

Sub-family *Hemileucinae*.

Whereas the *Attacinae* spin thick cocoons above the surface, and have subfalcate primaries, in this group, so far as I have studied them, the fore wings are blunt or rounded, and the cocoon is made at the surface of the ground mixed with *debris*. The caterpillars in their last stage are bristled, and resemble those of *Platysamia* in their earlier stage. This group, represented by the typical genus *Hemileuca*, prepares us for the following *Ceratocampinae*, in the gradual modification of its characters. In its closely allied species and tendency to local modification it recalls such lower genera as *Clisiocampa*. Perhaps the genus *Quadrina* belongs here; of this I have had only a single specimen to examine. When both sexes are known and nearer comparisons are made it may be that we have to do with a distinct sub-family type. Mr. Smith, after seeing the type, referred it to the *Cossinae*. I do not believe this, or that we have to do with an internal feeder. Later, he appears to have reverted to my original idea that the genus was related to *Gloveria*, referred by Dr. Packard to the *Lachneinae*, perhaps from its resemblance to the European *Otus*. The eggs of *Hemileuca* are laid like those of the *Lachneinae*, in ring-form, and the abdomen is likewise tufted at the extremity.

Sub-family *Ceratocampinae*.

In this group, defined by Harris, a cocoon is rarely made and the transformation is subterranean. The female antennæ are sub-simple or simple, and the male antennæ are not pectinate at the tip. The abdomen is longer, the squamation smoother, and, while the main Attacid characters are still retained, there is an evident departure in a fresh direction. The ocellate marks on the secondaries are here and there apparent, but the ornamentation has become simpler, and the lowest form, *Dryocampa rubicunda*, has a resemblance in all stages to the ensuing *Lachneinae*. The caterpillars are often bizarre in appearance from the spines and horns with which they are ornamented, especially in the genus *Citheronia*, where they probably serve as a defence by frightening their different enemies. There seem to be two groups of larval types, the extremes of which are displayed by *Eacles* and *Citheronia*; the larvæ of the *Eacles* type, approaching the preceding Attacid type, those of the *Citheronia* type approaching gradually the *Lachneinae*. The distribution of this sub-