

DESCRIPTIONS OF THE PREPARATORY STAGES OF *SMERINTHUS EXCÆCATUS*, A. & S.

BY WM. BEUTENMULLER, NEW YORK.

EGG.—Oval; pale apple green, smooth, shining; slightly flattened above and below. Width, 2 mm.; height, 1.50 mm.

Clemens, in his Synopsis of North American Sphingidæ, p. 182 (Journ. Ac. Nat. Sci., Phil., 1859), describes the egg as being "smooth, white, with an equatorial reddish-brown band, having a slender central white line." All the eggs, about one hundred and fifty in number, which I examined were entirely green, with no indications whatever of the bands mentioned by Clemens.

Duration of this stage, six days.

YOUNG LARVA.—Head rather large, subglobose, dull pale green; mouth parts pitchy black. Body above and beneath uniformly yellowish-green, with the caudal horn very long and reddish-brown. As the larva advances in age there gradually appears along each side a series of eight lateral oblique yellowish bands, and a subdorsal longitudinal stripe of the same colour. The caudal horn also becomes somewhat brighter, and the head concolorous to the body. Length, 6 mm. Length, when ready to moult, 10 mm. Duration of this stage, about four days.

AFTER FIRST MOULT.—The head is now covered with yellow granulations, and the caudal horn is somewhat longer and more prominent, with a yellow band near the apex. The body has also now some few granulations on the anterior segments. The oblique lateral bands are brighter in colour, and the longitudinal subdorsal stripes are broken by the bands. Length, 13 mm. Duration of this stage, about six days.

AFTER SECOND MOULT.—Little difference from the previous moult, except in shape of the head, which now assumes a triangular form, and the granulations and markings are also somewhat more distinct, and the tips of the thoracic feet reddish-brown, with their bases green. Length, 16 mm. Duration of this stage, about four days.

AFTER THIRD MOULT.—The body in colour now is apple green, and is much stouter. The caudal horn is tipped with reddish-brown at the apex, and is covered with granulations, as is also the body, especially along the dorsal region on the first to the fourth segments. On each side of the head is an oblique band which meet at the vertex. Length, 23 mm. Duration of this stage, about six days.