Inspector Findings in Kentucky

Inside this issue:
Daylily Leafminer 2
Banded Elm Bark Beetle 4
Damaged by Fire Blight 5
Black Root Rot 6

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New Invasive Daylily Leafminer, Ophiomyia kwansonis Sasakawa, Identified in North America

By Gaye L. Williams, Maryland Department of Agriculture, Plant Protection & Weed Management and Gary J. Steck, Florida Department of Agriculture and Consumer Services, Division of Plant Industry

Since at least 2008, daylily growers and collectors have been aware of an unknown leafminer damaging leaves of Hemerocallis spp. and varieties (click here for more information.). In late 2008, at a Maryland daylily garden, Gaye Williams noted leafmining damage but found no live larvae. Attempts to rear flies from this site in 2009 and 2010 were unsuccessful. In June 2011, adults reared from puparia collected at the site were tentatively identified as Ophiomyia kwansonis Sasakawa. Collected larvae, pupae, adults, and reared specimens were sent to Dr. Owen Lonsdale, Canadian National Collections, who confirmed their identity as O. kwansonis, a species previously known only from Japan and Taiwan. An image, from 2006, shot in Maine on daylily, carries Dr. Lonsdale’s 2008 comment to that effect.

Also, in 2011, Gary Steck collected and identified Florida specimens of O. kwansonis. An FDACS-DPI Pest Alert will be forthcoming and posted on their website with more details (Steck, G.J and G.L. Williams, 2011, – “Daylily leafminer, Ophiomyia kwansonis Sasakawa, (Diptera: Agromyzidae), new to North America, including Florida”.

Daylily leafminer is most easily detected and identified by the long meandering, serpentine mines caused by larval feeding in the leaf blades. Mines are usually seen in upper leaf surfaces, but in higher populations or reinfestations, may also occur in lower surfaces. One to several larvae may be found in a single leaf. The pale yellow larvae, up to 5mm, can be detected in plant tissue with a 10x hand lens, usually by spotting the black mouthparts as they rake back and forth in the mine, feeding on plant tissue.

Pupation takes place in the larval tunnel with spiracles protruding through the plant’s epidermis. Pupae are tan, about 3-4mm and usually found in the basal half of the leaf. Adult flies are stocky and shining black, often seen on daylily blooms.

This insect may have two or more generations or be continuously present during the growing season (depending on the region). Although even severe mining does not appear to kill plants, mining damage accumulates and will persist until leaves are removed or replaced by new growth. This means that plants remain disfigured throughout the flowering season, causing major concern for display and tour garden owners. Regulatory and trade impacts are not known as yet since this insect has only recently appeared on our radar screens.
No formal studies have been conducted to establish reliable chemical control methods. Sanitation, including removal and destruction of infested leaves, may reduce potential numbers of adults. Unfortunately, control may prove difficult as infested naturalized populations of Hemerocallis fulva, the roadside lily, can serve as sources of reinfestation for nurseries and gardens.

At present, distribution of daylily leafminer includes Japan, Taiwan and the continental U.S. (confirmed by specimens in Florida and Maryland; by the internet image from Maine; and by diagnosed larval mining damage in daylily leaves in Alabama, Georgia, Louisiana, North Carolina, New York, South Carolina, Texas and Virginia). With increased awareness, this list will grow as daylily plants in other states are carefully examined. If you see leafminer damage in Hemerocallis leaves, please send images and information to Gaye Williams at williagl@mda.state.md.us.
Not Your Usual Lady Beetle Larva
By Lee Townsend

Common lady beetle larvae seen in home landscapes are relatively similar in appearance. They have alligator-shaped, dark blue-back bodies with some bumps or spines along their backs, and some orange or yellow markings. Usually, they are found on trees, shrubs, or other plants that are infested with aphids are scales and can be very effective predators. But one description doesn’t necessarily fit all.

A few species have white waxy coverings and the general shape of a mealy bug, a sap feeding insect. Hyperaspis lady beetles produce their white coverings from glands along the sides of their bodies. The covering protects these beneficial larvae from predators that may attack them. These larvae can consume large numbers of aphids and scale insect crawlers.

Distinguishing sap-feeding mealy bugs from waxy lady beetle larvae is not hard. Lady beetle larvae will respond to a gentle poke or two by crawling away. Mealybugs will be very slow to respond and may not move at all when hassled.

Figure 1. Asian lady beetle larva (photo by R. Bessin).

Figure 2. Hyperaspis larvae (white) on a tuliptree leaf infested with aphids.
**Damaged by Fire Blight**

By Nicole Ward

Homeowners continue to question fire blight damage in flowering pear, crabapple, cotoneaster, hawthorn, and pyracantha. During March or April, pathogenic bacteria infected flowers or young shoots. Now, shepherd’s crooks (figure 7) and spur dieback (figures 8 & 9) are becoming more prominent. Often, homeowners do not notice damage until later in the season when branches die completely. Although symptoms become more obvious during late spring, the fire blight bacterium is not currently active. Hot summer temperatures suppress bacterial growth, and plants are able to compartmentalize and wall off spread. Thus, visible symptoms are the result of early infections.

Current recommendations indicate that pruning of blighted twigs and cankered branches should be delayed until winter when risk of disease spread is lowest. Under certain circumstances, homeowners or commercial landscape contractors may choose to prune infected branches during the growing season. Only young, vigorous trees should be considered, and care should be taken to prevent bacterial spread. Always avoid working with wet plants. Cut branches at least 6 to 8 inches below move in from herds that are several miles away. This puts extra pressure on fly control programs. Many brands of insecticide cattle ear tags can suppress face fly numbers below what is present on untreated cattle in the area. Effectiveness can be very high during the first few weeks then control tends to drop to about 50% (see Fig. 11). This can be satisfactory unless fly populations are very high, which seems to be the case this year. Supplemental face fly control may be needed. Forced use dust bags or oilers with fly strips hanging down to treat the face should help to reduce face fly numbers. These probably will need to be in place and recharged until early August.
Stressed Plants More Susceptible to Black Root Rot

By Nicole Ward

Recent heat and drought conditions have induced stresses on many landscape plants. These and other environmental stresses are conducive for black root rot. The disease can affect a wide range of ornamentals in home and commercial landscapes, nurseries, and greenhouses. Recent reports from the UK Plant Disease Diagnostic Laboratory include black root rot in petunia, vinca, and holly.

Symptoms

Black root rot results in the decay of root systems; however, the most obvious symptoms are observed on above-ground portions of the plant. Plants may initially appear stunted, slow-growing, or less vigorous when compared to healthy plants. Foliar symptoms include yellowing, wilting, and necrosis (death) of foliage. Herbaceous plants may collapse, while dieback is often observed on woody plants. Severely infected plants eventually die.

Above-ground foliar symptoms are the result of root decay; the reduced root system is unable to take up sufficient water and nutrients to support foliage and stems.

- Greenhouses and nurseries should dispose of all infected plants regardless of disease severity.
- A soil drench using approved fungicides may be applied as a preventative in nurseries, greenhouses, and commercial landscapes. There is no curative fungicide available.

Disease Management In landscapes

- Avoid planting susceptible plants in soils known to be infested with the fungus. Refer to PPFS-OR-W-03 for a listing of plants that are resistant to black root rot.
- Plant only disease-free plants in the landscape. Examine planting material carefully prior to planting to ensure that roots appear healthy and white in color. Plants with blackened roots should not be used.
• Heavily infected plants should be removed from the landscape and destroyed. However, good cultural practices may enable some plants, such as hollies with mild symptoms, to continue to grow in spite of the disease. Plants in the early stages of infection should be well-fertilized and watered. Avoid excess water.

• There are no effective fungicide drenches available for homeowner use. Established landscape plants may be treated with fungicides by licensed landscape contractors, if infection is not severe. Fungicides will suppress but not cure black root rot. Protectant fungicides include Clearys 3336, Compass, Heritage, Medallion, Pageant, and TerraGuard.

In greenhouses and nurseries

• Strict sanitation is crucial in nurseries and greenhouses, where black root rot can be a serious problem. Do not reuse soil. Disinfest all tools, equipment, containers, and greenhouse floors and benches.

• Use disease-free stock plants.

• Monitor plants regularly, particularly if the greenhouse or nursery has a history of black...