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COLOR VARIANT OF *CALLOSAMIA PROMETHEA*
(SATURNIIDAE) IN NEW YORK

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Distinct color variants exist within many species of insects and it is interesting to detect in nature examples of appearance and increase of such morphs for a particular species in a region where they have not previously been found. For eight successive years (1957-1965), I have collected cocoons of *Callosamia promethea* (Drury) from three counties in southern New York State: Ulster, Westchester, and Nassau counties. Within each of these regions, which are roughly 50 miles apart, cocoons were taken at six different localities, covering an approximate area of 150 square miles per county. Almost invariably collected on *Prunus*, yearly samples of 75 cocoons were obtained for each county giving a total of 225 per year or 1,800 cocoons sampled for the eight-year period. Adult emergence indoors was recorded yearly by county and the sex ratio consistently revealed slightly more males (53-57%) for the eight years in all three counties.

The most interesting result of this survey, and the subject of this paper, was the repeated appearance of an apparently distinct color variant of females from cocoons collected in Ulster County (the most northern of the three) during the final three years. Normal females of

promethea are dull red-brown in wing background color sometimes with a slight orange tint (Forbes, 1923). The variant females were bright orange-brown with the same markings as in normal females of *promethea*. Specimens of the variant did not vary much within and between years. Although difficult to determine precisely, males did not appear to be aberrant for coloration and markings. Variants formed 10% of the emerged females in 1963, 25% in 1964, and 30% in 1965.

My initial impression was that the color variants were actually females of *C. angulifera* Walker, a species known to occur in New York. Females of both species are similar in markings, although *angulifera* has the bright orange-brown color observed in the variant. My initial supposition proved to be erroneous after careful comparative examination of many specimens of both species (using *angulifera* adults reared from cocoons obtained from a dealer). Holland (1903) states that males of *angulifera* have large, angulate discal spots (similar to those of females of both species), while males of *promethea* lack these markings. None of the males emerging from the collected cocoons had these diagnostic markings. Furthermore, the most conspicuous difference between females of both species is that the large, angulate spot of the forewing usually touches the postmedial line in *angulifera* (Holland, 1903; Forbes, 1923). None of the orange-brown moths had this marking. Finally, larvae of *angulifera* characteristically spin cocoons which fall to the ground while cocoons of *promethea* are usually securely attached to branches (Holland, 1903). All cocoons collected were of the latter type.

The color variant has not been obtained from cocoons collected in the other two counties. All cocoons were kept in the same room under the same conditions of temperature and relative humidity and all were collected during December. Ruling out gross sampling error, it is conceivable that the color variant of *promethea* is new to Ulster County and that it has been increasing in frequency. Sampling error may have been minimal since cocoon collections were made only where the species is very abundant and the area covered was large for each county and did not vary much over the eight years. Breeding experiments, to elucidate a possible genetic basis of the variant, were not performed.

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