

Beneficial Insects

Insect	Prey	Culture
 <p>Lady Beetle Usually red or orange with black markings. Some lady beetles are black, often with red markings. They have alligator-like larvae.</p>	<p>Aphids Mites Small insects Insect eggs</p>	<p>Lady beetles, ladybugs, or ladybird beetles are among the most visible and best known beneficial predatory insects. Over 450 species are found in North America. Some are native and some have been introduced from other countries.</p> <p>Most lady beetles found on crops and in gardens are aphid predators. Some species prefer only certain aphid species while others will attack many aphid species on a variety of crops. Some prefer mite or scale species. If aphids are scarce, lady beetle adults and larvae may feed on the eggs of moths and beetles, and mites, thrips, and other small insects, as well as pollen and nectar. They may also be cannibalistic. Because of their ability to survive on other prey when aphids are in short supply, lady beetles are particularly valuable natural enemies. Lady beetles defend themselves by bleeding from their joints. If handled too roughly they can stain carpets, walls or curtains.</p>
 <p>Green Lacewings Adults are pale green, about 1/2 to 3/4 inch long, with long antennae and bright, golden eyes. They have large, transparent, pale green wings and a delicate body.</p>	<p>Aphids Spider mites Thrips Whiteflies</p> <p>Eggs of leafhoppers, moths, and leafminers,</p> <p>Small caterpillars, Beetle larvae</p>	<p>Adults feed only on nectar, pollen, and aphid honeydew, but their larvae are active predators. Adults are active fliers, particularly during the evening and night and have a characteristic, fluttering flight. Oval shaped eggs are laid singly at the end of long silken stalks and are pale green, turning gray in several days. The larvae, which are very active, are gray or brownish and alligator-like with well-developed legs and large pincers with which they suck the body fluids from prey. Larvae grow from <1 mm to 6-8 mm.</p> <p>Lacewing larvae are considered generalist beneficials but are best known as aphid predators. The larvae are sometimes called <i>aphid lions</i>, and have been reported to eat between 100 and 600 aphids each, although they may have difficulty finding prey in crops with hairy or sticky leaves.</p>
 <p>Parasitic Wasps (Ichneumonid) Range in size from 1/10- 1 1/2", have long abdomens and are usually brownish black or red and black.</p>	<p>Caterpillars Beetle larvae Soft-bodied insects</p>	<p>Ichneumonid wasps are a very large and diverse group of insect parasites. Some are very small and attack small insects such as aphids. Others live in the eggs of various pest insects. Larger parasite wasps attack caterpillars or wood boring beetles. Adult females of some species kill prey immediately by stinging them and feeding on their body fluids. They also deposit eggs through their long, thin ovipositors into host insects. The parasitic larvae feed and develop in their hosts, emerging as adults. They are attracted to pollen- and nectar-producing plants.</p>
 <p>Hover Flies or Flower flies There are many different species that range in size from less than 1/4 inch long to more than 3/4 inch long. Many have the typical black and yellow stripes on the abdomen that give them a bee-like appearance, but others are hairy with a long, thin abdomen. All have short antennae.</p>	<p>Aphids. Small caterpillars Thrips Other small insects.</p>	<p>The maggots, or worm-like larvae of hover flies or flower flies (family Syrphidae) feed on aphids. They hover and dart about flowers making a loud buzzing sound. This behavior and their markings, at first glance, mimic bees. Adult hover flies will feed in pollen- and nectar-producing plants. They are attracted to weedy borders or mixed garden plantings that are also infested with aphids. Some flowers that are especially attractive to hover flies include wild carrot or Queen Anne's lace, wild mustard, sweet alyssum, coriander, dill, and other small-flowered herbs.</p> <p>Hover flies can be effective in suppressing aphid populations in gardens and mixed plots. They will be most noticeable in the later half of the growing season, usually after aphid infestations are established. Because they are not as conspicuous as lady beetle adults or larvae they may not be given credit for the effect they have on aphid colonies. Although hover fly larvae feed mainly on aphids, they will eat small caterpillars, thrips and other small insects. They have even been noted as predators of small European corn borer and corn earworm larvae.</p>

Insect

Prey

Culture

 <p>Praying Mantids . Mature females can reach five inches in length. Praying mantids are usually green, but some are dull brown in color. They are easily identified by their slender body, long slender middle and hind legs, large, grabbing (raptorial) front legs, and rather sinister-appearing head with large bulging eyes.</p>	<p>Various insects</p>	<p>Mantids (or mantises) are very efficient and deadly predators that capture and eat a wide variety of insects and other small prey, including pollinators. They have a "neck" that allows the head to rotate 180° while waiting for a meal to wander by. Further, they tend to be cannibalistic and are rarely found in large enough numbers to have a significant impact on pest populations. Camouflage coloration allows mantids to sit on twigs and stems while they wait.</p> <p>The two front legs of the mantids are highly specialized. When hunting mantids assume a "praying" position, folding them up under their head. They will strike out and capture their prey. Long sharp spines on the upper insides of these legs allow them to get a good grip on their prey. The impaled prey is held firmly in place while being eaten. The spines fit into a groove on the lower parts of the leg when not in use. Females lay eggs in the fall in foamy masses that harden in a few hours. The eggs hatch in the spring with a number of nymphs scattering about the garden to feed.</p> <p>Pesticides drastically reduce the numbers of mantids in a given area. If you desire to encourage mantids you should use as few pesticides as possible and allow some vegetation to grow to provide cover for the mantids.</p>
 <p>Assassin Bugs Ambush Bugs Adult assassin bugs are usually 1/2 to 3/4" long. Many species are brownish or blackish, but some species are brightly colored. The elongated head is narrow with a distinct "neck" behind the often reddish eyes. The long, curved mouth parts form a beak which is carried beneath the body, with the tip fitting in a groove on the underside of the body. The middle of the abdomen is often widened, so the wings don't completely cover the width of the body.</p>	<p>Aphids Leafhoppers Asparagus beetle eggs and larvae</p>	<p>There are more than 160 species in the family Reduviidae (the assassin bugs, ambush bugs, and thread-legged bugs) in North America, many of which are fairly common. Most assassin bugs are medium-sized to large predators of crop pests, but the family does contain a few blood-sucking species. Even the beneficial insect predators can inflict a painful bite if handled carelessly, resulting in an inflammation that can persist for a few days.</p> <p>Most assassin bugs are generalist predators in gardens and fields. They sit in wait of prey and are most likely to attack small flying insects, however they can subdue and kill medium-sized caterpillars and similar insects. They may feed on beneficial species as well as pests. Although they have not been specifically manipulated for biological control, they do contribute to natural control and their conservation by judicious pesticide use is beneficial.</p> <p>Ambush bugs are smaller (1/2" or less), stout-bodied insects with thickened, praying mantid-like front legs. Although they are small they can capture much larger insects, such as bumblebees. They lie in wait for their prey on flowers. Goldenrod is a favorite flower, where their greenish-yellow color allows them to be well camouflaged. Their prey is mostly large bees, wasps and flies, so they do not contribute much to insect pest control in plantings.</p>
 <p>Damsel Bugs Slender, tan-colored bugs that resemble small, smooth-looking assassin bugs or other plant bugs that feed on crops.</p>	<p>Aphids Moth eggs Caterpillars, including: corn earworm, European corn borer, cabbageworm and some armyworms. :</p>	<p>Damsel bugs are more commonly found in field crops such as alfalfa and soybean than in row crops or orchards. Grassy fields tend to have more damsel bugs than do broadleaf weed or weed-free fields. They are also commonly found in home gardens, where they prefer to take shelter in low growing grasses and ground covers. Maintaining such environments will encourage these predators, although the impact of damsel bugs in vegetable crops is not known.</p> <p>Other prey may include leafhoppers (including beet and potato leafhoppers), small sawfly larvae, mites, tarnished plant bug nymphs, and asparagus beetle and Colorado potato beetle eggs and nymphs. Damsel bugs are attacked by a number of natural enemies themselves, including tachinid flies, wasps and fungi.</p>

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