

Larvae of the North American Olethreutidae (Lepidoptera)¹

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Abstract

The late-instar larvae of about 185 species of the North American Olethreutidae are described and most of them illustrated. Included in these are many pests, such as *Grapholitha molesta*, *Carpocapsa pomonella*, and *Spilonota ocellana* on fruit trees, *Paralobesia viteana* on grapes, *Ancylis comptana fragariae* on strawberries, *Laspeyresia nigricana* in pea pods, *Laspeyresia caryana* in hickory and pecan nuts, *Taniva albolineana* in spruce needles, and species of *Rhyacionia* and *Petrova* on pines. Keys to species groups and to individual species are provided. Of the diagnostic and specialized characters listed, the most useful include the setae, the spinneret, and the shape of the larva, especially of its head and anal shield. The main characters are given for the postulated ancestral larva and for the highly developed larva. Most of the species groups are arranged according to the suggested phylogenetic relationship of their larvae, emphasizing the necessity of a revision of the family. Larvae of some genera previously difficult to classify, such as *Pseudogalleria* and *Hystricophora*, indicate the relationship of those genera to other groups; conversely, lack of relationship is clearly shown in other instances, e.g., between *Carpocapsa pomonella* and *Carpocapsa saltitans*, and between the two species *Epiblema culminana* and *E. suffusana* and other members of the genus *Epiblema*.