UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report

for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **April 25, 2025**

In This Issue...

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 sklick@umd.edu

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Visit the Insect Petting Zoo at MD Day this Saturday April 26th

It is that time of year again This week I want to invite you all to visit the award winning Insect Petting Zoo (video by M.J. Raupp, UMD) that is part of MD Day held on the University of Maryland College Park campus this Saturday April 26th from 10:00 a.m. to 3:00 p.m. There will be fun and discovery for those of all ages and all interests. The Insect Petting Zoo is in the Plant Sciences Building on the first floor directly across from the Regents Drive parking garage.

Children of all ages will have a great time at the Maryland Day Insect Petting Zoo.
Photo: M.J. Raupp, UMD

This year's Petting Zoo will feature an amazing ensemble of arthropods, including natural enemies, pollinators, and others that may be friendly, ferocious, and even creepy. This year's spectacle features insects from around your home and around the world. A visit to the Petting Zoo is sure to excite insect enthusiasts of all ages, and perhaps convert some that aren't so fond of insects. Others come to face their fears by touching and holding Rosie the tarantula, giant lubber grasshoppers Vietnamese walking sticks, Eastern tent caterpillars, blue death feigning beetles, desert millipedes, and many other amazing critters. Children can collect insect stickers and the first 700 visitors may take home a Terrapin lady beetle to release in their garden to help reduce insect pests.

MD Day has over 400 free events and activities throughout campus that will excite people of all ages and interests. Make a day of it. Be sure to check out events through the College of Ag and Natural Resources. They are celebrating 100 years of Ag Day and have some exciting, fun, and informative events.

To learn more about Maryland Day and the location of the **Insect Petting Zoo** please click on the following links:

Maryland Day: **https://marylandday.umd.edu/**

Insect Petting Zoo and **Discover a Swamp,** 10am-3pm: **https://marylandday.umd.edu/events?neighborhood=ag-day**

The ferocious looking whip scorpion does not live up to its name.
Photo: M.J. Raupp, UMD

Rosie the Chilean rose hair tarantula.
Photo credit Butterfly Pavillion

Scale Infestations

Marie Rojas, IPM Scout, continues to find various scale at multiple locations in Montgomery County. She is finding Japanese maple scale (1st generation egg hatch at 829 DD) on a variety of trees, especially *Cladrastis* and *Zelkova*, tuliptree scale (egg hatch at 3472 DD) overwintering on magnolia species, and heavy populations of Japanese maple scale and white prunicola scale (1st generation egg hatch at 513) on *Cladrastis* 'Perkins Pink'. Marie noted an almost crust-like population of white prunicola scale on *Prunus* 'Snofozam'.

All of these scale insects will be in crawler later in the season.

A heavy infestation of white prunicola scale on *Prunus* 'Snofozam' has a crust-like appearance.
Photo: Marie Rojas, IPM Scout

Monitor Japanese maple scale populations for first generation crawlers in late May and June.
Photo: Marie Rojas, IPM Scout

Tuliptree scale does not produce crawlers until mid to late summer.
Photo: Marie Rojas, IPM Scout

Tea Scale

Sam Fisher, Bartlett Tree Experts, found tea scale on holly in D.C. on April 23. We have already passed 195 degree days for first generation egg hatch of this armored scale. Look for yellow crawlers on the undersides of camellia and holly leaves which are the preferred hosts of this scale. Tea scale has multiple, overlapping generations, so keep monitoring plants for the presence of this pest and to determine if control measures are working. If crawlers are present, use Insect Growth Regulators (IGR) such as pyriproxyfen (Distance) or buprofezin (Talus).

Now is the time to look for the first generation of tea scale crawlers. Photo: Sam Fisher, Barltett Tree Experts

Cottony Camellia/Taxus Scale

Craig Gray, Arlington National Cemetery, is finding cottony egg masses of cottony camellia/Taxus scale this week. Look for the pale yellow to yellowish crawlers in the next few weeks. Egg hatch is at 649 DD. There is only one generation of this scale per year. Common plant hosts are yews (*Taxus*) and hollies (*Ilex*). This soft scale can produce copious amounts of honeydew on which sooty mold can grow. When crawlers are active, control options include horticultural oil and Insect Growth Regulators (IGR) such as pyriproxyfen (Distance) or buprofezin (Talus).

Cottony camellia/Taxus scale are laying eggs in Arlington, VA this week. Look for crawlers as we move into May. Photos: Craig Gray, Arlington National Cemetery

Boxwood Leafminer Adults Are Active or Near Active

By: Nancy Harding and Paula Shrewsbury

Boxwood leafminer (*Monarthropalus flavus*, Diptera: Cecidomyiidae) adults were active in Bowie, MD on April 22 clinging to leaves and hovering within inches of a pyramidalis boxwood (*Buxus sempervirens* 'Pyramidalis') as they are very weak flyers. The accumulated growing degree days in Bowie on 4/22/2025 was **256 DD.** In Montgomery County, Marie Rojas, IPM Scout, found boxwood leafminer are near done pupating and their wings could be seen in the pupae (see image). They should be close to eclosion (emerging as adults). When pupae are ready to eclose, they push their way out of the leaf and pupal cases can be seen hanging from the underside of the leaves. Adult emergence usually occurs when doublefile viburnums, *Viburnum plicatum*, are in full bloom and around 249 DD.

Boxwood leafminer pupae that are close to eclosion found on 4/22/2025 in Montgomery County, MD.
Photo: Marie Rojas, IPM Scout

Boxwood leafminers are a gall midge (fly). The adults are orange-yellow mosquito like flies about 1/8" long. Adult leafminers emerge over a two-week period in early spring but each fly only lives about 24 hours. After mating the female lays about 30 eggs into the soft leaf tissue of the new growth and then the female dies. The boxwood leafminer has a complete metamorphic life cycle: egg, larva, pupa, adult (https://www.youtube.com/watch?v=YUw5j7lmp1o). Tiny whitish maggots (legless larvae) hatch in about 2 weeks and begin feeding on tissue between the upper and lower leaf layers until the weather warms. During the heat of the summer the larvae go into an aestivation period and do not feed. In the cooler early fall months, the larvae begin to actively feed again, and this is when most of the damage is done to boxwood. As the larvae grow, they will become bright yellow and overwinter as partially-grown larvae. The boxwood leafminer larval feeding between the upper and lower parts of the leaf causes blister-like mines on the underside of the leaf. Leafmining damage can cause the plants to look as though they have received severe winter burn, and damaged leaves drop early.

Fully emerged (right) and partially emerged (left) adult boxwood leafminer adults. Note the empty pupal cases hanging from the leaf.
Photo: Sabrina Tirpak, Rutgers PDL

Monitoring: Shake shrubs to detect flying adults during the spring (now). Look at the underside of the previous year's leaves for mining and pupal cases sticking out of the lower leaf surface to easily detect infestation. Mines of the current season do not become obvious until fall.

Management: Encourage natural enemies such as green lacewings and spiders. Keep plants healthy. Use boxwood cultivars that are more resistant to boxwood leafminer. Cultivars of English boxwood such as *Buxus sempervirens* 'Pendula,' '‘Suffruticosa,' 'Handworthiensis,' 'Pyramidalis,' 'Argenteo-varigata' and 'Varder Valley' are more resistant. Mechanical controls can reduce populations. Prune the foliage before adults emerge, or if they have already emerged wait until adults are done laying eggs in the leaves. Although chemical applications of systemics (dinotefuran) made in the spring (April to May) have given good control, most people recommend applications made in August into September. Mike Raupp, UMD, found that abamectin applied early season (just after oviposition), gave equal control to imidacloprid. Abamectin is a translaminar material and gives the added benefit of spider mite suppression.

Female adult boxwood leafminer inserting her eggs into a boxwood leaf. Adults look like orange mosquitoes.
Photo: D. Loughlin

Boxwood leafminer adults caught in a spider web.
Photo: Nancy Harding, UMD

Boxwood Psyllids and Mites

Jason Hipp, Deeply Rooted Tree Care, found boxwood psyllid hatch and activity in Rockville on April 22. Nymphs are feeding within cottony masses on the tips of boxwood. Marie Rojas, IPM Scout, also found psyllids as well as boxwood spider mites active this week. Psyllid feeding causes cupped and curled leaves. Boxwood psyllid has one short generation each year. Damage is rarely significant enough to warrant treatment. If you do treat, materials such as abamectin (Avid), pymetrozine (Endeavor), flupyradifurone (Altus), or acephate should all control this insect.

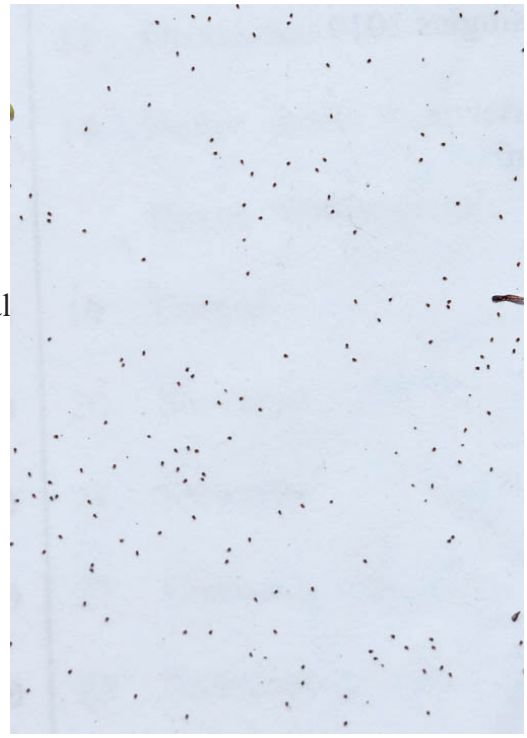
Boxwood spider mite feeding causes yellow stippling on the foliage. At this time of year, you can still see the damage from last year on the older foliage. Horticultural oil works well on control at this time of year. Control the mites now to prevent the damage showing up later in the summer. Abamectin (Avid), should control psyllid and spider mites.

Boxwood psyllid nymphs feed within the cottony mass found on the tips of boxwood.
Photo: Jason Hipp, Deeply Rooted Tree Care

Spruce Spider Mites on Cryptomeria and Arborvitae

Marie Rojas, IPM Scout, is finding very high spruce spider mite populations on cryptomeria and Emerald Green arborvitae in multiple Montgomery County locations. You can do a tap test onto paper to help determine the level of a mite infestation. Spruce spider mite is a cool season mite and is most active in the spring and the fall.

Control options include Insect Growth Regulators such as hexythiazox (Hexygon) and etoxazole (TetraSan). Both of these products are ovicidal and control proto and deutonymphs stages.



A high number of spruce spider mites were dislodged when Marie did a beat test onto a piece of paper.
Photo: Marie Rojas, IPM Scout

Penn State Fruit Disease Updates

In the most recent Disease Update, Dr. Kari Peter (Penn State) indicates a medium to high risk of fire blight, rust, and scab infections in blooming apple and pear trees. If dry weather continues, Dr. Peter also reminds us that conditions are still conducive for brown rot and powdery mildew on stone fruit. The article describes the weather conditions that favor these diseases, discusses management for each, and links to useful articles with more information about each disease.

Continue to monitor trees and use appropriate management practices based on site history and symptoms. If you need help diagnosing the problem, reach out to the UMD Plant Diagnostic Lab.

Roseslug Sawflies: (Hymenoptera: Tenthredinidae)

By Nancy Harding and Paula Shrewsbury

Roses are starting to crawl with insects. Sam Fisher (Bartlett Tree Experts) observed roseslug sawfly, aphids, and a geometrid caterpillar on Thursday 4/24. Of these we are going to focus on sawflies because they can cause significant damage if gone unnoticed.

Roseslug sawfly plant damage on roses.
Photo: N. Harding, UMD

Sawflies are not true flies (Diptera) they are wasps. These wasps (Hymenoptera) are named for the adult female's sawlike, abdominal appendage used for inserting eggs into plant tissue. There are three sluglike sawflies of rose: the bristly roseslug sawfly (*Cladius difformis*), the roseslug sawfly (*Endelomyia aethiops*), and the curled roseslug sawfly (*Allantus cinctus).* These insects are not picky when it comes to choices of roses to feast upon. Even the 'Knock Out' roses make a tasty meal for these plant feeding insects.

Roseslug sawfly is an introduced insect from Europe. It is usually the earliest of the rose sawflies to become active (early instar larvae ~230 DD) and there is only one generation per year. The larvae have pale green colored bodies and light tan-orange colored heads. When larvae are fully grown (final instar) they are only about ½" long. These sawflies cause leaf damage by feeding on the undersides of rose leaves causing a windowpane appearance, a form of leaf etching (Cranshaw, 2004). Adult roseslug sawflies are about ¼" long and look very wasp-like except they have a wide "waist" (where thorax and abdomen join) (Davidson and Raupp, 2010). They emerge in early spring and lay eggs singly in pockets along the edges of leaves using a saw-like ovipositor. Eggs hatch and larvae emerge in late April to early May. Larvae crawl to the ground to spin cocoons by mid-June.

Roseslug sawfly larva.
Photo: J.A. Weidhass, Virg Tech, Bugwood.org

Bristly roseslug sawfly is also an introduced insect from Europe. The larvae are about 5/8" long and greenish white (pale green) with a light tan head capsule with long, distinguishing stout bristles. Feeding of the early instar larvae of the Bristly roseslug sawfly causes leaf etching on the lower leaf surface, where the later instar larvae feeds between the main veins, producing holes in the leaves (skeletization). This sawfly is the **most damaging** of the three species, as it has multiple generations (reported 5 – 6) throughout the season, so control often necessary. The adults are small, thick-waisted wasps, mostly black in color. The Bristly roseslug sawfly life cycle is similar to the Roseslug sawfly, except it has multiple generations per year.

Bristly roseslug sawfly larvae.
Photo: N. Harding, UMD

Curled roseslug sawfly are busy feeding on rose foliage through May and June and there is one generation per year. Larvae are green with rows of pale, short, stout projections (tubercles) and grow to 3/4" long. The curled roseslug sawfly feeding starts off as skeletonization, and larger pieces of leaf tissue are missing from the leaf edge, and ultimately defoliation of the leaves. When they are not feeding, they curl up on the underside of a leaf and camouflage nicely with the leaves. When its development is complete, the larva bores into the twig where it pupates. Later the adult, a small wasp, will emerge, mate, lay eggs and initiate a second seasonal generation.

It is clear how the curled rose sawfly got its name.
Photo: M. J. Raupp, UMD

Monitoring: Because of their small size and pale green semi-transparent color, you will need to look very closely at the undersides of the leaves. Also monitor for the early signs of feeding (small patches of brown etching, a type of chewing damage) to help you pinpoint the larvae.

Control: 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, Spinosad, cyantraniliprole and chlorantraniliprole all work very well on this pest.

For more information on the Roseslug sawfly go to:
Bug of the week http://bugoftheweek.com/blog/2018/5/21/rosie-defoliators-roseslug-sawfly-iendelomyia-aethiopsi-and-curled-rose-sawfly-iallantus-cinctusi

And/or

https://extension.umd.edu/hgic/topics/rose-slugs-shrubs

**This sawfly was flying around roses and likely the adult of one of the rose slug sawflies.
Photo: A. Simons, Maxalea**

Spotted Lanternfly Update – Monitor for egg hatch

By: Paula Shrewsbury, UMD

This week in 2024, we had the first reports of spotted lanternfly (SLF) eggs hatching. Keep your eyes open! This should be the week that you see spotted lanternfly eggs hatching. If you look at the degree day (DD) accumulations listed at the end of the newsletter you will see that many locations have reached or getting close to **270 DD**, the number of degree days that let us know it's time to monitor closely for SLF egg hatch.

If you see SLF eggs hatching, please let me (pshrewsbury@umd.edu) know when, where, and on what host tree (if you know it).

**This spotted lanternfly nymph JUST emerged from its egg. You can see the top of the egg (operculum) that was popped up providing the opening for it to emerge.
Photo by E. M. Russavage, UMD**

**When first emerging from the egg mass the nymphs are whitish in color but in a short time the first instar nymphs turn black with white spots and can be quite active (jumping, walking, feeding).
Photo by P.M. Shrewsbury, UMD**

Ambrosia Beetle Update

By: Paula Shrewsbury

Temperatures this past week have been in the 70's every day in many areas of MD. We monitored a few traps earlier this week and had ambrosia beetles, but when the traps were checked on Thursday there were a good number more beetles. At the trap at CMREC (Ellicott City) there were 5 beetles on Tuesday and 15 beetles on Thursday (=20 total). Of the top three damaging beetles of concern for nurseries and landscapes in our region there were 2 black stem borer, *X. germanus*; 9 granulate ambrosia beetle, *X. crassiusculus*, and 0 camphor shoot beetle, *Cnestus mutilatus*.

In Beallsville MD, Marie Rojas (IPM Scout) checked the trap (out for 7 days) last Tuesday 4/22 and found 31 beetles; Marie went back Thursday 4/24 and found 23 beetles after just 2 days. The take home message is that in the last two days, ambrosia beetle activity has increased in the traps. We have not been able to identify which beetles were in the Beallsville trap, but we hope to get that information soon.

Marie also noted that she has not seen any beetle activity in trees in the nurseries that she scouts in Montgomery County MD.

Recommendations: The weather this week is predicted to be above 70°F for a few days and below 70°F for a few. The optimal conditions for ambrosia beetle flight are warm temperatures >70°F for 2-3 consecutive days. I suggest continuing to closely monitor known susceptible host trees of *Xylosandrus* species such as styrax, yellowwood, birch, zelkova, and redbud. Other hosts reported in past years include the hybrid series of *Cornus florida* and *C. kousa*, Kwanzan cherries, *Ilex opaca* 'Satyr Hill' and 'Miss Helen', and paperback maples. Trees in low lying areas that stay wet are particularly attractive to *Xylosandrus* and *Cnestus*. Look for wet areas on tree trunks, frass tubes ("toothpicks") produced by the beetles, and beetles in and around the holes.

Frass tube produced by an ambrosia beetle (top) and the rear of an adult sticking out of its hole (bottom). Photos: Marie Rojas, IPM Scout

Preventive use of permethrin or bifenthrin is more effective than other conventional insecticides, but growers and landscape managers would have to check product labels to ensure they can treat trees depending on their flowering stage.

We will continue to run our ambrosia beetle traps and keep you informed on what we find.

If anyone finds ambrosia beetle activity in trees, please let me know (pshrewsbury@umd.edu and copy sklick@umd.edu) where, when, and on what type of tree and send pictures.

Woolly Apple Aphid, *Eriosoma lanigerum*, on Elm

By: Nancy Harding and Paula Shrewsbury

On Tuesday April 22nd, Marie Rojas, IPM Consultant, found woolly apple aphids just starting to feed on the underside of elm leaves causing distortion. The woolly apple aphid, *Eriosoma lanigerum*, is native to North America. In areas where American elm occurs, elm is the overwintering host, and rosaceous plants are the summer (alternate) host. In the spring, after eggs hatch and after a few generations occur on elm, winged forms are produced that disperse to rosaceous plants (i.e. apple, crabapple, hawthorn, pyracantha, or mountain ash) where it feeds below ground on the roots, twigs and trunk or around wounds on the trunk. On summer Rosaceous hosts, woolly apple aphid reproduces asexually (no mating occurs) and gives live birth to nymphs (not eggs). Multiple generations are present on the summer host. Woolly apple aphids can be a damaging pest to apple crops. In early fall, winged aphid forms return to the elm and mating occurs among sexual forms. Mated females each lay one egg (overwintering stage) and dies. In the spring the cycle starts again. In the spring, aphid feed on newly expanding elm leaves causing leaves to twist and curl and be stunted. When you uncurl the leaves, the woolly aphids can be seen. The aphids also produce an abundance of honeydew.

Woolly apple aphids are active on the underside of elm leaves (overwintering host) where they produce an abundance of wax and honeydew, and cause leaf distortion. Photo: Marie Rojas, IPM Consultant

There are several common predators that feed on woolly apple aphids: lacewing larvae, lady beetles, and syrphid fly larvae. In addition, there is a native parasitic wasp (*Aphelinus m*ali) and a predatory plant bug (Miridae), *Deraeocoris aphidiphagus*, which can be commonly found in the curled elm leaves snacking on the aphids.

If control is warranted, horticultural oil and insecticidal soap can be used which should have a reduced impact on beneficial insects if they are present.

Gymnosporangium Rust

William Grund found gymnosporangium rust galls on the trunk of a cedar in Derwood this week. It is still necessary to continue to spray suseceptible roseaceous plants such as crabapple, hawthorn, and serviceberry to reduce the infection of the fungal pathogen.

Gymnosporangium rust galls on this cedar continue to produce spores that will infect the alternate roseaceous plant hosts. Photo: William Grund

Tulip Fire

By: D.L. Clement

Tulip fire is caused by the fungus *Botrytis tulipae*. It is closely related to the gray mold pathogen, *Botrytis cinerea*. The first symptoms are distorted, or twisted leaves with brown spotting that appear during, or soon after emergence from the soil. As spots enlarge, leaves may distort and partially rot, particularly at the base. As the disease advances, infected areas turn whitish gray giving the impression of scorch. Flowers are very susceptible to this fungus. The spores of tulip fire can persist in soil for several years as sclerotia, and can also be carried on the bulbs themselves.

Spores of tulip fire can persist in the soil for several years. Photo: David Clement, UME

Management: At fall planting time, examine all bulbs; discard diseased ones. Rotate tulips to new location each year to prevent fungal sclerotia buildup in soil. Continue to remove diseased plants and adjacent soil as soon as you notice the disease. Also, remove flowers before petal fall. Consider using tulips only as an annual planting.

Volutella Blight of Pachysandra

D.L. Clement

We've been receiving questions this spring on declining and dieback of pachysandra beds. Pachysandra is prone to leaf spotting and dieback in the spring caused by the fungus, *Pseudonectria pachysandricola,* or in the older literature *Volutella pachysandrae*. The damage is worse in beds where fallen debris such as leaves and branches have fallen and compacted creating moisture retaining layers over the pachysandra plants. Therefore to prevent moisture retention within the plant canopy, do not mulch pachysandra with shredded bark products. New infections will continue through this season if rainfall is adequate. Stressed pachysandra is also more likely to be severely affected. Stresses include plants in a sunny, dry locations, or a planting that was originally in a shady location, but removal of a tree has now exposed the bed to more sun.

Moisture retaining layers around pachysandra plants promotes Volutella infection. Photo: David Clement, UME

Management: Fungicide applications without changing cultural conditions is rarely effective since it's hard to get thorough coverage with the dense foliage and debris layers. Our recommendations are to do extensive thinning and rejuvenation of the beds by string trimming the plants down followed by use of leaf blowers to dislodge the accumulated debris to increase air circulation around the remaining healthy plants. These beds will

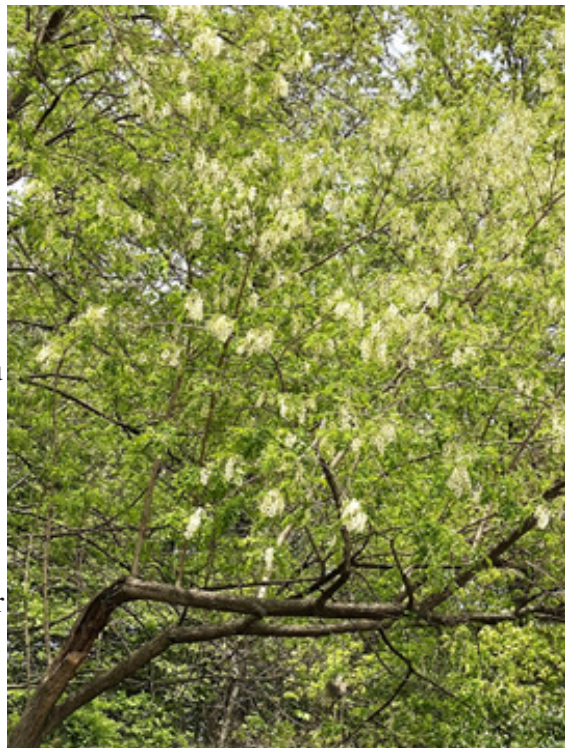
take time to grow back in and may require fertilization and weeding to return to their former density. Fungicide applications can be used to protect new growth as beds grow back in and may include chlorothalonil, copper products, mancozeb, maneb, myclobutanil, propiconizole, and thiophanate methyl. Be cautious during bloom since some products such as chlorothalonil may adversely affect pollinators.

Black Locusts Are in Bloom! Emerald ash borer adults should be emerging soon!

By: Paula Shrewsbury, UMD

This past week black locust, *Robinia pseudoacacia* (Fabaceae), came into full bloom in College Park and other 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 a few locations are near 420 DDs. With warm weather, it won't take that many days to reach 420 DD.

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).



Black locust, *Robinia pseudoacacia*, in bloom indicates emerald ash borer adults will be emerging soon.
Photo: P.M. Shrewsbury, UMD

So what should you be doing if you want to save your ashes!

Hopefully by this time you have done plant inventories and / or identified the ash trees that you want to save. At this time in areas where there is ash that you want to protect against EAB, ash needs to be treated with an appropriate systemic insecticide to protect it from being killed by EAB. Once ash trees are done flowering (pollinator protection), it 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 (some practitioners are stretching this to 4 years where there is low EAB pressure) of control. Imidacloprid is also used and the rate applied influences the amount of time the trees are protected (ex. 1-2 years, stretched to 2-3 years under low EAB

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 leave where the beetle had been feeding.
Photo: Leah Bauer, USDA Forest Service Northern Research Station, Bugwood.org

pressure). 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.

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/.

New chewing damage on ash foliage indicates adult emerald ash borer are active.
Photo: P.M. Shrewsbury, UMD

"D" shaped exit holes are a diagnostic clue that adult emerald ash borers emerged from your ash tree.
Photo: M.J. Raupp, UMD

Aphids on Threadleaf Japanese Maples

By: Paula Shrewsbury

Aphid activity (*Periphyllus* sp.) was found on threadleaf Japanese maple on 4/22/2025 by Jason Hipp (Deeply Rooted Tree Care). These aphids occur early in the season when leaves are starting to emerge. They can produce heavy honeydew and sooty mold. Fortunately, they do not persist through the season. Parasitoids and other natural enemies keep these aphids under control. Usually there is not too much damage, and the damage is covered by new growth. Control is usually not necessary. If populations are high enough that treatments are necessary, 1% horticultural oil or insecticidal soap should knock down the aphid population and have less impact on beneficials allowing them to finish the job.

Winged adult *Periphyllus* sp. aphid on threadleaf Japanese maple.
Photo: J. Hipp, Deeply Rooted Tree Care

Aphids, *Periphyllus* sp., (wingless aphids shown here) show up on Japanese maples early in the season, but are rarely a problem. (April 2023)
Photo: Heather Zindash, The Soulful Gardener

Hemlock Woolly Adelgid

Luke Gustafson, The Davey Tree Experts, found hemlock wooly adelgids active on a hemlock in Catonsville on April 24. Newly hatched nymphs are reddish-brown with a white fringe near the front; and settled crawlers are black with a white fringe around the body and down the back. There are two generations a year.

Control: Spray trees with 2-3% horticultural oil to target just hatched or newly settled crawlers

Look for reddish-brown hemlock woolly adelgid crawlers.
Photo: Luke Gustafson, The Davey Tree Experts

Willow Leaf Beetle Adults Are Active

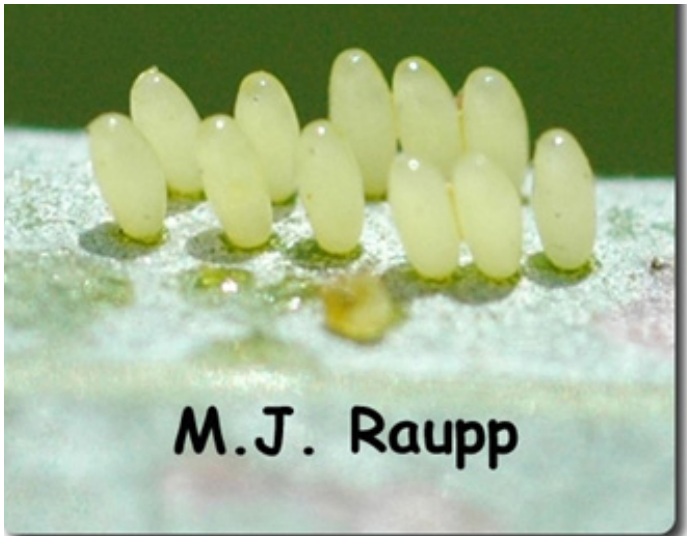
By: Paula Shrewsbury

Imported willow leaf beetle, *Plagiodera versicolora*, adults were reported by Arborist Ben. Adults have come out of their winter rest period and are now feeding on the new leaves of willow trees. Adult beetle activity in the spring begins around **290 DD**. Adults of this introduced beetle are about 3/16" long, oval, convex, and metallic blue to greenish blue. Adults overwinter in protected locations. The adults will feed, mate, and lay clusters of eggs (similar in appearance to lady beetle egg masses). The larvae are almost all black with rows of tubercles down the body. There is 2-3 generations a year.

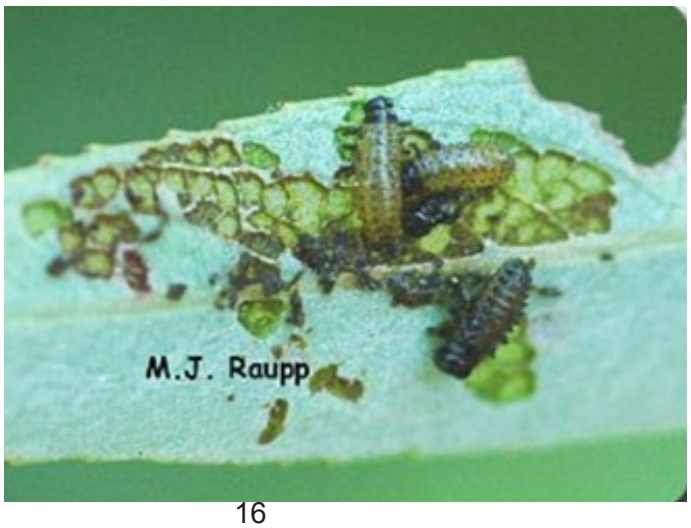
Adult Imported willow leaf beetle and its feeding damage on willow.
Photo: Ben Morris, SavATree

Imported willow leaf beetles feed on several varieties of willow and cottonwood and found throughout the U.S. Adults chew holes in foliage and feed on newer leaves, whereas the larvae feed in clusters, skeletonize the leaves, and prefer older leaves. Although high populations of Imported willow leaf beetle can defoliate trees, usually damage levels rarely require controls. Often, predators such as lady beetles and assassin bugs are found feeding on these beetles, and willow growth usually masks damage symptoms, so control is not necessary.

Close up of the beautifully colored adult Imported willow leaf beetle.
Photo: M.J. Raupp, UMD



Examine the underside of leaves and scout for Imported willow leaf beetle eggs.
Photo: M.J. Raupp, UMD



Larvae of Imported willow leaf beetle feed in groups on the underside of foliage causing skeletonization damage.
Photo: M.J. Raupp, UMD

Beneficial of the Week

By: Paula Shrewsbury

Who is the first parasitoid wasp of the season?

Note the typical characteristics of an Ichneuomonid wasp adult. It has long thin antennae and legs, and a very narrow "waist".
Photo M.J. Raupp, UMD

One of the first parasitic wasps of the season to be active is a large parasitoid in the family Ichneumonidae and subfamily Ophionine (~32 genera world-wide). It is not unusual to see adult Ophionine wasps hanging out around porchlights in March. These wasps usually appear on the first 60-ish degree evening of the year, and some species are seen throughout the season. This week I found an Ophionine adult in my house (that was captured and released outside).

Ichneumonidae (Ichneumonid wasps) is the largest family within the order Hymenoptera. There are over 4,000 named species in North America alone, with an estimated 60,000 – 100,000 species worldwide. Ichneumonid wasps are some of the larger parasitic wasps, with some being 5 cm long (usually range ~1- 2"). Members of the family have long, slender abdomens, with very narrow "waists" (where the abdomen and thorax meet) and long thin antennae and legs. Their color can vary depending on species. They may be tan to orange-brown to brightly colored. Female ichneumonids have ovipositors (egg laying organs) that extrude from the tip of the abdomen and can be extremely long in some species. They use their ovipositor to lay eggs into their hosts (not to sting humans, fortunately).

Many Ophionine adults are nocturnal and attracted to light. Adult wasps feed on nectar from plants and may be observed visiting flowers, especially at dusk. Most Ophionine wasps parasitize species of caterpillars such as armyworms or bagworms, and a few Ophionine species parasitize scarab beetle grubs or sawfly larvae.

Ophionine wasps have a very interesting life cycle and are referred to as solitary endoparasitoids. In translation, this means that the adult wasp oviposits a single egg into a caterpillar, the newly emerged larva hangs out inside the body of the caterpillar without killing the caterpillar. The wasp larva waits until the caterpillar is big enough to provide it a meal that allows it to complete its development. As the caterpillar reaches its later immature stages and begins to pupate, the wasp larva then proceeds to consume all the body tissue and fluids of its host, killing the caterpillar. The wasp larva spins its cocoon while inside of its host. The adult wasp then emerges from the cocoon and caterpillar and starts the cycle all over again. Ophionine wasps are one of numerous groups of parasitic wasps that help to keep armyworms and other insects from causing economic damage to ornamental plants and turf. The next warm evening, be sure to leave your porch light on and look for these beautiful wasps.

Weed of the Week

By: Chuck Schuster

Depending where one is checking, moisture levels in the soil vary greatly. Some areas need to dry out, and others are very dry. Moisture is promised on Friday, I hope it happens. Garlic mustard is actively growing and getting tall with the warmer temperatures. This weed is very aggressive and will take over any open spots in the landscape and in area of infrequent mowing it will pop up. Garlic mustard, *Alliaria petiolata*, an invasive weed found throughout much of the East Coast of the United States. This weed is a cool season biennial that produces a heart-shaped, coarsely toothed leaf which will appear on a stalked stem that will grow to 3.5 feet tall. The leaves give off a garlic odor when crushed. During the winter, the plant will have a green rosette that will remain very close to the ground, yet will be growing when temperatures are above freezing. Flowers will be produced with four petals that form a cross.

This weed produces appropriately 30 flowers or thousands of seeds per plant that can be dispersed several feet from the plant. Seeds are viable for several years. This is an invasive weed that likes shaded understory conditions, slightly acidic soils, and soils that are moist. This is a self-pollinating plant in many cases, and will shade out other plants quickly. Removal by pulling will only be successful if the complete root system is pulled. As a cool season herb, garlic mustard will grow when temperatures exceed freezing. An opportunity to gain some control of this weed can include the use of selective treatments while other plants are dormant, other plants have not yet appeared (spring) or have died for the year (late fall).

Garlic mustard produces thousands of seeds per plant. Photo: Suzanne Klick, UME

Control of garlic mustard in a landscape can be obtained using glyphosate products, even during the winter months when temperatures are at 32 °F or higher. Glyphosate is a non-selective herbicide meaning that it will kill or damage most plants it comes into contact with (including woody plants). Use extreme caution using glyphosate around woody plants, as it will be absorbed through the bark and does cause bark splitting and loss of many desirable plants. While garlic mustard will not appear on the label if the site is labeled then Maryland applicators can use glyphosate. Bentazon (Basagran) may be an acceptable substitute, though less effective on garlic mustard, but with reduced risk to some non-targets particularly annual and perennial grasses. Apply at 5 teaspoons per 1-2 gallons of water. Use methylated seed oil (MSO) or crop oil concentrate (COC) with Basagran T/O. Bentazon may be a substitute, less effective on garlic mustard but with reduced risk to some non-targets particularly annual and perennial grasses. This weed has seed that will remain viable in the soil for up to five years, so control is a long-term commitment. This weed can be found in many settings, so everyone must be aware of it. Early detection and control are important with this weed.

Plant of the Week

By: Ginny Rosenkranz

Mertensia virginica is commonly known as Virginia bluebells, a native herbaceous perennial that thrives in moist organic rich soils in the shade. It is a spring ephemeral perennial that emerges in early in the spring with deep purple foliage that quickly turns green. The term ephemerals means that they emerge in the early spring, grow quickly, bloom quickly, create their seeds to scatter, then die back to go dormant in the early summer. The plants grow in a clump, 1 ½ - 2 feet tall and about 1-1 ½ feet wide and are cold tolerant from USDA zones 3-8. Their oval, 2-8-inch-long foliage is a lovely blue green with prominent veins and a smooth edge. The leaves start at the base with a short petiole but as the leaves grow alternately upwards, they change to sessile or clasp the stem without a petiole. The arching, mostly hollow stems seem succulent, but are actually very fragile. In late March to early May, Virginia bluebells begin to open at the tips of each stem in clusters with soft pink buds that quickly open to a bright sky blue. The beautiful, slightly fragrant, bell-shaped, arching flowers are created with 5 fused petals that form a tube, complete with 5 white stamens and a slender white pistil. They can bloom for up to 3 weeks, filling the woodlands with color. Their size and shape welcome many pollinators including hummingbirds, butterflies, flower flies (syrphids), bee flies, skippers, moths, native bumblebees and long-tongued bees. After the flowers have been pollinated, the sky-blue color fades to a soft pink and the bell shape shrinks like an empty balloon. While most of the flowers will be blue, there are always a few pure white flowering bluebells and even some pink ones.

Virginia bluebells are difficult to propagate but each flower produces 4 seeds that can begin to create a lovely sea of flowering plants that naturalize in the moist shady woodlands. Each seed produces a strong tap root so, if needed, they should be transplanted very early or just let grow where they start. Because the plants die back in early summer, other shade loving plants should be planted around and behind bluebells to fill in the blank spaces like native ferns, fringed bleeding hearts, foamflowers, coralbells, Solomons seal, pink or white turtlehead, or woodland asters. There are no serious diseases or insect pests, and plants are tolerant of rabbit browsing and can grow under the shade of black walnut trees.

Sometimes, there are white or pink flowers on a Virginia bluebell plant.
Photo: Ginny Rosenkranz, UME

Pest Predictive Calendar "Predictions"

By: Nancy Harding and Paula Shrewsbury, UMD

In the Maryland area, the accumulated growing degree days (**DD**) this week range from about **194 DD** (Clarksville) to **443 DD** (Nat'l Arboretum/Reagan Nat'l). 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.

Boxwood spider mite – egg hatch **(141 DD)**
European pine sawfly – larva, early instar **(154 DD)**
Woolly elm aphid – egg hatch **(163 DD)**
Inkberry holly leafminer – adult emergence **(165 DD)**
Spiny witchhazel gall aphid – adult/nymph **(171 DD)**
Spruce spider mite – egg hatch **(179 DD)**
Boxwood psyllid – egg hatch **(184 DD)**
Tea scale – egg hatch / crawler (1st gen) **(195 DD)**
Hemlock woolly adelgid – egg hatch (1 gen) **(197 DD)**
Viburnum leaf beetle – first egg hatch **(210 DD)**
Azalea lace bug – egg hatch (1st gen) **(214 DD)**
Birch leafminer – adult emergence **(215 DD)**
Elm leafminer – adult emergence **(219 DD)**
Roseslug sawfly – larva, early instar **(230 DD)**
Honeylocust plant bug – egg hatch **(230 DD)**
Elongate hemlock scale – egg hatch / crawler (1st gen) **(232 DD)**
Boxwood leafminer – adult emergence **(249 DD)**

Hawthorn lace bug – first adult activity **(259 DD)**
Spotted lanternfly – egg hatch **(270 DD)**
Bristly roseslug sawfly – larva, early instar **(284 DD)**
Imported willow leaf beetle – adult emergence **(290 DD)**
Hawthorn leafminer – adult emergence **(292 DD)**
Andromeda lace bug – egg hatch **(305 DD)**
Pine needle scale – egg hatch / crawler **(307 DD)**
Cooley spruce gall adelgid – egg hatch **(308 DD)**
Eastern spruce gall adelgid – egg hatch **(308 DD)**
Spirea aphid – adult / nymph **(326 DD)**
Lilac borer – adult emergence **(350 DD)**
Melon aphid – adult / nymph **(351 DD)**
Spongy moth – egg hatch **(373 DD)**
Holly leafminer – adult emergence **(375 DD)**
Hemlock woolly adelgid – egg hatch (2nd gen) **(411 DD)**
Basswood lace bug – first adult activity **(415 DD)**
Emerald ash borer – adult emergence **(421 DD)**
Locust leafminer – adult emergence **(429 DD)**
Honeylocust plant bug – egg hatch, early instar **(433 DD)**
Fourlined plant bug – egg hatch, early instar **(435 DD)**
Lesser peachtree borer – adult emergence (1st gen) **(468 DD)**
Oak erricoccin scale (oak felt scale) – egg hatch / crawler **(469 DD)**
Maskell scale – egg hatch / crawler (1st gen) **(470 DD)**
Oystershell scale – egg hatch /crawler (1st gen) **(486 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 23, 2025)

Annapolis Naval Academy (KNAK)	240
Baltimore, MD (KBWI)	289
Belcamp (FS836)	204
Clarksville (001MD)	194
College Park (KCGS)	300
Dulles Airport (KIAD)	305
Ft. Belvoir, VA (KDA)	353
Frederick (KFDK)	248
Gaithersburg (KGAI)	282
Greater Cumberland Reg (KCBE)	239
Martinsburg, WV (KMRB)	262
Millersville (MD026)	270
Natl Arboretum/Reagan Natl (KDCA)	443
Perry Hall (C0608)	206
Salisbury/Ocean City (KSBY)	287
St. Mary's City (Patuxent NRB KNHK)	409
Westminster (KDMW)	308

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 calculatorThresholds in: Fahrenheit °F Lower: 50 Upper: 95 Calculation type: simple average/growing dds Start: Jan 1

Conferences

Upcoming IPM Scouts' Diagnostic Sessions (afternoon)
June 17, 2025, July 30, 2025, and August 26, 2025
Location: CMREC, Ellicott City, MD

June 18, 2025
Eastern Shore Pesticide Recertification Conference via Zoom

June 24, 2025
Stanton Gill Symposium and Lab Dedication
Location: CMREC, Ellicott City
Co-sponsors: University of Maryland Extension and Maryland Nursery, Landscape, & Greenhouse Association

June 27, 2025
Pesticide Recertification Conference
Location: Montgomery County Extension Office, Derwood, MD

September 11, 2025
MNLGA Field Day
Location: Raemelton Farm, Adamstown, MD

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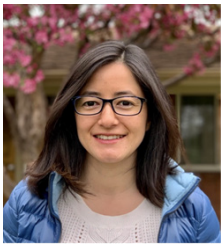

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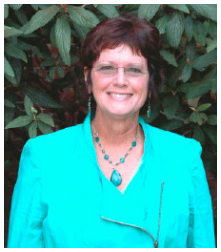

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