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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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Stanton Gill, Extension Specialist, IPM and Entomology for Nursery, Greenhouse and Managed Landscapes, sgill@umd.edu. 410-868-9400 (cell)

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

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

Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)

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What are Brood X Periodical Cicadas Doing This Week?

By: Paula Shrewsbury, UMD

Where have adult Brood X cicada's emerged? We reported the first adult Brood X emergence on April 19th in Towson MD and last week on April 27th there was a report of several adults emerging in College Park MD in the UMD campus. The UMD campus adults were spotted by a few undergraduate students taking an Ecology course with Dr. Dan Gruner (Entomology). The students are doing research on cicadas, which includes measuring soil temperatures. Soil temperatures fluctuate with weather and vary by location. In many locations, soil temperatures are getting close to 64 °F – the cicada nymph's cue it is time to emerge from the ground and start their adult life. Brood X adults have been reported in Georgia, Tennessee, North Carolina, and Virginia.

Help us track Brood X periodical cicadas with the [Cicada Safari App!](#)

The purpose of this *Citizen Science project* is for you to help identify periodical cicadas, and share the location where you found them. Scientists like Dr. Gene Kritsky, of Mount St. Joseph University, and colleagues will use the data to determine exactly where periodical cicadas exist, in order to create maps of cicada broods and generations, and learn more about cicada biology, and changes in their populations in the future. All you need to do is download the app on your phone (see below), take a picture, and upload the picture.

Website for the app: [Cicada Safari App](#).

Android: <https://play.google.com/store/apps/details?id=edu.msj.cicadaSafari>
iOS/Apple: <https://itunes.apple.com/us/app/cicada-safari/id1446471492?mt=8>

Other updates. We continue to see more and more holes from cicada nymphs burrowing up to the surface in preparation for when it is time to emerge. There are many reports of animals (foxes, raccoons, skunks, dogs) digging in lawns and garden beds for cicada nymph snacks. If you have not [netted your newly planted, smaller trees](#), now is the time to do so to exclude cicadas and prevent laying damage (flagging).

What is predator satiation? Predator satiation is the main defense of periodical cicadas. This is when the cicadas emerge synchronously in massive numbers, so many that every predator that wants to eat cicadas can eat their belly full and there will still be enough to survive to carry on the population in future generations.

Cicada emerging in the DMV so far are what we refer to as “**early risers**”. We are still waiting for the mass, synchronous emergence. Early risers will likely not survive long enough to reach the point of reproduction. There are LOTS of predators (birds, squirrels, foxes, raccoons, dogs, etc.) out there who will have no problem eating the early riser cicadas and they will all be eaten up.

When will the mass emergence occur? This is a popular question right now. In 2004, the mass synchronous began the 3rd week of May. This year we have had a lot of warm days recently. My educated guess is that we might see the mass synchronous emergence next week.

For more information on Periodical Cicadas see:

-The *Department of Entomology and its Cicada Crew* (Drs. Shrewsbury and Raupp, and a group of graduate students) have created a [Cicada Crew UMD website](#) that answers questions about periodical cicadas and will help everyone learn more about these amazing insects.

-YouTube on “*How to net a small tree to exclude cicadas*” can be found at:
<https://www.youtube.com/watch?v=X4vjvdfnMM>

-*Cicada mania* is a great source of accurate information on periodical cicadas, along with having some fun cicada activities.

<https://www.cicadamania.com/cicadas/all-the-cicada-faqs/>

-The *Cicada Safari* website has information and kid activities relating to cicadas in addition to links to download there Cicada Safari tracking app.

<http://cicadasafari.org/>



**“Early riser” adult periodical cicadas have been spotted in several locations in the DMV area.
Photo: M.J. Raupp, UMD**



Nymph Sighting: Donna Despres took this photo on May 4 in Sykesville of a periodical cicada which is her first sighting of a nymph coming out of the ground

SOIL TEMPERATURES

	Glenwood	Stevensville	
May 2	53	60	
May 3	58	64	
May 4	61	65	63 (Towson)
May 5	62	67	
May 6	58	63	
May 7	44	61	56 (Owings Mills)

Weekly soil temperatures are provided by Chuck Schuster, Andrew Ristvey, Rachel Ross, and Mark Schlossberg.

Fifth instar cicadas emerge when the soil temperature is at 64 °F.

Cicada, Brood X – Zoom Conference With Updates on the Situation

May 13, 2021 at 7:00 p.m. The University of Maryland Extension will be holding an evening session presented by Stanton Gill on the periodical cicada and action you can take.

This is open to the public. Register at:

<https://umd.zoom.us/j/2050038540?pwd=SmN5bG1IMit2NXYYyYTV0aW1SNk9CQT09>

Spotted Lanternfly

Kim Rice, MDA, let us know that we have spotted lanternfly emergence in Maryland. Stephen Goff spotted a few at a site in northern Kent County along the Cecil County line.

Ambrosia Beetle Alert

We continue to find ambrosia beetles in our traps in Ellicott City and Brookeville this week, but the numbers decreased as the weather has cooled down. We have received reports from nurseries in central Maryland that styrax trees and yellowwood trees now have tubes sticking out so the ambrosia beetles are drilling into the trees. Redbud is another tree favored by these beetles.

Cottony Camellia/Taxus Scale Activity

By: Stanton Gill

Several landscape managers and nursery owners are reporting on the tell-tale white ovisacs of the cottony camellia/taxus scale, *Pulvinaria floccifera*, on Chinese holly this week. This soft scale tends to be limited to camellias, *Taxus*, Chinese holly, and jasmine, although it can infest English ivy, euonymus, hydrangea, maple, mulberry, pittosporum, and rhododendron. Connie Bowers, Garden Makeover Company, sent in photos of this scale on *Cephalotaxus harringtonia* 'Prostrata' (Spreading Japanese Plum Yew). Paul Wolfe, Integrated Plant Care, reports a lot of activity of this scale in Bethesda and Chevy Chase this spring with females creating their ovisac this week.

The overwintering 2nd instar females usually go unnoticed since they are brown and tend to blend into the plant tissue coloring. It is in May when the females produce the white ovisacs that are very pronounced, that people notice they have a problem. This scale has become very widespread in Maryland on *Taxus* and Chinese holly.

If you plan to spray an insecticide, June is a good time to spray as the *Hyperaspis* lady beetles that specialize on feeding within the egg sacs of *Pulvinaria* scales will have departed by then for their aestivating sites. If sprayed earlier, the lady beetles would be killed.



Females of cottony camellia/Taxus scale are producing egg sacs in the area this week
Photo: Connie Bowers, Garden Makeover Company

Bald Faced Hornets' Nests

John Stuart, Montgomery County Department of Transportation, reported that the department received its first legitimate service request concerning a bald-faced hornets' of the 2021 season. John noted that the nest contained only the overwintered queen and no daughters and wasn't a hazard.

For bald-faced hornets' nest in a Montgomery County DOT Right of Way, please contact 311 via landline or 240-777-0311 via cell phone.

This bald-faced hornets' nest found in Montgomery County this week only had the overwintered queen
Photo: John Stuart, Montgomery County Dept. of Transportation



Euonymus Leaf-notcher Caterpillar

Bob Boyer, Scientific Plant Service, found late instar euonymus leaf-notcher caterpillars causing heavy damage on burning bush this week. Carol Allen, UMD, also passed along a report from a former student of activity of this caterpillar. It is active early in the season and only has one generation. Plants are flushing out now and the caterpillars are finishing up feeding on plants so control is not necessary. Look for the tan-colored eggs along the stems later in the season. They can be pruned off or crushed on the stem.



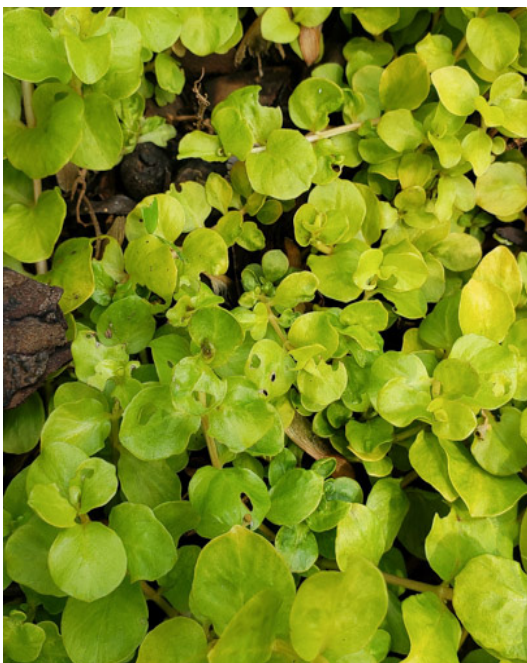
In the fall, look for the overwintering euonymus leaf-notcher caterpillar eggs along the stems
Photo: Eric R. Day, Virginia Polytechnic Institute and State University, Bugwood.org



Euonymus leaf-notcher caterpillars are finishing up their feeding for the season
Photo: Bob Boyer, Scientific Plant Service

Sawfly on Creeping Jenny

Marie Rojas, IPM Scout, found grass sawfly larvae feeding on creeping Jenny (*Lysimachia nummularia*) in a landscape in Gaithersburg. This sawfly also feeds on *Lysimachia vulgaris*. These plant species are considered invasive in many locations, especially when growing in moist areas. Heavy sawfly infestations can cause significant defoliation. Conserve can be used for control. Remember, sawflies are related to bees and wasps, not moths and butterflies, so Bt will **not** work as a control option.



Grass sawfly larvae are feeding on creeping Jenny this week in Gaithersburg
Photos: Marie Rojas, IPM Scout

Bristly Roseslug Sawfly

Marie Rojas, IPM Scout, is finding bristly roseslug sawfly in Gaithersburg this week. Roseslug sawflies can be a consistent problem on roses in this area. Sawflies are best controlled when they're young larvae. You can simply pick them off by hand. A forceful spray of water from a hose can also knock off sawflies. Once dislodged, they cannot climb back onto the plant. If control is warranted, horticultural oil, Spinosad, Mainspring, and Acelepyrn all work very well on this pest. For more information, see [Nancy Harding's article](#) in last week's report.



Continue to monitor roses for roseslug sawflies
Photos: Marie Rojas, IPM Scout

White Pine Weevils

Marie Rojas, IPM Scout, found white pine weevil damage on the growing tips of Christmas trees. Feeding by larvae causes the tips of white pines and spruces to flag. Larvae pupate in late July within the infested terminal. Adults emerge in late July and August and overwinter in leaf litter. There is one generation per year.

Control: At this time of year, prune out flagging terminals. Next year, monitor for adult activity in March and April. To prevent damage, treat terminal growth when the adult activity is noted on conifers.



White pine weevils cause growing tips to flag
Photos: Marie Rojas, IPM Scout

Scale Insects

Marie Rojas, IPM Scout, is finding the 2nd instar, black immatures of **tuliptree scale** on *Liriodendron tulipifera*. Since they will be feeding throughout the summer, Distance, Talus, or a systemic can be applied now. This scale will mature and swell up over the summer. Crawlers are active in September. Marie also found **lecanium scale** with eggs under the covers on *Quercus phellos* (willow oak).



The 2nd instars, black immatures are feeding on tulip tree at this time of year
Photo: Marie Rojas, IPM Scout

Disease Activity

Marie Rojas, IPM Scout, is seeing rust beginning to show up on the fruit of Amelanchier 'Autumn Brilliance' and scab on the leaves of pyracantha.



The Pyracantha scab pathogen will infect plants throughout the season
Photo: Marie Rojas, IPM Scout

Aphid Activity Continues

Elaine Menegon Good's Tree and Lawn Care, found aphids on winged euonymus in Hershey, PA on May 7. Heather Zindash, The Soulful Gardener, found aphids on crape myrtle and spirea aphids found on spirea in DC. on April 26. Heather also found a lot of honeysuckle aphids on the tips and flowers of *Lonicera sempervirens* in Gaithersburg. A lady bird beetle and a syrphid fly larva were among the aphids.

Continue to monitor aphid infested plants for predators. If you need to treat, choose a material with minimal impact on beneficials.



A syrphid fly larva is feeding on honeysuckle aphids
Photo: Heather Zindash, The Soulful Gardener

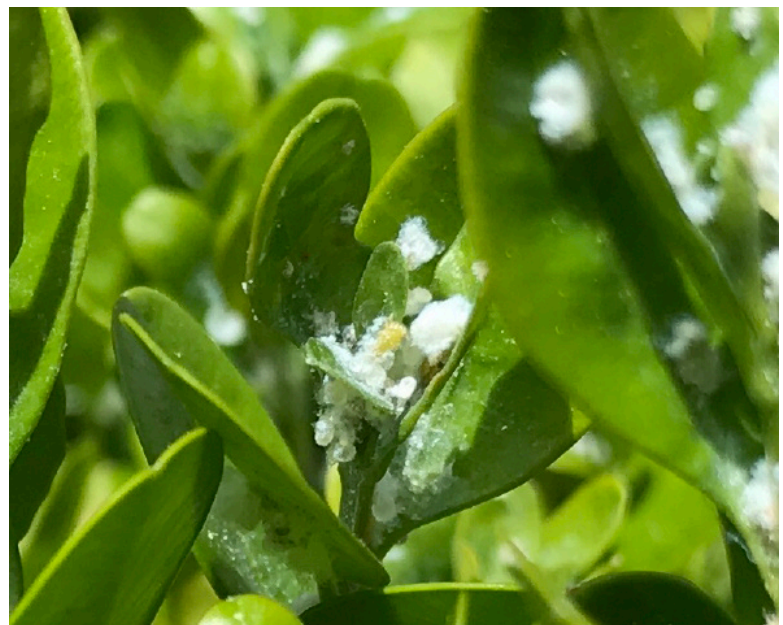
Boxwood Psyllid – Partying Big Time in 2021

By: Stanton Gill

One of the most frequent emails I received this week was pictures of boxwoods with copious amount of white wax. Several people reported a sticky honeydew when they wipe their hands on infested foliage. The amount of white wax is at a premium level this spring. In some cases, the landscape managers are reporting so much white wax, it looks like someone had put Christmas flocking on the foliage.

Boxwood psyllids cause a distinctive cupping of leaves as the immature stages (nymphs) remove sap from tender expanding foliage. The amount of damage in a landscape is usually not considered significant. If you are nursery owner with boxwood psyllid, then this insects reduces growth and slows you down in obtaining larger sized boxwoods to move into the marketplace.

For the landscape, a mechanical control can be to prune and destroy infested tips containing nymphs before mid-May when they become adults and lay eggs. Paul Wolfe, Integrated Plant Care, called in to report his mechanical method of dealing with the wax produced by psyllids. He aimed his leaf blower on the foliage and it blew all of the white wax off the foliage of the boxwood. Karen Rane, Plant Pathologist, points out do not use this method if boxwood blight is present since you would blow the disease throughout the planting area.



Boxwood psyllids are being reported in higher numbers this year
Photo: Bill Stocker

Honeylocust Plant Bug

Heather Zindash, The Soulful Gardener, found honeylocust plant bug nymphs in Gaithersburg (and a plant hopper) on honeylocust causing stippling damage on the leaves. Steve Sullivan, Landcare, found plant bug damage on a honeylocust in Delaware on May 6. There will be more information on this plant bug next week.



Honeylocust plant bug causes distorted foliage
Photo: Steve Sullivan, Landcare

Black Locusts are in Bloom! Emerald Ash Borer Adults Should be Emerging!

By: Paula Shrewsbury, UMD

This past week black locust, *Robinia pseudoacacia* (Fabaceae), came into full bloom in many areas of MD. You will see the beautiful white drooping flowers on locust trees that are abundant on the sides of the road. If you look at the [UME Pest Predictive Calendar](#) on the [IPMnet website](#) you will note that full bloom of black locust is a **Plant Phenological Indicator (PPI)** for emergence of adult emerald ash borer (EAB). You can also use **Growing Degree Days (DD)** to predict EAB adult emergence (see the Pest Predictive Calendar). When your location reaches about 420 DD, EAB adults should start emerging from ash trees. If you check your local DDs or look at the list of DDs for select locations of MD at the end of this newsletter, you will see that some locations are near (below or above) 420 DDs.

Please remember that PPIs and DDs are science-based estimates of activity. They indicate that you should start actively monitoring your trees for signs of EAB adult activity. Signs would include active adult beetles, new “D” shaped adult exit holes on the trunks of ash trees (see image), and/or defoliation (starts as shothole damage) of ash foliage by adult beetle feeding (see image).

So what should you be doing if you want to save your ashes! Hopefully by this time you have done plant inventories and / or



Adult emerald ash borer on ash foliage that recently emerged from under the bark of an ash tree where it spent the winter as a larva and pupa. Note the defoliation of the ash leaf where the beetle had been feeding.
Photo: Leah Bauer, USDA Forest Service Northern Research Station, Bug-wood.org

identified the ash trees that you want to save. At this time in areas where EAB is abundant (much of MD), ash needs to be treated with an appropriate systemic insecticide to protect it from being killed by EAB. If your ash trees are done flowering (pollinator protection), now is the time to treat trees with a systemic insecticide. The most common insecticide used is emamectin benzoate which should be applied in the spring and is reported to give up to 3 years (changed from the previous recommendation of every 2 years) of control. Imidacloprid is also used and the rate applied influences the amount of time the trees are protected (ex. 1-2 years). Others who want to use a biorational insecticide can use Azadirachtin. Be sure to read the publication "[Insecticide Options for Protecting Ash Trees from Emerald Ash Borer](#)". This bulletin provides excellent information on product choice, application method, and at what stage of tree decline products will or will not likely work to control EAB.



New chewing damage on ash foliage indicates adult emerald ash borer are active.

Photo: P.M. Shrewsbury, UMD

There are other IPM practices that should be integrated with pesticide applications to manage EAB and protect ashes. For good information on this topic go to: <http://www.emeraldashborer.info/>. These include practices such as cutting down / removing EAB infested ash trees especially those that are hazard trees, creating trap (girdled) trees to attract EAB, and not moving ash products (wood) to un-infested areas. UMD in collaboration with MDA and USDA are involved in studies that include the release and assessment of native and exotic biological control agents for several years.



"D" shaped exit holes are a diagnostic clue that adult emerald ash borers emerged from your ash tree.

Photo: M.J. Raupp, UMD

Although biological control agents are attacking EAB at rates still too low to control EAB, the results that we see are promising. With more time, this program will provide long-term sustainable suppression of EAB. In the meantime protect the ashes you want to keep with insecticides.

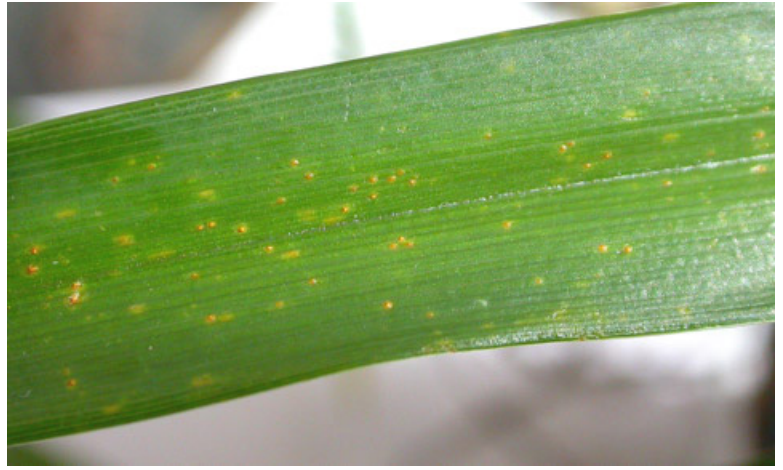
Daylily Leaf Streak

By: D.L. Clement and K.K. Rane

Daylily leaf streak is caused by the fungal pathogen, *Aureobasidium microstictum*. Symptoms appear as small, reddish-brown flecks and brown spots that develop as a central yellow streak along the midvein. Leaf streak symptoms begin at the leaf tips and progress downward towards the leaf base. If symptoms are severe, entire leaves can turn yellow. The streaks die, turning orange-brown and become necrotic and dry. Daylily leaf streak does not affect daylily flowers.

Disease development is dependent on moisture supply and temperature. When temperatures are above 90 °F, disease development slows. Rainy periods and overhead irrigation increase infection and enhance symptom development, since spore spread occurs naturally by splashing water. Plant to plant spread can also occur during cultivation and pruning, or animals that move through wet foliage.

Management: Spacing of plants to increase air circulation and management of overhead irrigation will help lessen disease severity by allowing leaves to dry. Remove and destroy old dead leaves before new spring growth begins. Avoid purchasing plants with any symptoms of the disease. Different cultivars will vary in susceptibility so if possible choose resistant plants.



If an orange residue comes off on your fingers, the daylily is infected with rust

Daylily rust caused by *Puccinia hemerocallidis* can sometimes be confused with leaf streak. A quick diagnostic test is to run your finger or a tissue along the leaf lesions. If no color appears on your fingers, or the tissue then the disease is leaf streak. If the result is an orange, powdery residue then it is daylily rust.



Leaf streak symptoms begin at the tip and progress downward toward the base of the leaf
Photos: Davd Clement, UME-HGIC

Beneficial of the Week

By: Paula Shrewsbury

So many aphid “mummies”... Just in time for Mother’s Day

This week the photos you see were submitted to the UME Home and Garden Information Center (HGIC). The branches are from a redbud tree in Montgomery County MD. The client was concerned that this might be a scale insect on the branches and wanted to know if they should treat the redbud. This type of situation emphasizes why diagnostics is important. In examining the image, you see the branches covered with aphid mummies (see images), most of which have exit holes in them from which a parasitic wasp emerged. Interesting about this sample, is the abundance of aphid mummies and their large size. The redbud likely was infested with giant bark aphid, *Longistigma caryae* (Hemiptera: Aphididae), which is not an uncommon pest of redbud (and many other species of trees). Giant bark aphids were reported in [last week’s newsletter](#) on London plane tree, however in this report they were an active population of aphids. Giant bark aphids are the largest aphid, about ¼” (6 mm) in North America, are grey in color with rows of black spots on their body, and very long legs. Unlike many aphid species that feed on leaves, giant bark aphids feed on the woody branches of their hosts, removing phloem sap with their sucking mouthparts. Not surprising giant bark aphids produce large amounts of sticky honeydew (see image). Unusual for aphids, giant bark aphid feeding damage can result in significant tree damage such as branch dieback, and in some cases death of trees have been reported, including redbud tree death.

Fortunately, as with many species of aphids, there are a diversity of natural enemies that attack giant bark aphids. These include lady beetles, syrphid fly larvae, lacewing larvae, and other generalist predators. Giant bark aphids on the redbud sample were attacked by parasitic wasps (Hymenoptera). I searched the literature to find out which species of wasp was likely parasitizing the aphids on this plant and could find little to no information – curious. In general, wasps that parasitize aphids are in the families Braconidae and Aphelinidae, most of which specialize on aphids. Most wasps in these families are koinobiont, which means the host (aphids) continue to develop and grow after being [parasitized by the wasp](#). This sounds like a slow, tortuous death to me. The female adult wasp will insert her ovipositor into the aphid, insert an egg, the egg hatches and the wasp larva feeds on the insides of the aphids. The aphid body changes color (ex. dark brown or black depending on wasp species), and swells, giving it a bloated appearance. At this point, they are referred to as aphid mummies. The larva matures and pupates inside the aphid, eventually killing the aphid. Once the



Mummies from giant bark aphid parasitized by a wasp on redbud.
Photo: M. Medrek



Heavy infestations of bark aphids often cover branches. Fortunately, this aphid population was heavily parasitized as indicated by the presence of aphid mummies.
Photo: M. Medrek

adult emerges from the pupa it chews a circular hole through the aphids exoskeleton in the topside of the aphid abdomens. The adult wasp emerges and flies off to find a mate or another aphid to parasitize.

The giant bark aphids on the redbud sample had extremely high levels of parasitism, as indicated by the number of aphid mummies. If I were managing this redbud, I would wait and monitor the tree this year to see if aphids, and their natural enemies, return. Obviously, this wasp parasitoid was very abundant and providing biological control.



Close up of aphid mummies on the underside of a leaf. Note that some have circular holes where the wasp adults have emerged; the others still have wasps developing inside them.

Photo: M.J. Raupp, UMD

Weed of the Week

By: Chuck Schuster

As one looks at roadsides and in some lawns, we see the yellow flower that we used to play with as children. Do you like butter? If our chin reflected the yellow color we were told we did in fact like butter. But really?

Bulbous buttercup, *Ranunculus bulbosus*, will be found in turf, nursery and landscape settings in many areas of the United States. It is a perennial weed that prefers low fertility, poor soils, and soils that remain wet for extended periods of time.

Seedlings will develop with leaves divided into three lobes, occurring on petioles. As the plant matures, the central lobe will develop on an independent stalk, and the lateral lobe will be attached to the main leaf petiole. Leaves are alternate along the stem. Stems will develop between ten and twenty inches in length or height and will be hairy.

Yellow flowers with five to seven petals will develop on stalks at the end of flower stems. The root system have a corm, which is very similar to a bulb. Young plants may only present with a thickened base on the root system. This plant can be mistaken for corn buttercup, but can be distinguished by the bulbous corm on the root, which corn buttercup will not have.



Bulbous buttercup is a perennial herb that prefers low fertility and poor soils that remain wet for extended periods

Photos: Chuck Schuster, UME-Emeritus

Control on bulbous buttercup starts with soil improvement. Adjust pH and a balanced soil fertility. Soil tests can be very useful with this. Review drainage and improve where possible. Many broadleaf post emergent herbicides work when this weed presents in turf. 2,4-D, MCPP, dicamba, and carfentrazone-ethyl (Speedzone) and other combination products that have 2,4-D will work well with this weed. Be aware of temperature considerations with these active ingredients as some have the ability to volatilize and move to other sites when the weather gets warm. Be cautious of landscape plants nearby. Active growth is important. Post emergent non selective products can be used in landscape settings. Manual removal is counterproductive unless you remove the corms when digging or pulling.



Bulbous buttercup has a corm root system
Photos: Chuck Schuster, UME-Emeritus

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 **298 DD** (Aberdeen) to **516 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.

- Andromeda lace bug – egg hatch (**281 DD**)
- Pine needle scale – egg hatch / crawlers (**307 DD**)
- Spirea aphid – nymph / adult (**326 DD**)
- Lilac borer – adult emergence (**350 DD**)
- Hemlock woolly adelgid – egg hatch 2nd gen (**411 DD**)
- Basswood lace bug – adult/nymph (**415 DD**)
- Emerald ash borer – adult emergence (**421 DD**)
- Fourlined plant bug – egg hatch (**435 DD**)
- Lesser peachtree borer – adult emergence 1st gen (**468 DD**)
- Maskell scale – egg hatch / crawlers 1st gen (**470 DD**)
- Oystershell scale – egg hatch / crawlers 1st gen (**486 DD**)
- Gypsy moth – egg hatch (**492 DD**)
- White prunicola scale 1st gen – egg hatch / crawlers (**513 DD**)
- Euonymus scale – egg hatch / crawlers (**522 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 May 5)

Aberdeen (KAPG)	298
Annapolis Naval Academy (KNAK)	390
Baltimore, MD (KBWI)	430
Bowie, MD	464
College Park (KCGS)	370
Dulles Airport (KIAD)	400
Ft. Belvoir, VA (KDA)	413
Frederick (KFDK)	362
Gaithersburg (KGAI)	375
Greater Cumberland Reg (KCBE)	308
Martinsburg, WV (KMRB)	316
Natl Arboretum/Reagan Natl (KDCA)	516
Salisbury/Ocean City (KSBY)	446
St. Mary's City (Patuxent NRB KNHK)	460
Westminster (KDMW)	427

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

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

Pest Management Recertification Program (limited in-person program)

June 3, 2021

Location: Carroll Community College, Westminster, MD

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](#)

Eastern Shore Procrastinators Pesticide Conference on June 8, 2021

<https://www.eventbrite.com/e/2021-eastern-shore-procrastinators-pesticide-conference-tickets-150763609013>

Once the attendees pay via eventbrite, they will be emailed the link to the zoom conference.

Greenhouse Program (limited in-person program)

July 8, 2021 Location: Catocin Mountain Growers, Keymar, MD

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Integrated Pest Management for
Commercial Horticulture

extension.umd.edu/ipm

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