

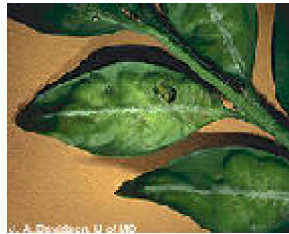
Cobb County Extension Service

LEAFMINERS ON ORNAMENTALS

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Leafminers are tiny insects that tunnel between the upper and lower surfaces of leaves and create tunnels in unique serpentine patterns. While the term “leafminer” can be associated with immature stages of many insects, usually the damage seen on ornamentals is done by larvae of flies, beetles, moths or sawflies.

There are many species of leafminers: boxwood, oak, holly, birch, honeysuckle, hawthorn, etc. In spring the female cuts a hole in the leaf surface with her ovipositor and feeds on the cells in the middle leaf layer. She tastes the leaf to determine if it is suitable for feeding larvae. If it is, she inserts eggs through ovipositor punctures just beneath the epidermis of the leaf. She dies shortly thereafter. Most of this activity occurs around midday. Males are unable to cut the leaf but can feed at holes cut by females. Eggs hatch in two to five days. The larvae feed on the parenchyma tissue between the leaf surfaces, producing blisters, blotches or trails. The infested tissue turns whitish or light green to brown.



Boxwood Leafminer *Monarthopalpus flavus*

Accidentally introduced from Europe, and considered the most serious pest of boxwoods, it prefers the American Boxwood, although English and Japanese boxwoods are susceptible. These tiny, orange mosquito-like flies are about 1/8 inch long. After laying eggs in the leaf tissue, the flies die. There is one generation per year. The maggots hatch and feed inside the leaf, inducing the formation of blisters on the lower leaf surface where the maggots develop for about a year. In early spring, the blisters form a thin, translucent spot called a window and orange pupae wriggle through the windows and hang from the underside of the leaf. Soon adult flies emerge from the pupae and a new generation begins. Infested leaves become yellowish and are smaller than uninfested leaves. Leaves may drop prematurely.

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Holly Leafminer *Phytomyza ilicis*

Adult flies are about 1/8 inch long and black. Yellow larvae 1/8 inch long, tunnel through the leaves during summer and fall, creating mines in the leaf surface. There is one generation per year. Larvae overwinter in the mines and adults emerge around May 1. Infestation can cause premature leaf drop.



Azalea Leafminer *Caloptilia azaleella*

The adult moth is about 3/8 inch long with folded wings. They are yellowish brown with purple markings on the wings and stand at a 60 degree angle when at rest. Mature larvae are 1/2 inch long and yellowish brown. There are two generations per year. Pupae overwinter in leaf tunnels. Look for blotch mines in April or May. Curled leaf tips in June indicate

completion of the first generation. Second generation blotch mines begin in July.

Control of leafminers is difficult since they spend most of their lives protected inside the leaves. Once leafminer larvae are noticed in the leaves, inspect the foliage periodically to determine when the adults are emerging.

Set out sticky traps or look for insect swarms in early morning during April and May. Use an insecticide, imidacloprid or acephate, carefully following the manufacturer's directions. Verify that the insecticide is approved for use on the particular ornamental. An important non-chemical control is sanitation. In the fall dispose of leaves containing that may contain overwintering larvae and pupae.

References:

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"Leafminers", Integrated Pest Management

"Boxwood Leafminer", Frank A. Hale, Agricultural Extension Service, Univ. of Tennessee

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