



# Drain Flies

## (Moth Flies or Filter Flies)

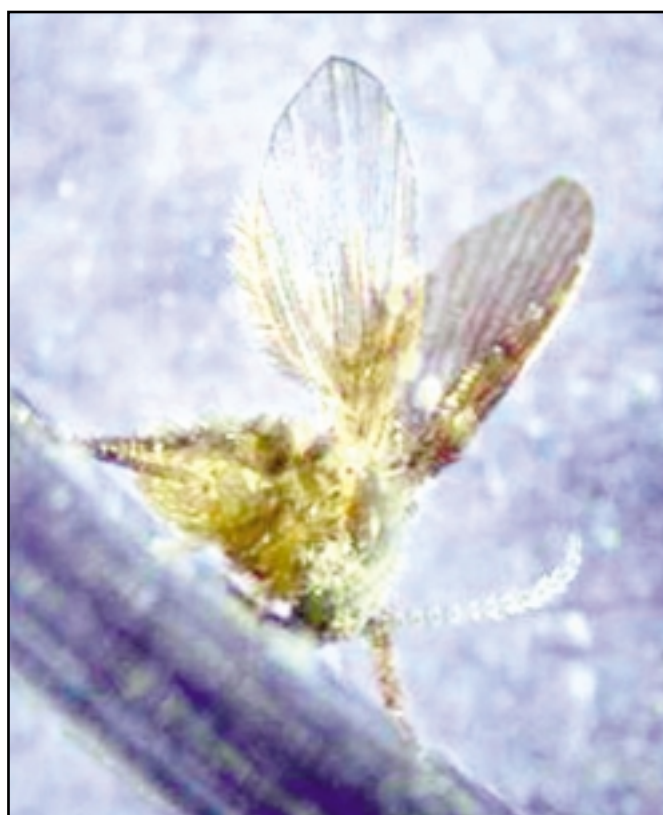
Chris Sansone, Rick Minzenmayer and Bastiaan M. Drees\*

**S**mall flies in the home can be a common problem. Scientifically, the word “fly” refers to insects in the order Diptera, which typically have only one pair of wings. Instead of a second pair of wings these insects have thread-like, knobbed structures called halteres. The Diptera have complete metamorphosis (egg, larva, pupa and adult) and the larvae of many groups of flies are commonly called maggots.

Small flies that can infest homes include drain flies, fruit flies, fungus gnats, mosquitoes and midges. They can all enter from outdoors, but fruit flies, fungus gnats and drain flies can reproduce indoors and survive there indefinitely. The first step in controlling an infestation is to determine which of these pests is the problem.

Fruit flies are usually yellowish with clear or lightly banded wings. They are most often found around fruit and vegetable peelings, rotting fruits and other similar foods. Eliminating the food sources usually controls these flies. Fungus gnats usually have dark wings and are not fuzzy in appearance. Fungus gnat larvae feed on decaying plants or fungi and usually develop in the potting media of houseplants. The easiest way to control them is to let the houseplant soils dry out between waterings because the larvae do not survive in dry conditions.

Drain flies are also called moth flies because of their fuzzy appearance. They are dark gray to black and found near sinks and tubs. This fly belongs to the family Psychodidae.



Adult drain fly.

## Biology and Habits

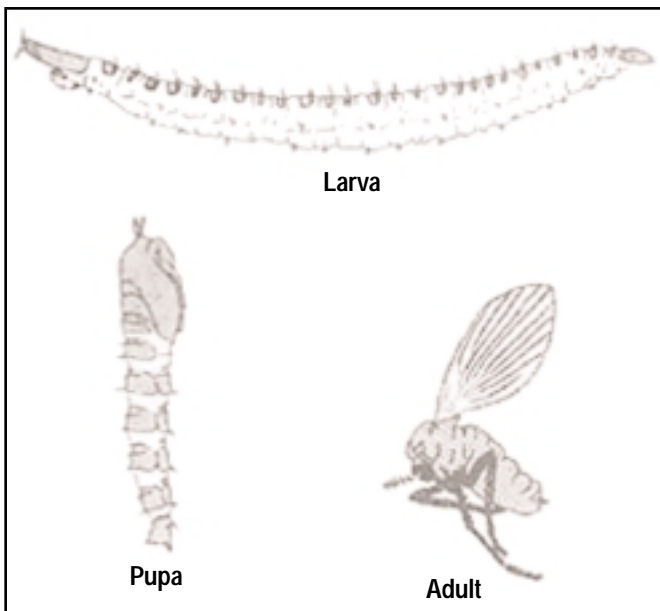
Adult drain flies are small ( $\frac{1}{6}$  to  $\frac{1}{5}$  inch long), dark, and densely covered with hairs. They hold their large wings roof-like over the body when at rest, giving them a moth-like appearance. They are weak fliers and fly only a few feet at a time. They are most active in the evening.

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Both mated and non-mated females lay eggs. Egg masses contain 30 to 100 eggs, which hatch in less than 48 hours into small ( $\frac{3}{8}$  inch), legless larvae that are pale in the middle and darker on the ends.

Drain fly larvae and pupae live in the thin film found in drains and septic tank field lines and on filter stones. The larvae feed on fungi, bacteria, algae and other microorganisms found in the liquid or slime layers that develop around debris in drains, sewage treatment beds and standing water. When food is scarce, they can become cannibalistic. Larvae can survive temperature extremes and habitats low in oxygen. The larval stage lasts 8 to 24 days and the pupal stage 1 to 2 days.

Adults live only 3 to 4 days without food, but can survive for 1 to 3 weeks if nectar or other liquid carbohydrate foods are available.



Drain fly life cycle.

## Control

Drain fly larvae are actually beneficial because they break down organic waste into water-soluble compounds. Adult flies, however, are a nuisance. They cannot bite, but they may become so numerous indoors that they congregate at windows and around light fixtures, showers, bathtubs, sinks and floor drains.

The key to solving a drain fly problem is to find and eliminate the source—that is, the areas where excess moisture and organic debris have built up.

### ***Outdoors, these areas may include:***

- damaged or faulty septic lines;
- areas where rainwater tends to pool or where air conditioning condensate lines drain, particularly if the area is shaded;
- areas where algae or mold grows on the soil or foundation; and
- beneath air conditioning units on the roofs of commercial buildings or where units adjoin a building.

Infestations also may originate in a neighbor's yard or in nearby shallow pools or sewage treatment facilities, particularly those upwind from the home. If so, contact the people responsible for infested areas.

### ***Indoors, infestations may occur in:***

- toilets (particularly if they are not used frequently);
- sink and bathtub/shower drains;
- floor drains in commercial buildings and basements;
- condensate lines for icemakers; and
- loose ceramic floor tiles where water may collect.

If there are lots of adult flies inside a drain the drain is probably a breeding site. To check for breeding sites, place a length of tape across drains (or cracks in the floor) without totally covering the opening. (If the opening is totally covered, there will be no air flow and flies will not emerge.) Check the tape periodically. If you see flies stuck to the tape, you have found a source of infestation.

### ***Manual Cleaning***

The most effective way to correct (or prevent) drain fly problems is to clean toilets, drainpipes and traps to eliminate any gelatinous, rotting, organic matter. This eliminates the larval food source. Clean pipes and traps with a stiff, long-handled brush. After a thorough scrubbing, flush the lines with boiling water to remove any material left behind. There is no benefit to treating drains with chlorine bleach or ammonia.

### ***Chemical Drain Cleaners***

There are bacterial drain treatments that biodegrade organic matter. Follow the label directions carefully for best results.

Many common drain and toilet bowl cleaners are effective. If you have a septic system, read product labels carefully to make sure a product is compatible with the system.

Caustic drain cleaners also can be used, although they may not be as effective as other cleaning methods. **IMPORTANT: NEVER rinse a drain with bleach after using a caustic drain cleaner.** Mixing these two chemicals in the drain line may produce chlorine gas, which is extremely hazardous to anyone who inhales it.

### ***Insecticides***

Once the fly breeding areas are cleaned, the use of insecticides should not be necessary. However, if quick control is needed until breeding areas can be cleaned, insecticides are useful.

The only product labeled for use in drains is Gentrol®. Its active ingredient, hydroxyprone, acts as an insect growth regulator on the larvae. This product does not control the adult flies.

Aerosol sprays containing pyrethrins (or other “flying insect” sprays) will temporarily control adult drain flies indoors, but they are not a real solution to the problem. If the drain flies are coming from outside, applying any common residual spray for flies around the outsides of windows will give temporary relief until the source of the infestation can be found and eliminated. **Always read the label and follow directions and safety precautions.**

Photos by Bastiaan M. Drees, Extension Entomologist, The Texas A&M University System

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