

Commercial Horticulture

April 16, 2021

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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 (**include location and insect stage**) found in the landscape or nursery to sgill@umd.edu

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Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)

Weed of the Week: Chuck Schuster (Retired Extension Educator)

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April Showers Bring Landscape Diseases

D.L. Clement and K.K. Rane

So far we've had quite a bit of cool wet spring weather, but relax it could have been snow! There are many active spring diseases right now on both woody trees and shrubs as well as herbaceous landscape plants. Some are more critical than others to prioritize for management.

Some of the more critical spring disease management decisions would include cherry shot hole, boxwood blight, black knot on cherry, needle cast diseases of blue spruce and Douglas fir, Diplodia blight on Austrian pine, crabapple scab and fire blight, black spot on rose, rose rosette virus, rust diseases on crabapple, pear and hawthorn, and powdery mildew on dogwood. These management treatments should



If possible, prune out branches with black knot on cherry galls to reduce the spread of this disease. Black knot is caused by a fungus. The galls can be unsightly, but unless in very high numbers, usually do not kill the tree.

Photo: Brian Scheck, Maxalea, Inc.

have started already, or should start this coming week because once initial infection has occurred they will continue for the growing season.

Some of the more common, but more weather dependent spring landscape diseases that are coming include the various shade tree anthracnose diseases, oak leaf blister, Volutella blight on boxwood, spot anthracnose on dogwood, leaf spots on hydrangea, forsythia stem blight, bacterial leaf spot on lilac, bacterial leaf spot on hardy geranium, daylily leaf streak, Volutella blight on pachysandra, Phomopsis blight on vinca, clematis blight, leaf diseases on ornamental grasses, leaf spots on Echinacea and Rudbeckia, and juniper tip blights.

Remember that not all of these diseases involve chemical intervention especially if resistant cultivars are chosen and early spring cleanup and proper removal pruning has been done.



Spot anthracnose on dogwood is caused by the fungus *Elsinoe corni*. It starts out with small spots with reddish or purplish edges.

Photo: David Clement, UME-HGIC

Cicadas and Copperhead Snakes?

By: Stanton Gill

Danielle Bauer Farace, Executive Director Maryland Arborist Association, saw an online report that copperhead snakes love to feast on cicadas and wanted to know if this was accurate. This ties in with Paula Shrewsbury article last week about wildlife feasting on cicadas. I called Ray Bosmans, University of MD Professor Emeritus, who happens to be a member of the Maryland Herpetology Society to get his comments on this subject of whether copperhead feed on cicadas. Below is Ray Bosmans' article.

Copperheads and Cicadas

By: Ray Bosmans-Professor Emeritus Univ. of MD. President-Mid-Atlantic Turtle and Tortoise Society

With the emergence of the 17-year periodical cicada in our region many questions have emerged about whether there is a relationship with the nymphs emerging from the ground and copperheads. Copperheads are one of two species of venomous snakes native to Maryland. The other is the timber rattle snake. Both are “pit vipers” referring to the heat-sensing pits between their eye and nostril. This is used to help them find warm blooded prey. Copperheads are found mostly in rural areas but occasionally are found in stream areas that run through suburban areas. They are a very secretive snake whose first “defense” from harm is to stay still, well camouflaged or hide in rocky crevices. Snakes never chase or “attack” unless it is food. Not people!

It is important to know that ALL snakes including our two venomous species are protected under Maryland Wildlife Laws. It is illegal to harm or possess them. Although venomous snake bites are rare, those that do occur are often associated with a person killing or trying to capture the snake. Copperheads have a distinctive pattern and color. But there are a few non-venomous (harmless) snakes that to the inexperienced person appear similar. These include water snakes, juvenile black rat snakes, milk snakes and corn snakes.

So what do Copperheads have to do with cicadas? Most snakes feed on rodents, frogs, some eat other snakes but the Copperhead in addition to these prey will also eat cicada nymphs. In past years it’s reported that Copperheads

can be seen under trees where the nymphs are emerging to feed on the tasty morsels! Feeding on nymphs occurs mostly at night.

If you should experience this in your landscapes the best thing is to not disturb them, but mark the area to keep people away. The snakes should only be there for a week or two. The emerging cicadas will not “attract” more copperheads than already live in a given area. In other words if you see copperheads feeding on the cicada nymphs it means that Copperheads have always been there and were not “drawn in” from distant habitats.

If copperheads have to be relocated, you should contact a licensed wildlife rescue/removal service who will relocate them following the regulations/permits of the Md. Dept. of Natural Resources. Do not attempt to capture them yourself.

Please remember that all snakes in Maryland are protected by law and are beneficial to our ecosystem.



These photos show how well a copperhead snake blends in with its surroundings and a closer view of its head
Photos: Ray Bosmans, UMD Extension - Emeritus

Cicada and Young Fruit Tree Injury

By: Stanton Gill

Several landscapers are concerned about fruit plantings they have installed for their customers this spring and whether they need to protect the young plants. I spoke with 3 major orchards in central MD and Southern PA to get their input on what damage they saw in 2004.

Each of the orchard owners said they saw a fair amount of damage on young apple, pear, peach, apricot, and plum trees in 2004. They had some tip damage on mature trees, but the damage was not anything that decreased their crop yield. Most of this tip damage was pruned out later. The big concern is the damage to the young trees with smaller diameter branches and trunks. Large orchards with extensive plantings of young fruit trees are planning to protect trees, if the pressure is heavy after monitoring, with a synthetic pyrethroid called Danitol. This is labeled for use on commercial orchard fruit trees.

For home landscapes, the best approach is to plan to cover small trees with protective netting. We covered the netting techniques in earlier IPM Alerts. Do not pull up the netting until the females start ovipositing and remove it immediately when they cease egg laying. The netting will distort the new growth on the fruit trees and can reduce air circulation and favor foliar and fruit diseases. Steve Sullivan of Landcare Company called to let us know that he netted his fruit trees in 2004 and ended up with a lot of distortion that he had to prune out later.



Periodical cicadas are producing mounds in Derwood, MD this week
Photo: Dave Young, Fisher and Son



Periodical cicada nymphs were present just underneath a plastic stepping stone in Centreville, VA
Photo: David Freeman, Oaktree Property Care



Emergent holes and mounds caused by periodical cicadas are being found in Carroll County this week
Photos: Donna Davis



Webinar: Brood X - The Cicada Takeover

May 4th at 2:00 - 3:00 PM

Coordinated by W.S. Connelly Companies.

Presentation by: Stanton Gill

Registration Links:

<https://conta.cc/2RDNJpy> or https://us02web.zoom.us/webinar/register/WN_ZT8GoD1eQDO18PGWZoBeWw

Periodical cicada nymphs in Columbia and other areas will be ready to go as soon as soil temperatures reach 64 °F.
Photo: Chris Middendorf, ProLawn Plus, Inc.

Animal Damage on Landscape Plants

Michael Garner, Brightview, sent in photos of damage on skip laurels caused by a mammal (likely a rabbits or voles). Michael noted that he saw 5 dead/declining skip laurels at the one site in Silver Spring.

Marty Adams, Bartlett Tree Experts, found vole damage on prostrate juniper in the landscape.

For more information on voles, see the UMD Extension fact sheet, [Reducing Vole Damage to Plants in Landscapes, Orchards and Nurseries \(FS-654\)](#).

More information [on rabbits](#) is available on the UMD Extension web site.



Animals have been causing heavy damage to skip laurels in some landscapes
Photo: Michael Garner, Brightview



Voiles are damaging prostrate junipers
Photos: Marty Adams, Bartlett Tree Experts

Cuban Tree Frogs

Cuban tree frogs, a species that has proven quite invasive further south, are being imported into the National Capital Region through various outlets that sell plants from Florida. The frogs are toxic to people, pets, and ecosystems. Houseplants and cut flowers seem to be the main vectors.

[Invader Detectives Alert: Cuban Tree Frog](#): The National Capital Partnership for Regional Invasive Species Management (NatCap PRISM) is releasing this document as a link to emphasize its constantly changing nature. The document is not intended to be complete or perfect, but to provide the best available information during the early phases of an unfolding situation.

What is Being Reported

Paul Wolfe, Integrated Plant Care, reported seeing adult boxwood leafminers in flying Bethesda on Thursday this week. He is also seeing psyllid activity with white wax. Powdery mildew is showing up on euonymus.

Mark Schlossberg, ProLawn Plus, Inc., sent in a photo of Japanese stiltgrass flourishing in the area. The UMD Extension website has more information [on stiltgrass](#).



Japanese stiltgrass is germinating in the area this week
Photo: Mark Schlossberg, ProLawn Plus, Inc.

Allium Leafminer Active Throughout Maryland Now

Jerry Brust, UME

Onions, leeks and garlic are early season garden crops that many homeowners like to have in their garden. Unfortunately, there is a new pest of these early (and late) season crops, the Allium leafminer *Phytomyza gymnostoma*. Adult flies will be active in Maryland for the next 3-4 weeks. While some damage to Alliums can be found from the spring generation of Allium leafminer the fall generation is the one that is very damaging, especially to leeks. Some fall leek crops have been completely wiped out by Allium LM feeding. Landscape Allium species have NOT been found to undergo much if any damage from this pest as of right now and no recommendations for control are needed.

New transplants or seedlings of onions or leeks should be watched closely for the tell-tale signs of the fly's damage that are small white dots in a row which are made by the female's ovipositor (fig. 1). When eggs hatch the larvae at first mine leaves (fig. 2) and then move down to the bulbs and leaf sheathes where they feed and eventually pupate. The pupae undergo a summer aestivation and only emerge again in September. Growers should look for these tell-tale signs on any newly planted Allium species, but especially on leeks. You can cover

any Allium planting with row cover to keep the flies off or if needed treat with insecticides. Penn State has found efficacy using neonicotinoids (Scorpion, Assail), diamides (Exirel), spinosyns (Entrust, which is OMRI-labelled), and pyrethroids. A penetrant adjuvant (insecticidal soap like M-Pede) is recommended when applying insecticides to any Allium crop.



Fig. 1 Characteristic white dots made by Allium leafminer on onion.
Photo: Jerry Brust, UME



Fig. 2 Allium leaf miner tunneling damage to leek
Photo: Jerry Brust,, UME

Beneficial of the Week

By: Paula Shrewsbury

Tiger beetles are foraging for food!

This past weekend, I spotted a few six-spotted green tiger beetles, *Cicindela sexguttata*, on the stairway in my yard. Tiger beetles are a species of ground beetle (Carabidae). In MD, there are multiple species of tiger beetles. Another common species of tiger beetle is the bronzed tiger beetle, *Cicindela repanda*. The Puritan tiger beetle, *Cicindela puritan*, is a threatened species. Although different species vary in color, most have a metallic hue to them, they forage on the ground, and all are voracious predators. Tiger beetles get their name because they catch their prey in a tiger-like manner.

Interestingly, the six-spotted and bronzed tiger beetles occupy 2 different ecological niches or habitats. Six-spotted green tiger beetle are more common on hiking and biking trails in wooded areas, especially in sunny

patches of ground. The six-spotted tiger beetle is about 10-14 mm long, and have 6 white spots on its elytra (wings). Because of the six-spotted tiger beetles beautiful metallic green color they are relatively easy to spot on a trail. This species occurs across the entire eastern half of the U.S. with the exception of the very South and the Florida Panhandle. Whereas the bronzed tiger beetles are bronze in color with a unique pattern of curvy lines on its elytra and are about 10-13 mm long. Bronzed tiger beetles are most abundant on the sandy banks of the river and occur in almost every U.S. state.

As you approach a tiger beetle, it will take flight and land about 5 – 10’ away. Unlike assassin bugs or preying mantids, which are “sit and wait predators”, tiger beetles are “active hunters” like tigers ([see YouTube](#)). They actively stalk, chase, and capture their prey along the ground. Tiger beetles have quite long legs for running and large eyes that enable them to search their surroundings for any signs of movement which would indicate potential food or danger. Their jaws are powerful with very prominent “teeth” which they use to grab, pierce and crush their prey – yikes! Both adult and immature tiger beetles are carnivorous. The eggs of tiger beetles are laid in the soil where once hatched, the larvae build an underground burrow. The larva waits in the burrow for an unsuspecting prey to pass by. When this happens the tiger beetle larva jumps from its burrow and grabs the prey, pulls it into the burrow and enjoys a feast. The adults are beautiful insects and interesting to watch, but if you have the need to catch one beware – they are known to draw human blood with their powerful and sharp mouthparts.



A six-spotted green tiger beetle adult enjoying a tasty meal.
 Photo: D. Cappaert, Invasive.org



The strange looking tiger beetle larva lives in an underground lair and captures unsuspecting prey that stray too near.
 Photo: M.J. Raupp, UMD

The Puritan tiger beetle is well known in MD. The Puritan tiger beetle was listed as a threatened species under the Federal endangered species act in 1990. The Puritan tiger beetle only occurs in two regions, along the Chesapeake in Maryland, and along the Connecticut River in New England. Maryland is home to the largest known global population of the Puritan tiger beetle. The Chesapeake Bay contains two populations of Puritan tiger beetles. Adult tiger beetles can be seen on certain beaches and the larvae require a very specific habitat. They need naturally eroding cliffs along the beach. Go to the website listed below to learn more about these beetles and what they look like.

To learn more about Puritan tiger beetles visit the following web site:
<https://www.fws.gov/chesapeakebay/saving-wildlife/species/puritan-tiger-beetle/index.html>



A mating pair of bronzed tiger beetles that were hanging out on sandy river bank in MD. Photo: P. Shrewsbury, UMD



Puritan tiger beetle found in Calvert County, MD. Photo: T. Friedlander, MarylandBiodiversity.com)

Weed of the Week

By: Chuck Schuster

Spring has started. We have an abundance of Japanese stiltgrass and crabgrass growing as well as violets in some areas. Rain has kept the soil more than moist, and everything is growing well.

Shepherd's purse, *Capsella bursa-pastoris*, is an invasive winter annual (late summer and early fall germinating) weed in the Mustard family. It grows from a ground hugging four inches to a tall twenty five inches in total height. This plant will start in the late fall producing a basal rosette, with basal leaves being lance-shaped and up to two and one half inches in length, Photo 1. The root systems is a taproot, photo 3. A slender upright stem is produced as weather warms the following spring. The leaves are alternate and clasping, lance-shaped, narrow, and toothed. The white to pink flowers, Photo 2, will have four petals, are found on thin spreading stalks that produce heart-shaped flat seed pods, Photo 4. Each pod can contain up to twenty seeds. Shepherd's purse reproduces only by seed. Seeds require disturbance for germination and will survive long periods in the soil. This plant prefers dryer climates but can survive on wet sites. The name for this weed comes from the small flat seeds that are produced, triangular in shape, with a seam in the middle.

Cultural control in turfgrass includes appropriate mowing height and pH and fertility management. Strong turf is an excellent deterrent to this weed. In landscape settings, use of mulch or other barriers, mechanical hand removal, or flame control. Use caution with flaming as it can cause fires with the extremely dry conditions

Shepherd's purse will respond to pre emergent applications of oryzalin (Surflan), Snapshot, Dichlobenil (Casoron), pendimethalin (Pre-M), and prodiamine (many brand names). For post-emergent control, products containing bentazon (Basagran), flumioxazin, glufosinate-ammonium (Finale) are labeled for use in landscapes and nursery settings. In landscapes, this weed can be controlled with many of the non-selective translocated products.



Shepherd's purse forms a basal rosette in late fall
Photo 1, from PLU NCSI with permission.



Shepherd's purse has white to pink flowers
Photo 2, C. Schuster, UME



Shepherd's purse produces a taproot
Photo 3, C. Schuster, UME

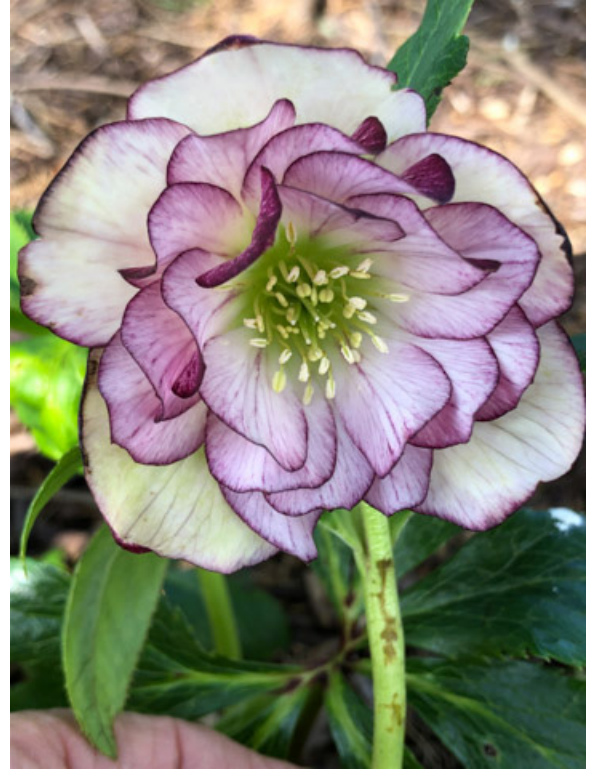


Shepherd's purse produces heart-shaped seed pods
Photo 4, C. Schuster, UME

Plant of the Week

By: Ginny Rosenkranz

Helleborus x hybridus Winter Jewels® ‘Peppermint Ice’ is one of the few large double-flowered Lenten roses in the Winter Jewel® series. The flowers can start blooming during the February cold and continue to bring color to the garden through April or May. *H.* ‘Peppermint Ice’ flowers are cup-shaped with many rows of snow white pointed petals that are trimmed with a dark pink picotee edge. The tepals of the back of the flowers are also dark pink. As the 3-4 inch nodding flowers mature, the color intensifies to a darker pink that also travels up the petal veins. Once the flowers are totally done blooming the stems should be cut back along with any leaves that are winter damaged to promote new foliage. The dark evergreen leathery and glossy foliage is made up with 7-9 leaflets and grows in a basal clump about a foot tall and wide. The plants thrive in organically rich moist but well drained soils in partial to full shade, adding color and texture to gardens all year long. Once established they can tolerate dry soils and air pollution. Winter hardy from JUSDA zone 4-9, the *Helleborus x hybridus* Winter Jewels® ‘Peppermint Ice’ is not tasty to deer, rabbits or voles. Pests can include leaf and crown rot if the soil is too wet.



Helleborus x hybridus Winter Jewels® ‘Peppermint Ice’ can bloom into May
Photo: Ginny Rosenkranz, UME

Pest Predictive Calendar “Predictions”

By: Nancy Harding and Paula Shrewsbury

In the Maryland area, the accumulated growing degree days (DD) this week range from about 137 DD (Aberdeen) to 277 DD (Reagan National Airport). The [Pest Predictive Calendar](#) tells us when susceptible stages of pest insects are active based on their DD. Therefore, this week you should be monitoring for the following pests. The estimated start degree days of the targeted life stage are in parentheses.

- Eastern tent caterpillar – late instar larva (86 DD)
- Woolly elm aphid – egg hatch (163 DD)
- Spiny witchhazel gall aphid – adult/nymph (171 DD)
- Azalea lace bug – egg hatch 1st gen (214 DD)
- Roseslug sawfly – egg hatch / early instar (230 DD)
- Hemlock woolly adelgid – egg hatch 1st gen (235 DD)
- Boxwood leafminer – adult emergence (249 DD)
- Spruce spider mite – adult/nymph (276 DD)
- Andromeda lace bug – egg hatch (281 DD)

See the [Pest Predictive Calendar](#) for more information on DD and plant phenological indicators (PPI) to help you better monitor and manage these pests.

Degree Days (as of April 14)

Aberdeen (KAPG)	137
Annapolis Naval Academy (KNAK)	185
Baltimore, MD (KBWI)	216
Bowie, MD	238
College Park (KCGS)	186
Dulles Airport (KIAD)	207
Ft. Belvoir, VA (KDA)	221
Frederick (KFDK)	178
Gaithersburg (KGAI)	199
Greater Cumberland Reg (KCBE)	168
Martinsburg, WV (KMRB)	154
Natl Arboretum/Reagan Natl (KDCA)	277
Salisbury/Ocean City (KSBY)	230
St. Mary's City (Patuxent NRB KNHK)	216
Westminster (KDMW)	230

Important Note: We are using the [Online Phenology and Degree-Day Models](#) site. Use the following information to calculate GDD for your site: Select your location from the map Model Category: All models Select Degree-day calculator Thresholds in: Fahrenheit °F Lower: 50 Upper: 95 Calculation type: simple average/growing dds Start: Jan 1

Phenology

PLANT	PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)	LOCATION
<i>Cercis canadensis</i> (redbud)	First bloom	Clarksville (April 9)
<i>Liriodendron tulipifera</i> (tulip tree)	First leaf	Ellicott City (April 14)
<i>Packera aurea</i> (golden ragwort)	First bloom	Columbia (April 13)

Conferences (CDC guidelines for Covid-19 may cause changes to the programs below.)

Maryland Arborist Association Pesticide Recertification Program (limited in-person and on-line program)

May 11, 2021

Location: Turf Valley, Ellicott City, MD

More information is available at http://www.mdarborist.com/calendar_day.asp?date=5/11/2021&event=315

Pest Management Recertification Program (limited in-person program)

June 3, 2021

Location: Carroll Community College, Westminster, MD

Details will be available at a later date

June On-line IPM Scout Training (June 2, 9, 16, and 23 from 12 to 1:30 P.M.)

Registration Link: <https://mnlga.memberclicks.net/IPMScoutTraining#/>

[Program agenda](#)

Greenhouse Program (limited in-person program)

July 8, 2021

Location: Catoctin Mountain Growers, Keymar, MD

Details will be available at a later date

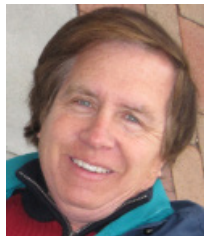
Advanced IPM Conference and Pesticide Re-Certification Session June 3, 2021

The Advanced IPM conference we normally hold in December at the Carroll community College in Westminster of each year was pushed back to June 3, 2021. We held many Zoom re-certification sessions this winter, but we decided to keep this one intact as an in-person conference. Presently, the University will allow us to have gathering of 50 people. Carroll Community College will allow 48 people in their conference room with social distance. For now, we will be limiting the registration number to the first 48 people to sign up. This may be expanded as more people get vaccinated and the State increases the number allowed for gatherings. Recertification and registration information will be posted on-line when available.

New IPM Website

The new website for Extension went live this month so our urls for IPMnet have changed. To quickly get to the new site, use <https://go.umd.edu/ipmnet>. It has links to the IPM alerts and conferences etc. It's still a work in progress at the moment and more information will be added throughout the spring and summer.

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Photos are by Suzanne Klick or Stanton Gill unless stated otherwise.

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