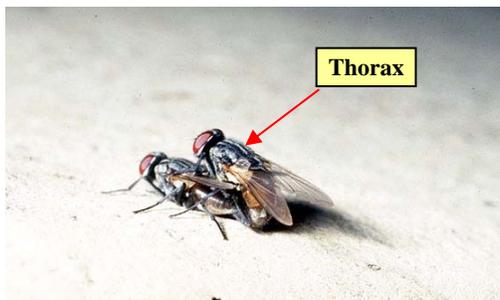




Fly Management

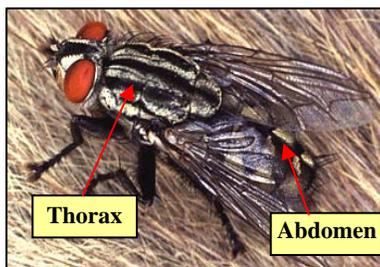
The main flies associated with structures are filth flies (**house and flesh flies**) and drain flies (**phorid and moth flies**). They can pose an indirect health hazard to humans by transferring disease-causing organisms to human food. Fly management should be proactive in all food preparation areas.

- ◆ **The single most effective steps in fly management are preventing access into buildings and improving sanitation.** Flies are scavengers, and the types found indoors are usually liquid feeders with mouthparts appropriate for sucking and lapping. Below is a “cheat sheet” with a brief description of some common fly pest:



Common house fly, Family Muscidae *Musca domestica*

Description: 5-7 mm (1/4”) long. Four black stripes on thorax. Gray body. A common pest of human buildings, they reproduce rapidly in kitchen garbage and livestock manure (up to ten generations of offspring in a season). Larvae (maggots) live in and feed on organic matter (food waste, livestock manure), then crawl to a dry, cool location to pupate. Adults breed readily in manure and subsequently feed on available human food, transmitting a wide variety of pathogenic organisms. They are significant health pests in kitchens and where food is eaten or prepared. House flies are considered phoretic disease vectors.



Flesh fly, Family Sarcophagidae

Description: 10-13 mm (1/3-1/2”) long. Black and gray stripes on the thorax, and a checkerboard pattern on abdomen.

Flesh flies feed on decaying animal flesh (carrion), garbage and fecal material, all of which also serves as their breeding site. These flies are nuisance pests around dumpsters and mostly enter buildings via doors and windows.



Phorid fly, Family Phoridae (also called drain fly)

Description: 3 mm (1/8”) long. Small yellow to tan colored fly with a hump in their thorax.

Phorid flies breed in decaying meat, rotting vegetables, garbage disposals, drains, and animal feces. They will breed in ceiling and wall voids where uncapped sewer pipes or general water leaks provide organic material and moisture. Phorid flies are perhaps the most difficult to eliminate due to the great diversity of sites in which they can breed.



Moth fly, Family Psychodidae

Description: 3 mm (1/8”) long. Gray in color. Easily recognized by hairs covering wings, body, and antennae, giving them an overall moth-like appearance. Wings are often held roof-like over the body when at rest.

Moth flies breed and feed in large numbers in the slime layers that coat drains and sink overflows. They also breed in septic tanks, sewage ponds, and uncapped sewer pipes.



Blow fly, Family Calliphoridae (include: bluebottles, cluster flies and greenbottles).

Description: 10 to 12 mm (1/3-1/2") long. Often metallic in appearance.

Larvae of most species are scavengers of carrion and dung although it is not uncommon for them to be found in close association with other dipterous larvae from the families Sarcophagidae, and Muscidae.

Many Filth flies readily move between filth (animal waste, garbage, and organic refuse) and human food. The pathogens they pick up on the outside of their body are often transferred on to human food.

Filth fly exclusion and prevention:

- 1) Position outdoor garbage receptacles as far from building entrances as possible.
- 2) Keep dumpster lids closed, have your waste management company steam clean them if they smell strongly or contain liquid.
- 3) Keep trash receptacle areas clean, and place receptacles on concrete slab.
- 4) Keep external doors shut – not propped open!
- 5) Install light traps. Use traps with an ultraviolet light and sticky board (not “zap traps”).
- 6) Check exterior doors for light around vertical or horizontal edges. Install door sweeps and weather stripping as needed, especially on doors near kitchens and cafeterias. There are many excellent brands, e.g. Pemko <http://www.buyweatherstriponline.com/pemko%20products/splash.asp> or Sealease <http://www.sealeze.com/>.
- 7) Make sure windows have tight-fitting window and door screens (40-mesh or smaller).
- 8) Use good quality trash bags as bin liners.
- 9) Clean up food and drink spills rapidly. Try to avoid sugary food and drinks in carpeted areas.
- 10) Make sure air-curtains are set correctly and are not drawing external air inside.

Drain flies include phorid and moth flies, which are common types of drain flies. They are mainly pests in kitchens, food preparation areas, and health care facilities – locations with an abundance of drains where these flies easily feed and breed. **The slime layer and organic debris in drains** is the most common source of filth flies, and provides food for both larvae and adults. If you suspect moth or phorid flies are present, **check your drains first.** Place duct tape over the drain hole, leaving some of the hole uncovered for an updraft to occur so adults can fly out. If drain flies are present in a specific drain, they will get caught on the tape. Check the tape daily for up to three days/nights. To rid the drain of the flies, use a scrub brush to *physically remove* the slime layer from the drain. Use a dust mask and eye protection and never brush drains when the kitchen is in operation. To get rid of this pest, *you must eliminate their slime layer food source* which also serves as their reproductive site.

****Larvae are totally unaffected by dumping bleach water down drains, as they will simply retract their breathing tubes into the slime layer where they lie until the chemical has gone.****

Drain fly exclusion and prevention:

- 1) Make sure there are metal baskets in the floor sinks in kitchen and food preparation areas.
- 2) Clean floor sink baskets daily to prevent slime layer build-up. Metal types are recommended, and can be cleaned in the dishwasher.
- 3) Clean clogged sinks. Use a bacterial or enzymatic drain cleaner (DF 5000 Gel for example) followed by very hot water, and manual cleaning with a very stiff brush.
- 4) Wash mop heads before hanging with head up for drying and storage.
- 5) Look for watermarks on ceiling tiles and walls. This indicates a leak, which could allow drain flies to breed.
- 6) Clean and cap off unused sewage pipes.
- 7) Fix water leaks along with any other moisture problems inside as well as outside.
- 8) Follow guidelines for general exclusion. E.g., seal cracks, fit door sweeps and window screens, etc.
- 9) Regularly clean out roof gutters.
- 10) Don't over water indoor plants. Keep mulch and bark levels in potted plants to a minimum.