

Generalists vs. Specialists

Insects can be general or specific in their feeding habits. A generalist has a much better opportunity to be successful and flourish in its environment. Take, for example, the large Polyphemus silk moth. The larva prefers to feed on oak leaves, but will also accept maple, ash, walnut, and many other deciduous trees and shrubs. Being a generalist, it is able to survive in almost any environment, and is the most common so-called "giant silk moth" in the United States. It can survive in the desert as well as in the mountains and forests. It is found in every state of the union because it can adapt to any climate and feeds on the plants indigenous to the area.



Garden pests usually are generalists to some degree, attacking the exotic or unusual plants you are trying to propagate in your growing space. The veined white butterfly, a native of Oregon, feeds mainly on wild mustards, but will also attack cabbage, brussels sprouts, and other members of the mustard family. The cinnabar moths were imported to feed on tansy ragwort, since this was their specialty food. MG's are reporting to me that they are finding the larvae on asters in their gardens, indicating that the moths are not as specific in their feeding habits as we thought, although asters and tansy are in the same family.

The more specific an insect is in its feeding habits, the more fragile it is to environmental change. A good example of this is the Fender's blue butterfly. It feeds exclusively on Kincaid lupine found only in specific locations and conditions in Oregon. Where the lupine grows, this butterfly can flourish. If the lupine is removed, as happens when farming and cultivation takes place, the butterfly all but disappears. Because of extensive farming in the Willamette Valley, the Fender's blue was thought to be extinct. It was rediscovered in 1989, and has been on the endangered species list ever since.

Many insects are specialists like this blue butterfly. The mud dauber wasp uses a particular species of spider to feed its larvae. When these spiders are abundant, the mud dauber numbers increase. When the spider numbers are down, so are the numbers of the wasp. A good example of supply and demand, I guess!

"Adapt or perish" is a concept that allows some animals and plants to survive drastic change. Some scientists believe that the demise of the dinosaurs was, at least partly, due to changes in climate and food that were beyond their ability to adapt. Man, fortunately, has been able to survive in almost all climatic conditions - maybe TOO well! Only the future will tell us.

