Art. VI.—*A Revision of the Classification of New Zealand* Caradrinina.

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I have here revised the genera of *Caradrinina* occurring in New Zealand, taking into consideration the large amount of work done in the group of late years, especially by Professor J. B. Smith and Sir George Hampson. Both these authors have done admirable work in the careful investigation of structural characters, but in my judgment both have made too many genera, and have thus been led in some cases to rely upon points of distinction that are indefinite, slight, unimportant, unnatural, or even illusive and imaginary; and Sir George Hampson has unfortunately adopted a principle of generic nomenclature which I believe is not now held by any other leading lepidopterists, and is never likely to meet with general acceptance. It will be well, therefore, to begin by making some general remarks explanatory of my own principles and practice in these two subjects.

In the matter of generic nomenclature I hold as follows:—

(1.) A generic name is void if published without description. Hampson agrees, but there are writers who do not. The names of Hübner's Tentamen are therefore void.

(2.) Where an original genus included more than one species, and the author has not in any way expressed which species was typical, later writers can limit the meaning of the genus at pleasure by expressed intention (accidental limitation by casual mention has no effect), such limitations taking effect in order of priority. Hampson assumes the first species of those mentioned by the original author to be the type, which is certainly simple, but has no other justification whatever, and it would be equally simple to assume the last.

(3.) Fifty years' use in a particular sense establishes a title, and bars claim of priority.

On these principles a reasonable and legitimate use is obtained without much disturbance of recognized nomenclature.

As to the characterization of genera, no doubt the subject is a very difficult one, and there will always be room for much difference of opinion. But a genus must represent a definite section of a branch of the genealogical tree; it must not be made up of two sections tied together, or it will be unnatural, and, whilst it is certainly not always possible to define absolutely the distinction between two genera, an author must have structural grounds for referring any species to one or other, or the genera will be impracticable. A genus must be geographically consistent: it must have originated in one place only, and have spread thence to other regions, and its geographical distribution should not be incongruous; if it is, the supposed genus should be regarded with suspicion. Closely allied species must not be placed in genera regarded as phylogenetically remote. The value of a character for generic definition can only be determined practically; in one set of insects a particular character may be fixed and sufficient for generic and even family limitation, and in another the very same

character may be variable even within the limits of the same species; therefore we must not assume that if a character separates natural genera in one instance it will also do the same in another. There is no scientific reason why secondary sexual characters should not be used to define genera in those cases where they are found to indicate natural genera in accordance with the above-mentioned principles; tufts of hair (probably scent-producing) in the male sex are, however, found in practice to be of specific value only—at any rate, as a general rule. Hampson oddly and inconsistently refuses to use any sexual characters for defining genera, whilst invariably employing these same characters, even the specific tufts of hairs, for forming sections of genera; whereas these should in any case be limited on exactly the same principles as genera, being of smaller value but precisely the same nature.

I will give one or two specific instances of the unsatisfactory nature of Hampson's results, to illustrate my meaning. Hampson makes a new genus *Eriopygodes* for two European species and the Hawaiian *euclidias* Meyr. This could only be explained geographically by supposing that at some former period a straggler of the genus from Europe had reached the Hawaiian Islands, which is unlikely, but, of course, possible. But *euclidias* is an insect of striking appearance, and two other Hawaiian species, *compsias* Meyr. and *niphadopa* Meyr., are structurally and superficially so close to it that it is impossible to doubt they are closely related. These are placed about seventy pages off in the genus *Hyssia*, which contains about fifteen North American, European, and New Zealand species, and a separate origin from another straggler is required for them. The difference stated is that *Hyssia* has the thorax clothed with scales mixed with hair, the abdomen with dorsal crest on first segment; *Eriopygodes*, the thorax clothed with hair only, abdomen without crests. But *euclidias* (of which I have a long series) certainly has a small abdominal crest, and the difference in clothing of thorax is imperceptible. I conclude that *euclidias* must be transferred to *Hyssia*. But the only distinction between *Hyssia* and the cosmopolitan genus *Cirphis*, with 140 species, is that *Hyssia* has the thorax clothed chiefly with hair-like scales, and *Cirphis* almost entirely with hair. This is a distinction without a difference, and, in effect, I am quite unable to distinguish the species assigned to these two genera by this or any other structural character, though they are separated by two hundred pages, and placed in widely remote branches of the phylogenetic tree. I am therefore obliged to unite them, which makes the Hawaiian species a local group representative of a cosmopolitan genus, and puts quite a different face on the matter. But on examining *Eriopyga*, with 100 species (chiefly American, some European), only stated to differ from the above by absence of abdominal crest, I find that some at any rate (*e.g.*, the European *Turca* L.) certainly possess a small crest (no doubt the character is often difficult of observation, because the base of abdomen is clothed with rough hairs, and the thoracic hairs tend to conceal it also, but when present it is formed by scales of a different character and different colour), and must be referred to *Hyssia* also. I am not well supplied with the American species, but the genus at least requires cleansing. And *Borolia*, with forty species, mostly African and Australian, is only stated to differ from *Eriopyga* exactly as *Hyssia* does from *Cirphis*, a distinction found to be inappreciable, for the supposed difference in form of wing (more oblique termen) cannot be seriously regarded as a generic character, and therefore this also needs reconsideration.

Finally, *Sideridis*, admitted to have the basal crest of abdomen, and only stated to differ from the above genera by having thorax clothed entirely with hair (for we are called upon to distinguish three genera solely by their having the thorax clothed respectively "entirely with hair," "almost entirely with hair," and "chiefly with hair-like scales"—a hair-splitting task indeed), certainly possesses hair-scales in the thorax of at least some species (*e.g.*, the European *lithargyria* Esp.), and must, in my opinion, be united with the *Hyssia-Cirphis* group as one genus, for which the name *Aletia* has some authority of use, and must be adopted.

Now we will take an instance from the Agrotid group. *Heliothis*, in the sense in which Hampson uses it, is distinguished from *Chloridea*, which includes most of the species usually regarded as typical *Heliothis*, by having the eyes small and reniform, whilst in *Chloridea* they are large and rounded. The term "reniform" (kidney-shaped) I regard as inaccurate. I have never seen an eye to which I could apply that description. Smith calls them oval, but perhaps ovate would be more correct, or suboval. But the species placed in *Heliothis* are considerably smaller insects, and the reduction in the size of the eye is hardly, if at all, more than proportionate to the reduction in the size of the insect, whilst the alteration in shape is very slight; and in *ononis* F. the eye is really small, more reduced relatively than in *Heliothis*, and similar in form (this is admitted by Smith, but not mentioned at all by Hampson), and yet this species is assigned to *Chloridea* on superficial appearance. I would unite these genera under the name of *Heliothis*; but even if they were kept separate I should still use *Heliothis* for what Hampson calls *Chloridea*, and I gather that Smith would agree with me, such being the established use. Probably, however, *Heliocheilus*, a group characterized by a special type of secondary sexual characters but included by Hampson under *Chloridea*, should be separated as a good genus. *Pyrocleptria* (Hampson) is no longer distinguishable from the combined *Heliothis-Chloridea* group, and must be merged in it. The presence or absence of a corneous ridge across the frontal prominence or a corneous plate below it seems to me of little importance in this group, leading to a multiplication of small similar genera without significance, and I should treat is as of little more than specific value. On that view Hampson's genera *Melaporphyria*, *Neocleptria*, *Rhodocleptria*, *Rhodophora*, and *Melicleptria* would also be merged in *Heliothis*, except that the *Canthylidia* group of *Melicleptria* would be tenable as a distinct genus. This combination of eight genera would, after all, only make a genus of some thirty-five species, and would be natural and coherent; whilst I would similarly write another characteristically American group of genera, varying in the same way, under the name *Schinia* Hb., distinguishable from *Heliothis* by the possession of several claws on outer side of fore tibiae instead of one. These two natural groups are unnaturally intermixed in Hampson's arrangement.

I could multiply these instances, but perhaps the above will be sufficient to show why I am unable to accept Hampson's general results without considerable sifting. I am in no sense denying the value of his work, and the following classification will exemplify that I have found points for acceptance as well as for rejection.

CARADRININA.

I adhere to my view that the name *Noctua*, carrying with it the group-names *Noctuidae* and *Noctuina*, is inapplicable in this connection, and it has now been abandoned by most authorities; but Hampson proposes to

use it in a sense in which it has never been used by any one, a result of his principle which can only induce confusion.

The *Caradrinina* are a highly developed modern group of immense extent, but, with the exception of the Melanchrid group of the *Caradrinidae*, they are represented in New Zealand only by a very few scattered stragglers, and some very extensive families and subfamilies are not represented at all. There can be little doubt that these stragglers are the outcome of accidental wind-borne immigration over a wide expanse of sea, which accounts for their scantiness. If New Zealand ever had easy communication with any land, such land did not at that time contain any of these poorly represented groups; but, as these groups are of relatively recent origin, such communication may have existed in earlier times. Now, as the Melanchrid group possesses no sort of advantage that would explain their easier introduction, and as this group is, on the whole, quite as well developed in New Zealand as in any other region, I consider it good evidence that an easy communication with some land did once exist, and that the Melanchrid group then existed in the land in question and made their way into New Zealand. It does not follow that the Melanchrid group is older than any other group of the *Caradrinina*, because any or all of the other groups may have coexisted at the same time in other regions cut off from New Zealand and the land in question by wide seas. This raises the interesting problem of determining where the land in question was, and a proper comprehension of the classification and geographical distribution of the Melanchrid group would enable us to solve it with tolerable certainty. We do not yet possess this comprehension, but offer the following considerations. The only possible lands seem to be four—viz., Australia, the Pacific islands, South America, and the Antarctic Continent. Australia may be excluded; the Melanchrid fauna is pretty well known, and makes no near approximation to that of New Zealand. The South Pacific islands are certainly incompletely known, but there is no evidence that what exists of them at the present day possesses any special Melanchrid fauna such as might be expected on this assumption. The Antarctic Continent naturally possesses no existing fauna, and, although it may have served as a route of communication, there is nothing to show that it ever had one of an aboriginal type. We are therefore reduced to look to South America, and the few species known from Chile, Patagonia, and the Falkland Isles (probably only a small fraction of those existing) are of a character which, in my opinion, agrees well with the New Zealand types, and probably indicates real affinity. I suppose, therefore, that the Melanchrid fauna entered New Zealand from South America, probably by way of the antarctic land, where it may have undergone some modification during a perhaps prolonged passage, at a date so far remote that considerable specific and some generic development has taken place since. With it doubtless came *Xanthorhoe, Notoreas, Selidosema, Crambus, Diptychophora, Scoparia,* and *Borkhausenia,* the largest and most characteristic genera of the New Zealand lepidopterous fauna. Probably the original source of this fauna was the temperate regions of the Northern Hemisphere, and it travelled to South America by the great mountain-chain of the Rocky Mountains and Andes. At the time when this fauna left North America probably the Indian region, which has been the principal source of lepidopterous evolution, was isolated, and extensive developments may have been going on there; but, as the *Caradrinidae* as a whole must have originated in some one region, it certainly seems that the Melanchrid group must have been, speaking generally,

the earliest branch of the family, and I propose to regard it as such on this ground, since the structural characters are such as to give no help either for or against the theory.

The generic characters given below are, for simplicity, drawn to apply to New Zealand species only.

1. ARCTIADAE.

Vein 8 of hindwings anastomosing with upper margin of cell from base to near middle.

A large cosmopolitan family, which is barely represented, whilst the allied Syntomid, Nolid, and Lithosiad groups are entirely absent.

1. Metacrias Meyr.

Metacrias Meyr., Proc. Linn. Soc. N.S.W., 1886, 749 ; type, *erichrysa* Meyr.

Tongue obsolete. Antennae in ♂ bipectinated to apex. Palpi short, hairy, concealed in long hairs of head. Thorax and femora densely hairy beneath. Anterior tibiae with apical claw, posterior tibiae without median spurs. Forewings with 7 and 8 out of 9, 10 sometimes connected with 9 above 7. Hindwings with 3, 4, 5 nearly approximated, 6 and 7 connate or short-stalked, 8 anastomosing to $\frac{1}{3}$ of cell. Wings in ♀ rudimentary or absent.

This interesting endemic genus is of doubtful affinity, but appears to be nearest to *Ocnogyna*, which is a genus of about a dozen species located round the shores of the Mediterranean ; Hampson also assigns to it one species from Peru.

1. *M. Huttoni* Butl., Cist. Ent., 2, 487 ; Meyr., Proc. Linn. Soc. N.S.W., 1886, 750 ; Huds., N.Z. Moths, 5, pl. 4. 6 : Hamps., Cat., 3, 468.
   Lake Wakatipu.
2. *M. erichrysa* Meyr., Proc. Linn. Soc. N.S.W., 1886, 749 : Huds., N.Z. Moths, 4, pl. 4, 5 ; Hamps., Cat., 3, 469.
   Mount Arthur ; 4,000 ft. Larva on *Senecio*.
3. *M. strategica* Huds., Entom., 1889, 53 ; *ib.*, N.Z. Moths, 4, pl. 4, 4 ; Hamps. Cat., 3, 468.
   Richardson Range ; 3,000 ft.

2. Utetheisa Hübn.

Utetheisa Hübn., Verz., 168 (1823) ; type, *ornatrix* Linn. *Deiopeia* Steph., Ill. Brit. Ent. Haust., 2, 92 (1829) ; type, *pulchella* Linn.

Head smooth. Tongue developed. Antennae in ♂ ciliated, with longer setae at joints. Palpi moderate, ascending, with loosely appressed scales. Thorax smooth beneath. Posterior tibiae with all spurs very short. Forewings with 7 and 8 out of 9, 10 connected with 9. Hindwings with 3, 4, 5 rather approximated, 6 and 7 connate or short-stalked, 8 anastomosing to middle of cell.

A small cosmopolitan genus.

4. *U. pulchella* Linn., Syst. Nat., 1, 534 (1758) ; Meyr., Trans. N.Z. Inst., 22, 217 ; Huds., N.Z. Moths, 3, pl. 4, 3.
   Wellington district. A recent immigrant, doubtfully established ; occurs throughout Europe, Asia, Africa, Australia, and South Pacific islands. Larva on *Myosotis*, grasses, &c.

2. HYPSIDAE.

Vein 8 of hindwings connected with cell by bar near base.

A rather small family, chiefly tropical. The following genus was formerly placed in the *Arctiadae*, the approximation of vein 8 being so close that it appears to be anastomosis.

3. Nyctemera Hübn.

Nyctemera Hübn., Verz., 178 (1823); type, *lacticinia* Cram. *Leptosoma* Boisd., Voy. Astr., 5, 197 (1832); type, *annulata* Boisd.

Head smooth. Tongue developed. Antennae in ♂ bipectinate to apex. Palpi moderately long, subascending, with appressed scales, terminal joint moderate, cylindrical. Forewings with 7 and 8 out of 9, 10 connected with 9 by bar. Hindwings with 6 and 7 sometimes stalked, 8 closely appressed to cell towards base, connected by bars at each end of appressed portion.

An Indo-Malayan genus of some extent, spreading into Australia and Africa, the New Zealand species is endemic, but approaches Australian forms.

5. *N. annulata* Boisd., Voy. Astr., 5, 197, pl. 5, 9; Meyr., Proc. Linn. Soc. N.S.W., 1886. 760; Huds., N.Z. Moths, 2, pl. 4, 1, 2: *doubledayi* Walk., Cat., 2, 392.

North, South, and Stewart Islands. Larva on *Senecio*.

3. CARADRINIDAE.

Vein 8 of hindwings shortly anastomosing with cell near base, thence diverging; 5 obsolete or imperfect, rising from middle of transverse vein.

An extremely large family, of which, as explained above, only one subfamily is adequately represented in New Zealand.

Subfam. 1. AGROTIDES.

Eyes glabrous; tibiae spinose.

4. Heliothis Ochs.

Heliothis Ochs., Schmett. Eur., 4, 91 (1816); type, *dipsacea* Linn. *Chloridea* Westw., Jard. Nat. Libr., 32, 198 (1841); type, *virescens* Fab.

Face with rounded prominence. Antennae in ♂ ciliated. Thorax and abdomen without crest. Interior tibiae with apical inner and outer claws.

A rather small cosmopolitan genus, of which some species range very widely; one of these has reached New Zealand. There are about a dozen other generic synonyms, which it seems needless to quote; some are explained in the preliminary remarks.

6. *H. armigera* Hübn., Samml. Eur. Schmett., 370; Meyr., Trans. N.Z. Inst., 19, 34; Huds., N.Z. Moths, 32, pl. 5, 40, 41: *conferta* Walk., Cat., 9. 690.

North and South Islands; a cosmopolitan insect. Larva polyphagous, on seeds and flowers.

5. Euxoa Hübn.

Euxoa Hübn., Verz., 209 (1823); type, *decora* Hübn.

Face with small truncate-conical prominence with raised rim. Antennae in ♂ bipectinated, towards apex simple. Thorax with rather spreading anterior and posterior crests. Abdomen without crests.

An extensive cosmopolitan genus. There are about twenty generic synonyms.

7. *E. radians* Guen., Noct., 1, 261; *munda* Walk., Cat., 10, 348; *basinotata, ib.*, 15, 1686; *turbulenta, ib.*, 32, 703; *injuncta, ib.*, 32, 703; *scapularis* Feld., Reis. Nov., pl. 110, 13.
   Dunedin. Common in Australia; also from Friendly Islands and Norfolk Island.

8. *E. admirationis* Guen., Ent. Mo. Mag., 5, 38; Huds., N.Z. Moths, 31, pl. 5, 37: *sericea* Butl., Cist. Ent., 2, 490; Huds., N.Z. Moths, 31, pl. 5, 38: *inconspicua* Butl., Cist. Ent., 2, 545.
   Christchurch district.

9. *E. ceropachoides* Guen., Ent. Mo. Mag., 5, 39; Huds., N.Z. Moths, 32, pl. 6, 1.
   Rakaia.

6. Agrotis Ochs.

Agrotis Ochs., Schmett. Eur., 4, 66 (1816); type, *ypsilon* Rott.
Lycophotia Hübn., Verz., 215 (1827); type, *strigula* Thunb.

Face without prominence. Antennae in ♂ bipectinated, towards apex simple. Thorax with anterior and posterior crests. Abdomen without crests. Anterior tibiae short, thickened, not longer than first joint of tarsi. A rather limited but generally distributed genus. Hampson separated *Agrotis* and *Lycophotia* by the "rather flattened" abdomen of the former, but it is quite impossible to distinguish them practically by this indefinite test.

10. *A. ypsilon* Rott., Naturf., 9, 141; Meyr., Trans. N.Z. Inst., 19, 32; Huds., N.Z. Moths, 30, pl. 5, 35, 36: *suffusa* Hübn., Samml. Eur. Schmett., 134.
    North and South Islands; a cosmopolitan insect. Larva polyphagous.

11. *A. innominata* Huds., N.Z. Moths, 31, pl. 5, 39.
    Wellington, Christchurch.

7. Graphiphora Ochs.

Graphiphora Ochs., Schmett. Eur., 4, 68 (1816); type, *obscura* Brahm.

Face without prominence. Antennae in ♂ ciliated. Thorax with anterior and posterior crests. Abdomen without crests. Anterior tibiae moderate, longer than first joint of tarsi.

A large genus, of universal distribution. Hampson includes this genus in *Agrotis*, but I think the separation is natural and practicable. This is the group to which the name of *Noctua* was formerly applied, but it has now been generally discarded. There are numerous generic synonyms.

12. *G. compta* Walk., Cat., 10, 404: *immunis*, *ib.*, 10, 430; Huds., N.Z. Moths, 7, pl. 5, 29: *quadrata* Walk., Cat., 11, 745: *innocua*, *ib.*, 15, 1710: *reciproca*, *ib.*, 32, 672: *breviuscula*, *ib.*, 33, 716: *communicata*, *ib.*, 33, 716: *acetina* Feld., Reis. Nov., pl. 109, 6.
North and South Islands. Common in Australia, and reaching New Hebrides. Larva on *Urtica*.

Subfam. 2. POLIADES.

Eyes glabrous, but overhung by long cilia from margins; tibiae not spinose.

8. Austramathes Hamps.

Austramathes Hamps., Cat., 6, 492 (1906); type, *purpurea* Butl.

Face without prominence. Terminal joint of palpi rather long. Antennae in ♂ ciliated. Thorax with divided anterior and spreading posterior crests. Abdomen without crests. An endemic genus of somewhat doubtful affinity; it is not very distinct, but the palpi are rather characteristic.

13. *A. purpurea* Butl., Cist. Ent., 2, 490; Huds., N.Z. Moths, 8, pl. 5, 32: *ceramodes* Meyr., Trans. N.Z. Inst., 19, 31.
Wellington, Dunedin.

9. Hypnotype Hamps.

Hypnotype Hamps., Cat., 6, 411 (1906); type, *placens* Walk.

Face without prominence. Antennae in ♂ ciliated. Thorax with anterior angles ridged and projecting, and with anterior and posterior crests. Abdomen without crests.

This genus is founded on a single South American species. I can only refer the following species to it with considerable doubt, as I have not a specimen for examination, and Hampson, unfortunately, had not seen a specimen either, but his conjectural reference of it to *Sympistis* is, I think, undoubtedly wrong.

14. *H. pessota* Meyr., Trans. N.Z. Inst., 19, 29; Huds., N.Z. Moths, 6, pl. 5, 26.
Wellington, Christchurch district.

10. Homohadena Grote.

Homohadena Grote, Bull. Buff. Soc. Nat. Sci., 1, 180 (1873); type *badistriga* Grote.

Face without prominence. Antennae in ♂ ciliated. Thorax without crests. Abdomen without crest.

A small American genus, in which the following species seems better placed than in *Sympistis*, where Hampson refers it, attributing to it the character of "eyes small and reniform," which I do not consider justified.

15. *H. fortis* Butl., Cist. Ent., 2, 549; *iota* Huds., Trans. N.Z. Inst., 35, 243, pl. 30, 3.
Wellington, Marlborough Province, Invercargill.

Subfam. 3. MELANCHRIDES.

Eyes hairy; tibiae not spinose.

11. Ichneutica Meyr.

Ichneutica Meyr., Trans. N.Z. Inst., 19, 13 (1887); type, *ceraunias* Meyr.

Face without prominence. Antennae in ♂ strongly bipectinated to apex. Thorax clothed with hair, without crests. Abdomen without crest.

An endemic genus, doubtless a local development of *Leucania*.

16. *I. dione* Huds., N.Z. Moths, 14, pl. 4, 27.
Mount Arthur; 4,400 ft.

17. *I. ceraunias* Meyr., Trans. N.Z. Inst., 19, 13; Huds., N.Z. Moths, 14, pl. 4, 25, 26.
Mount Arthur; 3,600 ft.

12. Leucania Ochs.

Leucania Ochs., Schmett. Eur., 4, 81 (1816); type, *pallens* Linn.

Face without prominence. Antennae in ♂ bipectinated with apex simple, or ciliated. Thorax clothed with hair, without crests. Abdomen without crest.

A considerable genus, of universal distribution, as now restricted. I include here nearly all the species of Hampson's *Borolia*.

18. *L. Purdii* Fer., Trans. N.Z. Inst., 15, 195; Huds., N.Z. Moths, 10, pl. 4, 11.
Wellington, Dunedin.

19. *L. acontistis* Meyr., Trans. N.Z. Inst., 19, 9; Huds., N.Z. Moths, 11, pl. 4, 14.
Castle Hill.

20. *L. unica* Walk., Cat., 9, 112; Huds., N.Z. Moths, 12, pl. 4, 17: *juncicolor* Guen., Ent. Mo. Mag., 5, 2.
Blenheim, Rakáia, Macetown.

21. *L. toroneura* Meyr., Trans. Ent. Soc. Lond., 1901, 565; Hamps., Cat., 5, 591, pl. 96, 1.
Mount Cook.

22. *L. lissoxyla* Meyr., Trans. N.Z. Inst., 43, 70.
Mount Arthur; 4,000 ft.

23. *L. phaula* Meyr., Trans. N.Z. Inst., 19, 10; Huds., N.Z. Moths, 11, pl. 4, 15: *dunedinensis* Hamps., Cat., 5, 591, pl. 96, 2: *neurae* Philp., Trans. N.Z. Inst., 37, 330, pl. 20, 5.
Christchurch, Dunedin, Invercargill. Larva on tussock-grass.

24. *L. alopa* Meyr., Trans. N.Z. Inst., 19, 10; Huds., N.Z. Moths, 12, pl. 4, 16.
Lakes Coleridge and Guyon.

25. *L. blenheimensis* Fer., Trans. N.Z. Inst., 15, 196: Huds., N.Z. Moths, 13, pl. 4, 23.
Napier, Blenheim.

26. *L. semivittata* Walk., Cat., 32, 628; Huds., N.Z. Moths, 13, pl. 4, 21, 22.
North and South Islands.

27. *L. sulcana* Fer., Trans. N.Z. Inst., 12, 267, pl. 9, 3; Huds., N.Z. Moths, 13, pl. 4, 19, 20.
Akaroa, Dunedin.

28. *L. stulta* Philp., Trans. N.Z. Inst., 37, 330, pl. 20, 1.
Invercargill district.

13. Aletia Hübn.

Aletia Hübn., Verz., 239 (1823); type, *conigera* Fab. *Sideridis* Hübn., Verz., 232 (1823); type, *evidens* Hübn. *Hyssia* Guen., Noct., 1, 345 (1852); type, *cavernosa* Ev. *Chabuata* Walk., Cat., 14, 1034 (1857); type, *ampla* Walk. *Cirphis* Walk., Cat., 32, 622 (1865); type, *costalis* Walk. *Alysia* Guen., Ent. Mo. Mag., 5, 3 (1868); type, *nullifera* Guen.

Face without prominence. Antennae in ♂ ciliated, or bipectinated with apex simple. Thorax clothed with hair or hair-scales, with anterior and posterior spreading crests. Abdomen with small crest on basal segment.

A very large and cosmopolitan genus. Hampson includes *micrastra* in *Physetica*, on the ground of the increased size of the spines of the anterior tibiae; the difference is, however, merely comparative, and, as there seems to be no near relationship in other particulars, insistence on this particular character produces an artificial and unnatural collocation.

29. *A. micrastra* Meyr., Trans. Ent. Soc. Lond., 1897, 383; Huds., N.Z. Moths, 12, pl. 4, 10.
Wellington.

30. *A. Loreyi* Dup., Lép. Fr., 7, 81, pl. 105, 7; Hamps., Cat., 5, 492.
Kermadec Islands. Widely distributed in Europe, Asia, Africa, and Australia.

31. *A. unipuncta* Haw., Lép. Brit., 174; Huds., N.Z. Moths, 13, pl. 4, 24: *extranea* Guen., Noct., 1, 77.
North and South Islands. A cosmopolitan species. Larva on grasses.

32. *A. nullifera* Walk., Cat., 11, 742; Huds., N.Z. Moths, 9, pl. 4, 9: *specifica* Guen., Ent. Mo. Mag., 5, 3.
Taupo, Wellington, Mount Arthur (4,000 ft.), Christchurch district.

33. *A. moderata* Walk., Cat., 32, 705; Meyr., Trans. N.Z. Inst., 20, 45: *sistens* Guen., Ent. Mo. Mag., 5, 39: *mitis* Butl., Proc. Zool. Soc. Lond., 1877, 383, pl. 42, 5: *griseipennis* Huds., N.Z., Moths, 9, pl. 4, 8.
North and South Islands.

34. *A. griseipennis* Feld., Reis. Nov., pl. 109, 22; *virescens* Butl., Cist. Ent. 2, 489.
Wellington, South Island.

35. *A. temenaula* Meyr., Trans. N.Z. Inst., 39, 107.
Rakaia, Dunedin.

36. *A. pachyscia* Meyr., Trans. N.Z. Inst., 39, 107.
Mount Arthur (4,700 ft.), Lake Wakatipu.

37. *A. falsidica* Meyr., Trans. N.Z. Inst., 43, 70.
Mount Arthur, Lake Wakatipu.

38. *A. sminthistis* Hamps., Cat., 5, 280, pl. 86, 17.
Locality unrecorded.

39. *A. inconstans* Butl., Cist. Ent., 2, 545.
Wellington, Marlborough.

40. *A. cucullina* Guen., Ent. Mo. Mag., 5, 40; Huds., N.Z. Moths, 27, pl. 5, 23.
Christchurch district, Mount Arthur (3,600 ft.).

14. Physetica Meyr.

Physetica Meyr., Trans. N.Z. Inst., 19, 5 (1887), type, *caerulea* Guen.

Face without prominence. Antennae in ♂ ciliated. Palpi in ♂ with terminal joint greatly dilated, with orifice on outer side (instead of apex). Thorax clothed with hair, without crests. Abdomen with small crest on basal segment.

Probably an endemic development of *Aletia*.

41. *P. caerulea* Guen., Ent. Mo. Mag., 5, 38; Huds., N.Z. Moths, 8, pl. 4, 7.
Wellington, Blenheim, Rakaia.

15. Dipaustica n.g.

Face with strong horny bifurcate process. Antennae in ♂ ciliated. Thorax clothed with hair and hair-scales, with strong triangular divided anterior crest. Abdomen with crest on basal segment. Anterior tarsi with spines unusually small and slight.

A distinct endemic genus; a development of *Aletia*.

42. *D. epiastra* Meyr., Trans. N.Z. Inst., 43, 58.
Makara. Larva in stems of *Arundo conspicua*.

16. Persectania Hamps.

Persectania Hamps., Cat., 5, 386; type, *composita* Guen. *Graphania* Hamps., Cat., 5, 469; type, *disjungens* Walk. *Tmetolophota* Hamps., Cat., 5, 470; type, *propria* Walk.

Face with slight rounded or subtruncate prominence with ridge below it. Antennae in ♂ ciliated, or bipectinated with apex simple. Thorax clothed with hair and hair-scales, with anterior and posterior crests. Abdomen with crest on basal segment.

Apparently a development of *Melanchra*. Hampson includes in *Graphania* an African species, and in *Tmetolophota* a South American one, which I have not seen.

43. *P. disjungens* Walk., Cat., 15, 1681; Huds., N.Z. Moths, 15, pl. 5, 43: *nervata* Guen., Ent. Mo. Mag., 5, 40.
Ashburton, Rakaia.

44. *P. steropastis* Meyr., Trans. N.Z. Inst., 19, 22; Huds., N.Z. Moths, 23, pl. 5, 10, 11.
Napier, South Island.

45. *P. composita* Guen., Noct., 2, 114; Huds., N.Z. Moths, 22, pl. 5, 8, 9 = *ewingii* Westw., Proc. Ent. Soc., 2, 55, pl. 20, 1: *aversa* Walk., Cat., 9, 113: *maori* Feld., Reis. Nov., pl. 109, 24: *peracuta* Morr., Bull. Buff. Soc. Nat. Sci., 2, 114: *dentigera* Butl., Cist. Ent., 2, 542.
North and South Islands; common also in Australia. Larva on grasses. I see no reason to revive Westwood's forgotten name in face of the established use, still less under Hampson's unrecognizable amended form *evingi*.

46. *P. arotis* Meyr., Trans. N.Z. Inst., 19, 11; Huds., N.Z. Moths, 12, pl. 4, 18: *aulacias* Meyr., Trans. N.Z. Inst., 19, 11.
Wellington, South Island.

47. *P. atristriga* Walk., Cat., 33, 756; Huds., N.Z. Moths, 10, pl. 4, 12: *antipoda* Feld., Reis. Nov., pl. 109, 23.
North and South Islands.

48. *P. propria* Walk., Cat., 9, 111; Huds. N.Z. Moths, 11, pl. 4, 13.
Blenheim, Mount Arthur (3,800 ft.), Mount Hutt.

17. Erana Walk.

Erana Walk., Cat. 11, 605 (1857); type, *graminosa* Walk.

Face without prominence. Antennae in ♂ with scattered cilia. Thorax clothed with scales, with anterior and posterior spreading crests. Abdomen with strong dorsal crests towards base. Forewings with 10 not connected with 9 to form areole, in ♂ beneath with very long tuft of scent-producing hairs from basal area. Hindwings in ♂ with costal area broadly expanded.
An endemic development of *Melanchra*.

49. *E. graminosa* Walk., Cat., 11, 605; Huds., N.Z. Moths, 28, pl. 5, 24, 25: *vigens* Walk., 33, 743.
North and South Islands. Larva on *Melicytus ramiflorus*.

18. Melanchra Hübn.

Melanchra Hübn., Verz., 207 (1823); type, *persicariae* Linn. *Meterana* Butl., Proc. Zool. Soc. Lond., 1877, 385; type, *pictula* White.

Face without prominence. Antennae in ♂ ciliated, or bipectinated with apex simple. Thorax clothed with hair and scales, with anterior and posterior crests. Abdomen with dorsal crests towards base.
A very large genus, of universal distribution, but chiefly in temperate regions. Hampson calls this genus *Polia* (whereas this name has been universally employed in a quite different sense, and is barred), but separates all the New Zealand species except *pictula* and *rhodopleura*, together with six from North America, as a widely remote genus *Morrisonia*, on the alleged character that these latter have "the tegulae dorsally produced into a ridge." I am quite unable to separate the two groups on this or any other character, and think the division unnatural, the species of both being very similar in all respects. The use of the name *Mamestra* for this genus is not practicable; it is founded on Guenée's use, but under a misapprehension of it, as Guenée himself specified the type as *furva* Hübn., which does not belong to this subfamily at all. There are a number of generic synonyms, which I do not quote.

50. *M. pictula* White, Tayl. New Zeal., pl. 1, 3; Huds., N.Z. Moths, 19, pl. 4, 37.
Lake Coleridge.

51. *M. rhodopleura* Meyr., Trans. N.Z. Inst., 19, 19; Huds., N.Z. Moths, 19, pl. 4, 38.
Auckland, Napier, Wellington. Hampson oddly unites this and the preceding as sexes, which is certainly incorrect, as I have males of both. They are also not only distinct and apparently constant in colouring, but differ somewhat in the form of the spots, occur in different Islands, and my type of *pictula* has the tegulae distinctly ridged, and would therefore be placed by him in a different genus from *rhodopleura*, in which there seems to be no ridge; however, on this last point I lay no stress myself.

52. *M. exquisita* Philp., Trans. N.Z. Inst., 35, 246, pl. 32, 2.
Invercargill.

53. *M. plena* Walk., Cat., 33, 744; Huds., N.Z. Moths, 17, pl. 4, 32: *sphagnea* Feld., Reis. Nov., pl. 109, 17: *viridis* Butl., Cist. Ent., 2, 547.
Wellington, South Island. Larva on grasses and low plants.

53A. *M. pauca*, Philp., Trans. N.Z. Inst., 42, 544.
Wairarapa, Invercargill.

54. *M. octans* Huds., N.Z. Moths, 25, pl. 5, 1.
Invercargill.

55. *M. grandiosa* Philp., Trans. N.Z. Inst., 35, 246, pl. 32, 1.
Invercargill.

56. *M. decorata* Philp., Trans. N.Z. Inst., 37, 329, pl. 20, 2.
Invercargill.

57. *M. maya* Huds., N.Z. Moths, 17, pl. 4, 31.
Mount Arthur (3,500 ft.), Macetown.

58. *M. xanthogramma* Meyr., Trans. N.Z. Inst., 44, 117.
Wellington.

59. *M. insignis* Walk., Cat., 33, 724; Huds., N.Z. Moths, 16, pl. 4, 29, 30; Hamps., Cat. 5, 368, pl. 88, 20: *turbida* Walk., Cat., 33, 754: *skelloni* Butl., Cist. Ent., 2, 547: *polychroa* Meyr., Trans. N.Z. Inst., 19, 16.
North and South Islands. Larva polyphagous on low plants.

60. *M. mutans* Walk., Cat., 11, 602; Huds., N.Z. Moths, 18, pl. 4, 34–36; Hamps., Cat., 5, 369, pl. 38, 21: *lignifusca* Walk., Cat., 11, 603: *spurcata*, *ib.*, 11, 631: *vexata*, *ib.*, 33, 755: *angusta* Feld., Reis. Nov., pl. 109, 18: *acceptrix*, *ib.*, pl. 109, 19: *debilis* Butl., Proc. Zool. Soc. Lond., 1877, 385, pl. 42, 6.
North and South Islands. Larva polyphagous on low plants.

61. *M. bromias* Meyr., Trans. Ent. Soc. Lond., 1902, 273; Hamps., Cat., 5, 370, pl. 88, 22.
Chatham Islands.

62. *M. ustistriga* Walk., Cat., 11, 630; Huds., N.Z. Moths, 26, pl. 5, 20; Hamps., Cat., 5, 377, pl. 88, 29: *lignisecta* Walk., Cat., 11, 631.
North and South Islands. Larva on *Lonicera*.

63. *M. paracausta* Meyr., Trans. N.Z. Inst., 19, 15; Huds., N.Z. Moths, 15, pl. 4, 28.
Mount Arthur, Castle Hill, Invercargill.

64. *M. coeleno* Huds., N.Z. Moths, 26, pl. 4, 39.
Wellington.

65. *M. diatmeta* Huds., N.Z. Moths, 21, pl. 5, 5.
Wellington.

66. *M. infensa* Walk., Cat., 11, 748; Huds., N.Z. Moths, 23, pl. 5, 12; Hamps., Cat., 5, 376, pl. 88, 27: *arachnias* Meyr., Trans. N.Z. Inst., 19, 23.
Napier, Blenheim.

67. *M. omoplaca* Meyr., Trans. N.Z. Inst., 19, 24; Huds., N.Z. Moths, 23, pl. 5, 13; Hamps., Cat., 5, 382, pl. 89, 2: *umbra* Huds., Trans. N.Z. Inst., 35, 243, pl. 30, 7–9.
Wellington, Lake Coleridge, Invercargill.

68. *M. alcyone* Huds., N.Z. Moths, 24, pl. 5, 14.
Wellington

69. *M. rubescens* Butl., Cist. Ent., 2, 489; Huds., N.Z. Moths, 25, pl. 5, 18; Hamps., Cat., 5, 376, pl. 88, 28.
Mount Arthur, Castle Hill, Dunedin, Lake Wakatipu.

70. *M. lignana* Walk., Cat., 11, 758; Huds., N.Z. Moths, 26, pl. 5, 19; Hamps., Cat., 5, 383, pl. 89, 3.
Wellington, Blenheim, Mount Hutt.

71. *M. stipata* Walk., Cat., 33, 753; Huds., N.Z. Moths, 25, pl. 5, 17.
North and South Islands.

72. *M. merope* Huds., N.Z. Moths, 19, pl. 5, 2.
Wellington.

73. *M. omicron* Huds., N.Z. Moths, 22, pl. 5, 42.
Wellington.

74. *M. dotata* Walk., Cat., 11, 522; Huds., N.Z. Moths, 24, pl. 5, 16; Hamps., Cat., 380, pl. 88, 31.
Nelson.

75. *M. asterope* Huds., N.Z. Moths, 24, pl. 5, 15.
Mount Arthur (3,600 ft.), Lake Wakatipu.

76. *M. tartarea* Butl., Proc. Zool. Soc. Lond., 1877, 384, pl. 42, 2; Huds., N.Z. Moths, 21, pl. 5, 6; Hamps., Cat., 5, 381, pl. 89, 1.
Murimutu Plains, Christchurch, Invercargill.

77. *M. agorastis* Meyr., Trans. N.Z. Inst., 19, 18; Huds., N.Z. Moths, 18, pl. 5, 30; Hamps., Cat., 5, 371, pl. 88, 23.
Wellington, Akaroa, Lake Guyon.

78. *M. vitiosa* Butl., Proc. Zool. Soc. Lond., 1877, 384, pl. 42, 3: *proteastis* Meyr., Trans. N.Z. Inst., 20, 45; Huds., N.Z. Moths, 20, pl. 4, 40.
Christchurch. Hampson, by confusion, attributes the larva of the following species to this one, and misquotes the names of Hudson's references.

79. *M. ochthistis* Meyr., Trans. N.Z. Inst., 19, 20; Hamps., Cat., 5, 380, pl. 88, 32: *vitiosa* Huds., N.Z. Moths, 20, pl. 4, 42.
Wellington, Christchurch, Dunedin. Larva on *Melicope simplex*.

80. *M. morosa* Butl., Cist. Ent., 2, 543; Hamps., Cat., 5, 384, pl. 89, 4: *pelistis* Meyr., Trans. N.Z. Inst., 19, 20; Huds., N.Z. Moths, 19, pl. 5, 3, 4.
Wellington, Paekakariki, Akaroa, Lake Coleridge.

81. *M. levis* Philp., Trans. N.Z. Inst., 37, 330, pl. 20, 4.
Invercargill.

82. *M. lithias* Meyr., Trans. N.Z. Inst., 19, 17; Huds., N.Z. Moths, 17, pl. 4, 33.
Castle Hill.

83. *M. homoscia* Meyr., Trans. N.Z. Inst., 19, 21; Huds., N.Z. Moths, 21, pl. 5, 7; Hamps., Cat., 5, 378, pl. 88, 30.
Wellington, Blenheim. Larva on *Pomaderris ericifolia.*

84. *M. temperata* Walk., Cat., 15, 1648; Hamps., Cat., 5, 385, pl. 89, 6: *inceptura* Walk., Cat., 15, 1736: *deceptura, ib.*, 1737.
Locality unknown.

85. *M. prionistis* Meyr., Trans. N.Z. Inst., 19, 27; Huds., N.Z. Moths, 27, pl. 5, 21; Hamps., Cat., 5, 384, pl. 89, 5.
Wellington, Rakaia.

86. *M. phricias* Meyr., Trans. N.Z. Inst., 20, 46; Huds., N.Z. Moths, 27, pl. 5, 22; Hamps., Cat., 5, 385, pl. 89, 7.
Manawatu district, Blenheim, Christchurch, Lake Coleridge.

19. Dasygaster Guen.

Dasygaster Guen., Noct., 1, 201 (1852); type, *hollandiae* Guen.

Face with slight rounded prominence with ridge below it. Antennae in ♂ ciliated. Thorax clothed with hair and hair-scales, with anterior and posterior crests. Abdomen with dorsal crests towards base, and dense lateral tufted fringes, especially in ♂.

A small characteristically Australian genus; the following species is perhaps a recent immigrant.

87. *D. hollandiae* Guen., Noct., 1, 201; Hamps., Cat., 5, 476: *leucanioides* Guen., Noct., 1, 202: *facilis* Walk., Cat., 11, 745.
Waipori. Common in south-east Australia and Tasmania.

Subfam. 4. Caradrinides.

Eyes glabrous, without marginal cilia; tibiae not spinose.

20. Bityla Walk.

Bityla Walk., Cat., 33, 869 (1865); type, *defigurata* Walk.

Face without prominence. Antennae in ♂ ciliated. Thorax clothed with hair, without crests. Abdomen without crests.

Apparently endemic.

88. *B. defigurata* Walk., Cat., 33, 756; Huds., N.Z. Moths, 29, pl. 5, 33: *thoracica* Walk., Cat., 33, 869.
North and South Islands.

89. *B. sericea* Butl., Proc. Zool. Soc. Lond., 1877, 387, pl. 42, 12; Huds., N.Z. Moths, 29, pl. 5, 34.
Wellington, Christchurch, Lake Guyon.

90. *B. pallida* Huds., Trans. N.Z. Inst., 37, 355: Hamps., Cat., 7, 42, pl. 109, 6.
Napier.

21. Ariathisa Walk.

Ariathisa Walk., Cat., 33, 747 (1865); type, *excisa* Herr-Schäff.
Nitocris Guen., Ent. Mo. Mag., 5, 4 (1868), type, *comma* Walk.

Face without prominence. Antennae in ♂ ciliated. Thorax clothed chiefly with scales, with small posterior double crest. Abdomen without crests.

A rather extensive characteristically Australian genus. The single New Zealand species is apparently endemic, but extremely close to Australian forms.

91. *A. comma* Walk., Cat., 9, 239; Huds., N.Z. Moths, 7, pl. 5, 27, 28; *implexa* Walk., Cat., 10, 405: *plusiata, ib.*, 33, 742: *bicomma* Guen., Ent. Mo. Mag., 5, 4.
North and South Islands.

22. Spodoptera Guen.

Spodoptera Guen., Noct., 1, 153 (1852); type, *mauritia* Boisd.

Face without prominence. Antennae in ♂ ciliated. Thorax clothed chiefly with scales, with posterior spreading crest. Abdomen with dorsal crest at base.

A small widely distributed genus, of which two species have a very extensive range.

92. *S. mauritia* Boisd., Faun. Ent. Madag. Lép., 92, pl. 13, 9; Hamps., Cat., 8, 256: *margarita* Hawth., Trans. N.Z. Inst., 29, 283; Huds., N.Z. Moths, 6, pl. 5, 31.
Wellington. Common throughout south Asia, Africa, Australia, and Pacific islands. There are sixteen specific synonyms, which I do not quote. Larva on rice, and perhaps other cereals.

23. Cosmodes Guen.

Cosmodes Guen., Noct., 2, 289 (1852); type, *elegans* Don.

Face without prominence. Antennae in ♂ ciliated. Thorax clothed chiefly with scales, with anterior and posterior crests. Abdomen with dorsal crests towards base, and large crest on third segment. Forewings with scale-tooth at tornus, termen angulated on vein 3.

The single species occurs apparently naturally in both Australia and New Zealand, but probably the former country is its home. It approaches the Asiatic *Canna*.

93. *C. elegans* Don., Ins. New Holl., pl. 36, 5; Huds., N.Z. Moths, 33, pl. 6, 2.
North Island, Christchurch. Common in eastern Australia.

4. PLUSIADAE.

Vein 8 of hindwings shortly anastomosing with cell near base, thence diverging, 5 well developed.

Also an extremely large family, but more especially characteristic of tropical regions.

Subfam. 1. HYPENIDES.

Hindwings with 5 nearly parallel to 4.

24. Hypenodes Guen.

Hypenodes Guen., Delt., 41 (1854); type, *albistrigalis* Haw.

Head with frontal tuft. Antennae in ♂ ciliated. Palpi very long, porrected, second joint thickened with rough projecting scales, terminal rather short or moderately long, cylindrical. Thorax with appressed scales. Abdomen with small crest on basal segment. Tibiae smooth-scaled. Forewings with 7 separate, 9 and 10 out of 8.

94. *H. costistrigalis* Steph., Ill. Brit. Ent., 4, 20; *exsularis* Meyr., Trans. N.Z. Inst., 20, 46.
Taranaki, Kermadec Islands. Widely distributed in Europe, Asia, and Australia.

95. *H. anticlina* Meyr., Trans. Ent. Soc. Lond., 1901, 566; *octias* Huds., N.Z. Moths, 37, pl. 6, 7.
Wellington.

Subfam. 2. Catocalides.

Hindwings with 3, 4, 5 approximated at base; middle and sometimes posterior tibiae spinose.

25. Ophiusa Ochs.

Ophiusa Ochs., Schmett. Eur., 4, 93 (1816); type, *algira* Linn. *Achaea* Hübn., Verz., 269 (1823); type, *melicerte* Drury. *Grammodes* Guen., Noct., 3, 275 (1852); type, *geometrica* Fab.

Antennae in ♂ ciliated. Palpi moderately long, ascending, second joint thickened with dense appressed scales, terminal joint moderate, somewhat pointed. Thorax clothed with scales and hair, without crest. Abdomen without crest.

An extensive genus, of general distribution, but principally tropical.

96. *O. melicerte* Drury, Ill. Exot. Ins., 1, 46, pl. 23, 1; *traversii* Fer., Trans. N.Z. Inst., 9, 457, pl. 17.
Wellington; a casual immigrant. Widely distributed in Asia, Africa, and Australia.

97. *O. pulcherrima* Luc., Proc. Linn. Soc. N.S.W., 1892, 258; Huds., Trans. N.Z. Inst., 37, 355, pl. 22, 4.
Wellington, once; probably an accidental introduction. Occurs in eastern Australia.

Subfam. 3. Plusiades.

Hindwings with 3, 4, 5 approximated at base; tibiae not spinose.

26. Plusia Ochs.

Plusia Ochs., Schmett. Eur., 4, 89 (1816); type, *gamma* Linn.

Antennae in ♂ ciliated. Palpi rather long, curved, ascending, second joint rough-scaled, terminal moderate or short, more or less rough-scaled in front, somewhat pointed. Thorax with large central or posterior crest. Abdomen with one or more crests. Tibiae rough-scaled.

An extensive nearly cosmopolitan genus; the two New Zealand species are immigrants.

98. *P. chalcites* Esp., Schmett., 447, pl. 141, 3; Huds., N.Z. Moths, 35, pl. 6, 3: *eriosoma* Doubl., Dieff. N.Z., 2, 285: *verticillata* Guen., Noct., 2, 344: *rogationis, ib.*, 344.
North Island, Blenheim, Nelson. A cosmopolitan insect. Larva on various plants.

99. *P. oxygramma* Hübn., Zutr., 37, f. 769, 770; *transfixa* Walk., Cat., 12, 884; *subchalybaea, ib.*, 33, 833.
Thames River. Widely distributed in Asia, Australia, and Pacific islands.

27. Ophideres Boisd.

Ophideres Boisd., Faun. Ent. Madag. Lép., 99 (1833); type, *fullonica* Linn.

Antennae in ♂ ciliated. Palpi long, ascending, second joint thickened with dense appressed scales, terminal joint moderately long, slender, somewhat thickened towards apex, obtuse. Thorax clothed with hair-scales rather expanded posteriorly. Abdomen without crests.

A rather small tropical genus, of which some species have a wide range.

100. *O. fullonica* Linn., Syst. Nat., 1, 812; Meyr., Trans. N.Z. Inst., 19, 37.
Christchurch, one doubtful specimen. Widely distributed in Asia, Africa, Australia, and Pacific islands.

28. Dasypodia Guen.

Dasypodia, Guen. Noct., 3, 174 (1852); type, *selenophora* Guen.

Antennae in ♂ ciliated. Palpi long, ascending, second joint thickened with dense scales, terminal joint moderately long, slender, somewhat thickened towards apex, obtuse. Thorax clothed with long hairs, without crest. Abdomen without crests. Posterior tibiae densely hairy.

An Australian genus; probably of only one species.

101. *D. selenophora* Guen., Noct., 3, 175; Huds., N.Z. Moths, 35, pl. 6, 4.
North Island, Nelson, Christchurch. Common in south-east Australia. Larva on *Acacia* (?).

29. Rhapsa Walk.

Rhapsa Walk., Cat., 1149 (1865); type, *scotosialis* Walk.

Antennae in ♂ bipectinated, towards apex simple. Palpi very long, obliquely ascending, clothed with rough scales throughout, second joint above in ♂ with tuft of long projecting scales above towards apex, terminal joint moderate. Thorax clothed with scales, without crest. Abdomen without crest. Posterior tibiae with appressed scales. Forewings in ♂ beneath with large broad costal fold on anterior half.

A closely allied species occurs in south-east Australia, so similar that it might be thought identical, but with the antennae of ♂ furnished with long bristles instead of pectinations, vein 8 of hindwings anastomosing with cell to beyond middle; the characteristic palpi and costal fold of the forewings are similar in both species.

102. *R. scotosialis* Walk., Cat., 34, 1150; Huds., N.Z. Moths, 36, pl. 6, 5, 6: *lilacina* Butl., Proc. Zool. Soc. Lond., 1877, 388, pl. 42, 11.
North and South Islands. Larva on *Piper excelsum*.

In the following indices the numbers refer to those attached to the genera and species in consecutive order. Names italicised are synonyms.

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