



Ken Gray Insect Image Collection. 149-20

Moth flies have a fuzzy, hairy appearance similar to actual moths. They breed in the lime layer in drains.



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Phorid flies, also called “scuttle flies” for their habit of scuttling across surfaces, may breed in moist organic debris left in drains.



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Fruit flies feed and breed among rotting fruit and moist garbage. Unlike phorid flies, fruit flies have large red eyes.

If you have ever wondered why those small flies did not go away after throwing out your aging bananas, or why there are miniature moths frequenting the staff lounge and kitchen...it might be that you have drain flies.

Drain flies, in the broadest definition, can include up to three very different types of small flies. The most common type of drain fly is the moth fly (family Psychodidae). Moth flies are grey or brown, with hairs covering their body and wings that give them a fuzzy look—similar to a moth, and hence the name “moth” fly. When not flying, the moth fly often holds its leaf-shaped wings fairly flat to either side of its body. The moth fly is small (about  $\frac{1}{8}$  to  $\frac{1}{4}$  inch long), and it takes about four moth flies to cover the pink area of your thumbnail.

Moth fly larvae (the young, worm-like stage) are aquatic and feed on decaying organic material. The organic material that sits in drains or gets flushed down drains builds up a scum layer inside bathroom, kitchen, and other drains over time. The moth fly larvae live in this scum layer, feed on it, and will even retreat within it to find safety from harsh chemicals and cleaners poured down the drain.<sup>1</sup> When they reach the adult life stage, moth flies emerge from the drain and hang out on walls, in sinks, and are often drawn to lights and windows. They are nocturnal, so they feed and lay their eggs in the drains at night.

Other flies that breed or feed in drains include the phorid fly (family Phoridae) and the fruit fly (family Drosophilidae). Phorid flies will breed in any wet environment with decaying organic matter, including debris in drains and garbage disposals, sewage, and even rotting carcasses (earning them the moniker “coffin flies” as mortuary pests).<sup>2</sup> Large numbers of phorid flies may indicate the presence of a broken or uncapped sewer pipe, or a dead animal. Phorid flies are often mistaken for fruit flies given their shared fondness for rotting materials; however, phorid flies have black eyes instead of the large red eyes of a fruit fly. Fruit flies are found where there is rotting fruit and vegetable material, like those freckled bananas on the shelf. When this type of material sits in a trash can, garbage disposal, or drain for a couple of days, it may host fruit flies.

## TIPS FOR DETECTING AND MANAGING DRAIN FLIES IN YOUR SCHOOL

Diagnosing a drain fly issue can be tricky. Here are some simple steps to determine if you have flies breeding and feeding in your drains.

1. Determine whether the small flies you are seeing fit with the descriptions given here. Areas most likely to have drain flies include sink AND floor drains in the kitchen, staff lounge, bathrooms, and classrooms.
2. Place clear packing tape over the suspected sink or floor drain(s), with the sticky side facing down. Cover the entire drain. This should be done in the evening and left overnight (ideally over a weekend).
3. Remove the tape carefully to see if any small flies are stuck to the underside of the tape. Their presence is a good indicator that there are flies breeding and/or feeding in your drain(s).
4. Drains with flies need to be cleaned. A stiff, long-handled brush works best. This can be done alone, or in combination with biological drain cleaners for more effective results.
5. Biological drain cleaners are a non-toxic type of cleaner, and safe for use in school environments; they are not an insecticide. The bacteria in these cleaners digest the organic slime layer and organic debris in hard-to-reach areas of drains. After the organic materials are digested, the bacteria die. With the removal of this organic material, the drain flies have nowhere left to feed or breed.  
*Note: A biological cleaner should be applied to drains at the end of the day and allowed to sit overnight.*

### WHAT CAN YOU DO?

To help prevent drain flies and deal with existing infestations efficiently:

1. Use drain baskets or drain filters to capture organic materials that might otherwise clog drains. Empty them daily.
2. Report clogged or slow-draining drains as soon as possible to avoid the build-up of slime and organic debris that supports drain flies.
3. If you find very large numbers of flies, report them as soon as possible; this could indicate a broken sewer line or uncapped pipe.
4. Do not assume that occasionally pouring harsh cleaners down drains will prevent or remove the slime layer housing the drain fly larvae. Once established, the slime layer in drains typically needs to be removed manually (scrubbing with a brush) or with a biological cleaner as described above.
5. Spraying insecticides to kill adults is not effective in addressing the issue; the source of the organic materials supporting the drain flies must be dealt with, or new drain flies will continue to emerge.

### FOR MORE INFORMATION ON DRAIN FLIES:

- <sup>1</sup>Hedges, Stoy A. *Field Guide for the Management of Structure-Infesting Flies*. Cleveland: G.I.E. Inc., 1998. Print.
- <sup>2</sup>School IPM Action Plan for Small Flies. eXtension. Website: <http://www.extension.org/pages/61822/school-ipm-action-plan-for-small-flies>
- The National Pesticide Information Center (NPIC) provides objective, science-based information about pesticides and related topics to enable people to make informed decisions. To contact NPIC, call 1-800-858-7378 or visit <http://npic.orst.edu>.



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