

EARLY STAGES OF BREPHOS INFANS.

BY DWIGHT BRAINERD, MONTREAL.

Eggs laid April 25th, side by side, packed closely together on the twig at fork of leaf bud. The moth standing head downwards with half opened wings and "see-sawing" out a string of from three to twelve eggs. Between times it runs all over the twig as do the Tineids. Egg oblong, rounded at both ends, length .87 mm., width .46 mm. Slightly roughened and punctured like the skin of an orange. Colour at first a delicate pea-green turning yellowish. The number deposited at the base of each leaf varied considerably. Hatched May 3rd to 5th. At birth larva 1.6 mm., semi-transparent, light sap-green with evanescent purple shades. Body cylindrical, of same approximate size throughout, ending in a strongly bifurcate anal segment. Head light yellow-brown; 1st and 2nd epicranial and 1st clypeal setæ rudimentary, the remaining eleven primary setæ well-developed blunt bristles. Ocelli prominent, dark brown. Shield concolorous. True legs transparent, with dark claws; 4th prolegs fleshy, rimmed with brown; the others not showing.

Segments 3-winkled, tubercles uniform on the abdominal joints; a pair each side of dorsal line, a single one above, a pair below spiracles and one above leg plate. Caterpillar a semi-looper, suspending itself by a thread.

Second stage.—3.75 mm. Colour whitish-green, head yellow. Inter-segmental spaces white and much swollen.

Third stage.—Length 12 mm. Sap-green changing to apple-green. Head and appendages, except claws, transparent. Body marked with a double ad-dorsal and a stigmatal white line.

Fourth stage.—Length 30 mm. Colour on dorsum apple-green to blue-green, according to age. Head appendages and venter much lighter; almost yellowish. Tubercles simple, white, oval to round; setæ short and spinulate. Ad-dorsal line wavy, obscure, slightly broken. There is a narrow double white line through abdominal segments on lateral surface enclosing a darker area; and stigmatal band is broad, white to yellow-white. Spiracles red-brown edged with black, set in indistinct white blotches. Body cylindrical, tapering from 12th segment. Pupated June 12th. Food plant white birch. Pupa green at formation, changing to dark chestnut brown. 14 x 4 mm., smooth. Extremities short, rounded; medial portion cylindrical, of equi-width; the whole cocoon approximately oval. Prothorax strongly incised dorsally and pitted. Frontal headpiece convex, hyaline. Maxillæ reach nearly and antennæ fully to extremity of wing-covers. (4th a. s.) Abdominal segments slightly indented down the back. Cremaster with a single stout hook.

Mr. H. H. Lyman kindly measured the eggs, and I had the advantage of Rev. Mr. Fyles's notes on the caterpillar.