

ovipositor, and during this latter movement the anal cerci tremble slightly. Two operations, including both drilling and oviposition, which were timed, took six and a half and five and a half minutes respectively. As soon as one egg is laid, the female proceeds to attack the bark again in a new place at a very short remove from and above the other, and uses the bits of bark torn off to conceal the opening of the hole below, fastening them in place by the aid of its "molasses," so that when it hardens it presents the rough appearance one always sees at the entrance; but if these are removed the opening of the hole will be found clean and splinterless. The insect bores but two or three holes at a time and after a delay returns to the same spot to renew operations, meanwhile leaving the uppermost hole unplugged, although those below are often revisited in the pauses of oviposition to spread more fluid on the other completed drills. This explains why the uppermost drill of a series is often found unclosed at the opening, the insect having perhaps been frightened away altogether before the entire completion of her task.

The egg-holes are drilled at an average

of 1.1 mm. apart and are 0.4 mm. in diameter at the entrance. The harder outer portion of the stem of the raspberry is first bored through almost vertically but a little downward, while in the pith the drills incline downward in a slight curve (just that of the egg), the general trend of the deeper portion being at angles varying from  $135^{\circ}$  to  $170^{\circ}$  but averaging about  $145^{\circ}$  to the trend of the initial portion.

The eggs are nearly cylindrical, tapering slightly and well rounded at the ends, both ends alike in this respect, 2.65 mm. long and 0.55 mm. broad, the top end, occupying a length of two-fifteenths of the whole, covered with little crowded papillae which diminish in size away from the tip, and where they fade the surface becomes studded with lozenge shaped depressions 0.017 mm. long and half as wide. When first laid the eggs are of a uniform very pale green, but later become brownish amber or pale brassy, but with a pale brownish yellow layer at the lower end. The eggs are extruded cap-end hindmost.

This insect seems to prefer to eat the harder parts, the ribs and veins, of leaves.

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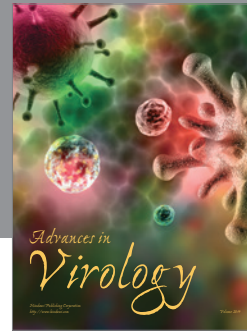
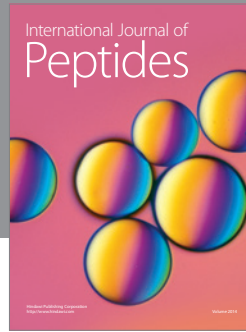
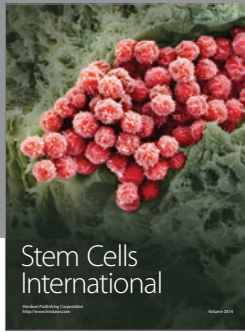
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