

Commercial Horticulture

November 3, 2023

In This Issue...

- [Last weekly report for 2023](#)
- [Spotted lanternfly update](#)
- [Spider mites and powdery mildew](#)
- [Crapemyrtle bark scale](#)

Beneficial of the Week:

Debris-carrying lacewings

Weed of the Week:

Purple deadnettle

Plant of the Week: *Acer saccharum*, Sugar maple

[Degree days](#)

[Pest Predictions](#)

[Conferences](#)

[Predictive Calendar](#)

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

Coordinator Weekly IPM Report:

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

Regular Contributors:

Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant

Disease Information: Karen Rane (Plant Pathologist), David Clement (Extension Specialist) and Fereshteh Shahoveisi (Turf Pathologist)

Weed of the Week: Chuck Schuster (Retired Extension Educator), Kelly Nichols, Nathan Glenn, and Mark Townsend (UME Extension Educators)

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

Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)

Design, Layout and Editing: Suzanne Klick (Technician, CMREC)

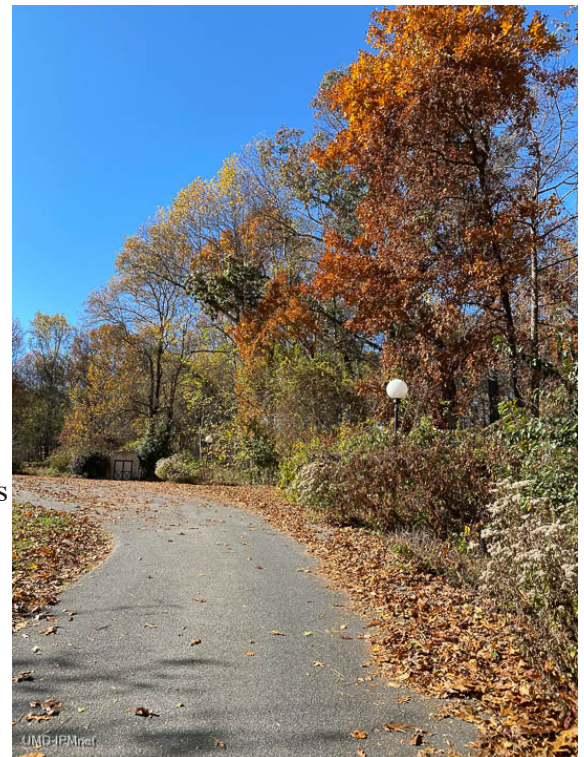
Last Weekly IPM Report for 2023

By: Stanton Gill

We stop the regular weekly IPM alerts with this issue, starting up again in 2024. We will have periodic IPM Alerts during the winter as different issues and programs come up that would benefit the horticulture industry.

Special thanks to our whole University of Maryland and MDA IPM team of writers that have been contributing weekly articles to help you out in your IPM efforts in nurseries, greenhouses, and landscapes.

We will be sending out the annual report survey soon.



UMD-IPMnet

Spotted Lanternfly Update

By: Paula Shrewsbury, UMD

SLF egg masses are still being laid

I am usually not one who wishes for cold weather. I do make an exception when it comes to spotted lanternfly (SLF). I was monitoring my research sites for SLF eggs on Monday and still found LOTS of active adults including females with eggs, and egg masses. According to Penn State Extension, adult SLF should die with the first hard frost (~ 28°F or lower for several hours or more). This will bring SLF egg laying to an end for the season. Note that this will not kill the eggs. SLF overwinter in the egg stage.

**Recently laid spotted lanternfly egg masses. Spotted lanternfly overwinters in the egg stage.
Photo by P.M. Shrewsbury, UMD**



Spotted Lanternfly Update

By: Stanton Gill

Each day, we continue to get more reports of landscape managers finding spotted lanternflies throughout Maryland. Many are reporting the adults are clustering on ailanthus, styrax, and red maple tree trunks. Matthew J. Morrison, National Park Service, reports that he is seeing many in northern Baltimore County (Kingsville, MD.). He also noted, "I have an October Glory maple in my yard that seems to attract them by the hundreds. I do not see egg masses on the tree or on the property." Caitlin Beckjord, Howard County Recreation and Parks, found a lot of adults and some recently laid egg masses in Ellicott City.

With the cool nights this week, females are being stimulated to lay their egg masses. Normally, I am not a big fan of using sprays of pyrethroids in the landscape since they are wide spectrum in what they kill and the residual activity is over a number of weeks. That said, a pyrethroid such as bifenthrin directed onto adults clustered on the trunks at this time of year should have less of an impact on predators since their activity is reduced with the cold weather. The pyrethroids act quickly, and if the females have not yet laid their egg masses, it will help reduce the population for 2024 by eliminating the egg mass before it is laid. If the females already laid egg masses, then the pyrethroid will have basically no measurable impact on the egg mass that was laid.



Many adult spotted lanternflies and a few egg masses.

Photo: Caitlin Beckjord, Howard County Recreation and Parks

Late Season Issues

On Monday in Baltimore City, Luke Gustafson, The Davey Tree Expert Company, found stippling and mite activity on Japanese holly and a lot of mites on boxwood.

Luke also found powdery mildew on a small Japanese maple.



**A heavy infestation of spider mites is active on Japanese holly and boxwood in Baltimore County this week.
Photo: Luke Gustafson, The Davey Tree Expert Company**



**End of season powder mildew infection on Japanese maple.
Photo: Luke Gustafson, The Davey Tree Expert Company**

Crape Myrtle Bark Scale Update

By: Sheena O'Donnell, UME

Winter is coming, which can mean many things but to us it means that insect activity is dying down. The CMBS crawler numbers at CMREC are dropping steadily to reflect that.

This insect can overwinter as any life stage, but most commonly overwinters in the nymphal stages. What is interesting about CMBS is that it can become mobile again for a short while after each molt before settling down to feed again for the next life stage. This mobile stage looks different from the 1st instar / crawler stage; it is larger, faster, and brownish whereas 1st instar crawlers are small and pink.

This year's counts show that peak crawler activity is in late spring to early summer (June) with subsequent overlapping generations. We will continue to monitor this insect's life cycle in Maryland next year, which will help to pinpoint peak crawler activity and best time to treat.



Crapemyrtle bark scale overwinter as nymphs.
Photo: Sheena O'Donnell, UME



There were still a few clusters of eggs under old female covers present on plants here at the research center.
Photo: Sheena O'Donnell, UME

Beneficial of the Week

By: Paula Shrewsbury

Debris-carrying lacewings – Predators in camouflage

A few days ago, I was in Sharpsburg, MD at one of my spotted lanternfly (SLF) research sites looking for SLF eggs (which I found lots). The other more positive thing I found, were predators - debris-carrying lacewing larvae (order Neuroptera: family Chrysopidae). I first noticed a small (~3/8") piece of lichen moving on a tree trunk. They were on a tree with lichens on the bark. A closer look confirmed my identification, this was the larva of a debris-carrying lacewing. As I continued to search, I found 3 more debris-carrying lacewing larvae using the same camouflage as the first. A debris-carrying lacewing larva can be first noticed when a piece of "lichen" or bits of plant, or insect "debris" or wax, about the size of a small raisin, begins to move on the plant ([see video](#)). Upon closer inspection you see [legs and a pair of sickle-shaped mandibles sticking out from under the debris](#) (see image) indicating this is a lacewing larva.

Debris-carrying lacewings are a species of green lacewing (family Chrysopidae). Green lacewing adults are crepuscular or nocturnal, and are attracted to lights at night so you may see them near your porch light. Adults feed on pollen, nectar, and honeydew, in addition to insects. As the name indicates, adults are usually green (~ ½” long) with lacy, net-like wings. Lacewing larvae are alligator-like in shape and have a pair of hollow, sickle-shaped mandibles used to pierce prey. The life cycle includes the egg (usually laid singly on stalks or in clusters on stalks depending on species), 3 larval instars, and a pupal and adult stage. Depending on species, green lacewings overwinter in different life stages. Some species of debris-carrying lacewing larvae overwinter as larvae. I often see debris-carrying larvae on tree trunks later in the season (like this week at the end of October) or early in the season in March. Overwintering larvae never completely “shut down” in the winter. On warmer winter days, you can see debris-carrying lacewing moving and they will consume prey items. Overwintering larvae may be found on lower leaves of vegetation or under the bark of trees. The number of generations per year vary with species and environmental conditions.

Although larvae of many species of green lacewings are “naked”, others carry debris. The morphological features of debris-carrying and naked lacewing species differ. All green lacewing larvae have tubercles (projections) with setae (or hairs) on their bodies. In comparison, naked species of chrysopid larvae have bodies that

are elongate and tapered at each end, they tend to have few tubercles and the setae are smooth and blunt on the ends. Whereas, species that carry debris on their back have shorter, broader abdomens, and more and longer tubercles with hooked setae that aid in holding debris on their backs. Interestingly, different species of debris-carrying lacewing collect different types of material on their backs. Often body parts from their prey items are collected on their backs. Material may include waxy flocculence (cottony) from the sternorrhynchan prey (ex. woolly aphids, waxy scales or whiteflies); fragments of insect exoskeletons, exuviae, snail shells; small pieces of dried leaves or wood, trichomes from leaves, or lichens; silken threads from spiders or mites; and sand or soil. There is some, but not a lot of, information on identification of debris-carrying larvae. However, the debris-carrying lacewing larva I saw with lichens on its back is likely a *Leucochrysa* spp. that are known for carrying lichens (Tauber et al. 2014) and other specimens of this genus have been identified in the Maryland area.

Why pile debris on your back? The interesting behavior of piling debris, such as pieces of lichen or plant combined with pieces of wax or carcasses of their prey, on their backs likely camouflages the lacewing predator helping it to hide from its own enemies (ex. birds, other predatory insects). For example, as some of you may know ants are often associated with honeydew producing insects such as aphids or soft scales. They have a



The underside of a piece of “cotton ball” on a leaf of *Monarda* showing the body, legs, and mandibles of a debris-carrying lacewing. Photo: P.M. Shrewsbury, UMD



The underside of a piece of “lichen” on the leaf of a tree showing the fierce predator (debris-carrying lacewing) in hiding. Photo: M.J. Raupp, UMD

mutualistic relationship where ants obtain food (honeydew) from the aphids or scales, and the ants protect the aphids or scales from predators. In an interesting study by biologist Thomas Eisner, he removed the debris from lacewing larvae and placed them onto a plant with aphids and ants. The ants ran off or tossed off the “naked” lacewings. When lacewing larvae with debris (aphid shed skins, wax, etc.) were placed on the plant with aphids and ants, the ants did not “recognize” the debris-carrying lacewing as threats to their food source and did not attack them. The clever disguise of debris-carrying lacewings allowed them to feast undisturbed on aphids. The camouflage likely helps the lacewing predator to hide both visually and chemically... so clever!



Lacewing adults are attracted to porch lights in the evenings. A sure sign they are busy eating other insects nearby.

Photo: M.J. Raupp, UMD

What do they eat? Debris-carrying lacewings are voracious consumers of a variety of soft bodied insects such as scales, aphids, adelgids or mites, and wax producing insects like flatid planthoppers. Lacewing larvae will approach a prey item, quickly stab the insect with their pointy curved mandibles, and inject a salivary enzyme that quickly starts to “digest” the prey turning it into insect soup, which is then sucked up through the lacewing’s mandibles.

How can I conserve them? Debris-carrying lacewings are but one of multiple species of predators and parasitoids that feed on pest insects. These beneficial insects need to be conserved so they can increase the level of biological control they impose on pest insects. Provide plants with flowers (pollen and nectar resources; [see bulletin](#)), and only apply pesticides when and where they are warranted and be sure to select those that have low impacts on natural enemies ([see bulletin](#)).

Weed of the Week

By: Mark Townsend, UME-Frederick County

Purple deadnettle, *Lamium purpureum*, (Photo A), is a common winter annual in the mint family. We often see purple deadnettle emerge in the fall each year when temperatures drop lower towards the 50 - 68 °F range. Purple deadnettle becomes dormant as temperatures fall lower still to 41 °F and can overwinter, fairly easily surviving temperatures to 22 °F.

Often mistaken for henbit (Photo B), this weed will be found in turfgrass and landscape settings throughout the United States. Purple deadnettle has square stems, and the leaves are on a short petiole (photo C), which distinguishes it from henbit, whose upper leaves are sessile or attached to the stem itself. The leaves of purple deadnettle are opposite, slightly pubescent (occurring with hairs), and circular in shape with a toothed margin. Uppermost leaves can be triangular in shape. Leaf color is dark green, with the upper leaves becoming purple or red. The stems are square in shape and can grow up to sixteen inches in height branching from the base of the plant.



**Photo A: Purple deadnettle
Photo: Chuck Schuster,
Retired - UME**

Though both henbit and purple deadnettle have purple-ish flowers, deadnettle flowers occur in whorls of three to six in the upper leaves exhibiting a pale purple color. In contrast, henbit flowers are much darker in color and often appear longer and more tubular. A typical purple deadnettle plant can produce about 600 seeds per plant, and up to 27,000 without competition. Though its seed reproductive capacity is notable, it can also spread by

rooting action. The root system is fine and fibrous and can reproduce and spread after a tillage event.

We commonly observe purple deadnettle on some of the more productive agricultural soils as they typically prefer well drained soils, loamy soils—take their presence as a compliment!

Control of purple deadnettle can be accomplished using post emergent products the will include Imazaquin (Image), Metribuzin (Sencor) turf only, and 2,4 D + MCP. Fall application of Dichlobenil (Barrier) (pre emergent) can help prevent this weed from being an issue in the spring.



Photo B: Henbit
Photo: Chuck Schuster,
Retired-UME

Plant of the Week

By: Ginny Rosenkranz

Acer saccharum is also known as the Northern Sugar Maple, a beautiful, deciduous native maple that thrives in full sun and prefers slightly acidic, organically rich soils, and moist but well drained soils. The trees grow 40-80 feet tall and 30-45 feet wide with a broad rounded dense crown, providing cooling shade in summer. Plants are cold tolerant from USDA zones 3-8 and offer food and shelter for the Imperial Moth caterpillars, butterflies and other pollinators, songbirds, small



Sugar maple showing off its fall colors.
Photos: Ginny Rosenkranz, UME

mammals, and deer, while cavity nesting birds find shelter in cavities. The bright green 3-6 inch leaves have 3-5 lobes, with small basal lobes and larger, deeper notched lobes on top. In the autumn the dark green leaves turn in shades of yellow, orange and reds, with the colors brighter with cold nights followed by warm sunny days. In spring the tiny yellow gold and green flowers bloom providing nectar for many pollinators, and when pollinated they mature into copper brown papery paired winged samara that helicopter down with the breezes. Although the trees are slow growers, they live a long life, up to 300-400 years old. If you are fortunate to live in the northern parts of Maryland, you can collect the sap of the Sugar Maple trees in the late winter. A mature tree can produce up to 60 liters of sap and 35-40 liters of sap can be boiled down to make 1 liter of maple syrup. Sugar maple prefers to grow where the air is clear and clean, and is not tolerant of road salt, compacted soils, high heat and air pollution. Plants are excellent specimens in large yards or parks. Pests include aphids, borers and scale insects and disease can include anthracnose, cankers, leaf and tar spot and verticillium wilt.

Degree Days (as of November 1)

Abingdon (C1620)	3810
Annapolis Naval Academy (KNAK)	4215
Baltimore, MD (KBWI)	4261
College Park (KCGS)	4040
Dulles Airport (KIAD)	4124
Ft. Belvoir, VA (KDA)	3915
Frederick (KFDK)	3890
Gaithersburg (KGAI)	3698
Gambrils (F2488, near Bowie)	3974
Greater Cumberland Reg (KCBE)	3439
Perry Hall (C0608)	3717
Martinsburg, WV (KMRB)	3089
Natl Arboretum/Reagan Natl (KDCA)	4659
Salisbury/Ocean City (KSBY)	4197
St. Mary's City (Patuxent NRB KNHK)	4758
Westminster (KDMW)	4232

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

December 19, 2023 – January 19, 2024 - Advanced Fruit Production with Emphasis on IPM

Location: Online zoom with 4 Saturday hands on field labs.

You can sign up by going to the Montgomery College, Germantown campus web-site and look under the winter min-semester courses. The class is listed under HORT listing of classes. The class is listed on their website simply as “Fruit Production”. [How To Apply and Register | Montgomery College, Maryland.](#) After you do, you should get an email from college giving you a student ID number. Once you have done that - relatively easy to sign you up. If you have any problems contact me at Sgill@umd.edu.

Conferences: Go to the [IPMnet Conference Page](#) for links and details on these programs.

December 8, 2023

[Advanced IPM Conference](#) (Link to register)

Location: Carroll Community College, Westminster, MD

December 12, 2023

Maryland Turfgrass Council Conference and Tradeshow

Location: Turf Valley Country Club, Ellicott City, MD

December 20, 2023 (morning only)

[Turf Nutrient Management Session](#) (Link to register)

Location: CMREC, Ellicott City, MD

2024 Advanced Landscape IPM PHC Short Course

This is a recertification short course for arborists, landscapers, IPM consultants, horticulturalists, professional gardeners, and others responsible for urban plant management. The course lectures will be held over four days at the University of Maryland, College Park, MD. In addition, there will be a hands-on lab following lecture (available to a limited number of course attendees). Coordinators: Drs. Paula Shrewsbury and Mike Raupp, Dept. of Entomology, University of Maryland

Lecture dates: Monday, January 8 - Thursday, January 11, 2024 from 8:00 am – 3:00 pm

Lab dates: Monday, January 8 - Thursday, January 11, 2024 (space limited) from 3:30 pm – 5:30 pm

Course and registration information: <https://landscapeipmphc.weebly.com/>

Questions contact: Amy Yaich, 301-405-3911, umdentomology@umd.edu

January 10-12, 2024

MANTS

Location: Baltimore Convention Center

January 16 and 17, 2024 (date change from earlier)

Maryland Arborists' Association Conference

Location: Howard Community College, Columbia, MD

January 26, 2024

FALCAN Conference

Location: Frederick Community College, Frederick, MD

February 8, 2024

25th Anniversary - Manor View Farm & The Perennial Farm Education Seminar

Location: Valley Mansion, Cockeyville MD

Speakers: John Stanley (Green Industry International Business Consultant), Vinnie Simone (Planting Fields Arboretum, NY), Janet Draper (Smithsonian Gardens) & Stanton Gill (UMD Extension)

Registration information available soon.

February 14, 2024

Eastern Shore Pest Management Conference

Location: Wicomico Civic Center, Salisbury, MD

Information and Registration: <https://www.eventbrite.com/e/2024-eastern-shore-pest-management-conference-tickets-726283502507?aff=oddtcreator>

February 15 and 16, 2024

Chesapeake Green Horticulture Conference

Location: Maritime Institute, Linthicum Heights, MD

February 29 and March 1, 2024

Biological Control Conference for Greenhouses, Nurseries, and Landscapes

Location: Central Maryland Research and Education Center, Ellicott City, MD

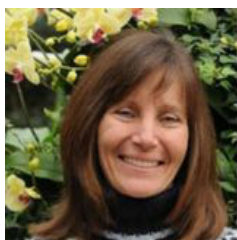
Commercial Ornamental IPM Information

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

CONTRIBUTORS:



Stanton Gill
Extension Specialist
sgill@umd.edu
410-868-9400 (cell)



Paula Shrewsbury
Extension Specialist
pshrewsb@umd.edu



Karen Rane
Plant Pathologist
rane@umd.edu



Chuck Schuster
Retired, Extension Educator
cfs@umd.edu



David Clement
Plant Pathologist
clement@umd.edu



Andrew Ristvey
Extension Specialist
aristvey@umd.edu



Ginny Rosenkranz
Extension Educator
rosnkranz@umd.edu



Nancy Harding
Faculty Research Assistant



Fereshteh Shahoveisi
Assistant Professor
fsh@umd.edu



Kelly Nichols
Extension Educator
kellyn@umd.edu

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery, Landscape, and Greenhouse Association, Professional Grounds Management Society, FALCAN and USDA NIFA EIP Award # 20217000635473 for their financial support in making these weekly reports possible.

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

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by University of Maryland Extension is implied.

University programs, activities, and facilities are available to all without regard to race, color, sex, gender identity or expression, sexual orientation, marital status, age, national origin, political affiliation, physical or mental disability, religion, protected veteran status, genetic information, personal appearance, or any other legally protected class.