



FUNGUS GNATS

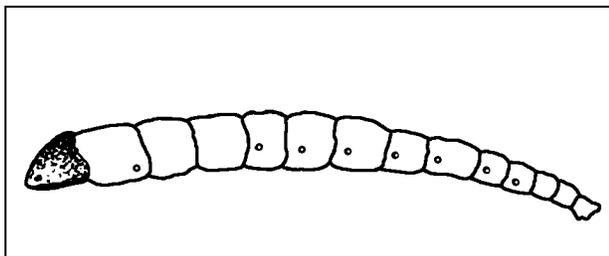
Fungus gnats are small gray-black flies of the Sciaridae fly family often noticed around house plants and windows. Found throughout the United States, most species inhabit fungi or dead plant materials, but sometimes young maggots injure plants by feeding on roots. This occurs particularly if the maggots become very numerous and thus limit their food supply.

Host Plants and Damage

Fungus gnats are general feeders. They attack a wide range of ornamental and vegetable plants. Some species can be serious pests in mushroom houses. The maggot or larva is the damaging stage. However, the adult flies are usually noticed before larval damage to the plant is apparent. When maggots become numerous, they strip plant roots, resulting in loss of plant vigor and yellowing and wilting of the leaves.

Description and Life History

Adult fungus gnats are slender, approximately $\frac{1}{8}$ inch (2.5 mm) in length, and have long legs and antennae. They are weak fliers but can run quite rapidly across the soil surface. During the female's lifetime of about one week, she lays a hundred or more eggs.



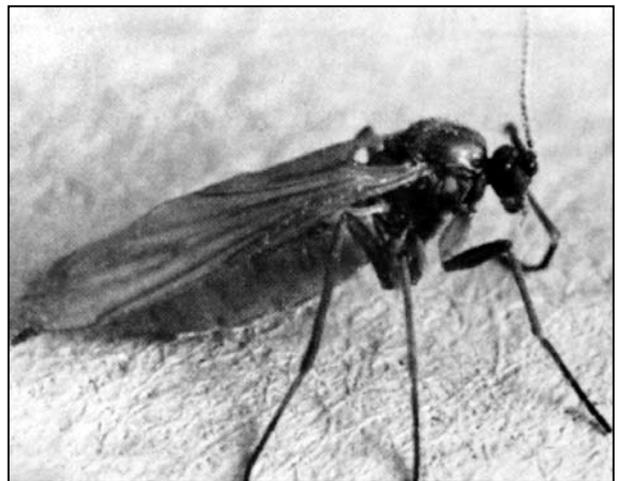
Fungus gnat larva. Actual size = 5.5 mm

The shiny white oval eggs are semi-transparent and barely visible to the naked eye. They are laid either singly or in stringed groups of 10 or more on the soil surface, usually near host plants. They hatch in four to six days.

The mature larvae or maggots are about $\frac{1}{4}$ inch (5.5 mm) long with shiny black head capsules and white transparent bodies. The maggot reaches maturity in about two weeks, when it ceases feeding, spins a silken cocoon, and sheds its skin. After about a week, it transforms into a pupae. At the end of the pupal period, the adult fly emerges from the soil and starts the cycle over again. There are many overlapping generations throughout the year.

Control

Fungus gnats live in moist, shady environments with decaying organic material, so cultural practices such as the elimination of



Fungus gnat adult. Actual size = 2.5 mm

dead leaves or other decaying organic matter and avoidance of excessive watering will greatly reduce their numbers.

Fungus gnats in the home can usually be traced to houseplant growing media. Correcting the profile of this microhabitat often is all that is needed. To do so, use a water meter to determine the watering needs of houseplants and avoid overwatering.

Control of Fungus Gnats in Restaurant and School Kitchens

Wherever organic material and moisture accumulates there is potential for fungus gnat breeding. This is particularly true of water drains with gooseneck plumbing in kitchens where such debris can accumulate and provide a breeding site for these flies and others, such as drain flies. A regular (at least once a month) cleaning with a gallon of near-boiling water poured down the drain, followed by a cup of bleach diluted with water in a 1:5 ratio, should render this hard-to-reach environment maggot-free for two weeks in most cases. Hang yellow sticky traps out of the way of humans to remove adult flies that may be present in these kitchens.

Control of Fungus Gnats in Mushroom Houses

Commercial mushroom growers who have fungus gnat problems can obtain control by using registered formulations of either permethrin or *Bacillus thuringiensis* var. *israelensis* (Gnatrol DG®). Apply one of these materials according to the manufacturer's label.

Control of Fungus Gnats in Commercial Greenhouses

Control of fungus gnats in commercial greenhouses can be achieved with *Bacillus thuringiensis* var. *israelensis* (Gnatrol DG®). Commercial applicators can also use Talstar.

Monitoring

Successful fungus gnat control depends on a systematic monitoring program for detection of adults. Early detection will result in quicker suppression. For best results, place one yellow sticky trap every 500–1,000 square feet. Check the traps each week, and replace after they become covered with insects.



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Warning. Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

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