

Holly Leaf Miners

There are over twenty species of holly native to the United States. Most of these species are limited to the Southeast Coastal Plain and many are grown in Maryland. Leaf miners attack several kinds of holly and the value of these plants has in some cases has been greatly reduced.

In Maryland there are several species of leaf miners which feed on holly. The most important is the native holly leaf miner, *Phytomyza ilicicola*, which feeds mainly on American holly. The holly leaf miner, *Phytomyza ilicis*, is a European species often reported from the Eastern United States, but research indicates it is confined to the Pacific Northwest.

Damage

Severe injury by the native holly leaf miner has apparently never been reported in natural stands of American holly, although these insects are found throughout the range of its host. Parasites and other beneficial insects are usually effective under natural conditions. Unfortunately, cultivated trees may be subject to heavy infestations. Damage is due mainly to the feeding of the minute yellow fly maggots (or larvae) which feed by mining between the top and bottom surfaces of the leaves. In early summer these mines are narrow, oval, inconspicuous tunnels, but in early fall the maggots lengthen the mines until they look like irregular, dark streaks. If only one mine is present in a leaf, it may look unsightly, but it will remain on the plant for its normal period (about two years). However, if a leaf has several mines, it will fall in the spring or fall after the first year.

Injury is also caused by adult females which insert their ovipositors into leaves. Males and females then feed on the juices which appear. If a leaf receives too many punctures, it will become stunted and twisted.

In Central Maryland, most of the tiny, 1/10 inch long, blackish flies emerge, mate, and lay eggs from early to



Native Holly Leafminer

mid May. (Egg laying may be delayed in cold wet springs.) The eggs are inserted into the leaf by the female. The young maggots begin mining in June but the mines are not obvious until late summer. (The tiny, new mines are oval with reddish halos.) The winter is spent in the leaf mine. Some over-winter as mature maggots and others as pupae. There is only one generation a year.

Control

When possible American hollies should be grown in partial shade. Trees in full sun are usually more heavily damaged by this pest. **The simplest way to control the holly leaf miner is to pick off and destroy all infested leaves before May.** This will eliminate the overwintering maggots in the mines. Where the size and/or number of plants makes this method impractical, this pest can be controlled by timing an insecticide spray with the emergence of the adult flies.

This will reduce the number of feeding and oviposition punctures in the leaves. Spray with an insecticide registered for use on holly in mid May to control large populations of adult flies.

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Use Insecticides With Care. Read the Label. Follow All Safety Precautions.

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