

# HOME GROUNDS FACT SHEET



Cornell University  
Cooperative Extension  
Nassau County



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## Beneficial Insects for Natural Pest Control

There are many insects that should be a welcome sight to gardeners. These “good” insects help control the “bad” ones by eating them. Beneficial insects include both predatory and parasitic organisms. Predators catch and eat their prey outright. Parasites live on or in a pest, eventually causing its death.

Some beneficial insects are found naturally in home gardens, while others can be purchased from IPM (Integrated Pest Management) companies, which are often listed in the back of gardening magazines. When beneficial insects are found or placed in the garden, they should be protected so they can be effective. In some cases, larvae and adults eat different foods. Food must be provided for all life stages to keep the beneficial populations from leaving your garden in search of other food sources.



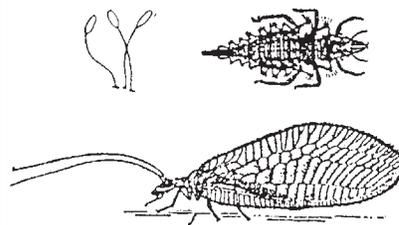
*Firefly or lightning bug*  
Order Coleoptera  
length, 1/2 inch

### Fireflies

Not only are they fun to watch on summer evenings, fireflies help control harmful insects. The **larvae** of these black elongated beetles with phosphorescent green tail lights eat cutworms, slugs and snails that cause major damage to plants.

### Lacewings

Commonly called aphid-lions, lacewing larvae eat large amounts of aphids. They also consume mealy bugs, scales, thrips and mites. The larvae are grayish brown, elongate, hairy and flattened with large sickle-like jaws. Lacewing adults are greenish in color with large golden or copper-colored eyes. Their wings are relatively large and delicately veined. The adults feed on flower nectar, pollen and soft-bodied insects.



*Lacewing -  
eggs, larva (aphidlion) and adult*

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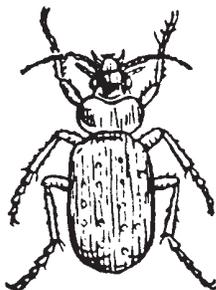
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## Ground Beetles

This beetle family contains hundreds of species, most of which are flattened, dark and shiny. During the day these beetles hide under stones and logs and at night they feed on many types of insects and snails.



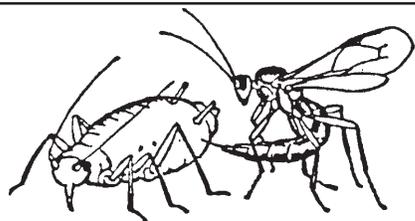
*Fiery hunter*  
Order Coleoptera  
length, 1-1/2 inch

## Spiders

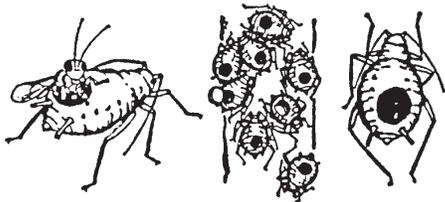
Spiders should be conserved in the home and the environment because potential pests make up a large part of their diet. Spiders have many different habitats in which they live and thus have one of the widest ranges of prey. They may avoid ants, wasps and beetles.

## Syrphid Flies

Flies have a bad reputation as being a nuisance but many are very beneficial. Tachinid flies attach and parasitize corn and cabbage pests and Japanese beetles. Robber fly larvae and adults feed on a variety of insects on and in soil. Hover flies, which look like bees but have only two wings, have voracious larvae which feed on aphids (400 per larva), thrips and small caterpillars.



*Parasitic wasp laying an egg in an aphid*



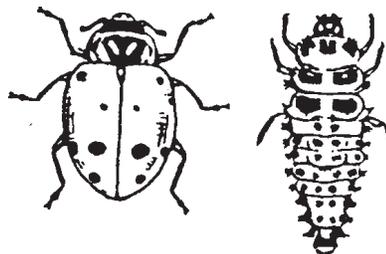
*Young wasp emerging from parasitized aphid and dead aphids showing emergence holes (greatly enlarged).*

## Wasps

There are many tiny parasitic wasps that feed on a variety of caterpillars and aphids. They include *Braconid*, *Trichogramma* and *Ichneumon* wasps. *Encarsia formosa* is a tiny wasp that parasitizes white flies by laying its eggs in the white fly larvae. This turns the larvae black and kills it. The *braconid* wasp attacks the tomato hornworm. A parasitized hornworm should be left on the plant to contribute to the parasite population.

## Ladybird Beetles

These beetles, also known as ladybugs, are extremely beneficial. They prey on aphids, small insects and mealy bugs. As larvae they consume an average of 25 aphids a day and up to 50 as an adult. Ladybird beetles are 1/6 to 1/4 inch long, red or sometimes tan with black spots, or black with red spots. The eggs are bright yellow and are usually found in clusters on the underside of leaves. It takes about 1 month to go from egg to adult.



*Convergent lady beetle*  
Order Coleoptera  
length, 1/2 inch