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# Fungus Gnats

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# FUNGUS GNATS

## Introduction

At various times during the year, small flies may be found flying around the house. They are often associated with house plants. In most cases they will prove to be fungus gnats.

### Description and Biology

Fungus gnats are small, long-legged flies of the families Mycetophilidae and Sciaridae. The adults of most species are about 1/5 inch long or less. The immatures are transparent to white, slender, elongate, often blackheaded maggots that may reach a length of 1/4 inch when fully grown.

The larvae of most species feed in the soil on fungus, decaying organic material and sometimes on roots of living plants. Thus, they may develop in the humus soil of house plants or outside in leaf litter and other decaying vegetation. Large numbers may be found beneath shrubbery around the home. Adults are attracted to light and may accumulate in large numbers at windows after emerging from potted plants. They fly around when plants are disturbed and are frequently found running across the foliage and soil. Eggs are deposited in clusters on soil containing organic material and hatch in 4 to 6 days. Larvae feed for about 15 days, pupate and emerge as adults a few days later. Adults live about a week. Successive generations are produced as long as temperature and moisture conditions are favorable and food is available.

## Damage

Fungus gnats require high moisture conditions as well as decaying organic material. Some of the fungus feeding species may become pests in mushroom cellars. Some species become pests in greenhouses or plant beds. In the home they infest potted plants, particularly those that are grown in a high humus content potting mix. Larvae feed predominantly on the fungi that grows on the decaying material but may disrupt and damage roots while burrowing through the soil. They may also feed on the more tender portions of the root system and the crown of the plant, killing very young seedlings. Damaged plants will lack vigor, have poor color, and may exhibit premature leaf drop.
Adult fungus gnats are harmless and do not feed on plant tissue; however, the presence of large numbers of gnats in the home constitutes a nuisance that the average homeowner will not tolerate.

## Control

**Cultural practices** can aid in the prevention and/or control of fungus gnat infestations. Overwatering, water leaks and poor drainage frequently result in damaging fungus gnat infestations. Good sanitation is also important. Remove all debris and old plant material from in and around greenhouses and homes.

Use sterile potting soil in the home. Reducing both the humus content of the houseplant potting mix and the moisture will make the soil less attractive to the gnats and decrease the number of gnats that will be produced in a given period of time. This method may be more detrimental to some plants than it is to the gnats and may not be a viable solution in some cases.

The larvae can be controlled with soil treatments of a number of relatively soft pesticides such as kinoprene (brand name Enstar), neem (Azatin EC), fenoxycarb (Precision), or diflubenzuron (Adept), and biological agents such as *Bacillus thuringiensis* (Bt, formulation specific for fungus gnats) or beneficial nematodes. Controlling larvae is generally more effective than controlling adults.

The number of insecticides registered for application to potted plants is extremely limited. Adult gnats can be sprayed directly with household aerosol or pump insecticide formulations containing pyrethrins. These materials are commonly labeled for control of flying insects. Other formulations may contain spray oil, insecticidal soap, or diazinon. Care should be taken whenever these materials are used around the plant. Most of these products are not labeled for direct application to the plant, and many will cause foliage burn if applied in too high a concentration or if the plants are sprayed more frequently than recommended.

When applying insecticides, spray both sides of the leaves, all around the stems, the surface of the soil, and outside the pot. Some formulations are designed to be used inside the house. **But if the label does not say the product can be used indoors, take the plants outside to a shady spot to spray them.** Do not spray in the sun, or when the temperature is higher than 85 F. In cold weather, spray in a heated garage or basement. Let the plants dry thoroughly before taking them back into the home.

***Precautionary Statement***

*All pesticides have both benefits and risks. Benefits can be maximized and risks minimized by reading and following the labeling. Pay close attention to the directions for use and the precautionary statements. The information on pesticide labels contains both instructions and limitations. Pesticide labels are legal documents, and it is a violation of both federal and state laws to use a pesticide inconsistent with its labeling. The pesticide applicator is legally responsible for proper use. Always read and follow the label.*

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