



INSECTS

Two Monthly Issues Left

This is the 18th and last biweekly issue of the *Home, Yard & Garden Pest Newsletter* for this year. There are two monthly issues remaining in this year's schedule. They will be published near the end of October and November. In the October issue, we will include horticultural meeting dates around the state. The November issue will include the annual index to articles. Of course, both issues will also include current pest topics. (*Phil Nixon*)

Multicolored Asian Lady Beetle

During the fall when the weather is cooler, the multicolored Asian lady beetle, *Harmonia axyridis*, congregates on the south side of buildings and enters homes. The beetle does this because in their homeland of China they inhabit tall cliffs to overwinter. As you know, there are very few tall cliffs in Illinois, so the next best thing is a building.

The multicolored Asian lady beetle is a native of Asia and was introduced into the southeastern and southwestern portions of the United States to deal with aphids on pecan trees. It spread rapidly to other portions of the country. It is a tree-dwelling lady beetle, more so than the native species, and a very efficient predator of aphids and scales. Adults also feed on ripening peaches, apples, and other fruit, eating shallow holes in them. This damage is easily controlled with commonly used fruit insecticides.

The multicolored Asian lady beetle can be easily distinguished from other species of lady beetles by the presence of a pair of white, oval markings directly behind the head, which forms a black M-shaped pattern. Adults are 1/4 inch long, 3/16 inch wide, and yellow to orange colored. In addition, their bodies are usually covered with 19 black spots. Adults can live up to 3 years. Female beetles lay yellow, oval-shaped eggs in clusters on the underside of leaves.

The eggs hatch into larvae that are red-orange and black in color, and shaped like an alligator. The larvae

are primarily found feeding on soft-bodied, plant feeding insects such as aphids and scales. They eventually enter a pupal stage. The pupae can be seen attached to plant leaves. Adults emerge from the pupae and start feeding on aphids. These adults can be found on a wide variety of trees including apple, maple, oak, pine, and poplar. There are multiple generations per year.

The multicolored Asian lady beetle is a nuisance pest because the adults tend to congregate and overwinter inside buildings in large numbers. They release a pheromone that attracts more beetles to the same area. Although they may bite, they do not injure humans nor can they breed or reproduce indoors. They are attracted to lights and light-colored buildings, especially the south side where it is warm. The beetles then work their way into buildings through cracks and crevices. Dark-colored buildings generally have fewer problems with beetles.

Beetles can be prevented from entering homes by caulking or sealing cracks and crevices. Beetles already in homes can be removed by sweeping or vacuuming. Be sure to empty the vacuum bags afterward. Do not kill the beetles. Just release them outdoors beneath a shrub or tree away from the house. Commercially available indoor light traps can be effective. If crushed, the beetles will emit a foul odor and leave a stain. The dust produced from an accumulation of dead multicolored Asian lady beetles behind wall voids may trigger allergies or asthma in people. Insecticides are not recommended for use indoors.

Homeowners who want to avoid dealing with overwintering beetles entering their homes can hire a professional pest-control company to treat the points of entry on the building exterior with a pyrethroid insecticide. The treatments need to be made in late September or early October before the beetles enter the building to overwinter.

The beetle has been able to spread rapidly throughout portions of the United States because it was introduced into the country without its native natural enemies. However, populations may decline as cosmopolitan natural enemies start attacking them. For example, studies in North Carolina have demon-

strated that up to 25% of the beetle populations are being parasitized by a tachinid fly. (*Raymond Cloyd*)

Crayfish in Turf

Crayfish become a nuisance in turfgrass when they burrow in high-moisture soil, creating chimneys at the burrow openings. These chimneys, made of balls of clay soil that bake in the sun, become very hard. Hitting them with a mower dulls the blades and may even kill the mower's engine. The crayfish commonly emerge at night to roam about the turf. It must be common for residents of northeastern Illinois to walk barefoot on the lawn at night. I have received numerous calls over the years from that area of the state with complaints about stepping on them barefoot at night and getting their toes pinched. Occasionally, one of these roaming crayfish will crawl up on a porch and get trapped, causing consternation to the human residents and family dog the next morning.

Crayfish are 10-legged crustaceans in the order Decapoda. Lobsters, shrimp, and crabs are in the same order. Crayfish are frequently referred to as crawfish and crawdads. In northeastern Illinois, they are called land crabs. Crayfish have 10 legs with the front pair enlarged into chela, or pincers, at the end. The chela are used for prey capture, feeding, mating, and defense. Crayfish are scavengers, feeding on decaying organic matter, but they are also opportunistic and will capture and eat fish, worms, and other animals that they catch off guard. The other four pairs of legs are used primarily for walking and food handling.

Crayfish are elongate with the front half covered along the top and sides by a carapace. Their gills are beneath the sides of the posterior half of the carapace. The front half encloses the head and is pointed at the front. Near the front are two obvious spherical black eyes. There are two pairs of antennae. One pair is very short, whereas the other is long and obvious. The abdomen makes up the back half of the crayfish. It is elongate and made up of several segments. At the end of the abdomen is a flattened, widened telson. The underside of the abdomen has a series of elongate, paired, finger-like pleopods. A female carries her eggs under the abdomen and is referred to as being "in berry" during this time. After hatching, the young crayfish cling to the pleopods and abdomen underside for several days before dropping off to fend for themselves. Most crayfish live for three years.

Of the 21 species of crayfish that occur in Illinois, only *Procambarus gracilis* and *Cambarus diogenes* commonly occur in turf. *P. gracilis* is reddish brown

when young but is red when adult and about 4 inches long. This crayfish occurs in turf areas and along roadside ditches. Its burrow commonly extends 6 feet or more to an enlarged chamber within the groundwater. On rainy nights, young of this species are commonly found on the turf surface. Adults occasionally occur on the surface on warm, rainy, summer nights. Reproduction occurs in open water, frequently in standing water after a rain. This species does not occur in southern Illinois.

C. diogenes can approach 5 inches when fully grown. It is reddish brown with a red carapace, although it may be green with red edging. This species lives along streams in a burrow that extends about 3 feet below the turf surface. At this point, there is usually an enlarged chamber. Another burrow runs laterally from this chamber to the nearby stream, opening below the water surface. Reproduction occurs in the stream.

Turf-living crayfish and their burrows and chimneys are numerous along streams and in low-lying areas. Golf superintendents commonly cope with crayfish by allowing these areas to revert to marsh and other wetland areas. This avoids fighting a losing battle against the crayfish and adds a different and natural hazard to the golf game. Commercial landscapes may similarly retain these areas as wetlands, occasionally mowing them at a high setting.

To eliminate crayfish, the area usually must be tiled and drained. Solid wood or stone fences that fit tight against the ground have been used to reduce the migration of crayfish to fine turf areas.

Pesticides are not a factor in crayfish management. Not only are there no labeled pesticides but any chemical put into a crayfish burrow will pollute the groundwater and possibly the adjoining stream. (*Phil Nixon*)

PLANT DISEASES

Late Anthracnose

We have received reports at the Plant Clinic of several cases of anthracnose on trees and shrubs. Some reports are from commercial concerns and some from landscapers. If you remember from the spring (see issue no. 3, "Leaf Diseases of Deciduous Trees"). Anthracnose is a term used to refer to diseases caused by fungi that produce fruiting structures called acervuli. There are many fungi that may be involved causing symptoms that include leaf spotting, cankers,

or a both. The anthracnose fungi generally thrive in cool, wet conditions. Tender foliage is most susceptible. For these reasons, we usually see anthracnose diseases in the spring. So why are we getting reports of anthracnose now? These fungi can produce several cycles of infection throughout the year. We don't know a great deal about the annual cycles of the anthracnose fungi, but it is clear that they infect in cool, moist conditions throughout the growing season.

It does not appear that late-season anthracnose should be a threat to tree and shrub growth and development. Although leaf spots are common now, most plants have already formed buds for next year and can sustain significant leaf loss without jeopardizing plant health. There is no new leaf growth occurring now, so tender foliage is not present to host the fungus. Fungicides are sometimes used to fight anthracnose fungi but always in a protective mode of action. We may recommend spraying new foliage in the spring to protect that foliage from infection. Because there is no new leaf growth in the fall, fungicides are not recommended.

One concern with late-season leaf disease is that more fungal inoculum is present to overwinter on or near the plants. Many of the anthracnose fungi overwinter as mycelium in leaves or on twigs. Remove fallen leaves from the site this fall, and prune dead or dying wood. Burn, bury, or remove this plant material from the site. Consult *Report on Plant Disease (RPD)* No. 621 for details about anthracnose. This publication is available in Extension offices or on the Web at the VISTA site, <http://www.ag.uiuc.edu/~vista/horticul.htm>. (Nancy Pataky)

Leucostoma Canker of Spruce

This is not a new disease of spruce. Most of you know it as *Cytospora* canker. In recent years, however, the fungus has changed its name. Generally this happens when scientists find out more about a fungal species or category of fungi that puts the fungus in a different grouping and results in a name change to reflect that grouping. The pathogen in this case is *Leucostoma kunzei*, formerly called *Cytospora kunzei*. To confuse matters more, the perfect stage of the fungus is *Valsa kunzei*. The point of this is to let some of you know that *Cytospora* canker and *Leucostoma* canker are one and the same. You will see both names in scientific literature. Old texts will still have the *Cytospora* name. This is not new information. I usually try to resist name changes as long as possible to avoid confusion.

Leucostoma canker is probably the most common and damaging infectious disease of spruce in Illinois. Colorado blue and Norway spruces are very susceptible, especially 10- to 20-year-old trees. This disease appears on spruces as dead or dying branches, usually starting at the base of the tree and moving upward. Occasionally the affected branches will be scattered throughout the tree. The needles may drop early from affected branches or hang on for several months, leaving dry, brittle twigs. An important diagnostic feature to notice is that *Leucostoma* causes entire branches to die. A girdling canker forms at the base of the branch, and symptoms show first as a branch-tip death. Sometimes this disease is confused with *Rhizosphaera* needle cast, which affects older needles first, while needles at the tips of branches are apparently unaffected. (Refer to issue no. 2 of this newsletter for details about *Rhizosphaera*.) *Leucostoma* can continue to spread until all the branches on the tree are dead. Conspicuous patches of white resin commonly form on the bark in cankered areas at the base of dead branches. The diseased tissue is brown under the thin layer of outer bark. Black pinhead-sized fruiting bodies of the fungus (pycnidia) form in the inner bark, often embedded in the resin.

Don't be fooled when diagnosing *Leucostoma* canker. The mere presence of dead branches does not confirm the disease. Look for resin areas at the base of the dead branches. Then look more closely for the black pycnidia. We have seen so much damage to spruce from environmental stress over the past several years that it injury may have nothing to do with an infectious agent. On the other hand, stressed spruce trees are more susceptible to *Leucostoma* canker, and it is very likely that the disease will eventually invade the stressed tree as a secondary pathogen.

There are no chemical controls to prevent or eradicate this disease. Remove dead branches as they occur, but be certain to wait for dry weather for this pruning. Try to improve tree vitality by watering in drought-stress periods. It may be helpful to apply an organic mulch under the full spread of the branches but not up against the trunk. Mulch helps retain moisture and maintain a more even temperature and moisture environment for the roots. For more information consult *RPD* No. 604, available on the VISTA Web site or through your local Extension office. (Nancy Pataky)

Oak Problem Follow-up

In issue no. 17 of this newsletter, I discussed an oak problem that we have been seeing on trees in the red-oak group (oaks with pointed, not rounded, lobes on leaves). I asked for readers to report similar problems on their oaks. I have had limited response, possibly indicating that others are not seeing this problem. I will leave my request open until the next newsletter to be certain I have given everyone time to respond. This is a busy time of year for those in the landscape industry. So far, reports from Bureau, DuPage, and Champaign counties have indicated similar problems. If you have had problems with mature oaks this year, read the article on oak problems in issue no. 17, and please respond accordingly. (Nancy Pataky)

Wood-Rot Question

A recent question concerning identification of wood-rot fungi seemed to be an interesting topic for many of our readers. The wood rot on the tree was obvious by the rotted, sloughed bark; the decaying wood at the base of the tree; and the oozing sap. Laboratory personnel often prepare cultures from wood that is thought to be infected with a pathogen. In most cases, we try to isolate and identify any fungal pathogens present in the sample. Many fungi develop hyphae in the cultures and with some time form spores or fruiting bodies that allow us to make a positive identification. The Dutch elm disease fungus is a good example. The question posed to the Plant Clinic was whether we could isolate and identify the wood-rot fungi in the same manner.

Most wood-rotting fungi have a vegetative form that grows on and in the wood. The vegetative stage

(hyphae) does not differ much with each wood-rotting fungus, so isolating this stage is not very helpful. We could isolate the hyphal phase, inoculate some wood, incubate this wood at the proper environment (often unknown), and wait for several months for the fruiting body to form. Because wood rots are often inhabited by secondary wood-rotting fungi, we could not be certain we had isolated the primary cause. The whole procedure is not practical or dependable. We need the fruiting bodies to positively identify these fungi. The fruiting bodies are the conks (basidiocarps) that form on the trunk or branches. Refer to RPD No. 642 for details. (Nancy Pataky)

Home, Yard, and Garden Pest Newsletter is prepared by Extension specialists from the University of Illinois at Urbana-Champaign and the Illinois Natural History Survey. Information for this newsletter is gathered with the help of staff members, Extension field staff, and others. Karel Jacobs and Donna Danielson of The Morton Arboretum also provide information and articles.

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