

food. It remains on the trees, feeding on the leaves, until August or September, when it descends, and may often be seen crawling about in search of a convenient situation in which to construct its cocoon. It spins a brownish coloured cocoon, about three inches long, and one wide, which it attaches firmly to the under side of a twig. The outer coat is coarse and very strong, and affords an excellent protection to the chrysalis from the inclemency of the weather even in our severest winters. The inside of this outer integument is lined with soft, though strong brown silk, which may be unwound and spun like that of the ordinary silk-worm. In the inside lies a large black, shining chrysalis, from which the moth issues in due time. These cocoons remain on the trees until about the end of May. When about to emerge from its shell the moth throws out a caustic liquid from its mouth, which dissolves the fibres of the silk, and enables it to escape from its prison. These insects may be very easily raised from the caterpillars by placing them in a spacious box, with a little moistened earth at the bottom, and keeping them supplied with food,—if the food is allowed to become withered or mouldy, of course the caterpillars cannot be expected to retain their health. The box should be covered with a gauze or wire frame, and there should also be fastened in it some twigs on which the insect may spin its cocoon. An excellent plan is to get a glass cylinder and sink one end of it into a flower-pot in which is some white sand, the sand is kept moist and the food is stuck into it, so as to keep it fresh for some time; the caterpillar is then placed on its food, a bit of gauze is tied over the top of the cylinder, and the flower-pot and cylinder being kept out of doors, the insect is as nearly as possible in a state of nature. That these moths may be successfully raised from the eggs also, we learn from the "Transactions of the American Philosophical Society of Philadelphia," vol. 1; where we are told that as early as the year 1767, "Moses Bartrian, of Philadelphia, raised a number of caterpillars from the eggs of the *Cecropia* moth, from which he also obtained cocoons." It is stated in the "Philosophical transactions of the Royal Society of London," for the year 1759, that "the Rev. Samuel Pullett was among the first to attempt to unwind the cocoons of this moth;" and that "he ascertained that twenty threads of this silk, twisted together would sustain nearly an ounce in weight more than the same number of common silk." Dr. Thaddeus Harris, in his treatise on the insects of Massachusetts injurious to vegetation, remarks on this subject:—"The following circumstances seem particularly to recommend these indigenous silk-worms to the attention of persons interested in the silk culture. Our native trees afford an abundance of food for the caterpillars: their cocoons are much heavier than those

of the silk-worm, and will yield a greater quantity of silk; and as the insects remain unchanged in the chrysalis state from September to June, the cocoons may be kept for unwinding at any leisure time during the winter. Consisting, as these cocoons do, entirely of silk, the fibres of which far surpass those of the silk-worm in strength, they might be employed in the formation of fabrics similar to those manufactured in India. Experiments have been made with the silk of the *Cecropia*, which has been carded and spun, and woven into stockings that wash like linen."

The *Saturnia polyphemus*, Fabr. is another of these silk-producing moths. Its wings expand to five or six inches; they are of a yellowish-brown colour, clouded with black; each wing is ornamented with a transparent eye-like spot. The anterior one is marked with a wavy line near the edge, two small black spots at the tip, contiguous to each other, and two curved lines of a light colour at the base, near the body of the insect. The transparent spot—near the middle—is encircled with yellow and black. The posterior wing is of much the same colour,—in the male of a darker shade,—with a continuation of the marginal band, which has on this wing, a broad border of black. The transparent spot is larger, and forms the pupil, as it were, of a large eye-like spot, the iris of which is bluish grey, gradually shading into black, the whole surrounded with a deep black border. The body is of the same colour as the wings. The female is very similar to the male, except that the colours are of a lighter shade. The caterpillar is about two inches and a half in length, and about half an inch in diameter; it is of a light green colour, nearly transparent; each segment of the body rises into two humps, terminating in a little bright yellow wart, bearing two or three short hairs. Along each side there are two rows of similar wart-like excrescences, which are joined, on each segment by an oblique yellow line. Its head and feet are dark brown. It feeds on the leaves of the choke-cherry, and other species of *prunus*, and also according to some writers, on the oak and elm. When full grown, the caterpillar draws together several leaves of the tree on which it feeds, with its silken threads, and forms within them an oblong cocoon, about two inches long, rounded at the ends, and very firm, which contains much silk, somewhat similar to that of the *Cecropia* moth, though not in so large a quantity. The perfect insect, after having remained in the imago state all winter, emerges from the cocoon in July or August. The other Canadian species are the *Saturnia promethea*, Drury, and the *S. luna*, Drury; both spin cocoons containing silk, though not as much as the others mentioned above. The caterpillar of the *Promethea* feeds on the sassafras, and the common wild cherry; that of the *Luna* on the walnut, and hickory trees.