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SP341-C-Fungus Gnats

The University of Tennessee Agricultural Extension Service

UT Extension

SP 341-C

Insects

Fungus Gnats

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The fungus gnat has recently been recognized as an important pest in greenhouses. Although greenhouse plants are commonly attacked, house plants may also become infested. Several genera in the family Sciaridae are of economic concern, such as *Sciara, Orfelia, Lycoriella* and *Bradysia* species.

Damage

Damage is caused when the larvae, which feed in highly organic soils, infest the roots of African violets, poinsettias, carnations, Easter lilies, geraniums, cyclamens, bedding plants and foliage plants. Symptoms first appear as a loss in plant vigor. As the damage progresses, the plants may fade in color, begin to wilt suddenly and finally lose foliage.

Description and Life Cycle

The adult fungus gnat (Fig. A) is about 1/8 inch long and is grayish-black. Its slender body with delicate, long legs and antennae resembles a mosquito. The adult has one pair of clear wings. In the winter and spring, this insect becomes most abundant in greenhouses. Fungus gnats complete development in moist, shady areas in decaying organic matter, such as leaf litter. The adults, which live for seven to 10 days, may deposit up to 150 eggs on the moist soil surface or adjacent to the plant stem. Eggs, laid in strings of three to 40, begin to hatch in four days.

The larvae or maggots (Fig. B) have shiny black head capsules, thread-like white bodies and are up to ¼ inch in length. Larvae feed primarily on fungi and decaying organic matter. After their normal food supply is exhausted and/or populations become very high, larvae may begin to feed on fine root hairs or other tender tissues. Chewed roots and underground parts of the injured stem possess brown scars. Major problems occur when root rot organisms have begun to damage roots. Fungus gnat larvae will then begin to attack the rotting

Fig. A: Adult fungus gnat

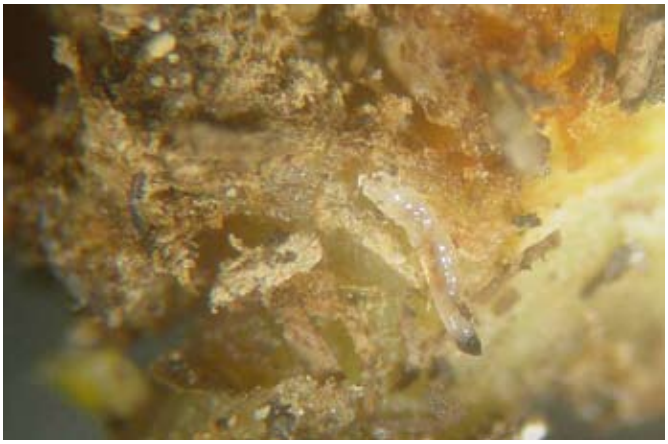

Fig. B: Fungus gnat larva

tissues and can greatly increase the amount of damage by their feeding. After 14 days, they construct a pupal case made of silk and debris in the soil.

The pupal stage lasts about three days. Adults are weak fliers and are normally seen running rapidly across the surface of the soil when disturbed. All stages of the life cycle may be present because of overlapping generations.

Control

Prevention and sanitation are two of the best control measures. Avoid overwatering, since fungus gnats prefer abundant moisture. Poor drainage and water leaks may also increase populations. Plants should be inspected carefully for signs of infestation before purchasing them. Sterile potting mix should be used to prevent introduction of fungus gnats. Houseplants taken outdoors when the weather is warm may become infested before being brought indoors. Inspect plants carefully, destroying those plants that cannot be saved. Old plant material and debris in and around the greenhouse should be removed.

Decoy pots of sprouting grain may be used to attract adult females, which lay their eggs in these pots. Remove and dispose of infested decoy pots every two weeks and replace with new decoy pots of sprouting grains.

Insecticides may be necessary if populations become unmanageable. For effective control, it will be necessary to control both the adults and the larvae. Adult fungus gnats are easily killed with aerosols or sprays. To control larvae, soil drenches or coarse sprays should be applied to the soil surface. It is best to make applications to moist potting media so that at least the top 2 inches of media are treated.

Control of Adult Fungus Gnats:

- acephate (1300 Orthene TR 12A) – greenhouse
- cyfluthrin (Decathlon 20WP) – greenhouse and interiorscape
  (Tempo 20 WP) – interiorscape and outdoor landscaped areas
- beta-cyfluthrin (Tempo SC Ultra 1 SC, Tempo 10 WP Ultra) – interiorscape and outdoor landscaped areas
- permethrin (Astro 36.8 EC) – greenhouse and interiorscape
- resmethrin (Resmethrin EC 26 Insect Spray) – greenhouse and interiorscape
- chlorpyrifos (DuraGuard 20 ME) – commercial ornamental nursery and greenhouse
- chlorpyrifos plus cyfluthrin (PT Duraplex TR) – commercial ornamental greenhouse
- pyrethrin plus PBO (Pyrenone, Natural Pyrethrin Concentrate) – greenhouse and interiorscape
  (1100 Pyrethrum TR) – greenhouse
  (PT 1600 X-clude) – hobby greenhouses, homes, interiorscape
- bifenthrin (Talstar 7.9 F, Attain TR) – greenhouse

Control of Fungus Gnat Larvae:

- dinotefuran (Safari 20 SG) – greenhouse, nursery, and commercial, industrial, and residential areas
- cryomazine (Citation 75 WP) – greenhouse and interiorscape
- kinoprene (Enstar II) – greenhouse and interiorscape
- fenoxycarb (Precision 25 WP) – greenhouse and interiorscape
- diflubenzuron (Adept 25 WSP) – greenhouse
- pyriproxyfen (Distance 0.86 EC) – greenhouse
- *Steinernema feltiae*, parasitic nematodes (ScanMask, Entonem, Nemasys) – greenhouse and interiorscape
- *Bacillus thuringiensis* subsp. *israelensis* (Gnatrol) – greenhouse and interiorscape
- chlorfenapyr (Pylon 2L) – greenhouse

Disclaimer

This publication contains herbicide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the herbicide applicator's responsibility, by law, to read and follow all current label directions for the specific herbicide being used. The label always takes precedence over the recommendations found in this publication.

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