

Know Your Gnats! Locating Breeding Sites is the Key to Control

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This time of year, gnats can be troublesome in homes. Most infestations get started when gnats enter through window screens or get brought in with fruit or vegetables.

In reality, gnats are very tiny flies. They breed in moist or rotting organic matter. The key to solving the gnat problem is to find and eliminate the breeding area.

There are several different types of gnats which can be found in homes. Each type prefers a slightly different place to breed.

Fruit Flies

Fruit flies are light brown and have red or orange eyes. Fruit flies most often breed in very ripe fruit or rotted vegetables, like tomatoes, onions or potatoes. They often get brought into the house in garden produce. Fermenting materials, such as leftover beer or soft drinks, also are a favorite food of these flies.

Control: Fruit flies are best controlled by discarding over-ripe fruit or placing it in the refrigerator to eliminate breeding sites. Be sure to take garbage outside frequently (even daily) or use a garbage disposal to discard fruit or vegetable peelings. Patience is needed because it takes several days for flies to die on their own. Fly tape or another type of sticky trap may be helpful in catching elusive flies. Or, use a simple non-toxic trap to catch fruit flies.

If infestations are coming from soft drink or beer containers, wash bottles and cans during recycling to eliminate these breeding sites.

Phorid Flies

Phorid flies are also known as humpbacked flies. They are often mistaken for fruit flies but they don't have red eyes. When disturbed, adult phorid flies scoot across horizontal surfaces instead of immediately flying. This behavior distinguishes them from other gnats, which immediately take flight. When viewed under a microscope or hand-lens, they can also be recognized by characteristic wing veins.

Phorid flies breed in moist, decaying organic matter, including sewage-contaminated soil, garbage, drains, human cadavers, rotting vegetables and fruit, garbage as well as damp organic materials. Many difficult-to-detect phorid fly infestations are associated with plumbing leaks where sewer water collects in hidden places in void areas or soil. Because these flies breed in unsanitary areas, this fly can transmit disease-causing bacteria.

Control: It can be difficult to determine the source of phorid fly infestations. Once done, the source of the moist organic matter can be cleaned up and the fly problem will disappear. A plumber may be needed to inspect pipes.

Drain Flies

Drain flies are small, dark, fuzzy, moth-like insects. They are weak fliers, typically flying

only a few feet at a time.

Drain fly larvae develop by feeding on organic matter found in the gelatinous material that lines the inside of drains. Infestations may also come from overflow in a kitchen or bathroom drain or from a garbage disposal.

Control: Drain flies can be eliminated by removing the gelatinous slime on the inside of the pipes. Products that open clogs will not clean the slime and are not likely to work. Bleach will not penetrate the slime and is also not likely to work. Pouring boiling water down the drain may loosen the gelatinous slime and may be useful. But, manual cleaning with a plumber's snake is usually needed to solve the problem.

Fungus Gnats

Fungus gnats are small, dark-colored flies. Like their name suggests, fungus gnat larvae feed on fungi found in soil. High organic matter fertilizers and overwatering are associated with fungus gnats.

Follow these tips to discourage or deal with fungus gnat infestations:

- Don't overwater potted plants. Allow the soil to dry between waterings. Make sure your potted plants have good drainage.
- If plants are summered outdoors, check plant soil for adult gnats or their larvae before bringing them indoors.
- Prevent indoor entry of gnats by keeping windows closed and sealing windows and doors. Adult flies may come



Fruit fly (highly magnified)



Phorid fly (highly magnified)



Drain fly (highly magnified)



Fungus gnat (highly magnified)

indoors in late summer.

- Place yellow sticky traps on the soil surface to trap the gnats. They can be obtained at a local garden store.
- Place potato slices on the surface of the potting media. The larvae will feed on potato slices. After four days, remove the potato slices with the larvae.
- Use Bti, *Bacillus thuringiensis israelensis*, to control gnat larvae. The product registered in Nebraska is called Gnatrol. It is a low-toxic, natural treatment which kills the larvae of the gnat when mixed with water. Check garden stores and garden catalogs. An internet search will also find these products. Bti will not harm people, pets or the environment.

Summary

These gnats sometimes have overlapping breeding sites. But, knowing the type of gnat can be helpful in locating the source, which is needed to eliminate the infestation.

PEST DIAGNOSTIC SERVICES

If you need help identifying gnats or other pests, bring specimens to the University of Nebraska-Lincoln Extension in Lancaster County office, 444 Cherrycreek Road, Suite A, Lincoln, between 8 a.m.-4:30 p.m. on weekdays. A free service, extension staff can identify and make control recommendations.

Migratory Bird Treaty Act Protects All Native Birds

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All native birds are federally protected in the United States by the Migratory Bird Treaty Act (<http://www.fws.gov/birds>). This includes the majority of birds we enjoy in this area.

There are some birds considered non-native and non-protected exotics. These birds are not covered by the Migratory Bird Treaty Act. Birds not covered include the House Sparrow (*Passer domesticus*), European Starling (*Sturnus vulgaris*), Domestic Pigeon or Rock Dove (*Columba livia*).

Game birds fall under another category and are managed by individual states. In Nebraska, you would contact Nebraska Game and Parks Commission at 471-0641 for information on game birds.

The Migratory Bird Treaty Act is a strict liability law with no requirement to prove intent. This means enforcement is absolute and not discretionary.

Basically, the law says you may not pursue, hunt, take, capture, kill or possess at any time any migratory bird or any part, nest or egg. While a feather

may be beautiful or a nest might look nice on a display shelf, this law prohibits the possession of all feathers, eggs, shells, nest or other parts related to protected birds. Federal salvage permits are required to possess any bird.

So why does it matter whether you keep a feather or a nest?

You may not pursue, hunt, take, capture, kill or possess at any time any migratory bird or any part, nest or egg.

Historically, plumage from many migratory birds was desirable to adorn women's hats. This market was devastating to bird populations. More recently, with the popularity of Native American artifacts increasing, a lucrative market still exists for migratory bird feathers and eagle feathers to decorate many curios and art objects. Enforcement officers have no way to determine whether feathers used in art work were found on the ground in a backyard, or if the feathers came from a bird that was killed illegally.

The regulations are intended to eliminate any commercial market for the birds themselves, as well as their feathers and parts.

There are situations where birds are a nuisance or cause damage and control is necessary. In these cases, contact Nebraska Game and Parks Commission at 471-0641 for necessary permits/permission. If you are unsure how to handle a problem bird, contact the extension office.

The best advice is to leave all birds alone and as you find them. If you find an injured or orphaned bird and live in Lancaster County, Nebraska, contact Wildlife Rescue at 473-1959. If you find an injured hawk or owl, contact the Raptor Recovery Center at (402) 994-2009 or 488-7586.

There are additional laws in place to protect specific birds. For more information on the Bald Eagle Protection Act visit <http://ipl.unm.edu/cwl/fedbook/eagleact.html>. For information on the Endangered Species Act, visit <http://endangered.fws.gov/ESA/ESA.html>.

Source: *Dealing with Nuisance Wildlife*. University of Georgia Cooperative Extension Service and United States Wildlife Service.

Reporting Bird Leg Bands

Millions of wild birds are wearing leg bands. These bands provide important information to researchers. There are federal bands and there are state bands. The federal bands are found on migratory birds. Game birds like pheasants may have a state band.

If you find a federal leg band on a bird, please return it to the National Biological Service, Bird Banding

Laboratory, 12100 Beech Forest Road, Laurel, Maryland 20708-4037. You can also report a federal band by calling 1-800-327-2263. Be sure to include information on how you obtained the band (i.e. found it dead), when and where you obtained the band and if the bird is alive or dead. After you send the information, the Banding Lab will notify you the information about where and when the bird was originally banded. You might be surprised how far the bird traveled before you found it.

If you find a state leg band on a game bird, you can mail it to Nebraska Game & Parks Commission, Wildlife Division, PO Box 30370, Lincoln, NE 68503. You are not required to mail the band in, but the information is helpful to wildlife conservationists.



The grackle is protected by the Migratory Bird Treaty Act. This bird is being banded to help track its movements.

Photo by Soni Cochran