Helpful Tips

Reduce or avoid outdoor lighting or indoor lights near windows. Midges are attracted to lights during dusk swarming events, so leave lights off until after sundown. Yellow outdoor lights are an alternative.

Avoid using electric bug zappers. The light *attracts* the midges, becomes quickly clogged and therefore ineffective. **Instead, try using citronella candles to avert midges.**

Spray swarming midges with water from a garden hose. This will give some temporary relief from swarming adults.

Use an outdoor insecticide fogger. Spray outdoor areas or swarming midges. (Use as directed).

Spray a residual pesticide over areas such as bushes, exterior walls, and screens, where adult midges accumulate. This may deter swarming adults from congregating around the exterior of a building. (Use as directed)

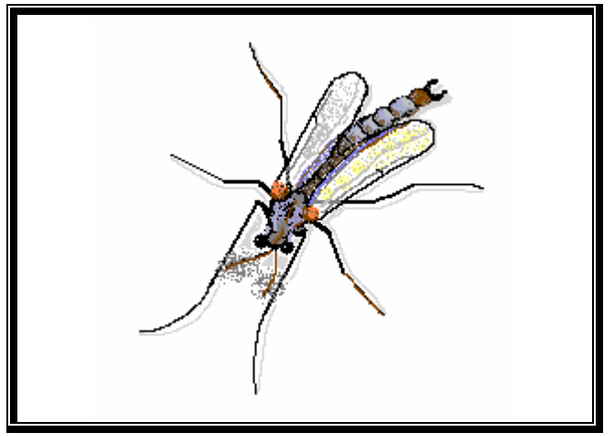
Non-Biting Midges and Water Quality

Midges are common insects in and around water bodies. As more people choose to live on waterfront property, midges become a nuisance because development promotes a midge-friendly environment. Loss of shoreline plants, removal of submerged vegetation, and runoff from residential yards can make canals and lakes favorable for midge outbreaks. These factors influence nutrient levels in a water body which increase algae, a main food source for midge larvae.

The Long-Term Solution

Restoring a water body's natural balance is part of a long-term solution against nuisance midge swarms.

- **Reduce input of nutrients.** Limit the amount of fertilizers used on lawns and landscaping.
- **Reduce pesticide use.** Broad applications of lawn pesticides can kill natural predators of midge larvae.
- **Buffer storm water runoff.** Plant shoreline plants in front of or as an alternative to seawalls.



Non-Biting Midges of Cape Coral

Cape Coral FLORIDA

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Non-Biting Midges

Throughout the City of Cape Coral, a small, mosquito-like insect is often a nuisance to residents along the waterfront. Midges are harmless and non-biting, but are frequently attracted to lights and often clog window and pool enclosure screens, deface exterior walls, and frustrate outdoor activities. The larvae of midges are aquatic, living in the soft organic rich sediments of freshwater and sometimes brackish habitats. The adults emerge and swarm near their larval habitat. Waterfront homes, parks and recreational areas and even businesses can be enveloped with these insects during swarming cycles. Moreover, midges have a short life span and the accumulation of dead midges around a home or business can be upsetting.

There are over 2,000 species of midges throughout North America, but some commonalities can be made about their life cycle (Figure, 1). It begins with the eggs, which sink to the bottom after being dropped in masses on the water surface by the adult female. The number of eggs depends on the species, but this is typically in the thousands. Multiple larval growth stages develop and result in the midge larvae building silken tubes to embed themselves within the bottom

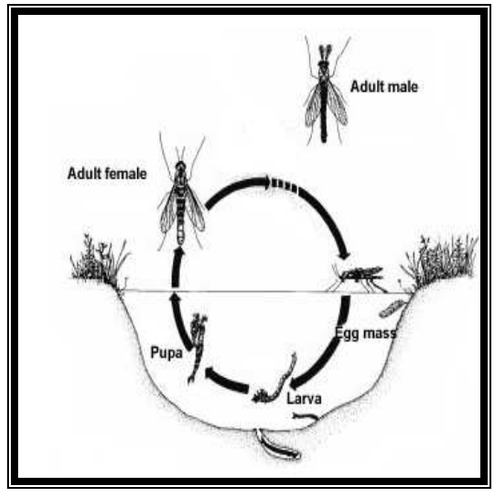

Figure 1, non-biting midge life cycle (courtesy of UF-IFAS)

sediments. The larval stage of the midge is the longest of their life cycle. They use this period to feed on algae, dead organic plant matter and plankton. The pupa stage follows, during which the midges actively swim before they emerge as an adult. Adults fly, and males form swarms (typically at dusk) for the females to fly up into and mate. The females live only a few days and die shortly after returning to the water to deposit their eggs. The emergence of adults in year-round warm environments takes place throughout the year and is synchronous with the lunar cycle. However, the number of midges seems to vary seasonally, and population growth is associated with weather or environmental conditions.

Why Control of Midges is Difficult

Larval control through the use of larvicides is largely ineffective. The midge larvae are protected within the bottom sediments surrounded by the tubes they constructed. The adult midges swarm close to buildings, obstructions and vegetation to prevent wind from dispersing the swarm. Therefore spraying or fogging with insecticides often does not reach these swarms.

Since midges are non-biting and pose no health threat (unlike mosquitoes) wide spread multiple pesticide applications would be too costly. Adults regularly emerge, thus any reduction would be temporary and the next generation would again become a nuisance. As a result, adult control is unfeasible.