UNIVERSITY OF MARYLAND EXTENSION

TPM/IPM Weekly Report
for Arborists, Landscape Managers & Nursery Managers

Commercial Horticulture **August 17, 2018**

In This Issue...

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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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 Joe Roberts (Plant Pathologist for Turf)
Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)
Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)
Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)
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Crane Flies

By: Stanton Gill

With the ridiculous amount of rain in July and early August, we are seeing an aquatic pest show up with increasing frequency. It is the crane fly. Over the last 2 weeks, I have received 9 emails with pictures of crane fly larvae or pupae that have been found in various customers' landscapes.

This mosquito-looking insect is a crane fly which has been more abundant after this summer's rains

Crane fly is a common name referring to any member of the insect family Tipulidae, of the order Diptera, true flies in the superfamily Tipuloidea. The larval stage thrives in small pools of water, which are abundant in many landscapes this summer. The larva is elongated, usually cylindrical. The posterior two-thirds of the head capsule is enclosed or retracted within the prothoracic segment.

Tipulidae larvae are also found in rich organic earth and mud, in wet spots in woods where the humus is saturated, in leaf litter or mud, decaying plant materials, or fruits in various stages of breaking down.

Do you need to do anything? Sure - hope that it stops raining so often and so heavily. Then, wait for the area to dry out and the population dies down. Crane flies only live for a day or two and usually do not feed. Birds are their main predator.

This crane fly is getting nectar from a mountain mint flower

Spotted Lanternfly Story

By: Stanton Gill

Pennsylvania continues to be the state with the major problem with lanternfly. Maryland's turn will come, sooner or later.

If you think you have found a spotted lanterfly, send your sighting to dontbug.md@maryland.gov
Photo: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org

Meanwhile, we have a story from Mary Travaglini who sent in this interesting story on spotted lantern fly. She entitled it: "That time I almost brought spotted lanternfly to Maryland." A campfire horror story for naturalists.

"This weekend, while in Chester County PA, smack in the middle of spotted lanternfly quarantine, I took a gas tank to fill up for the weedwhacker. When I opened the trunk to remove the full can, out of my mouth popped, "that little !$#&!*," when I spotted an adult lanternfly resting on the handle of the can. The gas can had been stored in the garage but I set it outside for about an hour before going on my errand. Maybe the flying crop destroyer had been attracted to the smell of gas? Either way, it had hitched a ride to the gas station and back without flying off, but of course flew off when I tried to smash it. There is not one *Ailanthus*, by the way, on the 30 to maybe 100 acres surrounding this location that I know of, yet this is the second time I have seen them on the property.

Had I transported this can back to Maryland with me, I would have had to been swift in mind and body to shut my trunk and call someone in MDA to come fumigate my brand new car. And if it had not conveniently walked over the handle, I could have easily let it loose.

Look how easy it is to transport, even in adult stage! Just leave your windows down and it'll hitch a ride. I think we are all just waiting on who will be the first to "spot" a spotted lanternfly in Maryland."

Tussock Moth Caterpillars Active in August

By: Stanton Gill

We are receiving a lot of pictures of various tussock moth larvae as we move into the middle of August. They rarely cause major defoliation, but I had a couple of pictures with young trees in native planting where a large amount of foliage was removed. If caught early, Bt or Spinosad would work well. In most cases, once the larvae is in the later instars, control is difficult with these materials. Usually the damage has already been done for the season if the larvae is fairly large.

The white-marked tussock moth caterpillar is one of the more common tussock caterpillars seen in the area

More Caterpillars

Marie Rojas, IPM Scout, reports that **fall webworms** continue to hatch out. Marie found them on *Cercis*, *Parrotia*, *Platanus*, and *Quercus* on August 8 in Gaithersburg.

Marie also found **catalpa sphinx moth caterpillars** on catalpa. She noted that they were very heavily parasitized to the point that some of them were dead and hanging on the leaves.

Orange-striped oakworms continue to be active. Marie found them on oaks on August 8 in Gaithersburg. Marty Heidel, Arader Tree, found them on a young oak tree in Malvern, PA on August 16.

Caterpillar control: Usually control is not necessary. Bt can be used for small caterpillars or use spinosad for control. Check for predators and parasitoid activity to determine if any control is warranted.

Orange-striped oakworms feed gregariously
Photo: Dave Hallman

This catalpa sphinx moth caterpillar has been parasitized by wasps; braconid wasps commonly parasitize caterpillars
Photo: Marie Rojas, IPM Scout

Mosquitoes

Ross Fornaro, Naturalawn of America, sent this photo of what he called a "Mosquito apartment". There has been a lot of rain recently to increase the numbers of mosquitoes this summer. Remember to empty out containers and pots around homes and other buildings to help reduce the reproduction sites of mosquitoes in the area.

Plastic tubing to support trees is another breeding area for mosquitoes
Photo: Ross Fornaro, Naturalawn of America

Another Comment on Crows and Ravens

From: Mary Riesch, Frederick County Master Gardener

"I live in the Catoctin Mtns near Thurmont. Crows (and perhaps ravens) are always around in large flocks. My Australian Shepherd will run full speed toward any crows that are just outside his fenced area, in the field or in my vegetable garden. The crows will scatter immediately. The dog will keep barking and running the fence line until he's sure they are all gone. He's been very effective keeping them under control and I've had minimal damage to ripening fruits and vegetables.

P.S. He is not available for hire. He works full-time here at home."

Bat Boxes

Brett Morgan, Kousa Gardens, responded to the the article on bats in the June 29, 2018 IPM report. He sent in a photo of a bat house he built and put in his backyard. He noted the importance of promoting their conservation and agricultural benefits. Penn State has an article, A Homeowner's Guide to Northeastern Bats and Bat Problems, which includes information on dealing with bats that get into the home and the building, placement and use of bat boxes for maternity colonies.

This bat box was placed out on a pole in a yard; boxes are also placed out on buildings and trees
Photo: Brett Morgan, Kousa Gardens

Powdery Mildew

With the high humidity, we continue to get reports of powdery mildew infection. Dave Keane, Howard County Recreation and Parks, found crape myrtle infected with powdery mildew in Frederick. The weather pattern has made this disease a common problem this season.

With the high humidity, powdery mildew infections continue this summer
Photos: Dave Keane, Howard County Recreation and Parks

Southern Blight on Hosta

Steve Sullivan, Brightview, found southern blight infecting hosta this month. It is late in the season to apply a fungicide to get control. As it cools down as we move beyond August, the incidence of infection will decrease. Remove infected plants. If possible, remove as much of the infected leaves that have fallen in the area as well as the top layer of mulch and some of the soil. Next year in May and June, treat with a fungicide. Options include azoxystrobin (Heritage and Compass), flutolanil (Contrast), and Thiophanate methyl (Cleary's).

Southern blight, caused by the pathogen *Sclerotium rolfsii*, is a difficult disease to manage; this fungal pathogen has a large host range
Photos: Steve Sullivan, Brightview

Robber Fly

Andy Ross, RTEC Tree Care, found this robber with what looks to be a bumble bee in Fairfax, VA on August 13. There is a species of robber fly that mimics a bumble bee. Paula Shrewsbury covered this mimic species in the June 24, 2016 IPM Report. A robber fly is a general predator that sits and waits for prey to come by and then takes flight to grab the insect. The robber fly injects an enzyme into the prey insect which liquefies its contents. the robber fly uses its sucking mouthpart to consume its prey.

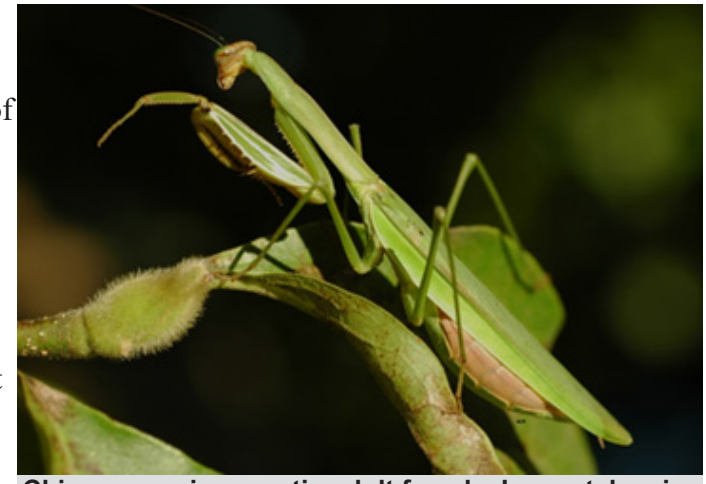
Robber flies are general predators that feed on a variety of insects
Photo: Andy Ross, RTEC Tree Care

Beneficial of the Week

By: Paula Shrewsbury, UMD

Praying mantids are interesting predators.

There are over 2,400 species of mantids world-wide. Phylogenetically, praying mantids are closely related to cockroaches and termites. It is hard to think that mantids and roaches are related! In Maryland there are 3 species of praying mantids that are common. These are the Carolina (*Stagmomantis carolina*), a native species of mantid that ranges from NJ south to FL and west to AZ; the Chinese (*Tenodera aridifolia sinensis*) which was imported into PA in the 1800's; and the European (*Mantis religiosa*), another exotic mantid that was first detected in NY and is now widespread east of the Miss. and north to Canada. At this time of year I am mostly seeing immature mantids. As we move into fall we will see adult mantids mating and the females laying eggs. Mantid egg masses are referred to as ootheca. The ootheca is a styrofoam-like structure deposited by the female mantis on a structure such as a branch or trunk of a tree. Mantids overwinter in this oothecal structure. Within the ootheca may be more than one hundred eggs. In the spring (around April) baby mantids emerge from the ootheca and begin to search for food. Most mantids are sit-and-wait or ambush predators. They sit very still on a branch, often camouflaged by their color, and will move with lightning speed reaching out and grabbing prey who unknowingly wonder too close with their spiked raptorial legs. Mantids have very good vision, important for locating prey. They have 2 large compound eyes each made up of 10,000 ommatidia. The front of eye, known as the fovea, have the greatest visual acuity and provides resolution needed to identify potential prey. The periphery or edges of eye perceive motion. If you watch a mantid you will see it rapidly move its head as it track a prey item to keep it in its optimal line of vision. Mantids are generalist predators and eat many types of prey items. Young or small mantids eat small flies, crickets, and sometimes each other. Large mantids capture and eat other large insects that are pests of gardens but they sometimes eat beneficial insects including pollinators such as bees, butterflies, flies, beetles and, yes, there are accounts of



Chinese praying mantis adult female. Image taken in the fall. Note the large abdomen indicating she will soon be laying eggs.
Photo: M. J. Raupp, UMD

them capturing and eating humming birds, in addition to lizards and frogs. Mantids have predators of their own (birds, bats, lizards, frogs, and more) and very diverse methods to avoid being eaten. Many species of mantids have evolved an organ to detect sound, an ear so to speak, on the underside of their thorax. Mantids use this ear to detect ultrasonic "chirps" emitted by hunting bats. When a night flying mantid detects the signals of a hungry bat, it evades the bat by quickly diving to the ground. Most mantid species are cryptically colored providing camouflage in their preferred habitat. For example, flower mantids mimic flowers and catch pollinators who come to feed on nectar and pollen. Very tricky! Ghost mantids mimic dried leaves. Many mantids, like stick insects, have a "rocking" behavior which mimics the movement of vegetation in the breeze.

A Chinese praying mantid feeding on a brown marmorated stink bug – yeah!
Photo: M. Raupp, UMD

Although mantids can be voracious predators they are not particularly known for being good biological controls against pest insects. This is due to their diverse diet that includes non-pest insects. However, a landscape that has mantids in it is usually considered to be a "healthy" ecosystem.

European praying mantis adult.
Photo by M. Raupp, UMD

The native Carolina praying mantis.
Photo by M. Raupp, UMD

Weed of the Week

Chuck Schuster, University of Maryland Extension

The landscape is providing some challenges for proper plant identification this week. Two plants that some will say do not look anything alike and others will be challenged to know the difference between them are being found in landscapes. Fall panicum and Johnsongrass are the two culprits this week. Proper identification and then management is important, each having different requirements.

Photo 1: Johnsongrass
Photo: Chuck Schuster, UME

Fall panicum, *Panicum dichotomiflorum*, is a sprawling summer annual found throughout the United States. This weed is can be found in many areas currently rising above the desired turf, in the landscape beds where the pre-emergent products has deteriorated beyond ability to control weeds, and also in many areas that do not get cut or mowed regularly. It can grow up to five feet in height, and grows with a very characteristic zigzag pattern because it bends at each node. It will have large round, smooth sheaths, rolled in the shoot, 4 to 20 inches in length. Leaf blades have a noticeable midvein, occasionally having hair (pubescent) near the tip or the leaf base. The lower leaf surface is hairless and glossy. Nodes along the stem are swollen and bent in different directions which create an unusual growth habit. A shallow rooter, it is easily disturbed in the landscape, thus preventing it from thriving and producing seed. Stems have the ability to root at the nodes. Fall panicum has a fibrous root system. This weed is often mistaken for either Johnsongrass or barnyard grass prior to seed formation. Notice that no white midrib is found on fall panicum, but will be found on Johnsongrass. After seed head formation, it can easily be distinguished by the seed head differences.

Photo 2 Fall panicum
Photos: Chuck Schuster UME

Fall panicum is an easy to control weed with manual removal. It reproduces by seed, so prevention of seed heads will help control next year's plants. Control of this late summer annual can be obtained with most pre-emergent grass herbicides including pendimethalin, oryzlin and trifluralin. Post emergent control of this weed in landscape will include manual removal or use of glyphosate products.

Photo 3 Fall panicum
Photos: C. Schuster UME

Johnsongrass, *Sorghum halepense*, is showing up in many areas currently. This perennial weed can reach six feet or more in height, has a dense rhizome and produces a large number of seeds. Johnsongrass is classified as a noxious weed and must be controlled which means property owners must prevent it from going to seed. From the southwest, it has been used as a forage, but when moved to the east became a noxious weed quickly. This weed tolerates many settings, from low fertility to high, from low moisture to high, and even tolerates a wide array of pH levels. It is found throughout the United States in agronomic and horticultural settings and in fringe areas of lower management. The leaves are rolled in the shoot and do not have auricles. Each leaf can reach twenty inches in length, and up to three quarters of an inch in width, with a prominent white midvein. Leaf blades are without hairs, but some may be found at the base of the leaf blade. Johnsongrass will have a jagged-edged and membranous ligule. The stems are round, but may be flattened. Sheaths are green to maroon in color, and the plant has a fibrous root system with a dense thick rhizome, and the rhizome has orange scales. The flowers/seed head is a large open panicle with a reddish to purple color. Seeds are oval and dark red in color. Similar to barnyardgrass and fall panicum. Johnsongrass does not have hairs on the lower leaf blades like fall panicum does. Also Johnsongrass has a membranous ligule and neither of the two others do. It may also look like shattercane, but shattercane does not have rhizomes. Johnsongrass produces a thick rhizome which when tillage occurs allows for many new plants to be formed and also allows for equipment to move it. It reproduces by seed and rhizomes.

Control of Johnsongrass can be achieved using several different products. Post emergent control using a glyphosate product can achieve control, but monitoring for new plants from the seed bank in the soil the following year is important. Culturally, Johnsongrass can be managed using proper mowing, preventing it from going to seed. Mowing will not eliminate the plant. Johnsongrass is producing seed heads in August so now is a good time to remove them.

Plant of the Week

By: Ginny Rosenkranz, University of Maryland Extension

Cryptomeria japonica 'Globosa Nana' or Dwarf Globe Japanese cedar is a compact mounding shrub with bright green to blue-green needles that turns into a bronze green in the winter cold. Plants grow 4-8 feet tall and slightly wider and never need pruning. They thrive in USDA zones 5-7 and grow best in slightly acidic, moist but well drained soils in full sun to partial shade. Weekly watering will keep the foliage and roots growing well when first planted. *Cryptomeria japonica* 'Globosa Nana' grows in a dense globe shape, with some are slightly conical. This specimen was found at the Sara Duke Gardens in Durham, North Carolina. Pests include leaf blight and leaf spot, spider mites, and scale.

***Cryptomeria japnonica* 'Globosa Nana' makes a good specimen plant**
Photos: Ginny Rosenkranz, UME

Cut Flower Farm Tours in Southern Maryland (St. Mary's County)

September 12, 2018

Locations: Loveville Produce Auction (Mechanicsville), Weaver's Cut Flower Farm (Mechanicsville), and Hertzler Family Cut Flower Farm (Charlotte Hall)

A brochure and registration information are available on the IPMnet Conference page.

Degree Days (As of August 16)

Aberdeen, MD (KAPG)	2588	Annapolis Naval Academy (KNAK)	3134
Baltimore, MD (KBWI)	2842	College Park (KCGS)	2768
Dulles Airport (KIAD)	2793	Frederick (KFDK)	2755
Ft. Belvoir, VA (KDAA)	2896	Greater Cumberland Reg (KCBE)	2590
Gaithersburg (KGAI)	2713	Martinsburg, WV (KMRB)	2587
Natl Arboretum.Reagan Natl (KDCA)	3224	Salisbury/Ocean City (KSBY)	2888
St. Mary's City (St. Inigoes, MD-KNUI)	3022	Westminster (KDMW)	2891

The Weather Underground site for degree days is no longer functioning as it had been for us to get degree days. We are returning the site that we had used for several years before chaning this yeaar.

Important Note: We are now using the Online Phenology and Degree-Day Models site.

Use the following information to calculate GDD for your site: Select your location from the map

Model Category: All models Select Degree-day calculator
Thresholds in: Fahrenheit F Lower: 50 Upper: 95
Calculation type: simple average/growing dds Start: Jan 1

CONFERENCES

Cut Flower Operation Tour
September 12, 2018
Location: St. Mary's County (Loveville and nearby sites)
Details will be available later in the summer

New Plants for Nursery Growers
October 25, 2018
Location: Country Springs Nursery, Woodbine, MD
Details will be available later in the summer

Turf Nutrient Management Conference
December 6, 2018
Location: Carroll Community College, Westminster, MD

December Pest Management Conference
December 18, 2018
Location: Carroll Community College, Westminster, MD

Advanced IPM PHC Short Course
January 7-10, 2019
Location: University of Maryland, College Park, MD
Contact: Amy Yaich, Admin. Assist. II, 301-405-3911
Email: umdentomology@umd.edu
Information: https://landscapeipmphc.weebly.com/
Recertification credits will be posted on the website Recertification page as awarded by participating states.

MAA Winter Conference
January 22-23, 2019

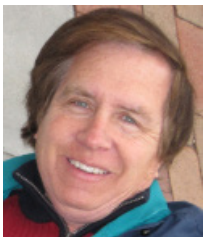
LCA Winter Conference
February 14, 2019

Chesapeake Green Horticulture Symposium
February 20 - 21, 2019
Location: Maritime Institute, Linthicum Heights, MD

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.

CONTRIBUTORS:



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