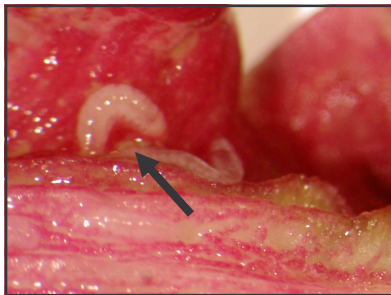


Hibiscus Bud Midge (*Contarinia maculipennis*)

Introduced: First found attacking orchids (*Dendrobium* spp.) in Apopka (1992) and Miami (1993). Later found infesting hibiscus flower buds.

Current Infestation: Throughout south Florida, and found in areas where the host plants are grown. Also common in Hawaii.

Description/Biology: The life cycle (egg to adult) of the hibiscus midge, also sometimes called the blossom midge, is approximately 3 to 4 weeks. The eggs are deposited in masses into the open tips of young flower buds. Within 24 hours the eggs hatch into maggots that move into the bud to feed. The maggots (larvae) are white when newly hatched, becoming yellow, with a pink tinge as they age. As they mature in 5 to 7 days, they grow up to 1/12 inch long. These maggots will exit the buds they are feeding in and drop to the ground burrowing into the soil to pupate.



They are capable of flipping themselves several inches into the air to exit the buds.

The pupae live in moist soil. The pupa turns from yellowish-white to brown and will move closer to the soil surface where it will become an adult in 14 to 21 days after entering the soil.



The adult blossom midge is a very tiny fly and unlikely to be found. The adult resembles a mosquito and survives for only 4 days. It has relatively large eyes and a single pair of spotted wings about one to two times as long as its body.



Seasonality: Year-round although the populations are higher during warmer months.

Hosts: Primarily a pest of flower buds of hibiscus and dendrobium orchids in Florida. Other reported hosts include the flower buds of tomato, jasmine, plumeria (frangipani), eggplant, pepper, bittermelon, and other vegetables and ornamentals.

Importance: Blossom midge can be a serious pest of dendrobium orchids and hibiscus particularly in commercial production. It is also occasionally the cause of premature bud drop in landscape hibiscus.

Hibiscus Bud Midge (*Contarinia maculipennis*)

Damage: The maggots (larvae) feed inside unopened flower buds, causing deformed, discolored buds and blooms, and in severe cases, premature bud drop.



Management: To determine the cause of distorted flowers or premature bud drop, the damaged buds need to be dissected and examined for presence of the maggots. There are many other causes for hibiscus flower buds to drop, such as genetic weakness, root problems, over-fertilization, over-watering, compacted soil, flower thrips or aphid infestation, or very hot, dry weather.

Homeowner and Professional - Sanitation is the most important management practice for the hibiscus bud midge. Remove and dispose infested buds and fallen flowers. For hibiscus, allow the soil to dry out between irrigations (established hibiscus planted in the ground do not usually need supplemental irrigation).

Nursery - Sanitation (removing and discarding fallen buds and flowers) is also important in control of this pest. Only the adult stage is vulnerable to contact

insecticides because the maggots are protected within the bud and the pupae are burrowed in the soil. Contact sprays include bifenthrin (Talstar), cyfluthrin (Decathlon), and deltamethrin (Deltagard), but timing with adult presence will be difficult.

Some insecticides can be applied as a foliar spray against the maggots as well as a soil treatment to target the pupal stage. Translaminar insecticides (those that move from the sprayed leaf surface to the other surface) or systemic insecticides may be capable of penetrating the bud to affect the maggots. At this point, however, results from systemic pesticide trials have not been consistent, and there are no official recommendations from the state. Some products that may be considered include acephate (Orthene), acetamiprid (TriStar), azadirachtin (Azatin), imidacloprid (Marathon, Discus), and pyriproxyfen (Distance).

Websites:

<http://mrec.ifas.ufl.edu/lso/pestalrt/midgefin1.htm>

http://www.extento.hawaii.edu/kbase/crop/Type/bloss_midghei.htm

Authors:

Catharine Mannion, UF/IFAS, TREC Homestead
Adrian Hunsberger, UF/IFAS, Miami-Dade Extension
Kim Gabel, UF/IFAS, Monroe Extension
Eileen Buss, UF/IFAS, Entomology Dept., Gainesville
Lyle Buss, UF/IFAS, Entomology Dept., Gainesville

Photo Credits: UF/IFAS, Holly Glenn

August 2006