}$ , posteriorly edged with ochreous, represents median line of forewings. Underside similar, but markings very obscure; two discal spots on hindwings.

The peculiar median line of forewings should make this species easy of recognition.

Vic.: Melbourne; one ♀ type in National Museum, Melbourne.

### 34. ANTHELA CALLIXANTHA.

*Darala callixantha* Low., Trans. Roy. Soc. S. Aust., 1902, p. 214.—*Anthela flavala* Swin., Trans. Ent. Soc., 1903, p. 452.

♂. 32–35 mm. ♀. 40–46 mm. Head, palpi, thorax, and abdomen yellow; palpi 1. Antennae pale-ochreous; pectinations grey. Legs yellowish. Forewings elongate-triangular, costa straight, apex acute, more so in ♀, termen bowed, slightly oblique; yellow, in ♂ with some fuscous irroration; markings fuscous; a small discal dot at  $\frac{1}{3}$  and another at middle, both usually white-centred; sometimes a slightly outwardly-curved, transverse, antemedian line, which may be dentate; sometimes a nearly straight transverse line at  $\frac{2}{3}$ ; sometimes two crenulate subterminal lines; but all lines may be obsolete in ♀; cilia yellow. Hindwings with termen strongly rounded; 6 and 7 stalked, 11 strongly developed; as forewings. Underside similar.

Very variable in the development of the lines which may be strongly marked or quite obsolete in the ♀.

N.W. Aust.: Sherlock River, two ♀ examples, including Swinhoe's type in the British Museum; Wyndham, one ♀ example received from Mr. L. J. Newman; Hammersley Range, three ♂ examples (W. D. Dodd) in the South Australian Museum; W. Aust.: Carnarvon (in British Museum).

\* ἄλλοκοτος, of an unusual kind.



35. *ANTHELA PHAEODESMA*,\* n.sp.

♂. 36 mm. ♀. 44—48 mm. Head, palpi, and thorax ochreous with some pinkish hairs. Antennae fuscous, stalk in ♂ partly whitish. Abdomen ochreous sometimes pinkish-tinged. Legs ochreous; anterior tibiae and tarsi pinkish or fuscous. Forewings triangular, proportionately broader in ♂, apex rectangular, termen moderately bowed, scarcely oblique; ochreous suffused with pinkish; lines fuscous; a strongly curved line from  $\frac{1}{8}$  costa to  $\frac{1}{4}$  dorsum, sometimes faintly marked; a white subcostal dot edged with fuscous at  $\frac{1}{4}$ , and another in middle; a broad line from  $\frac{2}{3}$  costa to  $\frac{2}{3}$  dorsum, nearly straight; midway between this and termen a series of fuscous dots on veins parallel to termen; in ♂ some fuscous suffusion near termen; cilia concolorous. Hindwings with 6 and 7 connate or stalked, 11 absent; termen rounded; as forewings, but without basal line, and with one or no discal dots. Underside similar, but with two discal dots on hindwings.

N. Qld.: Kuranda near Cairns, and Atherton, in April; three specimens.

36. *ANTHELA ADDITA*.

*Anthela addita* Wlk., Cat. Brit. Mus., xxxii., p. 372.

♂ ♀. 40 mm. Head, thorax, and abdomen dull-reddish. Palpi 2; reddish; terminal joint whitish-ochreous. Antennae in ♂ white, in ♀ grey, towards base ochreous; pectinations fuscous. Legs reddish. Forewings triangular, costa nearly straight, slightly sinuate, apex acute, termen bowed, slightly oblique; dull-reddish or ochreous-reddish; markings fuscous; sometimes an irregular outwardly curved line at  $\frac{1}{4}$ ; a small, whitish-centred, discal spot beneath  $\frac{1}{8}$  costa, and another beneath midcosta; a faint, antemedian, transverse line, sometimes reddish, between discal spots; a slightly curved line, sometimes reddish, sometimes crenulate, from  $\frac{3}{4}$  costa to  $\frac{2}{3}$  dorsum; a subterminal series of dots on veins, sometimes connected to form a crenulate line; cilia concolorous. Hindwings with termen slightly rounded or nearly straight, apex rounded-rectangular; 6 and 7 separate or connate, 11 weak or absent; as forewings, but with one or no discal spot, and only postmedian and subterminal lines, or with the former obsolete. Underside similar, but markings nearly obsolete; both wings with two discal spots, or with basal spot obsolete.

In size intermediate between *ferruginosa* and *pyrrhica*; from the former it may be distinguished by the two discal spots, and from both by the acute apex of the forewing. Walker's type is a ♀; I have not been able to compare with it the specimens I have described, but I think they are conspecific.

Vic.: Inverloch in February, one ♂ in National Museum, Melbourne; Tas.: Ulverstone, one ♂ in Coll. Lyell. A ♀ from Tasmania in National Museum. Hobart; one ♂ in S.A. Museum.

37. *ANTHELA PYRRHICA*,† n.sp.

♀. 45—48 mm. Head and thorax dull-reddish, or brownish-ochreous, except face which is reddish. Palpi 2; reddish. Antennae whitish; pectinations fuscous. Abdomen pale-reddish or pale-ochreous. Legs reddish or pale-ochreous. Forewings rather elongate-triangular, costa nearly straight, apex tolerably pointed, termen bowed, oblique; dull-reddish or brownish-ochreous; a pale-fuscous, out-

\* φαεινός, with dusky band.

† πυρρικός, reddish.



wardly curved, sub-basal line sometimes faintly indicated; a fuscous discal dot beneath costa just before middle, and a larger spot just beyond middle, fuscous, the second or both with pale centre; a faint, oblique, nearly straight line from  $\frac{3}{4}$  costa to  $\frac{3}{4}$  dorsum; a slightly wavy, outwardly curved line beyond this, sometimes reduced to dots on veins; cilia concolorous. Hindwings rather long, termen only slightly rounded; 6 and 7 connate, 11 absent; as forewings, but with only one discal spot, and without postmedian line. Underside similar, but both wings without postmedian line, hindwings sometimes with two discal dots.

The type is a reddish ♀ from Mt. Kosciusko, not unlike *A. ferruginosa* but larger, and readily distinguished by the two discal dots. Mr. Lyell has another ♀, differently coloured, but probably the same species.

N.S. Wales: Mt. Kosciusko in January; Vic.: Gisborne in December. Two specimens.

### 38. ANTHELA HELIOPA.

*Darala heliopa* Low., Trans. Roy. Soc. S. Aust., 1902, p. 214.

♂. 30—35 mm. Head yellow; face reddish-brown. Palpi 2; reddish-brown. Antennae whitish, towards base fuscous or reddish; pectinations fuscous. Thorax and abdomen yellow. Legs reddish-brown; coxae and femora yellow. Forewings broadly triangular, costa slightly arched, apex rounded-rectangular, termen slightly bowed, not oblique; markings reddish-fuscous; traces of a curved sub-basal line; small white-centred discal spots at  $\frac{1}{3}$  and middle; a rather thick straight line from  $\frac{1}{3}$  costa to  $\frac{2}{3}$  termen; a sinuate line of dots on veins about midway between this and termen; a slight reddish-fuscous irroration towards termen; cilia yellow. Hindwings with termen rounded; 6 and 7 connate or stalked, 11 absent or weakly developed; as forewings, but with only one discal spot. Underside similar, but more heavily marked.

♀. 44 mm. More brownish-yellow; markings purple-fuscous; postmedian line, especially of hindwings, curved; subterminal dots indistinct. Lower's type was a ♀.

N. Qld.: Cooktown, Port Douglas, Cairns, Herberton.

### 39. ANTHELA EXCELLENS.

*Darala excellens*, Wlk., Cat. Brit. Mus., iv., p. 902.

♂. 60 mm. Head grey-whitish. Palpi  $1\frac{1}{2}$ ; grey-whitish, upper surface reddish-tinged. Antennae grey-whitish; pectinations 6. Thorax yellow suffused with reddish and, on middle of patagia, with fuscous. Abdomen yellow suffused with reddish. Legs grey-whitish; coxae yellow. Forewings triangular, costa gently arched, more strongly towards apex, apex tolerably pointed, termen scarcely bowed, slightly oblique; yellow with reddish suffusion and some fuscous blotches (probably varietal); a reddish transverse line from  $\frac{1}{3}$  costa; a second reddish line from  $\frac{2}{3}$  costa, nearly straight to  $\frac{2}{3}$  dorsum, followed closely by a similar but more slender line; three, fuscous, coarsely crenate lines between this and termen; cilia yellow. Hindwings with termen slightly rounded; 11 present; as forewings, but without first line. Underside similar, but without antemedian and with only one subterminal line, the normal discal dots, which on the upper side are obscured by fuscous blotches, are present.

♀. 100—112 mm. Antennal pectinations 1. Wings without fuscous blotches, antemedian lines, and discal dots, uniformly suffused with reddish as far as postmedian lines; the apex of forewings not subfalcate; underside with discal dots present on both wings.



This species may be distinguished from *varia* by the whitish head and palpi, the ♀ also by the forewings not subfalcate at apex. Walker's ♂ is said to be from "between Sydney and Moreton Bay," the ♀ type simply from "Australia."

N. Qld.: Kuranda, near Cairns, in March (Dodd); one ♀.

#### 40. ANTHELA CANESCENS.

*Darala canescens*, Wlk., Cat. Brit. Mus., iv., p. 901.—*D. inornata*, Wlk., Cat. Brit. Mus., iv., p. 901.—*Dreata deficiens*, Wlk., Cat. Brit. Mus., xxxii., p. 374.—*Darala complens*, Swin., Cat. Oxf. Mus., i., p. 209.—*Anthela carneotincta*, Swin., Trans. Ent. Soc., 1903, p. 451.—*A. crenulata*, Swin., Trans. Ent. Soc., 1903, p. 451.—*A. epicrypha* Swin., Ann. Mag. Nat. Hist., (7), xvi., 1905., p. 150.

♂. 58—73 mm. ♀. 80—92 mm. Head yellow or pale-grey. Palpi  $1\frac{1}{4}$ ; pale-grey. Antennae yellow; pectinations grey. Thorax and abdomen yellow or pale-grey. Legs grey; coxae and femora yellow. Forewings triangular, costa straight to  $\frac{2}{3}$ , thence gently arched, apex tolerably pointed, termen nearly straight, slightly oblique; yellow or pale-grey; fuscous (rarely reddish) discal dots at  $\frac{1}{3}$  and middle, the former sometimes obsolete; the latter larger; sometimes an irregularly dentate antemedian line, but usually none; occasionally a nearly straight postmedian line pale-fuscous or reddish edged with yellow, but usually none; sometimes a crenulate, fuscous, subterminal line, which may be reduced to dots on veins; cilia usually yellow, rarely pale-grey. Hindwings with termen gently rounded; 6 and 7 connate or stalked, 11 present; as forewings, but without discal dots. Underside similar, but with two discal dots on both winged, *not* pale-centred.

The ♂ exists in two colours, either yellow or pale-grey, the ♀ I have only seen of the latter colour. Grey specimens have the cilia usually yellow, rarely concolorous. The transverse lines may be strongly marked or wholly obsolete.

Vic.: Dimboola, Benalla; S. Aust.: Adelaide, Eudunda; W. Aust.: Perth, Carnarvon, Kalgoorlie.

#### 41. ANTHELA REPLETA.

*Darala repleta*, Wlk., Cat. Brit. Mus., iv., p. 896.—*D. protocentra* Meyr., Trans. Roy. Soc. S. Aust., 1891, p. 191.—? *D. haemoptera* Low., Trans. Roy. Soc. S. Aust., 1893, p. 150.

♂. 45—55 mm. ♀. 56—76 mm. Head and palpi fuscous-brown. Antennae brown-whitish, pectinations fuscous-brown. Thorax, abdomen, and legs fuscous-brown. Forewings triangular, costa nearly straight, apex acute, slightly produced, termen strongly bowed, slightly oblique; brown, in ♂ often reddish brown, with more or less fuscous irroration; two discal spots beneath costa before and after middle, whitish in centre; a slender crenulate fuscous line from  $\frac{1}{3}$  costa to  $\frac{2}{3}$  dorsum, edged posteriorly by a pale line; a subterminal fuscous line or series of dots, edged posteriorly by a pale line; cilia brown, apices paler. Hindwings with termen slightly rounded, tornus somewhat produced; 6 and 7 connate or stalked, 11 feebly developed or absent; colour and markings as forewings, but without discal spots. Underside similar, but less distinctly marked; one or two discal dots on hindwings.

More dusky than *acuta*, from which it differs in the postmedian line of forewings being crenulate and not angled beneath costa; and the antennae not ochreous. It also resembles *nicothoe*, but is a smaller species with the apex



of the forewings more acute and slightly produced, and with the hindwings projecting at tornus.

Vic.: Moe, Wandin, Pakenham, Gisborne, Fernshaw; Tas.: Launceston, Sheffield.

#### 42. ANTHELA CONNEXA.

♀. *Darala connexa* Wlk., Cat. Brit. Mus., iv., p. 898.—♂. *D. fervens* Wlk., Cat. Brit. Mus., iv., p. 898.—♂. *D. postica* Wlk., Cat. Brit. Mus., iv., p. 899.—♂. *Darala zonata* Feld., Reise Nov., Pl. 99, f. 1.

♂. 45–60 mm. Head ochreous-fuscous; face ochreous. Palpi 2; whitish-ochreous mixed with fuscous. Antennae fuscous, the stalk irrorated with whitish; pectinations 8. Thorax and abdomen ochreous-fuscous. Legs pale-ochreous. Forewings triangular, costa gently arched, apex round-pointed, termen bowed, slightly oblique; orange-ochreous irrorated with fuscous; sometimes an obscure, irregularly dentate, transverse, fuscous line near base; a small white dot outlined with fuscous in disc at  $\frac{1}{3}$ , another similar, but larger, in middle; a fuscous transverse line at  $\frac{2}{3}$ , wavy, slightly curved outwards beneath costa; a terminal fuscous band, its anterior edge obscurely crenulate; cilia pale-ochreous, bases fuscous. Hindwings with termen moderately rounded; 6 and 7 connate, 11 absent or weak; orange-ochreous with some fuscous irroration; a transverse fuscous line about middle; preceded by a fuscous discal spot; a faint transverse fuscous crenulate line at  $\frac{2}{3}$ , sometimes reduced to a series of dots; a broad, terminal, dark-fuscous band, its inner edge crenulate; cilia orange-ochreous. Underside ochreous, each wing with two fuscous, white-centred discal dots, two postmedian fuscous lines, the second consisting of a series of dots, and a subterminal fuscous band.

♀. 62–74 mm. Antennae fuscous; pectinations 1. Both wings and underside brownish with fuscous irroration; costa of forewings sometimes irrorated with ochreous-whitish.

*Postica* is a ♂ aberration, similar to the normal form on underside, but above the orange colour on hindwing is confined to costal area.

Mr. Lyell informs me that the ♂ flies by day and, when on the wing, can easily be mistaken for a Satyrid butterfly.

Vic.: Wandin, Dandenong Ranges, Moe; Tas.: —.

#### 43. ANTHELA NICOTHOE.

*Bombyx nicothoe* Bdv., Voy. Astrolabe, Lep., 1832, p. 226.—*Darala adusta* Wlk., Cat. Brit. Mus., iv., p. 897.—*D. censors* (misprint) Wlk., *ib.*, xxxiii., p. 369, corrected to *consors*, *ib.*, xxxv., p. 1917.—*Laelia australasiae* H-Sch., Ausser. Schmet., f. 386.—*Colussa vinosa* Rosen., Ann. Mag. Nat. Hist., (5), xvi., 1885, p. 384.—*Darala rubeola* Feld., Reise Nov., Pl. 98, f. 9.

♂. 53–82 mm. Head, thorax, and abdomen reddish, ochreous, or brown. Palpi  $1\frac{1}{2}$ ; grey, reddish, or brown. Antennae whitish with some fuscous irroration; pectinations fuscous. Legs fuscous or grey; coxae and femora reddish, ochreous, or brown. Forewings triangular, costa straight to  $\frac{2}{3}$ , then arched, apex round-pointed, termen slightly bowed, slightly oblique; reddish, ochreous, or brown, with transverse fuscous lines; discal dots white edged with fuscous, at  $\frac{1}{3}$  and about middle; sometimes outwardly arched lines, more or less distinct, before and after first dot; a fine wavy or crenulate line at about  $\frac{2}{3}$ , edged posteriorly by a pale line; a crenulate subterminal line, sometimes reduced to dots on veins; a crenulate submarginal shade; cilia concolorous. Hindwings with termen



slightly or moderately rounded; 6 and 7 connate, 11 present; as forewings, but without discal dots. Underside similar but with two discal dots on each wing, which may or may not be white centred.

♀. 72—104 mm. Wings grey; markings as in ♂, but postmedian line edged posteriorly by a brownish line.

Tasmanian ♂ examples are brown, those from the mainland are lighter and often ochreous or reddish; the ♀ varies little.

Vic.: Melbourne, Beaconsfield, Kewell; Tas.: Hobart; S. Aust.: Kangaroo Island.

#### Gen. 5. CHELEPTERYX.

*Chelepteryx* Gray, Trans. Ent. Soc., i., 1834., p. 122.

Palpi moderate, porrect, only slightly rough; terminal joint short. Antennae pectinated to apex in both sexes, pectinations shorter in ♀. Posterior tibiae with two pairs of spurs, which are placed rather near each other. Forewings with 4 and 5 separate, all veins from areole separate, subapical cross-bar from 10 to 9 shortly beyond their bifurcation, and sometimes prolonged by a spur towards, but not reaching, 11. Hindwings with 3, 4, 5 separate, 6 and 7 approximated at base, 12 somewhat approximated to cell at  $\frac{1}{3}$  and connected with it by 11, which is strongly developed.

Type, *C. collesi* Gray. There are only two species, both of large size.

#### 44. CHELEPTERYX COLLESI.

*Chelepteryx collesi* Gray, Trans. Ent. Soc., i., 1834, p. 122.—*Saturnia laplacei* Feist., Voy. de la Fav., v., 1839, Suppl., p. 20, Pl. 8, 9.

♂. 144—150 mm. Head brownish; upper half of face dark-fuscous. Palpi 2; dark-fuscous. Antennae brownish, pectinations dark-fuscous. Thorax brownish mixed with dark-fuscous. Abdomen brownish. Legs fuscous; coxae brown-whitish; anterior femora partly brown beneath. Forewings elongate-triangular, costa straight to beyond middle, thence arched, apex rectangular, termen strongly sinuate, strongly oblique; fuscous irrorated and suffused with brown, and, in costal area, towards base with whitish; with five dark-fuscous transverse lines; first from  $\frac{1}{8}$  costa, broadly suffused on costa and interrupted beneath costa, thence finer, sinuate, ending on dorsum beyond  $\frac{1}{4}$ ; second very irregularly dentate, inwardly oblique, obscure towards costa, from mid-costa joining first line on dorsum; third from  $\frac{3}{8}$  costa, obscure towards costa, thicker and wavy towards dorsum beyond middle; preceded by an obscurely outlined, subcostal, circular, brownish spot; fourth only defined in lower half, parallel to termen, acutely dentate, ending on  $\frac{3}{8}$  dorsum; fifth parallel and near to fourth, but broadly suffused, only developed towards dorsum, margined posteriorly by a pale line; the upper part of fifth line is replaced by three hyaline spots, placed obliquely, and rather suffusedly outlined; cilia short, concolorous. Hindwings with apex rectangular, termen only slightly rounded, tornus subrectangular; dark-fuscous; a suffused, median, transverse, brownish line; deeply crenated, ochreous, subterminal line, preceded by a series of small, linear, ochreous marks on veins; area beyond subterminal line irrorated with ochreous; cilia short, concolorous. Underside fuscous irrorated with whitish along costa and termen; a small white spot at end of cell; whitish postmedian and subterminal lines, and hyaline subapical spots; of hindwing, whitish irrorated with fuscous brown; a brownish wavy transverse line before middle, touching a circular, fuscous-



brown, discal spot with pale centre; pale postmedian and subterminal lines; veins fuscous shortly before postmedian, ochreous between lines.

♀. 168—177 mm. Similar, but paler in colour. Forewings with costa more evenly arched, termen not sinuate; fuscous lines less strongly marked and suffusedly bordered with whitish; hyaline spots of ♂ replaced by two, whitish, subapical spots placed obliquely.

Qld.: Mt. Tambourine, Toowoomba; N.S. Wales: Sydney; Vic.: Melbourne, Wandin, Gisborne.

#### 45. CHELEPTERYX FELDERI.

*Darala chalepteryx* Feld., Reise Nov., Pl. 98, f. 10.—*Chelepteryx felderi* Turn., Trans. Ent. Soc., 1904, p. 481.

♂. 110—130 mm. Head grey-whitish, back of crown and lower  $\frac{2}{3}$  of face fuscous. Palpi  $2\frac{1}{4}$ ; fuscous-brown. Antennae grey-whitish, pectinations fuscous. Thorax and abdomen grey-brown. Legs grey-whitish; anterior pair fuscous; all coxae and undersurface of anterior femora reddish-brown. Forewings broadly triangular, costa slightly arched, apex pointed, termen sinuate beneath apex, thence bowed; oblique; pale brownish-grey irrorated with fuscous; basal area paler, limited by an oblique whitish line from midcosta to  $\frac{1}{3}$  dorsum; central area darker, more fuscous or brownish, its posterior edge from  $\frac{3}{4}$  costa, at first outwardly curved, then parallel to first line, ending at  $\frac{2}{3}$  dorsum; two discal spots, first beneath  $\frac{1}{4}$  costa, second obliquely oval beneath midcosta, outlined with blackish, inside this a pale-brownish ring, centre fuscous; a paler postmedian band extending to apex; towards its posterior edge a series of dark-fuscous dots on veins; a darker terminal band in which a pale wavy subterminal line is sometimes visible; cilia short, concolorous. Hindwings with apex and tornus subrectangular, termen gently rounded, wavy; reddish, darker towards base; a dark-fuscous subcostal discal spot at  $\frac{1}{3}$ ; a suffused, nearly straight, dark-fuscous, transverse, median line; following this is a paler band containing, near its posterior edge, a fine fuscous line of fuscous dots on veins; a broad, dark-fuscous, subterminal line, with broad rectangular projections between veins posteriorly forming a castellated band; terminal area more or less suffused with fuscous; cilia short, concolorous. Underside reddish or ochreous-grey; a large, triangular, dark-fuscous, subcostal suffusion on forewings, containing whitish orbicular and reniform spots; hindwings with small whitish discal spots, outlined with fuscous at  $\frac{1}{6}$  and  $\frac{1}{3}$ ; a whitish, sinuate, wavy, transverse median line; a series of fuscous dots on veins at  $\frac{2}{5}$ ; a very obscure, castellated, subterminal band.

♀. 110—140 mm. Similar, but paler and markings much more obscure. Forewings with discal spots distinctly or obscurely outlined, not dark-centred. Hindwings reddish, or grey with reddish suffusion only towards base; no discal spot; castellated band obscurely indicated. Underside of forewings without dark-fuscous suffusion; discal spots present in both wings.

N. Qld.: Atherton; Qld.: Gympie, Brisbane, Mt. Tambourine; N.S. Wales: Sydney, Katoomba; Vic.: Wandin.

#### Gen. 6. GEPHYRONEURA.\*

*Gephyroneura* Turn., Trans. Ent. Soc., 1919, p. 417.

Tongue absent. Palpi 1, porrect; second joint with dense long hairs beneath; terminal joint concealed. Antennae bipectinated to apex. Legs densely

\* γεφυρονευρος, with bridged veins.



hairy; posterior tibiae with middle spurs absent, terminal spurs minute. Forewings with 4 and 5 separate, 6 short-stalked, 7, 8, 9, 10 long-stalked from cell, about halfway between cell and apex 10 diverges, and by the subapical cross-bar, which runs from 11 to 9, a small triangular areole is formed, from which all four veins arise separately. Hindwings long, rhombiform, 3, 4, 5 separate, 6 and 7 stalked, 12 anastomosing with cell at a point before middle.

I have figured and attempted to explain the extraordinary neurulation of the forewing (Trans. Ent. Soc., 1919.).

The anastomosis of 12 of hindwings with the cell represents a shortening of the persistent vein 11. The genus is a derivative of *Munichryia* with considerable modification.

46. *GEPHYRONEURA COSMIA*,† n.sp.

♂. 24—28 mm. Head and thorax grey with some whitish hairs. Palpi fuscous. Antennae whitish; pectinations fuscous. Abdomen brownish. Legs whitish; anterior pair fuscous with some whitish hairs; all tarsi fuscous with whitish annulations. Forewings triangular, costa straight, apex pointed, termen nearly straight, slightly oblique; whitish with fuscous irroration and markings, so as to appear mostly grey; a slightly waved line from  $\frac{1}{4}$  costa to mid-dorsum; a small, median, subcostal discal mark; a rather faint line, strongly bisinuate, from  $\frac{3}{4}$  costa to  $\frac{3}{4}$  dorsum; a more distinct, irregularly crenated, subterminal line, edged posteriorly with whitish; an interrupted terminal line; cilia whitish, on tornus mixed with fuscous. Hindwings rhombiform with a rounded prominence on vein 3; pale-grey; a faintly darker, wavy, subterminal line; some whitish irroration towards termen; cilia grey mixed with whitish. Underside grey with darker discal dot and broad subterminal band on both wings.

In facies this resembles *M. senicula* Wlk.

N. Qld.: Evelyn Scrub, near Herberton, in December and January; two specimens received from Mr. F. P. Dodd.

Gen. 7. *MUNICHRYIA*.

*Munichryia* Wlk., Cat. Brit. Mus., xxxii., p. 395.

Tongue strongly developed. Palpi 2, porrect; second joint with long dense hairs beneath; terminal joint concealed. Antennae bipectinated to apex in both sexes, but pectinations in ♀ very short (1). Legs densely hairy; posterior tibiae with two pairs of short spurs. Forewings with 4 and 5 separate, areole long, subapical cross-bar extending from 11 to 10 and 9, sometimes fusing with basal part of 9, all veins arising separately from areole. Hindwings long, rhombiform; 3, 4, 5 separate, 6 and 7 connate or short-stalked, 12 somewhat approximated to cell before middle, and connected with it by 11 which is short, but well developed.

In a ♂ example, the subapical crossbar is fused with that part of the areole formed by the base of vein 9 as figured by me (Trans. Ent. Soc., 1919, p. 418), but in another ♂ and a ♀ I find 9 diverging from 10 before the areole, so that in these examples the structure of the areole is that normal in the family.

Type, *M. senicula* Wlk.

47. *MUNICHRYIA SENICULA*.

*Munichryia senicula* Wlk., Cat. Brit. Mus., xxxii., p. 396.—*Hypochroma nyssiata* Feld., Reise Nov., Pl. 125, f. 3.

♂. 30—32 mm. Head, palpi, and thorax grey. Antennae whitish with a few dark-fuscous scales; pectinations fuscous. Abdomen grey or whitish-grey.

† *χοσμιος*, neat.



Legs whitish-grey; tarsi dark fuscous annulated with whitish. Forewings triangular, costa nearly straight, slightly sinuate, apex acute, termen slightly sinuate beneath apex, thence bowed, slightly oblique; grey mixed with whitish; markings fuscous; an irregularly dentate line from  $\frac{1}{4}$  costa, bent inwards from middle to fold, abruptly outwardly on fold, ending on mid-dorsum; a small, transverse, median, blackish, discal mark; a faint oblique line from  $\frac{3}{4}$  costa, bisinuate to  $\frac{3}{4}$  dorsum; a more distinct, irregularly dentate, subterminal line, bidentate inwards above dorsum; an interrupted terminal line; cilia whitish-grey. Hindwings rhombiform with a rounded prominence on vein 3; whitish; a fuscous dot before middle; a large terminal fuscous suffusion with some whitish irroration near termen; cilia whitish-grey. Underside whitish with large terminal fuscous suffusions, that on hindwing darker and not reaching margin.

♀. 37 mm. Markings much less distinct; on forewings only discal dot, postmedian, and terminal lines are traceable.

N.S. Wales: Sydney in April and July; Vic.: —; W. Aust.: Cunderdin in October (♀, R. Illidge). Walker's type is said to be from Moreton Bay.

*Species unrecognised or wrongly referred to the family.*

48. *Arnissa simplex* Wlk., Char. Undesc. Lep., p. 77. I examined the type in the National Museum, Melbourne, some years ago, and recognised it as belonging to the genus *Anthela*, but was not able to determine the species.
49. *Darala lineosa* Wlk., Trans. Ent. Soc., (3), i., 1862, p. 269. I have seen the type in the Oxford Museum. It has been removed to the *Eupterotidae* and bears an MS. label "Not Australia but Delagoa Bay." I do not doubt that it is not Australian.
50. *Chenuala rufa* Swin., Cat. Oxf. Mus., i., p. 212. It is doubtful whether this belongs to the *Anthelidae*, and whether it is really Australian.
51. *Darala expansa* Luc., Proc. Linn. Soc. N.S. Wales, 1891, p. 286, belongs to the genus *Eupterote* (*Eupterotidae*).
52. *Darala linearis* Luc., Proc. Linn. Soc. N.S. Wales, 1891, p. 289.
53. *Darala rubriscripta* Luc., *ib.*, p. 291.
54. *Darala rosea* Luc., *ib.*, p. 291.
55. *Darala cupreotincta* Luc., Proc. Roy. Soc. Q'land., 1891, p. 75.
56. *Darala serranotata* Luc., Proc. Linn. Soc. N.S. Wales, 1893, p. 138, belongs to the genus *Cotana* (*Eupterotidae*).
57. *Darala trisecta* Luc., Proc. Roy. Soc. Q'land., 1898, p. 67.
58. *Darala maculosa* Luc., *ib.*, p. 67.
59. *Darala consuta* Luc., Proc. Roy. Soc. Q'land., 1899, p. 139.

INDEX TO GENERA.

Anthela	4	Chelepteryx	5	Munichryia	7	Pterolocera	1
Aprosita	3	Gephyroneura	6	Nataxa	2		



## INDEX TO SPECIES.

*Synonyms and unrecognised species in italics.*

achromata	14	<i>delineata</i>	24	linopepla	10	reltoni	22
acuta	24	denticulata	18	maculosa	58	repleta	41
adriana	6	elizabetha	9	magnifica	30	rosea	54
addita	36	<i>epicrypha</i>	40	minuta	12	rubeola	43
adusta	43	excellens	39	nana	3	rubescens	9
allocota	33	<i>excisa</i>	24	neurospasta	11	rubicunda	5
amplicornis	1	<i>expansa</i>	51	nicothoe	43	rubida	2
ariprepes	28	<i>falcata</i>	24	<i>nigristigma</i>	27	<i>rubriscripta</i>	53
asciscens	31	felderi	45	<i>niphomacula</i>	20	rufa	50
<i>aspilota</i>	4	<i>ferruginea</i>	24	nyssiata	47	rufifascia	24
asterias	20	ferruginosa	12	obscura	3	scortea	23
<i>australasiae</i>	43	<i>fervens</i>	42	ocellata	27	senicula	47
<i>basigera</i>	18	figlina	21	<i>ochroneura</i>	11	<i>serranotata</i>	56
<i>callispila</i>	20	<i>flavala</i>	34	<i>ochrocephala</i>	2	<i>simplex</i>	24, 48
callixantha	34	flavescens	2	<i>ochroptera</i>	27	stygiانا	29
canescens	40	<i>flavifascia</i>	2	odenestaria	23	<i>subfalcata</i>	24
<i>caniceps</i>	23	guenei	17	oressarcha	25	<i>succinea</i>	23
<i>carneotincta</i>	40	habroptila	15	ostra	19	<i>symphona</i>	27
<i>chalepteryx</i>	45	hamata	23	<i>parva</i>	12	tetraphrica	32
<i>chrysocrossa</i>	19	<i>haemoptera</i>	41	phaeodesma	35	<i>tetraphthalma</i>	27
<i>cinerascens</i>	24	heliopa	38	phoenicias	4	<i>trisecta</i>	57
clementi	8	hyperythra	13	<i>pinguis</i>	23	<i>tritonea</i>	30
cnecias	26	<i>inornata</i>	40	plana	24	<i>ulothrix</i>	3
collesi	44	<i>insignis</i>	1	<i>postica</i>	42	<i>undulata</i>	18
<i>complens</i>	40	<i>integra</i>	23	<i>potentaria</i>	24	<i>uniformis</i>	20
connexa	42	<i>laplacei</i>	44	<i>protocentra</i>	41	unisigna	16
<i>consors</i>	43	<i>latifera</i>	23	<i>psammochroa</i>	27	<i>uvaria</i>	23
<i>conspersa</i>	24	leucocera	7	<i>pudica</i>	5	varia	23
<i>consuta</i>	59	<i>limonea</i>	23	<i>pyromacula</i>	22	<i>vinosa</i>	43
cosmia	46	<i>linearis</i>	52	pyrrhica	37	<i>xantharcha</i>	30
<i>cupreotincta</i>	55	<i>lineosa</i>	49	<i>quadriplaga</i>	24	<i>zonata</i>	42
<i>deficiens</i>	40						





Turner, Alfred Jefferis. 1921. "Revision of Australian Lepidoptera-Hypsidae, Anthelidae." *Proceedings of the Linnean Society of New South Wales* 46, 159–191.  
<https://doi.org/10.5962/bhl.part.14007>.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/23930>

**DOI:** <https://doi.org/10.5962/bhl.part.14007>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/14007>

**Holding Institution**

MBLWHOI Library

**Sponsored by**

MBLWHOI Library

**Copyright & Reuse**

Copyright Status: NOT\_IN\_COPYRIGHT

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.