

## THE PLUM SPHINX MOTH.

*Sphinx drupiferarum* (Smith & Abbott).

BY E. B. REED, LONDON, ONT.

As this moth pretty generally makes its appearance in our plum orchards from year to year, I have thought it advisable to give a short history of its different stages for the benefit of our fruit-growers.

It is a member of a family of moths to which the great naturalist Linnæus gave the name of *Sphingidae*, on account of the resemblance he conceived some of their caterpillars bore, in certain positions, to the notorious Egyptian Sphinx, and which our artist has faithfully represented in the engraving of the larva—fig. 1. While the ravages caused by this caterpillar are fortunately not very extensive, yet it generally appears in different localities from time to time in numbers quite sufficient to cause considerable annoyance to the plum-growers of those regions. Its conspicuous size, when full grown, and its bright green coloured body, and mauve stripes, make it tolerably easy of detection; while the leafless twigs, the result of the voracious appetite necessary to sustain its huge carcass, are sure to cause the eyes of the observant fruit-grower to make diligent search after this monster leaf-eater.

The larva (fig. 1) is hatched from an egg deposited (probably) singly on the under side of the leaf.

Mr. Wm. Saunders has kindly allowed me to make use of his notes on the appearance of the young larvæ.

On the 2nd of July a pair of *drupiferarum* were brought to him which had been taken *in coitu*. They were confined together in a seidlitz box. The next day the female began depositing eggs, continuing to do so for two or three days.

"Egg: Length, .07 inch; slightly oval; surface smooth; colour pale yellowish-green. In from 6 to 8 days the young larvæ made their appearance, having eaten their way out through the side of the egg. In some cases one-half or more of the egg-shell was eaten; in others only a hole just large enough to allow of the escape of the larva, while in a few cases it was almost entirely consumed.

July 10.—Some out this morning; length, .22 inch; head very large, rounded, pale yellowish-green, with a few very short whitish hairs; mandibles tipped with dark brown; body above pale yellowish-green, with a few whitish, slightly elevated tubercles on every segment, from each of which arises a single short fine hair, those along each side of the dorsal line dark brown, the others yellowish-white. The tubercles are arranged in a double transverse row on the middle and hind segments; caudal horn .10 inch long, nearly erect, black, thickly covered with very short

stiffish black hairs, slightly furcate at the apex. Each tip terminated by a pale brownish hair longer than the others ; under surface similar to upper."

The larva, when full grown, measures about three or three and a half inches. Its colour is a beautiful apple-green. The head is also green, with lateral dark brown or black stripes. On each side of the body are seven broad oblique bands of a white colour, bordered in front with light purple or mauve. The stigmata or breathing pores are very distinct, and are of a bright orange-yellow colour. The caudal horn is long, of a dark brown colour, with a yellow tint at the base of the sides. The body is cylindrical in form, and is smooth to the touch. The caterpillar, after satisfying its appetite, or on any sudden alarm, assumes the peculiar rigid appearance shown in the cut, and will remain thus, with its head raised, for a considerable period. The formidable-looking horn on the last segment gives the insect a rather alarming appearance, but it is perfectly harmless, and, in fact, even at this date, naturalists can find no use either for offensive or defensive purposes for this horn, which is peculiar to nearly all the caterpillars of the *Sphingidae*. The larva of the Plum Sphinx is generally found in Ontario about the month of July or the early part of August. When it has attained its maturity it ceases eating, and seeks shelter in the earth, where it excavates for itself a convenient chamber, which it lines with a waterproof, gummy cement, and there undergoes its transformation into the pupa or chrysalis state.

The pupa (fig. 2) is about  $1\frac{1}{2}$  inches in length ; its colour is dark reddish-brown, and it has a short thick projecting, or as naturalists term it, exerted tongue-case. The insect remains in the ground all through the winter and spring, and emerges in its perfect winged state about the early part of June.

The moth (fig. 3) is a large one, its wings expanding from  $3\frac{1}{2}$  to  $4\frac{1}{4}$  inches. The body is about  $1\frac{1}{2}$  inches long, varying slightly in the sexes as to length, that of the female being shorter, somewhat thicker, and more obtuse at the anal segment, while that of the male is longer and tapers almost to a point. Describing this moth from five specimens (2 males and 3 females) now before me, there appears very little difference in the markings of male and female. The antennæ are slightly different, but it requires some slight experience in entomology to ascertain it. The head and thorax, which are large and thick, are blackish-brown, with a whitish fawn colour at the side. The eyes are very prominent. The snout-like projection is composed of the *palpi*, or feelers, which are two close-fitting shields for the protection of the proboscis, which lies snugly coiled up between them like the mainspring of a watch. This proboscis or tongue, which is shown in the engraving (fig. 3), is as long as the body of the moth, and is used by the insect in extracting from flowers the honey, which

forms its chief food. To a watchful observer a sphinx moth presents a most curious appearance, not unlike that of a humming-bird, while it hovers over some flower-bed with its wings humming from their rapid and ceaseless beating, its body poised in the air, and its long tongue projecting like the beak of a bird, and dipping from time to time into the innermost recesses of the various flowers in search of food.

The body of the moth is brown, with a black central line and a black band on either side containing four or five dingy white spots. On the back of the thorax are several fawn-coloured blotches or markings, which are peculiar to many of the *Sphingidæ*, and which some of our readers may possibly have noticed in the striking resemblance to a human skull on the thorax of the English death's-head moth, *Acherontia atropos*. The wings are long and very narrow, but possessing great strength and evidently adapted for great swiftness. Their general colour is dark purplish-brown, with a stripe of white on the front edge extending from the white sides of the head, and with a fawn-coloured stripe on the outer edge of the front wing. The hind wings have two whitish wavy stripes, with a similar fawn-coloured stripe on their outer edge. There are also three or four black oblique streaks on the fore wings, and generally a black dot on the white stripe.

The engravings of this insect are the work of Mr. C. J. Beale, of Toronto, Ont. That of the pupa and larva are adapted, with some alterations, from the excellent designs of Professor Townend Glover, of Washington. But the beautiful figure of the moth was engraved by Mr. Beale from a specimen in my own collection, and is an admirable *fac simile* of the original insect.

### QUEBEC CURRANT WORMS.

BY G. J. BOWLES.

In May last I became the tenant of a house in the central part of the city of Quebec. To this house is attached a garden, which contains a few plum trees and a considerable number of currant and gooseberry bushes. The plants, however, are very old, and as the garden has been neglected noxious insects have increased and multiplied to no small degree. I intend in this paper to give my experiences as regards the currant and gooseberry bushes, leaving the rest till another time, and trust that I shall be able to add something to the history of the insects, unfortunately too common, which infest these small fruits.

No sooner had the currants and gooseberries expanded their leaves than I observed here and there upon them a few green caterpillars about half an inch or more in length, which seemed to be in a healthy and flourishing condition. I did not molest them, feeling rather pleased at the