



## Fungus Gnats



Adult fungus gnats are about 1/8 to 1/10 inch (2.5 mm) long, grayish to black, slender, mosquito-like, and delicate with long legs, antennae and one pair of wings. Identification can be made by the vein patterns in the wings. Dark-winged fungus gnat adults have eyes that meet above the base of the antennae. Eggs are hardly visible, oval, smooth, shiny white and semi-transparent. Larvae or maggots are legless, thread-like, white, shiny black-headed, up to 1/4 inch (5.5 mm) long and transparent so food in the gut can be seen through the body wall. Pupae occur in silk-like cocoons in the soil.

An adult female lays clusters of up to 30 eggs each (total egg count could be as high as 300) in the bedding. Within a week the eggs hatch. The legless larvae, which are transparent white with black heads, crawl through the bin and feed on fungus; in soil they feed on plant roots. After two weeks of feeding, larvae mature. The pupae rest in or on the soil and grow into adults in 4 to 5 days. The adults are very small, sooty gray or nearly black, long-legged, slender flies. They live for about 1 week, during which they mate and lay eggs for the next generation.

Fungus gnats attack houseplants and greenhouse plants. Evidence of fungus gnat damage is the plants are lacking in vigor and leaves may turn yellow. Roots with small brown scars are evident and hair roots are eaten off. In sufficient numbers the larvae can weaken the plant severely and cause it to die. So it is very important to get fungus gnats out of your bin or compost before harvesting castings to use in your garden. Beneficial nematodes are a good biological control. To reduce fungus gnat populations allow the bedding to dry out a bit by taking the lid off for several days. Be sure to manage the moisture in your system and

don't let any leachate sit around to attract gnats.

#### Controls

Nematode - *Feltiae Steinernema*

Find beneficial nematodes at:

<http://www.biconet.com/flies/nematodes.html>  
<http://www.natural-insect-control.com/pg9.html>  
<http://www.buglogical.com/nematodes.shtml>

#### Hypoaspis miles

This tiny (0.5 mm) light-brown mite naturally inhabits the top 1/2" layer of soil where fungus gnats, as well as springtails and thrips pupae dwell. The female *Hypoaspis* mites lay their eggs in the soil, which hatch in 1-2 days, and the nymphs and adults feed on the soil-dwelling pests.

Each *Hypoaspis* mite will consume 5-20 prey or eggs per day. They survive by feeding on algae and/or plant debris when insects aren't available. Their entire life cycle is 7-11 days.

*Hypoaspis* is effective at ridding pet tarantulas, lizards and snakes of pest mites. Use a few tablespoons per habitat every few days, as needed. Less as a preventative, more as a curative.

#### Further Reading

<http://www.biconet.com/biocontrol/hypoaspis.html>

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