

DESCRIPTION OF THE PREPARATORY STAGES OF GPAPTA
COMMA, HARRIS.

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EGG.—Conoidal, the base flattened and rounded; marked by 10 vertical ribs which near the base are low, but on upper third are considerably elevated, increase gradually in prominence and terminate abruptly around a small flat space at summit; these ribs are thin and their sides are cut by grooves perpendicular to the surface of the egg; the spaces between them crossed by many fine striæ; color green. Duration of this stage 5 days in April, 4 in July.

YOUNG LARVA.—Length .08 inch; cylindrical, even from 2 to 7, then tapering slightly to extremity; on 2 is a dorsal chitinous patch on which are six tubercles, three on either side the medio-dorsal line, each with black hair; below the patch two tubercles, one above, the other below spiracle; on segments 3 to 13 are two dorsal rows of large tubercles, one to the segment, on the anterior part of same, each with long curved hair, from 3 to 7 turned forwards, the rest recurved; next, a row of small tubercles from 3 to 13; on 3 and 4 these stand in vertical line with the dorsals, but on the other segments they are back of the line of dorsals; a third row from 5 to 13 of small tubercles, in vertical line with the dorsals, and on 2 to 4 these are continued a little below the line of the other segments; on 3 and 4 is a short row, in line with the spiracles, and a corresponding tubercle appears in 13; and below spiracles, from 5 to 13, on the posterior part of each segment, is a minute tubercle; finally, along base of body is a row of minute tubercles from 2 to 13, on 2, 3, 4 one to each segment, also on 13, but on the other segments two to each; from all these tubercles proceed hairs, those of basal row turned down, but of the others, from 2 to 7 turned forward, the rest recurved; color whitish-green; feet and legs green; head rounded, bilobed, the vertices rounded; color dark brown; many black hairs scattered over the surface, curving down. Duration of this stage 4 days in April, 2 days in July.

After 1st moult.—Length .13 inch; color either brown-black, or black with whitish lines at the junctions of the segments; armed with seven rows of branching spines (disposed as described under mature larva); these spines are short, stout, black, and beset with short divergent bristles; in the examples which have white lines, on segments 4, 6, 8, 10, the spines spring from whitish tubercles, on the other segments from black;