



BUG BIZ

Pest Management and Insect Identification Series



Citrus leafminer, *Phyllocnistis citrella* (Lepidoptera: Gracillariidae)

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Description

The citrus leafminer is an occasional pest of citrus and plants of the citrus family (Rutaceae). The insect was discovered in the United States in 1993 and has since spread throughout the southeastern states. The first reports of citrus leafminers in Louisiana were made in May of 1994 in Plaquemines Parish. The larvae of this moth mines in the leaves, leaving a characteristic serpentine mining form, which is often mistaken for disease. Adults are generally small, light-colored, less than 0.25 inch (6 mm) long and are more active from dusk to dawn. Larvae are 0.12 inch (3 mm) long and translucent with a greenish-yellow color.



Citrus leafminer moth (Jeffrey W. Lotz, Florida Department of Agriculture and Consumer Services, Bugwood.org).

Life Cycle

The citrus leafminer is an insect of complete metamorphosis, passing through the stages of egg, larva, pupa and adult. This insect completes its life cycle in approximately 13 to 52 days, depending on weather and temperature conditions. Favorable environmental

conditions can result in an increased rate of reproduction and a new generation every two to three weeks.

Eggs are laid on the underside of plant leaves, and once hatched larvae immediately mine and enter the leaf to feed. As larvae grow, they form a serpentine-like mine in the new soft leaves of citrus.

The larvae emerge from the mine as prepupal larvae. The last instar larvae roll on the edges of the leaf causing curling. Inside the curled leaf edges, the citrus leafminer will transform into pupae and reach adulthood within one to three weeks.



Citrus leafminer larva (Jonas Janner Hamann, Universidade Federal de Santa Maria (UFSM), Bugwood.org).

Ecological Significance and Pest Management

The citrus leafminer is commonly found on citrus (oranges, mandarins, lemons, limes and other citrus varieties) and closely related trees (kumquats and calamondin). The larvae mine the lower or upper surface of the leaves, causing them to curl and look distorted. Usually, only one leaf mine is present per leaf, but heavy infestations can result in two or more. The damage caused by the citrus leafminer does not significantly affect growth on mature citrus; however, on young trees significant damage may occur but will not result in death.

The citrus leafminer also appears to promote the spread of citrus canker (*Xanthomonas citri* subsp. *citri*) by producing wounds that may serve as infection sites. Please review the LSU AgCenter Citrus Canker factsheet cited in the references at the end of this publication for more information on citrus canker.

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Citrus leafminer mines in a citrus leaf (Mourad Louadfel, Homemade, Bugwood.org).

Citrus leafminer moths target new growth of citrus trees. Once the leaves mature and harden, the pest will no longer be able to mine the leaves. Delaying nitrogen fertilizer is recommended at times of the year when leafminer numbers are high. This will help prevent the growth of new susceptible leaves.

It is important when using chemical control to do so early in the infestation before significant damage occurs. The use of the insecticide [Spinosad](#) as new leaves are growing and before damage is visible can be effective in prevention and management of the citrus leafminer.

Natural predators of the citrus leafminer, as well as insect pollinators, may be present in the field. Therefore, the use of broad-spectrum insecticides is highly discouraged. Please see the Louisiana Insect Pest

Management Guide (Publication No. 1838) for currently approved insecticides for control of these insects.

References

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