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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 sklick@umd.edu

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Wet Weather – Surpassed What We Needed

By: Stanton Gill

It is nice that the mini-drought we were seeing this spring finally broke. It went from dry to extremely wet in a week of almost endless rain. We received several electronic pictures of flooded nursery and landscape fields. Everyone had a lake somewhere last week.



During last week's rain, tadpoles swam among a grower's cut flower crops
Photo: Richard Uva, Seaberry Farm

The disease pressure went from low to extremely high last week. We are seeing Botrytis on many

annuals in the landscape and in greenhouse operations. Brown rot and scab pressure went sky high last week, especially by Friday through Saturday when it got hot and humid. If you made fungicide applications before the torrential rains, most of it probably washed off. The past is prolog, but you should have reapplied fungicides to foliage and fruit last Saturday as soon as the rains ended and humidity went up. We will see disease symptoms showing up in the next week or two.

Leaf Spot Diseases

By: Karen Rane

Last week's frequent rains and mild temperatures provided the optimum environment for the development of fungal leaf spot diseases. Leaf spots can be small and discrete, like *Phyllosticta* leaf spot on maple (fig. 1), or irregular shaped blotches, such as *Cercospora* leaf spot of rhododendron (fig. 2). In most cases, leaf spot diseases don't have a major impact on the health of infected trees. Severe infections year after year may reduce the vigor of small trees and shrubs, and warrant the use of protectant fungicides.



Figure 1. *Phyllosticta* leaf spot on maple
Photo: K. Rane, UME



Fig. 2 *Cercospora* leaf spot on Rhododendron
Photo: K. Rane, UME

Lilac Borer

By: Stanton Gill

Bryan Lilly, Natural Elements LLC, and Jacob Winn, Bartlett Tree Experts, are finding pupal cases on fringe trees this week. This borer also infests ash and lilacs in mid-May. This is a clearwing moth borer in the family Sesiidae. The adult females will mate over the next two weeks and lay eggs into the bark of susceptible lilac, ash and fringe trees.

Control: A protectant spray of bifenthrin or permethrin to the trunk will help protect trees. Emamectin benzoate (TREE-age) injections also kill the larval stage of this borer. The systemic insecticides, Mainspring and Acelepyrn, have use for clearwing moth borers on trees their labels.



Reports are coming in of lilac/ash borer adults emerging from fringe trees (same family as ash)
Photo: Jacob Winn, Bartlett Tree Experts

Ambrosia Beetle Activity

By: Stanton Gill

I checked the alcohol baited traps at CMREC on May 23 and am still seeing healthy, vigorous populations of *Xylosandrus* beetles. Samples from Frederick (Tony Murdock) and Ft. Detrick (James Becker) are similar. I have received plenty of pictures with frass tubes being pushed out of galleries on trees from central Maryland and the Eastern Shore of Maryland. We are seeing damage on redbud, styrax, dogwood, and yellowwood most frequently.



UMD-IPMnet
The frass tubes indicate that ambrosia beetles are active in this goldenrain tree

Prunicola Scale, San Jose Scale, and their Buddies

By: Stanton Gill

First, thanks to all who sent in pictures or samples of scales to me over the last week. The warm humid weather seems to have pushed many of the scales into crawler periods. Crawlers of the following scale are active: prunicola scale on cherry laurel in Anne Arundel County, San Jose scale, calico scale crawlers on sweet gum, and lecanium scale on red oaks. Oscar Peña, Wray Brothers Landscapes, and Marie Rojas, IPM Scout, found cottony camellia/Taxus scale females producing egg sacs on climbing hydrangea and Holly 'Dragon lady' in Bethesda and Beallsville.



UMD-IPMnet
This salmon-colored white prunicola scale crawler stands out



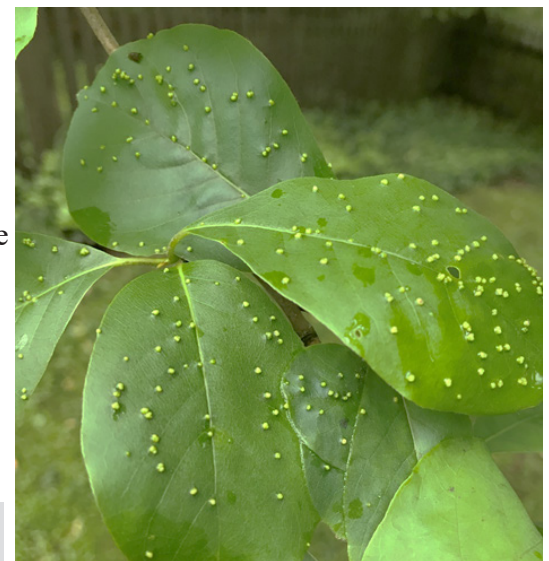
UMD-IPMnet
Cottony camellia/Taxus scales are producing egg sacs now

Control: When crawlers emerge, the insect growth regulators, Distance or Talus, can be applied.

Galls on Black Gum

By: Karen Rane, UME

Small leaf galls were found on black gum (*Nyssa sylvatica*) leaves, most likely caused by the eriophyid mite, *Aceria nyssae* (formerly called *Eriophyes nyssae*). The mites cause these quite noticeable bumps on the leaves, but there is no impact on the overall health of the tree.



These galls on black gum are caused by eriophyid mites
Photo: Karen Rane, UME

Galls on Elms

Marie Rojas, IPM Scout, found elm pocket galls on *Ulmus* 'American Patriot', 'Accolade', and 'Triumph'. These galls are caused by eriophyid mites. The mites overwinter as fertilized females in bark crevices of the host trees. Joe Clark found a different gall on *Ulmus americana* 'Princeton'. It is the elm cockscomb gall which is caused by aphids. These galls usually cause little damage to the host plant, so control is not necessary.



These elm pocket galls on *Ulmus* 'Triumph' are caused by eriophyid mites
Photo: Marie Rojas, IPM Scout



These galls on *Ulmus* 'Princeton' are caused by aphids
Photo: Joe Clark

Galls on Oak

We received a report of spangled galls on oak that are just starting to develop. This cup-shaped gall is caused by a cynipid wasp. Control is not necessary.

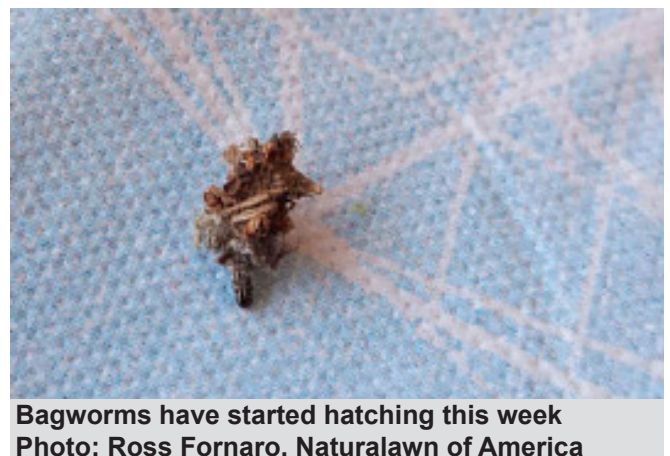


As these spangled oak galls develop, they will become cup-shaped
Univ. of MD

Bagworm Hatch

Garrett Dickel, Bartlett Tree Experts, found bagworms hatching on a blue spruce in Phoenix on May 21. Ross Fornaro, Naturalawn of America, found them on May 25 in Westminster. Check where you have infestations or susceptible plants such as arborvitae, spruce and Leyland cypress. Bagworms are also found on deciduous trees and herbaceous plants, but the damage is usually less evident. It is best to control them while they are still small.

Control: Check to make sure eggs have hatched before making any treatments. Bt (Dipel, Caterpillar Attack), Spinosad (Conserve) or Acelepyrn will all give good control of young larvae.



Bagworms have started hatching this week
Photo: Ross Fornaro, Naturalawn of America

Redheaded Flea Beetles

A nursery grower found redheaded flea beetles and damage on the new growth of Azalea 'Nancy of Robin Hill' and *Ilex crenata* 'Hoogendron' on May 18. Damage was also found on the following varieties of azaleas: 'Gumpo White', 'Gumpo Pink', 'Kaempo', and 'Lady Robin'. The grower noted that in their experience these particular varieties are the most fed upon by flea beetles.

By: Brian Kunkel, University of Delaware Extension

Redheaded flea beetles, *Systema frontalis*, are becoming important nursery pests from Georgia to Connecticut. In the mid-Atlantic, larvae are found in root balls of container-grown plants from 242 – 370 GDD₅₀, and are most likely feeding on roots and other organic matter. Azaleas, wild cherry, and Virginia sweetspire are in bloom when larvae are active, and black locust is in full bloom. Plants with larvae in the root balls have not shown any signs of damage. Larvae are found by inspecting the outside of root balls pulled from containers.

Management of redheaded flea beetles has proved difficult for nursery managers. Flea beetles have been the target of multiple insecticide applications over the past few summers. Laboratory research has found *Steinernema carpocapsae* and *S. feltiae* to be effective entomopathogenic nematodes; however only *S. carpocapsae* reduced total numbers of flea beetles found in a field trial. This summer a laboratory research study also found the entomopathogenic fungus, *Beauveria bassiana* caused mortality to flea beetle larvae.

Research projects with entomopathogens is ongoing in field and greenhouse trials. Insecticides with which we have had success managing flea beetles (stage; application method) include imidacloprid (larvae; tablet in soil), cyanotriline (adults; foliar), dinotefuran (adults; foliar), bifenthrin (adults; foliar), cyhalothrin (adults; foliar) and thiomethoxam (adults; foliar). Various growers have mentioned efficacy with foliar applications of other insecticides such as carbaryl and acephate.

Leaf-footed Bugs

Dave Freeman, Oaktree Property Care, found a mating pair of leaf-footed bugs this week. The bugs have a structure that looks like part of a leaf on their legs which is where they get their name. They cause some damage, but they are usually not much of a problem on ornamental plants. They can be a problem on home and crop fruits. Leaf-footed bugs overwinter as adults so they are mating and laying eggs now.



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Redheaded flea beetle damage on *Ilex crenata* 'Soft Touch'
Photo: Chazz Hesselein, Alabama Cooperative Extension System, Bugwood.org



The redheaded flea beetle has wide host range and can be difficult to control
Photo: Brian Kunkel, University of Delaware Extension



Mating leaf-footed bugs; the female will soon be laying eggs
Photo: Dave Freeman, Oaktree Property Care

Woolly Elm Aphids

By: Nancy Harding

At home in Bowie, I have a beautiful American elm, *Ulmus americana*. This week, I noticed several badly deformed, curled leaves with a copious white substance. Further investigation revealed many woolly elm aphids tucked inside the leaf. Their sap feeding and their excrement produces a sticky white cottony mass (honeydew). John Ford, Chapel Valley Landscape Company, also found them in Sterling, VA.

The woolly elm aphid is native to North America and has two primary hosts on which they feed at different times of the season: American elm (*Ulmus americana*) during early spring and late fall and *Amelanchier* species during late spring and fall. They have multiple generations per year. Eggs are laid in the fall and placed in the bark crevice of the elm tree. In the spring, the eggs hatch into wingless females that seek the undersides of newly unfolding elm leaves where they feed and mature. At maturity, the female is capable, without mating, of giving birth to young aphids (as many as 200 over a short period of time). Once the colony becomes over crowded, winged aphids are produced that migrate and seek *Amelanchier* species where they give birth to another generation of all females. The young crawl down to the underground parts of the plant where several generations are produced. In the fall, mature adults travel back up to the surface of the soil and fly back to American elm trees where a sexual generation is produced for egg laying.

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

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



Woolly elm aphids are causing the curling of these American elm leaves

Photo: Nancy Harding, UMD



There are mostly winged woolly elm aphids on the underside of this leaf; the winged adults will migrate to *Amelanchier* species to start a new generation

Photo: John Ford, Chapel Valley Landscape Company

Brown Rot on Cherries Update

By: Stanton Gill and David Clement

In last week's report, I mentioned Dave Clement and I are conducting field trials this spring at Maryland nurseries to test out biofungicides against brown rot, *Monilinia fructicola*. The project is on-going through the season to evaluate a biofungicide to see if it suppresses brown rot disease, and also if it works on cherry shot hole fungus. This second fungus causes cherry trees to defoliate in late summer, making them look like quite bad years during high infection periods. We went out Tuesday with a representative from BioWorks, Michael Green from Raleigh, North Carolina, to look at the trees and see if there is any impact, so far, on the incidence of brown rot. While we examined the plants, we found that the bacteria applied as BotryStop was colonizing the foliage and fruit on cherry trees.

Elder Shoot Borer in Elderberry

Dave Freeman, Oaktree Property Care, and Nancy Woods are finding the elder shoot borer, *Achatodes zeaes*, larvae boring into the stalks of elderberry (*Sambucus*). The larvae are also called spindle worms. Dave is finding the activity in McLean, VA, and Nancy is finding them in Montgomery County. A sign of this pest are wilted shoot tips. This borer overwinters in the egg stage and caterpillars hatch in the spring and bore into new shoots. When they reach maturity in early summer, they tunnel into dead stalks to pupate. Look for frass at the base of old wood. Prune out infested green shoots or mature canes during the growing season. In winter, remove dead canes to reduce pupation. Be sure to remove prunings from the area.



Inside an elderberry stalks, this elder shoot borer caterpillar was found
Photo: Dave Freeman, Oaktree Property Care

Look for wilting shoot tips and check inside stems for the elder shoot borer
Photos: Nancy Woods

Gymnosporangium Rusts

Gymnosporangium rusts continue to infect rosaceous plants this week. Marie Rojas, IPM Scout, reports that rust is just beginning on the leaves of *Malus* 'Purple Prince' and *Amelanchier* 'Spring Flurry' in Laytonsville. Nick Hoxter, Chapel Valley Landscape Company, is finding rust infection on the fruits of serviceberry in McLean, VA.

Spotted Lanternfly

Gaye Williams, MDA, writes that Lawrence Barringer, entomologist at Pennsylvania Department of Agriculture, reports that spotted lanternfly, *Lycorma delicatula*, has started hatching in Pennsylvania. This new, very serious, invasive insect is expected to hit Maryland this season.

MDA asks that those of you involved in our green industry to thoroughly familiarize yourselves with all life stages of this pest (especially the nymphs), by viewing the pest alert at: mda.maryland.gov/plants-pests/Pages/spotted-lantern-fly.aspx.

Please report any possible sightings to MDA at: DontBug.MD@maryland.gov. You will also need to collect specimens and send them to: MDA- PPWM, 50 Truman Pkwy, Annapolis MD, 21401, as all identifications must be verified by MDA. Thanks for your help.

Sunscald on Vegetable Leaves

By: Jerry Brust

I know it may seem odd to see an article about sunscald or sunburn on leaves with the week of rain we just had, but leaves came in over the last week as the rain started and the damage had been done days before this. It is also possible that there will be a greater chance for sunscald in the coming days as growers try to get their transplants out. An area on the leaf turning papery white or tan is usually the first indication of scald on plants (fig. 1). Many of these plants were set in the field after coming straight out of the greenhouse or off the trailer. Before the rains we had a few days of very hot temperatures and intense sunlight. In figure one you can see that only certain parts of the leaf are scalded (these are the areas that had direct sunlight on them for an extended period) and the tissue next to the scalded area is still bright green. In the transplant production house plants are exposed to filtered light so the leaves are good at absorbing as much light as possible. The problem with taking plants straight from this type of environment to the field is that the plants at times are not ready for the extra UV light they are going to receive. The leaf tissue rapidly becomes desiccated with the extra light/heat exposure, causing light tan to white discoloration on the leaves and stems of sensitive plants. At times even established plantings can experience this as well, especially during an unexpected heat wave, which we had (believe it or not) as a heat wave is defined as 3 or more consecutive days of temperatures at or over 90o F. Once leaves are damaged, all that can be done is to support the plant until it manages to grow new leaves. Hardening off the transplants would have prevented the sunscald on the new transplants, but with all the cool wet weather we had growers were forced to get their plants out when they could. Make sure to appropriately water and feed plants that have sunscald while they are recovering.



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Look for spotted lanternfly nymphs that are now hatching

Photo: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org



Scald on crucifer leaf

Photo: Connie Bowers, Garden Makeover Co.

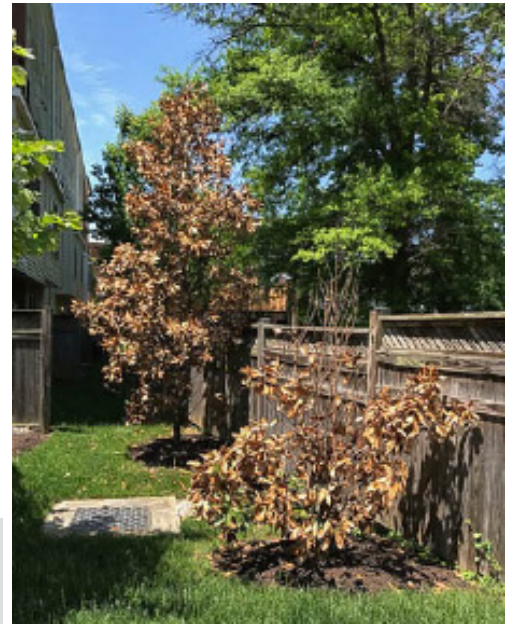


Scald on bean leaf

Photo: J. Lewis

Winter Injury

We continue to receive many reports of winter injury on plants including magnolia, cryptomeria, crape myrtles, zelkovas, and native eastern red cedars (*Juniperus virginiana*). The effects of the brutal temperatures of January are showing up now that the plants are leafing out that didn't back in May. The damage will continue into June.



The effects of the cold winter are showing up on magnolias and other plants in landscapes and nurseries now
Photo: Heather Zindash, Mainscapes, Inc.

Sow Bugs Damaging Turnip/Radish Bulbs

By: Jerry Brust

Something I do not see very often is sow bugs or pill bugs or roly-polys (fig. 1) feeding on and damaging vegetables. In this case, it was turnip and radish bulbs. Sow bugs are brown to gray and a half inch in length. Because they breathe through gills that need to be kept moist, they are limited as to their ability to move to drier areas and have the tendency to cluster in dark moist areas during the day and feed at night. They are attracted to thick mulch or rich wet soils or decomposing compost piles.

At times tender foliage and roots of young vegetables can be on their menu when their populations are large, and the environment is wet (like this last week). Sow bugs rarely cause much damage in the field, but in small densely grown areas of bulbs such as radish or turnips they can feed on the outer layers of the bulb (fig. 2). Sow bugs are difficult to control with just chemicals. It is better to eliminate their hiding places or alter their environment. Some ways to accomplish this result is by removing any mulch from around plants, by improving drainage, or by decreasing watering frequency if the ground is constantly moist. If sow bugs are still doing damage after efforts to alter their environment fail, a bait can be used which contains spinosad and iron phosphate.



Fig. 1 Sow bugs in wet soil feeding on a turnip bulb
Photo: Jerry Brust, UME



Fig. 2 Sow bug damage to turnip bulb
Photo: Jerry Brust, UME

2018 MDA Pesticide Recycling Program

The Maryland Department of Agriculture is offering the empty plastic pesticide container recycling program in 2018. You can view the locations and requirements in the [online brochure](#).

Montgomery County is a new location this year and will also accept clean containers from Prince George's County as well as D.C., as they do not have a collection.

Spinach Leafminer

By: Jerry Brust, UME

In high tunnels and in the field, I have seen spinach or beet leaf miner *Pegomya hyoscyami* and *P. betae* respectively in swiss chard and spinach. These leafminers are a type of blotch leafminer, creating irregularly shaped mines (fig.1). Adults are small flies about 1/3 inch in length and gray to brown. Larvae are whitish and cone-shaped. Flies of both species overwinter as pupae in the soil. In April and early May (although this can occur in March if in a high tunnel), flies emerge and lay white eggs in groups of 4-8 on the underside of leaves. Eggs hatch and larvae feed within the leaf tissue. As the larvae feed and develop, they create areas of dead tissue where they have fed. These areas are opaque at first and then later turn brown (fig. 2). Once inside the leaf tissue larvae are difficult if not impossible to control. The larvae are active for about two to three weeks, before dropping to the ground and pupating in the soil. The entire life cycle is 30-40 days. There are three to four generations per season. Once the summer is over, leafminers will overwinter as a puparium in the soil emerging in early spring the next year to start the cycle again.

Both leafminers feed on spinach, Swiss chard, beets and weeds such as pigweed and lambsquarter. Leafminer activity has little impact on overall plant growth but can be quite damaging to vegetables grown for edible greens. So, a crop such as chard and spinach that you are trying to sell the leaves of are greatly impacted while something such as turnips or beets that you are selling the bulbs of are less impacted (unless you are selling the tops too). The damage to Swiss chard and spinach I saw probably could have been less if the first infested leaves with leafminers had been removed and destroyed. However, once the population was in its second generation the damage was too extensive. Any additional plantings of spinach or chard this season (or next year) should be planted in a different area of the field because of the pupae still in the soil.



Fig.1 Leafminer in Swiss chard
Photo: Jerry Brust, UME

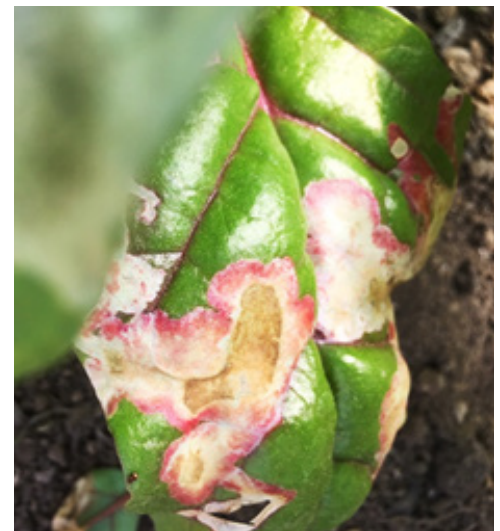


Fig. 2 Leaf mine turning brown
Photo: Jerry Brust, UME

Once the spinach or chard is planted in a new area a row cover could be used to cover the plants and keep the leafminer flies out that eventually will emerge from previously infested areas. Applying insecticides helps prevent adults from laying eggs, but they do not kill larvae that are already feeding within plant leaves. Spinosad (organic) can provide good control and has only a minor impact on natural enemies. Neem oil also can be used to prevent adult egg laying but is not as effective as spinosad. As always thorough coverage is necessary for good control which includes getting the material to the underside of the leaf.

Periodical Cicada Sightings

Once again this year, we are getting reports of emergence of the 17 year cicada, *Magicicada septendecim*. Shawn Walker, Trees 101, found one in Shepherdstown, WV, and Brian Scheck, Maxalea, Inc., found one in Ruxton (Baltimore County) this morning. Gaye Williams, MDA, reports finding a female 14 year cicada in Bowie and Mike Raupp, UMD, found a male calling in College Park. There is still time to get ready for the big emergence of the 17 year cicada which is set to happen in 2021.



**This 17 year cicada is missing the big emergence that will occur in 2021
Photo: Brian Scheck, Maxalea, Inc.**

Leafcutter Bees

Christa Carignan, UME-HGIC, found leafcutter bees causing holes in redbud leaves. Leafcutter bees line their nest cavity and separate it into cells with circular leaf sections that they cut from various plants. Leafcutter nests look a bit like a cigar. Usually, the damage they cause is not significant. Since they are a very important pollinators of many plants, it is best to tolerate the damage.



UMD-IPMnet



Leafcutter bees cut out circular sections of leaves, like on this redbud, to use for their nests

Photo: Christa Carignan, UME-HGIC



UMD-IPMnet

A leafcutter bee and the cigar-like nest it makes

Maple Petiole Borer

Marie Rojas, IPM Scout, reported on May 21 that maple petiole borers are active in Montgomery County. She found larvae in the growing tips. The damage usually occurs in the spring on new tip growth on 1 to 2 year old maples.

Control: Prune out damaged branches.



**Maple petiole borer larvae are damaging the tips of maples at this time and causing the tips to flag
Photo: Marie Rojas, IPM Scout**

Beneficial of the Week

By: Paula Shrewsbury, UMD

Assassin bugs are as deadly as their name indicates - if you are an insect!

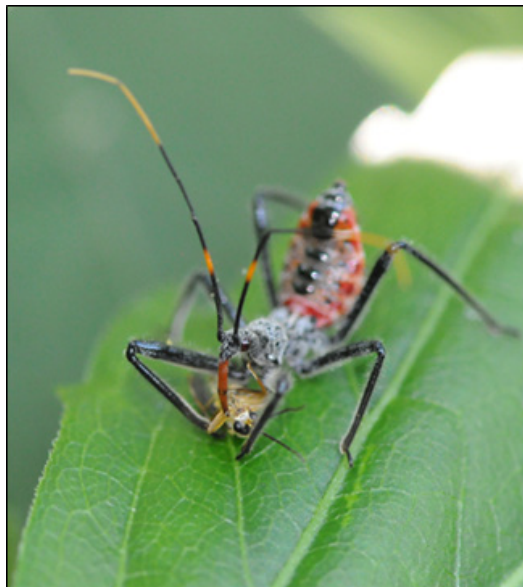
Assassin bugs are true bugs (Heteroptera) in the family Reduviidae and are very important predators of a diverse array of pest insects found feeding on ornamental plants. There are numerous species of assassin bugs, but one of the more common ones is the wheel bug, *Arilus cristatus*. Marie Rojas reported these little babies hatching last week. This particular assassin bug gets its common name, wheel bug, because of the spoke bearing, wheel-like structure on the pronotum (section behind the head) of adults (see image). They are large bugs with adults reaching 1- 1.5". Wheel bug adults and immatures are generalist predators that feed on a diversity of insects such as caterpillars, plant hoppers, sawfly larvae, aphids, stink bugs, Japanese beetles and more. The wheel bug approaches its prey, quickly grabs it with its front legs, and then speedily impales the insect with its beak. Both adults and nymphs have a long, dangerous looking proboscis (mouthpart) that they use to suck the life out of their prey - literally.

Through its beak, the wheel bug injects digestive enzymes into its prey, which liquefy the body tissues making it possible for the predator to suck up its food. Last autumn, female wheel bugs were laying clusters of 10-40 eggs on the bark of trees. Now that winter is over and the warm weather is here, the eggs are hatching (see image) and you should see numerous red and black nymphs on the bark of trees

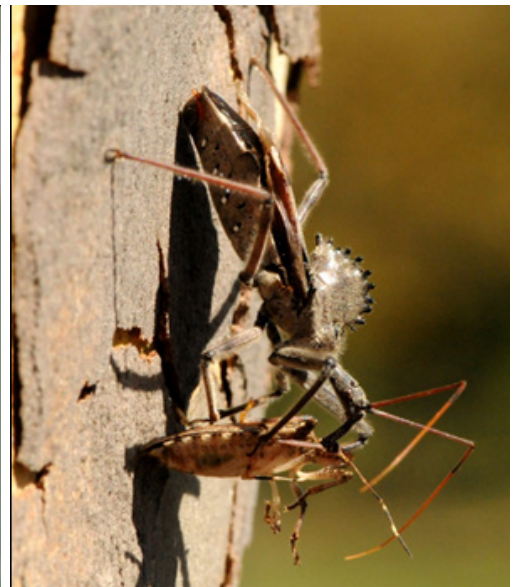
and moving onto the stems and foliage. Nymphs and then adults are active through most of the growing season helping to control pest insect populations. If you see these red and black nymphs on your trees consider yourself lucky. With their voracious appetite and knife-like beak, they will help keep some of the plant feeding insects from reaching damaging levels. Be careful if you handle these predators, especially the adults later in the season – they will defend themselves and their long “beaks” can result in a painful poke.



Wheel bug egg mass with newly hatched nymphs dispersing in search of prey
Photo: Mike Raupp, UMD



A wheel bug nymph feeding on its newly captured lunch
Photo: P. Shrewsbury, UMD



A predatory wheel bug adult with its large sucking mouth part stuck into a brown marmorated stink bug adult resulting in stink bug death
Photo: M. Raupp, UMD

Click the below link for a video of the voracious wheel bug attacking a brown marmorated stink bug. https://www.youtube.com/watch?time_continue=2&v=njrlj8rLkQ

Weed of the Week

By: Chuck Schuster, University of Maryland Extension

Weather conditions have been keeping the soil damp, if not totally wet during the last two weeks. This provides conditions for some plant material to really take off and grow. As predicted by Kevin Nickle, yellow nutsedge (*Cyperus esculentus* L.) seems to have done so. It will be a topic of conversation in the landscape industry as it is easily showing up in many locations. This troublesome perennial weed is widely found in turf, nurseries and landscape beds. Yellow nutsedge becomes more problematic during spring and summers with above average rainfall. The seedling is very inconspicuous and looks very much like the desired turf species we want to find, but given time becomes more noticeable. One distinguishing characteristic is the color which is light green, with flat slender cotyledons (seed leaves). Yellow nutsedge can produce seed but also reproduces through tubers and bulbs (Red Arrow photo 1). Several hundred tubers or nutlets can be produced from a single plant during the summer. These nutlets can survive in the soil for several years if conditions are not appropriate for them to grow and produce a new plant. The mature stem is triangular in shape which will help distinguish it from any member of the grass family. Lower leaves are arranged in groups of three. Remembering sedges have edges will help you identify it from grasses. While it does produce seed, it spreads mostly by way of tubers or nutlets. Control of this plant earlier in the season before these tubers are formed is the best line of defense.

Control can be obtained by maintaining a dense stand of turf with proper fertilization. Yellow nutsedge becomes more of a concern when mowing heights are not maintained at proper levels and in soils that receive more than adequate amounts of rainfall/irrigation or do not drain well. Products that

contain sulfentrazone (Dismiss) have been shown to provide both pre-emergence and post emergence control, though not labeled for pre-emergence. Prodiamine and sulfentrazone (Echelon), is labeled for pre-emergence control. Sulfentrazone and Quinclorac (Solitare) are effective as post emergence products. Other products containing sulfentrazone will include Q4 Plus, Surge, SureZone, and TZONE, but these products are labeled for suppression as they contain lower concentrations of the active ingredient. Other products labeled are bentazon



The red arrow points tubers and bulbs that are one way yellow nutsedge reproduces
Photo: Chuck Schuster, UME



The stems of yellow nutsedge has edges; although it reproduces by seed, the primary method is by the tubers or nutlets
Photos: Chuck Schuster, UME



found in Basagran, Halosulfuron-methyl found in Sedgehammer and Sedgehammer+ (Sedgehammer+ contains a surfactant), and S-Metolachlor found in Pennant Magnum. Mesotrione (Tenacity) is also labeled for post emergence control in Kentucky bluegrass, perennial ryegrass, and tall fescue. This product causes a bleaching of the weeds. Read the label to determine if a nonionic surfactant is needed. Control generally takes more than one application.

In landscape and nursery settings, it was found that Pennant Magnum, Sedgehammer and Casoron (dichlobenil) worked well. Check labels to determine plant species that are safe for use with each chemical. Casoron as a granular product(4G) can be applied as a pre-emergence product during the dormant season in nurseries but not in the container themselves. It requires moisture following application. Sedgehammer works well in landscapes but should not be sprayed onto desired species of plant material.

When controlling yellow nutsedge in turf, always remember the following 5 points: 1). Follow label directions exactly, 2). Do not mow turf 2 days prior to application of the herbicide, 3). Use the proper volume of water, and do not apply when the turf is stressed 4). Be cautious near transitions of turf to ornamental beds as some herbicides can cause damage to desired ornamentals. And lastly but not the least is 5). Repeat application according to label instructions.

Plant of the Week

By: Ginny Rosenkranz, University of Maryland Extension

Ilex crenata ‘Chesapeake’ is a Japanese holly that is grown as an upright, dense pyramid that grows only 6-7 feet tall and 4-5 feet wide, making it a wonderful foundation plant for ranch or Cape Cod houses. The foliage is a shiny dark green with leaves that are about ½ - ¾ inches long and convex in shape. Like many hollies, ‘Chesapeake’ can grow in full sun to partial shade with moist, acidic, well drained soils. The lustrous black berries are prized by the birds in the fall, and the small white flowers that bloom in the spring are fragrant. ‘Chesapeake’ can withstand shearing and can grow naturally or be pruned into topiary forms or into formal hedges. Cold tolerant from USDA zones 6-9, ‘Chesapeake’ holds its beautiful leaf color all year long. Pests include spider mite and *Theilaviopsis*.



***Ilex crenata* ‘Chesapeake’ can grow in full sun to partial shade and produces fragrant flowers in the spring**

Photos: Ginny Rosenkranz, UME

Degree Days (As of May 23)

Aberdeen, MD (KAPG)	467	Annapolis Naval Academy (KNAK)	661
Baltimore, MD (KBWI)	637	College Park (KCGS)	616
Dulles Airport (KIAD)	636	Frederick (KFDK)	546
Ft. Belvoir, VA (KDAA)	682	Greater Cumberland Reg (KCBE)	559
Gaithersburg (KGAI)	603	Martinsburg, WV (KMRB)	558
Natl Arboretum.Reagan Natl (KDCA)	767	Salisbury/Ocean City (KSBY)	661
St. Mary's City (St. Inigoes, MD-KNUI)	696		
Westminster (KDMW)	622		

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

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

CONFERENCES

Eastern Shore Pesticide Recertification Conference

June 1, 2018

Location: Wye Research and Education Center,
Queenstown, MD

Contact: Ginny Rosenkranz, rosnkranz@umd.edu

Conference information is posted at:
<http://extension.umd.edu/ipm/conferences>

2018 Procrastinators' Pest Management Conference

June 8, 2018

Location: Montgomery County Ext. Office, Derwood, MD

Contact: Chuck Schuster, cfs@umd.edu

DC— pending; MD—CORE, 3A, 3B, 3C, 5, 6 and 10

VA— 3-A, 3-B, 5-A, 60; MD Turf NM Credits—2 CEU's

Brochure: https://extension.umd.edu/sites/extension.umd.edu/files/_docs/Procrastinator%20Brochure%202018a_0.pdf

Eventbrite link: <https://www.eventbrite.com/e/23rd-annual-procrastinators-pesticide-and-urban-nutrient-management-conference-tickets-45519688614?aff=cfbevent>

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

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

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

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