

**Article VIII.—ON THE EARLIER STAGES OF SOME SPECIES OF NORTH AMERICAN MOTHS.**

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While collecting entomological specimens in the vicinity of New York City, for the Museum, during the summers of 1889-'90, I have been enabled to make the following observations on the earlier stages of some moths. I am aware that I have been anticipated by other entomologists in some of the notes which follow, yet the most part, as far as I am aware, have not been heretofore recorded :

***Phlegethontius celeus* Hub.**

Some larvæ of this species are brownish black, instead of green, which is their usual color, and have the irrorations yellow, as are also the oblique and lateral stripes, the caudal horn being black. The face in this variety has the centre always paler than the sides. Spiracles velvet black with a lilac ring.

***Anisota stigma* A. & S.**

*After Second Moul.*—Body color brownish black. Head bright orange red. At the base of all the spines and over the body irregularly are numerous white irrorations. There are no other markings. The spines on the segmental processes are also white. Length, 25 mm.

*After Third Moul.*—There is little change, except that the color is now brownish black and the spines have the same white irrorations. Length, 35 mm.

*Full-grown Larva.*—Body color reddish brown. Head testaceous or chestnut. Each segment with six rather long black spines, and the whole of the segments covered with white warty irrorations, almost tubercular, those on the dorsum being the

largest. Spiracles jet black with whitish ring and a whitish streak in the centre. Anal extremities with testaceous tinge. Feet and legs reddish testaceous. Length, 60 mm.

*Food-plants.*—Oak, Chestnut, Hazel.

*Pupa.*—Very rough and deeply punctured. The segments are surrounded by large series of spines, those in front of the segments the largest. On the posterior edge a row of small spines. Cremaster long, bifurcate at tip. Length, about 30 mm.

### *Anisota senatoria* A. & S.

*Egg.*—The eggs, deposited on the underside of a leaf, are ovate, flattened and attached by the widest space. They are dull white, changing to slate and afterwards to almost black. After exclusion of larva, the eggs are brightly opalescent. Width, 1 mm.; height, .5 mm.

*Young Larva.*—Head jet black, shining. Body dull cream color; the segments having a corrugated appearance. On the third segment are two very long spinous processes, directed a little forward, jet black; on the eleventh, twelfth and thirteenth segments are a few very small black dots, not visible without a lens. In the middle of these segments there is also a dark shade. The feet are jet black; abdominal legs concolorous with the body. In the centre of the second segment is a very narrow black line. In feeding, as the body is filled with food, it becomes dusky. Length, 6 mm.

*After First Moul.*—Jet black, with two narrow, waved, yellowish lines on the lateral region and a broader waved line above the base of the legs. Head and anal segment jet black.

*After Second Moul.*—The body is now slightly olive, with the lines more distinct and brighter in color. The space immediately below the spiracles is orange brown. Length, 22 mm.

*After Third Moul.*—Body now jet black, with the lines very distinct and the spinose tubercles longer and rougher; those of

the anal segment being now more numerous and spinose. Length, 31 mm.

*After Fourth Molt.*—Body color jet black. Head with deep fovea, triangular over the mouth parts. Cervical shield black. Two dorsal and one subdorsal stripes of dull orange, slightly waved and broken. One broader lateral stripe and one stripe enclosing the spiracles of the same color, and a ventral stripe a little paler. Spines and legs all jet black, as is also the anal segment. Length, 38 mm.; length, when fully grown, 55 mm.

*Food-plants.*—Oak, Chestnut.

### ***Ichthyura vau* Fitch.**

*Before Last Molt.*—Head pale chestnut. Body clothed with short hairs; dorsal region greenish white, transversed by three lines of pale reddish brown; lateral region reddish brown, marbled with white. Spiracles black. On the third and on all the segments thence to the ninth are two pale yellow tubercular spots, placed at the anterior junction of the segments. These are lost on all the posterior segments, or, at least, but indistinctly seen.

*Full-grown Larva.*—Entirely greenish white, with all the markings very much fainter than in the previous stage, except the yellow tubercular spots, which are now much more distinct and continued in a series of eight around the anterior segments. Length, 27 mm. September 24, on Willow (*Salix babylonica*).

### ***Gluphisia trilineata* Pack.**

*Full-grown Larva.*—Pale apple green, with a broad subdorsal stripe of lemon yellow. Spiracles indicated by a yellow shade, and above these a very faint yellow line. The head has two very minute black dots on each side of the mouth parts. Some individuals differ from the one just described by having on the third, fourth, eighth, ninth, tenth and following segments a transverse pinkish band in the middle and surrounded by whitish. In all other respects similar to the former.

*Food-plant.*—Willow (*Salix*), September 24.

**Adoneta spinuloides** *H. S.*

The larva varies considerably in the dorsal region, passing from bright scarlet through pale pink, and in some cases assuming on the dorsum the pale-green ground color.

**Acontia delecta** *Walk.*

*Full-grown Larva.*—Ground color, dark chocolate brown, almost black. Head pinkish white with black blotches, and on the posterior portion are two orange blotches. Segments two, three and four have four orange patches on the edges of which are black piliferous tubercles. On the other segments the orange patches are much larger and of various shapes, those of the hinder segments being on the dorsum a double oval. From the fifth segment along the lateral region is a row of clear white patches, broken into twos and threes, and enclosing also velvet black tubercular spots. The body is slightly swollen anteriorly, narrowing gradually to the anal segment. Feet and legs black, spotted at their base with orange and white. Length, 35 mm.

*Food-plant.*—Marsh-mallow (*Hibiscus moscheutos*).

**Panopoda carneicosta** *Guen.*

*After Fourth Moul.*—Body color yellowish green, the segments covered with very fine blackish-brown wavy lines, giving a rather dirty appearance to the larva. These lines are composed of irrorations, and leave the dorsum with a single line and a double subdorsal. Head paler than the body, with a yellow line at the back on the posterior portion. Mouth parts, feet and legs orange, as are also the anal casps, which are long and very widely spread.

*Full-grown Larva.*—The body color is now a little darker. The band across the head is now united to the subdorsal line and forms a continuous line. There also eight oblique yellowish-white lines on the lateral region. Length, 40 mm.

*Food-plants.*—Oak, Hickory, Willow.

***Panopoda rufimargo* Guen.**

*Full-grown Larva.*—Paler green than *Panopoda carneicosta*. Head with waved brownish irrorations, but no lines as in *P. carneicosta*. There is a white subdorsal line, and the feet and legs are whitish, as is also the underside of the body. Length, 45 mm.

*Food-plant.*—Oak.

***Adipsophanes miscellus* Gr.**

The caterpillar transforms above the surface of the ground and spins an oval cocoon, mixed with grains of sand. The pupa is long and narrow in form and pale pitchy, almost chestnut brown and very shining. The abdominal segments are rugosely punctate on the anterior half. Spiracles dark pitchy. Cremasters composed of two spines, short but sharp. Length, 23 mm.; width, 6 mm. at the middle segments; anal segments, 4 mm.

***Perigea xanthioides* Guen.**

*After Second Moult.*—Dull flesh color, with a blackish tint and a very faint white dorsal line, which is joined to a triangular stripe on the head. There are also faint traces of subdorsal waved lines. Length, 10 mm.

*After Third Moult.*—The fourth and fifth segments are now swollen into a hump. Head small, black, with narrow white stripes in front, meeting on the crown of the head and then joining a dorsal white stripe, which is lost at the fourth segment, reappearing on the tenth and continued to the anal segment. The fourth and fifth segments are blackish in front, triangularly flesh colored behind, and there is a flesh-colored shade along the sides. The spiracles on the fourth and fifth segments are dull yellow and there are faint waved flesh-colored lines along the lateral region. Length, 22 mm.

*After Fourth Moult.*—Body now much lighter in color, having a flesh-colored tint, particularly at the posterior edge of the segments. The white dorsal shade line now continuous. The dark

shade on the anterior segments is produced triangularly behind. The tenth segment also raised into a hump. Length, 30 mm.

*After Fifth Molt.*—Now still paler, the pale stripes being pinkish, and the body covered with brown or blackish irrorations. Dorsal stripe clear white. Length, 42 mm.

*Food-plants.*—Iron-weed (*Vernonia noveboracensis*), Trumpet-weed (*Eupatorium purpureum*).