

The slightly partially grown larvæ pass the winter in silken nests, hidden away under small pieces of bark, bud-scales or in minute cracks or crevices. The nests which are usually roundish-oval in shape, on an average are about 1 mm. long and .6 mm. wide. The silken threads of which the nests are composed are very fine, waxy white in colour and woven into a web of soft texture. As a rule the nests are solitary, but are occasionally found in groups of two or three. Apparently the larvæ moult just before closing themselves into their winter nests, for with one exception, in all cases noted the ecdysed head was found resting on its base, on the outside of the hibernaculum. In a single instance a larva was found completely enclosed in its winter nest, with the exception of its head, which protruded through a small hole in the web. Evidently while in this position the larva makes its final moult, and leaving the ecdysed head on the outside of the nest covers over the hole and settles down for the winter. The position of the moulted heads, always resting on their bases on the outside of the hibernaculum, points to the truth of this.

When the tips of the buds show green, the larvæ leave their winter quarters and commence feeding on the tender foliage, boring their way into the centre of the buds where they feast on the tender blossoms, killing great numbers of them and materially reducing the crop for the coming season. When the blossoms have burst, the larvæ continue feeding on the expanding leaves which they draw together into a loose nest by means of fine silken strands. Some of the partially eaten leaves soon turn brown, rendering the work of the insect much more conspicuous.

Like the oblique-banded leaf-roller, this bud-moth is not so dependent on its nest as is the eye-spotted bud-moth, for in the majority of cases it is found in a much more open, loosely built nest, and occasionally wanders freely over the leaves without a shelter of any kind. The green bud-worm, also strongly resembles the oblique-banded leaf-roller in its habits and actions. It is very active when feeding, quickly travelling over the leaf surfaces, and if disturbed, exhibits great agility in dropping off the leaves to the ground by means of a silken thread.

The larvæ become mature in the second and third weeks of June, transforming within the folded leaves to naked black pupæ. If the caterpillars are sheltered on a nest at the time of pupation they usually transform there, but if wandering over the foliage they fold over the edge of a leaf, binding it down with strands of silk, and pupate therein.

Between June 29th and July 13th, or about three weeks after pupation, the adults emerge. Mating now takes place, and in three to seven days the minute, translucent eggs are to be found, laid singly for the most part, on the under surface of the leaves; in this respect they are similar to the eggs of the eye-spotted bud-moth, which are generally laid on the under surface.

The incubation period is from 9 to 11 days and the larvæ after hatching at once start to wander over the leaves, confining themselves for the most part to the under surface. After about an hour feeding commences, the caterpillars cutting small circular holes through the lower epidermal and mesophyll tissues. During the process they weave above themselves a fine network of silken threads to form a "cat-spreading" shelter. Soon after this, the larvæ once more begin to wander over the leaves at random, feeding and spinning temporary shelters as they go. After four or five hours the larvæ select suitable spots near the midrib or one of its larger veins, and there build permanent shelters which are roughly tubular in form, open at both ends and produced to form a flat spreading shelter above the insects' feeding ground. Here the larvæ rest and feed devouring the lower half of the leaf tissue, acting as partial miners.

Like the eye-spotted bud-moth this species damages the surface of the fruit in the fall by tying one or more leaves to an apple, and while living between them gnaws small circular holes into the side of the fruit. The tendency of this injury is to increase the No. 3's in a crop at the expense of the higher priced grades.

On the first cool nights of August the caterpillars become restless, and as early as August 14th, a few have been found busily spinning their nests under minute