

equal size; on segments 5 to 9 inclusive, tubercle iii is slightly above, and anterior to, the spiracle; iv is behind and almost in a line with the lower end of spiracle; v is below, and slightly anterior to, spiracle; same distance therefrom as iii. On segments 10 to 12, however, tubercle v is immediately below the anterior side of spiracle. On segment 12, tubercle iv is also below the spiracle. Spiracles black, oval in shape. Stigmatal band whitish, blackish border beneath irregular and not so conspicuous as in previous stage. Thoracic feet and prolegs as in Stage IV.

On June 4 some of the larvæ were mature and entered the earth for pupation. On this date they were 39 mm. in length and 4.5 mm. in width.

*Pupa* (fig. 4, pl. XIV).—Length 14-16 mm., 4.5-5 mm. in width at widest part; shining, reddish brown, thorax and wing-cases wrinkled. Abdomen moderately punctured, abdominal fold densely, very minutely, punctured in concentric rows. Spiracles black. Cremaster dark brown, bearing two divergent, almost straight, stiff, spines; close to the base of the cremaster there are also two, short, thick, blunt, spiniform protuberances, one on either side.

Most of the moths emerged (in a cool cellar) in the end of April and early in May, 1904. A breeding jar containing some of the pupæ was kept in the laboratory and in this moths emerged in January. Males and females were kept alive and in one instance, on January 9, a male and female mated and remained *in coitu* for 30 hours. In the wooden box in which the moths were confined there was an open crack in the bottom, and when the box was moved on January 11 it was noticed that the female had inserted

her long ovipositor through the crack and laid eggs on the underside of the bottom close to the crack, the bottom of the box being slightly elevated above the lower edge of the sides. The ovipositor of the moth (fig. 16) measured in one instance 7.5 mm. in length; near and at the tip it is distinctly pilose, the hairs being slender and of varying lengths.

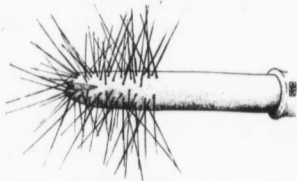


Fig. 16.—*Apochleima rachele*, ovipositor, showing arrangement of hairs near the end (X 19).