

about the depressed micropyle; some of these ridges anastomose near the top, others lower, on the sides; the spaces between the ridges roundly excavated and crossed by fine striae.

YOUNG LARVA—Length, .08 inch; cylindrical, slightly tapering posteriorly, deeply creased at the junction of the segments; color pale green, but brown patches nearly cover segments 5, 7, 9 and 11; furnished with rows of tubercles from which spring black hairs, which are long and curved forwards; head obovate, a little broader than 2nd segment, pilose, brownish black.

After 1st moult, length .2 inch; grayish mottled with brown; armed with 6 rows of short, stout, black spines, which have short black bristles; feet and legs blackish; head cordate, smaller than second segment, pilose, black.

After 2nd moult, length .3 inch; cinereous mottled with black, the spines as before; at the base and on outer side of the spines of the 1st lateral row, on the 3rd, 5th, 7th, 9th and 11th segments, a yellow patch; head as before.

After 3rd moult, length $\frac{1}{2}$ inch; cinereous brown, mottled with darker in small patches; a pale black dorsal line, enlarged on each segment into a rounded spot; the yellow patches as before, but rather orange than yellow; spines longer, those of 2nd segment decidedly so, being between two and three times as long as any others and projected forward over the head; head as before, bronze color.

After **FOURTH MOULT and MATURE**—Length 1 inch; color cinereous brown, mottled with velvet black, there being a large patch at the base of each spine of the two dorsal rows, and which is edged with a pale color; spines long, tapering, irregular, honey-yellow, often orange at base, with black bristles; those on 2nd segment about $3\frac{1}{2}$ times as long as any others and porrected; legs and feet black; head cordate, with rounded vertices, with black bristles over surface; color bronze.

CHRYSALIS—Length .6 inch; compressed laterally throughout; the wing cases very prominent and flaring at base; the head case not much flattened, its vertices prominent, conical, the intervening space being roundly excavated; the mesonotum prominent, sharply compressed, followed by a deep excavation; on the dorsum two rows of sharp, conical tubercles, those on 7th segment much larger than the others, and all anterior to these two gilded; the two tubercles at head case also large, umber colored; color light brown, the wing cases streaked with darker; or the whole surface is a dark brown.