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Roundheaded Appletree Borer

Most roundheaded borers attack dying or dead trees, but there are a few exceptions, Asian longhorned beetle, linden borer, and roundheaded appletree borer being among them. Roundheaded appletree borer attacks rose family plants including hawthorn, mountain ash, quince, serviceberry (shadbush), cotoneaster, and crabapple.

At this time of year, roundheaded appletree borer adults emerge from infested trees. The adult beetles are elongate, one-half to one-inch long, brown to black beetles with white undersides, two white stripes down the back, and long antennae. Females fly for about 40 days, making one-inch long longitudinal slits through the bark, usually just above the soil line. Within each slit, she lays a single egg.

The hatching legless larvae tunnel up and down in the sapwood. Fully-grown larvae are whitish with dark heads and are about one and one-half inches long. They grow slowly, taking two to three years to become fully-grown. Pupation occurs in the larval tunnels.

Nursery stock and newly planted trees are most susceptible to damage, being seen as a partial girdling of the lower trunk, resulting in reduced tree vitality and slow growth. Spraying the lower few feet of the trunk with imidacloprid (Merit) at this time throughout the state should be effective to prevent girdling and other weakening of the trunk near the soil surface.--*Phil Nixon*

Flatheaded Appletree Borer

Flatheaded appletree borer attacks trees in the rose family, being common in older hawthorn, serviceberry, cotoneaster, rose, and crabapple branches and trunks where it primarily attacks declining trees and shrubs near the end of their lifespan. It also attacks dead and dying branches of many other tree species, including maple, oak, ash, hickory, sycamore, tuliptree, and willow. In these situations, it is normally not considered to be a pest.

Flatheaded appletree borer is a serious pest of young maples, attacking nursery and recently planted stock. It typically attacks young maples just above the soil line, tunneling upward in the cambium just under the bark in a helical fashion around the trunk. Attacked trees are commonly killed or have severe dieback.

There is one generation per year. Adult beetles are about one-half inch long and oval, being metallic brown to black. They lay eggs singly in bark crevices. These eggs hatch into larvae that tunnel into the trunk. The legless larvae are

whitish with dark mouthparts and grow to slightly more than one inch long.

Flatheaded appletree borer is susceptible to control at this time throughout the state. Spraying the lower few feet of the trunk with imidacloprid (Merit) should be effective to prevent girdling and other weakening of the trunk near the soil surface.

Encouraging growth and heavy sap flow with proper fertilization and other cultural practices helps reduce successful attack by flatheaded appletree borer. Hatching larvae are drowned in heavy sap flow. There is some evidence that wrapped trees are less susceptible to attack, but wrapping left on during the growing season may increase susceptibility to fungal diseases. It also appears that this insect is more of a problem where tall grass is allowed to grow around the young trees. Mowing or other vegetation control is recommended. --*Phil Nixon*

Mimosa Webworm

Mimosa webworm is susceptible to control at this time in southern Illinois. Spraying the foliage of attacked trees with *Bacillus thuringiensis* kurstaki (Dipel, Thuricide), spinosad (Conserve), or labeled pyrethroid insecticide at this time should provide control. Treatment will be successful in central and northern Illinois in about two weeks.

Mimosa webworm heavily attacks silktree or mimosa, *Albizia julibrissin,* in southern Illinois. It is common for much of the foliage of silktrees to be brown and heavily webbed together in late summer. It also attacks honey locust throughout the state, but is only occasionally numerous enough to cause obvious aesthetic damage. When numerous, the foliage of a third or more of honey locusts will be brown in late summer.

Mimosa webworm has two generations per year in Illinois. Larvae and pupae overwinter in bark crevices and other protected locations, emerging as adult moths in spring. Larvae are greenish or brownish, slender caterpillars slightly more than one-half-inch long when fully grown. They wiggle vigorously and crawl quickly when disturbed. They web leaflets together, feeding on the webbed leaflets, causing them to turn brown. Mature larvae pupate and emerge as moths to lay a second generation of eggs on leaves damaged by the first generation larvae. This second generation is colonial, with the numerous larvae webbing entire compound leaves together, causing the damage to be very obvious.

Controlling the first generation larvae usually prevents the large, damaging, second generation larvae. Scout by looking for small numbers of leaflets webbed together on silktree and two to three leaflets webbed together on honey locust. Large numbers of these webbed leaflets containing first generation larvae warrant control. In the northern two-thirds of the state, trees close to buildings are more likely to be attacked. Larvae that crawl under siding and shingles of heated buildings are more likely to survive cold winters. In southern Illinois, larvae usually survive the winter without finding warmer sites. *--Phil Nixon*

Daylily Leaf Streak

Daylily foliage is looking lush in most parts of the state. In some of the wetter areas we have seen daylily leaf streak. This is a fungal disease, caused by *Aureobasidium microstictum*. The fungus is easy to confirm with a microscope, but spores are not really visible with a hand lens. For those of you interested in microscopic confirmation, view this article from the University of Florida, http://www.doacs.state.fl.us/pi/enpp/pathology/pathcirc/pp376.pdf. I have had the best luck viewing acervuli and conidia after the sample has been incubated for two days.

The symptoms include yellowing along the central vein of the leaf, small reddish brown, elongated spots in the yellowed areas, and possibly a yellow area around the lesions. Severely affected leaves, like those in the image, will shrivel and die. Symptoms are similar with daylily rust but you will see pustules in the affected area if rust is present. Daylily rust was a concern in 2000 but does not survive our winters.

The leaf streak fungus lives over the winter on old leaves, so removing dead foliage in the fall will help manage the disease. Resting bodies, called sclerotia, also may form and drop to the soil. Keep plants divided and thinned to allow quicker drying. The fungus spreads by contact and in splashing water. Do not work with plants when they are wet.

Although there is definite variation in varietal susceptibility, none of the daylilies is resistant. If you feel the need to control the disease with fungicides, trifloxystrobin (Compass) is available to commercial growers beginning when the symptoms first appear. Home growers might try thiophanate-methyl containing products or myclobutanil or daconil. Remember, the label must state that the product is registered for use on daylily or similar general ornamental wording.

While we are on the topic of perennial diseases, consider purchasing a copy of a new book, Diseases of Herbaceous Perennials, by Gleason, Daughtrey, Chase, Moorman, and Mueller. It has fantastic images and very useful information.--*Nancy Pataky*

Crabapple Scab Note

Although we have not seen much in the way of apple scab in Champaign/Urbana as yet, it is beginning. Temperatures have been above average and moisture below average, until this past week. The image shows a very early case of scab. This velvety, brown growth is the mycelia and spores of the scab fungus, *Venturia inequalis*. Keep in mind that the fungus will continue to spread via secondary conidia in wet weather in spring, summer, and fall. There are many sources of crabs with resistance to scab. Refer to issue 2 of this newsletter for details. --*Nancy Pataky*

Birch Anthracnose, Chlorosis, and More

Anthracnose is a common spring disease, especially in cool, wet conditions. Since those conditions occur in Illinois every year, we see anthracnose every year. There are many fungi that cause anthracnose diseases on

many hosts. It is not just one big, powerful pathogen. The common thread is the weather requirement, infection of lush new growth, and formation of fruiting bodies called acervuli. Anthracnose is common on ash, oak, maple, sycamore, and many other shade tree species. It is relatively common as well on birch. The image shows a river birch infected with anthracnose. These spots could be caused by other leaf infecting fungi, including *Septoria*, *Cylindrosporium*, *Discula*, and *Marssonina*. In most cases there is no need to spray trees to combat these leaf spots. One exception is young nursery trees that may warrant sprays to help maintain foliage in production.

You have undoubtedly noticed that the leaves in the photo are chlorotic, a much bigger problem on this birch. Chlorosis is often caused by the lack of iron or manganese which can be tied up in alkaline soil conditions. This tree has been treated for chlorosis using noninvasive methods of soil applied acidic fertilizers. Trunk injections may be used if the condition worsens. A slight improvement has been noted in recent years.

The major problem on this tree, however, is neither of the above, normally diagnosed problems. A root collar excavation revealed that the tree was planted about 8" too deeply (see image). Although anthracnose and chlorosis can be treated, the tree will most likely slowly decline because of below ground problems. When you have a similar situation, where everything you do seems to no avail, look below the soil for a possible explanation. --*Nancy Pataky*

Japanese Tree Lilac Diseases

Japanese tree lilac (*Syringa reticulata*) has become a very popular plant in Illinois. I am not going to try changing that concept. Questions merely prompt me to write this article about the disease problems one might see on this host. The good news is that so far the disease problems seem few and sparse. This is a lilac, so we should see the same diseases we see on other lilacs. I think the difference is that the tree growth form allows better air movement among and around branches.

As an example, **powdery mildew** is a common problem on shrub lilacs. It occurs on tree lilac, but only where the plant is shaded. Since the recommendation is to grow it in full sun, and since the tree form dries more quickly, powdery mildew is less of a problem. Interestingly, the powdery mildew species that affects lilac also infects ash and privet. You may see more disease near those hosts.

Bacterial blight is probably the most serious disease on tree lilacs, and is most severe on the white flowering types. The bacterium, *Pseudomonas syringae* pv. *syringae* infects in wet weather when new shoots are developing. The same bacterium may cause shoot blight on blueberry, cherry, maple, and pear. Symptoms include brown/black spots on leaves, shoots, petioles, buds, and flowers. Stems may be girdled and die beyond the point of infection. Leaves may be crinkled along the edge or along the midvein. You will want to work with such plants only in dry conditions. Remove infected sections, disinfecting pruners between cuts. Prune plants to allow good air

movement (rapid drying) and avoid high nitrogen fertilization that promotes infection. Infection is often worst following storms with high winds. Copper fungicides may help reduce spread of this bacterial pathogen.

Crown gall and Verticillium wilt can also infect tree lilacs, but we have not seen these diseases at the Plant Clinic to date. Balanced fertility is promoted as a means of avoiding Verticillium wilt on this species. Crown gall may infect injured tissue, so mulch around the base of plants to keep mowers and trimmers at bay. --*Nancy Pataky*