

Invite Good Insects Into The Garden To Battle Pests

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URBANA - Not all the insects in the garden are pests. Fewer than 1% of all insects are considered pests. The vast majority are beneficial or benign.

"While most people are aware of the benefits of bees and other pollinators, a lot of other types of insects are beneficial in our gardens by helping control pest insect populations," says [Ken Johnson, University of Illinois Extension](#) horticulture educator. "If you have beneficial insects, you may not need to do anything else to manage your pests."

Gardeners who find a mystery insect in their garden should identify it before trying to kill it. Beneficial insects fall into two groups: predators and parasitoids.

Predatory insects



Predatory insects, such as lady beetles, praying mantids, assassin bugs, lacewings, wasps, and syrphid flies, feed on many different types of garden pests.

Lady beetles are one of the most widely known predatory insect. Both the adults and larvae prey on small, soft-bodied insects, such as aphids. The adult dome-shaped beetles range in color from yellow, pink, red, orange, or black, usually with distinct spots. The larvae are dark with orange or yellow markings and flattened and tapered, as an alligator. The larvae they are commonly misidentified as a pest.

Ground beetles can also be important predators in gardens. Most are shiny and black and typically found on the ground under leaves, logs, stones, loose bark, and grassy areas. They are most active at night and feed on a variety of insects, such as caterpillars, beetle larvae, snails, and other soft-bodied insects. Larvae also feed on soil-dwelling insects.

Praying mantids eat whatever they can catch, whether it's a pest or another beneficial insect, such as bees. There are several species of preying mantids native to Illinois, but the most common is the non-native Chinese mantis.

Assassin bugs and other predatory bugs use their straw-like mouthparts to impale their prey and then suck out the body fluids. These insects come in various sizes and colors.

"Even though we typically think of them as pests, some species of stink bugs are predatory," Johnson says. "These predatory stink bugs have thicker mouthparts

compared to their plant-feeding cousins and will feed primarily on caterpillar and beetle larvae."

Other predators:

- **Green lacewings** can be important predators of aphids and other small, soft-bodied insects. The larvae are alligator-like and have large sickle-shaped mouthparts. They are referred to as "aphid lions."
- **Syrphid flies** range in size from one-fourth to three-quarters of an inch long and resemble bees and wasps with yellow, orange, and black markings. The predaceous larvae are legless with a tapered body. They range from creamy-white to green or brown. They feed on aphids and other small soft-bodied insects.
- **Wasps**, such as yellowjackets, baldfaced hornets, and paper wasps, can have a significant impact on the number of pests in a garden. The adults hunt insects such as caterpillars, flies, crickets, and grasshoppers to feed their young.
- **Spiders** can also have a significant impact on pest species in gardens. Not all spiders catch prey in webs. Many, such as wolf spiders, crab spiders, and jumping spiders hunt or ambush their prey.



Parasitoids insects

Parasitoids insects tend to be much more specialized in the insects they feed on.

"They may only attack one type of insect, such as caterpillars, or in some cases, one species," Johnson says. "The adults will look for hosts to lay their eggs on or in. Once the egg hatches, it will feed on its host, eventually killing it."

Most parasitoid wasps are small and easily confused with gnats. These small wasps attack aphids, whiteflies, mealybugs, caterpillars, and insect eggs.

Insects that have been parasitized often look different. Parasitized aphids will eventually turn brown or black and paper-like. In some caterpillars, such as hornworms, the larvae will spin white cocoons on the outside of its host, which are commonly confused for eggs.

Some species of flies are also parasitoids. Adult tachinid flies lay eggs on or in their host caterpillars and beetles. The larvae of these flies tunnel into their host to feed, eventually killing it.

Gardeners can take steps to encourage good insects. While many natural enemy insects can be purchased, making some changes to how you manage your landscape can make it much more attractive to these insects and help keep them around long term.

Provide flowers for beneficial insects to feed on. Many beneficial insects will feed on nectar and pollen. This is especially important if the adults aren't predators. Plants with small flowers, such as sweet alyssum, dill, fennel, garlic chives, coriander, and Queen Anne's Lace, are good choices. Other common garden plants, including blanket flower, coneflower, cosmos, and sunflowers, will be visited by beneficial insects, too.

"Cut back on or cut out insecticides," Johnson says. "Most insecticides kill beneficial insects as well as pests."

If you are going to use insecticides, use a selective pesticide that is toxic to specific insects and won't directly harm beneficial insects. For example, *Bacillus thuringiensis kurstaki* (Btk) only affects caterpillars. When using pesticides, make sure to read and follow all label directions.

SOURCE: Ken Johnson, Horticulture Educator, University of Illinois Extension

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