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

April 21, 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

We need you – please call in if you are finding insect, disease, weed cultural plant problems. Your input will help us keep this weekly report up on the leading edge. Send submissions to Sklick@umd.edu or Call Stanton Gill at 301-596-9413. Thanks! We look forward to hearing from you.

Ambrosia Beetles

Marty Adams with Bartlett Tree Experts reports finding adult ambrosia beetles on *Cornus alternifolia* on April 18th in Westminster. We did not see samples to determine the genus of these ambrosia beetles.
Monitoring: Look for small holes in the trunks of trees. Often frass will be expelled in long threads as adults cut into the heartwood.
Control: In the landscape, applications of Astro. In nurseries, Onyx can be applied. These applications prevent borers from entering the wood. If you can still see the rear end of the adult, often pyrethroid sprays will get them to back out of their hole.

Gypsy Moths

Mike Raupp reported that gypsy moths have hatched and are actively feeding in College Park.
Control: Bt, Conserve, and Dimilin.

Eastern tent caterpillar

The caterpillars are slower to get going in 2006. In the Olney area we observed them just starting to build the silk nests in the crotch of branches of crabapples and the webbing was still only about 6 “tall and 3” wide. Tony Murdock found tents in Adamstown on April 16th on black cherries lining the road in the area. Colin Stewart is also finding active Eastern tent caterpillar larvae (1"-1.5" long) at Lake Artemesia (College Park) on April 15th.
Control: Pull down the webbing and destroy the caterpillars inside. This is best done in the morning when the caterpillars are still in the web.

Cankerworms

Mike Raupp found cankerworms this week in College Park.
Monitoring: Look for “shothole” feeding damage on foliage. Shake branches and watch for small green or tan caterpillars silking from branches.
Control: If damage is heavy, treat foliage with Confirm or Conserve.

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Borers or Not?

We visited a site last Friday with Chapel Valley Landscape Company that had a row planting of sugar maples. Each of the trees had a large number of holes on the trunk. This is damage from the migratory sapsucker which is a bird that spends the winter in the south. Back in 2005 we had lots of activity from sapsuckers on several species of plants. Last year we also posted a picture of sapsucker damage on rhododendron. I examined a Burford Holly in the Brookeville area and found whole branches dying back from the heavy damage inflicted by sapsuckers in 2005. There is not much that can be done about these birds unless you can jerry rig some sort of netting to protect the trunk of susceptible trees. The problem is that you don't know which trees they will pick in 2006.

Sapsucker damage on Bradford pear

Sapsucker damage close-up on sugar maple

Sapsucker damage on Burford holly

Pine Sawfly

Stephen Peck with Wood Acres Tree Specialists found pine sawfly larvae on mugo pine in Potomac while inspecting a client's property last week. We also received a white pine sample with sawfly cocoons along the stems. The cocoon on the right shows where a viable sawfly emerged through the wide opening. The cocoon on the left has been parasitized by a wasp as evidenced by the small emergence hole.

Green June Beetle Grubs

We are receiving samples of the larvae of green June beetle. The grubs are being found in landscape beds. One garden center found several grubs in compost they were selling last week.
Control: Not worthwhile at this time of year.

Boxwood Leafminer

Joanne Lutz found boxwood leafminer adults while visiting Williamsburg Virginia last weekend. Here at the research center in Ellicott City, we do not see the adults yet.
Monitoring: Adults are yellowed bodied and usually hover in mass over boxwoods.
Control: Soil applications of imidacloprid (Merit – in landscape, Marathon as soil drench)

Boxwood Psyllid

We are seeing psyllid nymphs on the boxwoods in Ellicott City.
Monitoring: Look for white wax on leaves and stems
Control: Systemic insecticides work well on boxwood psyllid.

Cupped leaves with boxwood psyllids underneath the foliage

Boxwood psyllids found under cupped foliage

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Boxwood mite
We are finding immature and adult stages of boxwood mite at CMREC (Ellicott City) this week.
Monitoring: Examine the undersides of foliage for mites
Control: Avid, Floramite, Akari, Hexygon (for immatures only)

Juniper Webworm
John McLeod with The Brickman Group found juniper webworm feeding on juniper in Arlington, Virginia on April 14th.
Monitoring: Examine foliage for caterpillars
Control: Bt or Conserve

Photo by Connecticut Agricultural Experiment Station Archives Forestryimages.org

Photo by John McLeod

Hemlock Woolly Adelgid
Tony Murdock found adults of hemlock woolly adelgid in Myersville on April 13th.
Plants damaged: *Tsuga* spp. (Eastern and Carolina hemlock)
Damage: The insect extract plant juices from the phloem tissues that weaken plant, causing yellowing of needles and decline and death of the tree.
Description and life cycle: Hemlock wooly adelgid is a cool weather insect that completes most of its development from October through June. Mature females overwinter at the base of hemlock needles and are flat, oval and black in color. Mature females produce copious amounts of bright white wax in April and May that is very noticeable. Eggs hatch and the first instars are mobile and will seek out a new feeding site on the hemlock. The first instars settle at the base of needles and feed. There are four nymphal instars. A second generation can occur in October with females producing white wax in October.
Monitoring: Examine the base of needles of hemlocks in winter looking for the black, oval shaped females. Look for white wax produced by females in April and May and again in October.

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Biological Control: Two ladybugs, *Scymnus ningshanensis* and *Pseudoscymnus tsugae*, have been introduced and feed on hemlock wooly 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 tree should have soil injections or drench of a neonicotinoid such as imidacloprid (Merit) or dinoferuon (Safari).

Cedar Quince Rust
Marty Adams brought in a sample of blue juniper that was identified by David Clement as cedar quince rust cankers found on April 14th in Elkridge.

***Gymnosporangium* rusts.** These are the familiar "Cedar-Apple Rust" and Quince Rust". These fungi infect two different kinds of plants (*Juniperus* spp. and many pome fruit trees and shrubs) to complete their life cycle. Now is the time that the fungal stage on the Eastern Red Cedar (*Juniperus virginiana*) is producing the spores that will be carried by wind to infect foliage and fruit on the pomaceous hosts. Cedar-Apple rust (*G. juniperi-virginiana*) makes leaf galls on the juniper that resemble small golf balls. Now these leaf galls are extruding orange gelatinous tendrils, making them look like small space monsters! Basidiospores produced on the gelatinous tendrils are carried on wind to infect apples, crabapples and some other pomaceous plants. Hawthorn rust (*G. globosum*) also makes leaf galls, smaller than the previous ones. Quince rust (*G. clavipes*) produces slightly swollen twig and trunk cankers on the juniper. Most of the year these are so inconspicuous, they go unnoticed. But now, these cankers are swollen and colorful, with a red-orange velvety masses protruding from cracks in the bark. Spores from these cankers infect hawthorn and *Amelanchier* twigs and fruit.

Beneficial of the Week

The predacious babies have arrived!
If you recall in the March 31st weekly report we featured egg masses of assassin bugs, and many of you then spotted these predator egg masses in your nurseries and landscapes. Well – those eggs hatched this past week and colorful nymphs are now dispersing out onto your plants! The newly hatched nymphs are a bright yellow color and within a few hours they turn their more characteristic color of black with bright red abdomens. Assassin bugs are generalist predators that feed on a range of herbivorous insects. There are several species of assassin bugs that are common in ornamental systems. The bug shown below is known as a wheel bug, *Arilus cristatus*. You can see where it gets its name when you look at the adult stage. The nymphs will feed on the smorgasbord of caterpillars (gypsy moth, eastern tent caterpillars, forest tent caterpillars, and cankerworms), along with other plant feeding insects that are active at this time, and grow up to be "wheel bugs" that will eat even more insects. These predators can have a significant impact, as nymphs and adults, on many of the plant feeding insects on your ornamental plants. Be careful if you handle these predators – they will defend themselves (or

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maybe they are just hungry) and their long "beaks" can result in a painful bite. For more information on wheel bugs go to:
http://www.raupplab.umd.edu/bugweek/archive/BugOfWeek_31.html

Colorful assassin bug nymphs that have just emerged from their overwintering egg stage.

An adult wheel bug, *Arilus cristatus*, a species of assassin bug.

Metallic Green Tiger Beetles

Coling Stewart, USDA-APHIS, is seeing a lot of six spotted metallic green tiger beetles, *Cicindela sexguttata*, in the woods around Lake Artemesia in College Park. They are also being seen at Centennial Park in Columbia and at the research center in Ellicott City. Tiger beetles are commonly seen in sunny patches of trails and walkways near wooded areas. As you near these beetles along a path you will see them quickly alight and fly about 10 – 20'. They are one of the most beautiful insects, but are deadly if you are a small insect on the ground. These beetles are generalist predators and feed on arthropods such as ants, flies, beetles, or spiders. Although very interesting predators, they are likely not having much of an impact on the insects feeding on the foliage of your ornamental plants. To learn more about the green tiger beetle, visit:
http://www.raupplab.umd.edu/bugweek/archive/BugOfWeek_19.html

Adult six spotted metallic green tiger beetle, *Cicindela sexguttata*, a generalist predator.

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Weed of the Week

The next installment of the *thistle review* brings us Tall Thistle: *Cirsium altissimum.* This biennial weed has pink flowers, hairy stems and densely hairy leaves on the underside (these will be white). Tall thistle gets it name from its tall growing height, up to 9.5 feet. Flowers will be found in this region from mid July through the end of September. The leaf margin is entire with some spines. The leaves are usually attached directly to the stem without a petiole and may be up to 12 inches long and 4 inches wide.

Tall thistle has a taproot, and flower heads that are single on tall flower stems. The flower will have a bulbous like base below the flower and can be distinguished from Canada thistle as it has entire leaf margins with spines, and white pubescence on the leaf underside (tomentose).

Control can be accomplished by using many broadleaf post emergent herbicides. In turf areas 2,4-D with chlorsulfuron, clopyralid and dicamba are effective. In beds and nursery rows apply a 2% solution of glyphosate (e.g., Roundup) or triclopyr (e.g., Garlon) and water wetting all leaves and stems. Fall application after repeated mowing gives the best control. Cultural controls would include fertility management, maintaining a dense turf, but being mindful of nitrogen applications, as excess nitrogen will increase weed growth. A high mowing height to allow shading of newly germinating seeds is an effective management tool in turf. If new seedlings are found in fresh mulch, spring herbicide treatments can provide fair to good control. Once established fall control is best.

Eastern Shore Update:

This week the weather has continued to be very dry with 70 days without rainfall over a ½ inch. The Eastern Shore usually has about 14 inches of rain from January to this time in April, but we have only had about 5.78 inches of rain in Salisbury. At present we are down 59.4%. A light rain this week gave Salisbury .4 inches – not enough to remove the drought.

Despite the dry and very windy weather, the spring plants continue to bloom! Local boxwoods and *Camellia japonica* are in full bloom. The mild spring has not frosted off any of the flowers! *Cornus florida*, the red and white dogwoods, are now in full bloom. Many of the hollies are also in bloom including 'Nellie R Stevens'. *Leucothos fontanesiana* is also in bloom. The tiny flowers of the northern bayberry are fragrant, and the new foliage on the photinia is bright red. Late varieties of Tulip Magnolia (*Magnolia soulangiana*) are still in spectacular bloom. Crabapples are in full bloom depending on varieties; some are going past bloom. Some of the loblolly pines have their candles expanding and the *Quercus palustris* (Pin oak) is in full pollen. The PJM Rhododendron is in full bloom and some of the other earlier azaleas are starting to bloom. *Salix babylonica* (Weeping willow) is in leaf. *Spiraea albiflora* (Japanese white spirea) is still in bloom. *Vibunrum davidii* and *V. farreri* (Fragrant Viburnum) is now in bloom and perfuming the air! The Flowering Almond shrub is also now in bloom. *Syringa vulgarus* (Lilac) is also perfuming the air

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What is in bloom?

Plant	Plant Stage (Bud with color, first bloom, full bloom, first leaf)	Location
Fothergilla gardenia Dwarf Fothergilla	Full bloom (April 18)	Salisbury
Wisteria floribunda (Japanese Wisteria)	Full bloom (April 18)	Salisbury
Cercis Canadensis (Eastern Redbud) and *Cercis chinensis* 'Don Egolf'	Full bloom (April 18)	Salisbury
Amelanchier Canadensis (Shadblow serviceberry)	Full bloom (April 18)	Salisbury
Amelanchier nantucketensis	First bloom (April 18)	Westminster
Enkianthus perulatus 'JL Pennock'	Full bloom (April 18)	Westminster
Staphylea colchia (Colchis bladdernut)	Full bloom (April 18)	Westminster
Lonicera sempervirens 'Blanche Sandman'	First bloom (April 18)	Westminster
Enkianthus campanulatus 'Red Bells'	First bloom (April 18)	Westminster
Halesia monticola	First bloom (April 18)	Westminster
Lonicera perichlymenum 'Serotina'	First bud (April 18)	Westminster
Phlox stolonifera 'Home Fires'	First bloom (April 18)	Westminster
Paxistima candbyii (Goatsbeard)	Full bloom (April 18)	Westminster
Maianthenum candadense (Wild lily of the valley)	First bud (April 18)	Westminster
Gaylussacia brachycera (Box huckleberry)	Full bloom (April 18)	Westminster
Prunus serrulata (Kwanzan Cherry)	Full bloom (April 18)	Salisbury

Degree Day Information (as of April 20, 2006):

Baltimore, MD (BWI)	225
Hagerstown, MD	177
Mechanicsville, MD	231
National Arboretum	270
Salisbury	174

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