

## Profile Hoverflies



Hoverflies get their name from their unique ability to hover, suspended in midair, then dart a short distance very quickly, only to hover again. And they can even fly backwards, an ability very few insects possess.

Hoverflies are true flies within the Order Diptera. Hoverflies are also known as Syrphid Flies and Flower Flies.

Although hoverflies are very widespread, their role as an important beneficial is under appreciated. They are important pollinators and can be found feeding at flower blossoms or around aphid colonies, where they lay their eggs. The larvae of hoverflies are voracious predators of plant pests.

Their economic importance is great as pollinators of major significance. In some agro-ecosystems such as orchards, they out perform bees in pollinating the fruit.

The larvae are important predators of pests such as aphids, scales, thrips, and caterpillars. They are rivaled only by ladybird beetles and lacewings.

When hover fly larvae populations are high, they may control 70 to 90% of an aphid population. Because aphids alone cause tens of millions of dollars of damage annually to crops worldwide, the aphid-feeding hoverflies are being recognized as potential agents for use in biological control. They are among a gardener's best friends.

Like all flies, hoverflies have a complete metamorphosis—egg, larval, pupal and adult stages. Adults become much more abundant during spring and summer.

The life cycle of hoverflies varies from as little as three weeks in summer to nine weeks in the cooler winter.

The eggs hatch in two to three days during the summer and within eight days in the winter. The larval stage lasts from 10 to 14 days during which time each larva can average eating 20-35 aphids per day.

After mating, the female hover fly searches for places to lay her eggs. Her ability to hover and inspect foliage for prey gives her exceptional skill in locating the ideal site with "up and coming" aphid colonies that will provide the best potential for her larvae's nourishment. Once she locates an active infestation, she lays one or more tiny eggs in its midst. Then she is off to find another promising spot.

When the eggs hatch into larvae, they don't stray far from their birthplace. They are tiny, blind, and deaf. They hang on to the leaf with their rear end, swaying back and forth. Once they brush against prey, the prey is grasped by the larvae's hooked jaws, raised into the air, and its body contents drained. Only an empty carcass remains.

After spending several days eating aphids, the hoverfly larvae attach themselves to a stem to pupate. They spend 10 days or so inside the cocoon during warm weather, and longer when the weather is cool. Adult hoverflies emerge from the cocoons to begin the life cycle again.

Unlike bees and wasps which have more directionality in their flight patterns, adult hoverflies live up to their names and often spend much of their flight time hovering. They only have two wings as opposed to four in wasps and bees. Like all flies, their hind wings, called "halteres," are greatly reduced, and are used to balance them in flight. These flies also have very small antennae, as opposed to the long, often jointed antennae in wasps and bees. Their eyes are larger than those of wasps and bees, and may look like they wrap around the head.

Two species of hoverflies are commonly seen in Southwest Florida.



The Bee-like Hoverfly, *Allograpta obliqua*, above, mimics the color patterns of wasps and bees, presumably to gain protection from its own predators. Some even go so far as to wave their front legs in front of their face to imitate the antennae of wasps. Unlike wasps and bees, they are incapable of stinging and are totally harmless.

*A. obliqua* can be distinguished from bees or wasps by looking for two wings rather than four wings, the lack of long antennae, and the huge compound eyes. The adults are small- to medium-sized flies, with an average body length of up to 5/8". They are brightly colored with yellow and black bands of equal width around the body.

The Metallic Green Hoverfly, *Ornidia obesa*, in first column is an unusually plump Syrphid first described from an American specimen in 1775. It is found in Georgia, Florida, Texas, and New Mexico, south to Argentina and Peru. It has also been introduced into other tropical areas of the world. It is one of the prime pollinators of Saw Palmetto as well as other wildflowers, and it is also beneficial because the larvae can convert coffee-production waste products into useful protein sources for cattle feed.

### Hoverfly trivia

- Metallic Green Hoverfly males have contiguous eyes while the females have widely separated ones.
- There would be no chocolate without flies. Fly pollination is essential for fruit production of cocoa trees, and the Green Metallic Hoverfly is one of the fly pollinators of cocoa flowers.