

PREPARATORY STAGES OF PYRAMEIS CARYE, HÜBNER.

BY HARRISON G. DYAR.

The eggs are deposited by the butterflies, singly, on the upper surface of the leaves of the food-plant, the *Malva*. They are nearly cylindrical, but thicker in the middle, the base and top quite flat, and rather abruptly rounded. The longitudinal ribs project beyond the summit; color green, of a slightly bluer tint than the leaves. Length 7 mm.

FIRST LARVAL STAGE.—Head, cervical spot, anal plates, and alternating row of eight black dots per segment and short hairs, all black. Body dark yellowish. Head without processes, smooth and shiny. The caterpillar spins a web on the surface of the leaf, beneath which it lives and eats the upper portions of the leaf. Length about 2 mm.

SECOND LARVAL STAGE.—Head black and hairy. Body pale purplish black; short spines bearing black hairs, arranged as in the mature larva, black, but the dorsal and sub-dorsal on joints six, eight and ten, yellow. Length 4 mm.

THIRD LARVAL STAGE.—As in the preceding stage, but the sides faintly mottled with yellow, and a geminate yellow dorsal stripe. Length 8 mm.

FOURTH LARVAL STAGE.—Head slightly cordate, bronzy black, with minute, yellow speckles and black hairs. Body purplish black, with small yellow spots, a geminate dorsal yellow line, irregular and interrupted, and a series of irregular supra-stigmatal and sub-stigmated spots. Spines black. Length about 15 mm.

FIFTH LARVAL STAGE.—Mature larva. Quite variable in appearance, but the markings are essentially the same. Head black, covered with many white hairs, and on the vertex about six orange elevated spots bearing black hairs. Body dull greenish and black mottled, varying in intensity of shade from black, through gray, to a dull dirty white, but usually light colored, thus distinguished from its ally, *Pyrameis cardui*. On the body are many orange or yellow spots, appearing to be irregularly placed, but they may be arranged as follows:—A row in sub-dorsal space, three contiguous lateral rows (in one example in which the spots were yellow, the central lateral row was orange), and a supra-stigmatal and sub-stigmatal row, all irregular. Spines black or white, or, in some, the anterior ones black, branched, and each tipped by a black hair. The spines are seven per segment on joints five to twelve (*i. e.*, dorsal, sub-dorsal, lateral and sub-stigmatal), none on joint two, four on joints three

and four, and two on joint thirteen. The body is covered by many small elevated spots producing short white hairs. Venter greenish, mottled with black or brown. Length about 30 mm.

CHRYSA LIS suspended by the cremaster, depressed behind the thorax, the thoracic process short and pointed, tapering anteriorly in a ridge, wing cases prominent, abdominal segments small and quickly rounded, cremaster flattened and hooked to the button of white silk, a pointed elevation at each eye, and at the base of the wing cases. Three rows of dorsal pointed elevations on the abdominal segments with two points on the thorax, touched with white, and two large and two small white spots in the depression behind the thorax. Color of chrysalis wood brown, minutely mottled with whitish or darker to black. The caterpillar forms itself a hollow in which it lives, by spinning up one or more leaves of the food-plant. The length of each stage is about four days, and the pupa state lasts about two weeks. In its early stages the insect cannot be distinguished from *Pyrameis cardui*.

Larvæ from Los Angeles Co., California.

BUTTERFLIES AT QU'APPELLE, ASSA.

BY HENRY SKINNER, M. D., PHILADELPHIA.

The following is a list of butterflies caught near Fort Qu'Appelle, Northwest Terr., by Mrs. Cora E. Rose and her two little sons. Mrs. Rose describes the locality as follows :—"Those sent were all caught within a radius of about half a mile, in the territory of Assiniboia, thirty miles north of an old Hudson Bay Post called Fort Qu'Appelle, and distant west from Winnipeg some three hundred and twenty-five miles ; the only foliage is willow and poplar."

Papilo rutulus, Bdl.

Pieris protodice, Bdl.

Colias christina, Edws. A number of males and one female, the orange form.

Colias philodice, Godt.

Colias Scudderii, Reak.

Colias eurytheme, Bdl. A number of fine males and one female.

Lycena Scudderii, Edws. Male and female.

Chrysophanus helloides, Bdl. Male and female.