

DESCRIPTION OF PREPARATORY STAGES OF AGRAULIS
VANILLAE, LINNÆUS.

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EGG—Conoidal, truncated, the top a little arched; the sides more or less convex, varying; the height to the breadth as 9 to 7; marked by 11 straight ribs, which are compressed and elevated, and run from base to top; crossed by about 11-striæ, horizontal, rather prominent; the spaces between the ribs and striæ are quadrangular, the shortest side being with the long axis of the egg; these spaces are depressed and are either flat or slightly convex; the summit is covered with rows of cells, concentric, those of the outer two rows large, hexagonal and irregular, of the third row small, hexagonal; within these are 8 small cells, not depressed, irregularly rhomboidal and forming an eight-rayed star; in the centre a minute star of six rays. Duration of this stage 4 to 5 days.

YOUNG LARVA—Length .14 inch; cylindrical, thickest at 4, tapering slightly to 13, the segments well rounded; color brownish-orange, glossy; on either side the dorsal line on each segment after 2 is a row of short, conical, pale black tubercles, and two similar rows on either side, forming transverse rows of 6 tubercles, from the top of each of which springs a short black hair; on 2 is a black dorsal collar, with fine tubercles; feet brown; head nearly globular, flattened on lower front face; color brown; slightly pilose. Duration of this stage about 2 days.

After First Moulting—Length .24 inch; same shape; nearly same color, less brown, more orange; armed with six longitudinal rows of long, tapering, black spines, at top sub-conic, each ending in a fine, short, black bristle; a few similar bristles about the spine from base up (for arrangement of the spines, which is uniform in all the succeeding stages, see description of the mature larva); on 2 a dark chitinous collar, broken at the dorsal line, and bearing minute hairy tubercles; feet black; head obovoid, the sides quite convex, the face flattened, the top depressed, and on each conical vertex a simple black process very similar to the body spines, but less tapering and much shorter, pointed at top and ending with a short fine bristle; others disposed about it just as with the spines; a few hairs, long and short, on front face; color chocolate-brown. To next moult 2 days.