

BENEFICIAL INSECTS



Bugs are essential to well-balanced garden ecosystems. The vast majority of insects in your garden cause no trouble for plants and even plant-munching pests are food for other creatures, including birds and reptiles. A few types of insects play an even more important role in keeping your garden healthy and productive. These beneficial insects fall into three main categories: pollinators, predators, and parasitizers. If you get to know them, you can make your garden hospitable to them and they will make your work easier and more successful.

Pollinators

Most gardeners are familiar with honeybees and bumble bees, but there are a wide variety of other species that are just as important for pollination. Native specialist bees, many of which are solitary rather than hive-builders, **are essential to particular plant families**, such as cucumbers or apples. Some types of butterflies, moths, and flies also gather and distribute pollen as they move from flower to flower, while feeding on nectar.

Predators

Many insect species feed mostly (*if not exclusively*) on pests, helping to keep their populations from turning into crop-destroying infestations. Often it is insect larvae rather than adults that prey on pests.

Meet the Good Guys

The pollinators are vitally important to your harvest, but the superheroes who will rescue your garden from pests are the predators and parasitizers. Here are a few of the most common.

Ladybugs, or ladybird beetles, have a cheerful name and appearance, **but their larvae are ferocious predators that can eat up to 40 aphids per hour.** While gardeners tend to recognize the red back and black spots of adult ladybugs, there are many different species with variations in the familiar appearance.

Adult green lacewings feed on pollen and nectar, but their larvae, which look like a bit like tiny alligators, prey upon soft-bodied garden pests, including caterpillars and aphids.

Praying mantises are well-known insect predators that eat large grasshoppers as well as many other garden pests, including moths, beetles, and flies. Praying mantises, however, also consume other beneficial insects, such as butterflies, bees, and even each other.

Parasitizers

Tiny wasps of various kinds and a few other types of insects lay eggs on or in destructive pests and when the eggs hatch the larvae feed on the hosts.

Ground beetles are a large and diverse group of predators that are beneficial as both adults and larvae. They eat a wide range of insects, including caterpillars, thrips, weevils, and slugs.

Soldier beetles are a common predator of troublesome garden pests such as Mexican bean beetles, Colorado potato beetles, caterpillars, and aphids.

In all of their life stages—nymphs, larvae, and adults—assassin bugs use their sharp mouthparts to prey on aphids, caterpillars, scale insects, spider mites, and insect eggs.

Robber flies have stiff, hollow beaks that they use as daggers, needles, and straws. The flies impale pests, inject them with neurotoxins and digestive enzymes, which liquefy the prey's internal tissues, then suck out the fluids.



BENEFICIAL INSECTS *continued*



Hoverflies look like tiny yellowjackets without a stinger. The adults feed on pollen and nectar and act as pollinators, while their larvae are voracious predators, killing aphids, caterpillars, beetles, and thrips by sucking the fluids from their victims.

Among the more than 1,000 species of tachinid flies are those that parasitize corn borers, gypsy moth caterpillars, grasshoppers, Japanese beetles, Mexican bean beetles, and squash bugs.

Though spiders are not technically insects (*they are arachnids*), they trap and eat many pests. Wolf spiders, for instance, prey on earwigs, caterpillars, crickets, flies, and more.

We tend to think of wasps as threatening to us, but two types of tiny parasitic wasps are especially beneficial in our gardens. Braconid wasps lay eggs on the backs of tomato hornworms and other plant-munching caterpillars, forming white cocoons you can see on the caterpillar's back. If you spot a parasitized caterpillar, don't kill it. The wasp larvae will finish their consumption of the pest and then become more wasps, which will lay eggs on other caterpillars. Trichogramma wasps are about the size of gnats and they lay their eggs inside the eggs of more than 200 different insect pests, including cabbage worms, codling moths, and European corn borers.

Attract Beneficial Insects

Many beneficials appear in the garden before the pests do and need food sources such as pollen and nectar, as well as water and shelter to encourage them to stick around.

Growing a wide variety of plants is the best way to attract and keep a diverse population of these insects. Be sure to include early blooming plants, especially ones with

tiny blossoms like alyssum, or biennials such as carrots or parsley that have been left to bloom, to draw beneficials to your garden in the spring.

As the season progresses, beneficial insects are most commonly attracted to plants with compound blossoms such as yarrow, goldenrod, and Queen Anne's lace and flowering herbs like lavender, mint, sage, dill, fennel, and lemon balm.

Set out a shallow dish or two in your garden and keep it filled with fresh water, especially during dry spells. Beneficial insects will sip at it. Also, leave an area around your yard uncultivated so the good bugs can find shelter from their predators.

Hold The Pesticides

Creating a balanced ecosystem in your garden is the only reliable way to prevent pest infestations. Chemical pest controls upset that balance by killing off all of the destructive pests, leaving nothing for the beneficial insects to eat, so they go elsewhere looking for food. Even worse, many common pesticides, even "natural" products such as pyrethrum and rotenone, do not discriminate between good and bad bugs. Pass on pesticides and trust in the food chain to keep pests from taking over.

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