



DETECTION ADVISORY

PLANT HEALTH AND PEST PREVENTION SERVICES
PEST DETECTION / EMERGENCY PROJECTS

PD14-10

July 16, 2010

TO: County Agricultural Commissioners

FROM: Pest Detection/Emergency Projects

A Crambid Moth

Duponchelia fovealis (Zeller)

San Diego County

Vista

Four male moths collected on July 1, 2010, in a pheromone trap on Monte Vista Dr., Vista, in San Diego County have been identified using morphological characters as *Duponchelia fovealis* Zeller (Lepidoptera: Crambidae) (PDR 1511851). CDFA Biosystematist Dr. Marc Epstein is credited with the identification, and concurrence was received on July 16 from USDA Entomologist Dr. Alma Solis, USDA Systematic Entomology Laboratory in Beltsville, Maryland. This detection is a new U.S. record.

In response, CDFA staff, in cooperation with the San Diego County Agricultural Commissioner's office, are deploying pheromone traps in the surrounding eight square miles.

Below is a summary of this new pest, compiled by Dr. Kevin Hoffman, Primary State Entomologist:

Duponchelia fovealis originates in the Mediterranean region and the Canary Islands, and has since been found in other parts of Africa, the Middle East, Europe, and Canada. Larvae have been intercepted numerous times in import shipments coming into the U.S. in or on fruits (especially peppers), fresh vegetables, herbs and cut flowers. Eggs are whitish-green when laid and turn red as the embryo develops. They are laid singly or in masses of 3-10, overlapping in tile-like fashion, either on the undersides of leaves close to the veins, low down on the stalks or at the base of the host plant, or in the upper soil layer. The larvae feed externally on leaves, flowers, and buds and bore into stems and fruit, and may also feed on decaying plant debris. They move rapidly and prefer humid sites lower down in the plant, on the ground, in the upper soil layer, or on exposed roots of plants. Mature larvae reach a length of 20-30 mm, with the body color varying from creamy white to brown and having a dark head capsule and dark spots on the body. Pupation occurs in a cocoon, which is made of silk mixed with frass, or particles of soil. Adult lifespan is about 1-2 weeks. The adult female lays about 200 eggs during her lifetime. Adults have a wing span of 19-21 mm, and the forewings are gray-brown in color and have two yellowish white transverse lines, with the outer line having an outward-directed tooth-like notch (Fig. 1). At rest, *D. fovealis* typically holds its wings flat and somewhat out to the side, thereby forming a triangular shape, and the abdomen is curved upwards.

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The moth is not very cold tolerant and seems to prefer a warm humid environment such as a greenhouse. Under greenhouse conditions, egg hatch in about eight days, larvae mature in about four weeks, and pupation lasts 1-2 weeks. Therefore, a complete life cycle can be completed in as little as six weeks. It is not known to diapause, and therefore could complete several generations annually under ideal conditions.

Duponchelia fovealis is a pest of a variety of ornamental bedding plants and some field crops. Hosts include a wide range of mostly herbaceous ornamental plants and field crops, such as *Anemone*, *Anthurium*, *Begonia*, *Cyclamen*, *Euphorbia*, *Gerbera*, *Kalanchoe*, *Limonium*, *Rosa*, certain aquatic plants, peppers, cucumbers, tomatoes, corn, pomegranate, and certain herbs.

Duponchelia fovealis has been described as a good flier. In the Netherlands, moths have been found in light traps about 100 kilometers from greenhouses where the moth is known to occur. Dispersal can also occur through the movement of propagative and non-propagative material including fruit, herbs and fresh vegetable products and cut flowers.



Fig. 1. Adult male *D. fovealis* in pheromone trap from Monte Vista Dr., San Diego County (Dr. Marc Epstein, CDFA)

Reference PDR: 1511851

Prepared by: Kevin Hoffman