



Class Arachnida, Spiders and mites

Order Araneae, Spiders

The class Arachnida includes spiders, mites, scorpions, and related 8-legged arthropods that are not insects.

The two largest orders of arachnids are spiders and mites. Arachnids have chelicerae that are fang-like or pincher-like mouthparts for feeding. Like all adult arachnids, most adult spider mites and ticks have eight legs, while first instars have only six. However, eriophyid mites, as discussed in the pest section, have only four legs. Most mite families are predaceous. Only a few families are phytophagous and consume plant juices by sucking out cell contents.

Spiders

Several families

Description and life history: The United States hosts about 50 families of spiders, almost all of which are predaceous and most of which consume insects. Spiders capture prey in webs, by hunting or by ambushing. Web spinners include orb spiders (Family Araneidae), sheetweb spiders (Family Linyphiidae), combfooted spiders (Family Theridiidae), and funnel weavers (Family Agelenidae). Hunting spiders, which run down prey, include wolf spiders (Family Lycosidae), jumping spiders (Family Salticidae), lynx spiders (Family Oxyopidae), and two-clawed hunting spiders (Family Clubionidae). Crab spiders (Family Thomisidae) are the most common ambushers, sitting on flowers or vegetation until prey comes within grasp.

Prey species: These generalists consume insects in any active stage; some eat eggs or pupae. The prey capture method determines what insect a spider catches and consumes most often. As generalists, spiders do not contribute greatly to targeted control of pests. They are an important part of natural control and help to stabilize pest populations. Since they only have one generation a year, they do not respond rapidly to increased numbers of pests, especially multivoltine pests. Broad spectrum insecticides harm spiders, and annual crop fields have lower spider diversity than perennials. Tillage and harvesting also harm spiders. Although spiders have not been imported to control natural enemies, some agricultural practices can encourage their presence. In China, for example, farmers place bales of hay in fields to serve as refuges for spiders. These bales can be moved, thus conserving spiders and providing supplemental populations where needed.



Spider. (302)
Photo: Unknown species.