Art. V.—*A Revision of New Zealand* Pyralidina.

By E. Meyrick, B.A., F.R.S.

Communicated by G. V. Hudson, F.E.S.

[*Read before the Wellington Philosophical Society, 23rd October, 1912.*]

At the request of Mr. G. V. Hudson I have here revised the genera of *Pyralidina* occurring in New Zealand.

The representation of this group in New Zealand presents the same features as that of the *Caradrinina*, but in a still more exaggerated form. The group contains about ten families, and a vast number of genera and species, being most largely developed in tropical regions; but in New Zealand most of the principal divisions are either absent or barely represented by a very few stragglers or immigrants, whilst at the same time the groups of *Crambus* and *Scoparia* are so disproportionately developed that the *Pyralidina* as a whole form 22 per cent. of the entire lepidopterous fauna, probably a larger proportion than in any other region.

The geographical origin of these numerously developed sections is, as set forth in my paper on the *Caradrinina*, undoubtedly to be traced to South America. This is remarkably borne out by the curious circumstance that *Crambus* is virtually absent from the Australasian region, though otherwise cosmopolitan and dominant, and therefore could only have entered from the south. It is probable that *Crambus* and *Scoparia*, which are tolerant of cold climates, and feed in the larval state on grasses and moss, attained considerable development in an antarctic continent under conditions similar to those now prevailing in the Falkland Islands (which seem to be actually a remnant of such a continent, and should exhibit a similar lepidopterous fauna), the remnants of this fauna being now isolated in a few last refuges, of which New Zealand is the chief.

The fragmentary and scantily developed portion of the fauna represents the results of accidental wind-borne immigration over a wide sea, and might reasonably have been expected to be larger than it is, for many of the Pyrales are great travellers; perhaps in no other group are there so many species of very wide distribution. Many species range through most of Asia, Africa, Australia, and the Pacific islands, and yet have failed to reach New Zealand.

The *Pterophoridae* present some difficulty, and seem at first to stand on a different footing from either of the above sections of the fauna. The larvae of the New Zealand species are not known (they ought to be), but, according to all experience of the family in other regions, they should feed on highly developed dicotyledonous plants, especially *Compositae* and *Gentianaceae*.* These natural orders are well represented in New Zealand, and the character of the genera is such that most of them seem to have been derived from an antarctic continent, such as is described above. I therefore have no doubt that the *Pterophoridae* may be reckoned to have entered by this route. If flower-heads of *Celmisia*, *Senecio*, and *Gentiana* are examined or collected in early summer, there would be every probability of breeding some of the species.

---

* The larva of *Alucita monospilalis* feeds on *Nothopanax Edgerleyi*, and that of *A. lycosema* on *Coprosma grandifolia*. *Platyptilia aeolodes* feeds on *Juncus*, and *P. falcatalis* almost certainly on *Veronica*.—G. V. H.

1. PHYCITIDAE.

Maxillary palpi not triangular. Forewings with vein 7 absent. Hindwings with defined pecten of hairs on lower margin of cell.

A very large and highly developed family of recent origin, barely represented in New Zealand; it is not improbable that none of the three species is truly indigenous.

1. Sporophyla Meyr.

Sporophyla Meyr., Trans. Ent. Soc. Lond., 1905, 224; type, *oenospora* Meyr.

Tongue developed. Antennae in ♂ simple, shortly ciliated. Labial palpi moderately long, obliquely ascending, second joint much thickened with dense scales, terminal joint short, obtuse. Maxillary palpi rudimentary. Forewings with 4 absent, 3 and 5 connate, 8 and 9 stalked. Hindwings with 2 almost from angle, 4 absent, 3 and 5 stalked, 6 and 7 connate, 8 closely approximated to cell and anterior portion of 7.

The single species is apparently endemic, but I think it may prove to be derived from Tasmania. The genus is nearly allied to the following.

1. *S. oenospora* Meyr., Trans. Ent. Soc. Lond., 1897, 388.
Castle Hill, Dunedin.

2. Crocydopora Meyr.

Crocydopora Meyr., Proc. Linn. Soc. N.S.W., 1882, 158; type, *cinigerella* Walk.

Tongue developed. Antennae in ♂ ciliated, with large tuft of scales in a sinuation at base. Labial palpi long, stout, densely scaled, porrected, terminal joint short, obtuse. Maxillary palpi rudimentary. Forewings with 4 absent, 8 and 9 stalked. Hindwings with 2 almost from angle, 4 absent, 3 and 5 stalked, 6 and 7 stalked, 8 closely approximated to cell and anterior portion of 7.

Includes only the following species, which is doubtless of Australian origin, and probably recently introduced into New Zealand.

2. *C. cinigerella* Walk., Cat., 35, 1719; Meyr., Trans. N.Z. Inst., 1888, 72: *stenopterella* Meyr., Proc. Linn. Soc. N.S.W., 1878, 200.
Whangarei, Nelson. Common and widely distributed in Australia.

3. Homoeosoma Curt.

Homoeosoma Curt., Ent. Mag., 1, 190 (1833); type, *sinuella* Fab.

Tongue developed. Antennae in ♂ ciliated, with a notch above basal joint. Labial palpi moderately long, arched, ascending with appressed scales, terminal joint rather short, tolerably pointed. Maxillary palpi moderate, loosely scaled. Forewings with 4 and 5 stalked, 9 absent. Hindwings with cell not nearly reaching middle, 4 absent, 3 and 5 approximated or connate, 7 anastomosing with 8 to near apex.

A cosmopolitan genus, but not numerous in species. As I have now undoubted examples of *vagella* from New Zealand, including an unusually large and strongly marked specimen, I am disposed to regard my *anaspila* as an obscure form of that species; but the point deserves further investigation. Larvae of this genus usually feed in heads of *Compositae*.

3. *H. vagella* Zell., Isis, 1848, 863; Meyr., Proc. Linn. Soc. N.S.W., 1878, 214: *anaspila* Meyr., Trans. Ent. Soc. Lond., 1901, 566.
Kermadec Islands, Waipukurau, Christchurch, Invercargill. Common throughout Australia.

2. Galleriadae.

Maxillary palpi not triangular. Forewings with 8 and 9 out of 7. Hindwings with defined pecten of hairs on lower margin of cell.

A rather small family of general distribution, but only represented in New Zealand by one artificially introduced species.

4. Meliphora Guen.

Meliphora Guen., Eur. Micr. Ind., 70 (1845); type, *grisella* Fab.
Achroia Hüb., Verz., 163 (1826) (praeocc.); type, *grisella* Fab.

Labial palpi very short, in ♂ ascending, in ♀ porrected. Forewings with 4 and 5 stalked, 10 absent. Hindwings in ♂ with long dorsal hair pencil, 3 and 5 stalked, 4 absent, 7 anastomosing with 8 to beyond middle.

The single species is probably of European origin, but has been carried by man over a large part of the world.

4. *M. grisella* Fab., Ent. Syst., 3, 289; Meyr., Trans. N.Z. Inst., 1888, 73: *anticella* Walk., Cat. 28, 483.
Nelson, Christchurch. Widely distributed in Australia, and occurs also in Europe, central Asia, and North America. Larva on wax in beehives, to which it is often very injurious; also on dried apples.

3. Crambidae.

Labial palpi usually very long, straight, porrected, loosely rough-scaled, attenuated forwards. Maxillary palpi well developed, strongly triangular. Forewings with 7 separate or out of 9. Hindwings with defined pecten of hairs on lower margin of cell.

A large and interesting family, found everywhere, but specially prominent in New Zealand, where they constitute one-thirteenth of the whole lepidopterous fauna; in Great Britain they form about one sixty-fifth. A remarkable feature is the absence of relationship with the Australian region, where *Talis* is the dominant genus of the family, and *Crambus* is virtually absent.

5. Orocrambus Meyr.

Orocrambus Meyr., Trans. N.Z. Inst., 1885, 133; type, *melampetrus* Meyr.

Characters of *Crambus*, but with the under-surface of thorax and coxae densely hairy; labial palpi clothed with dense rough hairs, except towards apex.

An interesting endemic genus, derived from *Crambus*.

5. *O. melampetrus* Meyr., Trans. N.Z. Inst., 1885, 133; N.Z. Journ. Sci., 2, 168.
Castle Hill, Mount Hutt, Arthur's Pass; 3,000–5,000 ft. Hampson attributes the authorship of this species to Purdie, but the names and diagnoses published by Purdie were not composed by him, but furnished by myself as an abstract of my paper.

6. *O. mylites* Meyr., Trans. N.Z. Inst., 1888, 67.
Mount Arthur; 4,000–4,800 ft.
7. *O. catacaustus* Meyr., Trans. N.Z. Inst., 1885, 134.
Arthur's Pass, Mount Arthur; 3,000–4,500 ft.
8. *O. pervius* Meyr., Trans. N.Z. Inst., 1912, 118.
Lake Wakatipu; 3,600 ft.
9. *O. subitus* Philp., Trans. N.Z. Inst., 1912, 116.
Hump Ridge; 3,500 ft.
10. *O. thymiastes* Meyr., Trans. Ent. Soc. Lond., 1901, 567.
Invercargill.
11. *O. tritonellus* Meyr., Trans. N.Z. Inst., 1885, 134.
Porter's Pass.
12. *O. machaeristes* Meyr., Trans. Ent. Soc. Lond., 1905, 224.
Mount Earnslaw; 5,300 ft.

6. Crambus Fab.

Crambus Fab., Ent. Syst. Suppl., 464 (1798).

Forewings with 4 and 5 sometimes stalked, 7 and 8 out of 9. Hindwings with 4 and 5 connate or stalked, 7 out of 6, anastomosing with 8.

A very large genus, common throughout the world, except in Australia, where there are no indigenous species, and the Indo-Malayan region, where there are comparatively few. The larvae probably nearly all feed amongst stems or roots of grass, or seldom on moss, but are little known, notwithstanding their abundance. The New Zealand species are all endemic.

13. *C. corruptus* Butl., Proc. Zool. Soc. Lond., 1877, 399, pl. 43, 9; Meyr., Trans. N.Z. Inst., 1883, 20.
Mount Hutt, Dunedin.
14. *C. heliotes* Meyr., Trans. N.Z. Inst., 1888, 68.
Mount Arthur (3,800 ft.), Lake Wakatipu.
15. *C. antimorus* Meyr., Trans. Ent. Soc. Lond., 1901, 567.
Mount Cook; 2,500 ft.
16. *C. aethonellus* Meyr., Trans. N.Z. Inst., 1883, 19; Trans. Ent. Soc. Lond., 1905, 225.
Mount Hutt.
17. *C. aulistes* Meyr., Trans. N.Z. Inst., 1909, 9.
Invercargill.
18. *C. saristes* Meyr., Trans. N.Z. Inst., 1909, 8.
Invercargill.
19. *C. heteranthes* Meyr., Trans. Ent. Soc. Lond., 1901, 568.
Mount Cook; 2,500 ft.
20. *C. melitastes* Meyr., Trans. N.Z. Inst., 1909, 9.
Invercargill.
21. *C. apselias* Meyr., Trans. N.Z. Inst., 1907, 108.
Invercargill.
22. *C. ramosellus* Doubl., Dieff. N.Z., 2, 288; Meyr., Trans. N.Z. Inst., 1883, 21: *rangona* Feld., Reis. Novar., pl. 137, 25: *leucanialis* Butl., Proc. Zool. Soc. Lond., 1877, 401.
North and South Islands, common everywhere at low levels; Chatham Islands.
23. *C. conopias* Meyr., Trans. N.Z. Inst., 1907, 109.
Dunedin.

24. *C. angustipennis* Zell., Hor. Soc. Ent. Ross., 13, 15, pl. 1, 3 (1877); Meyr., Trans. N.Z. Inst., 1883, 22.
Christchurch, Rakaia, Castle Hill (2,500 ft.).
25. *C. ephorus* Meyr., Trans. N.Z. Inst., 1885, 135.
Arthur's Pass; 4,800 ft.
26. *C. dicrenellus* Meyr., Trans. N.Z. Inst., 1883, 22.
Mount Hutt, Castle Hill, Arthur's Pass, Nelson, Springfield; 2,500–5,000 ft.
27. *C. isochytus* Meyr., Trans. N.Z. Inst., 1888, 68.
Mount Arthur; 4,000–4,500 ft.
28. *C. heteraulus* Meyr., Trans. Ent. Soc. Lond., 1905, 225.
Humboldt Range, Lake Wakatipu; 3,600 ft.
29. *C. crenaeus* Meyr., Trans. N.Z. Inst., 1885, 135.
Arthur's Pass, Mount Arthur, Springfield, Dunedin; to 4,000 ft.
30. *C. haplotomus* Meyr., Trans. N.Z. Inst., 1883, 23.
Castle Hill, Bealey River, Arthur's Pass, Lake Wakatipu; 2,000–2,500 ft.
31. *C. enchophorus* Meyr., Trans. N.Z. Inst., 1885, 136.
Castle Hill (2,500–4,000 ft.), Waikari.
32. *C. diplorrhous* Meyr., Trans. N.Z. Inst., 1885, 136.
Mount Earnslaw, Castle Hill, Lake Wakatipu.
33. *C. callirrhous* Meyr., Trans. N.Z. Inst., 1883, 24.
Christchurch, Castle Hill (2,500 ft.), Lake Guyon, Invercargill.
34. *C. schedias* Meyr., Trans. N.Z. Inst., 1911, 60.
Wellington.
35. *C. pedias* Meyr., Trans. N.Z. Inst., 1885, 137.
Wanganui, Masterton, Wellington.
36. *C. simplex* Butl., Proc. Zool. Soc. Lond., 1877, 400, pl. 43, 12; Meyr., Trans. N.Z. Inst., 1883, 24.
Napier, Waipukurau, Wellington, Christchurch, Lake Wakatipu, Invercargill.
37. *C. siriellus* Meyr., Trans. N.Z. Inst., 1883, 25.
Hamilton, Wellington, Mount Arthur (3,000–4,000 ft.).
38. *C. apicellus* Zell., Mon. Cramb., 31; Meyr., Trans. N.Z. Inst., 1883, 26.
Hamilton, Wellington, Mount Hutt.
39. *C. paraxenus* Meyr., Trans. N.Z. Inst., 1885, 137.
Lake Wakatipu; 2,000–5,000 ft.
40. *C. obstructus* Meyr., Ent. Mo. Mag., 1911, 82.
Lumsden.
41. *C. vittellus* Doubl., Dieff. N.Z., 2, 289; Meyr., Trans. N.Z. Inst., 1883, 27: *nexalis* Walk., Cat., 27, 178: *transcissalis*, ibid., 178: *bisectellus* Zell., Mon. Cramb., 32: *incrassatellus*, ibid., 32: *vapidus* Butl., Proc. Zool. Soc. Lond., 1877, 399.
North and South Islands, common everywhere at low levels.
42. *C. horistes* Meyr., Trans. Ent. Soc. Lond., 1902, 276.
Chatham Islands.
43. *C. flexuosellus* Doubl., Dieff. N.Z., 2, 289; Feld., Reis. Novar., pl. 137, 32; Meyr., Trans. N.Z. Inst., 1883, 28.
North and South Islands, common everywhere at low levels, sometimes ascending to 4,000 ft.
44. *C. thrincodes* Meyr., Trans. N.Z. Inst., 1910, 64; ibid., 1911, 61.
Kaitoke.

45. *C. tuhualis* Feld., Reis. Novar., pl. 137, 18; Meyr., Trans. N.Z. Inst., 1883, 28: *vulgaris* Butl., Proc. Zool. Soc. Lond., 1877, 400, pl. 43, 7.
Wellington, Christchurch, Castle Hill (2,500 ft.).
46. *C. sophronellus* Meyr., Trans. N.Z. Inst., 1885, 138.
Wellington.
47. *C. cyclopicus* Meyr., Trans. N.Z. Inst., 1883. 29.
Napier, Waipukurau, Wellington, Christchurch, Lake Guyon, Nelson.
48. *C. sophistes* Meyr., Trans. Ent. Soc. Lond., 1905, 226.
Dunedin.
49. *C. harpophorus* Meyr., Trans. N.Z. Inst., 1883, 30.
Mount Arthur, Arthur's Pass, Lake Wakatipu; 2,500–4,200 ft.
50. *C. oncobolus* Meyr., Trans. N.Z. Inst., 1885, 138.
Castle Hill; 2,300 ft.
51. *C. xanthogrammus* Meyr., Trans. N.Z. Inst., 1883, 32.
Bealey River, Castle Hill, Lake Coleridge; 2,000–2,500 ft.

7. Protyparcha Meyr.

Protyparcha Meyr., Subantarct. Isl. N.Z., 1, 71 (1909); type, *scaphodes* Meyr.

Antennae in ♂ unipectinated to apex. Thorax, coxae, and femora clothed with long loose hairs beneath. Forewings with 7 separate, 8 and 9 stalked. Hindwings with 4 and 5 approximated, 7 connate with 6, anastomosing shortly with 8. At present includes only the following species: a development of *Argyria*.

52. *P. scaphodes* Meyr., Subantarct. Isl. N.Z., 71, pl. 2, 16.
Auckland Island.

8. Argyria Hüb.

Argyria Hüb., Verz., 372 (1826); type, *nummulalis* Hüb.

Antennae in ♂ ciliated. Forewings with 7 separate, 8 and 9 stalked. Hindwings with 4 and 5 connate or stalked, 7 out of 6, anastomosing with 8.

A genus of some extent and wide distribution, but more especially American.

53. *A. strophaea* Meyr., Trans. Ent. Soc. Lond., 1905, 226.
Wellington.
54. *A. pentadactyla* Zell., Mon. Cramb., 38: *claviferella* Walk., Cat., 35, 1765: *strigosus* Butl., Proc. Zool. Soc. Lond., 1877, 398, pl. 43, 10; Meyr., Trans. N.Z. Inst., 1883, 31.
Palmerston, Masterton, Christchurch; also in south-east Australia and Tasmania. This is probably an indigenous New Zealand species; it has no near ally in Australia.

9. Tauroscopa Meyr.

Tauroscopa Meyr., Trans. N.Z. Inst., 1888, 69; type, *gorgopis* Meyr.

Labial palpi, thorax, and coxae clothed with dense rough hairs beneath. Forewings with 7 separate, 8 and 9 stalked. Hindwings with 4 and 5 stalked, 6 remote from 7 at origin, 7 anastomosing shortly with 8.

An endemic derivative of *Talis*.

55. *T. trapezitis* Meyr., Trans. Ent. Soc. Lond., 1905, 227.
Mount Earnslaw; 5,300 ft.
56. *T. gorgopis* Meyr., Trans. N.Z. Inst., 1888, 69.
Mount Arthur; 4,000 ft.
57. *T. glaucophanes* Meyr., Trans. N.Z. Inst., 1907, 109.
Lake Wakatipu.

10. Scenoploca Meyr.

Scenoploca Meyr., Trans. N.Z. Inst., 1883, 9; type, *petraula* Meyr.

Labial palpi with hairs of second joint produced beneath into an obliquely projecting tuft. Wings in ♀ much abbreviated, incapable of flight. Forewings with 7 separate, 8 and 9 stalked. Hindwings with 4 and 5 connate, 6 widely remote from 7 at origin, 7 anastomosing with 8.

Also endemic and derived from *Talis*.

58. *S. petraula* Meyr., Trans. N.Z. Inst., 1883, 9.
Christchurch. Larva on lichens on rocks.

11. Talis Guen.

Talis Guen., Eur. Micr. Ind., 86 (1845); type, *quercella* Schiff.
Hednota Meyr., Trans. Ent. Soc. Lond., 1886, 270; type, *bifractella* Walk.

Forewings with 4 and 5 sometimes stalked, 7 separate, 8 and 9 stalked. Hindwings with 4 and 5 connate, stalked, or seldom coincident, 6 remote from 7 at origin, 7 anastomosing with 8.

An interesting genus, considerably developed in Australia, where it is the principal representative of the family, elsewhere apparently confined to a few widely scattered forms. Their habits are similar to those of *Crambus*.

59. *T. leucophthalma* Meyr., Trans. N.Z. Inst., 1883, 7.
Christchurch.

12. Diptychophora Zell.

Diptychophora Zell., Stett. Ent. Zeit., 1866, 153; type, *kuhlweinii* Zell.

Forewings with termen twice sinuate, 7 separate, 8 and 9 stalked, 11 usually running into 12. Hindwings with 4 rarely absent (not in New Zealand species), 5 separate, rising from above angle, 6 remote from 7 at origin, 7 anastomosing shortly with 8.

Probably Indo-Malayan in origin, being fairly represented in that region, and less numerously in South Africa, east Australia, and South America; but the New Zealand species still form the largest local group, and include the largest and handsomest species. The larvae feed on moss, and the species mostly frequent forest.

60. *D. microdora* Meyr., Trans. Ent. Soc. Lond., 1905, 227.
Wellington, Mount Arthur (3,000 ft.).
61. *D. pyrsophanes* Meyr., Trans. N.Z. Inst., 1883, 11.
Wellington, and common in the South Island.
62. *D. chrysochyta* Meyr., Trans. N.Z. Inst., 1883, 12.
Whangarei, Auckland.

63. *D. interrupta* Feld., Reis. Novar., pl. 135, 15 : *astrosema* Meyr., Trans. N.Z. Inst., 1883, 13.
Wellington, Nelson, Arthur's Pass, Christchurch.
64. *D. lepidella* Walk., Cat., 35, 1761 ; Meyr., Trans. N.Z. Inst., 1883, 14 : *gracilis* Feld., Reis. Novar., pl. 137, 26.
Wellington, and common in South Island.
65. *D. leucoxantha* Meyr., Trans. N.Z. Inst., 1883, 15.
Wellington, Lake Wakatipu.
66. *D. metallifera* Butl., Proc. Zool. Soc. Lond., 1877, 401, pl. 43, 11 ; Meyr., Trans. N.Z. Inst., 1888, 70.
Auckland, Wellington, Nelson.
67. *D. selenaea* Meyr., Trans. N.Z. Inst., 1885, 131.
Whangarei, Auckland, Wellington, Otira River, Dunedin.
68. *D. auriscriptella* Walk., Cat., 30, 976 ; Meyr., Trans. N.Z. Inst., 1883, 16.
Whangarei, Auckland, Napier, Wellington, Christchurch, Otira River.
69. *D. holanthes* Meyr., Trans. N.Z. Inst., 1885, 131.
Otira Gorge ; 1,800 ft.
70. *D. harmonica* Meyr., Trans. N.Z. Inst., 1888, 71.
Auckland.
71. *D. bipunctella* Walk., Cat., 35, 1761.
Probably North Island.
72. *D. helioctypa* Meyr., Trans. N.Z. Inst., 1883, 17.
Lake Wakatipu.
73. *D. epiphaea* Meyr., Trans. N.Z. Inst., 1885, 132.
Mount Arthur, Arthur's Pass, Lake Wakatipu.
74. *D. elaina* Meyr., Trans. N.Z. Inst., 1883, 17.
North and South Islands, generally common.

13. Gadira Walk.

Gadira Walk., Cat., 35, 1742 (1866); type, *acerella* Walk. *Cryptomima* Meyr., Trans. N.Z. Inst., 1883, 8 ; type, *acerella* Walk.

Forewings with tufts of scales ; 7 separate, 8 and 9 stalked. Hindwings with 4 and 5 stalked, 6 widely remote from 7 at origin, 7 anastomosing with 8.

Only includes the following species, apparently an early form.

75. *G. acerella* Walk., Cat., 35, 1742 ; Meyr., Trans. N.Z. Inst., 1883, 8 *mahanga* Feld., Reis. Novar., pl. 137, 27.
Auckland, Wellington, Bealey River, Christchurch, Dunedin.

4. PYRAUSTIDAE.

Maxillary palpi present. Forewings with 7 separate, 8 and 9 stalked. Hindwings without defined pecten of hairs on lower margin of cell, 4 and 5 closely approximated or stalked, 7 usually out of 6 near origin, anastomosing with 8.

A very large family, mainly characteristic of tropical countries, but in New Zealand very scantily represented, except for the species of the genus *Scoparia*, which by its excessive development almost compensates for all other deficiencies. The characters on which Hampson separates from this family his groups *Hydrocampinae* and *Scoparianae* appear to me to be

entirely illusory; the former group is merely obtained by confounding together a number of unrelated genera which happen to agree in having vein 10 out of 8 (though even this is not constant), and is therefore unnatural and artificial, whilst the latter is nominally based on the possession of raised types of scales in the cell of forewings, whereas in my opinion these tufts are not merely sometimes, but usually, non-existent.

14. Nymphula Schranck.

Nymphula Schranck, Faun. Boic., 2, 162 (1802); type, *stagnata* Don.
Paraponyx Hüb., Verz., 362 (1826); type, *stratiotata* Linn.

Antennae $\frac{2}{3}$. Labial palpi ascending, second joint with projecting scales beneath, terminal joint slender, somewhat pointed. Maxillary palpi with apex loosely scaled. Forewings with 10 rising out of 8. Tibial outer spurs half inner.

An Indo-Malayan genus, spreading more or less into surrounding regions. Larva aquatic, sometimes breathing by branchiae. The single New Zealand species is an immigrant from Australia.

76. *N. nitens* Butl., Cist. Ent., 2, 556; Meyr., Trans. N.Z. Inst., 1885, 130.
Hamilton, Napier, Masterton, Christchurch, Lake Wakatipu. Also common in south-east Australia.

15. Musotima Meyr.

Musotima Meyr., Trans. Ent. Soc. Lond., 1884, 288; type, *aduncalis* Feld.

Antennae $\frac{3}{4}$. Labial palpi more or less ascending, second joint with evenly projecting scales beneath, terminal joint slender, rough-scaled beneath towards apex. Maxillary palpi dilated with rough scales, truncate. Tibial spurs long, almost equal. Forewings with 10 rising out of 8. Hindwings with 7 out of cell before angle, separate from 6.

Besides the New Zealand species there are a few others from Australia and the Indo-Malayan region, and one from Brazil.

77. *M. aduncalis* Feld., Reis. Novar., pl. 135, 11.
Whangarei, Auckland, Taranaki, Wellington, Nelson.

78. *M. nitidalis* Walk., Cat., 34, 1317: *timaralis* Feld., Reis. Novar., pl. 135, 23.
North and South Islands, common in forest. Also widely distributed in Australia. Larva on *Adiantum*, and perhaps other ferns. As it is sometimes very destructive to ferns in greenhouses, it might easily be spread artificially.

16. Diasemia Hüb.

Diasemia Hüb., Verz., 348 (1826); type, *litterata* Scop.

Antennae $\frac{3}{4}$, in ♂ fasciculate-ciliated. Labial palpi porrected, second joint triangularly expanded with dense projecting scales, terminal short, concealed. Maxillary palpi with apex expanded with loose scales. Tibial outer spurs $\frac{3}{4}$ of inner.

A small widely ranging genus; the New Zealand species is one of a group of representative geographical forms indicating a former single species.

79. *D. grammalis* Doubl., Dieff. N.Z., 2, 287.
Whangarei, Hamilton, Napier, Masterton, Castle Hill.

17. Sceliodes Guen.

Sceliodes Guen., Pyr., 400 (1856); type, *cordalis* Doubl.

Forehead with conical prominence. Antennae $\frac{3}{4}$. Labial palpi porrected, second joint with projecting scales beneath, terminal joint exposed, obtuse. Maxillary palpi filiform. Tibial spurs short, nearly equal.

Besides the following there is a closely allied species from Arabia and Africa.

80. *S. cordalis* Doubl., Dieff. N.Z., 2, 288: *mucidalis* Guen., Pyr., 400: *extensalis* Walk., Cat., 34, 1311: *obsistalis* Snell., Tijd. v. Ent. 1880, 206; ibid., 1883, pl. 6, 12.

Taranaki, Wanganui, Napier, Wellington. Also common in eastern Australia and Celebes. Larva in berries of *Solanum aviculare*.

18. Proternia Meyr.

Proternia Meyr., Trans. Ent. Soc. Lond., 1884, 317; type, *philocapna* Meyr.

Forehead with conical prominence. Antennae $\frac{3}{4}$, in ♂ with a somewhat thickened sinuation at $\frac{2}{3}$, containing a row of projecting scales beneath. Labial palpi porrected, second joint with dense projecting scales beneath, terminal joint almost concealed. Maxillary palpi filiform. Tibial outer spurs half inner.

Only includes the following species.

81. *P. philocapna* Meyr., Trans. Ent. Soc. Lond., 1884, 317.

Whangarei, Hamilton, Wellington, Mount Hutt.

19. Hymenia Hüb.

Hymenia Hüb., Verz., 360 (1826); type, *fascialis* Cram. *Zinckenia* Zell., Lep. Caff., 55 (1852); type, *fascialis* Cram.

Antennae $\frac{2}{3}$, basal joint in ♂ with erect apical spine or scale-projection on inner side, stalk notched above basal joint. Labial palpi arched, ascending, second joint with dense projecting scales beneath, terminal joint moderate, pointed. Maxillary palpi filiform. Tibial spurs nearly equal.

A genus of few species, of which the following is now spread by man throughout the warmer regions of the world. New Zealand is hardly warm enough for it.

82. *H. fascialis* Cram., Pap. Exot., 4, pl. 398, f. O: *recurvalis* Fab., Ent. Syst., 237.

Auckland. Also in Australia (as far south as Sydney), and throughout the warmer parts of Asia, Africa, and America. Larva feeds on *Cucurbitaceae* (melons, &c.) in gardens.

20. Nesarcha Meyr.

Nesarcha Meyr., Trans. Ent. Soc. Lond., 1884, 330; type, *hybrealis* Walk. *Adena* Walk., Cat., 27, 197 (1863); type, *hybrealis* Walk. *Deana* Butl., Ann. Mag. Nat. Hist. (5), 4, 451 (1879); type, *hybrealis* Walk.

Antennae $\frac{2}{3}$. Labial palpi very long, porrected, second joint triangularly expanded with projecting scales, terminal joint concealed. Maxillary palpi

dilated with scales towards apex. Tibial outer spurs in ♂ very short, in ♀ half inner.

Besides the following, Snellen attributes to this genus a species from Java which I do not know. The generic name *Adena* Walk. is strictly preoccupied, having been used as a correction of *Hadena;* for this reason Butler proposed to substitute *Deana*, but as there was already a genus *Deanea* the suggestion was not a happy one; in these circumstances it seems better to retain *Nesarcha*, which has been generally adopted.

83. *N. hybrealis* Walk., Cat., 18, 797 (*hybreasalis*) : *paronalis*, ibid., 797 : *xanthialis*, ibid., 27, 198.
Auckland, Palmerston, Nelson, Christchurch, Dunedin.

21. Mecyna Steph.

Mecyna Steph., List Brit. Mus., 5, 240 (1850); type, *polygonalis* Hüb. *Mnesictena* Meyr., Trans. Ent. Soc. Lond., 1884, 328; type, *marmarina* Meyr.

Antennae ¾. Labial palpi long or rather long, porrected, second joint triangularly expanded with projecting scales, terminal joint more or less concealed. Maxillary palpi dilated with scales towards apex. Tibial outer spurs half inner. Hindwings with some loose hairs on and beneath median vein, but without defined pecten.

A small genus, of wide distribution; the New Zealand species are of South American affinity, except the first.

84. *M. maorialis* Feld., Reis. Novar., pl. 134, 34.
Auckland, Napier, Wanganui, Nelson, Christchurch. This is nearly allied to a group of similar species extending through Europe, the Indo-Malayan region, and Australia, and has formerly been supposed identical with one or other of them, but is now regarded as distinct. Larva on *Sophora tetraptera.*

85. *M. daiclealis* Walk., Cat., 19, 1017 (*daiclesalis*); Meyr., Trans. N.Z. Inst., 1889, 155.
Wellington, Dunedin.

86. *M. notata* Butl., Cist. Ent., 2, 493.
Arthur's Pass, Dunedin.

87. *M. flavidalis* Doubl., Dieff. N.Z., 2, 287 : *quadralis*, ibid., 288 : *dipsasalis* Walk., Cat., 18, 796 : *otagalis* Feld., Reis. Novar., pl. 134, 35.
North and South Islands, up to 4,000 ft. Common and variable.

88. *M. pantheropa* Meyr., Trans. Ent. Soc. Lond., 1902, 277.
Chatham Islands.

89. *M. marmarina* Meyr., Trans. Ent. Soc. Lond., 1884, 329.
Auckland, Palmerston, Wellington, Christchurch, Dunedin; also in the Chatham Islands.

22. Proteroeca Meyr.

Proteroeca Meyr., Trans. Ent. Soc. Lond., 1884, 335; type, *comastis* Meyr.

Forehead with slight conical prominence. Antennae ¾, in ♂ fasciculate-ciliated. Labial palpi porrected, clothed with long rough projecting hairs, terminal joint penicillate, partially concealed. Maxillary palpi filiform, apex penicillate. Tibial outer spurs more than half inner.

Contains only the following species.

90. *P. comastis* Meyr., Trans. Ent. Soc. Lond., 1884, 335.
Nelson, Christchurch, Castle Hill, Wedderburn.

23. Heliothela Guen.

Heliothela Guen., Pyr., 152 (1854); type, *atralis* Hüb. *Nyctarcha* Meyr., Trans. Ent. Soc. Lond., 1884, 344; type, *ophideres* Walk.

Antennae less than $\frac{2}{3}$. Labial palpi porrected, second joint with dense projecting scales beneath, longer towards apex, terminal joint exposed, stout. Maxillary palpi not much shorter than labial, expanded with scales towards apex, truncate. Tibial outer spurs half inner. Hindwings with lower margin of cell more or less clothed with loose hairs towards base, but without defined pecten.

A small genus of early type, containing at present two European species, one Indian ranging into Australia and Madagascar, three Australian, and one New Zealand species.

91. *H. erebopis* n. sp.: *atra* Butl., Proc. Zool. Soc. Lond., 1877, 404; Meyr., Trans. N.Z. Inst., 1885, 70.
Castle Hill, Lake Wakatipu; 2,000–5,000 ft. I think it necessary to rename this species, as Butler's name *atra* is certainly likely to lead to confusion with the European *atralis*, the type of the genus. Butler did not recognize his species as a *Heliothela*.

24. Scoparia Haw.

Scoparia Haw., Lep. Brit., 491 (1911); type, *cembrae* Haw. *Xeroscopa* Meyr., Trans. Ent. Soc. Lond., 1884, 349; type, *ejuncida* Knaggs.

Antennae $\frac{2}{3}$. Labial palpi porrected, second joint with long dense projecting scales beneath, longer towards apex, terminal joint exposed. Maxillary palpi rather long, triangularly dilated with scales. Tibial outer spurs half inner. Hindwings with 4 and 5 connate or stalked.

A large genus, of world-wide distribution, but nowhere very prominent except in New Zealand and the Hawaiian Islands, in each of which regions it is very numerously developed; in New Zealand it has eighty-eight species, being the largest genus of *Lepidoptera*, and forming nearly a tenth of the whole lepidopterous fauna, and in the Hawaiian Islands it has about sixty species. The larvae mostly feed on mosses and lichens, but sometimes on the roots of other plants, and probably many of the New Zealand species feed on the roots of grass, their habits being similar to those of *Crambus*. The greater number of the New Zealand species are considerably larger and more diversified in appearance than those of other regions; these types are most nearly approached by the few species known from the colder parts of South America, whence others will doubtless be discovered.

92. *S. thyridias* Meyr., Trans. Ent. Soc. Lond., 1905, 228.
Lake Wakatipu.

93. *S. oreas* Meyr., Trans. N.Z. Inst., 1885, 81.
Lake Wakatipu; 5,000 ft.

94. *S. phlerga* Meyr., Trans. N.Z. Inst., 1885, 81.
North and South Islands; generally common.

95. *S. meliturga* Meyr., Trans. Ent. Soc. Lond., 1905, 228.
Auckland, Wellington.

96. *S. chlamydota* Meyr., Trans. N.Z. Inst., 1885, 82.
Wellington, Arthur's Pass, Dunedin, Lake Wakatipu.
97. *S. triclera* Meyr., Trans. Ent. Soc. Lond., 1905, 230.
Wellington.
98. *S. hemiplaca* Meyr., Trans. N.Z. Inst., 1889, 155.
Wellington. Larva on moss.
99. *S. dochmia* Meyr., Trans. Ent. Soc. Lond., 1905, 229.
Lake Wakatipu; 1,300 ft.
100. *S. minusculalis* Walk., Cat., 34, 1503; Meyr., Trans. N.Z. Inst., 1885, 82.
Akaroa, Bealey River, Dunedin, Lake Wakatipu. Larva on moss.
101. *S. minualis* Walk., Cat., 34, 1504; Meyr., Trans. N.Z. Inst., 1885, 83.
Napier, Ohakune, Wellington, Christchurch, Otira River.
102. *S. chimeria* Meyr., Trans. N.Z. Inst., 1885, 84.
Taranaki, Palmerston, Masterton, Wellington, Christchurch, Dunedin, Lake Wakatipu.
103. *S. dinodes* Meyr., Trans. N.Z. Inst., 1885, 85.
Wellington, Christchurch, Dunedin.
104. *S. parmifera* Meyr., Subantarct. Isl. N.Z., 72.
Auckland Island.
105. *S. acharis* Meyr., Trans. N.Z. Inst., 1885, 85.
Wellington, Akaroa, Dunedin, Invercargill.
106. *S. cymatias* Meyr., Trans. N.Z. Inst., 1885, 86.
Nelson, Arthur's Pass, Mount Hutt, Invercargill.
107. *S. microphthalma* Meyr., Trans. N.Z. Inst., 1885, 87.
Christchurch, Lake Wakatipu.
108. *S. hemicycla* Meyr., Trans. N.Z. Inst., 1885, 87.
Mount Holdsworth, Mount Arthur, Arthur's Pass; 3,000–4,000 ft.
109. *S. xysmatias* Meyr., Trans. N.Z. Inst., 1907, 110.
Dunedin.
110. *S. ergatis* Meyr., Trans. N.Z. Inst., 1885, 88.
Wellington, Castle Hill, Invercargill.
111. *S. autochroa* Meyr., Trans. N.Z. Inst., 1907, 110.
Invercargill.
112. *S. encapna* Meyr., Trans. N.Z. Inst., 1888, 65.
Mount Arthur; 4,000 ft.
113. *S. critica* Meyr., Trans. N.Z. Inst., 1885, 88.
Mount Arthur, Arthur's Pass, Lake Wakatipu; 2,500–4,000 ft.
114. *S. characta* Meyr., Trans. N.Z. Inst., 1885, 90.
Makatoku, Palmerston, Christchurch, Dunedin.
115. *S. ustimacula* Feld., Reis. Novar., pl. 135, 17; Meyr., Trans. N.Z. Inst., 1885, 91: *conifera* Butl., Cist. Ent., 2, 493.
Wellington, Porter's Pass, Dunedin.
116. *S. pongalis* Feld., Reis. Novar., pl. 137, 33; Meyr., Trans. N.Z. Inst., 1885, 91.
Auckland, Makatoku, Dunedin.
117. *S. melanaegis* Meyr., Trans. N.Z. Inst., 1885, 92.
Arthur's Pass, Lake Wakatipu; 1,700–4,200 ft.
118. *S. trapezophora* Meyr., Trans. N.Z. Inst., 1885, 93.
Mount Arthur, Castle Hill; 3,000–4,000 ft.
119. *S. philetaera* Meyr., Trans. N.Z. Inst., 1885, 93.
Bealey River.

120. *S. locularis* Meyr., Trans. N.Z. Inst., 1912, 118.
Mount Arthur (3,400 ft.), Lake Wakatipu.
121. *S. torodes* Meyr., Trans. Ent. Soc. Lond., 1901, 568.
Mount Cook.
122. *S. triscelis* Meyr., Subantarct. Isl. N.Z., 71.
Lake Wakatipu, Auckland Island.
123. *S. colpota* Meyr., Trans. N.Z. Inst., 1888, 65.
Wellington.
124. *S. choristis* Meyr., Trans. N.Z. Inst., 1907, 111.
Wellington.
125. *S. periphanes* Meyr., Trans. N.Z. Inst., 1885, 94.
Whangarei, Wellington, Lake Wakatipu.
126. *S. phalerias* Meyr., Trans. Ent. Soc. Lond., 1905, 230.
Wellington.
127. *S. diphtheralis* Walk., Cat., 34, 1501; Meyr., Trans. N.Z. Inst., 1885, 94.
Hamilton, Palmerston, Napier, Wellington, Christchurch, Otira River.
128. *S. submarginalis* Walk., Cat., 27, 48; Meyr., Trans. N.Z. Inst., 1885, 95: ? *linealis* Walk., Cat., 34, 1503: *maoriella*, ibid., 35, 1720.
North and South Islands; common generally.
129. *S. cataxesta* Meyr., Trans. N.Z. Inst., 1885, 96.
Otira River, Castle Hill, Lake Guyon, Lake Wakatipu.
130. *S. asaleuta* Meyr., Trans. N.Z. Inst., 1907, 111.
Lake Wakatipu.
131. *S. tetracycla* Meyr., Trans. N.Z. Inst., 1885, 97.
Nelson, Lake Coleridge.
132. *S. gyrotoma* Meyr., Trans. N.Z. Inst., 1909, 7.
Lake Tekapo, Ida Valley.
133. *S. indistinctalis* Walk., Cat., 27, 48; Meyr., Trans. N.Z. Inst., 1885, 97: *rakaiensis* Knaggs, Ent. Mo. Mag., 4, 80.
Wellington, Christchurch, Lake Wakatipu.
134. *S. chalicodes* Meyr., Trans. N.Z. Inst., 1885, 98.
Napier, Wanganui, Christchurch, Mount Hutt.
135. *S. fragosa* Meyr., Trans. N.Z. Inst., 1910, 71.
Kermadec Islands.
136. *S. leptophaea* Meyr., Trans. Ent. Soc. Lond., 1902, 277.
Chatham Islands.
137. *S. psammitis* Meyr., Trans. N.Z. Inst., 1885, 99.
Mount Ruapehu, Mount Holdsworth, Mount Arthur (4,000 ft.), Arthur's Pass (4,500 ft.), Dunedin, Lake Wakatipu, Invercargill.
138. *S. leptalea* Meyr., Trans. N.Z. Inst., 1885, 98.
Hamilton, Napier, Masterton, Wellington, Christchurch.
139. *S. epicomia* Meyr., Trans. N.Z. Inst., 1885, 99.
Kermadec Islands, North and South Islands, Auckland Island; up to 3,800 ft.
140. *S. feredayi* Knaggs, Ent. Mo. Mag., 4, 80; Meyr., Trans. N.Z. Inst., 1885, 100: *moanalis* Feld., Reis. Novar., pl. 137, 34.
Wellington, Bealey River, Lake Guyon, Lake Wakatipu.
141. *S. acompa* Meyr., Trans. N.Z. Inst., 1885, 100.
Lake Wakatipu; 1,200 ft.
142. *S. cyptastis* Meyr., Trans. N.Z. Inst., 1909, 7.
Invercargill.

143. *S. manganeutis* Meyr., Trans. N.Z. Inst., 1885, 102.
Otira Gorge; 1,600–2,600 ft.

144. *S. crypsinoa* Meyr., Trans. N.Z. Inst., 1885, 102.
Castle Hill (3,000 ft.), Lake Wakatipu (3,000–4,000 ft.), Ida Valley.

145. *S. agana* Meyr., Trans. N.Z. Inst., 1912, 119.
Mount Ruapehu (4,500 ft.), Arthur's Pass (3,000 ft.), Lake Wakatipu.

146. *S. alopecias* Meyr., Trans. Ent. Soc. Lond., 1901, 570.
Mount Cook.

147. *S. axena* Meyr., Trans. N.Z. Inst., 1885, 103.
Mount Arthur (4,000–4,500 ft.), Arthur's Pass (4,000 ft.), Castle Hill, Dunedin.

148. *S. steropaea* Meyr., Trans. N.Z. Inst., 1885, 103.
Castle Hill; 2,500–3,000 ft.

149. *S. exilis* Knaggs, Ent. Mo. Mag., 4, 81; Meyr., Trans. N.Z. Inst., 1885, 104.
Wellington, Christchurch, Dunedin, Lumsden, Lake Wakatipu.

150. *S. elaphra* Meyr., Trans. N.Z. Inst., 1885, 105.
Palmerston, Christchurch, Invercargill.

151. *S. paltomacha* Meyr., Trans. N.Z. Inst., 1885, 105.
Tararua Range, Castle Hill, Mount Hutt, Lake Wakatipu.

152. *S. deltophora* Meyr., Trans. N.Z. Inst., 1885, 106.
Mount Arthur, Arthur's Pass; 3,000–4,500 ft.

153. *S. sabulosella* Walk., Cat., 27, 178; Meyr., Trans. N.Z. Inst., 1885, 106.
North and South Islands, common generally at low levels; Enderby Island.

154. *S. panopla* Meyr., Trans. N.Z. Inst., 1885, 107.
Mount Hutt.

155. *S. clavata* Philp., Trans. N.Z. Inst., 1912, 116.
Hump Ridge; 3,000 ft.

156. *S. trivirgata* Feld., Reis. Novar., pl. 137, 29; Meyr., Trans. N.Z. Inst., 1885, 107.
Mount Ruapehu (4,500 ft.), Christchurch, Mount Arthur, Lake Wakatipu.

157. *S. augastis* Meyr., Trans. N.Z. Inst., 1907, 112.
Invercargill.

158. *S. petrina* Meyr., Trans. N.Z. Inst., 1885, 111.
Castle Hill, Bealey River, Lake Guyon, Aorangi.

159. *S. halopis* Meyr., Subantarct. Isl. N.Z., 72.
Auckland Island.

160. *S. cyameuta* Meyr., Trans. N.Z. Inst., 1885, 112.
Wellington, Mount Arthur, Arthur's Pass, Mount Hutt, Dunedin, Lake Wakatipu.

161. *S. dryphactis* Meyr., Trans. N.Z. Inst., 1911, 61.
Wellington, Lake Wakatipu.

162. *S. astragalota* Meyr., Trans. N.Z. Inst., 1885, 113.
Wellington, Mount Arthur (4,000 ft.), Mount Hutt, Lake Wakatipu.

163. *S. rotuella* Feld., Reis. Novar., pl. 137, 30; Meyr., Trans. N.Z. Inst., 1885, 113.
Wellington, Mount Hutt.

164. *S. harpalea* Meyr., Trans. N.Z. Inst., 1885, 114.
Wellington, Otira Gorge.

165. *S. ejuncida* Knaggs, Ent. Mo. Mag., 4, 81; Meyr., Trans. N.Z. Inst., 1885, 114.
Bealey River, Lake Coleridge, Mount Hutt (3,000 ft.), Lake Wakatipu (3,000–4,000 ft.).
166. *S. niphospora* Meyr., Trans. N.Z. Inst., 1885, 115.
Mount Arthur, Arthur's Pass, Castle Hill, Lake Wakatipu; 2,500–4,500 ft.
167. *S. apheles* Meyr., Trans. N.Z. Inst., 1885, 115.
Arthur's Pass; 4,500 ft.
168. *S. aspidota* Meyr., Trans. N.Z. Inst., 1885, 115.
Wellington, Mount Hutt, Dunedin, Lake Wakatipu.
169. *S. sideraspis* Meyr., Trans. Ent. Soc. Lond., 1905, 231.
Mount Earnslaw (5,300 ft.), Humboldt Range (5,300 ft.).
170. *S. nomeutis* Meyr., Trans. N.Z. Inst., 1885, 116.
Mount Arthur, Hump Ridge, Lake Wakatipu; 3,500–5,000 ft.
171. *S. parachalca* Meyr., Trans. Ent. Soc., Lond., 1901, 569.
Mount Cook.
172. *S. organaea* Meyr., Trans. Ent. Soc. Lond., 1901, 569.
Mount Cook.
173. *S. epicremna* Meyr., Trans. N.Z. Inst., 1885, 117.
Arthur's Pass, Castle Hill.
174. *S. luminatrix* Meyr., Trans. N.Z. Inst., 1909, 8.
Otira Gorge, Invercargill.
175. *S. legnota* Meyr., Trans. N.Z. Inst., 1885, 117.
Otira Gorge, Mount Hutt, Lake Wakatipu.
176. *S. chalara* Meyr., Trans. Ent. Soc. Lond., 1901, 570.
Mount Cook.
177. *S. octophora* Meyr., Trans. N.Z. Inst., 1885, 118.
Christchurch, Mount Hutt (3,000 ft.), Bealey River, Lake Wakatipu, Invercargill.
178. *S. asterisca* Meyr., Trans. N.Z. Inst., 1885, 118.
Wellington, Mount Hutt, Arthur's Pass (4,500 ft.), Lake Wakatipu.
179. *S. leucogramma* Meyr., Trans. N.Z. Inst., 1885, 119.
Mount Hutt, Lake Wakatipu.

25. Clepsicosma Meyr.

Clepsicosma Meyr., Trans. N.Z. Inst., 1888, 63; type, *iridia* Meyr.

Face slightly prominent, oblique. Antennae $\frac{3}{4}$, in ♂ fasciculate-ciliated. Labial palpi long, porrected, with long loosely projecting scales, attenuated to apex, terminal joint concealed. Maxillary palpi rather long, triangularly dilated with loose scales. Tibial outer spurs $\frac{2}{3}$ of inner.

A curious endemic genus.

180. *C. iridia* Meyr., Trans. N.Z. Inst., 1888, 64.
Auckland, Tararua Range, Kaitoke.

5. PYRALIDIDAE.

Maxillary palpi present. Forewings with 7 and 8 out of 9. Hindwings without defined pecten of hairs on lower margin of cell, 4 and 5 closely approximated or stalked, 7 out of 6 near origin, free or anastomosing with 8.

A family of moderate extent and general distribution, but the only two New Zealand species are not indigenous.

26. Diplopseustis Meyr.

Diplopseustis Meyr., Trans. Ent. Soc. Lond., 1884, 284; type, *perieralis* Walk.

Labial palpi rather long, porrected, second joint with dense rather short projecting scales, forming a short apical tuft beneath, terminal joint moderate, slender, obliquely ascending. Maxillary palpi moderate, triangularly dilated with scales. Forewings with 4 and 5 stalked. Hindwings with 4 and 5 stalked, 7 anastomosing with 8.

Perhaps contains only the following species.

181. *D. perieralis* Walk., Cat., 19, 958 (*perieresalis*): *minima* Butl., Proc. Zool. Soc. Lond., 1880, 684; Meyr., Trans. Ent. Soc. Lond., 1884, 285; Trans. N.Z. Inst., 1888, 63.

Auckland, Wanganui, Christchurch. Also common in eastern Australia, and occurs in Fiji, Formosa, Borneo, and Assam. It occurs near towns, and is probably attached to some cultivated plant.

27. Pyralis Linn.

Pyralis Linn., Syst. Nat. (12), 881 (1767); type, *farinalis* Linn.

Labial palpi ascending, second joint rough-scaled, terminal joint moderate. Maxillary palpi filiform. Forewings with 4 and 5 stalked. Hindwings with 4 and 5 stalked, 8 free.

A genus of about 20 species, chiefly Indo-Malayan, but some of the species have been very widely spread.

182. *P. farinalis* Linn., Syst. Nat. (10), 226; Meyr., Trans. N.Z. Inst., 1885, 122.

Christchurch. Generally distributed in Australia, and occurs also through most of the world, but probably Central Asiatic in origin. Larva on flour and corn-refuse, and therefore readily imported by man.

6. Thyrididae.

Maxillary palpi obsolete. Forewings with 8 and 9 usually separate. Hindwings without defined pecten of hairs on lower margin of cell, 1 absent, 8 usually free.

A family of moderate size, mainly tropical in distribution; only one species reaches New Zealand.

28. Morova Walk.

Morova Walk., Cat., 32, 523 (1865); type, *subfasciata* Walk.

Face prominent. Labial palpi short, stout, subascending, with appressed scales, terminal joint very short, obtuse. Forewings with 8 and 9 short-stalked or approximated towards base. Hindwings with 5 tolerably remote from angle, 7 from before upper angle, 8 free.

Includes only the following species.

183. *M. subfasciata* Walk., Cat., 32, 523; Meyr., Trans. N.Z. Inst., 1884, 108: *gallicolens* Butl., Voy. Ereb. Terr., Ins., 46.

Wellington, Christchurch, Dunedin. Also occurs in Fiji. Larva in gall-like swellings of the stem of *Parsonsia*.

7. PTEROPHORIDAE.

Maxillary palpi obsolete. Forewings usually fissured, forming two (rarely three or four) segments, 8 and 9 usually stalked. Hindwings without defined pecten of hairs on lower margin of cell, on lower surface with a double row of short dark spine-like scales on lower margin of cell, 5 remote from 4, 7 remote from 6, shortly approximated to 8 beyond origin, wing usually figured, forming three segments.

A considerable family of very general distribution.

29. Platyptilia Hüb.

Platyptilia Hüb., Verz., 429 (1826); type, *gonodactyla* Schiff.

Forehead usually with tuft of scales. Forewings bifid, segments moderate, 8 and 9 stalked. Hindwings trifid, third segment with black scales in dorsal cilia, sometimes barely traceable.

An extensive and cosmopolitan genus. The larvae are usually attached to species of *Compositae*.

184. *P. isoterma* Meyr., Trans. N.Z. Inst., 1909, 10.
Wellington.

185. *P. heliastis* Meyr., Trans. N.Z. Inst., 1885, 129.
Mount Arthur, Castle Hill, Lake Wakatipu.

186. *P. falcatalis* Walk., Cat., 30, 931; Meyr., Trans. N.Z. Inst., 1885, 128: *repletalis* Walk., Cat., 30, 931.
North and South Islands, common; up to 3,600 ft.

187. *P. aeolodes* Meyr., Trans. Ent. Soc. Lond., 1902, 278; Trans. N.Z. Inst., 1909, 10.
Wellington, Invercargill, Chatham Islands, Auckland Island.

188. *P. deprivatalis* Walk., Cat., 30, 946: *haasti* Feld., Reis. Novar., pl. 140, 58; Meyr., Trans. N.Z. Inst., 1885, 128.
Hamilton, Christchurch, Otira River, Lake Wakatipu, Invercargill.

189. *P. campsiptera* Meyr., Trans. N.Z. Inst., 1907, 112.
Lake Wakatipu.

190. *P. epotis* Meyr., Trans. Ent. Soc. Lond., 1905, 231; Trans. N.Z. Inst., 1911, 73.
Mount Arthur, Humboldt Range (3,600 ft.).

30. Alucita Linn.

Alucita Linn., Syst. Nat., 542 (1758); type, *pentadactyla* Linn.

Forehead without tuft. Forewings bifid, segments narrow, 2 sometimes absent, 3 absent, 8–10 absent, 11 sometimes absent. Hindwings trifid, third segment without black scales in dorsal cilia; 3 absent.

Fairly extensive, but mainly located round the shores of the Mediterranean; some of the species range very widely. The New Zealand species seem to be of Indo-Malayan affinity, but are all endemic.

191. *A. monospilalis* Walk., Cat., 30, 950; Meyr., Trans. N.Z. Inst., 1885, 124: *patruelis* Feld., Reis. Novar., pl. 140, 56.
Whangarei, Auckland, Wellington, Nelson, Otira River, Christchurch, Dunedin.

192. *A. lycosema* Meyr., Trans. N.Z. Inst., 1885, 124.
Auckland, Wellington, Christchurch, Dunedin.

193. *A. furcatalis* Walk., Cat., 30, 950; Feld., Reis. Novar., pl. 140, 52; Meyr., Trans. N.Z. Inst., 1885, 123.
Auckland, Cambridge, Palmerston, Makatoku, Wellington, Otira River.

194. *A. innotatalis* Walk., Cat., 30, 945; Meyr., Trans. N.Z. Inst., 1885, 124; Trans. Ent. Soc. Lond., 1885, 424.
Napier, Palmerston, Masterton, Nelson, Otira River, Christchurch, Invercargill.

31. Stenoptilia Hüb.

Stenoptilia Hüb., Verz., 430 (1826); type, *pterodactyla* Linn.

Forehead with horny prominence or tuft of scales. Forewings bifid, segments moderate or rather narrow, 8 and 9 stalked. Hindwings trifid, third segment without black scales in dorsal cilia.

A genus of moderate extent, generally distributed.

195. *S. celidota* Meyr., Trans. N.Z. Inst., 1885, 125.
Christchurch, Lake Wakatipu. Also widely distributed in Australia.

196. *S. lithoxesta* Meyr., Trans. N.Z. Inst., 1885, 127; Gen. Ins., 100, f. 18.
Arthur's Pass.

197. *S. charadrias* Meyr., Trans. N.Z. Inst., 1885, 126.
Arthur's Pass.

198. *S. vigens* Feld., Reis. Novar., pl. 140, 49; Meyr., Trans. N.Z. Inst., 1912, 119.
Lake Wakatipu.

199. *S. orites* Meyr., Trans. N.Z. Inst., 1885, 126.
Clinton.

200. *S. zophodactyla* Dup., Hist. Nat. Lép. Fr., 11, 314: *canalis* Walk., Cat., 30, 944.
Wellington. Occurs also in eastern Australia, India, Europe, Africa, and South America.

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

Index of Genera.

INDEX OF GENERA—*continued.*

INDEX OF SPECIES.

INDEX OF SPECIES—*continued.*

INDEX OF SPECIES—*continued.*

ART. VI.—*Description of a New Species of* Perla *(Stone-fly) in New Zealand.*

By G. V. HUDSON, F.E.S.

[*Read before the Wellington Philosophical Society, 1st May, 1912.*]

Leptoperla grandis n. sp.

The expansion of the wings is 2 in. The antennae are shorter than the forewings. The head and thorax are blackish-brown, the abdomen paler brown. The forewings are pale greyish-brown, darker towards the base, and very sparsely covered with clear dots; the posterior veinlets are very distinct, and marked with clearer lines. The hindwings are transparent, with a chain of oblong grey marks on the costa between the veinlets. The eggs are brownish-grey, banded with paler. The caudal setae are about one-quarter the length of the abdomen, yellowish-brown.

A single specimen of this very fine species, which is as large as the well-known *Stenoperla prasina*, was discovered by Mrs. Hudson last January amongst foliage on the banks of the Mangawhero River, near Ohakune, Main Trunk line. Every effort was made to secure further specimens, but without result. It is evidently a rare insect, and, as I am unwilling to allow it to remain undescribed for an indefinite period, the foregoing description has been prepared. It must, however, be regarded as provisional only, and as soon as other specimens are available they will be submitted to a specialist in the group, in order that the description may be amplified if necessary, and the reference of the species to the genus *Leptoperla* verified.