A New Emerging Pest in Florida: European Pepper Moth

(*Duponchelia fovealis*)

Photo: Carmelo Peter Bonsignore, Università degli Studi Mediterranei di Reggio Calabria
European Pepper Moth

• Native to the coastal wetlands of the Mediterranean.

• A.k.a. “Southern European marshland pyralid” and “European Pepper Moth”.

• Is known as a greenhouse pest in Northern Europe.

• May become a pest outside of a greenhouse setting if the climate is right.
Known Distribution in Florida

- **No sampling**
- **Sampled but not found**
- **Intercepted or detected, but not considered established**

Map based on CAPS Survey September 2010 to May 2011, research conducted by S. Stocks, and NAPIS Pest Tracker.
# Susceptible Plants

**Ornamental hosts include:**
- Begonia
- Daisies
- Poinsettia
- Lisianthus
- Common purslane
- Creeping buttercup
- Cyclamen
- Impatiens
- Kalanchoe
- Coral bells

**Agricultural hosts include:**
- beet
- pepper
- fig
- basil
- pomegranate
- blackberry
- Tomato
- Cucumbers
- Squash
- Strawberries

There are several aquatic plants hosts as well.
Identification

Eggs

- Laid singly or in groups of 3-10.
- Mostly found on undersides of leaves
  - can also be found on the upper side of the leaves, on the stems, at the base of the plant, in the upper soil layer.

Larvae

- Turn creamy white or light brown with spots as they mature.
  - Depending on diet
- 20-30mm long when fully developed.

Photos:
Eggs - Carmelo Peter Bonsignore, Università degli Studi Mediterranei di Reggio Calabria and Pasquale Trematerra, University of Molise, Italy.
Identification

Pupae

- 9-12mm long made of webbing with soil and frass in it.
- Found on undersides of leaves, at the edge of the pot, or in the upper soil layer.

Adults

- 19-21mm across
- Striped abdomen
- Dark wings
- “The finger”
Life Cycle

Egg stage (4-9 days)

Laval stage (3-4 weeks)

Pupal stage (1-2 weeks)

Adult (1-2 weeks)

Photos: Carmelo Peter Bonsignore, Università degli Studi Mediterranei di Reggio Calabria
Hibernation and Dispersal

- Is not cold tolerant.
- Hibernation reportings are unknown
- In colder climates: it is primarily a pest of greenhouses.
- In warmer climates: it is usually found in the field
- Dispersal:
  - Movement of plant material spreads this pest
  - They are also reportedly good fliers
Damage to leaves

Strawberry

Damage to stems

Stem collapse in Eustoma

Note the larva girdling the stem

Damage to fruit

Pepper

Image credits:
Strawberry - Carmelo Peter Bonsignore, Università degli Studi Mediterranei di Reggio Calabria;
Pepper fruit - Marja van der Straten, Plant Protection Service, Wageningen, The Netherlands;
Stem damage - Bryan Vander Mey, Department of Entomology, University of California, Riverside;
Both Eustoma images - Henk Stigter, Plant Protection Service, National Reference Centre, The Netherlands
Monitoring and Inspection

Check pots next to detritus

Plant pulled out of the container

Check the bottom edge of the container.

Look for webbing on the soil surface

adult

Photos: Lyle Buss, Department of Entomology and Nematology, University of Florida
Florida Look Alikes - Adults

- Hydritis ornatalis
- Niphograpta albiguttalis
- Udea rubigalis
- Paraponyx obscuralis
- Penestola bufalis
- Duponchelia fovealis

Image credit:
James Hayden, Florida Department of Agriculture and Consumer Services, Division of Plant Industry; and Thomson Paris, graduate student, Department of Entomology and Nematology, University of Florida; EPM - Kurt Ahlmark, FDACS Division of Plant Industry, Bugwood.org - #5499609
Authors

Stephanie Stocks, M.S.
Assistant-In, Extension Scientist, Department of Entomology and Nematology, University of Florida

Amanda Hodges, Ph.D.
Associate Extension Scientist, Department of Entomology and Nematology, University of Florida
Editors

Matthew D. Smith, Ph.D.
Postdoctoral Associate, Department of Entomology and Nematology, University of Florida

Keumchul Shin, M.S.
Graduate student, Doctor of Plant medicine program, University of Florida
Reviewers

Douglas A. Restom Gaskill, M.S.
United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Health, Plant Protection and Quarantine, Cooperative Agricultural Pest Survey

Jim Hayden, Ph.D.
Florida Department of Agriculture and Consumer Services, Division of Plant Industry

Jason Dombroskie, Ph.D.
Senior Extension Associate, Department of Entomology, Cornell University
Collaborating Agencies

• U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS)
• Cooperative Agricultural Pest Survey Program (CAPS)
• Florida Department of Agriculture and Consumer Services (FDACS)
• National Plant Diagnostic Network (NPDN)
• Sentinel Plant Network (SPN)
• Protect U.S.
• University of Florida Institute of Food and Agricultural Sciences (UF-IFAS)
Educational Disclaimer and Citation

• This presentation can be used for educational purposes for NON-PROFIT workshops, trainings, etc.

• Citation:
References


  – http://entnemdept.ufl.edu/pestalert/duponchelia_fovealis_risk_management.pdf


References


• CABI International. 2010. “Selected Sections for: *Duponchelia fovealis* (Southern European Marshland Pyralid)”. Crop Protection Compendium.


References


References


• Murphy, G. 2005. *Duponchelia fovealis* - pronouncing it is just the start of the battle.

• NAPPO – Phytosanitary alert system. 2010.
  – http://www.pestalert.org/prDetial.cfm?prID=466&keyword=Duponchelia%20fovealis
References