

DESCRIPTION OF PREPARATORY STAGES OF HELICONIA
CHARITONIA, LINN.

BY W. H. EDWARDS, COALBURGH, W. VA.

EGG—Cylindrical, one half higher than broad, flat at base, tapering very slightly from base to about three fourths the length, then conoidal, the top flattened and a little depressed; marked by 14 vertical ridges, straight, narrow, not very prominent, and extending from base to the middle of the cone; below the cone are horizontal striæ, which with the ridges enclose long, rectangular spaces; there are nine tiers of these, each space roundly excavated; above the base of the cone are similar spaces in one tier, but they are higher and more nearly square and more deeply excavated; next these is a tier of seven cells, irregularly pentagonal; the flattened top is composed of three concentric rows of small spaces, the outer one largest, and this and the next formed of pentagons; the inner row is made of rhomboids with the micropyle in the centre; color yellow. Duration of this stage 3 days.

YOUNG LARVA—Length .08 inch; cylindrical, segments 2 to 7 of about even thickness, then tapering, the dorsum sloping; marked by six rows of rounded tubercles, each of which sends out a long black hair, those on three anterior segments bent forwards, the others back; there is also a minute tubercle at the junctions of the segments a little below the subdorsal row, with short hairs; color pale red-brown; legs and feet same; head obovoid, a little lighter in hue than the body; sparsely pilose. To 1st moult 2 to 3 days.

After 1st Moult—Length .22 inch; cylindrical, nearly even, the segments a little rounded; color light brown, changing, as the stage proceeds, to greenish-white, mottled with brown; armed with six rows of spines, two sub-dorsal, one on middle of each side, and one infra-stigmatal; these spines are short, slender, tapering, black, with a few short black bristles on the sides standing almost at right angles to the spine; on 2 a chitinous dorsal patch with hairs; feet and legs brown; head obovoid, truncated, a little depressed at the suture, the vertices low, rounded, and on each a short, tapering blunt process, black, with a few fine bristles. To next moult 2 days.

After 2nd Moult—Length .5 inch; color dull white, mottled or