

Commercial Horticulture

April 13, 2018

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IPMnet
Integrated Pest
Management for
Commercial Horticulture
extension.umd.edu/ipm

If you work for a commercial horticultural business in the area, you can report insect, disease, weed or cultural plant problems found in the landscape or nursery to sklick@umd.edu

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Disease Information: Karen Rane (Plant Pathologist), David Clement (Extension Specialist), and Joe Roberts (Plant Pathologist for Turf)

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Ambrosia Beetle Update

By: Stanton Gill

On Tuesday, we sent out an alert on the ambrosia beetle situation. I checked the baited alcohol traps here at CMREC on Thursday afternoon and nothing was present yet. They may start activity on Friday or Saturday as it really warms up.

I spoke with Frank Hale, an entomologist at the University of Tennessee on Wednesday. They are having warm periods followed with cold periods similar to our weather pattern. Their plant material is ahead of our bloom time by

about 10 - 14 days. Yoshino cherry finished blooming a week ago in the south and redbuds have dropped all of their blooms at this point. Kwanzan cherry is in full bloom in Tennessee this week. Frank said they caught *Xylosandrus crassiusculus* about 8 days ago in alcohol traps and had just start picking up *Xylosandrus germanus* last week. The catches are light so far in his state. He mentioned another cold front was blowing in on Monday, same for Maryland. This weather appears to be impacting the flight of adult female beetles.

We will keep you updated on flight activity next week. If the cold does move back in we should see a drop in flight activity until it warms up again in the 70 - 80 °F range.



When monitoring for ambrosia beetle activity, look for wet areas and frass tubes on trunks

Boxwood Leafminer

By: Stanton Gill

Thanks to Steve Sullivan, Rachel Aiken, NPS, and Benn Morrill for sending in pictures of boxwood leafminers from various parts of Maryland and Northern VA. Christa Carignan, UME-HGIC, brought in boxwood leafminers from Rockville. We can see from the pictures and sample that the larvae are quite large at this time of year, but none have pupated yet which is good. We still have time before emergence of the boxwood leafminer adults. Their damage will become very apparent in April as the leaves yellow on the plant.

Boxwood leafminers have not reached the pupal stage in the area yet



Photo: Rachael Aiken



Photo: Benn Morrill



Photo: Steve Sullivan, Brightview

Impact of Cold Spring

By: Stanton Gill

Steve Sullivan, Brightview, reported that the cool weather is resulting in daffodils and forsythia having a longer than normal bloom cycle. It is like everything has slowed down. He also commented that pansies have not looked this good in a long time. They are loving the cool weather.

In Central Maryland, we are seeing more Yoshino cherries coming into bloom this week in several parts of the state, but it is a slow motion bloom. It will surely be sped up this weekend with the warm front on Saturday.

At this point the crabapples are just starting to show green tip and we found eastern tent caterpillars have hatched today here in Ellicott City.



UMD-IPM.net
Eastern tent caterpillars have hatched here at the research center. They were found today on cherry.

Filbert Blight

Brad Yurish, Blake Landscape, found filbert blight infecting Harry Lauder's walking stick this week. Filbert blight, caused by the fungus *Anisogramma anomala*, frequently attacks the ornamental filbert called Harry Lauder's walking stick. Infections begin in the spring. New, rapidly growing shoots are most susceptible. The fungal spores are spread by wind and rain to create new infections. Infection occurs over a wide range of temperatures when accompanied by high humidity. The first noticeable symptoms are the longitudinal rows of black stromata made up of elliptical masses of fungal tissue on the surface of branches that were infected up to 18 months earlier. The cankers that are filled with the stromata persist and enlarge yearly. These cankers expand at an average rate of .3 meters per year and eventually cause canopy dieback by girdling. Mature trees can be killed in 5-15 years and young trees can be killed within 4-7 years. As the branches become girdled by the cankers, leaves and branches die, and the problem becomes more noticeable with the flagging of dead tissue in the canopy. If the disease is allowed to continue, the tree will be dead within a few years.

Management: The ornamental filbert 'Red Dragon' is reported to be resistant to eastern filbert blight. There are also some resistant edible filbert cultivars that have been developed at Oregon State and Rutgers Universities.



Sapsucker Damage

By: Stanton Gill

We are getting a fair number of calls reporting a lot sapsucker damage on various landscape trees this spring. If you are seeing this damage send in pictures and tell me the location where you are seeing the damage. Send to Sgill@umd.edu. Thanks.

Gymnosporangium Rusts

Cedar-apple, cedar-hawthorn, cedar-quince, Japanese apple rust, and pear trellis rust infections are currently visible on the stems of Eastern red cedar and a few ornamental juniper cultivars. If warm weather and rain occurs, look for sporulation to happen quickly.

Management: Timing is critical for good disease management on the pomaceous hosts that include apple, crabapple, hawthorn, quince, and pear) The sprays have to be applied when spores are being shed from the junipers, usually starting in mid to late March-April. No chemical control is usually advised to prevent infection of the junipers. The period during which the pomaceous plants are infected is relatively short, usually from the start of symptoms on juniper through May. Spray susceptible crabapples, apples, quince, pears, and hawthorn during this time period with a labeled fungicide.



If warm weather and rain occurs, look for sporulation of gymnosporangium rusts to occur quickly. This gall was found on Eastern red cedar in Crownsville on April 13. Photo: Adam Colgan, On The Green, Inc.

Unusual Surface Bark Borer on Elm

By: Stanton Gill

Andie Murtha, City of Rockville, brought in an interesting sample of a Princeton elm with bark mining on 1" caliber trees. We have American and European elm bark beetles that attack elms, but this was a very different type of damage. These were surface mines on the trunks of the trees.

I sent the pictures out to fellow entomologists across the US. Phil Nixon had published this information on bark miners: "*Bark miners are the larvae of flies, beetles, or moths that tunnel in the phloem and bark of maple, shadbush, cherry, ash, birch, holly, white pine, Douglas-fir, white fir, rose, and other trees and shrubs. Although sometimes called cambium miners, they do not tunnel in the cambium area as do the larvae of bark beetles, emerald ash borer, and bronze birch borer.*"

Damage typically appears as narrow, winding tunnels that are lighter or darker than the surrounding bark. These tunnels are 1/32 to 1/16 inch wide and are typically 6 to 12 inches long. They are noticed primarily in the thin bark of twigs, small branches, and the trunks of saplings. Because the tunnels are shallow and tend to wind lengthwise up the branch, they are unlikely to cause girdling or branch dieback, so control is not recommended."

There is also mention of them in the references, "*Insects that Feed on Trees and Shrubs*" by Johnson and Lyon, and "*Garden Insects of North America*" by Cranshaw and Shetlar.



Interesting, but not identified at this time, serpentine mines on a Princeton elm Photo: Andie Murtha, City of Rockville

Dan Gilrein of Cornell University Extension noted that a published article on a larvae of Dipteron, family Agromyzidae, *Phytohia setosa*, commonly called Cambium miner, had been recorded doing similar damage on sugar maple and red maple. The mines are listed as serpentine in the veneer of the bark. This damage is very similar to the damage we are seeing on the Princeton elm. We were not able to recover a larvae at this time of year in the sample submitted. Regardless, it is interesting, but fortunately it really does not damage or impede the growth of the plant.

IPM Scouting Report from Marie Rojas

Marie Rojas, IPM Scout, is finding cyptomera scale overwintering on the needles of *Picea omorika* and *Picea* ‘Fat Albert’ in Beallsville on April 12. Look for the first generation of crawlers in June. She is also finding the overwinter stage of Japanese maple scale on the trunks of *Cornus* ‘National’ and a variety of *Acer japonicum* and *Acer palmatum* cultivars. The first generation of crawlers are active in June. The Japanese maple scale overwinters as second instars, both male and females. We have a fairly long period until they reach sexual maturity and females start hatching eggs into crawlers in early summer. See our online factsheet on [Japanese maple scale](#) for degree timing for crawlers.

Marie found Nellie R Stevens hollies that have suffered severe winter injury. She noted that ‘Dragon Lady’ and American hollies were fine.



A Nellie R Stevens holly is showing winter damage with many brown leaves and behind it is a ‘Dragon lady’ holly that is doing well
Photo: Marie Rojas, IPM Scout

Beneficial of the Week

By: Paula Shrewsbury, University of Maryland

What’s black with two red spots?

What else but the twice-stabbed lady beetle, *Chilocorus stigma*. Marie Rojas reported seeing adult twice-stabbed lady beetles this past week in nurseries. Not surprising since this beautiful lady beetle is often one of the first natural enemies of the season to be observed. We often think of lady beetles as being generalist predators feeding on a diverse array of prey items. Interestingly, nearly all lady beetle species in the genus *Chilocorus* are predaceous on scale insects, although some will feed on aphids or other insects too, but armored scales are their preferred food.



A twice-stabbed lady beetle adult commonly found feeding on Japanese maple scale and other scale species.
Photo: Jack Clark, University of California - Davis, Bugwood.org

You can see where the name “twice-stabbed” comes from with this predator. Adults appear shiny black with a large red spot in the center of each elytron (front wing). Adult beetles average ¼” in length.

Larvae are black or grey and spiny in appearance. There are two generations of twice-stabbed lady beetles in the northern U.S. and more in warmer states. They overwinter as adults which begin foraging for food as soon as temperatures begin to warm up. The twice-stabbed lady beetle is a native predator found throughout most of the U.S. except it does not occur west of the Sierra Nevada. Twice-stabbed lady beetles are arboreal insects. They like hanging out and foraging on trees in landscapes, nurseries, and orchards. We commonly see twice-stabbed lady beetles on trees infested with Japanese maple scale, and sometimes in great abundance. I frequently find both larvae and adults voraciously feeding on Japanese maple scale on the trunks of trees throughout the season. This is interesting since Japanese maple scale is an exotic insect from Asia. Hopefully, as the weather warms we will see additional predators joining in the fight against scales, one of the most common pest insects of ornamental plants.



A twice-stabbed lady beetle larva which also feeds on scales.

Photo: Tom Murray, from [BugGuide #290993](#)

Weed of the Week

By: Chuck Schuster, University of Maryland Extension

During the last 7 days, UME has had several calls on Star-of-Bethlehem, *Ornithogalum umbellatum*. It is another one of the many plants that has traveled to share with our turf and landscapes. It is a native of North Africa and Eurasia and found in landscape, turf and nursery settings. Star-of-Bethlehem is sold in some garden centers as an early spring blooming landscape plant. This plant emerged in many areas as early as mid-April this year and has not yet bloomed in many landscapes and turf settings, but it will soon and will continue to bloom through early June.



Leaves of Star-of-Bethlehem can grow up to 12 inches in length and have a distinctive whitish grooved midrib

Photo: Matt Owens

Star-of-Bethlehem is a perennial and has thickened or fleshy grass blade-like leaves. These leaves can grow up to twelve inches in length and have a distinctive whitish grooved midrib. The leaves are hollow, one quarter of an inch wide and up to twelve inches in length. The root system is bulbous, and the plant can reproduce by way of seed to a minimal extent, and by way of bulb division or remaining vegetative structures after attempting mechanical removal. The flower structure is white, star-shaped, with six petals, each having a distinctive green stripe on the underside. The center of the flower has a yellow-green disk. Prior to mowing, it will reach above the desired



Roots of star-of-Bethlehem are bulbous

Photo: Chuck Schuster, UME

species of plant material. Once it has been mowed it is difficult to distinguish in turf settings. The flowers of this plant are white, on a six to nine inch tall single flower stalk arising from the center. The cluster will produce five to twenty flowers measuring one inch across. Star-of-Bethlehem prefers cooler temperatures. After flowering and producing seeds, the plant will senesce and remain dormant throughout the summer months. Star-of-Bethlehem is a monocot in the lily family.



Once Star-of-Bethlehem has been mowed, it is hard to distinguish in turf settings
Photo: Connie Bowers, Garden Makeover Company

Controlling Star-of-Bethlehem is challenging. Glyphosate products supply very poor control; less than 30% of plants sprayed will be eliminated. 2,4-D products alone can cause an increase in the number of bulbs. Carfentrazone (Quicksilver) has shown good control when applied at the highest label rates, applied at the two ounce /acre rate and repeated three weeks later was found to provide

greater than 90% control at thirty days post application. Sulfentrazone (Dismiss) is also labeled for this weed. Surge, (sulfentrazone + 2,4-D + MCPP + dicamba) has shown promise with this plant. Q-4, (sulfentrazone + quinclorac + 2,4- D + dicamba) is another combination product that can be used. Diquat (Reward) at three week intervals will supply control but damages surrounding plants. The use of a surfactant is highly recommended if not in the product you select. Use caution with products that contain 2, 4D and Dicamba when weather gets warm, as these products have increased potential of volatilization.

Plant of the Week

By: Ginny Rosenkranz, University of Maryland Extension

Aquilegia ‘Swan Yellow’ or columbine blooms from April to May in almost any type and pH of moist, well-drained soil. The hybrid Swan Series has large, forward-facing often bicolored flowers with large spurs that are held a top of 16-24 inch multi-stemmed plants. The plants are evergreen in USDA zones 7 & 8, but may be semi-evergreen from zones 3-6. The mounded foliage is green grey in color and lacy in texture. Plants prefer to be planted in dappled shade. *Aquilegia* are short-lived perennials, surviving for 3-4 years, but the Swan series does self-seed and the seedlings are listed as flowering true to its parents in color. ‘Swan Yellow’ has a large, bright yellow 5-petal corolla or trumpet and pure white outer petals and spurs that last for up to 4 weeks in the shady garden. Other colors in the Swan Series include ‘Swan Pink and Yellow’ with pale yellow corolla and pink outer petals and spurs, ‘Swan Red and White’, ‘Swan Lavender and White’ and ‘Swan Blue and White’. Hummingbirds are attracted to the colorful trumpets which add color and movement in the garden. The plants are listed as resistant to munching rabbits and deer. *Aquilegia* ‘Swan Yellow’ is a great companion plant to the daffodils and hyacinth in the garden or in containers and makes a wonderful cut flower. Pests include leafminers, leaf spot, powdery mildew, and rust.



***Aquilegia* ‘Swan Yellow’ has large, forward-facing flowers**
Photo: Ginny Rosenkranz, UME

Phenology

PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
<i>Camellia japonica</i> 'Jerry Hill'	Bud showing color	Ellicott City (April 11)
<i>Lindera benzoin</i> (spicebush)	First bloom	Ellicott City (April 8)

Degree Days (As of April 11)

Aberdeen, MD (KAPG)	68	Annapolis Naval Academy (KNAK)	99
Baltimore, MD (KBWI)	95	College Park (KCGS)	106
Dulles Airport (KIAD)	104	Frederick (KFDK)	71
Ft. Belvoir, VA (KDAA)	129	Greater Cumberland Reg (KCBE)	50
Gaithersburg (KGAI)	96	Martinsburg, WV (KMRB)	65
Natl Arboretum.Reagan Natl (KDCA)	130	Salisbury/Ocean City (KSBY)	132
St. Mary's City (St. Inigoes, MD-KNUI)	131		
Westminster (KDMW)	74		

Important Note: We are now using the [Weather Underground](http://www.weatherunderground.com) site for degree days. It changes some of the locations available.

1. Enter your zip code (not all locations are included, check nearest weather station to your site) and hit enter
2. Click the "custom" tab/button below the date
3. Enter the start date below the word "from" (ex. Jan. 1) and the end date below the word "to" (current date)
4. Hit the get "history" button
5. Read your growing degree days (base 50) in the 'Sum' column (=Cummulative DD to date for the year)

Upcoming Conferences

2018 Maryland Urban & Community Forestry Summit

Organized by the Maryland Forestry Foundation
 May 11, 2018
 4.5 Maryland Licensed Tree Expert CEUs
 (Submitted to ISA for CEU approval)
 Location: Patuxent Wildlife Vistor Center, Laurel, MD

Registration links for conferences
 are posted at:

<http://extension.umd.edu/ipm/conferences>

Eastern Shore Pesticide Recertification Conference

June 1, 2018
 Location: Wye Research and Education Center, Queenston, MD
 Contact: Ginny Rosenkranz, rosnkranz@umd.edu

2018 Procrastinators' Pest Management Conference

June 8, 2018
 Location: Montgomery County Extension Office, Derwood, MD
 Contact: Chuck Schuster, cfs@umd.edu

The Pest Predictive Calendar is a monitoring tool to assist in predicting when susceptible life stage(s) (stage you want to target for control measures) of pest insects are active by using plant phenological indicators (PPI) and growing degree days (GDD). This tool will lead to improved timing of management tactics and more effective pest management.

We recently made updates to this calendar.

Check it out at [Pest Predictive Calendar](#)

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