

THE W-MARKED CUTWORM, *Noctua clandestina* HARRIS.

(Figure 3 on plate.)

Appearance. This cutworm is readily recognized by the series of conspicuous marks resembling the letter W which are present on its back, with the exception of the first three segments. The general colour is pale brown, streaked and spotted with dark brown. The sides of the W marks are bordered with bright pale yellow. A pale line is present down the centre of the back; the yellow markings referred to rest on a pale line, and below this along the side and about the middle is a wide, more or less distinct, band, bordered above with yellow and dark brown. The head is pale brown, marked down the middle of each side with a wide very distinct black dash, the rest of the head is conspicuously marked in a fine network, or reticulated with dark brown. The shield on the first segment behind the head is also dark brown. The three front pairs of feet are pale brown, the others being similar in colour to the under surface of the body which is not so dark as the back and upper portion of the sides. When mature this larva is about one and three-eighths inches long.

The moth of the W-marked Cutworm expands about one and five-eighths inches when the wings are spread. The front wings are of a dark, smoky-brown colour, the transverse lines paler and not very distinct. The round or orbicular spot is margined with black, as is also the inner side of the reniform or kidney-shaped spot. In many specimens these spots are joined together by a short black line. The hind wings are whitish, tinged with brown, darkest at the outer edges.

Habits and life-history. This cutworm, although common and widespread in Canada, has not been reported to the same extent as some of our other species. In years of abundance, however, it does do much damage, not only to all kinds of vegetables,—cabbage, cauliflower, corn, beans, etc., but also to the roots of grasses, and most probably does a good deal of injury in wheat fields. It also has the habit of climbing trees and shrubs and feeding upon the buds and leaves. Apple, currant, gooseberry, etc., are attacked. It will be seen, therefore, that it is a very general feeder and that almost any succulent plant is liable, any year, to be injured or destroyed.

The moths fly in June, July, August and September, and occur from Nova Scotia to British Columbia. Some years they are very numerous and fly into houses during the evening becoming quite a pest.

The full life-history of this cutworm is not as yet known. The caterpillars hibernate in a partly grown state in the earth, a short distance below the surface, and on the first growth of vegetation in spring they become active and at once attack plants. They reach maturity in eastern Ontario, towards the end of May and in June, and change to the usual reddish-brown pupæ, the moths emerging from their earthen cell in June and early July, the dates varying with the seasons. The moths have been collected in the open as late as the middle of October, but whether there are two broods in the year, or even a partial second brood, it is impossible to say from our present knowledge. We have on several occasions succeeded in getting female moths to oviposit in confinement. Eggs secured in August did not hatch until the end of October. On another occasion, the eggs were deposited on September 13. They were laid in patches on the side of a wooden pill box.

THE SPOTTED CUTWORM, *Noctua c-nigrum* LINN.

(Figure 4 on plate.)

Appearance. The general colour of this cutworm is pale brownish, or ashy-gray, some examples having a distinct ruddy or greenish appearance. The conspicuous character by which it may be recognized is the row of triangular-shaped,