



**TPM/IPM Weekly Report for Arborists,  
Landscape Managers & Nursery Managers  
University of Maryland Cooperative Extension  
Central Maryland Research and Education Center**

**March 24, 2006**

**Regular Contributors:**

**Pest and Beneficial Insect Information:** Stanton Gill and Paula Shrewsbury

**Disease Information:** Ethel Dutky, David Clement, and Rich Anacker (MDA)

**Weed of the Week:** Chuck Schuster

**Cultural Information:** Ginny Rosenkranz

**Fertility Management:** Andrew Ristvey

Visit our IPM web site at <http://www.agnr.umd.edu/ipmnet> to find out about upcoming conferences and seminars. For an information portal for the nursery, greenhouse and landscape industries in Maryland go to Nursery Web at <http://www.nursery.umd.edu/>.

**We are back and fully funded thanks to financial support from LCA, MAA, MNLA, FALCAN, and PGMS. We need you – please let us know if you are finding insect, disease, weed, or cultural plant problems. Your input will help us keep this weekly report on the leading edge. Call us at 301-596-9413.**

**Weather**

It has been a wild winter. November was warm with foliage retaining on trees until mid-November. John Akehurst sent us this picture of a callery pear blooming in early November 2005. December was very cold followed by one of the warmest Januarys we have seen in a decade. February was up and down with cold, snow and warming trends. More warm weather arrived in early March and peaked on March 13<sup>th</sup> when temperatures reach 82 °F. It felt like summer had arrived early. Early daffodils and crocuses were in bloom even up in the Frederick area. Some early flowering Cherry trees and deciduous magnolias started to open their blooms. Weeds in bloom include veronica, chickweed, henbit and some dandelions.



The cold winds came on March 14<sup>th</sup> and 15<sup>th</sup> with temperatures dropping again. Has this been tough on plants? Probably! We have had samples of container grown azaleas with slitting bark which is to be expected with periods of fluctuating temperatures. Call us or send an e-mail to [sklick@umd.edu](mailto:sklick@umd.edu) if you are seeing what you suspect is winter injury.

**Now we are experiencing a major spring drought.** At this point rainfall is 3 inches below normal. The ground is powder dry. Nursery managers who don't have drip irrigation and are

*Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, Professional Grounds Maintenance Society, Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible.*

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.

planting trees are finding out how important it is to have drip irrigation. For the last 3 years we had plenty of rain in March and drip irrigation was less important. If you have drip irrigation, pat yourself on the back.

### Eastern Tent Caterpillars

Mike Raupp spotted Eastern Tent Caterpillar eggs beginning to hatch on March 19<sup>th</sup> in College Park.

**Monitoring:** Visually search for hatched egg masses, small caterpillars crawling along branches, and webbing / tents beginning to be formed in the crotches of branches.

**Damage:** These caterpillars will cause defoliation and their tents are unsightly.

**Control:** If controls are needed, treat with a *Bacillus thuringiensis* var. kurstaki product (early instars only), Confirm, or Conserve. Physically destroying or pruning out tents will also reduce populations.

### Ambrosia Beetles

We placed traps baited with ethyl alcohol to attract beetles at Sun Nursery and at the Central Maryland Research and Education Center on March 6, 2006.



Ambrosia beetle damage on pyracantha on March 10, 2006



Modified Japanese Beetle trap used for trapping ambrosia beetles. Ethyl alcohol is placed in film canister with wick. Beetles are collected in the outer container.

Bill Ramsey at Sun Nursery reported finding adult beetles in his trap on March 10<sup>th</sup>. On March 12<sup>th</sup> we had several ambrosia beetles in our trap in Ellicott City. The temperatures reached 82 °F on March 13<sup>th</sup> and there was a spike in adult ambrosia beetles found in the traps. The cold weather that blew in on March 14<sup>th</sup> caused the adult counts to drop off to zero. We have not seen ambrosia beetle activity since March 13<sup>th</sup>. Don't worry, with the next warm front there should be lots of activity. You need to apply protectant sprays beforehand. Since most ambrosia beetles

*Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, Professional Grounds Maintenance Society, Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible.* 2

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.

overwinter as adults, degree days have little value for predicting emergence time because there is no temperature dependent larval period prior to the first spring flight.

We examined the ambrosia beetles from Sun and from CMREC and all of them were *Zyleborinus saxeseni*. This is an exotic ambrosia beetle that is very common in this area. We will let you know if we start catching *Xylosandrus germanicus*, which is the ambrosia beetle of most concern here in Maryland. Tree ambrosia beetles commonly attack *Styrax*, Kwanzan cherry, golden raintree, dogwood, holly, weeping willow and sugar maples.

**Control:** It is important to treat trees before ambrosia beetles close the galleries with frass. If trees are found with large amounts of frass being pushed out then it is usually too late to apply an insecticide. (Source – Evaluation of Insecticides to Control the Asian Ambrosia beetle, *Xylosandrus crassiusculus* – R. F. Mizell, et.al., SNA Research conference – Vol. 49, 2004.) In the landscape trees can be treated with permethrin (Astro). In the nursery treat with bifenthrin (Onyx).

### ***Pryeria sinica* (Leaf-notching euonymus caterpillar)**

In mid-March of 2005, we reported that an invasive species, *Pryeria sinica* which feeds on *Euonymus*, was found in Fairfax, Virginia and Anne Arundel County, Maryland. This leaf notching euonymus caterpillar feeds on *Euonymus japonicus*, *E. kiautschovicus* and *E. alatus*. This caterpillar is native to Eastern Russia, China, Japan, Korea and Taiwan. Eggs are laid by the adult moths on the twigs of euonymus branches. The adult moths are day fliers and look like wasps. The adults have clear wings and the body of the moth has black and yellow scales. When the females first lay the egg mass it is white colored, but as it passes through the winter it turns a tan-brown color. Early instar caterpillars are tan in color and feed in clusters. As the larvae grow larger they will become greenish-white with dark longitudinal stripes running the length of the body.

**Monitoring:** Look for marginal notches and coarsely shredded leaves. In large numbers, these caterpillars can defoliate large areas of shrubs.

**Control:** Prune sections of plant with eggs or larvae if possible early in spring. Use *Bacillus thuringiensis* var. *kurstaki* to control early instar caterpillars.



Early instar larvae – tan coloring



Later instar larvae – greenish-white with longitudinal stripes

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, Professional Grounds Maintenance Society, Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. 3

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.

## Hemlock Woolly Adelgid

Hemlock woolly adelgid, *Adelges tsugae*, was accidentally introduced into the United States and is native to Japan and China. When it showed up on the east coast it decimated the hemlock trees. The female adelgids are producing white wax in March and laying eggs. We should see eggs hatching in April. Examine hemlocks in your area and look for the white wax as shown in photo. Please let us know when you find crawlers in your areas.



**Monitoring:** Examine the bases of hemlock needles in winter looking for the black, oval shaped females. Look for white wax produced by females in April and May and again in October.

**Biological Control:** Two ladybugs, *Scymnus ningshanensis* and *Pseudoscyrmus tsugae*, have been introduced and feed on hemlock woolly adelgid. A derodontid beetle, *Laricobius nigrinus*, has also been introduced to control this pest.

**Chemical Control:** Small trees can have applications of horticultural oil or insecticidal soap applied to the foliage. Larger trees should have soil injections or a drench of a neonicotinoid such as imidacloprid (Merit) or dinofenuron (Safari).

Susan Bentz of USDA National Arboretum **is looking for infestations of hemlock adelgid**. They have a breeding program to develop woolly adelgid resistant hemlock plants and need to challenge the plants this season. If you have a site with several infested plants please contact Susan Bentz at [Sbentz@ars-grin.gov](mailto:Sbentz@ars-grin.gov).

## Douglas Fir – Browning needles

We received a sample of Douglas fir with browning needles this winter. David Clement examined the sample under a dissecting scope and found fruiting bodies (pseudothecial) from the fungus

*Phaeocryptopus gaeumannii*, commonly called Swiss needle cast. The problem with this disease is that needles turn yellow-green to mottled brown after the foliage is infected. Defoliation begins with the oldest needles and the damaged foliage will drop, usually in the spring. This disease shows up after wet periods in late spring to early summer in conditions such as were present in the spring and early summer of 2004 and 2005.



**Control:** Damaged foliage will drop off the tree. New foliage can be protected with applications of protectant fungicides when new needles are opening in late spring to early summer.

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, Professional Grounds Maintenance Society, Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible.

4

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.

## Cytospora Canker on Spruce

**Rich Anacker, Maryland Department of Agriculture**

I have been seeing a lot of cytospora canker (esp. on Norway spruce, *Picea abies*) in the landscape over the past couple of weeks. This disease is most likely a result of drought stress from last summer (or other plant stresses). The disease progresses very rapidly and severe browning and loss of needles can occur within a few weeks. Symptoms include browning and loss of both previous and current season needles. The disease progresses from lower branches upward. Cankers are formed on branches and main stems. Resin oozes from the cankers and down the trunk.

**Control:** There are no major control strategies for this disease once it is noticed in the landscape. Most of the control strategies involve minimizing plant stress (e.g. watering during dry periods, improving compacted soils, protecting trees from insect damage, etc.). There are no practical fungicidal controls for this disease and severely infected trees should be removed to prevent spread to healthy ones. For further information on this disease visit the following website: <http://ohioline.osu.edu/hyg-fact/3000/3033.html>



Dying trees in the landscape  
Photo by Rich Anacker



Cytospora canker on spruce showing oozing resin  
Photo by Rich Anacker

## Pine Wood nematodes

This winter we ran into several species of pine (Scots pine, Japanese white pine, and Japanese umbrella pine) infested with pine wood nematode (*Bursaphelenchus xylophilis*). We have not seen damage from these nematodes for years and were surprised to find such a large population killing such a wide range of pines. Searching the literature we found that this nematode has been reported killing Atlas cedar, Austrian pine, Deodar cedar, Japanese black pine, Japanese red pine, mugo pine, Scots pine, and table mountain pine. How do your pines look? Are you seeing rapid dieback of the plant?

The pine wood nematode is native to the United States and wasn't much of a problem on native pines. Back in 1979 *Bursaphelenchus* nematodes were found in dying pines in Missouri. This nematode was entering wounds on non-native conifers. The wounds they entered through were made by a longhorned beetle, called *Monochamus titillator*, commonly called the sawyer beetle. The sawyer beetle has a weird habit of making a loud chewing noise when they feed during the summer. The nematodes are found within the body of the sawyer beetle and when they damage the pine through their feeding the nematodes exit the mouth of the beetle and start feeding within the wood of the pine. If a female sawyer beetle lays its eggs into the pine then the nematodes also

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, Professional Grounds Maintenance Society, Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. 5

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.

enter when the egg is deposited. The larvae of the sawyer beetle are long and white without noticeable legs and feed in the heartwood of the pine. The damage from the larvae is not that significant but the introduction of the nematodes is deadly to the infested pine.

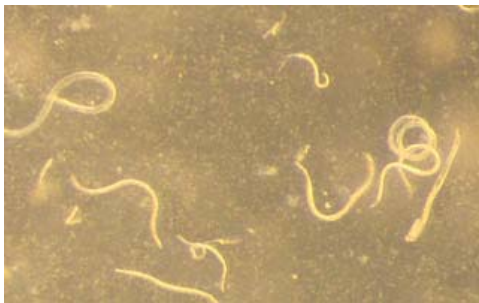
**Control:** Control involves quickly removing diseased trees. The wood from the tree should be ground up into ½” chips. The chipping kills the beetle larvae so they don’t have a chance to pupate and emerge as adults in May and June and spread more nematodes to other pines. If you have pines you suspect may be showing damage caused by the pine wood nematode you can call our office and find out how to submit a suitable sample for testing. We need fresh samples that have not been allowed to dry out.



Scots pine dying due to pine wood nematode



Close-up of damage from nematodes



Nematodes from scots pine sample. Viable nematodes are s-shaped and moving. A dead nematode will be straight and stiff as a board.



Sawyer beetle adult

Photo by Gerald J. Lenhard  
[www.forestryimages.org](http://www.forestryimages.org)

### **Can Termites Hitchhike North in Mulch or Wood from Gulf Coast Hurricane Debris?**

**Barbara L. Thorne, Professor, Department of Entomology, University of Maryland**

The risk of the Formosan subterranean termite, (*Coptotermes formosanus*), moving to Maryland and other states via mulch produced from Katrina and Rita debris has been a lively topic of discussion. The state of Louisiana imposed a quarantine in early October that prohibits movement of wood products and debris in order to prevent the spread of the Formosan termite, but people are understandably concerned because it is impossible to enforce this type of quarantine despite the best of intentions.

Regarding mulch, termites do not have a very long half-life in a shredder, so fresh mulch is not a problem. Mulch that sits in one place for a period of weeks or months could become infested

*Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, Professional Grounds Maintenance Society, Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible.*

6

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.

from termites underground, but based on reports from New Orleans and the gulf coast, wood is being chipped and then moved out fairly quickly to make room for more. Once mulch is bagged and stored at a distributor's or at the destination property, termites residing in the soil may pierce the plastic bags and colonize the warm, moist wood chips within. It is not uncommon to find termites within bags of mulch, especially bags lying directly on the ground, but that scenario has been going on for decades and involves local termites. A key thing to remember when mulching is to make the application as thin as possible, especially near a structure. Mulch creates a hospitable, warm, moist environment for termites to travel in or under, so to reduce the risk of structural infestation it is best to keep mulch away from buildings.

The higher risk for termite hitchhiking north from the hurricane zone is movement of construction debris, tree stumps, logs, etc. that might be infested with termites. Intact wood could readily transport termites. Movement of infested rail road ties has long been pegged as the primary mode of spread of the Formosan termite within the U.S.

### **Beneficial of the Week by Paula Shrewsbury**

**That piece of lichen on the tree bark is moving! It's not lichen – it's a brown lacewing in disguise!**



Top view of brown lacewing larva



Side view of brown lacewing larva

If you look closely at the photos you will see that these “pieces of lichen” have legs and a most impressive pair of sickle-shaped jaws that it uses to pierce and suck the fluid from the body of its prey. What you are looking at is a predacious brown lacewing larva. Some species of brown lacewing larvae cover themselves with the skins of their victims and other debris, and hence sometimes referred to as trash bugs. This behavior provides excellent camouflage and helps protect the lacewing larva from predators of its own. Most brown lacewings are in the genus *Hemerobius* (Neuroptera: Hemerobiidae) and are related to the more commonly observed as green lacewings. Many brown lacewing species are found in arboreal habitats on deciduous trees and conifers. There are 58 species known in North America. The adult brown lacewing, less than 8mm (< 1/2”) in length, is light brown in color with dozens of veins running through its wings. Larvae are alligator-like in shape and their sickle-shaped mandibles are smaller than those of green lacewings. The life cycle includes the egg (laid singly and not on stalks as with the green lacewing), 3 larval instars, and a pupal and adult stage. For some species of brown lacewing there is no diapause or overwintering stage. This seems to be the case for the brown

*Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, Professional Grounds Maintenance Society, Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible.*

7

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.

lacewing you see here. This same lacewing species was spotted back in the late fall and the lacewing in the photo was captured a few weeks ago on the bark of a crabapple tree in my front yard. Both the adults and larvae are voracious predators of many soft bodied insects such as aphids, adelgids, or scales. Adults are long lived and have a high reproductive capacity. These characteristics suggest brown lacewings have a great potential as biological control agents. My captured or “pet” larva readily consumed the settled nymphs of oak lecanium scale that were fed to it. Brown lacewings are not commercially available as is its relative the green lacewing and therefore should be conserved in our landscapes and nurseries. It may be that brown lacewings are more common than we thought – now that we know what to look for on the bark of our trees.

### What is in bloom?

<b>Plant</b>	<b>Plant Stage</b> (Bud with color, first bloom, full bloom, first leaf)	<b>Location</b>
<i>Chaenomeles japonica</i> (Japanese flowering quince)	Full bloom (March 15)	Salisbury
<i>Chimonanthus praecox</i>	Full bloom (March 6)	Baltimore Area
<i>Forsythia</i>	First bloom (March 6) Full bloom (March 15)	Baltimore Area Salisbury
<i>Hamamelis x intermedia</i> 'Diane'	Full bloom (March 2)	Ellicott City
<i>Helleborus</i> 'Phedar Strain'	First bloom (March 6) First bloom (March 2)	Baltimore Area Ellicott City
<i>Jasminum nudiflorum</i>	First bloom (March 6)	Baltimore Area
<i>Lonicera fragrantissima</i>	Full bloom (March 6)	Baltimore Area
<i>Magnolia stellata</i>	First bloom (March 13)	Columbia
<i>Pyrus calleryana</i>	First bloom (March 15) First bud (March 15) Full bloom (March 15)	College Park, Laurel, Burtonsville Wheaton, Columbia Salisbury
<i>Salix sp.</i> (Pussy willow)	Full bloom (March 15)	Salisbury
<i>Salix sp.</i> (Weeping willow)	First leaf (March 15)	Salisbury
<i>Spirea prunifolia</i> (Bridalwreath spirea)	First leaf (March 22)	Columbia

### Degree Day Information (as of March 23, 2006):

Baltimore, MD (BWI)	59
Hagerstown, MD	32
Mechanicsville, MD	69
National Arboretum	68
Salisbury	65

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, Professional Grounds Maintenance Society, Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible.

8

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.