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lement. (Fig. 34.)

A study of the *head* of the perfect moth shows that it is composed of several distinct chitinous pieces protecting the nervous ganglia, and covering the mouth parts which are only fitted to take in liquid food. At the base of the spiral tongue (*spirilingua*) are placed the jointed *maxillary palpi*, (Fig. 35) but these are often, perhaps usually obsolete; they are well developed in the snout moths or *Pyralidæ*, and especially in certain *Tineidæ*. On the other hand all moths possess one pair of *labial palpi*, jointed appendages, analogous to the legs in ultimate structure and articulated to the lower lip or labium. The space between the eyes is called the *front* or *clypeus*, and this piece varies in comparative shape and size in the different families, and often affords peculiar structure offering generic characters. In the genus *Eulryas*, for example, (Fig. 36) it is smooth, and in the related genus *Copidryas* it is

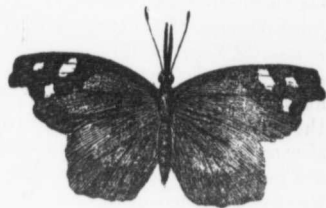


FIG. 35.



FIG. 36.

provided with a clypeal horn. The compound eyes vary in shape and external appearance. They are sometimes constricted, as in certain *Heliothid* genera in the *Owlet* moths. Again the surface, usually naked, is covered with short hairs arising from the angles of the facets apparently, and only to be properly observed under the microscope. Behind the eyes the small ocelli, or simple eyes, are to be found; these are never more than two in number, and are sometimes wanting, as in the genus *Brephos*. The *antennæ*, or "feelers," are situated on the top of the head on each side, and spring out between the vertex and epicranium. The basal joint is often thickened and longer than the rest. Up to 100 joints have been counted in the antennæ of some moths. They vary much in ultimate structure and exhibit sexual peculiarities,

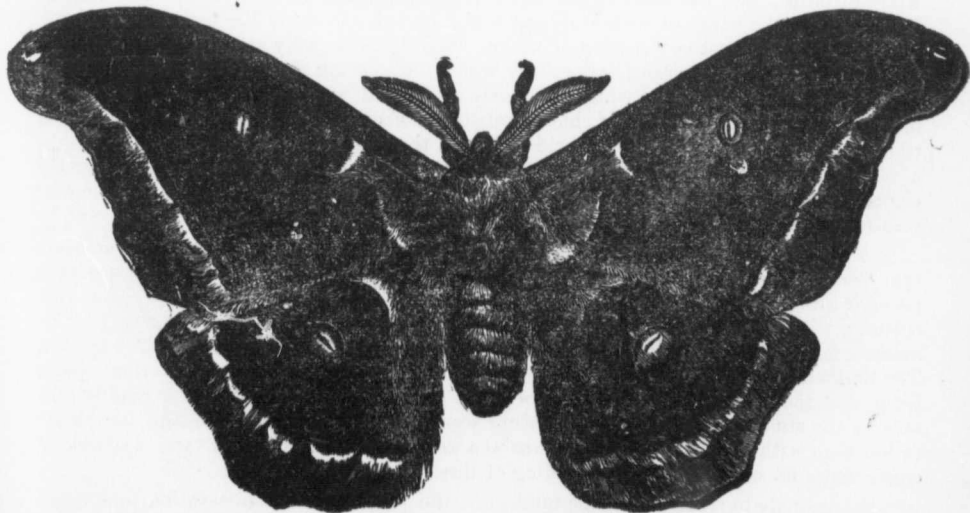


FIG. 37.

being more prominent in the males, feathered, pectinated or ornamented with nodosities. The extremes in total length are apparently afforded by the genera *Adela*, where they are longest and *Hepialus* where they are shortest. They are broadest and most plumose in the genus *Attacus* (Fig. 37.) The average aspect of these organs in the moths may be

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