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ART. II.—A Monograph of the New Zealand Geometrina.

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[Read before the Philosophical Institute of Canterbury, 2nd August, 1883.]

I UNDERTOOK the preparation of this paper, the subject of which does not fall within the limits of my special duty, by request; and on the conviction that the work was both highly desirable, and not otherwise likely to be executed. The *Geometrina* are naturally the first group to attract the attention of Lepidopterists in New Zealand; the butterflies and *Bombycina* are but few in number; the *Noctuina* also are neither numerous nor obtrusive. But the *Geometrina* are present everywhere, and are often elegantly or even brilliantly coloured, and their great variability makes them appear more numerous specifically than they are. Notwithstanding, it has been so impracticable for local collectors to get their specimens named, that very few have as yet attempted to do any good with them. The literature on the subject consists entirely of scattered papers and lists, all partial, and generally quite irreconcilable with each other; and the accumulation of synonymy has been so great, that it might well alarm a beginner. Many of the forms described as species are merely varieties, and the genera and families adopted by English writers are in the main both unnatural and unintelligible, being based wholly on wing-form and superficial resemblance, and necessarily incapable of accurate definition. The present paper is intended to provide a tolerably secure foundation for other workers, who will supply the omissions and correct the errors which were inseparable from the circumstances of the case. For their guidance, I will explain fully how far the paper is reliable.

I have never before investigated the genera of the *Geometrina*, and have no access to any works bearing on species outside New Zealand, except Guenée's. The conclusions of Lederer and Heinemann have therefore not

been available to me, a very serious loss. It is possible, then, that some of the genera which I have been obliged to regard as new have been previously characterized by them from other species; and that my limitations of some genera already known may not coincide exactly with theirs. The family classification which I have adopted might also require modifications, if I had larger material at my command. On the other hand, the genera which I have here established can be relied on as both natural and accurately definable, and the families are limited and arranged on correct principles, and are also strictly definable as regards New Zealand species at least. Moreover, in view of the specialization of the fauna, it is highly probable that most of the genera are endemic, and are therefore justly considered as new.

As regards the specific nomenclature, it must be observed that I have never even seen Walker's descriptions (though indeed it is improbable that they would have helped me much in the identification of his species), nor have I been able to examine his types in the British Museum. On this question it has been necessary to accept the identifications of Mr. A. G. Butler, who has to some extent cleared up the difficulties; I believe his statements are tolerably correct on this subject, where he has the types before him, though his identifications of other authors' species from descriptions are frequently wrong. There are, however, still several of Walker's species unidentified, as to which I know nothing. Guenée described a number of species in the "Entomologists' Monthly Magazine," from specimens sent by Mr. R. W. Fereday; of each of these Mr. Fereday preserved an exactly similar duplicate, and these I have seen, so that the identification of them is absolutely assured. Felder's and Butler's species I have identified from their works; in some cases I have also seen specimens of Butler's species named by himself.

The limits of each species are almost certainly correct; this was a very important point, and I believe has been satisfactorily attained by the examination of very large material. The localities and seasons recorded must not be understood as exclusive; it was only possible to record observed places and times, dependent largely on the habits of observers; thus comparatively few observations have been made in the North Island. Some new species will doubtless be found in the higher latitudes, and probably a good many more in the interior of the mountain ranges.

In the descriptions of genera and species I have endeavoured to be as brief and concise as possible, consistently with accuracy. To assist in the ready determination of these I have given analytical tables throughout, both of the genera and species. The synonymy is given in full. Little is known of the larvæ; most recorded observations are of little service, owing to the

uncertain identification of species; they are for this reason placed in an appendix. The only localities given are those for which I have direct authority from labelled specimens; those quoted by Walker and Butler are very often quite erroneous, and I have neglected them altogether. It is very desirable that collectors should at once begin to work out the larval habits of these insects, and make accurate descriptions of the larvæ, which will probably be found as variable in colour as the imagos. All information as to localities, seasons, and habits will be of value, and also, in the case of mountain species, as to the elevation at which they are found.

Of the New Zealand *Geometrina* Doubleday described six species in the appendix to Dieffenbach's "New Zealand." The descriptions are very brief, but I have identified all with tolerable certainty. Walker in his "British Museum Catalogues" published no less than 92 names, of which 26 represented new species, 47 were synonyms, and 19 are unidentified. Guenée in his "Phalénites," and in a paper published in the "Entomologists' Monthly Magazine," described 25, of which only 5 were new, the rest being all synonyms of species previously known. Felder in the "Reise der Novara" has figured 42 as new; of these 11 are in fact new, 27 are synonyms, and the other 4 I have not yet been able to identify satisfactorily. Butler has published various descriptions—sometimes accompanied with figures, which are mostly very poor—in the "Catalogue of New Zealand Lepidoptera," appended to the "Voyage of the 'Erebus' and 'Terror,'" a paper in the "Proceedings of the Zoological Society of London" for 1877, and two papers in the "Cistula Entomologica," 32 in all; of these 10 are new, 19 are synonyms, and the other three appear unidentifiable. Mr. Fereday has described two species, of which one is new. In the present paper I have added 30 others, including all known to me, and bringing up the total number to 89. Two or three of those which I have described may perhaps be found amongst Walker's unidentified species, but this was unavoidable. In an appendix I have added references to all descriptions which I have not been able to identify, but it must not be supposed that these indicate additional species; probably almost all will prove to be synonyms of others previously described; they are numbered separately for convenience of reference.

The classification of the *Geometrina* is founded almost wholly on characters drawn from the neuration, which is more complex than usual; the antennæ and palpi are liable to no considerable amount of diversity, and are not generally of more than secondary importance. The legs and other organs afford no tangible points, at least among the New Zealand species. The shape of the wings, often employed by superficial observers, is not of the least value, being purely specific. In cases where a specimen cannot

be spared for dissection, the neuration can be made out by denuding a small portion of the under-surface with a camel's-hair brush moistened; the part requiring denudation is the neighbourhood of the areole, as in general the other veins can be sufficiently discerned on the lower surface under a lens. Of course the student should first make himself acquainted by full dissection with the ordinary position of the veins, and the nature of the more important points to be observed.

I will repeat here the explanation given in a former paper of the mode of reckoning the veins, with special reference to the *Geometrina*. These are numbered in order, beginning from that nearest to the inner margin, and ending with that nearest to the costa. The forewings have normally 12 veins, of which 1 and 12 rise separately, the rest from the margins of a central cell. Similarly the hindwings have normally 8 veins, of which 1 and 8 are separate, the rest rising from a central cell. Sometimes a vein may be obsolete, especially in the hindwings, which thus appear to have only 7. The veins are assumed to rise from the cell independently of one another, unless otherwise stated. Rarely there is a small additional free vein between 1 and the inner margin; this is termed 1*a*. The veins rising from the upper margin of the cell are in the *Geometrina* constantly liable to unite for a short distance in the middle of their course, and then separate again; this I have termed anastomosing. In consequence of it, there is usually formed a small additional cell (termed the areole) upon the margin of the main cell; this areole may be single, double, or even triple (though not in New Zealand), according to the number of veins anastomosing. Vein 12 is also liable to anastomose with 11. This curious structure is highly characteristic of the group. Other organs require little explanation. The length of the ciliations or pectinations of the antennæ is given by numbers in brackets, and is expressed in terms of the breadth of the antennal stalk; where the two series of pectinations are unequal, the inner series is denoted by *a*, the outer by *b* prefixed to these numbers.

GEOMETRINA.

Ocelli always absent. Tongue well-developed. No maxillary palpi. Labial palpi well-developed, usually porrected, roughly scaled. Antennæ moderate, filiform, or dentate, simple, ciliated, or pectinated, pectinations diminishing in length towards base and apex. Abdomen and legs without special characters. Forewings with 12 veins (rarely vein 11 obsolete), 1 simple, 7, 8, and 9 always on a common stalk, 10 generally anastomosing with 9, 11 generally anastomosing with 10, 12 sometimes anastomosing with 11. Hindwings with 8 veins (often 7 by obsolescence of 5), normal vein 8 free or anastomosing with 7 towards base, always leaving 7 before the transverse vein.

Larva with 10 (rarely 12) legs, three pairs of abdominal legs being usually absent.

A very well-defined and interesting group; sometimes but erroneously regarded as a single family, though it certainly comprises several. This error has probably been due to Guenée, who established on superficial grounds families which he could not define, and thereby caused an impression that no accurately definable families existed. I cannot pretend to any certainty in my views of the families hereafter defined; they may be capable of further subdivision, or require partial amalgamation; they are however natural and accurately limited as regards New Zealand species.

The following considerations on the process of development of the group will justify the main outline of my scheme of classification. The ancestral form of the *Geometrina* must have had 12 veins in the forewings, 7, 8, and 9 on a common stalk, the rest all separate; and 8 veins in the hindwings, all separate, and vein 8 free. This is the only form from which all existing types could have originated. Taking first the hindwings, there are two main types at present predominant; (A) in which there are 7 veins, 5 and 6 separate, and 7 not anastomosing with 6; and (B) in which there are 8 veins, 6 and 7 stalked, 8 anastomosing with 7. These form the two principal subdivisions of the group; it will be seen that (A) differs from the type by the loss of a vein (normal vein 5 which is obsolete, existing only as a slight fold), and (B) by the stalking of 6 and 7, and anastomosing of 8 with 7. Probably, therefore, the hindwings of the ancestral form were relatively broader than in either of these, since both changes are such as would be likely to result from a contraction of space. This difference of method indicates unmistakably that the development of the *Geometrina* has proceeded on two distinct main branches, the types of which will be found to correspond with the *Ennomidæ* and *Larentidæ* respectively, as I have defined them. Comparing the forewings of the same types, it will appear that in the *Larentidæ* vein 10 always anastomoses with 9, and 11 with 10, whilst in the *Ennomidæ* they are often separate; in the *Larentidæ* also vein 11 often coincides wholly with 10 on lower portion, so that it appears to rise from the upper margin of a simple areole, or even from 9 above areole; this structure, which obviously implies a greater remoteness from the type, is hardly ever found in the *Ennomidæ*: In the *Larentidæ*, therefore, the single areole resulting from this latter modification marks a later development, and the first three sections of that family are of more recent origin than the other two. So also the *Acidalidæ*, which have this same character, are later as a whole than the *Larentidæ*, from which they differ by vein 8 of the hindwings tending to free itself from 7, a reversionary but more recent development. Instances of

peculiar structure in the *Larentida* occur; thus in *Parysatis* and *Tatosoma* vein 8 of the hindwings is wholly distinct from 7, but connected with it by a bar in middle; this bar must undoubtedly be produced by the lateral extension of a former anastomosis, and as the genera are not otherwise closely allied, it must have arisen independently in each case. A bar at first sight similar is found in *Elvia* and *Pasiphila* connecting vein 12 of the forewings with the areole, but in this case it is simply vein 11 which runs into 12 instead of to the costa. Both these structures must be more recent than the type. Finally there are the two genera representing in New Zealand the families *Boletobida* and *Lyrceida*; in both of these the hindwings have 8 veins, but 8 is free from 7, the neuration of the forewings being similar to that of the *Ennomida*; these are therefore only separated from the *Ennomida* by the full complement of veins in the hindwings, and are consequently a more ancient form, certainly the oldest in New Zealand; probably the hindwings of *Lyrcea* are almost exactly those of the ancestral form of the group.

At the end of the *Geometrina* I have added the solitary species which represents in New Zealand the *Siculina*, since it is sometimes mistaken for a Geometrid. The neuration is of a much simpler type; all the veins of the forewings are separate, except 8 and 9, which are short-stalked; all the veins of the hindwings are also separate, and 8 is free. On referring to my description of the theoretical type-ancestor of the *Geometrina*, it will be seen that this genus only differs from it by the separation of vein 7 from the stalk of 8 and 9. I think, then, that this group—both small and restricted in distribution—is undoubtedly to be regarded as one allied to but distinct from the *Geometrina*, and as representing a still earlier stage in development than even the progenitor of that group. Further back than this it is not necessary at present to go.

In view of the fragmentary state of our knowledge of the *Geometrina* of other countries, and the erroneous plan of classification so commonly adopted, it is only possible to make a few general observations on the relationship of the New Zealand genera to those found elsewhere. Two genera are much larger than any of the rest—*Larentia* and *Pasithea*, very closely allied moreover to each other—and contain a third of the whole number of species; the species in these genera are as a rule very constant, and almost all frequent the mountain-ranges of the interior, and from their habits are probably in great part grass-feeders. These must form a part of the earliest fauna, which has had time for full specific development, and is attached to the most ancient part of the islands, and one of the earliest orders of flowering plants; if regarded as forms of a single type, they are represented by congeners probably throughout the world. They are thus

exactly analogous to *Crambus*, *Scoparia*, and *Ecophora* in other groups, cosmopolitan genera, more largely developed in New Zealand than elsewhere, proportionately to the rest of the fauna; this greater predominance being due to less active competition. *Azelina* and *Drepanodes* are instances of characteristic South American genera, and I am inclined to believe that almost all the *Ennomida* will be found to have a South American affinity; all these are represented severally by one or two species only, all are dwellers in the forest, and almost all are highly variable. These must be referred to a later immigration, attached to more highly organized plants, and specially connected with South America. Ancient as the date of this must have been it has hardly sufficed for the development of species, though abundant variation has taken place. A parallel case may be found in various genera of the *Tortricina* (e.g. *Adoxophyes*), which display high specific variability, and are probably of contemporaneous origin. The single genus of *Siculina* (*Siculodes*) is also highly characteristic of South America. Four species (*Acidalia rubraria*, *Hippolyte rubropunctaria*, *Asthena pulcherraria*, and *Arsinoë subochraria*) are common to Australia and Tasmania, as well as New Zealand, being equally abundant in both regions. There is no doubt of their natural occurrence. Indeed, it is curious that they were all among the first species described from the islands. But they are all characteristically Australian, and have probably found their way thence to New Zealand in comparatively recent times. All are rather variable, but not more so than might be expected in species of the requisite flexibility of constitution. A fifth (*Detunda egregia*) is stated by Felder to occur in Australia. It is, however, a characteristically New Zealand species, and it would be impossible to accept the Australian habitat without better evidence than that afforded by a nomadic collection from many countries, in which confusion of labels may so easily have arisen.

Most of the other genera are small, and at present of uncertain origin. *Panagra* is characteristically Australian, but is represented by a peculiar species. *Tatosoma* represents a disconnected group now widely scattered, and probably everywhere diminishing; Europe, Borneo, Ceylon, South America, and Australia each furnishing peculiar allied genera. *Statira* and *Dasyuris* are local developments of *Pasithea*. *Cidaria*, the most cosmopolitan genus of the group, though less developed here than *Larentia*, is very closely allied with it, and probably of contemporaneous origin.

The preparation of this paper would have been impossible without the aid of Mr. R. W. Fereday, whose extensive collection furnished most of the material for it. I am indebted to his liberality for numerous specimens, as well as for his assistance in investigating the whole collection, and for most of the localities and dates furnished hereafter, with notes on habits in some

instances. The number of specimens examined is indicated in each instance after the description, but, in the case of the commoner species, these are really a selection from a much larger number not retained. I have examined also a small collection from the Otago Museum, forwarded to me by Professor Parker.

The following is a tabulation of the five families represented; under the head of each family is given a tabulation of the genera comprised in it.

1a. Hindwings with 7 veins	5. <i>Ennomidæ</i> .
1b. " " 8 "	
2a. Vein 8 of hindwings connected with 7 near transverse vein ..	2. <i>Larentidæ</i> .
2b. " " " " free, or very shortly anastomosing with 7 near base.	
3a. Vein 11 of forewings separate	3. <i>Boletobidæ</i> .
3b. " " " " not separate.	
4a. Areole double	4. <i>Lyrceidæ</i> .
4b. " single	1. <i>Acidalidæ</i> .

1. ACIDALIDÆ.

Antennæ of male not pectinated. Forewings with vein 11 rising out of 10, areole simple, 12 free. Hindwings with 8 veins, 8 free or touching 7 near base only.

Hardly represented in New Zealand; of the two species found, one is very abundant in Australia, whence it has doubtless immigrated, the other is not yet known from elsewhere.

1a. Veins 6 and 7 of hindwings separate	2. <i>Acidalia</i> .
1b. " " " " " " from a point or stalked	1. <i>Theoxena</i> .

1. THEOXENA, n. g.

Palpi moderate, triangularly scaled, porrected. Antennæ in male biciliated with long tufts of cilia (5). Forewings with vein 6 from below 9, 7 from angle of areole, 10 out of 9 above 7, 11 anastomosing shortly with 9, 12 free, closely approximated to 11 on areole. Hindwings with veins 6 and 7 from a point or short-stalked, 8 free, closely approximated to 7 from base to near transverse vein.

1. *Theox. scissaria*, Gn.

(*Panagra scissaria*, Gn., E.M.M., v., 43.)

Male.—23–25 mm. Forewings narrow, hindmargin rather strongly sinuate; dull white, slightly sprinkled with dark fuscous; a curved dark fuscous median streak from inner margin near base almost to apex, sharply defined above, suffused beneath; a black dot in disc, and a row of dots on hindmargin. Hindwings elongate, narrow, apex broadly projecting; white; a blackish dot in disc, and a row on hindmargin.

Constant, and very different from anything else.

Christchurch, and towards foot of Mount Hutt (Mr. R. W. Fereday); a plain-frequenting species, occurring in January; ten specimens.

2. ACIDALIA, Tr.

Palpi moderate, triangularly scaled, porrected. Antennæ in male biciliated with long tufts of cilia (4-5). Forewings with vein 6 from below 9, 7 from above areole, 10 out of 9 above 7, 11 anastomosing shortly with 9, 12 free. Hindwings with veins 6 and 7 separate, 8 very shortly anastomosing with 7 near base.

A very large genus, almost cosmopolitan, but only represented in New Zealand by one species, which must be regarded as an established immigrant from Australia.

2. *Acid. rubraria*, Dbl.

(*Ptychopoda* (?) *rubraria*, Dbl., Dieff. N.Z., ii., 286, Walk., 781; *Fidonia* (?) *acidaliaria*, Walk., 1037; *Acidalia figlinaria*, Gn., ix., 454, pl. xii., 8.)

Male, female.—17-21 mm. Forewings moderate, hindmargin rounded; light ochreous, reddish-tinged, irrorated with blackish; a cloudy dark fuscous irregular dentate slightly curved line about $\frac{1}{2}$, a second in middle, and a third more blackish and followed by a narrow fuscous band at $\frac{3}{4}$; a subterminal row of cloudy fuscous spots; a small black discal spot on second line; a hindmarginal row of black dots, sometimes confluent. Hindwings moderate, hindmargin somewhat projecting in middle; rather more reddish than forewings; a cloudy dark fuscous line before middle; a small black discal spot; three irregular dentate cloudy dark fuscous lines between middle and hindmargin, last two often forming rows of spots; a hindmarginal row of blackish dots, often confluent.

Somewhat variable in intensity of colouring, but not otherwise; no difference between Australian and New Zealand specimens.

Napier, Wellington, Nelson, Christchurch, Mount Hutt, and probably everywhere, except perhaps in the extreme south; also common to New South Wales, Victoria, and Tasmania; in very dry grassy places, in September, January, February, and March, very common; thirty specimens.

2. LARENTIDÆ.

Forewings with areole single or double, vein 11 anastomosing with or rising out of 10, 12 free, rarely receiving 11. Hindwings with 8 veins, 8 anastomosing with 7 from near base to near transverse vein, rarely connected only by a bar near transverse vein, 6 and 7 almost always stalked.

The genera represented from five natural groups or sections.

1a. Areole single.

2a. Vein 8 of hindwings connected with 7 by a bar near transverse vein .. sect. A.

2b. " " anastomosing strongly with 7.

3a. Vein 11 of forewings separate from 12 sect. B.

3b. " " running into 12 sect. C.

1b. Areole double.

2a. Vein 8 of hindwings connected with 7 by a bar near transverse vein .. sect. D.

2b. " " anastomosing strongly with 7 sect. E.

SECTION A.

This includes *Parysatis* only.

SECTION B.

- 1a. Antennæ of male minutely ciliated 4. *Hippolyte*.
 1b. " " bipectinated.
 2a. Vein 11 of forewings rising out of 9.
 3a. Vein 6 of forewings out of 9 10. *Harpalyce*.
 3b. " " from below 9 7. *Thyone*.
 2b. Vein 11 of forewings out of margin of areole.
 3a. Vein 6 of forewings from a point with or below 9.
 4a. Vein 7 of forewings from considerably above areole .. 11. *Stratonice*.
 4b. " " from below angle of areole .. 5. *Epiphryne*.
 3b. Vein 6 of forewings rising out of 9.
 4a. Vein 7 of forewings from considerably above areole .. 9. *Eurydice*.
 4b. " " from angle of areole .. 6. *Hermione*.
 4c. " " from below angle of areole .. 8. *Panopæa*.

SECTION C.

- 1a. Antennæ of male bipectinated 12. *Elvia*.
 1b. " " biciliated 13. *Pasiphila*.

SECTION D.

Contains only the singular genus *Tatosoma*.

SECTION E.

- 1a. Antennæ of male bipectinated.
 2a. Thorax more or less densely hairy beneath 21. *Pasithea*.
 2b. " not hairy.
 3a. Vein 6 of forewings rising out of 9 20. *Larentia*.
 3b. " " from a point with 9 17. *Epyaza*.
 1b. Antennæ of male not pectinated.
 2a. Thorax hairy beneath.
 3a. Antennæ of male dentate 23. *Dasyuris*.
 3b. " " filiform 22. *Statira*.
 2b. Thorax not hairy.
 3a. Antennæ of male dentate.
 4a. Palpi very long, attenuated 25. *Panagra*.
 4b. " moderate 18. *Arsinoe*.
 3b. Antennæ of male filiform
 4a. Vein 6 of forewings rising out of 9 19. *Cidaria*.
 4b. " " from a point with or below 9.
 5a. Palpi very slender and short 15. *Asthenæ*.
 5b. " moderate or long, densely scaled.
 6a. Vein 7 of forewings from angle of areole .. 16. *Scotosia*.
 6b. " " from below angle of areole .. 24. *Cephalissa*.

SECTION A.

3. PARYSATIS, n. g.

Palpi short, arched, roughly scaled beneath. Antennæ in male—?, in female bipectinated (a 3, b 5). Forewings with vein 6 from below 9, 7 from below angle of areole, 10 very shortly anastomosing with 9, 11 out

of 10 considerably before angle of areole, 12 free. Hindwings with veins 6 and 7 stalked, 8 separate, united to 7 before transverse vein by an oblique bar.

This singular genus is of quite uncertain affinity, and stands at present alone. The simple areole, and connecting bar of 7 and 8, can only have arisen by modification of the normal type of this family, to which it must be referred. It is also the only New Zealand genus except *Detunda* in which the female has pectinated antennæ; but this character recurs in a few exotic genera not otherwise allied.

3. *Parys. porphyrias*, n. sp.

Female.—20 mm. Forewings moderate, costa sinuate in middle, apex almost acute, hindmargin deeply excavated on upper half and more shortly on lower third, so as to project bluntly below middle; yellow-ochreous, irregularly mixed with brown and purplish; veins clearly marked with fuscous; two slender ochreous-brown transverse lines, dilated on costa, first before middle, bent inwards near costa, second beyond middle, almost straight; beyond second a broad purplish shade, except near costa, dilated beneath to reach hindmargin; hindmargin purple: cilia white on excavations. Hindwings moderate, hindmargin shortly sinuate near inner angle; pale ochreous mixed with fuscous and purplish; a fuscous transverse line before middle; a very broad purplish hindmarginal band.

Probably variable in colour; it is however the only species of the family, except *Harpalyce humeraria*, in which the hindmargin of the forewings is angulated.

I took one fine specimen amongst forest in the Otira Gorge, at 1,700 feet, in January.

SECTION B.

As all the genera in this section are small, I give a tabulation of all the species together, which may assist in their ready determination.

1a. Apex of forewings distinctly projecting.				
2a. Hindmargin of forewings angulated	..	..	..	11. <i>Harp. humeraria</i> .
2b. " " bowed.				
3a. Hindwings grey-whitish	..	..	..	9. <i>Eur. cymosema</i> .
3b. " yellowish-ochreous	..	..	..	10. <i>Harp. megaspilata</i> .
1b. Apex of forewings not projecting.				
2a. Hindwings ochreous-yellow.				
3a. Forewings fuscous	..	..	..	12. <i>Strat. catapyrrha</i> .
3b. " ochreous-yellow	..	..	..	7. <i>Thyon. abrogata</i> .
2b. Hindwings not ochreous-yellow.				
3a. Forewings without distinct lines	..	..	..	6. <i>Herm. xanthaspis</i> .
3b. " with numerous lines.				
4a. Lines straight, very oblique	..	..	..	8. <i>Panop. verriculata</i> .
4b. " dentate, parallel to hindmargin.				
5a. Discal dot of forewings minute	..	..	..	4. <i>Hipp. rubropunctaria</i> .
5b. " " " forming a small spot				5. <i>Epiphr. undosata</i> .

4. HIPPOLYTE, n. g.

Palpi short, very slender, porrected. Antennæ in male minutely ciliated ($\frac{1}{2}$). Forewings with vein 6 rising out of 9, 7 from hardly below angle of areole, 10 anastomosing strongly with 9, 11 out of 10 somewhat before angle of areole, 12 free. Hindwings with veins 6 and 7 stalked, 8 anastomosing with 7 from near base to near transverse vein.

4. *Hipp. rubropunctaria*, Dbld.

(*Ptychopoda rubropunctaria*, Dbld, Dieff. N.Z., ii., 287; *Asthena risata*, Gn., ix., 438; *Asthena mullata*, Gn., E.M.M., v., 42; *Acidalia pulcherraria*, Butl. Cat., pl. iii., 18 (nec. Dbld.))

Male, female.—19–22 mm. Forewings moderate, hindmargin slightly bowed; whitish-ochreous, slightly rosy-tinged; twelve slender rosy or rosy-fuscous dentate slightly curved striæ, leaving a clear space between sixth and seventh on costal half; first, sixth, and eighth dotted with black on veins; a larger black dot on sixth above middle; lower half of sixth to eighth sometimes clouded with blackish-grey; a small reddish spot on ninth in middle; a row of black dots on hindmargin. Hindwings moderate, hindmargin somewhat projecting in middle; colour, striæ, and black dots as in forewings.

Variable in respect of the absence or presence of a blackish suffusion of lower half of the median lines; Australian and New Zealand specimens are quite similar.

Larva 10-legged, cylindrical, rather stout, segmental divisions incised; pale dull green, sometimes suffused with pink, brown, purple, or dark green; dorsal purplish-brown, suffused, central line whitish; spiracular whitish, broadly margined above with purplish-brown; segmental divisions pale yellowish-brown. Feeds on *Haloragis alata* (*Haloragaceæ*). Pupa in a slight earth-covered cocoon.

Palmerston (Wanganui), Nelson, Christchurch, Dunedin, from September to March, amongst bush; also common in New South Wales, Victoria, and Tasmania; eighteen specimens. The description of the larva was furnished me by Mr. R. W. Fereday, who bred the species.

5. EPIPHYRNE, n. g.

Palpi short, slender, porrected, shortly haired beneath. Antennæ in male bipectinated (*a*7, *b*10). Forewings with vein 6 from a point with 9, 7 from somewhat below angle of areole, 10 very shortly anastomosing with 9, 11 out of 10 considerably before angle of areole, 12 free. Hindwings with veins 6 and 7 stalked, 8 anastomosing with 7 from near base to near transverse vein.

5. *Epiphyr. undosata*, Feld.

(*Cidaria undosata*, Feld., cxxviii., 2.)

Male, female.—21–24 mm. Forewings moderate, hindmargin rounded; pale yellow, sometimes suffused more or less entirely with light brownish; costa generally suffused with light brown; eight or nine slender irregular

somewhat curved dentate fuscous striæ, variable in strength and intensity; fifth hardly dentate and sometimes obsolete, leaving a rather wide space between fourth and sixth; a small blackish spot on fifth above middle; hindmargin fuscous. Hindwings moderate, hindmargin somewhat projecting in middle; colour and striæ as in forewings, but first three and fifth striæ absent; a small blackish discal dot.

Very variable in the presence and extent of the light brownish suffusion.

Wellington, Christchurch, Mount Hutt, Dunedin; very common in bush, from August to February, and in May; thirty specimens.

6. *HERMIONE*, n. g.

Palpi short, slender, porrected, roughly scaled beneath. Antennæ in male bipectinated (*a* 5, *b* 7). Forewings with vein 6 rising out of 9, 7 from angle of areole, 10 shortly anastomosing with 9, 11 out of 10 considerably before angle of areole, 12 free. Hindwings with veins 6 and 7 short-stalked, 8 anastomosing with 7 from near base to near transverse vein.

Nearly allied to *Epiphryne*.

6. *Herm. xanthaspis*, n. sp.

Male, female.—27–30 mm. Forewings moderate; hindmargin hardly bowed; bright yellow; costa suffused with reddish-fuscous, and marked with five short oblique darker marks; a transverse oval dark fuscous spot in disc above middle, sometimes touching costal suffusion; a transverse row of very faint fuscous dots from last costal mark. Hindwings moderate, hindmargin slightly projecting in middle; very pale whitish-yellow; two strongly curved transverse rows of very faint fuscous dots between middle and hindmargin.

Apparently constant.

Lake Guyon, in February and March (Mr. R. W. Fereday); six specimens.

7. *THYONE*, n. g.

Face with a slight cone of projecting scales. Palpi moderate, straight, porrected, shortly rough-scaled above and beneath. Antennæ in male bipectinated (*a* 6, *b* 8). Forewings with vein 6 from slightly below 9, 7 from somewhat below angle of areole, 10 out of 9 below 8, 11 anastomosing rather shortly with 9, 12 free. Hindwings with veins 6 and 7 stalked, 8 anastomosing with 7 from near base to near transverse vein.

7. *Thyon. abrogata*, Walk.

(*Aspilates abrogata*, Walk., 1075; *Fidonia* (?) *servularia*, Gn, E.M.M., v., 43.)

Male, female.—22–27 mm. Forewings moderate, hindmargin slightly rounded; ochreous-yellow; generally eight cloudy blackish somewhat bent transverse lines, variable in strength, often more or less wholly obsolete, especially towards base, usually in female; eighth generally rather thick,

interrupted above and below middle ; sometimes a large blackish discal dot on fifth above middle ; a narrow blackish hindmarginal band : cilia white, base grey. Hindwings moderate, hindmargin slightly projecting in middle ; colour and markings as in forewings, but lines always obsolete towards base.

Variable in the strength or obsolescence of the dark transverse lines, but very different from any other species.

Christchurch, and Castle Hill (2,500 feet), in February and March, in waste ground ; common ; seventeen specimens.

8. *PANOPÆA*, n. g.

Palpi short, porrected, second joint roughly scaled beneath, terminal joint moderate. Antennæ in male bipectinated (*a* 8, *b* 10). Forewings with vein 6 rising out of 9, 7 from below angle of areole, 10 anastomosing rather shortly with 9, 11 out of 10 considerably before angle, 12 free. Hindwings with veins 6 and 7 long-stalked, 8 anastomosing with 7 from near base to near transverse vein.

8. *Panop. verriculata*, Feld.

(*Cidaria verriculata*, Feld., cxxxi., 20.)

Male, female.—32–36 mm. Forewings moderate, hindmargin rounded ; pale whitish-ochreous ; about eighteen fine straight very oblique fuscous striæ, parallel to a line from apex to before middle of hindmargin, obscurely dotted with blackish on veins ; ninth to eleventh rather darker and stronger than rest, twelfth rather fainter ; a large black discal dot above middle. Hindwings moderate, hindmargin rather flattened ; markings as in forewings, but ninth stria obsolete.

Constant. A beautifully perfect instance of imitative colouring ; the fine parallel dotted striæ are precisely similar to those of the long drooping dead leaves of the *Cordyline*, on which the insect always sits ; Mr. Fereday informs me that it is careful to place its wings so that the striæ are parallel with those of the leaf. There is no affinity whatever between this species and *Scotosia gobiata*, Feld., the points of resemblance being purely superficial and acquired for similar purposes.

Christchurch and Dunedin, always on *Cordyline*, in October, November, February, March, and May ; fifteen specimens.

9. *EURYDICE*, n. g.

Face with a strong cone of scales. Palpi moderately long, porrected, roughly scaled. Antennæ in male bipectinated (6). Forewings with vein 6 rising out of 9, 7 from considerably above angle of areole, 10 anastomosing strongly with 9, 11 out of 10 rather before angle of areole, 12 free. Hindwings with veins 6 and 7 stalked, 8 anastomosing with 7 from near base to near transverse vein.

9. *Eur. cymosema*, n. sp.

Male, female.—25–29 mm. Forewings moderate, hindmargin rather strongly sinuate; brown-whitish, sometimes more or less suffused with brown; numerous fine dark fuscous sinuate subdentate lines; three before middle and four beyond middle more blackish, generally partially suffused with brown, leaving a clear median space on costal half, in which is a transverse blackish discal dot; hindmargin suffusedly greyish; a suffused oblique dark fuscous subapical streak. Hindwings moderate, hindmargin irregularly crenulate, somewhat projecting in middle; grey-whitish; several subdentate grey lines, only distinct towards inner margin; a dark grey discal dot.

Variable only in the degree of brownish suffusion; in the markings of the forewings it agrees almost exactly with some forms of *Harp. megaspilata*, but, apart from structure, may be always known by the whitish hindwings, and rather larger size.

Dunedin; ten specimens sent to Mr. Fereday by Captain Hutton.

10. *HARPALYCE*, n. g.

Face with a cone of projecting scales. Palpi rather long, triangularly scaled, porrected. Antennæ in male bipectinated (5–7). Forewings with vein 6 rising out of 9, 7 from angle of areole, 10 out of 9 below 8, 11 shortly anastomosing with 9, 12 free. Hindwings with veins 6 and 7 stalked, 8 anastomosing with 7 from near base to near transverse vein.

Closely allied to *Eurydice*.

10. *Harp. megaspilata*, Walk.

(*Larentia* (?) *megaspilata*, Walk., 1198; *Cidaria assata*, Feld., cxxxi., 4; *Cidaria nehata*, Feld., cxxxi., 6; *Larentia* (?) *rufescens*, Butl., Cist. Ent., ii., 502.)

Male, female.—20–25 mm. Forewings moderate, apex rounded, hindmargin strongly sinuate; whitish-ochreous, reddish-fuscous, or grey; about eighteen transverse curved dentate fuscous or dark fuscous striæ; seventh to twelfth usually darker or blackish, diverging so as to leave a clear pale or sometimes whitish space between eighth and ninth towards costa or throughout, containing a blackish discal dot above middle; a fuscous or blackish blotch towards hindmargin beneath apex. Hindwings moderate, hindmargin sinuate above middle, obtusely projecting in middle; pale yellowish-ochreous, sometimes fuscous-tinged; towards inner margin indistinctly striated with fuscous.

Very variable in colour, and also in the discal approximation of the median lines; the form of the forewings is, however, rather peculiar and easily recognized.

Makatoku (Hawke's Bay), Wellington, Nelson, Christchurch, Mount Hutt, Dunedin, and probably throughout the islands; common amongst bush, from December to March; forty-five specimens.

11. *Harp. humeraria*, Walk.

(*Macaria* (?) *humeraria*, Walk., 940; *Lozogramma obtusaria*, Walk., 985; *Cidaria flexata*, Walk., 1421; *Cidaria obtruncata*, Walk., 1421; *Sestra fusipectinata*, Walk., 1751; *Itama* (?) *cinerascens*, Feld., cxxxi., 1.)

Male, female.—29–34 mm. Forewings moderate, apex acute, hindmargin excavated on upper half, acutely projecting in middle; varying from light grey to light reddish-fuscous; about eighteen irregular dentate darker striæ, sometimes partially obsolete; first three, seventh and eighth, and eleventh to thirteenth usually more distinct and blackish; seventh and eighth closely approximated, forming a small blackish or reddish spot on inner margin, sometimes partially suffused with blackish; eleventh to thirteenth closely approximated, widely remote from eighth, parallel to hindmargin; a blackish discal dot; sometimes a broad purplish-grey median band; sixteenth sometimes spotted with blackish towards costa; a hindmarginal row of blackish dots. Hindwings moderate, upper angle broadly projecting, hindmargin shortly projecting in middle; varying from whitish-grey to very pale reddish-fuscous, faintly striated with darker.

Very variable in colour, but always distinguishable by the peculiar form of wing.

Wellington, Christchurch, Mount Hutt; common amongst bush, in January, February, April, and May; probably generally distributed; twenty specimens.

I cannot certainly verify the synonyms quoted from Walker for this species; I judge from Mr. Butler's remarks that all these names refer to one species, but am not sure that it is this; he does not allude to Felder's figure, which is certainly a variety of this.

11. STRATONICE, n. g.

Palpi rather long, porrected, second joint with very long spreading hairs beneath, terminal joint long, smooth, almost concealed. Antennæ in male bipectinated (*a* 5, *b* 7). Forewings with vein 6 from hardly below 9, 7 from considerably above areole, 10 anastomosing very strongly with 9, 11 out of 10 rather before angle of areole, 12 free. Hindwings with veins 6 and 7 stalked, 8 anastomosing with 7 from near base to near transverse vein.

The palpi of this genus resemble those of *Pasitheia*.

12. *Strat. catapyrrha*, Butl.

(*Fidonia* (?) *catapyrrha*, Butl., Proc. Zool. Soc. Lond., 1877, 392, pl. xlii, 2.)

Male, female.—16–21 mm. Forewings rather narrow, hindmargin rounded; light ochreous-brown, irregularly mixed with whitish, and densely irrorated with blackish; a curved blackish line near base, followed by a whitish line, two approximated dark fuscous lines, a second whitish line, and a slender fuscous fascia, marked with blackish on anterior edge

and on veins, all parallel; a small blackish discal dot; a cloudy blackish line beyond middle, dilated on costa, preceded by a fainter line, and bordered posteriorly by a white line, central third forming a broad bidentate projection; an indistinct whitish dentate subterminal line, preceded by a dark fuscous shade. Hindwings rather elongate, hindmargin rounded; deep ochreous-yellow, base mixed with dark fuscous; an angulated median line, an irregular subterminal fascia, and hindmargin dark fuscous. Forewings beneath yellow, with two blackish posterior streaks from costa, and a reddish spot beneath apex; hindwings beneath reddish, disc longitudinally whitish, with irregular median and subterminal blackish bands.

Constant; it would be interesting to know the cause of the beautiful colouring of the under-surface, which is probably protective.

Mr. R. W. Fereday found this species common in the grassy bed of a dry lagoon near Lake Guyon, in February and March; I beat a specimen from bush in the Otira Gorge, at 1,800 feet, in January. Twenty specimens.

SECTION C.

12. *ELVIA*, Walk.

Face smooth. Palpi rather long, straight, porrected, densely rough-scaled above and beneath; terminal joint short. Antennæ in male stout, flattened, bipectinated ($2\frac{1}{2}$). Thorax somewhat crested. Forewings with vein 6 from a point with 9, 7 from angle of areole, 10 anastomosing moderately with 9, 11 out of 10, running shortly into 12. Hindwings with veins 6 and 7 stalked, 8 anastomosing with 7 from near base to near transverse vein.

13. *Elv. glaucata*, Walk.

(*Elvia glaucata*, Walk., 1431, Feld., cxxxii., 25; *Elvia donovani*, Feld., cxxxii., 5.)

Male.—22–24 mm. Forewings moderate, costa sinuate, hindmargin irregular, somewhat projecting above middle; whitish-ochreous, usually more or less wholly suffused with bluish-green or bluish-grey; dark markings varying from somewhat darker green to dark bluish-grey, but black markings constant; a straight dark fascia near base, bent inwards on margins, posteriorly edged with black; a narrow angulated cloudy dark fascia beyond this; an irregular angulated dark fascia before middle, edged with black anteriorly; a somewhat curved subdentate cloudy dark line beyond middle, beyond which is a similar black line, interrupted below middle, dilated on costa; a broad dark hindmarginal band, sometimes containing a pale subapical space, and an incomplete ochreous-whitish subterminal line. Hindwings moderate, hindmargin dentate, with a longer tooth before middle; pale whitish-ochreous, hindmargin sometimes green; basal third

and a median line pale iridescent grey; a sinuate row of black dots beyond middle, generally distinct only on inner margin; an incomplete grey or greenish subterminal line.

Very variable in colour and distinctness of marking. A singular-looking species; at rest the wings are not flat, but peculiarly folded longitudinally.

Christchurch, Akaroa, and Dunedin; common amongst bush, from December to February; fifteen specimens.

13. PASIPHILA, n. g.

Face with a cone of scales. Palpi rather long, roughly scaled above and beneath, prorected. Antennæ in male biciliated with fascicles of cilia ($2\frac{1}{2}$). Forewings with vein 6 from a point with 9, 7 from below angle of areole, 10 anastomosing strongly with 9, 11 out of 10, running shortly into 12. Hindwings with veins 6 and 7 stalked, 8 anastomosing with 7 from near base to near transverse vein.

Nearly allied to *Eupithecia*, Curt.

14. *Pasiph. bilineolata*, Walk.

(*Eupithecia* (?) *bilineolata*, Walk., 1246; *Eupithecia* (?) *muscosata*, Walk., 1246; *Eupithecia indicataria*, Walk., 1708; *Eupithecia inexpectata*, Walk., 1708, Butl., Cat., pl. iii., 19; *Eupithecia semialbata*, Walk., 1708; *Eupithecia cidariaria*, Gn., E.M.M., v., 62; *Eupithecia fumipalpata*, Feld., cxxxi., 33; *Cidaria aquosata*, Feld., cxxxi., 38; *Helastia charybdis*, Butl., Cist. Ent., ii., 503; *Helastia calida*, Butl., Cist. Ent., ii., 504.)

Male, female.—16–24 mm. Forewings moderate, costa sinuate or arched, hindmargin rounded, crenulate; whitish, whitish-ochreous, reddish-ochreous, light fuscous, greyish, or green, sometimes coloured with alternate bands; numerous irregular sinuate dentate dark fuscous or green lines, sometimes partially obsolete; some beyond middle are angulated in disc; sometimes a broad median band suffused with fuscous, and irregular spots towards anal angle, middle of hindmargin, and on costa before apex; sometimes disc wholly occupied by a very large irregular transverse snow-white blotch. Hindwings short or moderate, hindmargin rounded, crenulate, sometimes emarginate towards inner angle; varying from whitish to fuscous or dark grey; a dark fuscous discal dot; numerous curved dentate dark fuscous and green lines, only distinct towards inner margin, one beyond middle stronger and blackish.

Extraordinarily variable; the shape of wing varies a good deal, and the colour infinitely; the lines are, however, always identical in form when perceptible. All the forms are connected by insensible gradations, and I consider it certain that there is only one New Zealand species of this genus. The varieties do not appear local as a rule, but Mr. R. W. Fereday found a constant dark bluish-grey variety frequenting rock-faces on Mount Hutt at 2,500 feet; it is without doubt a variety only.

Masterton, Wellington, Nelson, Christchurch, Mount Hutt, Dunedin, and probably throughout the islands; on tree-trunks, fences, rocks, etc., from November to March and in June, resting with the wings expanded as in *Eupithecia*; eighty-four specimens.

SECTION D.

14. TATOSOMA, Butl.

Face smooth. Palpi long, straight, porrected, shortly rough-scaled, terminal joint short. Antennæ in male simple, stout, gradually dilated from base to near apex, apex attenuated. Abdomen in male very excessively elongate. Hindwings in male deeply excised near inner margin, inner marginal lobe folded into a long pocket, fringed with hairs. Forewings with vein 6 rising out of 9, 7 from or above angle of areole, 10 anastomosing moderately with 9, 11 anastomosing moderately with 10, 12 free. Hindwings with veins 6 and 7 separate, 8 free, united with 7 before transverse vein by an oblique bar.

This singular genus is a remnant of a widely diffused but now fragmentary group, to which belong also *Lobophora* (Europe), *Rhopalodes* (South America), *Sauris* (Ceylon), and *Remodes* (Borneo). In all the hindwings of the male are peculiarly modified, usually much diminished in size, and with inner margin formed into a distinct lobe, the object of which is unknown. A similar structure is found only in one or two genera of *Tortricina*. *Rhopalodes* is the nearest genus to this, but vein 5 is said to be obsolete, and the lobe does not form a pocket; in *Sauris* the areole is simple, and the antennæ thickly scaled; in *Remodes* the areole is also simple, the antennæ flattened and scaled, and the inner margin is furnished with three superposed lobular folds, so that it represents the extreme of development in this direction.

NOTE.—As terminations in *-soma* are often erroneously regarded as neuter by entomologists ignorant of the classical languages, it may be worth mentioning that such names as *Tatosoma*, *Leptosoma*, etc., can by their formation be nothing but the feminine of adjectives.

1a. Forewings green.

2a. With four transverse lines 15. *lestevata*.

2b. ,, numerous lines 16. *transitaria*.

1b Forewings whitish-ochreous 17. *agrionata*.

15. *Tat. lestevata*, Walk.

(*Cidaria lestevata*, Walk., 1416; *Sauris ranata*, Feld., cxxi., 11.)

Male.—34–35 mm. Forewings moderate, costa arched, hindmargin very oblique, bowed above middle; yellowish-green, deeper beyond markings; four irregular subdentate black lines, angularly sinuate, first towards base, second before middle, third beyond middle, fourth broken and ill-

defined, subterminal; a deeper green discal dot; extreme costal edge spotted with blackish. Hindwings short; greenish-ochreous-whitish; a grey discal dot.

A beautiful and conspicuous species.

I have only seen two specimens, sent to Mr. Fereday by Mr. T. H. Potts, who took them near Christchurch.

16. *Tat. transitaria*, Walk.

(*Cidaria transitaria*, Walk., 1419; *Sauris mistata*, Feld., cxxxi., 12.)

Male, female.—26–35 mm. Forewings moderate, hindmargin rounded or very faintly sinuate; ochreous-whitish, irregularly suffused with dull light olive-green; a black furcate streak along inner margin towards base; numerous irregularly sinuate and dentate dark fuscous striæ, irregularly marked with blackish; a more conspicuous one beyond middle, partially edged with white posteriorly, twice shortly angulated on upper half, and deeply concave on lower half. Hindwings in male small, in female rather small; in male pale greyish-ochreous, in female greyer and darker.

Apparently constant.

Wellington, Christchurch, and Dunedin, amongst bush, in January and May; Mr. R. W. Fereday has taken it at sugar; ten specimens.

17. *Tat. agrionata*, Walk.

(*Cidaria agrionata*, Walk., 1417; *Cidaria tipulata*, Walk., 1417; *Cidaria inclinataria*, Walk., 1418; *Cidaria collectaria*, Walk., 1419.)

Male, female.—31–34 mm. Forewings elongate, costa rounded, hindmargin very obliquely rounded, somewhat sinuate below middle; whitish-ochreous; numerous irregular dentate dark fuscous striæ; a dark fuscous median band, broad on upper half and with sinuate margins, suddenly contracting and narrow on lower half, margins nearly straight. Hindwings in male much reduced, small, elongate, in female rather small; grey, paler towards base.

Apparently constant except in intensity of markings.

Christchurch and Akaroa (Mr. R. W. Fereday), in January, and from March to May, amongst bush; eight specimens.

SECTION E.

15. *ASTHENA*, Hb.

Face smooth. Palpi short, slender, porrected. Antennæ in male slender, filiform, shortly ciliated ($\frac{1}{2}$). Forewings with vein 6 from a point with 9, 7 from angle of areole, 10 anastomosing moderately with 9, 11 anastomosing moderately with 10, 12 free. Hindwings normal.

A genus occurring also in Europe, America, Australia, and perhaps generally.

- | | |
|----------------------------------|-------------------------|
| 1a. Lines of wings green | 18. <i>pulchraria</i> . |
| 1b. „ „ purplish-grey | 19. <i>schistaria</i> . |

18. *Asth. pulchraria*, Dbl.

(*Acidalia pulchraria*, Dbl., Dieff. N.Z., ii., 286; *Chlorochroma plurilineata*, Walk., 563; 676; *Asthena ordinata*, Gn., ix., 438, pl. xix., 4, Butl. Cat., pl. iii., 20; *Cidaria ordinata*, Feld., cxxviii., 17.)

Male, female.—24–26 mm. Forewings moderate, hindmargin more or less rounded; greenish-whitish; numerous light bluish-green slightly curved dentate striæ; a darker green discal dot; costa narrowly fuscous. Hindwings moderate, hindmargin somewhat projecting in middle; colour, striæ, and discal dot as in forewings, but striæ absent towards base.

Variable in form of wing, principally in convexity of hindmargin; occasionally the fuscous suffusion of the costa is very slight. From Tasmania I have a form which is brighter and yellow green, with the lines and hindmargin straighter.

Hawke's Bay, Wellington, Arthur's Pass (2,600 feet), and Dunedin, amongst bush, in January; also from Tasmania and South-east Australia ten specimens.

19. *Asth. schistaria*, Walk.

(*Acidalia schistaria*, Walk., 782; *Asthena subpurpureata*, Walk., 1588; *Acidalia tuhua*, Feld., cxxviii., 5.)

Male, female.—23–26 mm. Forewings moderate, hindmargin rounded or faintly sinuate; grey-whitish; numerous purplish-grey slightly curved dentate striæ; a dark fuscous discal dot; a stria before middle and another beyond middle generally darker or partially blackish, sometimes broadly suffused on lower half; a hindmarginal row of very numerous dark fuscous dots. Hindwings moderate, hindmargin in male rounded, in female projecting in middle; colour and markings as in forewings.

Variable in intensity of colouring and in the presence of the median suffusion.

Wellington, Christchurch, Akaroa, Dunedin, especially frequenting *Leptospermum*, from January to March; twenty-one specimens. I do not know that this species is found in Australia, but should think it very probable. It only differs from the preceding in colour, but I have seen no approach to any connecting forms.

16. SCOTOSIA, Stph.

Face with more or less projecting scales. Palpi moderate, roughly triangular-scaled, porrected. Antennæ in male stout, serrate, shortly ciliated ($\frac{1}{2}$). Thorax slightly crested. Forewings with vein 6 from a point with or below 9, 7 from angle of areole, 10 anastomosing moderately with 9, 11 anastomosing rather strongly with 10, 12 free. Hindwings normal.

- 1a. Anterior lines of forewings more oblique than hindmargin .. 20. *gobiata*.
 1b. " " " less " " " .. 21. *deltoidata*.

20. *Scot. gobiata*, Feld.

(*Cidaria gobiata*, Feld., cxxxi., 2; *Phibalapteryx simulans*, Butl., Cist. Ent., ii., 506; *Phibalapteryx undulifera*, Butl., Cist. Ent., ii., 506; *Phibalapteryx anguligera*, Butl., Cist. Ent., ii., 507; *Phibalapteryx rivularis*, Butl., Cist. Ent., ii., 507.)

Male, female.—25–37 mm. Forewings moderate, hindmargin rounded, crenulate; pale whitish-ochreous; very numerous fine slightly dentate ochreous-fuscous striæ parallel to a line from $\frac{2}{3}$ of inner margin to apex, but somewhat bent near costa, and tending to form darker dots on veins; one about $\frac{1}{3}$, a second before middle, and a third slightly beyond middle generally more conspicuous and partially marked with blackish, except towards costa, third often more irregular and with a variable projecting median tooth; a minute black discal dot on second, sometimes enlarged into a small round spot; a sinuate dark fuscous or blackish line from middle of disc to apex, suffused beneath. Hindwings moderate, hindmargin slightly rounded, crenulate; colour, transverse striæ, and discal dot as in forewings.

Very variable, but always easily recognizable.

Wanganui, Wellington, Nelson, Christchurch, Dunedin, amongst bush, common from November to June; thirty-four specimens.

21. *Scot. deltoidata*, Walk.

(*Coremia deltoidata*, Walk., 1321; *Cidaria inclarata*, Walk., 1411; *Cidaria perductata*, Walk., 1412; *Cidaria congressata*, Walk., 1412; *Cidaria conversata*, Walk., 1413; *Cidaria descriptata*, Walk., 1414; *Cidaria bisignata*, Walk., 1415; *Cidaria aggregata*, Walk., 1415; *Cidaria congregata*, Walk., 1415; *Cidaria plagifurcata*, Walk., 1416; *Coremia pastinaria*, Gn., E.M.M., v., 64; *Cidaria inopiata*, Feld., cxxxii., 3; *Cidaria monoliata*, Feld., cxxxii., 8; *Cidaria perversata*, Feld., cxxxii., 14, 24.)

Male, female.—30–36 mm. Forewings moderate, hindmargin slightly rounded, straight, or somewhat concave, more or less crenulate; ochreous-brown; numerous dark grey or dark fuscous somewhat irregular shortly dentate striæ; a narrow dark fuscous fascia before middle, and a rather broader one beyond middle, more or less approximated, sometimes both cut below middle by a broad biconcave bar of ground-colour; included median band often grey; a small black transverse discal spot; often first fascia preceded and second fascia followed by a narrow whitish or white fascia; a very obscure whitish subterminal line. Hindwings moderate, hindmargin rounded, crenulate; light brownish-ochreous, greyer towards base and inner margin; numerous obscure incomplete dark grey striæ.

Extremely variable, yet not so as to justify so long a list of synonyms.

Wellington, Christchurch, Mount Hutt, Dunedin, Lake Wakatipu, and probably throughout the islands, abundant from December to February; fifty-two specimens. Mr. R. W. Fereday informs me that this species is now scarce near Christchurch, where it was formerly very abundant, having been nearly exterminated by the increase of birds.

17. *EPYAXA*, n. g.

Face with a short cone of scales. Palpi moderate, triangularly scaled, porrected. Antennæ in male bipectinated (5-7). Forewings with vein 6 from a point with 9, 7 from or somewhat below angle of areole, 10 anastomosing moderately with 9, 11 anastomosing moderately with 10, 12 free. Hindwings normal.

- 1a. Central band with a very strong broad abrupt projection 25. *chlamydota*.
 1b. " " " small angular or rounded "
 2a. Hindwings whitish-ochreous 24. *semifissata*.
 2b. " grey.
 3a. Anterior edge of central band nearly straight 23. *orophyla*.
 3b. " " " " strongly concave 22. *rosearia*.

22. *Ep. rosearia*, Dbl.

(*Cidaria rosearia*, Dbl., Dieff. N.Z., ii., 285, Butl. Cat., pl. iii., 13; *Coremia arduaria*, Gn., E.M.M., v., 63; *Coremia inamænaria*, Gn., E.M.M., v., 63.)^b

Male, female.—25-28 mm. Forewings moderate, hindmargin very faintly sinuate; in male pale whitish-grey, faintly ochreous-tinged, in female generally more ochreous and sometimes yellowish; numerous very indistinct darker striæ, dotted with blackish on veins; a small rather darker basal patch, its outer edge sharply angulated above middle; a rather darker moderately broad median band, partially mixed with fuscous, its margins sometimes blackish on upper half, containing a paler space above middle, in which is an elongate transverse black dot; anterior edge of band rather deeply sinuate-concave, posterior edge shortly and obtusely projecting in middle and towards costa, somewhat concave on lower half; hindmargin suffusedly darker; a short dark grey suffused oblique subapical streak: in female all markings are only rather darker than ground-colour. Hindwings moderate, hindmargin rounded; whitish-grey, faintly striated with darker.

The female is variable in ground-colour, the male very constant.

Christchurch, Akaroa, Dunedin; very common, especially at light, in March and from May to September, so that it is essentially a winter species; fifty-five specimens.

C. arduaria, Gn., is the male, and *C. inamænaria*, Gn., the female of this species; *C. subidaria*, Gn., quoted by Butler as a synonym, is an Australian species and not identical.

23. *Ep. orophyla*, n. sp.

Male, female.—28-33 mm. Forewings moderate, hindmargin very faintly sinuate; grey, slightly fuscous-tinged, and obscurely striated with whitish, sometimes with blackish dots on veins; a blackish line near base, irregularly bent near costa; a moderately broad median band enclosed by two fuscous blackish-edged fasciæ, sometimes confluent on lower half, their

inward margins dentate; anterior edge of band almost straight, posterior edge rather sharply angulated in middle, more shortly towards costa; a short suffused dark fuscous subapical streak. Hindwings moderate, hindmargin rounded; light grey, faintly ochreous-tinged, very faintly striated.

Quite constant, and the sexes alike; larger and greyer than the preceding, from which it is immediately distinguished by the straight anterior edge of the median band.

Dunedin, Castle Hill (2,500 feet), Mount Hutt, Lake Wakatipu (4,000 feet); a southern and mountain species, frequenting open ground, in December and January; twenty-eight specimens.

24. *Ep. semifissata*, Walk.

(*Goremia semifissata*, Walk., 1320; *Goremia ypsilon*, Gn., E.M.M., v., 64; *Cidaria delicatula*, Gn., E.M.M., v., 94.)

Male, female.—26–28 mm. Forewings moderate, hindmargin faintly sinuate; in male whitish, striated with fuscous-grey, veins^s dotted with blackish, in female whitish-ochreous, striæ dark fuscous; a blackish line towards base, with a short acute tooth or angulation beneath costa; a moderately broad median band enclosed by two fuscous blackish-edged fasciæ, confluent on lower half, including a small blackish discal dot, and marked on submedian vein with whitish-ochreous; anterior edge of band sinuate-concave, posterior edge more or less sharply angulated in middle, somewhat rounded towards costa; a darker hindmarginal suffusion, terminated above by a short suffused dark fuscous subapical streak. Hindwings moderate, hindmargin rounded; light yellowish-ochreous, base sometimes greyish-tinged, and with faint greyish striæ.

Constant; the female more ochreous-tinged, and the markings darker and more defined than in male.

Christchurch, Mount Hutt, Dunedin, amongst open bush, from November to April, very common; fifty-one specimens.

Here also Guenée has described the sexes as distinct species.

25. *Ep. chlamydata*, n. sp.

Male, female.—27–29 mm. Forewings moderate, hindmargin rather strongly sinuate, crenate; very pale whitish-ochreous; a small pale greyish-purple basal patch, margined by a strongly outwards-curved or angulated fuscous fascia, becoming blackish posteriorly; three or four parallel light ochreous-fuscous lines, partially confluent towards costa; a broad light greyish-purple median band, margined on both sides by a fuscous blackish-edged fascia, becoming dark fuscous externally; its anterior edge irregularly concave, posterior edge with a broad truncate projection in middle, beneath which is a short triangular indentation; a fuscous pale-circled discal dot; an indistinct purplish hindmarginal fascia, darker above and attenuated to apex, and preceded by an irregular reddish-ochreous suffusion, extending

to costa. Hindwings moderate, hindmargin projecting in middle, crenate; deep ochreous-yellow, hindmargin more reddish-tinged, base paler; sometimes suffused with light purplish-grey, except an ochreous-yellow sub-terminal fascia.

Apparently somewhat variable in colour.

Wellington, Christchurch, and Akaroa, amongst bush, in November and January; three specimens in the collections of Mr. R. W. Fereday and the Otago Museum.

18. *ARSINOE*, n. g.

Face with projecting scales. Palpi moderate, triangularly scaled, porrected. Antennæ in male stout, strongly dentate, teeth moderately ciliated ($\frac{2}{3}$). Forewings with vein 6 rising out of 9, 7 from angle of areole, 10 anastomosing moderately with 9, 11 anastomosing strongly with 10, 12 free. Hindwings normal.

This genus occurs also in Australia.

- | | | | | | | | | | |
|-----------------------|----|----|----|----|----|----|----|----|--------------------------|
| 1a. Hindwings rounded | .. | .. | .. | .. | .. | .. | .. | .. | 26. <i>subochraria</i> . |
| 1b. „ dentate | .. | .. | .. | .. | .. | .. | .. | .. | 27. <i>prionota</i> . |

26. *Ars. subochraria*, Dbld.

(*Aspilates* (?) *subochraria*, Dbld., Dieff. N.Z., ii., 285; *Campptogramma subochraria*, Butl., Cat., pl. iii., 16; *Campptogramma strangulata*, Gn., x., 423; *Campptogramma fuscinata*, Gn., E.M.M., v., 92.)

Male, female.—25–28 mm. Forewings moderate, hindmargin rounded; yellow, faintly striated with darker; costa narrowly suffused with purplish-fuscous; a well-defined black discal dot; a narrow purplish-fuscous sinuate fascia or line beyond middle, posteriorly well-defined; anteriorly suffused, and dilated on inner margin; a suffused fuscous hindmarginal band, preceded by one or two faint dentate fuscous striæ. Hindwings moderate, hindmargin rounded; yellow, paler towards base, more ochreous or reddish-tinged posteriorly.

Var. fuscinata. All wings more or less strongly suffused with light purplish-fuscous, fascia darker.

Constant except in respect of the fuscous suffusion.

Wanganui, Nelson, Christchurch, Mount Hutt, Dunedin; very common in open ground, frequenting the tussock-grass, from November to April; common also in Tasmania and Victoria; forty-eight specimens. The variety *fuscinata* is worth naming, as it appears to be confined to New Zealand; Mr. Fereday states it to have been formerly locally abundant in the swampy plains; but it shades gradually into the type.

27. *Ars. prionota*, n. sp.

Male, female.—27–31 mm. Forewings moderate, hindmargin rounded, in male crenate, in female dentate; light-ochreous; numerous indistinct sinuate dentate fuscous or dark fuscous striæ; in male costa and hindmargin suffused with dull light green; a broad median band indistinctly

suffused with dark fuscous, in female hardly perceptibly, the lines forming its posterior edge bent in middle into a rather strong indented projection ; in male an indistinct dark fuscous subterminal suffusion ; an indistinct dark fuscous discal dot. Hindwings moderate, hindmargin rounded, dentate ; ochreous-whitish ; some irregular incomplete dark fuscous lines towards inner margin ; a dark fuscous hindmarginal line.

Probably variable in colour and suffusion.

Castle Hill (2,500 feet) and Dunedin ; three specimens in Mr. Fereday's collection, received from Mr. J. D. Enys and Capt. Hutton.

19. *CIDARIA*, Tr.

Face with a more or less developed cone of scales. Palpi moderate or short, roughly triangular-scaled, porrected. Antennæ in male stout, serrate, shortly ciliated ($\frac{1}{4}$ – $\frac{1}{2}$). Thorax sometimes crested posteriorly. Forewings with vein 6 rising out of 9, 7 almost from angle of areole, 10 anastomosing moderately with 9, 11 anastomosing moderately with 10, 12 free. Hindwings normal.

An extensive genus, probably of universal distribution.

- 1a. Posterior edge of central band very acutely indented below
 angulation 29. *rizata*.
- 1b. Posterior edge of central band not acutely indented.
- 2a. Forewings green.
- 3a. Median band purplish 30. *purpurifera*.
- 3b. " " green.
- 4a. Hindwings grey-whitish 32. *callichlora*.
- 4b. " more or less tinged with reddish-ochreous .. 31. *similata*.
- 2b. Forewings not green.
- 3a. Lines dentate 33. *chaotica*.
- 3b. " not dentate 28. *triphragma*.

28. *Cid. triphragma*, n. sp.

Male.—26–27 mm. Forewings moderate, hindmargin strongly sinuate ; pale dull greyish-purple ; a very small darker basal patch, outer edge strongly convex, margined by a dark fuscous fascia, posteriorly whitish-edged ; a dark fuscous fascia before $\frac{1}{3}$, irregularly outwards-curved, posteriorly suffused, anteriorly sharply defined and whitish-edged ; a minute blackish discal dot ; a dark fuscous fascia beyond middle, forming a strong angle in middle, upper and lower halves both inwards-curved, anteriorly suffused, posteriorly sharply defined and whitish-edged. Hindwings moderate, hindmargin somewhat irregular, projecting in middle ; whitish-ochreous mixed with pale purplish ; an angulated darker band before middle.

A very distinct species, probably not variable.

Blenheim ; two specimens received by Mr. Fereday from Mr. Skellon.

29. *Cid. rivata*, Feld.

(*Cidaria rivata*, Feld., cxxxii., 1; *Coremia squalida*, Butl., Cist. Ent., ii., 505.)

Male, female.—24–32 mm. Forewings moderate, hindmargin sinuate, crenulate; rather dark ashy-grey, somewhat mixed partially with light olive-green; numerous irregular dentate dark fuscous striæ, except on a median space, containing a black discal dot; basal third somewhat mixed with whitish, with two cloudy angulated whitish striæ at $\frac{1}{2}$, partially suffused with greenish, and two others less angulated rather nearer base; beyond the posterior pair the dark striæ coalesce on lower half to form a blackish fascia; a double whitish line considerably beyond middle, dentate anteriorly, sinuate near costa, obtusely bent outwards in middle, emitting a long sharp tooth inwards below middle; beyond these a third parallel less distinct whitish or greenish line; a very sharply dentate whitish subterminal line, closely approaching this on lower half, anteriorly suffusedly blackish-margined; an oblique suffused blackish subapical spot. Hindwings moderate, hindmargin rounded, crenulate; in male whitish-ochreous, becoming greyish towards base, in female light grey; a grey discal dot; an obscure angulated median band somewhat darker, or represented by several incomplete striæ; an obscure grey dentate subterminal line.

Constant; immediately recognizable from all other species of the family in New Zealand by the very fine acute indentation of the posterior margin of the median band below middle.

Wellington, Mount Hutt, and Otira Gorge (1,600 feet), common amongst bush in January; twenty-four specimens.

30. *Cid. purpurifera*, Fereday.

(*Cidaria purpurifera*, Fereday, N.Z. Journ. Sc., 1893, .)

Male, female.—28–31 mm. Forewings moderate, hindmargin faintly sinuate, crenulate; dull rather light olive-green; two obscure irregular dentate blackish striæ near base, second followed by whitish scales; two irregular sinuate dentate blackish striæ at $\frac{1}{2}$, curved outwards above middle, suffusedly confluent on lower half, first slightly whitish-margined anteriorly; two other very irregular dentate blackish striæ beyond middle, forming a broad subquadrate projection in middle third, which is wholly suffused with dark fuscous, second posteriorly white-margined, more broadly towards costa; between these two pairs of striæ the included median band is dull greyish-purple; a dentate white subterminal line; an oblique blackish subapical spot, white-margined above. Hindwings moderate, hindmargin rounded, crenulate; light brownish-ochreous.

Constant; a very elegant species.

Mount Hutt, in wooded gullies, common in December and January (Mr. R. W. Fereday); sixty specimens.

31. *Cid. similata*, Walk.

(*Cidaria similata*, Walk., 1413; *Cidaria timarata*, Feld., cxxxii., 19.)

Male, female.—29–33 mm. Forewings moderate, hindmargin rounded, crenulate; whitish-fuscous, suffused almost throughout with rather bright green; numerous irregular shortly dentate dark fuscous striæ, towards base angulated above middle; two pairs before middle converging and confluent on lower half into a narrow fascia, spotted with blackish, and posteriorly markedly concave; two other pairs of more irregular twice sinuate striæ beyond middle also converging similarly but less strongly; a broken subdentate white subterminal line, preceded by fuscous spots. Hindwings moderate, hindmargin rounded, crenulate; whitish-ochreous, more reddish-ochreous towards inner margin, with numerous incomplete dentate obscure grey striæ.

Constant; the thorax is rather strongly crested.

Christchurch and Dunedin, usually at rest on moss-grown tree-trunks, from November to March; seventeen specimens.

32. *Cid. callichlora*, Butl.

(*Cidaria callichlora*, Butl., Cist. Ent., ii., 509.)

Male.—31 mm. Forewings moderate, hindmargin rounded, crenate; yellowish green, irregularly suffused with rather darker green; numerous irregular dentate blackish lines; two of these before middle and three at $\frac{3}{4}$ suffused with blackish on lower half, indicating a median band, of which the posterior edge forms a short bidentate projection in middle, and a short simple projection towards costa; a slightly paler subterminal line preceded by an irregular blackish suffusion; a small blackish discal dot. Hindwings moderate, hindmargin rounded, crenate; grey-whitish; several indistinct grey lines, only perceptible near inner margin; a black hindmarginal line.

Probably constant.

Christchurch, in March (Mr. R. W. Fereday); two specimens.

33. *Cid. chaotica*, n. sp.

Male, female.—25–29 mm. Forewings moderate, hindmargin rounded, crenulate; dark fuscous, slightly mixed with pale ochreous, or with a very broad pale ochreous median band; numerous dentate blackish or dark fuscous striæ; two adjacent ochreous-fuscous or partially whitish-ochreous blackish-margined lines at $\frac{1}{3}$, followed by a row of white dots; two similar lines at $\frac{3}{4}$, sinuate beneath costa, with a strong bidentate angulation below middle, almost touching hindmargin, and preceded by a row of white dots; an obscure blackish discal dot; a small whitish-ochreous mark on costa before apex; a blackish interrupted hindmarginal line. Hindwings moderate, hindmargin rounded, crenulate; light ochreous-grey; several grey striæ towards inner margin; an obscure darker discal dot.

Apparently variable in colour and suffusion; distinguished however from all New Zealand species of the family by the approximation of the posterior margin of the central band to the hindmargin, which the angulation almost touches.

Akaroa, Mount Hutt, Arthur's Pass (2,600 feet), and Dunedin, amongst bush, in January and February; five specimens.

20. LARENTIA, Tr.

Face with a more or less developed cone of scales. Palpi moderate, roughly triangular-scaled, porrected. Antennæ in male bipectinated (a 3-5, b 6-8). Thorax not hairy beneath. Forewings with vein 6 rising out of 9, 7 from (rarely above) angle of areole, 10 anastomosing moderately with 9, 11 anastomosing moderately with 10, 12 free. Hindwings normal.

Also a cosmopolitan genus, largely represented in New Zealand.

1a. Hindwings distinctly yellow.

2a. Forewings with clear white markings.

3a. With six white fasciæ 38. *clarata*.

3b. ,, two white lines 34. *stinaria*.

2b. Forewings without white markings.

3a. Forewings clear yellow.

4a. With numerous dentate brown lines 44. *prasinias*.

4b. ,, four rows of dots 40. *chlorias*.

3b. Forewings whitish-ochreous or brownish-ochreous.

4a. Median projection of central band bidentate 43. *helias*.

4b. ,, ,, ,, ,, rounded 50. *bulbulata*.

1b. Hindwings not yellow.

2a. Forewings suffused with green 39. *beata*.

2b. Forewings not green.

3a. Posterior lines of forewings more oblique than hindmargin 35. *praefectata*.

3b. ,, ,, ,, not more oblique.

4a. Anterior lines of forewings absent 36. *nephelias*.

4b. ,, ,, ,, present.

5a. Central band without median projection.

6a. Cilia barred 41. *agrotæ*.

6b. ,, unicolorous 42. *psamathodes*.

5b. Central band with median projection.

6a. Projection simple.

7a. Forewings dark fuscous-grey 49. *anthracias*.

7b. ,, light greyish-ochreous 37. *cataphracta*.

6b. Projection bidentate.

7a. Hindmargin of forewings deeply sinuate 46. *obarata*.

7b. ,, ,, not sinuate.

8a. Species large 47. *petropola*.

8b. ,, moderate or small.

9a. With a clear white line beyond median

band 45. *chionogramma*.

9b. Without ,, ,, ,, ,, 48. *cinerearia*.

34. *Lar. stinaria*, Gn.

(Camptogramma stinaria, Gn., E.M.M., v., 92.)

Male, female.—24–28 mm. Forewings moderate, hindmargin somewhat sinuate; rather deep ochreous-yellow, somewhat suffused with fuscous on median band except towards costa, and on hindmargin; a white posteriorly blackish-margined line from inner margin at $\frac{1}{4}$ to disc before middle; a white anteriorly blackish-margined transverse line beyond middle, moderately sinuate. Hindwings moderate, hindmargin rounded; rather deep ochreous-yellow.

Constant and very distinct.

Christchurch, Dunedin, and at the foot of Mount Hutt, frequenting *Carex subdola* in December and January (Mr. R. W. Fereday); twenty specimens.

35. *Lar. præfectata*, Walk.

(Acidalia præfectata, Walk., 781; Acidalia subtentaria, Walk., 1610; Acidalia absconditaria, Walk., 1611, Butl. Cat., pl. iii., 21.)

Male, female.—36–41 mm. Forewings moderate, hindmargin hardly rounded; dull grey-whitish; several very faint grey striæ towards base, tending to form dots on veins; a small dark grey discal dot; a nearly straight grey line from beyond middle of hindmargin to costa before apex, dotted with dark grey on veins; rather before this is a very faint grey parallel line, and between it and hindmargin are four straight cloudy grey lines, gradually converging towards costa. Hindwings moderate, hindmargin rounded; dull grey-whitish, with a median grey line, and six posterior faintly subdentate hardly curved grey-lines.

Quite constant.

Christchurch, in November, frequenting swampy places (Mr. R. W. Fereday); twenty-three specimens.

36. *Lar. nephelias*, n. sp.

Male, female.—32–34 mm. Forewings moderate, in female narrower and more elongate, hindmargin rounded; pale whitish-grey, slightly ochreous-tinged; an indistinct suffusion of dark fuscous scales before middle; a small dark fuscous discal dot; a rather irregular cloudy dark fuscous line beyond middle, sinuate beneath costa, shortly angulated in middle; a very faint stria beyond this; a hindmarginal band composed of two rows of cloudy partially confluent dark fuscous spots, separating on costa: cilia pale whitish-grey. Hindwings moderate, in female narrower, hindmargin rounded; ground-colour as in forewings, with a few grey scales posteriorly.

A remarkable-looking species.

I took two fine specimens above Arthur's Pass (4,600 feet) in January.

37. *Lar. cataphracta*, n. sp.

Female.—29–31 mm. Forewings moderate, hindmargin slightly rounded; pale greyish-ochreous; markings white, black-margined, sometimes obsolete on costa; a basal patch and two curved slender fasciæ towards base, their margins dentate; a variable central fascia, sometimes rather broad and even throughout, but generally with margins approximated or confluent below middle, margins hardly dentate; a cloudy fuscous parallel line beyond this; a rather narrow fascia at $\frac{2}{3}$, shortly angulated in middle and towards costa, margins entire; beyond this a cloudy fuscous parallel line; a dentate white subterminal line; a short cloudy white oblique subapical streak, beneath blackish-margined: cilia whitish, sometimes barred with dark fuscous. Hindwings moderate, hindmargin rounded; extremely pale greyish-ochreous; cilia as in forewings.

Variable in the form of the central fascia, and in the distinctness of the bars of the cilia, which are sometimes wholly absent. I have not seen the male, but the species is so apparently allied to the following, that there can be little doubt of its position.

Arthur's Pass (3,000 feet), Lake Guyon, and Lake Wakatipu (4,000 feet), amongst grass, from December to March; seven specimens.

38. *Lar. clarata*, Walk.

(*Larentia clarata*, Walk., 1197, Butl. Cat., pl. iii., 14; *Cidaria pyramaria*, Gn., E.M.M., v., 93.)

Male, female.—28–35 mm. Forewings moderate, hindmargin rounded; light brownish-ochreous; markings white, margined by dentate blackish lines, sometimes obsolete on costa; a small basal patch; two narrow curved fasciæ towards base; a moderate median fascia, contracted or often obsolete in middle by coalescence of its margins, containing a strongly-marked black discal dot; a narrow irregular fascia beyond middle, sinuate beneath costa, rather strongly angulated in middle; a sinuate dentate blackish stria rather before this, and a second beyond it; a well-marked subterminal line; cilia white, barred with dark fuscous. Hindwings moderate, hindmargin rounded; ochreous-yellow; cilia as in forewings.

Variable only in the form of the central fascia; always easily separable from the preceding by the yellow hindwings and more dentate markings.

Castle Hill (2,500 feet), Mount Hutt, and Dunedin, in open grassy places, in December and January; thirty specimens.

39. *Lar. beata*, Butl.

(*Cidaria beata*, Butl., Proc. Zool. Soc. Lond., 1877, 397, pl. xliii., 6.)

Male, female.—22–28 mm. Forewings moderate, hindmargin rounded; olive-green, irregularly mixed with whitish-yellowish, tending to form transverse striæ; a narrow strongly-curved blackish-green fascia near base,

anteriorly suffused, posteriorly irregularly dentate and whitish-margined; a darker or blackish-green median band, margined on both sides by first a blackish and then a white line, both margins irregularly dentate, anterior margin concave, posterior margin projecting beneath costa, and with a strong bidentate angulation in middle; within the median band is often a clear white space on costal half, and sometimes a smaller one on inner margin; generally a black discal dot; a dentate white subterminal line, anteriorly dark-margined: cilia with basal half yellowish, apical half white, barred with blackish. Hindwings moderate, hindmargin rounded; whitish-ochreous, sometimes slightly greenish-tinged, with an obscure row of grey spots before hindmargin; cilia as in forewings.

Variable in the presence or extent of the median white markings; allied to the preceding.

Christchurch, Akaroa, Mount Hutt, Dunedin, Lake Wakatipu, commonly amongst bush, from December to February, in April and June; twenty-five specimens.

40. *Lar. chlorias*, n. sp.

Male.—30 mm. Forewings moderate, hindmargin hardly rounded; bright yellow; base of costa dark fuscous-purple; a curved row of three very small dark purple-fuscous spots about $\frac{1}{4}$, and another of four spots before middle, costal spots larger; a triangular purple blotch on costa before apex, reaching half across wing, anteriorly margined by a strongly sinuate bluish-black streak; a row of three dark purple-fuscous dots from apex of this to inner margin, and a subterminal row of six similar dots; cilia yellow. Hindwings moderate, hindmargin rounded; rather paler than forewings, with two curved posterior rows of cloudy purple-fuscous dots.

A very beautiful and conspicuous species.

I took one fine specimen in a wooded gully near Castle Hill, at 3,100 feet, in January.

41. *Lar. ægrota*, Butl.

(*Selidosema ægrota*, Butl., Cist. Ent., ii., 499.)

Male, female.—26–31 mm. Forewings moderate, hindmargin rounded; pale brownish-grey; basal third with about eight fine dentate slightly curved dark grey striæ; a black discal dot; four similar striæ placed together beyond middle; two others more indistinct forming a subterminal line, beyond which the hindmargin is slightly darker: cilia barred with blackish and whitish. Hindwings moderate, hindmargin rounded; slightly paler than forewings, without markings; cilia pale brownish-grey, sometimes barred.

Only varying slightly in depth of colouring; the isolation of the four postmedian striæ is a good point.

Christchurch and Dunedin, in November, February, and March; twelve specimens.

42. *Lar. psamathodes*, n. sp.

Male, female.—30–33 mm. Forewings moderate, hindmargin slightly rounded, crenulate; whitish-ochreous, slightly brownish-tinged; numerous fine almost straight subdentate fuscous lines parallel to hindmargin, indistinct towards base, darker posteriorly; a black discal dot; an indistinct whitish subterminal line, preceded by a dark fuscous shade; a hindmarginal row of large black dots in pairs. Hindwings moderate, hindmargin slightly rounded, crenulate; very pale whitish-ochreous-grey; several grey lines, only distinct near inner margin; a hindmarginal row of large black dots in pairs.

Constant; an inconspicuous species.

Wellington and Dunedin; received by Mr. R. W. Fereday from Captain Hutton, and in the collection of the Otago Museum; eight specimens.

43. *Lar. helias*, n. sp.

Male.—30 mm. Forewings moderate, hindmargin rounded; very pale whitish-ochreous; costa and hindmargin ochreous-yellow; three or four obscure fuscous striæ towards base; a dark fuscous dentate strongly curved line at $\frac{1}{3}$; a moderately broad reddish-ochreous-brown median fascia, contracted beneath, anterior edge almost straight and marked with a blackish dot above middle, posterior edge irregularly dentate, and shortly projecting below middle; a yellowish-ochreous line parallel and a little beyond this; fuscous-margined, followed by a slender irregular fuscous fascia, separated from the ochreous-yellow hindmarginal fascia by a dentate pale line; cilia pale fuscous-reddish. Hindwings moderate, hindmargin rounded; ochreous-yellow, paler towards base; a dark grey discal dot; cilia pale fuscous-reddish.

Very distinct.

Dunedin, in January; two specimens.

44. *Lar. prasimias*, n. sp.

Male, female.—26–29 mm. Forewings moderate, hindmargin slightly sinuate; bright yellow; numerous cloudy confused dentate brownish striæ; a moderately broad rather dark fuscous median band, including a large ill-defined clear yellow patch on upper half, containing a black dot; its margins dentate, anterior margin concave, posterior margin moderately angulated in middle, sinuate above; a subterminal row of small dark fuscous spots; cilia yellow, barred with dark fuscous. Hindwings moderate, hindmargin rounded; pale yellow; basal half finely and obscurely striated with bluish-grey; hindmargin reddish-tinged, with a subterminal row of small grey spots.

Constant; a very elegant insect.

Castle Hill, taken by Mr. J. D. Enys; seven specimens.

45. *Lar. chionogramma*, n. sp.

Male.—28 mm. Forewings moderate, hindmargin slightly rounded, crenate; pale greyish-ochreous, irrorated with dark fuscous, forming indistinct irregular striæ; the suffusion of these forms a rather broad median band, its margins dentate, anterior margin concave, interruptedly white-edged, posterior margin with a short bidentate median projection, white-edged, more strongly and conspicuously on upper half; a black white-circled discal dot; a dentate white subterminal line, preceded by a dark suffusion. Hindwings moderate, hindmargin somewhat projecting obtusely in middle, crenulate; pale grey irrorated with darker; a median band of four dark grey lines; hindmargin suffused with dark grey, including a whitish dentate subterminal line.

Probably constant; although inconspicuous, not like any other.

Mount Hutt, in a wooded gully in December (Mr. R. W. Fereday); two specimens (not good).

46. *Lar. obarata*, Feld.

(*Cidaria obarata*, Feld., cxxxii., 33.)

Male, female.—20–26 mm. Forewings moderate, hindmargin very strongly sinuate, crenulate; grey-whitish, sometimes more greyish or ochreous-tinged; a basal patch of four outwards-curved subdentate blackish-grey lines, sometimes suffused together; beyond these are two similar lines, often obsolete except on costa; two dark fuscous lines before middle and three beyond middle, sometimes suffused with grey to form a median band, its anterior edge irregularly concave, posterior edge strongly blackish on upper half, subdentate, with a moderately strong bidentate median projection; a small blackish discal dot; three or four indistinct dentate grey lines beyond this, often obsolete except on costa; cilia barred with dark fuscous. Hindwings moderate, hindmargin irregularly sinuate, crenate; grey-whitish; several angulated grey lines between $\frac{1}{3}$ and hindmargin; sometimes basal $\frac{2}{3}$ wholly suffused with grey; cilia spotted with dark fuscous.

Somewhat variable in colour and suffusion.

Wellington, Christchurch, and at the foot of Mount Hutt; a plain-frequenting species, especially attached to gorse-hedges (Mr. R. W. Fereday), from November to January; thirty specimens.

47. *Lar. petropola*, n. sp.

Male, female.—39 mm. Forewings moderate, hindmargin rounded; dark grey, densely irrorated with bluish-whitish; costa broadly suffused with ochreous-whitish anteriorly; a very obscure curved ochreous-whitish line

towards base, anteriorly dark-margined; two obscure curved subdentate adjacent whitish lines about $\frac{1}{3}$, followed by a dark line; a blackish discal dot; a very irregular dentate curved dark grey line beyond middle, followed by two adjacent whitish lines; a sharply dentate obscure whitish subterminal line, anteriorly dark-margined. Hindwings moderate, hindmargin rounded; markings as in forewings, but more obscure, paler and more suffused towards base.

A fine species, with a peculiar bluish tinge.

I took two specimens at rest on rock-faces in the Otira Gorge, at 1,800 feet, in January, and saw others.

48. *Lar. cinerearia*, Dbl.

(*Cidaria* (?) *cinerearia*, Dbl., Dieff. N.Z., ii., 286; *Larentia* (?) *invezata*, Walk., 1199, Butl. Cat., pl. iii., 11; *Larentia semisignata*, Walk., 1200; *Larentia inoperata*, Walk., 1201; *Larentia punctilineata*, Walk., 1202, Butl. Cat., pl. iii., 12; *Cidaria dissociata*, Walk., 1734; *Cidaria semilisata*, Walk., 1735; *Larentia corcularia*, Gn., E.M.M., v., 61; *Larentia infantaria*, Gn., E.M.M., v., 62; *Helastia eupitheciaria*, Gn., E.M.M., v., 95; ? *Cidaria sphaeriata*, Feld., cxxxi., 14.)

Male, female.—16–25 mm. Forewings moderate, hindmargin rounded; ochreous-whitish or grey-whitish, irrorated with grey; numerous dark grey or dark fuscous regular dentate striæ, tending to form dots on veins; two adjacent near base, two others before middle, and three beyond middle darker and more conspicuous, especially on upper half, where they are often marked with blackish; a small blackish discal dot; the three post-median lines twice irregularly sinuate in and above middle; a blackish interrupted hindmarginal line. Hindwings moderate, hindmargin rounded; pale grey, from $\frac{1}{3}$ to hindmargin faintly marked with dentate angulated darker striæ.

Varies considerably in size, colour, and strength of marking; but I can find no point of distinction to justify the separation of any form as a distinct species. Three main forms occur; one large, greyer, and more uniform, without strong markings; a second of middle size, whiter and generally strongly marked, sometimes bluish-tinged, only found in the hills; and a third small, greyish but ochreous-tinged, strongly marked; these are connected by scarcer intermediate forms, and are, I believe, due to the direct effect of food and situation. The larva feeds on lichens.

Christchurch, Castle Hill (3,000 feet), Dunedin, Lake Wakatipu (3,500 feet), and probably generally, at rest on walls, fences, rocks, etc., from December to March, very common; fifty-four specimens.

49. *Lar. anthracias*, n. sp.

Male.—24–25 mm. Forewings moderate, hindmargin sinuate; dark fuscous, faintly striated, more or less sprinkled with whitish; a curved blackish line near base, posteriorly obscurely whitish-margined; a curved obscure whitish fascia at $\frac{1}{3}$, blackish-margined and bisected by a blackish line; a well-defined black discal dot; a white fascia, partially mixed with fuscous, beyond middle, anteriorly strongly blackish-margined, posteriorly more obscurely, and bisected by a blackish line, somewhat irregular, moderately angulated in middle; an obscure dentate yellowish or whitish subterminal line; an interrupted black hindmarginal line. Hindwings moderate, hindmargin rounded; dark fuscous; two nearly straight lines before middle faintly darker; a faint paler or sometimes whitish sinuate fascia beyond middle, margined and bisected with darker.

Varies slightly in distinctness of pale markings.

Mount Hutt, and Lake Wakatipu (5,400 feet), on the open mountain sides, in December and January; twelve specimens.

50. *Lar. bulbulata*, Gn.

(*Cidaria bulbulata*, Gn., E.M.M., v., 94.)

Male, female.—20–24 mm. Forewings moderate, hindmargin rounded; dark ochreous-fuscous, irregularly mixed and striated with ochreous-whitish; a curved whitish line towards base, and another at $\frac{1}{3}$; a double whitish line beyond middle, strongly sinuate in and above middle; in the included median space are two irregular strongly dentate dark fuscous lines, more or less wholly coalescing to form irregular rings, upper one largest and containing a dark fuscous dot; beyond the double whitish line is a more obscure parallel line; a strongly dentate ochreous-whitish subterminal line. Hindwings moderate, hindmargin rounded; orange, faintly striated on inner margin: cilia dark grey, tips pale.

Constant, except in the forms of the median rings.

Christchurch, Castle Hill (2,400 feet), and Dunedin; common in grassy places, in September, January, and March; twenty-five specimens.

21. *PASITHEA*, n. g.

Face roughly haired. Palpi moderate, second joint with long or very long spreading hairs beneath, terminal joint moderate or rather long, often concealed. Antennæ in male bipectinated (*a* 3–8, *b* 5–10). Thorax beneath more or less strongly clothed with long hairs. Forewings with vein 6 rising out of 9, 7 almost from angle of areole, 10 anastomosing moderately with 9, 11 anastomosing moderately or very shortly with 10, 12 free. Hindwings normal.

Essentially distinguished from *Larentia* by the hairy under-surface of thorax.

- 1a. Forewings with well-defined white markings.
- 2a. Hindwings dark fuscous with white or yellowish markings.
- 3a. Hindwings reddish beneath 56. *callicrena*.
- 3b. " yellowish "
- 4a. Apical half of cilia wholly white 53. *mehantitis*.
- 4b. " " barred with dark fuscous.
- 5a. Subterminal line very shortly dentate 55. *strategica*.
- 5b. " " subdentate 54. *paradelpha*.
- 2b. Hindwings orange or pale yellowish.
- 3a. Hindwings with a dark fuscous subterminal fascia.
- 4a. Forewings with a narrow central orange fascia 57. *perornata*.
- 4b. " " without central fascia 58. *niphocrena*.
- 3b. Hindwings without dark subterminal fascia 51. *insignis*.
- 1b. Forewings without white markings.
- 2a. Hindwings dark fuscous or grey.
- 3a. Cilia barred 52. *orphnaea*.
- 3b. " unicolorous 63. *omichlias*.
- 2b. Hindwings orange.
- 3a. Wings beneath with a sharply marked straight central line 59. *ferox*.
- 3b. Central line not straight.
- 4a. Central line of hindwings slightly and evenly curved .. 60. *zopyra*.
- 4b. " " " twice sinuate.
- 5a. Basal half of hindwings almost wholly dark fuscous 61. *vulcanica*.
- 5b. " " " not dark fuscous 62. *brephos*.

51. *Pas. insignis*, Butl.

(*Aspilates insignis*, Butl., Proc. Zool. Soc. Lond., 1877, 393, pl. xliii., 1.)

Male.—30–33 mm. Forewings moderate, hindmargin rounded; ochreous-brown; a slightly curved white streak from base of inner margin to disc beyond middle, beneath dark-margined, posterior extremity connected with a very obscure whitish line from costa near base; a nearly straight white transverse streak from before apex to before anal angle, anteriorly dark-margined. Hindwings moderate, hindmargin unevenly rounded; deep ochreous-yellow, brownish-tinged; base mixed with dark fuscous; a suffused brown hindmarginal band.

Female.—24–27 mm. Wings rather narrower than in male; forewings pale whitish-ochreous, finely sprinkled with dark fuscous, especially towards base; markings as in male. Hindwings whitish-yellowish, base sprinkled with dark fuscous.

Constant; a strikingly distinct species.

Castle Hill, about 4,000 feet; common on the bare mountain side, in January; twenty-six specimens.

52. *Pas. orphnaea*, n. sp.

Female.—28–30 mm. Forewings moderate, hindmargin rounded; dark fuscous, mixed with yellowish and whitish, which tend to form alternate fasciæ; a discal dot and numerous curved irregularly dentate blackish lines,

varying in strength and intensity; cilia barred with blackish and whitish. Hindwings moderate, hindmargin rounded; dark fuscous; a blackish discal dot; a cloudy whitish irroration forming a double curved fascia beyond middle, and a dentate subterminal line; cilia as in forewings.

Imitative in colour of the dark lichen-grown rocks.

I took three specimens almost on the summit of Ben Lomond, Lake Wakatipu, at 5,600 feet, in January.

53. *Pas. mechanitis*, n. sp.

Male, female.—19–23 mm. Forewings moderate, hindmargin rounded; dark fuscous, densely irrorated and median band almost wholly suffused with yellow; a nearly straight yellow or whitish line towards base, anteriorly strongly blackish-margined; an irregularly curved white line at $\frac{1}{3}$, posteriorly strongly blackish-margined; a small blackish discal dot; an irregularly angulated slender dark fuscous median line, beyond which is another almost confluent with next line; a white line beyond middle, anteriorly strongly blackish-margined, strongly angulated in middle, subdentate beneath; a slender very sharply dentate irregular yellow subterminal line; cilia with basal half dark grey, apical half wholly white. Hindwings dark fuscous, base irrorated with yellow; an irregular obscure yellow fascia before middle; a white sinuate median line, sometimes yellow above; subterminal line and cilia as in forewings.

Constant, except that the white markings tend to be suffused with yellow.

Arthur's Pass (3,100 to 4,600 feet), and Mount Hutt, common in grassy places on the mountains, from January to March; fifteen specimens.

54. *Pas. paradelpa*, n. sp.

Male.—21–23 mm. Forewings moderate, costa straight, hindmargin rounded; dark fuscous, densely and finely strewn with yellowish and a few whitish scales; a curved cloudy whitish line towards base, anteriorly blackish-margined; a slightly bent whitish line at $\frac{1}{3}$, posteriorly blackish-margined; sometimes a small blackish discal dot, and slender curved median line; a clearly marked white line beyond middle, anteriorly strongly blackish-margined, shortly and obtusely angulated in middle, and inner margin shortly toothed above and below middle; an irregular sinuate subdentate whitish-yellowish subterminal line: cilia with basal half dark grey, apical half sharply barred with dark fuscous and white. Hindwings somewhat elongate, hindmargin rounded; dark fuscous; basal half irrorated with pale yellowish; a very obscure curved whitish shade before middle; a well-defined strongly-curved white median line; a very irregular subdentate whitish-yellowish subterminal line; cilia as in forewings.

Easily separated from the preceding by the barred cilia, the absence of any clear yellow colouring, the less prominent angulation of the post-median line, and the more elongate wings.

I found the species common amongst grass on Ben Lomond, Lake Wakatipu, at about 5,000 feet, in December; five specimens.

55. *Pas. strategica*, n. sp.

Female.—35 mm. Forewings moderate, hindmargin rounded; dark fuscous, thinly irrorated with yellowish; a slender straight oblique white fascia towards base; a narrow somewhat irregular slightly curved white fascia before middle; a narrow whitish median fascia, broadly suffused with yellowish, bent above middle; a rather narrow well-defined white fascia beyond middle, sharply angulated in disc; a sharply dentate white subterminal line; cilia barred with white and dark fuscous. Hindwings moderate, hindmargin rounded; dark fuscous, base irrorated with yellowish; a somewhat sinuate whitish fascia suffused with yellowish before middle; a white strongly angulated fascia beyond middle; subterminal line and cilia as in forewings. Hindwings beneath suffused with golden-yellow; markings as above.

A fine and conspicuous species.

Lake Guyon, in January; one specimen in Mr. Fereday's collection, received from Mr. Travers.

56. *Pas. callicrena*, n. sp.

Female.—34 mm. Forewings moderate, hindmargin rounded; blackish, irregularly suffused with light reddish; markings ochreous-whitish, dark-margined; a slender somewhat sinuate oblique fascia towards base; a moderate twice sinuate fascia before middle; a moderately broad subdentate fascia beyond middle, sinuate above middle; a sharply dentate subterminal line; cilia reddish-whitish, barred with dark fuscous. Hindwings moderate, hindmargin rounded; dark grey; a very obscure whitish line before middle; a moderate whitish fascia beyond middle, sinuate-curved in middle; subterminal line and cilia as in forewings; beneath ground-colour reddish.

Probably constant; very handsome.

Mr. R. W. Fereday took one fine specimen at the head of Lake Wakatipu, high up the mountains, above the forest-level, amongst grass in January.

57. *Pas. perornata*, Walk.

(*Fidonia perornata*, Walk., 1672.)

Male, female.—23–25 mm. Forewings moderate, hindmargin rounded; dark fuscous; base narrowly orange mixed with white; four slender orange fasciæ, generally partially white except third; first straight; second

parallel but dentate; beyond second a short straight parallel orange streak from costa; third median, irregularly sinuate, sometimes partially obsolete; fourth dentate, sharply angulated in middle; an irregular dentate bright orange line near hindmargin. Hindwings moderate, hindmargin rounded; orange; base mixed with dark fuscous; an oblique line near base, a sometimes double irregular sharply angulated line before middle, an irregular dentate interrupted subterminal fascia, and a row of partially confluent spots on hindmargin dark fuscous.

Tolerably constant.

Wellington, Lake Coleridge, and at the foot of Mount Hutt, in grassy places, during February and March (Mr. R. W. Fereday); eighteen specimens.

58. *Pas. niphocrena*, n. sp.

Female.—24–25 mm. Forewings moderate, hindmargin rounded; rather dark fuscous, mixed and obscurely striated with orange; a curved white subdentate line before $\frac{1}{4}$, anteriorly blackish-margined; a similar white line beyond $\frac{1}{4}$, posteriorly blackish-margined; space between these sometimes suffused with orange; a slender irregularly dentate white fascia beyond middle, rather strongly angulated in middle, anteriorly blackish-margined, posteriorly closely followed by a dentate orange line; a dentate orange line near hindmargin, dilated on costa. Hindwings moderate, hindmargin rounded; orange, lighter anteriorly; basal half dark fuscous mixed with orange, its outer edge irregularly curved; a dentate subterminal fascia and narrow hindmarginal fascia dark fuscous, sometimes obscure.

Possibly when the male is known this may prove to be a *Dasyuris*.

I took two specimens on the mountain-side above Arthur's Pass at 4,500 feet, in January.

59. *Pas. ferox*, Butl.

(*Eidonia ferox*, Butl., Proc. Zool. Soc. Lond., 1877, 392, pl. xlii., 8.)

Female.—24 mm. Forewings moderate, hindmargin rounded; fuscous, partially greyish-tinged; a dark ochreous-fuscous nearly straight dentate stria about $\frac{1}{3}$, between which and base are three others fainter; an obscure discal dot; a dark ochreous-fuscous nearly straight dentate stria in middle, between which and hindmargin are seven or eight similar striæ becoming gradually more strongly curved. Hindwings moderate, hindmargin rounded; bright orange; base mixed with dark fuscous; a straight strongly marked median line, an obscure parallel line beyond it, three fine subdentate curved lines parallel with hindmargin, and a hindmarginal line dark fuscous. Forewings and hindwings beneath orange; markings of both as in hindwings above, but the four posterior lines separated by yellowish-whitish interspaces.

The pale terminal band of the undersurface is a peculiar feature.

Castle Hill, taken by Mr. J. D. Enys; two specimens.

60. *Pas. zopyra*, n. sp.

Male.—19 mm. Forewings moderate, hindmargin rounded; dark fuscous-grey with a bluish tinge, with numerous regular dentate transverse striæ and a discal dot darker. Hindwings bright deep orange; basal third dark fuscous, its outer edge rather sharply angulated; two parallel hardly bent lines towards middle, a subdentate subterminal line, and a slender hindmarginal fascia dark fuscous. Forewings and hindwings beneath orange; forewings with an irregular curved line before middle, four parallel sinuate-curved lines beyond middle, subterminal and hindmarginal fasciæ dark fuscous; hindwings with a strongly sinuate-curved line at $\frac{1}{3}$, indistinct curved median and subterminal lines, and slender hindmarginal fascia dark fuscous.

Constant; the smallest species of the group.

Mount Hutt, on the shingle in the bed of a gully in January (Mr. R. W. Fereday); six specimens.

61. *Pas. vulcanica*, n. sp.

Female.—22 mm. Forewings moderate, hindmargin rounded; dark fuscous-grey, somewhat mixed with whitish; numerous irregular dentate darker striæ; an irregular curved slender blackish fascia towards base; an irregular blackish fascia before middle; another beyond middle, forming two rather strong rounded projections in and above middle; cloudy subterminal and hindmarginal fasciæ. Hindwings moderate, hindmargin rounded; deep orange; basal half wholly dark fuscous, its outer edge twice deeply sinuate; a line near and parallel to this, an irregular dentate subterminal fascia, and a hindmarginal fascia partly confluent with it, dark fuscous. Forewings and hindwings beneath light orange, with two parallel twice obtusely angulated lines beyond middle, subterminal and hindmarginal dentate fasciæ, also two straight incomplete anterior lines in forewings, and a sinuate anterior line in hindwings dark fuscous.

Easily recognizable by the dark basal half of the hindwings.

I found this species settling on the roads near Makatoku, Hawke's Bay, in March; Mr. Fereday has it from the Kaweka range in the same district, taken in January; three specimens.

62. *Pas. brephos*, Walk.

(*Fidonia* (?) *brephosata*, Walk., 1037, Butl. Cat., pl. iii., 14; *Larentia catocalaria*, Gn., E.M.M., v., 62; *Fidonia brephos*, Feld., cxxix., 5; *Fidonia enysii*, Butl., Proc. Zool. Soc. Lond., 1877, 391, pl. xiii., 9.)

Male, female.—23–25 mm. Forewings moderate, hindmargin rounded; brownish-grey, with dark fuscous markings; numerous irregular dentate transverse striæ; two before middle and three beyond middle more strongly

marked, the latter forming two irregular projections in and above middle; a discal dot; cloudy subterminal and hindmarginal shades. Hindwings moderate, hindmargin rounded; bright orange; base mixed with dark fuscous; a straight line about $\frac{1}{3}$, two parallel sinuate lines in middle, a curved subterminal line, and a dentate hindmarginal fascia dark fuscous; all the lines vary in intensity, and one or other is often obsolete. Forewings and hindwings beneath orange, with a discal dot, two parallel angulated lines beyond middle, an irregular subterminal fascia and dentate hindmarginal fascia dark fuscous, often partially obsolete.

Varies slightly in the distinctness of the dark markings.

Castle Hill (3,000 feet), Arthur's Pass (3,000 feet), Lake Wakatipu (3,000 feet), Invercargill (sea-level), Nelson, and Mount Hutt, especially settling on roads or bare ground, from December to March; thirty specimens. I have corrected Walker's barbarously-formed name.

63. *Pas. omichlias*, n. sp.

Male.—25–26 mm. Forewings moderate, hindmargin rounded; dark grey, irrorated with whitish; several obscure dark fuscous lines towards base; a slender curved dark fuscous fascia before middle; a blackish discal dot; a somewhat broader irregular subdentate dark fuscous fascia beyond middle, forming a short bidentate projection in middle, and a shorter simple projection towards costa; sometimes two pale lines beyond this, and a pale subterminal line; a blackish-grey hindmarginal line; cilia pale grey. Hindwings moderate, hindmargin rounded; rather dark grey; three faintly indicated darker median lines alternating with paler; a blackish-grey hindmarginal line; cilia whitish-grey.

A dull-looking species, resembling a small *Statira hectori*, and might be passed over for *Larentia cinerearia*.

Castle Hill, taken by Mr. J. D. Enys, "high up" (probably about 5,000 feet); two specimens.

22. *STATIRA*, n. g.

Face roughly haired. Palpi moderate, prorected or ascending, with long or very long spreading hairs beneath, terminal joint moderate, nearly concealed. Antennæ in male filiform, simple, pubescent. Thorax hairy beneath. Forewings with vein 6 rising out of 9, 7 almost from angle of areole, 10 anastomosing moderately with 9, 11 anastomosing strongly with 10, 12 free. Hindwings normal.

1a. Hindwings orange.

2a. Postmedian line of hindwings curved, parallel to median .. 65. *anceps*.

2b. " " " angulated, remote in middle

from median 64. *homomorpha*.

1b. Hindwings dark fuscous with whitish lines 66. *hectori*.

64. *Stat. homomorpha*, n. sp.

Male.—28 mm. Forewings moderate, costa rather abruptly arched near base, hindmargin slightly rounded; dark fuscous-grey, with numerous irregular darker striæ; a pale curved fascia towards base, mixed with whitish and bisected by a dark line; a second about $\frac{1}{3}$; a third beyond middle, irregularly dentate and sinuate; an obscure pale subterminal line. Hindwings moderate, hindmargin rounded; bright orange; basal space up to first line mixed with dark fuscous; a nearly straight line about $\frac{1}{3}$, a second more obscure beyond and parallel to it, a third irregularly angulated and subdentate beyond middle, a narrow irregular interrupted subterminal fascia, and a dentate hindmarginal fascia dark fuscous. Forewings and hindwings beneath orange, with a straight line before middle, an angulated line beyond middle, an interrupted subterminal fascia, and a hindmarginal fascia blackish; two additional anterior incomplete lines in forewings.

Readily identified by the postmedian line of the hindwings.

Mount Hutt, in January (Mr. R. W. Fereday); five specimens.

65. *Stat. anceps*, Butl.

(*Fidomia anceps*, Butl., Proc. Zool. Soc. Lond., 1877, 392, pl. xliii., 3.)

Male.—27–30 mm. Forewings moderate, costa moderately arched, hindmargin slightly rounded; dark fuscous-grey, irrorated with bluish-whitish; the absence of the irroration produces numerous irregular dentate sinuate darker striæ; two before middle and two beyond middle more strongly marked, enclosing a moderately broad clear space, containing a blackish discal dot; a darker subterminal shade, and another on hindmargin. Hindwings moderate, hindmargin rounded; rather deep ochreous-yellow; basal space up to first line mixed with dark fuscous; a straight line about $\frac{1}{3}$, two somewhat curved parallel median lines, an irregular partially-interrupted subterminal fascia, and a hindmarginal fascia dark fuscous. Forewings and hindwings beneath yellow, with a straight line before middle, an angulated line beyond middle, an interrupted subterminal fascia, and a hindmarginal fascia blackish.

Constant; less intensely coloured than its allies.

Nelson, Arthur's Pass (3,000 feet), and Castle Hill (3,100 feet), in January, settling on bare ground and roads; twelve specimens.

66. *Stat. hectori*, Butl.

(*Euclidia hectori*, Butl., Proc. Zool. Soc. Lond., 1877, 387, pl. xlii., 4.)

Male.—33 mm. Forewings moderate, costa abruptly arched near base, hindmargin almost straight or slightly rounded; dark fuscous-grey, irrorated with bluish-whitish; markings obscurely blackish; an irregular curved dentate line near base; a strongly-marked irregular twice sinuate line about $\frac{1}{3}$, closely followed by a similar less marked line; a small discal spot;

a band of three parallel irregular dentate twice sinuate lines beyond middle, posterior two partially confluent, last strongest; hindmargin broadly and suffusedly darker: cilia barred with dark fuscous and white. Hindwings moderate, hindmargin rounded; dark fuscous, base irrorated with bluish-whitish; a curved cloudy whitish line before middle, a second in middle, a third more irregular and distinct beyond middle, and a fourth, slender and irregular, towards hindmargin. Forewings and hindwings beneath whitish, with four irregular fasciæ and a hindmarginal band dark fuscous.

Tolerably constant.

Lake Wakatipu (on the summit of Ben Lomond, 5,700 feet) and Mount Hutt, in December and January, flying rather actively about the face of precipices; eight specimens.

23. *DASYURIS*, Gn.

Face with projecting hairs. Palpi moderate, porrected, roughly scaled beneath, terminal joint short. Antennæ in male rather stout, dentate, shortly ciliated ($\frac{1}{2}$). Thorax hairy beneath. Forewings with vein 6 rising out of 9, 7 almost from angle of areole, 10 anastomosing moderately with 9, 11 anastomosing moderately with 10, 12 free. Hindwings normal.

Established by Guenée for the single species here included in it; closely allied to *Pasithea*. The name *Dasyurus* is employed amongst the *Mammalia*; it is not primarily desirable to employ two names so similar as *Dasyurus* and *Dasyuris*, but as they are not identical, there is no valid reason for changing them when once given.

67. *Das. partheniata*, Gn.

(*Dasyuris partheniata*, Gn., E.M.M., v., 93.)

Male, female.—27–28 mm. Forewings moderate, hindmargin rounded; pale yellowish-orange, markings rather dark fuscous; basal space mixed with dark fuscous, bordered by an irregular fascia, angulated sharply in middle; a narrow fascia before middle, and a broader fascia beyond middle, between which is a transverse line, and a discal dot; posterior edge of second fascia with a moderately sharp angulation in middle, a shorter one towards costa, and irregularly dentate throughout, first fascia and median line parallel to this; an irregular subterminal fascia, and another along hindmargin, sometimes partially confluent beneath, their margins dentate: cilia barred with whitish and dark fuscous. Hindwings moderate, hindmargin rounded; deep orange; base mixed with dark fuscous; an angulated median line, a slender irregularly dentate or interrupted subterminal fascia, and a slender dentate hindmarginal fascia dark fuscous; cilia as in forewings.

Tolerably constant; a pretty species.

At the foot of Mount Hutt, amongst tussock-grass, in March (Mr. R. W. Fereday); sixteen specimens.

24. *CEPHALISSA*, n. g.

Face smooth. Palpi rather long, straight, porrected, triangularly scaled. Antennæ in male slender, minutely ciliated ($\frac{1}{2}$). Forewings with vein 6 from a point with 9, 7 from below angle of areole, 10 anastomosing shortly with 9, 11 anastomosing shortly with 10, 12 free. Hindwings normal.

It is rather doubtful to which genus this is most allied.

68. *Ceph. siria*, n. sp.

Male, female.—16–18 mm. Forewings moderate, costa sinuate, hindmargin strongly sinuate; rather dark reddish-fuscous, markings darker; a narrow curved fascia towards base, posteriorly obscurely edged with yellowish-white; a median band, moderately broad on costa, much narrower towards inner margin, both margins obscurely edged with yellowish-white, only distinct on costa, anterior margin sinuate, posterior margin sinuate, somewhat projecting in middle; an indistinct suffusion towards apex. Hindwings moderate, hindmargin irregular, obtusely projecting in middle; bright deep orange, tinged with reddish-fuscous on hindmargin; cilia dark fuscous.

Constant; specifically quite isolated.

Dunedin; received by Mr. R. W. Fereday from Capt. Hutton, and probably a mountain species; six specimens.

25. *PANAGRA*, Gn.

Face loosely haired. Palpi long, straight, porrected, attenuated. Antennæ in male dentate, ciliated (1). Forewings with vein 6 rising below 9, 7 from below angle of areole, 10 anastomosing strongly with 9, 11 anastomosing strongly with 10, 12 free. Hindwings normal.

This genus seems specially characteristic of Australia, where there are many species; the New Zealand species is very different from any other known to me.

69. *Pan. falcatella*, Walk.

(*Samana falcatella*, Walk., xxvii., 197.)

Male.—31 mm. Forewings moderate, costa almost straight, apex acute, hindmargin sinuate; whitish-ochreous, slightly yellowish-tinged; a longitudinal fine black streak from near base to middle of disc, above edged with a faint brownish suffusion; a short black longitudinal dot in disc above and beyond middle; a narrow black streak from near middle of inner margin to near apex, attenuated at each end, posteriorly edged with a faint brownish suffusion; a row of minute black dots on hindmargin. Hindwings moderate, apex obtusely projecting, hindmargin bent below middle; white; a black discal dot; a row of minute black dots on hindmargin.

A very distinct species.

I have only seen one specimen, received by Mr. R. W. Fereday from Captain Hutton, probably taken in the neighbourhood of Dunedin.

3. BOLETOBIDÆ.

Forewings with areole simple, 11 separate, 12 free. Hindwings with 8 veins, 6 and 7 separate, 8 free, approximated to 7 towards base.

A very small family, probably approaching extinction, inhabiting mountains in Europe and probably other restricted localities.

26. CACOPSODOS, Butl.

Face smooth. Palpi long, straight, porrected, roughly scaled above and beneath. Antennæ in male pectinated on inner side only. Forewings with vein 6 from a point with 9, 7 from angle of areole, 10 anastomosing moderately with 9, 11 separate, approximated to 10 in middle, 12 free. Hindwings with veins 6 and 7 separate, 8 free, closely approximated to 7 from base to near transverse.

I have not seen the male; if Butler's description of the antennæ is correct, it is the only New Zealand genus with uniserial pectinations.

70. *Cac. niger*, Butl.

(*Cacopsodos niger*, Butl., Proc. Zool. Soc. Lond., 1877, 395, pl. xliii., 4.)

Female.—13 mm. Forewings rather narrow, costa sinuate, hindmargin sinuate; white, slightly mixed with grey; inner margin narrowly grey; a slender black fascia almost at base; a slender black fascia at $\frac{1}{8}$, dentate inwards above middle, dilated on costa; a slender black fascia beyond middle, sharply angulated in middle, dilated on costa, connected below middle with preceding fascia by a suffused bar; close beyond this a rather broad parallel grey fascia; an indistinct grey subterminal line. Hindwings moderate, hindmargin rounded; dark grey.

Butler described his species from a single male, which was very much darker than this, almost wholly suffused with dark grey, but I have no doubt of the identity of the species, which probably varies a good deal.

I took a single specimen near Lake Wakatipu in December, at about 1,500 feet.

4. LYRCEIDÆ.

Forewings with areole double, 11 anastomosing with 10, 12 anastomosing with 11. Hindwings with 8 veins, 6 and 7 separate, 8 free, not approximated to 7.

I have been obliged to form this family for the single included genus, which is allied to the *Ennomidae*, but differs essentially from them. It is of a decidedly primitive type, and approaches in the hindwings nearly to the ancestral form of the group.

27. LYRCEA, Walk.

Face smooth. Palpi rather short, slender, arched, appressed to face. Antennæ in male filiform, simple. Forewings with vein 6 from below 9,

7 from below angle of areole, 10 anastomosing shortly with 9, 11 anastomosing shortly with 10, 12 anastomosing shortly with 11. Hindwings with veins 6 and 7 separate, 8 free, not approximated to 7.

71. *Lyrca. alectoraria*, Walk.

(*Lyrcea alectoraria*, Walk., 259; *Aspilates* (?) *primata*, Walk., 1076, Butl. Cat., pl. iii., 4; *Endropia mixtaria*, Walk., 1506, Butl. Cat., pl. iii., 5; *Amilapis* (?) *acroiaria*, Feld., cxxiii., 6; *Lyrcea varians*, Butl., Cist. Ent., ii., 496.)

Male, female.—34–44 mm. Forewings moderate, apex acute, sharply projecting, hindmargin obtusely angulated in middle, often crenulate; light ochreous or brownish-ochreous, irregularly irrorated with dots of slightly darker or blackish scales; extreme costal edge generally blackish or rosy; faint indications of a darker curved line before middle, a sinuate median line, and an angulated line beyond middle, almost obsolete; generally a distinct blackish discal dot; sometimes a round silvery-white spot below middle, and another above and beyond middle, margined with dark fuscous, often bisected by a dark vein; often several suffused blackish spots towards apex and hindmargin. Hindwings moderate, hindmargin crenulate, somewhat projecting in middle; colour and markings as in forewings, lines usually obsolete.

Exceedingly variable in almost every respect.

Wellington, Christchurch, Dunedin, amongst bush, from September to January, and in April and May; thirty-eight specimens.

5. ENNOMIDÆ.

Forewings with areole double, single, or absent, 12 free or anastomosing with 11. Hindwings with 7 veins (normal vein 5 absent), 5 and 6 separate, 7 free, approximated to 6 towards base.

An extensive family of universal distribution, but not reaching any degree of development in New Zealand. Most of the species occurring are highly variable. As the genera are all small, I give a tabulation of all the species together, besides that of the genera.

1a. Antennæ of male bipectinated.

2a. Vein 12 of forewings anastomosing with 11.

3a. Vein 11 of forewings separate 29. *Zylobara*.

3b. " " " anastomosing with 10 31. *Boarmia*.

2b. Vein 12 of forewings free.

3a. Vein 11 of forewings obsolete 28. *Hybernia*.

3b. " " " present.

4a. Vein 11 of forewings anastomosing with 10 34. *Declana*.

4b. " " " separate.

5a. Vein 10 of forewings touching 9.

6a. Terminal joint of palpi short, conical 30. *Pseudocoremia*.

6b. " " " long, clavate, exposed 33. *Detunda*.

5b. Vein 10 of forewings separate 32. *Barsine*.

- 1b. Antennæ of male not pectinated.
- 2a. Vein 12 of forewings touching or anastomosing with 11.
- 3a. Vein 11 separate 38. *Stratocleis*.
- 3b. " anastomosing with 10 37. *Amastris*.
- 2b. Vein 12 of forewings free.
- 3a. Vein 11 separate.
- 4a. Coxæ and femora densely haired beneath 36. *Phyllodoce*.
- 4b. " " " not hairy 39. *Azelina*.
- 3b. Vein 11 rising out of 10.
- 4a. Antennæ of male simple 40. *Drepanodes*.
- 4b. " " " dentate, ciliated 35. *Atossa*.
- SPECIFIC TABULATION.
- 1a. Hindmargin of forewings distinctly angulated.
- 2a. With a strong acute subapical tooth 88. *Azel. fortinata*.
- 2b. Without " " " "
- 3a. Apex strongly projecting.
- 4a. Posterior line straight 89. *Drep. mauriferata*.
- 4b. " " " curved 87. *Strat. streptophora*.
- 3b. Apex slightly projecting.
- 4a. Lines represented by dots 85. *Am. encausta*.
- 4b. " entire, distinct.
- 5a. Forewings with a distinct subapical tooth 86. *Strat. gallaria*.
- 5b. " without " " " 84. *Phyll. nelsonaria*.
- 1b. Hindmargin of forewings rounded.
- 2a. Forewings with rough scales.
- 3a. With an angular black basal spot.
- 4a. Hindmargin spotted with black 79. *Det. atronivea*.
- 4b. " not spotted 80. *Det. egregia*.
- 3b. Without an angular black basal spot.
- 4a. Hindwings wholly white 83. *At. niveata*.
- 4b. " partially greyish or ochreous.
- 5a. Costal strigulæ of forewings direct 81. *Decl. floccosa*.
- 5b. " " " oblique 82. *Decl. crassitibia*.
- 2b. Forewings smooth.
- 3a. Hindwings fuscous or ochreous-fuscous.
- 4a. Postmedian line parallel to hindmargin 78. *Bars. panagrata*.
- 4b. " " " much more oblique than hindmargin 77. *Boarm. dejectaria*.
- 3b. Hindwings pale ochreous or yellowish.
- 4a. Postmedian line dentate.
- 5a. Forewings greenish-tinged 76. *Pseud. melinata*.
- 5b. " ochreous-tinged 74. *Zyl. productata*.
- 4b. Postmedian line regular 75. *Pseud. lupinata* ♂.
- 3c. Hindwings whitish.
- 4a. Hindwings suboblong 73. *Zyl. fenerata*.
- 4b. " rounded 75. *Pseud. lupinata* ♀.
- 3d. Hindwings pale grey irrorated with dark fuscous 72. *Hyb. indocilis*.

28. HYBERNIA, Latr.

Face smooth. Palpi short, roughly scaled, porrected. Antennæ in male bipectinated (5-6). Female semiapterous. Forewings with vein 6 from below 9, 7 out of 9, 10 separate, 11 obsolete (probably coincident with 10), 12 free. Hindwings normal.

A small genus, occurring also in Europe; the only one in New Zealand in which the female is semiapterous, or vein 11 of the forewings absent.

72. *Hyb. indocilis*, Walk.

(*Zermizinga indocilisaria*, Walk., 1530; *Hybernia boreophilaria*, Gn., E.M.M., v., 61.)

Male.—25-34 mm. Forewings moderate, hindmargin rounded, crenulate; pale fuscous-grey, closely irrorated with dark fuscous; a somewhat irregular curved cloudy dark fuscous line at $\frac{1}{4}$; an irregular median line; a third beyond middle, twice sinuate; a fourth towards hindmargin, sometimes followed by a very obscure whitish dentate subterminal line; a blackish hindmarginal line. Hindwings moderate, hindmargin somewhat obtusely projecting in middle, crenulate; colour as in forewings; a curved obscure line before middle; a dark fuscous discal dot; a distinct hardly sinuate dark fuscous line beyond middle; an obscure darker subterminal shade; a blackish hindmarginal line.

Female.—12-14 mm. Wings exceedingly narrow, apex suddenly dilated, angles acute, hindmargin dentate; colour and markings as in male, but lines black and sharply marked.

Tolerably constant.

Christchurch and the plains near, from July to January. Mr. R. W. Fereday states that the male is found plentifully amongst *Leptospermum*, at rest on the bare ground, and the female on the stems; thirty-five specimens. I have corrected Walker's inadmissibly barbarous name.

29. ZYLOBARA, Butl.

Face with somewhat projecting scales. Palpi moderate, roughly scaled, porrected. Antennæ in male bipectinated (9-12). Forewings with vein 6 from below 9, 7 out of 9, 10 and 11 separate, 12 anastomosing shortly with 11. Hindwings normal; 1 a distinct.

73. *Zyl. fenerata*, Feld.

(*Rhyparia fenerata*, Feld., cxxxi., 7; *Zylobara fenerata*, Butl., Cist. Ent., ii., 498.)

Male.—33-35 mm. Forewings moderate, hindmargin unevenly rounded, crenulate; very pale whitish-grey, slightly ochreous-tinged, irrorated with dark fuscous; scattered dark fuscous marks indicating several fragmentary dentate lines and a discal spot; a double cloudy dark fuscous dentate subterminal line, distinct throughout; a row of large black dots on hindmargin. Hindwings oblong, inner margin extremely short, lower margin

long, oblique, hindmargin short, rounded, crenulate, with a more prominent tooth near lower margin; grey-whitish, hindmargin irrorated with grey.

Probably varies somewhat in the distinctness of the lines. The male is always recognizable by the peculiarly-shaped hindwings; but I believe that the female will be found to have them of the ordinary form, and will be best distinguished from allied species by the strong dentation of the lines.

Palmerston (Wanganui), Makatoku (Hawke's Bay), and Christchurch, amongst forest, at rest on tree-trunks, in March; seven specimens.

74. *Zyl. productata*, Walk.

(*Larentia productata*, Walk., 1197; (?) *Selidosema pungata*, Feld., cxxxi, 23; *Selidosema* (?) *fragosata*, Feld., cxxxi, 29.)

Male.—33–34 mm. Forewings moderate, hindmargin rounded; whitish, more or less irrorated with fuscous and dark fuscous, sometimes forming numerous fine short strigulæ; a narrow curved cloudy dark fuscous fascia a little before median band; the dark fuscous irroration forms a broad median band, sometimes wholly suffused with dark fuscous, margined by whitish lines, anterior edge concave, posterior edge shortly dentate and more or less angulated above middle; in one specimen this band is reduced to a large costal spot; a dentate white subterminal line, preceded by an incomplete row of cloudy dark fuscous spots; a suffused oblique dark fuscous subapical spot; a row of black dots on hindmargin. Hindwings moderate, hindmargin rounded; pale ochreous-yellow, darker posteriorly, towards base irrorated with grey; a grey discal spot.

Varies very much in the distribution of the dark fuscous colouring; the female will probably have whitish hindwings.

Wellington and Dunedin, in January; eleven specimens.

80. *PSEUDOCOREMIA*, Butl.

Face smooth. Palpi rather short, roughly scaled, porrected. Antennæ in male bipectinated (5–9). Forewings with 6 from below 9, 7 from below angle of areole, 10 shortly touching 9, 11 separate, 12 free, 1a running into 1. Hindwings normal; 1a distinct.

Closely allied to the preceding genus.

75. *Pseud. lupinata*, Feld.

(*Cidaria lupinata*, Feld., cxxxi, 19; *Pseudocoremia lupinata*, Butl., Cist. Ent., ii., 496; *Pseudocoremia suavis*, Butl., Cist. Ent., ii., 497; *Pachycnemia usitata*, Butl., Cist. Ent., ii., 501.)

Male, female.—29–35 mm. Forewings moderate, hindmargin rounded; grey-whitish, often partially suffused with pale fuscous, irrorated with dark fuscous; two parallel curved dark fuscous lines towards base; a sinuate dark fuscous line somewhat before middle, sometimes broadly dilated with

blackish on lower half or throughout; generally a small transverse discal spot; two parallel strongly sinuate dark fuscous lines somewhat beyond middle, upper half concave anteriorly, lower half concave posteriorly; two parallel dentate dark fuscous subterminal lines, sometimes blotched with blackish above middle and on inner margin; sometimes all these lines obsolete, and often a cloudy dark fuscous longitudinal streak near and parallel to inner margin; a row of black dots on hindmargin. Hindwings moderate, hindmargin rounded; in male pale whitish-ochreous-yellow, in female whitish, posteriorly more or less irrorated with grey.

Excessively variable; but the postmedian lines (when visible) have always the same characteristic form, different from any of the allied species. The posterior tibiæ of male are furnished with a long pencil of hairs.

Christchurch, Akaroa, Mount Hutt, Dunedin, amongst bush, often at rest on tree-trunks, in January and June; fifty-four specimens.

76. *Pseud. melinata*, Feld.

(*Numeria melinata*, Feld., cxxix., 9; *Pseudocoremia indistincta*, Butl., Proc. Zool. Soc. Lond., 1877, 394, pl. xliii., 8.)

Male, female.—26–34 mm. Forewings moderate, hindmargin rounded; in male white, in female whitish-grey, irrorated with blackish, and often dark olive-green; markings strong, blackish, generally suffused with dull olive-green; two irregular dentate curved or angulated parallel lines towards base; a sinuate line before middle, very variable in strength and intensity; two dentate sinuate parallel lines somewhat beyond middle, second sometimes obsolete; two dentate parallel subterminal lines, first much more strongly marked; a hindmarginal row of black dots. Hindwings moderate, hindmargin rounded; in male whitish-ochreous, in female light brownish-ochreous; often partially or wholly irrorated with grey; base or hindmargin sometimes suffused with grey; generally a grey discal dot, subterminal line, and hindmarginal row of dots.

Very variable; the dull greenish tinge, however, is very characteristic.

Wanganui, Wellington, Christchurch, Castle Hill (2,600 feet), Arthur's Pass, (3,000 feet), and Dunedin, probably everywhere, amongst bush, from January to March; fifty-one specimens.

31. *BOARMIA*, Tr.

Face with somewhat projecting scales. Palpi rather short, somewhat arched, roughly scaled. Antennæ in male bipectinated (2–3). Forewings with vein 6 from below 9, 7 from below angle of areole, 10 out of 9 above origin, anastomosing again very shortly with 9, 11 anastomosing shortly with 10, 12 anastomosing shortly with 11. Hindwings normal.

An extensive genus, of world-wide distribution.

77. *Boarm. dejectaria*, Walk.

(*Boarmia dejectaria*, Walk., 394; *Boarmia attracta*, Walk., 394; *Boarmia exprompta*, Walk., 395; *Tephrosia patularia*, Walk., 422, Butl. Cat., pl. iii., 8; *Tephrosia scriptaria*, Walk., 422; *Scotosia erebinata*, Walk., 1358; *Scotosia stigmaticata*, Walk., 1359; *Scotosia lignosata*, Walk., 1361; *Gnophos pannularia*, Gn., E.M.M., v., 42; *Scotopteryx maoriata*, Feld., cxvii., 4; *Hemerophila* (?) *sulpitiata*, Feld., cxvii., 7; *Hemerophila caprimulgata*, Feld., cxvii., 12.

Male, female.—31–54 mm. Forewings moderate, hindmargin varying from crenate to strongly dentate; ochreous-fuscous, irregularly mixed and more or less suffused with dark fuscous, tending to form small fine strigulæ; a curved dentate dark fuscous line at $\frac{1}{3}$; a small dark fuscous discal spot, sometimes centred with pale bluish-grey, sometimes forming an ocellated ring; an obscure darker irregular median shade; a curved dentate dark fuscous line beyond middle, more oblique than hindmargin; a very obscurely darker dentate subterminal line; often a small snow-white spot before middle of hindmargin. Hindwings moderate, hindmargin varying from crenate to strongly dentate; colour and lines as in forewings.

Exceedingly variable; the variation in form of wing is curious.

Taranaki, Makatoku (Hawke's Bay), Wellington, Christchurch, Dunedin, amongst forest, from November to March; thirty-seven specimens.

32. BARSINE, n. g.

Head tufted between antennæ, face with a slight cone of scales. Palpi moderate, densely scaled, porrected. Antennæ in male bipectinated (5–6). Forewings with vein 6 from below 9, 7 out of 9, 10 and 11 separate, 12 free. Hindwings normal.

78. *Bars. panagrata*, Walk.

(*Scotosia panagrata*, Walk., 1360; *Angerona menanaria*, Walk., 1500; *Epirrhantis* (?) *antipodaria*, Feld., cxvii., 3; *Hyperythra desiccata*, Butl., Cist. Ent., ii., 495; *Hyperythra arenacea*, Butl., Cist. Ent., ii., 495.)

Male, female.—33–44 mm. Forewings moderate, hindmargin rounded, crenate, apex faintly projecting; ochreous-fuscous, more or less mixed or suffused with dark fuscous; a dark fuscous curved dentate line at $\frac{1}{3}$; a small transverse whitish ochreous or sometimes white discal spot, suffusedly margined with dark fuscous; a very obscure darker twice sinuate median shade; a dark fuscous dentate line at $\frac{2}{3}$, curved outwards above middle; before the first line and beyond the second are often whitish-ochreous bands, tending to form several spots; an obscure dark fuscous dentate subterminal line. Hindwings moderate, hindmargin rounded, crenate; colour and markings as in forewings, but first and subterminal lines obsolete.

Very variable.

Masterton, Christchurch, and Akaroa, from March to May, amongst bush; twenty-three specimens.

33. *DETUNDA*, Walk.

Face roughly haired. Palpi moderate, second joint ascending, densely rough-haired beneath, terminal joint slender, clavate, porrected. Antennæ in male bipectinated (4-5), in female also shortly bipectinated (1½). Forewings with rough scales. Forewings with vein 6 from a point with or out of 9, 7 from below angle of areole, 10 from areole or out of 9, anastomosing shortly with 9, 11 separate, 12 free. Hindwings normal, 3 and 4 separate. Femora densely hairy beneath.

This and the two following genera are sometimes mistaken for *Noctua*; the neuration shows that there is no real connection. The peculiar palpi are also noteworthy, being alike in all three genera. *D. egregia* has vein 6 of the forewings rising out of 9, 10 also out of 9, and veins 6 and 7 of the hindwings extremely closely approximated at base; in *D. atronivea* these points do not occur.

79. *Det. atronivea*, Walk.

(*Detunda atronivea*, Walk., Suppl. ii., 619; *Chlenias* (?) *manxifera*, Fereday, Trans. N.Z. Inst., xii. (1879), 268, pl. ix., 1.)

Male, female.—43-52 mm. Forewings elongate-triangular, costa almost straight, slightly sinuate, hindmargin rounded, crenate; white; costa marked with small quadrate black spots, inner margin with irregular transverse black marks, hindmargin with elongate semi-oval black spots; a black basal spot beneath costa, with a strong posterior projection, and a shorter one beneath; a brown black-margined fascia near base, twice strongly angulated; an irregular black fascia from before middle of costa to beyond middle of inner margin, interrupted above middle; an irregular brown black-margined fascia from middle of costa to anal angle, anterior edge with irregular projections above and below middle, posterior edge emitting an irregular branch to costa before apex, black margin strong and partially broken beneath into disconnected spots. Hindwings moderate, hindmargin rounded, crenate; grey, darker posteriorly; a faint darker median shade; a fine well-marked irregular dark grey line towards hindmargin, with a sharply angulated median projection.

A most striking and conspicuous species; the markings vary somewhat in detail.

Wellington and Napier; five specimens received by Mr. Fereday from correspondents.

80. *Det. egregia*, Feld.

(*Chlenias egregia*, Feld., cxxxi., 24; Fereday, Trans. N.Z. Inst., xii., 268, pl. ix., 2.)

Male, female.—43-47 mm. Forewings elongate-triangular, costa almost straight, slightly sinuate, apex somewhat projecting, hindmargin otherwise rounded, crenate; white; inner and hindmargin somewhat suffused with

grey, tending to form transverse strigulæ; costa very shortly spotted with fuscous; a blackish spot at base beneath costa, with a very strong posterior projection, and a shorter one beneath; a brown fascia near base, parallel to hindmargin, posteriorly black-margined, anterior edge straight, posterior edge twice sinuate-concave; a small blackish mark on inner margin beyond middle; an irregular brown partially black-margined fascia from costa before middle to anal angle, anterior edge with a short median projection ending in a transverse blackish mark, posterior edge emitting from middle an irregular moderately broad branch to costa before apex. Hindwings moderate, hindmargin rounded, crenate; grey, paler towards base; three faint discal dots and a sinuate line beyond middle indistinctly darker.

Appears to vary very little.

From the *female* of a pair taken *in cop.* Mr. Fereday obtained eggs which hatched out in February, but the young larvæ refused all kinds of food-plants offered, and died. At this stage they were 10-legged, very slender, dark purplish-brown, almost black; spiracular creamy-white, wrinkled; head shining pale brown.

Christchurch, Akaroa, and the Otira Gorge, in November and January (Mr. R. W. Fereday); four specimens. Felder gives it from Australia; this certainly requires confirmation.

34. DECLANA, Walk.

Face rough. Palpi rather long, second ascending, roughly scaled, with long hairs beneath, terminal joint long, slender, clavate, porrected. Antennæ in male bipectinated ($2\frac{1}{2}$ –5). Femora and under-side of thorax clothed with very dense long hairs. Forewings with rough scales. Forewings with vein 6 from below 9, 7 from angle of areole, 10 rising out of 9 and anastomosing again moderately with 9, 11 anastomosing moderately with 10, 12 free. Hindwings normal, veins 3 and 4 sometimes stalked.

D. floccosa has veins 3 and 4 of the hindwings stalked, *D. crassitibia* separate.

81. *Decl. floccosa*, Walk.

(*Declana floccosa*, Walk., xv., 1649; *Argua scabra*, Walk., xxviii., 448; *Chlenias verrucosa*, Feld., cxxxi., 22; *Declana feredayi*, Butl., Proc. Zool. Soc. Lond., 1877, 398, pl. xliii., 5; *Declana nigrosarsa*, Butl., Cist. Ent., ii., 500.)

Male, female.—34–38 mm. Forewings elongate, somewhat oblong, rather dilated posteriorly, hindmargin rounded, crenate; very pale whitish-grey; costa and inner margin marked with short direct blackish strigulæ; often numerous scattered dark fuscous or black strigulæ, especially below middle of disc; some of the raised scales beyond first and second lines and along dorsal vein are often ochreous-yellow; a slender dark fuscous often

obscure line towards base, irregularly angulated above middle; a second similar line beyond middle, twice deeply sinuate; both these sometimes marked with dark fuscous or blackish blotches; a sinuate cloudy dark grey median shade, often obsolete; a similar shade from apex, parallel and near to second line. Hindwings moderate, hindmargin shortly dentate; whitish-grey; a cloudy fascia before middle, and a broad hindmarginal band often darker grey.

Very variable; normally coloured in imitation of lichens.

Christchurch, amongst bush and coming freely to sugar, in August, November, and from March to June (Mr. R. W. Fereday); thirty specimens.

82. *Decl. crassitibia*, Feld.

(*Amphitape crassitibia*, Feld., cix., 10 (♀).)

Male.—33–36 mm. Thorax with a strong crest curved forwards. Abdomen longer and stouter than in *D. floccosa*, sometimes largely developed, with large anal tuft. Forewings as in *D. floccosa*, but costa somewhat more sinuate; whitish or pale ochreous, often partially suffused with brownish, especially towards apex; costa with numerous fine oblique black strigulæ; a short blackish longitudinal mark from base; an irregularly curved double dark fuscous or blackish line towards base, and a similar twice inwards sinuate line at $\frac{2}{3}$; both these vary very much in shape, tending to be sharply angulated towards each other and even connected on submedian fold; second margined on upper half posteriorly by a fuscous suffusion, more blackish on costa, followed by a pale apical space; generally two rows of blackish marks towards hindmargin. Hindwings as in *D. floccosa*; white or pale whitish-ochreous, hindmargin slightly suffused with fuscous.

Female.—Forewings with apex more projecting; grey-whitish, very finely irrorated with dark grey; costal strigulæ as in male; other markings obsolete, or represented by a few blackish dots. Hindwings fuscous-grey, paler towards base.

Very variable, and the sexes are also very different; but the species may always be recognized by the fineness and obliquity of the costal strigulæ.

Blenheim and Dunedin, received by Mr. Fereday from Mr. Skellon and Captain Hutton; eight specimens.

85. *Arossa*, n. g.

Face roughly haired. Palpi moderate, second joint ascending, densely rough-haired beneath, terminal joint long, slender, clavate, porrected. Antennæ in male stout, dentate, minutely ciliated. Femora densely hairy beneath. Forewings with rough scales. Forewings with vein 6 from

below 9, 7 from angle of areole, 10 anastomosing shortly with 9, 11 rising out of 10 before angle of areole, 12 free. Hindwings normal, veins 3 and 4 from a point.

Nearly allied to the preceding.

83. *At. niveata*, Butl.

(*Declana niveata*, Butl., Cist. Ent., ii., 500.)

Male.—30 mm. Forewings elongate-triangular, costa somewhat sinuate, hindmargin rounded, dentate; dull white, faintly irrorated with grey; costa marked with short indistinct dark grey direct strigulæ; an irregular line towards base, and another twice angulated about $\frac{2}{3}$, obscurely indicated by dark grey scales; some scattered dark grey strigulæ before hindmargin. Hindwings moderate, hindmargin crenate, angularly projecting in middle; wholly white.

I took one fine specimen at rest on a tree-trunk near Dunedin, in February.

36. PHYLLODOCE, n. g.

Face shortly rough-haired. Palpi moderate, arched, ascending, shortly rough-scaled, terminal joint short. Antennæ in male rather stout, pubescent. Coxæ and femora densely rough-haired beneath. Forewings with vein 6 from below 9, 7 from below angle of areole, 10 shortly touching 9, 11 separate, 12 free. Hindwings normal.

84. *Phyll. nelsonaria*, Feld.

(*Gonodontis* (?) *nelsonaria*, Feld. cxxiii., 3; *Gonodontis felix*, Butl., Proc. Zool. Soc. Lond. 1877, 389, pl. xlii., 10.)

Male.—38–39 mm. Forewings moderate, apex rather projecting, hindmargin rather strongly angulated in middle, upper half appearing concave, somewhat crenulate; fuscous, reddish-fuscous or ochreous, tending to form short transverse darker and lighter strigulæ; some small irregular white marks on costal edge; an irregular curved and rather strongly dentate whitish line about $\frac{1}{4}$, posteriorly dark-margined; a small pale-centred dark fuscous or reddish-fuscous discal spot; a straight whitish line about $\frac{3}{4}$, anteriorly dark-margined. Hindwings moderate, hindmargin rounded, unevenly crenate; pale reddish-fuscous, more or less irrorated with grey; a small grey discal spot; a slightly curved grey line beyond middle.

Varies considerably in colour.

Nelson and Dunedin; four specimens.

37. AMASTRIS, n. g.

Face smooth. Palpi short, rough-haired beneath, porrected. Antennæ in male stout, serrate, shortly ciliated ($\frac{1}{2}$). Forewings with vein 6 from below 9, 7 from below angle of areole, 10 rising out of 9 above origin, anastomosing again shortly with 9, 11 anastomosing shortly with 10, 12 anastomosing shortly with 11. Hindwings normal.

85. *Am. encausta*, n. sp.

Male, female.—29–33 mm. Forewings moderate, costa arched at base, apex almost acute, hindmargin obtusely projecting somewhat above middle, upper part slightly concave; varying from pale whitish-grey, slightly purplish-tinged, to light reddish-ochreous-brown, generally with numerous scattered fuscous or dark fuscous strigulae, sometimes forming an irregular suffusion in disc and along hindmargin, and on an incomplete subterminal band; three short dark fuscous streaks from costa, first and third oblique, second less defined, direct; from third often a sinuate row of dark fuscous dots to inner margin. Hindwings moderate, hindmargin slightly crenulate; pale whitish-ochreous-yellow; sometimes a row of darker dots beyond middle.

Varies much in colour.

Makatoku (Hawke's Bay), Nelson, Christchurch, Otira Gorge (1,500 feet), Castle Hill (2,500 feet), and Mount Hutt, from January to March, amongst bush; thirty-one specimens.

It seems improbable that this common species should have escaped description. I suspect therefore it will be found among Walker's list, but as I have no authority for its identification I have been compelled to attach a name to it.

38. *STRATOCLEIS*, n. g.

Face with a slight cone of scales. Palpi rather long, porrected, roughly scaled. Antennae in male stout, subdentate, minutely ciliated ($\frac{1}{2}$). Forewings with vein 6 from below 9, 7 from below angle of areole, 10 very shortly touching 9, 11 free, 12 very shortly touching 11. Hindwings normal.

86. *Strat. gallaria*, Walk.

(*Selenia gallaria*, Walk., 185, Butl. Cat., pl. iii., 6, 7; *Euchlana* (?) *palthidata*, Feld., cxxxii., 21, 22.)

Male.—26–27 mm. Forewings moderate, costa strongly arched towards base, apex acute, hindmargin shortly dentate below apex and above middle, thence straight, oblique; whitish-ochreous, slightly suffused with pale reddish-fuscous, and thinly sprinkled with blackish, basal and apical thirds sometimes wholly reddish-fuscous; a curved dark fuscous line at $\frac{1}{3}$, strongest on costa, angulated above and below middle, preceded by a much fainter parallel line; an irregular curved fuscous median line, sometimes indistinct, darkest on costa, angulated below costa and indented inwards below middle; a minute black discal dot beyond middle; a nearly straight dark fuscous oblique line beyond middle, sometimes followed by a pale posteriorly dark-margined dentate line; two short cloudy irregular blackish lines from inner margin beyond this; a short upwardly oblique cloudy dark fuscous

mark on hindmargin above middle. Hindwings moderate, hindmargin rounded; ground-colour as in forewings, posterior half sometimes reddish-fuscous; sometimes a faint irregular darker line before middle; a minute blackish discal dot; a straight dark fuscous line rather beyond middle, on inner margin followed by a cloudy dark fuscous spot.

Variable in colour and strength of marking.

Palmerston (Wanganui), Makatoku (Hawke's Bay), Christchurch, in February and March; eight specimens.

87. *Strat. streptophora*, n. sp.

Male, female.—32–34 mm. Forewings moderate, costa somewhat arched towards base, apex strongly projecting but hardly acute, hindmargin somewhat irregular, with a strong shortly bidentate projection in middle; pale whitish-ochreous-yellow, coarsely irrorated with ochreous-brown; four dark ochreous-fuscous lines; first towards base, irregular, shortly angulated near inner margin; second before middle, straight, rather broad; a black discal dot; third beyond middle, strongly curved, oblique; fourth subterminal, curved, followed by a row of crescentic white dark-margined spots. Hindwings moderate, hindmargin crenate, with two more prominent teeth in middle; ochreous-whitish, hindmargin more ochreous; some scattered grey and ochreous scales; a dark grey discal dot; a subterminal row of grey partially obsolete spots.

Probably varies much in colour and intensity of markings.

Otira Gorge (1,600 feet) and Dunedin, in January, amongst bush; four specimens.

39. *AZELINA*, Gn.

Face with some projecting hairs. Palpi rather long, obliquely ascending, roughly scaled, attenuated. Antennæ in male thick, simple. Forewings with vein 6 from below 9, 7 from below angle of areole, 10 very shortly touching 9, 11 separate, 12 free. Hindwings normal.

A genus of some extent, specially characteristic of South America. Guenée made a separate genus (*Polygônia*) of the New Zealand species, but without any point of distinction.

88. *Azel. fortinata*, Gn.

(*Polygônia fortinata*, Gn., E.M.M., v., 41; *Caustoloma* (?) *ziczac*, Feld., cxxxii., 4.)

Male, female.—33–38 mm. Forewings moderate, costa sinuate, apex acute, projecting, hindmargin with a strong sharp tooth a little below apex, and a broader subdentate projection in middle; rather light reddish-fuscous; a dark reddish-fuscous curved line at $\frac{1}{3}$, emitting two strong sharp angulations posteriorly; a dark reddish-fuscous discal dot; a dark reddish-fuscous line beyond middle, shortly and obtusely angulated outwards above and below middle. Hindwings moderate, hindmargin with two short teeth

beneath apex, and a strong bidentate projection in middle; colour as in forewings, but basal half much paler; a faint darker line near base; an irregular dark reddish-fuscous line slightly beyond middle, bounding the pale area.

Constant.

Nelson, Akaroa, and Mount Hutt, in January and February (Mr. R. W. Fereday); twelve specimens.

40. DREPANODES, Gn.

Face with cone of scales. Palpi moderate, triangularly scaled, porrected. Antennæ in male moderate, simple. Forewings with vein 6 from below 9, 7 from below angle of areole, 10 very shortly touching 9, 11 rising out of 10 before angle of areole, 12 free. Hindwings normal.

Also a characteristic South American genus. The single New Zealand species is very similar to some South American forms.

89. *Drep. muriferata*, Walk.

(*Gargaphia muriferata*, Walk., 1635; *Panagra ephyraria*, Walk., 1761; ? *Zanclognatha* (?) *cookaria*, Feld., cxxiii., 26; *Zanclognatha* (?) *haastiana*, Feld., cxxiii., 32.)

Male, female.—30–34 mm. Forewings moderate, apex falcate, hindmargin bowed in middle; ochreous-brown; costa marked with short fine blackish strigulae; some scattered black scales towards base and beyond line; a short oblique cloudy dark fuscous mark on costa at $\frac{1}{3}$, two white dots placed transversely in disc above middle, surrounded by a darker suffusion; a straight dark ochreous-fuscous line or row of dots from costa a little before apex to inner margin beyond middle; a cloudy dark grey curved shade from apex, becoming obsolete above middle. Hindwings moderate, hindmargin rounded; ochreous-brown; a white discal dot; a straight dark ochreous-fuscous median line.

Varies probably considerably in colour. The hindmargin of the forewings is represented in Felder's figure of *Z. cookaria* as distinctly angulated; I have seen no case of this.

Taranaki, Christchurch, Dunedin, amongst forest, in February and March; five specimens.

SICULINA.

SICULINÆ.

Being only acquainted with one genus, I can give no enlarged characters for these higher groups. It will be sufficient to point out that the separation of vein 7 of the forewings from the stalk of 8 and 9, and the 16-legged larva, remove the genus from the *Geometrina*, whilst the separation of veins 7 and 8 of the hindwings distinguishes it no less clearly from the *Pyralidina*.

41. SICULODES, Gn.

Face densely scaled, subconical. Palpi short, porrected, densely scaled, terminal joint short. Antennæ in male rather stout, dentate, shortly ciliated ($\frac{1}{2}$). Forewings with 12 veins, 8 and 9 short-stalked, rest separate. Hindwings with 8 separate veins, 6 and 7 approximated towards base, 8 free, approaching 7 in middle.

Hitherto only known from South America, where it attains considerable development.

90. *Sic. subfasciata*, Walk.

(*Morova subfasciata*, Walk., Suppl., ii., 523; *Cacacia gallicolens*, Butl., Cat., 46.)

Male, female.—24–27 mm. Forewings elongate-triangular, costa rather strongly sinuate, suddenly and strongly bent near apex, apex rectangular, hindmargin strongly sinuate; reddish-ochreous, often suffused with reddish-fuscous; reticulated throughout with reddish-fuscous or dark fuscous; three indistinct darker fasciæ, tending to become obsolete towards inner margin; first about $\frac{1}{3}$, curved; second beyond middle, dilated above, furcate on costa; third subterminal, slender, furcate on costa. Hindwings moderate, hindmargin sinuate so as to project broadly in middle; colour and reticulation as in forewings; an indistinct darker fascia near base, and a broader one in middle.

Variable in depth of colouring.

Larva 16-legged, living in gall-like swellings of the stem of *Parsonsiâ* (*Apocynæa*), according to Mr. Fereday; I have seen the empty galls said to be produced by this species. Pupa in the same position. An accurate description of this larva and its habits would be of much value.

Christchurch, Akaroa, and Dunedin, amongst bush, in January and February; ten specimens.

APPENDIX I.

The following have been described or figured as New Zealand species, and are not yet identified; probably most are synonyms of species previously described; a few seem to have been recorded in error; there may perhaps be two or three additional species among them. They are numbered consecutively with the others, for convenience of reference in the index.

91. *Ennomos ustaria*, Walk., 1519.

92. *Ischalis thermochromata*, Walk., 1750.

93. *Panagra hypenaria*, Gn., Butl. Cat., pl. iii., 10. This is a well-known Australian species, of which I have seen no New Zealand specimen; it is probably stated to occur by error.

94. *Panagra promelanaria*, Walk., 1666, Butl. Cat., pl. iii., 17. Probably another error; it appears to refer to a very common Australian species.

95. *Panagra venipunctata*, Walk., 1666. This should be identical with the preceding.

96. *Aspilates euboliaria*, Walk., 1684. Type said to be lost; I conjecture this is a synonym of *Ars. subochraria*, Dbl.

97. *Larentia subductata*, Walk., 1198.

98. *Larentia infusata*, Walk., 1199.

99. *Larentia lucidata*, Walk., 1200.

100. *Larentia* (?) *quadristrigata*, Walk., 1200; *Larentia interclusa*, Walk., 1202.

101. *Coremia robustaria*, Walk., 1320.

102. *Coremia plurimata*, Walk., 1321.

103. *Coremia* (?) *inductata*, Walk., 1322.

104. *Campptogramma correlata*, Walk., 1330, Butl. Cat., pl. iii., 15.

105. *Phibalapteryx suppressaria*, Walk., 1721.

106. *Scotosia denotata*, Walk., 1361; *Scotosia humerata*, Walk., 1362; *Phibalapteryx parvulata*, Walk., 1721.

107. *Scotosia subobscurata*, Walk., 1358.

108. *Scotosia subitata*, Walk., 1362.

109. *Cidaria* (?) *rudisata* (!), Walk., 1420.

110. *Chalastra pellurgata*, Walk., 1430.

111. *Cidaria ascotata*, Feld., cxxxi., 9.

112. *Cidaria adonata*, Feld., cxxxi., 31. Perhaps = *Larentia cinerearia*, Dbl.

113. *Microdes toriata*, Feld., cxxxi., 34. Appears to me to be a common Australian species, and is probably stated to occur by error.

114. *Cidaria semilineata*, Feld., cxxxi., 36. Perhaps = *Pasiphila bilineolata*, Walk.

115. *Larentia* (?) *falcata*, Butl., Cist. Ent., ii., 501.

116. *Coremia heliacaria*, Gn., x., 420. An Australian species, stated by Butler to occur, but probably on an erroneous identification.

117. *Melanthia arida*, Butl., Cist. Ent., ii., 505. The description appears unintelligible, and I conceive that some words have dropped out.

118. *Coremia casta*, Butl., Cist. Ent., ii., 553.

APPENDIX II.

Captain Hutton collected and published in the Transactions of the New Zealand Institute notices of the larvæ of several species of the *Geometrina*: it is however impossible to be sure that the species were correctly identified,

and I have therefore thought it best to add these notes in the form of an appendix, referring them to the species to which they seem to belong; they will serve as aids to future discovery.

Pasiphila bilineolata, Walk. (A) Larva brown, rough, segments transversely wrinkled; 6th, 7th, and 8th segments with a pair of dorsal papillæ, those of 7th much largest. On *Clematis indivisa*; bred in April. (B) Larva black, smooth, with a more or less interrupted white lateral line; varies in colour, sometimes reddish; head brown. On *Veronica salicifolia*; bred in November.

Asthena schistaria, Walk. (A) Larva smooth, dull green; dorsal thin, white; subdorsal narrow, yellow; a white lateral band, more or less black-edged; head dark green. (B) Larva pale brown, longitudinally marked with darker; a curved black mark, convex backwards, on back over last pair of prolegs. On *Leptospermum ericoides*; bred in March.

Scotosia gobiata, Feld. (A) Larva shining, brown marbled with grey; a large tubercle on back, preceded by a small one. On *Leptospermum scoparium*; bred in March. (B) Larva brown; a single tubercle on segment in front of prolegs. On *Leptospermum ericoides*; bred in November and December.

Epyaxa rosearia, Dbl. Larva smooth, green or yellowish-green; a few scattered yellow hairs; segmental divisions yellow. On *Rumex* and *Sonchus*; bred in March.

Hybernia indocilis, Walk. Larva grey, marbled with brown; a few black hairs; dorsal spots white, black-margined. Bred in April.

Pseudocoremia lupinata, Feld. Larva olivaceous brown; second (?) segment greenish; a few long black hairs; a large dorsal papilla on 8th segment. Bred in May.

Barsine panagrata, Walk. Larva light green, sometimes marbled with light pink; spiracular white, shaded with red above; spiracles bright orange; a pair of brown spots on each segment. On *Aristotelia*.

Declana floccosa, Walk. Larva 12-legged; skin wrinkled, with a row of pectinated tufts on each side; a few black hairs; brown, reticulated with yellowish, or variegated with green and brownish-purple; spiracles yellow, black-margined; a pair of small tubercles on 12th segment (? 13th). On *Aristotelia* and *Ulex*; bred in July.

INDEX TO GENERA.

The numbers refer to those prefixed to the genera in classified order.

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<i>Arsinoé</i> , n. g. 18.	<i>Cacopsodos</i> , Butl. 26.
<i>Asthena</i> , Hb. 15.	<i>Cephalissa</i> , n. g. 24.
<i>Atossa</i> , n. g. 35.	<i>Cidaria</i> , Tr. 19.
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Eurydice, n. g.	9.	Siculodes, Gn.	41.
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Hermione, n. g.	6.	Stratocleis, n. g.	38.
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The numbers refer to those prefixed to each species in order; the names in italics are synonyms.

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<i>acroiaria</i> , Feld.	71.	casta, Butl.	118.
adonata, Feld.	112.	cataphracta, n. sp.	37.
<i>ægrota</i> , Butl.	41.	catapyrrha, Butl.	12.
<i>aggregata</i> , Walk.	21.	<i>catocalaria</i> , Gn.	62.
agnionata, Walk.	17.	chaotica, n. sp.	33.
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anceps, Butl.	65.	chionogramma, n. sp.	45.
<i>anguligera</i> , Butl.	20.	chlamydata, n. sp.	25.
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<i>aquosata</i> , Feld.	14.	<i>cinerascens</i> , Feld.	11.
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<i>arenacea</i> , Butl.	78.	clarata, Walk.	38.
arida, Butl.	117.	<i>collectaria</i> , Walk.	17.
ascotata, Feld.	111.	<i>congregata</i> , Walk.	21.
assata, Feld.	10.	<i>congressata</i> , Walk.	21.
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<i>attracta</i> , Walk.	77.	<i>cookaria</i> , Feld.	89.
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<i>boreophilaria</i> , Gn.	72.	cymosema, n. sp.	9.
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