

ART. XV.—On the Natural History of three Species of Micro-Lepidoptera.

By G. V. HUDSON.

[Read before the Wellington Philosophical Society, 25th July, 1888.]

PLATE VIII.

IN most of the openings in the bush round Wellington may be seen a conspicuous-looking shrub, with very dark-green leaves and purple flowers, which in the autumn are replaced by large quantities of bright orange-coloured berries. Its popular name is, I believe, the New Zealand night-shade, and it is scientifically known as *Solanum aviculare*. About January a large number of these berries are full grown, although as yet quite green and unripe. It is in these that we must look for the larva of *Sceliodes cordalis*, Dbld., one of our most beautiful Pyrales, whose presence is readily detected by the large holes which it drills in the sides of the berries. When extracted from its burrow, this caterpillar is found to be very robust and of a light-reddish colour, paler beneath (pl. viii., fig. 2). Like most internal-feeding larvæ it is very sluggish, and seems quite helpless in the open.

The infected berries can easily be placed in a caterpillar-cage, and the enclosed larvæ will emerge when they are full grown and spin their small white cocoons on the sides of the cage, in which they are transformed into pupæ, the moths appearing about a month later.

This species is very partial to light, and hence frequently enters houses, but the best and most interesting method of procuring it is to rear it from the berries.

Our next species (*Heliostibes atychioides*, Meyr.) belongs to the *Timida*, and its larva is found on the manuka (*Leptospermum*), twisting up the terminal shoots and devouring the leaves. It lives in a kind of tube which runs along one of the twigs, and is constructed of a mixture of leaves and silk. In colour this larva is dark brown, with the head and two first segments corneous, the rest of the body being ornamented with two black spots on the sides of each segment. The subdorsal and lateral lines are whitish, the former with an interrupted central black line (fig. 4). These caterpillars are rather difficult to extract from their habitations, as they are extremely active, darting either backwards or forwards with equal rapidity whichever end we happen to attack. When full grown, the insect closes up both ends of its tube, and constructs a small cocoon within, where it changes into a pupa from which the moth emerges in about three weeks' time, when it may be seen in great abundance, flying round the

manuka bushes towards evening during December and January. Specimens for the cabinet should always be reared from the larva, as the extreme activity of the perfect insect causes those captured in the open to be nearly always more or less injured (fig. 3).

Another species of Tortricidæ attached to the manuka is *Caccacia excessana*, Walker. Its larva is very different from that of the preceding species, being of a light-green colour with a conspicuous yellow lateral line (fig. 6). During the spring months it joins one or two leaves together, feeding within, and is very active, leaving its retreat immediately when detected and lowering itself by a silken thread to the ground. The pupa is enclosed in a slight silken cocoon between two manuka leaves, and the moth appears about the end of November (fig. 5).

DESCRIPTION OF PLATE VIII.

- Fig. 1. *Sceliodes cordalis*.
 Fig. 2. " larva.
 Fig. 3. *Heliothibis atychioides*.
 Fig. 4. " larva.
 Fig. 5. *Caccacia excessana*.
 Fig. 6. " larva.
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ART. XVI.—On the Varieties of a common Moth (*Declana floccosa*).

By G. V. HUDSON.

[Read before the Wellington Philosophical Society, 13th June, 1888.]

PLATE IX.

SEEING that the variation of *Lepidoptera* is attracting so much attention in England at the present time, more especially in its relation to the origin of species, it occurred to me that perhaps a few remarks on one of our moths (*Declana floccosa*) might be of some interest, especially as it seems not unlikely that we are here actually witnessing the gradual evolution of several distinct species from a single one of a very unstable character. I must, however, begin my remarks by stating that my information on the subject is at present very limited, the varieties of this insect which actually exist being doubtlessly very much more numerous than those which I have here figured and described. My chief object in writing this paper is not so much to give information, as to arouse a more active interest in a subject which I feel is far too comprehensive to be dealt with by myself alone.