

wing, while the depth of the terminal coloring leaves the large median space of the primaries pale and contrasting, reminding us a little of *C. cordelia*. The hind wings are dark yellow, with the wide black median band connected with the base, and resemble those of *polygama*. Five or six examples, all alike, have been collected by Mr. Pilate, of this interesting form, which I call *C. dulciola*. The female type before me expands 44 millimetres.

ON THE EARLY STAGES OF SOME MOTHS.

BY D. W. COQUILLET, Woodstock, Ill.

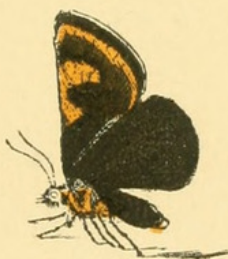
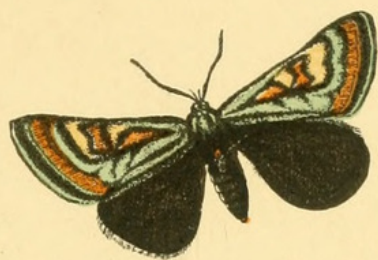
The larvæ described below are provided with 16 legs, except the last one, which has only 12 :

APATELA AMERICANA, Harris.—Body greenish white; a subdorsal and stigmatal black line; on top of the last two segments is a black stripe which widens posteriorly; body thickly covered with short pale yellow hairs; on top of segments 4 and 6 are two pencils, and on top of segment 11 is a single pencil, of very long black hairs; venter black; head shining black; length $2\frac{1}{2}$ inches. One specimen taken on a red-oak tree August 13; on the 19th of the same month it spun in one of the upper corners of its breeding cage a large cocoon, interwoven with the hairs with which its body was covered; the imago emerged on the 24th of May of the following year.

APATELA LOBELIÆ, Guenée.—Body bluish gray, the dorsal space tinged with yellow; a dorsal and subdorsal pale yellowish line extending only to segment 11 which is humped, the top bluish, and on it are four quite large piliferous spots, top of segment 4 bluish, interrupting the dorsal line; piliferous spots whitish, prominent, each bearing a black hair; sides of the body quite thickly covered with whitish hairs; spiracles white, encircled with black; venter, greenish white; head, gray, dotted with black, and marked on the top with two blood-red spots; length $1\frac{1}{2}$ inches. One specimen found June 6, on a burr oak tree; it spun a cocoon June 22, disclosing the imago July 14.

APATELA FALCULA, Grote.—Body, dark brown, mottled with pale greenish; a dark dorsal line, on each side of which are two rows of prickles, most distinct on anterior part of body; the four prickles on top of segment 11 are larger and placed closer together than those on the segments anterior to it; from each of these prickles proceeds or two short black hairs; venter, greenish white; sides of head pale greenish, the face brownish; length, $1\frac{1}{4}$ inches. One specimen found on hazel, September 25, entered the earth and spun a thin cocoon September 29, disclosing the imago May 25 of the following year.

APATELA SUPERANS, Guenée.—Body green; a reddish brown dorsal stripe, edged with yellow; in the middle of this



Edwardsia Brilliant, NEUMOESEN.

stripe is a light line on each side of which is a zigzag row of small prickles from each of which issues one or two black or whitish hairs; on each side of the body are a few small prickles from each of which issues a thin cluster of whitish hairs; a whitish stigmatal line; segment 11 slightly humped; head large, the sides pale green, the face reddish brown, sometimes tinged with pink; length $1\frac{1}{4}$ inches. One specimen was found upon a plum-tree, July 26; it entered the earth and spun a tough cocoon, August 8, producing the imago, May 12, of the following year. Another specimen was found upon a cherry-tree; it assumed the chrysalis form, August 31, disclosing the imago, May 25, of the following year.

ARCTIA VIRGUNCULA, Kirby.—Body black; hair in spreading clusters from black warts; the hair in the region of the spiracles is reddish brown, the rest black; head shining black; length $1\frac{1}{2}$ inches. Feeds on knot grass (*Polygonum aviculare*). One specimen found April 28, spun a thin cocoon June 10, disclosing the imago June 27.

CATOCALA FRATERCULA, Grote and Robinson.—Body ashen gray, the dorsal space dark gray, and on its outer edge is a row of black piliferous spots; on top of segment 8 is a conical dark gray projection, tipped with whitish; posterior part of segment 8 blackish; venter pale greenish white with a row of black spots in the middle, one spot to each segment; the two anterior pairs of abdominal legs are much smaller than the two posterior pairs; head light gray, bordered on the top and sides with black; length $1\frac{3}{4}$ inches. One specimen found on a burr oak tree, spun its cocoon June 1, disclosing the imago June 28.

CATOCALA AMICA, Hübner.—Body slender, dull greenish yellow, a light dorsal stripe, on each side of which is a darker stripe on which is a row of black piliferous spots; a stigmatal row of black piliferous spots; on top of segment 8 is a slight prominence; venter greenish white, with a row of black spots in the middle, one spot to each segment; the two anterior pairs of abdominal legs are smaller than the two posterior pairs; head gray, with two white spots on upper part of face; length $1\frac{1}{4}$ inches. Found two specimens on a burr oak tree, June 5; they spun cocoons about July 3, disclosing the imagoes July 24.

MAMESTRA TRIFOLII, Rott.—Body green; a dark dorsal line; a white stigmatal line; piliferous spots not visible; venter green, unmarked, head pale green; length nearly 1 inch. One specimen found upon *Chenopodium album*, July 5, entered the earth the next day, disclosing the imago July 23.

EUSTROTIA CARNEOLA, Guenée.—Body green, usually very dark, the subdorsal space sometimes tinged with blackish; a white dorsal line sometimes edged with black; a white subdor-

sal and stigmatal line; a row of white dots on dorsal and subdorsal spaces; venter green, unmarked; head green; length $\frac{3}{4}$ inch. Feeds on yellow dock. A dozen or so of these larvæ issued from eggs June 2; they spun thin cocoons beneath chips, etc., from June 18, to 21, producing the imagoes, July 4 to 7.

PYRRHIA ANGULATA, Grote.—Body bluish white; a yellowish brown stigmatal stripe; from the stigmatal stripe on one side of the body to that on the other side are about 10 black lines; sometimes a dorsal row of about 7 yellowish brown spots; piliferous spots, black; venter pale greenish; head shining yellow, with a black dot on each side near the jaws, the jaws sometimes black; length, $1\frac{1}{2}$ inches. Several specimens found upon smartweed (*Polygonum Pennsylvanicum*), September 15; they entered the earth about three inches and formed oval cells, September 27, disclosing the imagoes May 22, and a few days afterward.

TARACHE ERASTRIODES, Guenée.—Body deep green; a white stigmatal stripe; body marked with 16 or 18 wavy black or white lines, or with 12 white lines; venter green, marked with 7 or 8 white lines; head green, striped with white, or marked with black and white; length, 1 inch. Several specimens found on ragweed (*Ambrosia artemisifolia*), July 11; they entered the earth (date not known), disclosing the imagoes about May 22 of the following year.

“NORTH-AMERICAN TORTRICIDÆ.”

BY LORD WALSHINGHAM, London, 1879.

This work, in quarto, with 17 colored plates, forms Part IV. of the “Illustrations of typical specimens of Lepidoptera Heterocera in the collection of the British Museum,” and “deals exclusively with the North American Tortricidæ in the National collection.”

The value of Lord Walsingham's work can be best appreciated by the specialist, and when we consider that it completes the work of Robinson and Fernald in identifying Mr. Walker's types in that group, we should be willing to consider its value great. But it goes further than this, and gives a fair illustration of our Western Tortricidæ from material collected by the author in California and Oregon. In addition, a list is given of all the species which are common to Europe and North America. These latter are forty-eight in number, a seemingly large percentage of the species known. Thanks to the labors of Robinson, Zeller, Fernald, and Walsingham (I name them in the order of priority), our North American Tortricidæ are becoming better known and classified, so that they are being brought into correspondence with the European catalogues. This has been my aim with the



Coquillett, D. W. 1881. "On the early stages of some moths." *Papilio* 1(1), 6–8.

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