

ART. XVI.—Notes on the Larvae of some New Zealand Lepidoptera.

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Melanchra rhodopleura Meyr., Trans. N.Z. Inst., vol. 19, p. 19.

Ten specimens of the very pretty larva of this insect were taken at Makara at the beginning of October, 1909.

The length was then about $\frac{3}{4}$ in. The colour was a very pretty pale green. A well-marked median dorsal stripe, white alternated with sulphur-yellow, the white portions being situated near the junctions of segments, and being tinged at the junctions with lilac. Faintly marked subdorsal stripe, yellowish-green. Lateral stripe broad, well marked, made up of 4 longitudinal lines of colour, the lowest one sulphur-yellow, followed by one of orange-yellow, then a broader one of white, then a very narrow edging of black, on which are situated the spiracles, which are cream-colour edged with black. Each segment has a number of small black warts—2 on each side of the dorsal line, 1 between the subdorsal and lateral line immediately above the spiracles, and a number on the ventral surface and prolegs. These warts, especially those on the dorsal surface, are edged with paler green than the body-colour, and are each furnished with a short brown bristle. On segment 2 the warts are bigger, and there are 3 between the dorsal and subdorsal line. After the last moult the green colour is much darker. The dorsal stripe is edged with black, especially on posterior end of each segment. The subdorsal lines are plainer and yellow in colour, upwardly edged with black, and the posterior half of each segment becomes spotted with black between the subdorsal and dorsal lines. The length when full grown is $1\frac{1}{2}$ in.

The food plant is *Pimelea laevigata*, and the larva feeds on the leaves, young shoots, and flowers. When disturbed it often rolls itself up and falls to the ground.

The pupa is at first light brown in colour, becoming darker as the insect develops. It is enclosed in a cocoon below the surface of the ground. The period of pupation is variable; the perfect insects appeared from end of December to end of April, though the larvae were all full grown about the middle of November. The perfect insect is very sluggish in habit, and this, together with its very protective colouring, may account for the fact that it is so seldom captured.

Leucania epiastrea Meyr.

The eggs of this species were laid on the 14th November, 1908, by a female in captivity. They were firmly fastened close together on the side of the box in which she was kept. In shape they are spherical, flattened at the base, and rather coarsely ribbed, the ribs radiating from a dot at the top. The colour is at first uniform pale yellow, but after a few days the central dot becomes dark brown and a dark-brown circle appears round it.

The larvae emerged on the 30th November. The length is about $\frac{1}{4}$ in., and the larva is very active. It makes its first meal off its egg-shell. The colour is greenish-brown, becoming paler after a few days. On each segment are a number of black dots, from which spring hairs. The larva has

16 legs, but those on segments 7 and 8 do not seem to be fully developed at this stage.

On the 20th December the larvae were about $\frac{3}{4}$ in. in length, pale greenish-brown in colour, with dark reddish-brown lateral line. At this stage they unfortunately died. They were feeding very sparingly on the leaves of what I thought at the time was toetoe, but which I afterwards found was pampas-grass.

In May, 1910, I took a number of these larvae on the toetoe at Makara; they were from 1 in. to $1\frac{1}{2}$ in. in length. The larva feeds on the leaves by night, retreating during the day to the crevices at the base of the leaves, where they are well protected from enemies.

The full-grown larva is dull brownish-green in colour, sometimes tinged with reddish-brown, especially on posterior segments. The dorsal and sub-dorsal lines are very narrow, but fairly well marked; dull white in colour, faintly edged with red or reddish brown. The lateral line is somewhat indistinct, white in colour. On it are situated the spiracles, which are dull cream-colour edged with black. The lateral line is often edged with small brown blotches situated above the spiracles, and on the anterior segments these blotches are sometimes joined to form a broad, faintly marked upward edging to the lateral line. The integument, especially on the dorsal surface, has a number of fine white branching veins, and on each segment are a number of minute black dots from which spring short brown bristles. The prolegs are of the same colour as the body, edged with a large number of dark-brown hooks. The head is horny, amber in colour, mottled and netted with brown. The number of legs is 16. Length when full grown, $1\frac{3}{4}$ in.

The larva now makes its way into the flower-stem, preparatory to pupating. It enters the stem, and eats its way through the soft interior, forming a chamber 2 in. or 3 in. long between two joints. It now loses its green colour, and changes to a pale dull brownish-yellow, the dorsal surface often strongly tinged with pink. This pink tinge becomes very marked as the time of pupation approaches. The larva spends some weeks in the stem, and before changing to a pupa cuts a neat round hole through the stem, near the top of its chamber, leaving only a very thin film of the outermost layer intact. It then retires to the bottom of the chamber, and in a few days changes to a pupa, which rests on the old larval skin, head upwards.

The pupa is very robust, and is at first light brown in colour, but soon becomes very dark brown and shiny.

After about six weeks the imago emerges, and, breaking its way through the thin film of leaf covering the exit from its chamber, crawls out and clings to the stem till its wings have expanded and hardened sufficiently for it to fly. The emergence usually takes place between 7 and 9 o'clock in the evening.

The perfect insect is about from October to January. It is very sluggish, and I have never seen one in a state of nature, though I have spent a good deal of time in a locality where the larva is fairly common.

The larva of this insect is sometimes attacked by a dipterous parasite.