

from 5 to 13 inclusive, the dorsals placed on the front of each segment, the sub-dorsals on the posterior part, and all are turned forward except on 11, 12, 13; between these rows on either side from 4 to 12 is a very short hair on the posterior end of each segment; the number and arrangement of hairs on 2 to 4 is different from that of the succeeding segments; 2 has a chitinous dorsal patch, long oval, on the front of which are six long hairs bent over the head, and on the rear are four straight short hairs turned back; below are four short hairs to foot, one above, one below spiracle in vertical line, and two near together before the spiracle; 3, 4, 12 have each a straight cross line of long hairs, four on either side the dorsal line and down to middle of side, part of these being in the dorsal rows before spoken of; below spiracles on 5 to 12 are two short hairs to each segment, the posterior one always a little higher than the other; and a row of short hairs along base, one to each segment from 2 to 13; head sub-globose, rather broader than high, slightly depressed at top, the vertices rounded; color black, smooth; with a few short fine hairs. To first moult about five days.

After First Moulting.—Length .13 inch at 12 hours from moult; color all dull yellow-green, with a brown band on upper part of side from 2 to 12; armed with longitudinal rows of spines, of which seven are large, one dorsal and three on either side, besides a row along base of much smaller size—in all nine rows; these spines are concolored with the body, long, slender, tapering, thickly beset with short hairs, the whole forming a dense covering; on 2 is a chitinous dorsal patch from which spring many black hairs, the front ones long and falling over the head; under side, feet and legs yellow-green; head obovoid, the top considerably depressed, the vertices rounded; color black, smooth, with many black hairs. Duration of this stage three days.

After Second Moulting.—Length .18 inch at 12 hours; color yellow-green; a faint brown line runs with the dorsal, and another just inside each sub-dorsal row of spines; a dark brown band on upper part of side from 2 to 12, and on this the tubercles and spines are brown; all others greenish-yellow; head as before. To next moult five and six days.

After Third Moulting.—Length .24 inch at 12 hours from moult; scarcely different from last stage described; the brown lines on dorsum more distinct; the black band as before, as are all tubercles and spines. To next moult five days.