

facts pointing toward these objects, I only ask the intelligent student to select a group for study, and when he concludes his investigations, let us have the matter fully explained. But before he can investigate cocoons or other nest forms of any particular genus, it is necessary that a collection be made of the various structures that contain either the living pupa or nymph. These should be preserved in separate boxes, and those specimens which his knowledge leads him to suppose belong to identified genera should be kept in such condition as to accord with the position in which he originally found them. This is the proper course to follow in investigating nest-structures of insects, which I claim will lead to the correction of many errors in our present classification, and place in their proper position many species that are now arranged under wrong genera. If this plan is carried out, the student will be rewarded with instructive lessons and discoveries of the greatest interest to science. This was the system commenced and partly worked out by the late lamented Benjamin D. Walsh, of Illinois, whose investigations of insect life were of the highest order; indeed, much of the present advanced state of the science in America is due to him. When my few illustrations and descriptions of insect architecture appeared in the *Canadian Naturalist*, he was the first to notice the matter and send me additional information regarding the species; and as I consider his remarks of value, I give them here as an addenda to said descriptions.

"No. 1 (see "*Canadian Naturalist and Geologist*," Dec. 1865, p. 461), except in being slightly smaller, strongly resembles the nest of *Eumenes fraternus* Say—a very common insect here. I have bred the female imago from the nest, and some that I broke open in the summer contained numerous green caterpillars, enough, I should judge, to feed the larvæ to maturity. I do not believe any wasps that are not social feed their larvæ after they are hatched out. The use of the short tube, which,

Chinese species named *Selene* by Dr. Leach;" and regarding the *Polyphemus*, which is our most common species, he says that "it is remarkable that two insects which are so similar in their preparatory states that their larvæ differ only by slight and unimportant marks, and their cocoons cannot be distinguished from each other, still come to be so unlike each other in their perfect state as is *Polyphemus* and *Luna*. These facts show that the metamorphoses of the insects of this order are not so accurate a guide to their systematic arrangement as many have assumed them to be."

I have some reason, on another ground, to divide *Promethea* from *Cecropia* on cocoon form alone; and no doubt when the American species constituting the Linnæan genus *Attacus* are properly studied, great differences will be discovered, not only phytophagically but also in the internal structure of their larvæ.