

BENEFICIAL INSECTS AND COMMON PESTS IN THE GARDEN

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Predators

- ▶ Predators attack, kill, and feed on numerous organisms within their lifetime.
- ▶ They can be specialized, feeding on one or a few types of prey, or generalists, feeding on whatever they capture.
- ▶ Examples: Beetles (ladybugs, ground beetles, soldier beetles, tiger beetles, rove beetles), true bugs (minute pirate bugs, ambush bugs, assassin bugs, damsel bugs, some stink bugs), flies (hoverfly larvae, robber flies), wasps and ants, lacewings, most earwigs, mantids, some thrips, spiders, and some mites.



Parasitoids

- ▶ Parasitoids are insects that live in, feed on, and kill one host in its lifetime.
- ▶ Parasitoids are usually only parasitic in the immature stage, eventually killing their host to later emerge as an adult.
- ▶ They may specialize in attacking a specific stage of one type of host (i.e., the larvae of beetles) or a certain stage of all insects (i.e., eggs).
- ▶ Examples: Wasps, which have more parasitoids than any other insect order, and flies.

Pathogens

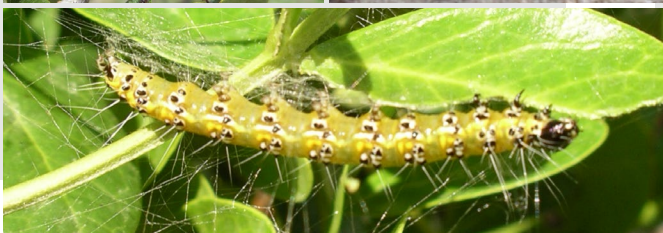
- ▶ Pathogens are parasitic organisms that cause disease and can impair normal activities of the host.
- ▶ Examples: Bacteria (*Bacillus thuringiensis*), fungi (*Beauveria bassiana*), protozoa, viruses, and nematodes (*Steinernema* & *Heterorhabditis*).



Photo by: Peggy Greb, USDA Agricultural Research Service, Bugwood.org

Pests: What is considered a pest?

- ▶ When you find insects in your yard, your first question is often “Is this a beneficial insect, a harmful pest, or just a harmless insect that happens to be here?”
- ▶ While some insects are lumped into “beneficial,” “good,” “pest,” and “bad” groupings, you need to think about where the insect is and what it is doing before making your final decision.
- ▶ Examples: Ladybugs eating aphids in the garden are beneficials, while ladybugs overwintering in your house might be considered pests. Alternatively, termites breaking down trees that fall in the forest are beneficials, while termites eating your house are pests. The circumstances of a situation determine if an insect is a “pest.”



Chewing pests

- ▶ Chewing pests have mandibles that bite and chew, similar to humans.
- ▶ Damage can vary based on the size and type of insect.
- ▶ Damage usually shows up as chewing of soft tissues of the plant leaving a lacy appearance, small holes, or large pieces of the plant eaten.
- ▶ Examples: Caterpillars, adult and immature beetles, adult and immature grasshoppers, and some ants.

Sucking pests

- ▶ Sucking pests have tube-like mouthparts they use to pierce and feed on plants and animals. These pests survive by sucking out the juices of plants or the blood of animals.
- ▶ Plant damage appears as yellow to whitish speckled foliage, curling, browning of foliage, wilting, and/or stunted growth.
- ▶ Some sucking pests feed on sap and can produce a sticky substance called “honeydew,” which can lead to the growth of a fungus called “sooty mold” on the plant.
- ▶ Examples: Aphids, mealybugs, planthoppers, scale insects, stink bugs, leaffooted bugs feeding on plants; mosquitoes, bed bugs, kissing bugs, and fleas feeding on animals.

