

About Those Bugs

As aspiring gardeners, we do want to know all about the pests we encounter and as well we must know about the 'beneficials', those bugs that are essential to the health of our gardens. The problem of course is how to tell the good from the bad.

Recently I borrowed a friend's book to lessen my ignorance, "Good Bug Bad Bug" by Jessica Walliser. I needed it because it has pictures and because it is designed for non-entomologist types. How liberating to read that only 10% of insects are harmful to our gardens! The vast majority is either actively beneficial or else harmless.

Another interesting fact is that although those harmful insects may be a nuisance by eating foliage, many of them also serve as pollinators, decomposers of organic waste, or as food for other critters higher on the food chain. What makes an insect beneficial is its role in eliminating certain pests. You may have noticed that once aphids appear on the leaves of your river birch, a few days later the ladybugs appear and clear them away.

Which brings us to another important aspect of nature's planning – the timing. With changes in our climate patterns we are seeing butterflies breeding and migrating earlier and many insects shifting their ranges northward. Unfortunately, the scientists who concentrate on insects, the entomologists, predict that we will see more severe infestations from both native and exotic species, such as gypsy moths, bagworms, and vine weevils. Walliser writes: "Some pests, like whiteflies, aphids and spider mites, flourish during heat waves – aphids can reproduce over 3 times faster with a temperature increase of just 5 degrees."

Probably the first line of defense against bad bugs is to have the healthy plants that result from healthy soil. Investing in compost and natural soil enhancers will allow you to avoid the use of synthetic fertilizers and pesticides. Another thing to avoid is the overuse of even natural nitrogen fertilizers since those applications produce excessively lush greenery, enticing to a bug.

If you do not already have a collection of good bugs, you can buy them. Several garden supply catalogs offer beneficial insects and other biological controls. Another way to diminish the bad bug population is to spend time cleaning up the garden site after harvest. It is an investment of time that pays off as it prevents the hatching of the eggs left behind to become future generations.

Another often-overlooked weapon in the bug wars is the planting of the native plant species that attract the good bugs. Landscaping your property using just a few species is not only boring but it discourages beneficials. Creating a diverse habitat may take more than one season but it will attract insects that will give you a balanced garden. Flowering annuals, perennials, and herbs are an invitation. In garden catalogs you can also find pheromones to draw ladybugs, lacewings, and hoverflies as well as bait devices to attract them and other good bugs. In any event, eliminate synthetic pesticides since they kill indiscriminately.

Several species of *Aphidius* wasps feed on aphids. The female lays an egg in an aphid, eventually hollowing it out. You need a magnifying glass to see this process. Curiously, these wasps do not duplicate the ladybugs work but avoid areas where they detect earlier aphid presence. Assassin bugs are another of the good guys and familiar to most of us who recognize the dark brown or black broad bodies and long crinkly legs. They eliminate aphids, cabbageworms, potato beetles, cucumber beetles, cutworms, earwigs, tomato hornworms among others.

There are several species of ground beetles that are efficient eliminators of garden pests and they come in many sizes and often in bright metallic colors. They spend the day under rocks and hunt at night. Hover or Syrphid flies resemble small wasps as they have black and yellow or white striped abdomens. They hover like a hummingbird as they drink nectar from flowers. They don't sting and are both pollinators and predators. The adults pollinate but it is the larvae that can eat up to 500 pests before they mature. Hover flies can detect the presence of an aphid on a leaf and the more aphids there are, the more eggs will be laid, assuring food as the larvae develop.

A pretty friend is the Lacewing, a slender green insect that flies on gossamer wings. It clings to window screens, attracted by the light. Many beneficial insects are too small to be easily seen but there is one almost 5" whopper, the Praying (preying) mantis, or mantid. You may see the egg cases, brown and sponge-like on twigs during the winter if you leave a few stalks standing. Green with triangular heads that swivel 180 degrees, they eat everything, including each other. Not very pious?

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