

As is well known by all aurelians, one considerable collection of Abbot's drawings was published by Sir James Edward Smith in two sumptuous folio volumes, but these comprise, as far as the butterflies are concerned, only twenty-four species. This work made an epoch in the history of entomology in this country. Besides this Abbot published nothing. The article credited to him in Hagen's Bibliography was by a Rev. Mr. Abbot, who wrote from England in November, 1798, when Abbot was in this country.

CHARACTERS OF PROTECTION AND DEFENCE IN INSECTS.

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A few years since I described a colony of Spanner caterpillars (*Geometridæ*) belonging to an undetermined species, and the description appeared afterwards in this journal. These larvæ were remarkable for their mimicry, in color and shape and attitude, of dead leaves. There could be no question that they belonged to the category of protective appearance, to which so many green and brown tinted larvæ belong, which share these "cosmical colors." In studying these larvæ we must consider their color, shape and attitude separately. The larvæ of most of the Hawk Moths belong to this category. The caterpillar in repose, or at the approach of danger, assumes a rigid attitude in which it resembles a leaf on a branch of the food plant. The markings along the back often assist this resemblance. The only motion is that imparted by the swaying of the plant on which it rests. When disturbed, the caterpillar of *Thyreus Abbotii* throws itself by jerks from side to side and gives out a crepitating noise. It looks then somewhat snake-like.

The second category is that of defensive appearance. Highly colored, red and yellow larvæ, belong many of them to this category, as also those armed with spines and prickles. These would seem to court observation, which they further aid by their restlessness. It is probable that, by their gaudy appearance, they inspire distaste or fear in their natural enemies. The caterpillars of *Orygia* are not eaten by birds, nor are those of *Abraxas*. By simulating obnoxious species it has been shown that several kinds of butterflies escape destruction. From these two points of view the appearance of insects must be studied, but it by no means follows that the means to the end have been always perfectly attained.