

THE AMERICAN SILK-WORM MOTH

Telea Polyphemus

BY ELLEN ROBERTSON MILLER

"Every worm beneath the sun
Draws different threads;
And late or soon spins toiling out
Its own cocoon."

—Tennyson.

THE Telea Polyphemus is sometimes spoken of as the American silk worm moth, because there has been in this country an effort made to use its cocoons in the manufacture of silk.

The distribution of the insect is quite universal, and the caterpillars can, as I know from experience, be easily reared in captivity.

One morning at the end of June, the man who cared for the electric lights brought me a badly burned and broken specimen of the moth. As it was a female, I placed her in the breeding cage or vivarium and waited developments. During the afternoon she began depositing her white eggs. These were one-tenth of an inch in diameter, and by a reddish secretion were glued to twigs and the interior of the box. Two hundred and eighty were laid before the moth died. Nine days later I found their small caterpillars were hatching, and many of them turned and devoured their empty shells as a first meal. They had reddish heads and light yellow bodies, over which were scattered brown hairs.

The larvae of the Polyphemus will eat the leaves from nearly any variety of forest tree, being especially fond of thorn, apple and oak; however, this food must be always fresh. If the twigs are put through a cork into a bottle of water they will not need to be removed oftener than once a day.

The caterpillar, when matured, is a fine-looking "worm," from three

to five inches in length. It has outgrown and discarded a number of larval skins and at last appears in one of pale apple green, with seven oblique yellow lines on each side of its body and rows of metallic tubercles. After feeding, or when disturbed, it assumes a characteristic pose by drawing its dark head into the hood-like folds of the thoracic section and holding this portion stiffly away from the support to which it clings with its big elephant shaped prolegs.

The Polyphemus is single-brooded, and the cocoons made in the vivarium during the fall, were never suspended by a silken ribbon, as were all of those which I found in parks and forests; but no doubt many spun in the open eventually drop to the ground and are hidden among leaves.

Possibly the habits of the caterpillar vary. Its size is certainly much smaller in some localities than in others; necessitating a smaller cocoon as well as a moth of lessened dimensions. This is because nourishment for the entire life and work of the insect must be secured during its larval days.

The mouth parts of none of the silk moths are sufficiently developed to permit of their sipping, as the sphinx moths and butterflies do, from the flower nectaries; therefore, their life upon the wing is of short duration.

When ready for this long sleep, the caterpillar ceases to eat, and expels from its body all surplus liquid; then within a partly rolled leaf it spins its winter house, using but a single thread of two hundred and fifty or three hundred yards.

There is no doorway left as in

the cocoon of the *Cecropia* and *Promethea*; and when the moth has emerged from its enclosed chrysalis it is obliged to secrete an acid liquid to soften the silk before it can drag through its great damp body, to which are attached the merest suggestion of wings. These soon extend as the air and blood are drawn into them, and in a few hours the insect is dry, firm, and ready for flight. It will measure five or six inches across the wings and have a most delicate and harmonious color scheme, of soft tan, brown and pink; there is a transparent window spot in each wing outlined in yellow, and those on the hind wings are accentuated by added bands of black blue.

In a female the feathered antennae are much narrower than those on a male, and their body is large and heavy with eggs; these are laid soon after the mating, and unlike most mother moths and butterflies the *Telea Polyphemus* sometimes makes a mistake in their disposition, so that her newly emerged caterpillar children do not always find food for the taking or at least food to their liking. This carelessness on the part of the adult may explain

why the larvae are less particular than many other species, eating as they do from so great a variety of our trees.

Were it not for several of the ichneumon flies, which deposit their eggs in the body of this caterpillar, the *Polyphemus* might overrun the land, because of the many eggs laid by the moths and the abundance of the food supply. Empty cocoons are frequently found with a hole in one side. This is the work of some bird which has breakfasted upon the pupa, and incidentally prevented the existence of two or three hundred individuals.

A white fungus also attacks the *Polyphemus* cocoons, causing the entire interior to look like cork.

If the larvae are reared in a breeding cage, many natural enemies can be avoided; however, accidents are of frequent occurrence.

The cocoons are easily unwound; the thread is strong and brilliant, but not fine like that of the Chinese silk worm; and in time it may be of real economic value in America, although at present a profitable manufacture of their silk is prevented by the price of labor.