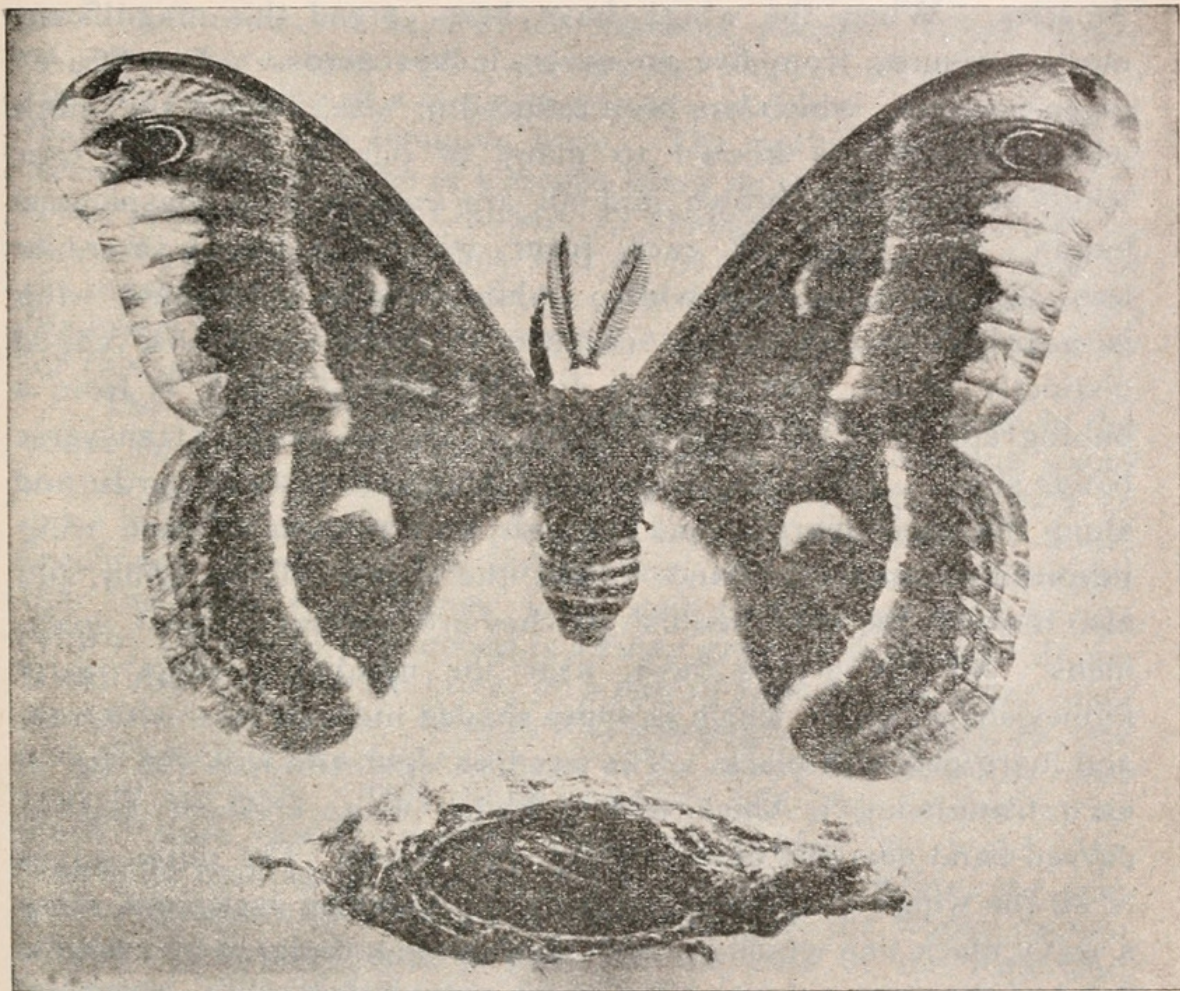


NATURE STUDY No. XXXVII.

THE CECROPIA EMPEROR MOTH (*Samia cecropia*, LINN.)

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Cecropia Emperor Moth and Cocoon, reduced in size.

Among our native insects, probably none attract greater attention from those who have made no study whatever of entomology than the large Emperor Moths, the caterpillars of all of which are true silk-worms. These moths are the largest we have in North America, and, being of such a size and also of striking beauty, they always command admiration. Unlike many other moths, their mouth parts are aborted and consequently they are unable to eat. In their caterpillar state, however, they are very voracious eaters and during that period of their existence will consume many times their weight of food. When full grown these

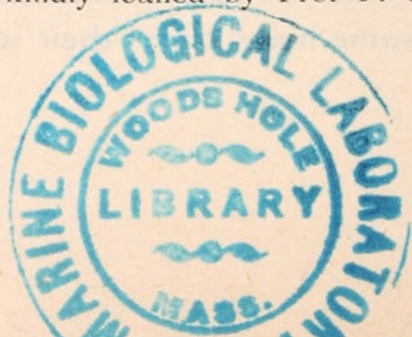


large, heavy caterpillars are found hanging on the underside of leaves and twigs, but on account of their green colour they are rather difficult to detect.

The *Cecropia* Emperor Moth, the subject of this article, is the largest and one of the most beautiful insects found in North America. When the wings have been spread this magnificent moth measures from five to seven inches across. The figure* given herewith, which has been reduced in size, shows the moth which is doubtless known to many of our readers. The four wings are of a rich brown and all are crossed with conspicuous bands. The band on each front wing is dull red, more or less edged within with white, while that on each hind wing is a brighter red, almost crimson in some specimens, edged distinctly inside with white. In the figure, which is from a photograph, only the white portions, of course, of these transverse bands show. The front wings are dusted with gray towards and along the upper margin, and through that portion of each wing beyond the transverse band. Near the centre of the wing, and also towards the base, reddish patches are present in most specimens. All the wings have, near the middle, a large nearly kidney-shaped mark which is white shaded more or less with red, and margined with black. The eye-like spot towards the tip of each front wing is black with a bluish white crescent, and the curved band near the base is white and black. The outer edges of all the wings are paler, and there is present on each front wing a wavy black line which on each hind wing is replaced by a double band of the same colour. The upper side of the body is dull red, as are also the legs. Just behind the head there is a wide white band. The abdomen in most specimens is reddish-brown, the cross bands of white being very conspicuous. Both sexes are similar in appearance, the female only differing from the male in the larger abdomen and much smaller antennæ, or feelers.

It is often difficult to understand an author's reason for selecting the name by which a species is to be known, and much discussion among naturalists has taken place regarding Linnæus's application of the name of the ancient city of Athens, to this moth. The late Dr. Asa Fitch in his third report on the Noxious and

*From Fourth Annual Report of the Entomologist of the State Experiment Station of the University of Minnesota, kindly loaned by Prof F. L. Washburn.



other Insects of the State of New York, gives the following explanation:—"The idea which was present in the mind of Linnæus, when he named this splendid moth, we think is sufficiently evident. The Athenians were the most polished and refined people of antiquity. The moths are the most delicate and elegant of insects; they are the Athenians of their race. Cecrops was the founder, the head of the Athenian people. When names of men were bestowed upon cities, ships, or other objects regarded as being of a feminine gender, classical usage changed these names to the feminine form. The moths (*Phalæna*) being feminine, and the name of Cecrops being more euphonious in this form, probably induced Linnæus to change it in the manner he did. The name thus implies this to be the leader, the head of the most elegant tribe of insects, or in other words, the first of all the insect kind. What name more appropriate can be invented for this most sumptuous moth?"

The cocoon of this insect, shown beneath the moth in the above figure, is the largest and best known of the cocoons found in this country. It is about three inches in length, an inch or more in width at its widest part, and tapers to both ends. Some specimens, of course, are larger than this; we have examples that measure four inches long and two inches wide at the centre. In colour the cocoon is a rusty gray, or brownish. If one is cut into with a sharp knife, or a pair of scissors, an inner, oval cocoon will be found. Within this is a large, black pupa, to one end of which is attached the head of the caterpillar and the cast skin of its body. This inner cocoon will be noticed to be much more closely woven. It is interesting to watch the caterpillar making its cocoon. From the time it begins to spin it never ceases until its work is completed, and the whole cocoon is spun in one continuous thread. In the case of the American Silkworm, *Telea polyphemus*, L., it has been stated by Trouvelot that this caterpillar in making its cocoon, will have moved its head to and fro, in order to distribute the silk, 254,000 times, the length of time taken to complete this operation being from three to five days.

During the past season the caterpillars of the Cecropia Emperor Moth have been more than usually abundant in eastern Canada. It is altogether likely, therefore, that many cocoons will be found on apple, maple, plum, and other trees during the coming winter. The moths emerge in the latter end of May and early in June, and if any of our members would like to experience the pleasure of watching one of these large Emperor Moths escaping from its cocoon, it is only necessary to collect one or two of the cocoons, and keep them in an

out-building throughout the winter, bringing them into the house next May. The cocoons, of course, should be put into a box with rough sides, so that when the moths emerge they can hold on while their wings are expanding. It will be noticed that one end of the cocoon is spun very loosely, and it is from this end that the moth emerges. The head first appears, then the front pair of legs, and soon the other pairs of legs, the heavy body, and the undeveloped wings. As soon as it has attached itself to a nearby object, these latter soon expand and in less than an hour the two pairs of wings attain their full size.

The caterpillars of the Cecropia Emperor Moth hatch from whitish eggs laid in June. They moult, or cast their skins, four times before reaching full growth. At first they are black, changing in the next stage to a deep orange, and in the third stage to yellowish green. In the next and also in the last stage the colour is more of a bluish green. In all the stages the body bears tubercles the colours of which are different after each moult. When full grown the Cecropia caterpillar is from three to four inches long, and is about as thick as a man's thumb. On segments 2 and 3, the tubercles are large and of a bright coral red colour; the other tubercles on the back are smaller and yellow, excepting those on the first and last segments which are blue, as are also the smaller tubercles along the sides. These caterpillars although so beautiful and striking in appearance, from their great size and conspicuously coloured tubercles, are considered very disgusting creatures by many, and this of course is but natural. It would not be human nature if everyone had the same likes and dislikes—it takes all kinds of people to make a world.

The caterpillar of this moth is a very general feeder and over fifty different plants have been recorded upon which it has been found feeding. In Canada the favourite food plants are apple, maple, birch, cherry, plum and willow. Although this caterpillar has a very voracious appetite, it is seldom that it really does very much harm, as it is unusual to find more than two or three larvæ on the same tree, and when their presence is noticed they can easily be removed by hand.

This grand insect occurs in Canada in Ontario, Quebec and the Maritime Provinces, and specimens may every year be collected or seen flying around electric lights. In certain seasons, however, their numbers are greatly reduced by natural parasites, the most important of which are the Long-tailed Ophion, *Ophion macrurum*, L., which forms a single close cocoon inside that of its host, and *Cryptus extrematis*, Cresson, of which several occur inside a single caterpillar, and when this latter has spun its winter resting place they emerge and entirely fill the space with their own cocoons.



Gibson, Arthur. 1906. "Nature Study No. 37 - The Cecropia Emporor Moth." *The Ottawa naturalist* 20(7), 149–152.

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