

in the black examples all tubercles are black ; on 2 is a chitinous band with four small spines in cross row ; besides the seven principal rows, there is a row of minute spines over legs and feet ; feet black ; legs olivaceous ; head round, depressed at top, the vertices a little produced, each bearing a short, thick process, with short spines at top ; color of head and processes dark brown ; many black hairs over surface springing from fine tubercles. Duration of this stage 3 days in April, 2 in August.

After 2nd Moulting.—Length .3 to .33 inch ; same shape ; color dark olive-brown or black-brown or reddish-brown, individuals varying ; the spines longer, and at one-third from the top give off branches ; the posterior end of each segment after 2 crossed by two or three fine white lines ; in front of the medio-dorsal row of spines are two oblique divergent whitish bars, one such bar from base of each spine in 1st lateral row on outer side ; the spines vary largely, some larvæ having all the spines black, some have the dorsal and 1st lateral rows on 5th, 7th, 9th segments white, the rest black ; some have white from 4 to 11 ; some have white on 9 only ; on 2 a collar of black simple spines ; head broader than high, the top rather square, not much depressed, the processes larger, but similar to preceding stage, crowned with six points, one in middle, the rest about it ; surface glossy black, with many simple spines, of different sizes, usually all black, but some examples show a few white among the black ; each with long hair. To next moult, in May 3 days, in August 2 days or somewhat less.

After 3rd Moulting.—Length .38 to .4 inch ; color black, crossed on the posterior end of each segment with two or three lines or stripes of white, sometimes more or less macular ; according to the breadth of these bands the larva is quite white or otherwise ; the oblique marks on dorsum as before, more conspicuous ; a yellow band runs along base in line with lower lateral spines, and the posterior part of each segment above this band shows an oblique bar, and some white spots and points ; spiracles black in broad white rings ; the spines long, and branching as before ; the medio-dorsal row are always white ; those of 1st lateral row are usually white, but sometimes on 3 are black, or partly black ; some examples have the 2nd lateral row wholly black, others white, or some of the last spines are parti-colored ; on 2 is a collar of simple white spines ; head as before, the white spines predominating largely. To next moult in May 3 days, in August 2 days or somewhat less.