

LEPIDOPTERA OF THE CHATHAM ISLANDS

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In the Transactions of the Entomological Society of London for 1902, pp. 273-9, I published an account of a collection of Lepidoptera made in the Chatham Islands by Mr. J. Fougère. Through Mr. A. Tonnoir, of the Canterbury Museum, a further collection of about 260 specimens, made by Messrs. G. Archey and C. Lindsay, have now been submitted to me for examination ; with the results of this study I have here incorporated those of my former paper, which, together, comprise, I believe, all known records. These are summarised as follows :—

After correction of previous errors forty-three species in all are recorded, which may be grouped in the following classes :—

- (a) Three domestic species, which are undoubtedly introduced by direct agency of man.
- (b) One cosmopolitan species (*Agrotis ypsilon*) of strong flight and hardy constitution, which probably finds its own way everywhere.
- (c) Six species generally common both in New Zealand and Australia, but probably all Australian in origin ; these all evidently possess special facilities for distribution, but it is uncertain what they are ; perhaps they take advantage of human agency in some way.
- (d) Twenty-four indigenous New Zealand species, mostly of common occurrence. It seems highly improbable that so many species could strike these little islands if blown out to sea under present conditions, and it can be definitely stated that most of them, at any rate, are most unlikely to have been introduced by man ; I therefore infer that in the main they form part of a common fauna, dating back to a period when there were much more extensive (but not necessarily continuous) land-surfaces in these waters, and mutual intercommunication was much easier than at present ; such times must have been geologically quite recent.
- (e) Nine species, which are endemic, so far as is known. Of these seven belong to the most familiar New Zealand genera, in which they constitute additional species of ordinary type, which would have excited no surprise if discovered in New Zealand ; I presume them to form part of the common fauna mentioned above. The other two are more interesting and unexpected. *Hectacma decoranda* is a very distinct species of a genus which ranges from

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India and Ceylon to New Zealand, but does not approach the known New Zealand species ; I should regard it as of a Polynesian type, *Monopis typhlopa* is a peculiar species of a cosmopolitan genus ; the members of it are usually semi-domesticated or parasitic on human settlements, and their specific development can hardly antedate these, but may be considered a sort of index to them ; I think it is quite likely that *M. typhlopa* may be strictly confined to the Chatham Islands, in which case it affords important evidence of the early visitors who introduced it.

HYPSIDAE.

1. **Nyctemera annulata** Boisd. Mangere I., 1 ex. (Lindsay). Common in New Zealand, also in Kermadec Islands.

CARADRINIDAE.

2. **Agrotis ypsilon** Rott. Mangere I., 1 ex. (Lindsay). Cosmopolitan.
3. **Persectania composita** Guen. Mangere I. (Fougère, Lindsay). Common in New Zealand and Australia.
4. **Persectania propria** Walk. (Fougère). New Zealand (South Island).
5. **Melanchra bromias** Meyr. Owenga, Whangamarino, Mangere I. (Fougère, Lindsay). Endemic ; allied to the New Zealand species *mutans* and *insignis*, but quite distinct. Of this species Lindsay writes, "attracted by a candle in the tent, but not more than three specimens were taken on any one night, and these usually at a late hour." It varies in colouring like its two allies.
6. **Ariathisa comma** Walk. Maunganui, 1 ex. (Lindsay). Common in New Zealand.

HYDRIOMENIDAE.

7. **Phrissogonus denotatus** Walk. Maunganui, 9 ex. (Lindsay). very common in a piece of bush at the back of the homestead, here only. Common in New Zealand and Australia, also in Kermadec Islands. One example has a white subdorsal blotch in median band.
8. **Chloroclystis semialbata** Walk. Maunganui, 2 ex. (Lindsay) Common in New Zealand, also in Kermadecs and Auckland Islands.
9. **Hydriomena similata** Walk. Maunganui, Kaingaroa, 3 ex. (Lindsay). Common in New Zealand.
10. **Hydriomena haemophaea**, n. sp.
♂ 34 mm. Head, palpi, thorax light reddish-ochreous. Forewings with termen hardly bowed, little oblique, slightly waved ; reddish-ochreous ; a basal patch of grey curved transverse striation, edge obtusely angulated in middle, edged by an ochreous-whitish

stria ; space between this and median band suffused light greyish ; median band suffused grey, with darker grey striae, broad on costa, and becoming narrower downwards, edged by reddish-ochreous striae, anterior with acute angulations outwards above and below middle and inwards in middle, posterior partly marked white, rather irregularly waved, with short broad obtuse double prominence in middle ; discal mark small, blackish, transverse ; a subterminal fascia of grey suffusion connected with termen by suffused dark grey bars ; an irregular white costal spot just before apex, tinged reddish on costa (cilia imperfect). Hind wings ochreous grey-whitish, towards termen slightly reddish-tinged ; a dark grey discal dot ; a subterminal series of faint cloudy greyish spots ; cilia reddish-whitish.

Whangamarino, 1 ex. (Lindsay). Very distinct ; nearest the New Zealand *hemizona*.

11. **Hydriomena deltoidata** Walk. Wharekauri, Waiparua, 6 ex. (Lindsay). Common in New Zealand.

12. **Hydriomena subochraria** Doubl. Kaingaroa, Owenga, Maunganui, the Ngaio, 9 ex. (Lindsay). Common in New Zealand and Australia.

(*Xanthorhoe rosearia* Doubl. This was recorded formerly with some doubt on the strength of a single specimen ; I have re-examined this specimen, which is in my collection, and am now satisfied that it is a rather worn example of *homalocyma* ; the species must, therefore, be expunged from the Chatham Islands list).

13. **Xanthorhoe venipunctata** Walk. Recorded erroneously as *lucidata* (Fougère). Common in New Zealand.

14. **Xanthorhoe homalocyma** Meyr. Wharekauri, Kaingaroa, Waiparua, the Ngaio, Maunganui, Mangere I. Endemic ; nearly allied to the New Zealand *rosearia*, *semifissata*, and *subductata*, but distinct from all, though variable. It seems to be generally common (Fougère, Lindsay).

15. **Xanthorhoe chlorocapna**, sp. n.

♂ 24-26 mm. Head, palpi, thorax pale greyish-ochreous irrorated blackish. Antennal pectinations ten ; forewings with termen slightly bowed, rather oblique ; light smoky-grey suffusedly irrorated dark fuscous ; costal area from base to $\frac{1}{3}$ rather broadly suffused pale greyish-ochreous, with groups of two antemedian, and three postmedian dark fuscous shades crossing it, but becoming obsolete downwards ; discal spot small, transverse, dark fuscous ; cilia whitish, basal half dark grey. Hind wings dark grey ; cilia whitish, basal third grey.

Mangere I., 6 ex. (Lindsay). Very distinct ; the nearest New Zealand species is, perhaps, *periphaea*.

STERRHIDAE.

16. **Leptomeris rubraria** Doubl. Mangere I., 1 ex. (Lindsay). A very common Australian insect, which has established itself also in New Zealand and the Kermadecs.

MONOCTENIADAE.

17. **Adeixis griseata** Huds. "Only observed on swampy ground round the edge of Lake Rotokawau, near Wharekauri; on walking through the swamp it was driven out of rushes, moss, etc., in moderate numbers, in company with a *Crambus*" (Lindsay). These examples are identical in character with the New Zealand insect, which is a modified representative of the common Australian *inostentata*.

SELIDOSEMIDAE.

18. **Selidosema ombrodes** Meyr. Mangere I., Kaingaroa, Wharekauri, Maunganui (Fougère, Lindsay). Endemic; "very common in the bush at Wharekauri, fully 75 per cent. of the specimens too old and weather-worn to be of service" (Lindsay), but fifty examples were taken.

19. **Sestra flexata** Walk. Wharekauri; 2 ex. (Lindsay). Common in New Zealand.

NYMPHALIDAE.

20. **Vanessa gonerilla** Fab. Owenga, Maunganui, Mangere I.; 7 ex. (Lindsay). "Usually to be met with in sheltered situations in all parts of the Chatham group visited; it was much more wary than the New Zealand insect, and was very difficult to catch, being very easily alarmed when settled, and a rapid flyer on the wing" (Lindsay). Common in New Zealand.

CRAMBIDAE.

21. **Crambus ramosellus** Doubl. Only one much damaged specimen has been taken (Fougère). Common in New Zealand.

22. **Crambus siriellus** Meyr. Wharekauri, Maunganui, Mangere I.; 7 ex. (Lindsay). A local New Zealand species.

23. **Crambus vittellus** Doubl. Wharekauri, Mangere I.; 2 ex. (Lindsay). These examples are both of the form in which the white stripe of forewings is interrupted by the dark angulated lines. Common in New Zealand.

24. **Crambus horistes** Meyr. Wharekauri, Mangere I., Maunganui, the Ngaio (Fougère, Lindsay). Endemic; this distinct species is evidently the common *Crambus* of the group, as Mr. Lindsay brought 38 examples.

PYRAUSTIDAE.

25. **Nymphula nitens** Butl. Mangere I., 1 ex. (Lindsay). An Australian insect, also established in New Zealand.

26. **Musotima nitidalis** Walk. Wharekauri; 1 ex. (Lindsay). Common in Australia and New Zealand; this example resembles the New Zealand form in being darker-coloured than the Australian form, which is yellow.

27. **Mecyna pantheropa** Meyr. Wharekauri, Mangere I. (Fougère, Lindsay). Endemic; Mr. Lindsay only took three examples of this.

28. **Mecyna marmorata** Meyr. Maunganui, Kaingaroa, the Ngaio, Mangere I. (Fougère, Lindsay), common. Common also in New Zealand.

29. **Scoparia philerga** Meyr. Mangere I., Owenga; 7 ex. (Lindsay). Common in New Zealand.

30. **Scoparia minusculalis** Walk. Mangere I., Wharekauri, Maunganui; 9 ex. (Lindsay). The white markings of the forewings are more variable in extent than in my series of New Zealand specimens (in which they are nearly uniform), sometimes partially and variably obsolete. Common in the South Island of New Zealand.

31. **Scoparia indistinctalis** Walk. Mangere I., Kaingaroa; 3 ex. (Lindsay). Rather common in New Zealand.

32. **Scoparia leptalea** Meyr. Mangere I., Owenga; 8 ex. (Lindsay). Common in New Zealand. I now consider that *leptophaea* Meyr., of which the original examples were all in poor condition, cannot be properly maintained as distinct from this, and must be treated as a synonym.

33. **Scoparia sabulosella** Walk. Maunganui, Wharekauri; 3 ex. (Lindsay). Common in New Zealand.

PTEROPHORIDAE.

34. **Platyptilia aeolodes** Meyr. This species (not met with by Mr. Lindsay) was originally described from six examples taken in the Chatham group by Mr. Fougère, but was subsequently found also in New Zealand and Auckland Islands.

TORTRICIDAE.

35. **Tortrix excessana** Walk. Maunganui (Fougère, Lindsay). Common in New Zealand, whence it may easily have been introduced artificially with garden plants.

EUCOSMIDAE.

36. **Bactra xystrota** Meyr. Owenga; 2 ex. (Lindsay). Also in South Island of New Zealand, apparently local.

OECOPHORIDAE.

37. **Borkhausenia pseudopretella** Stainto. Taken by Mr. Fougère; an introduced domestic species of wide range.

LYONETIADAE.

38. **Hectacma decoranda**, n. sp.

♂ ♀ 10-11 mm. Head, palpi, thorax whitish, palpi slender, second joint with several lateral projecting bristles towards apex, terminal joint shorter than second, filiform. Antennae nearly as long as forewings. Forewings elongate, apex pointed, produced, termen slightly sinuate, very oblique; pale ochreous-yellowish with bases of scales grey; a large acute wedge-shaped whitish patch based on basal third of costa with apex extending to disc at $\frac{2}{3}$, a white nearly longitudinal streak beneath posterior half of this, and separated from it by blackish; a blackish blotch along basal fifth of costa; costa from $\frac{1}{3}$ to apex white, between $\frac{1}{3}$ and $\frac{3}{4}$ with about eleven black more or less oblique strigulae arranged in three irregular groups; an irregular white streak along termen, terminated above by a small black anteapical spot with an anterior projection margined beneath by a silvery mark, itself edged grey beneath (a fine grey line a little below this), and below middle immediately preceded by a rather larger black spot; a black apical dot; cilia light silvery grey, on costa a dark fuscous basal line towards apex, and dark fuscous projecting hook beyond it. Hind wings with 5 and 6 separate; light brassy-grey; cilia whitish-grey.

Mangere I., Manukau; 4 ex. (Lindsay). This interesting and very distinct species has no near relationship to the several known New Zealand species of the genus, but seems much closer to *spartinodes* from Assam; it would, however, be premature to assert that it may not itself be found in New Zealand.

TINEIDAE.

39. **Trichophaga tapetiella** Linn. Taken by Fougère. A domestic species, widely distributed by man in Australia, New Zealand, and elsewhere.

40. **Monopis ethelella** Neom. Six normal examples taken by Fougère. Common in Australia and New Zealand, a domestic species. Mr. Lindsay appears to have spent his time in camp rather than in houses, which accounts for his not taking some insects of this class. The neuration of the forewings of this species (for comparison with the next) is 2 separate, 3 and 4 stalked, 6 and 7 short-stalked, 8 separate, 10 from angle, 11 from beyond $\frac{4}{5}$.

41. **Monopis typhlopa**, sp. n.

♀ 19-20 mm. Head whitish-ochreous. Palpi dark fuscous, apex whitish-ochreous. Thorax whitish-ochreous, patagia dark purplish-fuscous. Forewings with apex obtuse-pointed termen

very obliquely rounded ; 2 and 3 out of 4, 6 to costa, 7 and 8 stalked, 9 closely approximated, 10 nearly from angle, 11 from $\frac{2}{3}$; dark purplish fuscous ; a rather irregular-edged whitish-ochreous dorsal streak from base to tornus ; discal impression hardly marked, not hyaline ; costa obscurely freckled whitish-ochreous on posterior half ; cilia dark fuscous, base obscurely freckled whitish-ochreous, on tornus whitish-ochreous. Hind wings pale grey, with whitish-ochreous reflection ; cilia ochreous-whitish.

Mangere I. ; 3 ex. (Lindsay). Although at first sight similar to *ethelella*, this is really a very distinct species, by the absence of the hyaline impression (almost always well-marked in the genus), and the quite different neuration (which in this genus tends to be more or less peculiar in nearly every species).

42. **Tinea mysticopa** Meyr. Mangere I., 1 ex. (Lindsay). Also in South Island of New Zealand.

43. **Archyala terranea** Butl. Taken by Fougère ; common in New Zealand.