

Plant Health Care Report

Scouting Report of The Morton Arboretum

June 21-27, 2008

Issue 2008.11

Our report includes up-to-date disease and insect pest reports, as well as color images, for northeastern Illinois. You'll also find a table of accumulated growing degree days throughout Illinois, precipitation, and plant phenology indicators to help predict pest emergence.

This season we have had a good amount of rain and because of it my advice to you is grab your mosquito netting before heading outdoors. They are vicious!!! Around this time last year we were telling everyone to water their trees, for the lack of rainfall.

Quick View

What Indicator Plants are in Bloom at the Arboretum?

Hills of Snow hydrangea (*Hydrangea arborescens* 'Grandiflora') is in full bloom right now.

**Accumulated Growing Degree Days (Base 50):
764.0**

Insects

- White- marked tussock moth
- Earwig
- Twig pruner
- Smartweed caterpillar
- Gouty vein gall on maple
- Oak pea gall
- Brown stink bug
- Fireflies

Diseases

- Cedar apple rust on apple
- Black spot on rose
- Spot anthracnose



Sighting's Elsewhere

- Mealybugs on hawthorn
- Sawflies on *Cephalanthus* and *Lysimachia*,
- Leaf blotch on zinnias
- Rose midge
- Thrips

Degree Days and Weather Information

As of June 26, 2007, we are at 764 growing degree days which is 11 days behind the historical average (1937-2007) and 16 days behind last year.

Location	Growing Degree Days through June 27	Precipitation between June 21-27 in inches
The Morton Arboretum (Lisle, IL)	764.0	1.64
Chicago Botanic Garden (Glencoe, IL)*	714.0	.25
Chicago O-Hare Airport*	786.0	.36
Aurora, IL	837.0	
Bloomington, IL	966.5	
Champaign, IL	1032.5	
DuPage County Airport (West Chicago, IL)	859.0	
Midway Airport	911.0	
Danville, IL	1139.5	
Decatur, IL	1101.5	
DeKalb, IL	846.0	
Moline, IL	985.0	
Palwaukee Airport (Wheeling, IL)	803.5	
Peoria, IL	1055.5	
Peru, IL	1084.5	
Pontiac, IL	960.0	
Rantoul, IL	1147.0	
Rockford, IL	879.0	
Romeoville, IL	848.0	
Springfield, IL	1116.0	
Waukegan, IL	717.0	
Milwaukee, WI	606.0	

**Thank you to Mike Brouillard, Green Living, Inc. and Chris Yooning, Chicago Botanic Garden for supplying us with this information.*

We obtain most of our degree day information from the Virtual Arborist web site. For additional locations and daily degree days, go to <http://virtualarborist.com/>.

This Week's Sightings

White- marked tussock moth



White-marked tussock moth caterpillars (*Orgyia leucostigma*) were found feeding on leaves of an Ohio buckeye (*Aesculus glabra*). The caterpillars are quite distinctive. When fully grown, they are about an inch to an inch and a half long and have long, pale yellow hairs, reddish orange heads, and long tufts of hair coming out of their front end. It is best to avoid touching them, because some people have allergic reactions to the hairs. Tussock moth larvae feed on leaves, first skeletonizing them and eventually eating the entire leaf. In September, caterpillars form gray, hairy cocoons on twigs and branches. The moth overwinters as an egg. Other hosts include apple, birch, crabapple, elm, fir, hickory, horsechestnut, linden, maple, oak, pecan, poplar, rose, sycamore, and walnut. There are two generations in Illinois.

Control: As the growing season progresses, leaves can suffer a lot of damage without harming the tree much. This is because by the mid-summer, trees generally slow their growth and have produced enough stored reserves to survive the winter. Damage by tussock moth larvae is mostly an aesthetic problem in landscape. We have heard of rare damage to trees if the caterpillars are very numerous. They can also cause major problems in forests. The caterpillars can be hand picked (carefully and wearing gloves to avoid allergic reaction). *Bacillus thuringiensis var. kurstaki* (Btk) can be sprayed on young larvae. For more chemical recommendations, refer to the *2007 Commercial Landscape & Turfgrass Pest Management Handbook* (CPM).

Good web site:

<http://fhpr8.srs.fs.fed.us/idotis/insects/wmtusskm.html>



Earwig

We have had our first sighting of the earwig on our grounds this week. Earwigs generally feed on dead insects and rotting plant material; however, they are also known to feed on flowers, fruit, and foliage of vegetable, fruit, ornamental, and field plants when populations are numerous. Their feeding causes small, irregular holes, and can give foliage a ragged appearance in severe infestations. This insect, which is about an inch long, is easily identifiable by the prominent pair of pincers on the tip of the abdomen. Earwigs are nocturnal creatures and hide in dark, moist places under stones and in debris or sometimes in bark during the day. They may find their way into houses and garages—particularly during periods of prolonged warm, dry weather and in fall. Inside they seek out moist areas such as basements, crawl spaces, and kitchens where they feed on sweet, oily or greasy foods, in addition to houseplants.

Since they feed on insect larvae, they are considered beneficial, but they are not beneficial to humans if you sit on one and get pinched. I have never had this happen to me, nor do I want to find out what it feels like.

Next time you are at a party, you can astound your friends and family with your knowledge by asking them how to tell the difference between male and female earwigs. The answer is that on females the pincers are nearly straight; on males they are caliper-like.

Control: Removing plant debris from your garden will remove some of their hiding places. Place rolled up newspapers on the ground near problem areas. Check the “newspaper traps” in the morning for earwigs. Shake the earwigs into a pail of soapy water. For indoor control, eliminate damp conditions in crawl spaces, near faucets, around air-conditioning units, and along house foundations. Keep moist mulches three feet away from the house foundation, window wells, and doorways, if you have a serious earwig problem. Trim back vegetation and remove ground covers near foundations that contribute to moisture retention. Move log piles away from the house. For chemical recommendations refer to *Home, Yard & Garden Pest Guide* (HYG).

Good web sites:

<http://ohioline.osu.edu/hyg-fact/2000/2068.html>

<http://learningstore.uwex.edu/pdf/A3640.pdf>

Twig pruner

We are seeing oak twig pruner (*Elaphidionoides villosus*) damage on white oak (*Quercus alba*). Wilted and browned branches are hanging from trees and scattered about the ground, looking very similar to cicada damage. The first sign of infestation are branch tips with fading foliage that eventually turn brown. With cicada damage you will see slits along the branches. Twigs from the twig pruner are smooth at the ends and knobby in appearance.

In spring, as oak leaves are beginning to form, adults emerge and deposit eggs near the tips of twigs. After making their entrance holes, larvae begin to feed in the center of the small branch. They chew (mine) down into the stem and in summer move to the sapwood and make concentric circular cuts, leaving only the thin bark to hold the branch in place. A gust of wind will cause the branch to break and fall to the ground. Larvae remain in the fallen branches, pupate in the fall, and emerge as adults the following spring.



The adult is a gray-brown beetle 1/2 to 3/4 inch long with antennae that are slightly longer than its body. Larvae are creamy white, legless, segmented, and reach 3/4 of an inch at maturity. Oak twig pruner larvae feed on oak, hickory, elm, walnut, and a number of fruit trees.

Homeowners checking elms for Dutch elm disease may be seeing flagging of terminal twigs and branches (leaves wilting and browning) on their American elms that are subsequently falling off the trees. The affected twigs are usually scattered throughout the canopy. This may be due to twig girdlers or pruners and not to Dutch elm disease. The adult beetles gnaw holes in twigs and lay eggs. When the larvae hatch, they feed inside the twig, killing it. Sometimes the twigs fall off the trees when the wind blows. Twigs dying from Dutch elm disease will show pronounced streaking under the bark and will not fall off the tree. Also, the wilting will continue down the branch rapidly in the case of DED. See PHC Report 2008-08 (May 31-June 6, 2008) for more information about Dutch elm disease.

Control: This insect will not kill or severely damage trees. To reduce populations, collect and destroy fallen branches and prune out wilted and damaged branches.

Good web site:

<http://muextension.missouri.edu/explore/agguides/pests/g07276.htm>

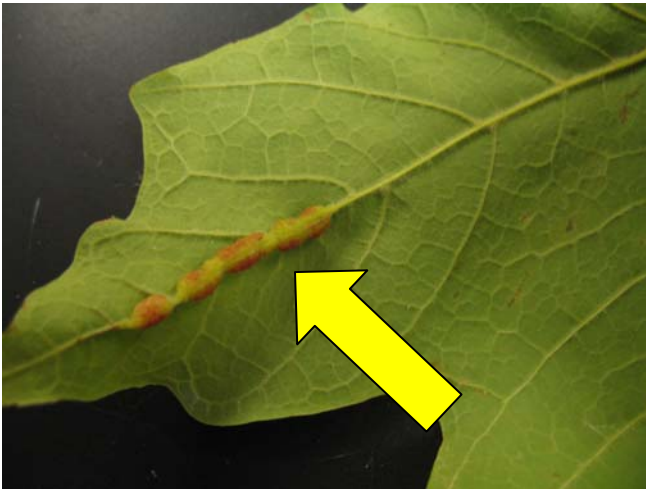
Smartweed caterpillar

The smartweed Caterpillar (*Acrionicta obliterata*) has been found on our grounds. This is another handsome caterpillar.

Their marked patterns are highly variable but generally the caterpillars are dark, with dark or reddish warts located on the top of the body and bearing tufts of short bristly hairs. They have a black, shiny head and come with or without lots of white speckles on their body. The most noticeable feature is the series of bright yellow, inverted V-shaped blotches along each side of the body that separate white spiracles (breathing holes). Four fine hairs extend out from either end of body. Their menu includes many herbaceous plants, shrubs, and trees.



Gouty vein gall on maple



Gouty vein gall has been found on black maple (*Acer nigra*). This gall is made by the gouty vein midge (a small mosquito-like fly) that causes pouch-like swellings along a major vein on the underside of the maple leaf. The larvae feed and develop within these galls. In the fall when the leaves dry out and drop, a narrow slit forms along the gall, allowing the mature larvae to escape and seek overwintering protection in the leaf litter underneath the tree.

Control: This type of gall does not seriously affect the health of the tree.

Oak pea gall

Oak pea gall was found on Bur oak (*Quercus macrocarpa*) leaves. The gall is made by the cynipid gall wasp (*Cynips divisa*). Oak pea galls are circular and young galls are light green, rose-tinted, then becoming yellow or brown and a diameter of $\frac{1}{4}$ of an inch.

Control: No harm is done to the trees of these galls; it is a purely aesthetic problem.



Brown stink bug

The brown stink bug (*Euschistus servus*) was caught when it collided with my head on the grounds this week. These insects are ½ inch long, and have an armored shield shaped with piercing-sucking mouthparts. The upper side of the body ranges from light to very dark brown. The underside varies from light yellow to green. They are the most common stink bug.

Stink bugs feed on plant fluids by inserting their needle-like mouthparts into stems, leaves or seed pods. While feeding, they inject materials into the plant to aid in digestion and sap removal. They feed on a wide variety of cultivated crops, weeds and wild plants.

Good web site:

http://ipm.ncsu.edu/AG271/soybeans/stink_bugs.html



Fireflies

Nothing says summer more than the sight of fireflies. We've started to see adult fireflies or lightning bugs flying around the yard at night. They are medium-sized beetles with light producing organs on their abdomens. Unlike some other insects that are glowing continuously, fireflies flash their lights on and off periodically. There are many species, each with a different flashing rhythm. Flashing is apparently a recognition signal so the insects can find each other to mate. Fireflies are inactive during the day. The adults lay eggs on the ground. When the larvae hatch, they live on the ground, under bark and in moist, swampy places, eating small insects and snails. Not only are the larvae beneficial as predators on insect pests, but the adults are just a hoot to watch and just as much fun to catch.

A fun web site:

<http://www.dnr.state.wi.us/org/caer/ce/eeek/critter/insect/firefly.htm>

Cedar apple rust



Big, bright orange spots have developed on the leaves of wild sweet crabapple (*Malus coronaria*). As with the cedar-quince rust seen in previous weeks, these spots swell, spore producing structures called aecia form on the lower leaf surface, and aeciospores (fungal spores) are released. The aeciospores infect nearby junipers later in the season causing roundish galls to form on the twigs the following spring. Cedar apple rust is primarily a disease of apple and crabapple. See PHC report of May 3 – 9 (2008.04) for information about the rust on juniper hosts.

Good web site:

<http://ohioline.osu.edu/hyg-fact/3000/3024.html>

Black spot on rose

We have spotted the beginning of black spot of rose on rugosa rose (*Rosa rugosa*). Black spot is caused by the fungus *Diplocarpon rosae*. Round to irregular black leaf spots with fringed margins appear on either leaf surface but primarily on the upper surface. When infection is severe, the entire leaf will turn yellow and drop. Repeated defoliation will lead to reduction in flower quality and quantity, stunting and weakening of the plant, and increased susceptibility to other diseases.

The fungus overwinters on fallen leaves and diseased canes. Spores are splashed by water or wind-blown rain from fallen leaves and cane lesions to newly emerging leaves and succulent stems in the spring. Warm temperatures, combined with wet leaves and high humidity, result in abundant spore germination and infection in about one day. Black spots become evident 3 to 16 days later.



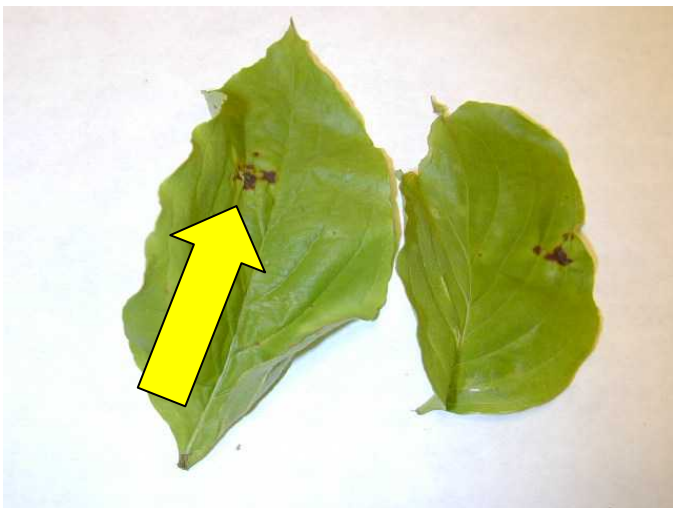
Control: Remove infected leaves and canes to reduce inoculum. Plant roses in sunny locations with good air circulation and avoid overhead watering. Avoid planting them too densely. Fungicides should be applied as soon as leaves emerge and continued, at labeled intervals, until leaves drop in the fall. Lengthen spray intervals or skip applications during dry weather. For specific chemical recommendations, refer to the CPM or HYG. Plant resistant varieties. The Ohio State University has listed many varieties of roses, including hybrid teas, floribundas, and miniatures that are reported to be resistant. See <http://www.ag.ohio-state.edu/~ohioline/hyg-fact/3000/3072.html>.

Good web site:

<http://www.ag.uiuc.edu/~vista/abstracts/a610.html>

<http://www.ianrpubs.unl.edu/eublic/live/g1060/build/g1060.pdf>

Spot anthracnose



Small tan leaf spots with reddish-purple borders have been found on flowering dogwood (*Cornus florida*). The causal agent of spot anthracnose is the fungus (*Elsinoe corni*). Flower bracts are usually attacked first, followed by young leaves. Infection occurs during wet, spring weather. Individual spots eventually coalesce to form larger spots and the centers may drop out. When infection is severe, flower bracts and leaves become wrinkled and distorted but otherwise there is not a major impact on the tree vigor.

Control: This fungus survives from year to year on fallen leaves. Collect and discard leaves from around the base of infected trees. Also, as we repeatedly recommend, plant resistant varieties.

Good web sites:

<http://www.ext.vt.edu/pubs/plantdiseases/450-611/450-611.html>

Sightings elsewhere

Chris Yooning from the Chicago Botanical Garden reports that they are seeing mealy bugs on hawthorns, sawflies on *Cephalanthus* and *Lysimachia* (which we will be talking more about in an upcoming issue) and leaf spots on Zinnias.

Rose midge

Rose midges, which can be destructive pests, have been found on roses (*Rosa* sp.) at the Chicago botanical Garden. Adult females lay tiny yellow eggs on new growth, under the sepals of flowers buds in leaf buds or in shoots. After the eggs hatch into small white larvae, 1/12 inch long, they create deep gouges in plant tissue and feed on sap. There may be many midges in a bud. They usually feed at the base of flower buds or on the upper leaf surface and leaf petioles. Their feeding causes buds to become deformed and blackened. Eventually new shoots are killed and the larvae create a hole in the bud to emerge and fall to the ground to pupate, which is the overwintering stage. The adults emerge in late spring, living for only a day or two.



Control: Remove and destroy infested plant parts. If necessary, acephate (Orthene), and malathion can be used, according to the University of Illinois. For more chemical recommendations, refer to the HYG.

Good web site:

http://oregonstate.edu/dept/nurspest/rose_midge.htm



Thrips

The Chicago botanical garden has reported thrips on roses (*Rosa* sp.). There are numerous species of thrips that attack a wide spectra of ornamental plants. These insects feed by rasping soft plant tissue and sucking the juices of leaves and flowers. Feeding injury appears as leaf distortion, coarse stippling on the leaf surface, and slight necrosis of petals and petal browning.

Adult thrips are tiny black-to-pale-yellow insects about 1/8 inches long with fringed wings. They are spread long distances by floating with the wind or being transported on infested plants. Healthy woody plants in the landscape normally outgrow thrips damage.

Control: Though damage is often minor, control is warranted since thrips are notorious disease vectors. The western flower thrip (*Frankliniella occidentalis*) wreaks havoc in greenhouses by spreading tomato spotted wilt disease to many ornamental plants. Here are a few cultural tips for controlling your thrips:

- Remove weeds in plant beds.
- Keep plants well watered during periods of drought.
- Clean up the debris from plant beds and dispose of old, spent flowers.
- Avoid excessive applications of nitrogen fertilizer.

- Avoid shearing plants as this stimulates new growth that is susceptible to attack.

The above cultural practices will help manage but not eliminate thrips. If your problem is severe, chemical controls can be used. Apply insecticidal sprays when thrips are numerous. Blue sticky cards are useful to assess thrip population levels. For specific chemical recommendations, refer to the CPM or HYG.

Good web site:

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7429.html>

What to Look for Next Week

Next week we will be looking for basswood lacebug, kermes scale and cottony maple scale.

Quote of the week: "Just living is not enough," said the butterfly. "One must have sunshine, freedom, and a little flower."
- Hans Christian Andersen



The Plant Health Care Report is prepared by Trica Barron, Plant Health Care Technician, and edited by Donna Danielson, Plant Clinic Assistant; Fredric Miller, PhD, research entomologist at The Morton Arboretum and professor at Joliet Junior College; Doris Taylor, Plant Information Specialist, and by Carol Belshaw, Plant Clinic volunteer. The information presented is believed to be accurate, but the authors provide no guarantee and will not be held liable for consequences of actions taken based on the information.

The *2007 Commercial Landscape & Turfgrass Pest Management Handbook* (CPM), for commercial applicators, and the *Home, Yard & Garden Pest Guide* (HYG) for homeowners from the University of Illinois, are available by calling (800-345-6087). You may also purchase them online at <https://pubsplus.uiuc.edu/ICLT-07.html> (commercial handbook) and <https://pubsplus.uiuc.edu/C1391.html> (homeowners' guide). One further source is your local county extension office.

This report is available on-line at The Morton Arboretum website at <http://www.mortonarboretumphc.org/>.

For pest and disease questions, please contact the Plant Clinic at (630) 719-2424 between 10:00 and 4:00 Mondays through Saturdays or email plantclinic@mortonarb.org. Inquiries or comments about the PHC reports should be directed to Trica Barron at tbarron@mortonarb.org.