



Fungus gnats in the home

Erin W. Hodgson
Extension Entomology Specialist

Brooke A. Lambert

What You Should Know

- Fungus gnats require high moisture conditions and decaying material.
- Adults are attracted to light and can be first seen flying near windows and doors.
- Plants damaged by fungus gnats will lack vigor, have poor color, and premature leaf drop.

Fungus gnats are small, long-legged flies in the families Mycetophilidae and Sciaridae (Figs. 1-2).

The dark-winged fungus gnat, *Bradysia* spp. is one of the most common indoor pests. Adults fly over plants, but consume only liquids and are harmless to plants. They can become a nuisance indoors when adults emerge from potted plants that have damp soil and are rich in humus. Larvae feed mostly on the fungi that grow on decaying material, but may damage roots while burrowing through the soil. The larvae may also feed on portions of the crown and root system.



Fig. 1. Dark-winged fungus gnat.¹



Fig. 2. Fungus gnat adult, note the slender legs, long antennae, and one pair of wings.²

Management

- Inspect plants carefully before purchasing for signs of infestation. Check house plants before bringing them back inside the house to prevent an infestation.
- Overwatering and poor drainage may result in a fungus gnat infestation. Let the soil dry out completely between waterings to kill the larvae.
- If there are leaks or problems with excessive moisture, correcting the problem is the only effective solution.
- Make sure all old plant material is removed and good sanitation is used. Using sterile soil at home can also help reduce the chance of an infestation.
- Fungus gnat adults may accidentally get inside the house because they are attracted to porch lights. Make sure windows and doors are sealed completely to avoid movement to indoor house plants.
- Yellow sticky traps placed horizontally at the soil surface will capture a large number of females before they lay eggs in the soil (Fig. 4).
- Consider using a bacteria, *Bacillus thuringiensis israelensis* (Bti) as a liquid drench in the soil to kill the larvae. Gnatrol[®] is registered for use on fungus gnats in Utah and is a selective product for flies.

Life Cycle and Description

Fungus gnats go through complete metamorphosis (egg, larva, pupa, adult) and reproduce in moist, shaded areas within decaying matter. One generation takes about 4 weeks. Mated females lay 100 to 200 microscopic eggs. Eggs are oval, smooth, shiny white and semi-transparent, and hatch in 4 to 6 days. The larvae are legless and white with a black head (Fig. 3). The larvae of most species feed in the soil on fungus, decaying organic material and on roots of living plants. They are usually found in the top 2 to 3 cm of the soil. They can be up to 5.5 mm long and transparent so food in the gut is visible. Larvae feed for about 15 days before spinning a silken cocoon in the soil.

Adults emerge from the pupal case in 5 to 6 days and live for about 7 days. Adult fungus gnats are 2.5-3.5 mm long, grayish to black, slender, mosquito-like, and have long legs, antennae, and one pair of wings. Although weak flyers, adults are attracted to light and may accumulate at windows after emerging from potted plants. Fungus gnats fly away when plants are disturbed.



Fig. 3. Fungus gnat larvae, note the transparent bodies and black heads.²



Fig. 4. Dark-winged fungus gnat on a yellow sticky card.³

¹ Image courtesy Richard Leung (<http://bugguide.net/node/view/14507>).

² Images courtesy of Jim Kalisch, Department of Entomology, University of Nebraska-Lincoln (<http://entomology.unl.edu/images/storedfoods/sfflies/sfflies.htm>).

³ Image courtesy of Jack Kelly Clark, UC Statewide IPM Project (www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7448.html).

Precautionary Statement: All pesticides have benefits and risks, however following the label will maximize the benefits and reduce risks. Pay attention to the directions for use and follow precautionary statements. Pesticide labels are considered legal documents containing instructions and limitations. Inconsistent use of the product or disregarding the label is a violation of both federal and state laws. The pesticide applicator is legally responsible for proper use.

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions. USU employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities. This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Noelle E. Cockett, Vice President for Extension and Agriculture, Utah State University.