

# SMALL FLIES

## Minnesota Department of Agriculture • Integrated Pest Management Fact Sheet Series

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SUBJECT: Small Fly Management in Schools

### Importance

Fruit flies, moth flies, humpbacked flies, and fungus gnats can be common insect pests in schools. They are primarily nuisances, especially when they occur in large numbers. Any of these flies can be troublesome by contaminating food products in food handling areas. Whenever these flies come in contact with unsanitary conditions, they can potentially contaminate food with disease-causing bacteria.

### Identification

**Fruit flies** are about 1/16 to 1/8 inch long, usually have red eyes, a tan body, and a striped abdomen. **Moth flies** (also known as drain flies) are about 1/12 inch long, and dark-colored. They have long black hairs on their wings and body, giving them a fuzzy, moth-like appearance. They have pointed wings held flat over their bodies. **Humpbacked flies** (also called phorid flies) are about 1/8 inch long with a humpbacked body. They are often found running along counters, walls, and other surfaces. **Fungus gnats** are about 1/8 inch long with a slender body and long legs.

Because these flies are similar in size, it can be difficult for an untrained person to correctly identify them. If you are unsure which flies are present, have an expert identify them before a control program is started.



Fungus gnat



Phorid fly

Photos from U of MN, Dept. of Entomology



Moth fly



Fruit fly

Photos from the Ken Gray Collection, Oregon State University

### Biology

All of these flies lay eggs on some type of moist, decaying organic material.

Fruit flies are attracted to fermenting and rotting food smells. They commonly infest old, overripe fruits and vegetables, food residue in sinks, trash containers, floor drains, and dirty mops, as well as soft-drink and fruit juice residue. Fruit flies are particularly common during late summer and fall.

Moth flies lay eggs in all types of damp decomposing organic matter. They are commonly found in the slimy gelatinous layer in floor drains and sinks. They are also associated with organic matter in sump pumps and broken sewage lines.

Humpbacked flies are found in many types of moist decaying organic material. They can be found in drains, food residues in trash containers, cracks under and around kitchen equipment, potting soil, organic material on the bottom of pet cages, and in the matter resulting from broken sewage lines.

Fungus gnats feed on fungus, mold, and decaying plant material. They are found in the soil of overwatered houseplants or soil containing organic material, such as peat. Adults are usually found on infested plants or flying nearby. Fungus gnats may also be found in other places where excess moisture allows fungus to grow.

## Prevention & Nonchemical Management

Sanitation is very important in preventing small fly infestations.

- Flush drains in sinks and floors with water on a regular basis, especially in food handling areas.
- Remove garbage in tied plastic bags daily. Clean any food residue that accumulates on the inside of garbage containers.
- Eat fresh fruits and vegetables or refrigerate them. Do not allow produce to sit out and become overripe.
- Rinse bottles and cans that are being recycled. Remove recyclables on a regular basis. Periodically clean the recycling container to prevent a build-up of food residue.
- Keep mops clean and dry.

If a small fly problem should occur, the most effective permanent control is a clean-up of their breeding sites. These sites are generally found where moist, organic material is present in infrequently used or undisturbed areas.

Because different flies infest different types of food, a proper identification is an important first step. Once you find an infestation, keep checking for additional food sources as there may be more than one. Consider a professional pest control service to help eliminate your small fly problem.

- Remove organic build-up in drains with a brush.
- Use a bacterial drain maintenance product designed to remove organic build-up.
- Bleach and hot water does not eliminate a fly problem in drains.
- To manage fungus gnats, allow soil in containers to become more dry between waterings without letting the plant wilt.

- The presence of flies does not always indicate where a fly infestation is located. Their food source could be nearby or in a different room.

## Insecticidal Management

- Before buying and again before using any pesticide product, read the label carefully. Be sure the product you intend to use is labeled for the particular site you wish to apply it. The label is the final authority on how you may legally use any pesticide.
- Insecticides, such as pyrethrins or tetramethrin, temporarily reduce the numbers of adults that are present. This is useful once the breeding site is eliminated. However, insecticides can not eliminate a small fly problem as long as a food source exists.
- To manage fungus gnats in potted plants, use the bacterial insecticide, *Bacillus thuringiensis* H-14 (Knock-Out Gnats, Gnatrol).

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