

and three female) now before me, there appears very little difference in the markings of male and female. The antennae are slightly different, but it requires some little 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. 21), 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 *Sphingida*, 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 our own collection, and is an admirable *fac simile* of the original insect.

## 2. THE LEAF-CUTTER BEE (*Megachile brevis*. Say).

Order, HYMENOPTERA; Family, APIDÆ.

Our attention was attracted this summer, by the unthrifty appearance of a small plum tree, various branches of which were much disfigured by circular patches being cut out of their leaves, and bore strong indications that "an army of occupation" had forcibly annexed the tree, for their own unlawful purposes. At the first glance we thought part of the damage was caused by *Aphides* or plant lice, as some of the leaves were curled up in the manner peculiar to those insects, but a closer examination revealed the true nature of the enemy. On breaking open one of the coils, we found four or five circular chambers, the smaller and convex end of one closely fitting into the larger open end of another, the whole coil being composed of numerous oval shaped pieces of leaves most ingeniously interwoven, or overlaid, and wrapped outside by the leaf to which it was affixed, the top and bottom of each cell being closed with two or three perfectly circular pieces.

Each cell contained a small white grub or maggot, comfortably ensconced therein, and provided with a supply of pollen or bee-bread, sufficient to last the little creature during its continuance in the larval state. We saw at once that the insect was the larva of some leaf-cutting bee, but it was something new to us to see the cells formed in a leaf on the tree as we had always found the cells in the ground or decayed trees, and never more than one burrow by itself. In this instance there were several coils on the tree, formed perhaps by more than one insect. We took a coil home and by dint of keeping it in a moistened jar, we succeeded in rearing two specimens of the bee, the name of which, as we are informed by Mr. C. V. Riley, to whom we sent them for identification, is *Megachile brevis*, Say. This insect,



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