

To the student of animal instinct it is no doubt far more wonderful that an insect in its comparatively short life should at different stages respond to two quite distinct food-stimuli. The syrphus fly, *Eristalis tenax*, whose larva feeds in liquid manure, is, at maturity, a honey-sucking haunter of blossoms; in extreme cases, like that of the parasitic oil beetles, as many as three distinct food-stimuli occur in the life of the individual.

But in my ramble through the realm of Coleoptera, it is the opposite phenomenon which has struck me most. I mean the number of beetles that are attracted to the food of their larva. I have noticed this especially among the Cerambycidae. In many of them the smell of fermenting sap (where a tree is newly felled or has been injured by the lopping of branches or the mutilation of bark) seems to act as a direct and powerful stimulus in liberating the instinct of reproduction. This is specially noticeable in the Monohammi. In others again, where perhaps the smell of sap has first drawn the insects to the tree for breeding purposes, the sight of the foliage seems to impel the beetles to eat the leaves. This is particularly the case in some genera that approach most nearly to the Chrysomelians. We have a familiar illustration of it in *Tetraopes*, the Milkweed beetle, whose larva feeds in the stem of the plant, while the beetle resorts in large numbers to the leaves, on which it feeds freely as well as breeding. Less conspicuous examples of the same phenomenon are the *Oberea*, and still more the *Saperda*. I have several times captured *Saperda vestita* feeding on the sheaf of leafy twigs surrounding the basswood stumps, under whose bark the eggs are laid. I have found *Saperda moesta* eating the leaves of the poplar where its larva develops, and on a single willow I once counted over 200 specimens of *Saperda concolor* breeding on the leaves and eating the foliage with evident relish.

These last few paragraphs have brought me right into the great group of Phytophagous beetles, properly so called, whose larvæ, without exception, find support on living vegetable tissue. They comprise three families, the Bruchids, which devour seeds; the Cerambycids, which attack the woody tissue of trees and shrubs, and the Chrysomelids, which feed at all stages on foliage and the more succulent parts of vegetation.

The Bruchids form only a small group, and the genus *Bruchus* is the only one of much importance; besides the Pea and Bean Weevils (so called), the only species I have found at all abundant is a minute insect, *Bruchus discoides*, sometimes plentiful in the blossoms of the white *Convolvulus* or Morning Glory.