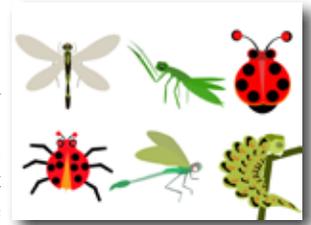




Beneficial Insects



Not all bugs are bad. Insects get labeled as "pests" when they start causing harm to people, plants, animals, and buildings. Out of nearly one million known insect species, only about two to three percent are ever considered pests. What about the rest of them? Some 'beneficial' insects actually help us by keeping the 'bad' pests in check.

Although natural pest controls and beneficial insects may not be as fast or as complete as chemical controls, they do have a place in the garden. Some natural pest controls can be very slow controlling certain pests, but they will give good long terms controls. Some beneficial insects can be expensive to use, if you have to purchase them. Also, many insects will not always stay in your yard. The beneficial insects you release in your yard may actually move down the street to one of your neighbor's yards, and control their insect pests.

Sometimes the best way to control unwanted pests in your yard is to use a combination of organic and chemical pesticides, beneficial insects, and natural insect controls. If you want to use beneficial insects and natural pest controls exclusively, be patient. Learn to enjoy a few '**not so perfect**' fruits, vegetables, and flowers. Learn to eat around any insect damage. You can also plant a few extra plants just to share with the unwanted pests in your garden; just like the pioneers did - the crickets got 1/2, the pioneers got 1/2.

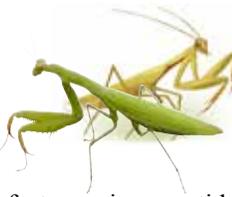
Ladybugs (Lady Bird Beetles)

Everyone loves a ladybug, but gardeners hold them in especially high regard. Lady beetles eat aphids, scale insects, thrips, mealybugs, and mites – all the pests gardeners despise. With lady beetles, you get more bang for your buck, because both the adults and the larvae feed on pests. Lady beetle larvae look like tiny, colorful alligators. They also add color and variety to the gardens. Kids love to find **Lady Bugs** in the gardens.



Praying Mantids

Praying Mantids are the most all-purpose, beneficial insect in the home garden. The Praying Mantids will eat almost any pest that moves. When the nymphs hatch, they're so hungry they sometimes eat their siblings. In fact, praying mantids are just as likely to eat a helpful lady bird beetle as they are to catch a caterpillar. Many people keep Praying Mantids as pets.



Decollate Snails

They control the common brown garden snails. They attack mature snails as well as snail eggs and juvenile snails. They are very territorial and may rid the entire yard of snails. They do not control slugs. Decollate snails are not always winter hardy. Decollate snails may feed on seedlings, small plants, and flowers once other snails are controlled. It is illegal to import exotic snails into Utah without a permit. We do not sell them, so check with your source before ordering them online.



Beneficial Nematodes

They kill many species of soil insects, including root weevil, many species of grubs, maggots, and cutworms. They also control several species of wood boring insects. Beneficial nematodes control insects in the egg and larval stages, so adult damage may still appear until all immature stages of insects are controlled. Beneficial nematodes are not winter hardy and must be re-introduced every few years in the gardens.



Predatory Mites

They attack and kill Red Spider Mites, Two-spotted Mites, Rust Mites, and many other types of mites commonly found in the yard.

They also feed on the eggs and immature stages of insects like thrips, whiteflies, and scale insects. These natural enemies do not bite people or injure plants. Some may supplement their diet with pollen or honeydew.

<http://extension.usu.edu/files/publications/factsheet/beneficials-mites.pdf>

<https://extension.umd.edu/hgic/insects/predatory-mites>



Lacewings

Lace wings control aphids, mealy bugs, mites, and many other soft bodied insects. Lacewings kill and eat many more insects than the lady bugs can, but they are not as easily seen in the garden. Unless you know a lacewing, you may think it is a moth or some pesky insect.

https://extension.usu.edu/files/publications/factsheet/beneficial-insects_lacewings-and-antlions.pdf



Parasitic Wasps

They are the most widely used beneficial insect in the world. Parasitic wasps attack aphids, many types of caterpillars, cicadas, lace bugs, scale insects, whiteflies, sawfly larvae, ants, leafminers, and insect pupae. They also attack the eggs of insects such as codling moths, tomato hornworms, cabbage loopers, imported cabbageworms, and European corn borers.



Damsel Bugs

Damsel bugs use thickened front legs to grab their prey, which includes aphids, caterpillars, thrips, leafhoppers, and other soft-bodied insects. Nymphs, too, are predators, and will feast both small insects and their eggs. With their dull brown coloring, damsel bugs blend in to their environment quite well. They look similar to assassin bugs, but are smaller.



Assassin bugs

Assassin bugs know how to take care of business. These true bugs use trickery, disguises, or just plain brute force to capture a meal. Many assassin bugs specialize in certain kinds of prey, but as a group, assassins feed on everything from beetles to caterpillars. They're fun to watch, but be careful handling them because they bite – hard.

http://extension.usu.edu/files/factsheets/Assassin_Bug.pdf



Minute Pirate Bugs

You probably have minute pirate bugs in your garden, and you don't even know it. Minute, indeed - these predators are tiny! Minute pirate bugs usually measure a mere 1/16th inch long, but even at that size, they can devour a large number of aphids, mite whitefly, leafhoppers, thrips and many insect eggs. They can eat up to 30 spidermites per day. Next time you're in the garden, take a hand lens and search for them. Adults have black bodies with a white chevron pattern on their backs.

https://pubs.ext.vt.edu/3002/3002-1437/3002-1437_pdf.pdf



Ground beetles

You've probably overlooked the ground beetles in your garden. Lift a stepping stone, and you might see one skittering away. The dark-colored adults often have a metallic sheen, but it's really the larvae that do the dirty work of pest control. Ground beetle larvae develop in the soil, and prey on slugs, root maggots, cutworms, and other pests on the ground. A few species will venture up a plant stem and hunt for caterpillars or insect eggs..

<https://extension.usu.edu/files/publications/factsheet/beneficial-insects-beetles07.pdf>



Syrphid flies - Hover flies

Syrphid flies often wear bright markings of yellow-orange and black, and can be mistaken for bees. Like all flies, though, the syrphids have just two wings, so take a closer look if you see a new "bee" in your garden. Syrphid maggots crawl on garden foliage, searching for aphids to eat. They're quite good at squeezing in the curled up leaves where aphids hide, too. As an added bonus, the adults will pollinate your flowers. Syrphid flies are also called hover flies, because they tend to hover over flowers.

<http://utahpests.usu.edu/admin/files/uploads/utahpests/advisories-tf/2009/IPM-07-30-09.pdf>
<http://web.extension.illinois.edu/cfiv/homeowners/140926.html>



Big-Eyed Bugs

Predictably, you can distinguish big-eyed bugs from their closest relatives by looking at their large, bulging eyes, that turn slightly backwards. Like many other true bugs, their bodies are oval and somewhat flat. Big-eyed bugs are quite small, reaching an average of just 1/8th inches in length. These adult insects have an appearance of a wasp mixed with a beetle mixed with a fly. Despite their diminutive stature, both adults and nymphs feed heartily on mites, aphids, and insect eggs.

<http://extension.usu.edu/files/publications/factsheet/big-eyed-bugs.pdf>



Predatory Stink Bugs

Though many stink bugs are plant pests themselves, some predatory stink bugs keep pests in check. The spined soldier bug, for example, feeds on caterpillars, sawfly larvae, and grubs. Most predatory stink bugs are generalist feeders, so they might also devour your lady beetles or even their own kin. You can recognize stink bugs by their shield-shaped bodies, and the pungent odor they produce when disturbed.



Predatory wasps

Yellow jackets, bald-faced hornets, and paper wasps are important predators of caterpillars and other soft-bodied insects. Because of this, only destroy nests (taking all appropriate safety precautions) where they pose a hazard to people or pets

<https://extension.usu.edu/files/publications/factsheet/yellowjackets-hornets-wasps09.pdf>



Dragonflies and Damselflies

The voracious appetite of dragonflies makes them a great asset to the garden. Because they're top predators in the insect world, they keep a balance with the insects in your yard. One of the insects that they love to eat is the mosquito. Mosquito-munching dragonflies are carnivorous and will eat just about any small insects. They will sometimes eat butterflies and wasps.



Spiders

Spiders are not insects, but they are very beneficial to have in the garden. All spiders are predators, and most feed on insects caught in a web. Others, such as jumping spiders and wolf spiders, are active hunters relying on excellent vision to kill their prey. Crab spiders, another commonly encountered group, ambush their prey. Spiders are often the most abundant predators in the yard, and can control more unwanted insect pests than you can imagine. It is to your benefit to let them become part of your insect management efforts



Ant Lions

Ant lion larvae use the unique method of building a pit to capture ants and other small insects. After digging a pit, the larva sits at the bottom with its jaws open, waiting for its prey to slide into the trap. These pits are constructed in dry sunny locations that have sandy soil and protection from rain and wind. They are most commonly found along buildings where they are protected by the eaves of the roof.

Adult ant lions somewhat resemble damselflies and are only active during the night.



Earthworms

Although worms are not a pest control, they are very beneficial in an organic garden. They loosen and aerate the soil very effectively. They add nutrients to the soil and help the soil maintain its vitality. The benefit worms add to the soil helps many plants overcome problems caused by other pests.



Earwigs - An Unknown Good Bug?

Earwigs actually are beneficial insects, most of the time. They're part of a large group of creatures that are sanitary engineers; they help clean up the environment by feeding on decaying plant material, along with other scavengers like millipedes, pillbugs, and sowbugs.

They eat insects and mites, are voracious feeders of aphids, insect eggs, snails, and other slow moving bugs; but they may also gobble up beneficial insects.

They may not always be beneficial, though, if you have a greenhouse, or are trying to grow vegetable seedlings. In large numbers, earwigs can damage living plants and can be greenhouse pests. Sometimes ripened fruits are infested, but damage is usually tolerable.

Outside, they are found primarily in mulch and decaying leaves, or hidden in cool places under boards, rocks, or logs. Earwigs hide during the day and feed at night. In large numbers, they may feed on tender plants and may damage lettuce, strawberries, dahlias, marigolds, zinnias and roses.

Inside, they are a nuisance pest. They might be feeding on stored grain products, or they may have simply found a way inside, and not a way back out. According to experts, humans have nothing to fear from earwigs, but most folks would prefer not to find one in their bathtub early one morning.



