In This Issue...

- Japanese beetles
- Oriental beetles
- Redheaded sawfly
- White pine sawfly
- Dollar spot in turf
- MDA pesticide container recycling
- Click beetles
- Lichen
- Emerald ash borer galleries

Beneficial of the Week

Weed of the Week

Plant of the Week

Phenology

Degree Days

Announcements

Commercial Horticulture

Japanese Beetles – Tip of the Iceberg

By: Stanton Gill

Last week, we received the first reports of emergence of adult Japanese beetles. I also asked people to send me e-mails as they see emerging adults. The really interesting thing is we received reports from as far south as Williamsburg, VA and Gainesville, VA reporting the first adult beetle activity while reports from Frederick County and Carroll County and Pennsylvania came in of pretty much the same emergence time for the first Japanese beetle activity. The cool and wet weather must have slowed up the pupation process and now that warm weather is here, they are all emerging mostly at the same time.

Here are some of the reports we had this week:

Westminster, MD – Jessie Ballard – on hops foliage
Upper Montgomery County – Bobbie Levine - on Linden tree
Charles County – Carol Smith – on grape
Redheaded sawflies are a native pest in the northeast U.S. Photo: Megan DeMarco, Maxalea, Inc.

Oriental beetles are now active. Look for them feeding on flowers. The black and tan color pattern varies among Oriental beetle adults. Oriental beetles are scarab beetles, like Japanese beetles, but they are much less of a problem. They feed on flowers and can cause some damage which usually is not significant to warrant control. Sometimes, the white grubs (larvae) can be a problem on container nursery stock by feeding on plant roots.

Redheaded Sawfly
Megan DeMarco, Maxalea Inc., found redheaded sawfly larvae feeding on mugo pine in Phoenix. Larvae feed gregariously and strip the needles from the top terminals and branches. This native sawfly has two generations per year in this area. Prepupae overwinter in cocoons in soil. Trees growing on shallow soils, wet or dry sites, or under other stressful conditions are most often attacked. Heavy infestations may defoliate and kill small pines in landscape settings.

**Control:** Manually remove and destroy larvae if on small trees. For heavy infestations and large trees, use a residual insecticide. Horticultural oil can be used for small larvae; monitor trees in August for the start of the second generation.

So, the adult Japanese beetle season begins. Stay on top of control early to prevent major damage. I noted the materials labeled for Japanese beetles in last weeks IPM Alert.

**Oriental Beetles**
Oriental beetles are now active. Look for them feeding on flowers. The black and tan color pattern varies among Oriental beetle adults. Oriental beetles are scarab beetles, like Japanese beetles, but they are much less of a problem. They feed on flowers and can cause some damage which usually is not significant to warrant control. Sometimes, the white grubs (larvae) can be a problem on container nursery stock by feeding on plant roots.

**Redheaded Sawfly**
Megan DeMarco, Maxalea Inc., found redheaded sawfly larvae feeding on mugo pine in Phoenix. Larvae feed gregariously and strip the needles from the top terminals and branches. This native sawfly has two generations per year in this area. Prepupae overwinter in cocoons in soil. Trees growing on shallow soils, wet or dry sites, or under other stressful conditions are most often attacked. Heavy infestations may defoliate and kill small pines in landscape settings.

**Control:** Manually remove and destroy larvae if on small trees. For heavy infestations and large trees, use a residual insecticide. Horticultural oil can be used for small larvae; monitor trees in August for the start of the second generation.
White Pine Sawfly
Richard Chaffin, The Brickman Group, found white pine sawfly larvae feeding on white pines in Harford County on June 20. Larvae feed on both old and new needles. Look for defoliated white pine branches. First generation larvae are active in May through June and the second generation is out in August through September. When larvae consume all of the needles on one branch, they move to another one.
Control: Manually remove and destroy larvae if on small trees. For heavy infestations and large trees, use a residual insecticide. Horticultural oil can be used for small larvae; monitor trees in August for the start of the second generation.

Dollar Spot on Turf
Rick LaNore, MRW Lawns, Inc., found turf infected with dollar spot in Waldorf, on the morning on June 22 after heavy downpours the night before. A common sign of dollar spot infection is the fuzzy mycelium on turf early in the morning. Dollar spot infection is more likely to occur in poorly nourished turf, often when turf is dry, with high humidity or a heavy dew. See the University of Maryland Turfgrass Technical Update for more information and control options.
Click Beetles
We have received several reports of click beetle adults recently. Richard Chaffin, The Brickman Group, found a click beetle on an elm in Harford County on June 20. Adults feed on plants, but seldom cause much damage. The larvae of many species feed on dead insects and organisms in the soil. See the July 24, 2015 Beneficial of the Week for Paula Shrewsbury’s article.

Lichen
Tony Timchula, Maxalea, Inc. found lichen on a viburnum in Towson this week. Lichen is most often on trees and shrubs in declining or poor heath. The lichen does not cause plant damage. Improving air circulation and good plant vigor are the best defenses against lichen. Lichen is an indicator of good air quality. See Andrew Ristvey’s article on lichen on-line for more information.

Emerald Ash Borer
John Verbrugge, Arader Tree Service, Inc., uncovered emerald borer galleries while inspecting some ash trees on a client’s property. The infestation is in Ambler, PA.
Beneficial of the Week
By: Paula Shrewsbury

A robber fly or bumble bee?

Bumble bees are beneficial insects that are pollinators and they can sting. Robber flies are beneficial insects that are predators and provide biological control, but they cannot sting. Not surprisingly, some species of robber flies mimic bumble bees, and they do this quite well! Bumble bees are in the order Hymenoptera (related to other bees, wasps, ants, etc.) and robber flies are true flies in the order Diptera. Why would a fly want to look like a bee? Predatory flies may do this to trick their prey into believing they are harmless and not going to eat them up or they may do this to trick their own predators into believing they will be stung if they attack the fly. Many of the robber fly bumble bee mimics are in the genera Laphria. Another well known group of flies that mimic bees are the Syrphid or flower flies (Syrphidae).

To distinguish between the robber fly and bee there are certain characteristics that can be observed. Robber flies have: 1 pair of wings and a pair of stubby halteres (flesh colored knobby structures) in place of the hind set of wings; stubby antennae; long legs with “pads” on the ends of their “feet”; and a hairy “moustache” on their face. This “moustache” is common to robber flies and referred to as a mystax which is derived from the Greek term mystakos meaning moustache or upper lip. Bumble bees have: 2 pairs of wings; elbowed or bent antennae; two claws at the end of their legs or “feet”; no “beard”; and they have pollen baskets on their hind legs. Go to the website below which has well labeled images that demonstrate the differentiating characteristics of bumble bees (Hymenoptera), robber flies, and hover flies (both predatory Diptera):

http://www4.ncsu.edu/~dorr/Insects/Look_A_Likes/Bumblebee/LookALike_Bumblebee.html

Robber flies are in the family Asilidae and are sit-and-wait predators, sometimes catching their prey on the wing. This means they sit on the tip of a branch or tall grass and when a prey item flies by they take flight and grab it with their long, powerful, raptorial legs. They are known to be voracious predators that feed mostly on other insects. Once the prey is caught, the fly stabs it with its short, strong proboscis (mouthpart), injects a salivary enzyme that contains neurotoxic and proteolytic enzymes that quickly paralyze the prey liquefies its insides. This allows the robber fly to consume the liquefied prey with its sucking like mouthpart. Although many of their prey items are herbivores, they are not that picky and will readily feed on other natural enemies or even pollinators. Not much is known on the larvae of robber flies. They generally seem to live in soil, rotting wood or leaf litter or similar materials, some being predatory and others are detritivores. Beware of catching one of these bee mimics, even if you are sure it is not a bee, for robber flies are known to have pretty fierce bites!

Weed of the Week
By: Chuck Schuster

The weather has been changeable in many ways. Temperatures have gotten hotter, and the soil was starting to dry out. On Tuesday some areas received up to 1.75 inches of rain, and some hail. A tornado was verified in Howard County, and more rain fell on Thursday. Temperatures are helping many weeds thrive at this point, and every weed seems to be growing quickly now.
Catchweed bedstraw, *Galium aparine* L., is a winter or sometimes summer annual that can be found throughout the United States. Catchweed bedstraw produces an almost flat mat that will climb over other vegetation. It has square stems, with a backwards facing prickle on the four corners of the stem and on leaves. These prickles allow this plant to cling to other plants for support. The leaves have hairs on the upper surface, are lanceolate in shape and sessile (attached directly to the stem) in whorls of six to eight and found at nodes with a rough margin. The plant reproduces primarily by seed which germinate over a long period of time as moisture and temperatures permit. Flowers are produced starting in late May, on a stalk with 4 petals, white in color. Flowers are small, about 1/8 to ¼ of an inch across.

There are no know biological control methods for this plant. In landscape settings, it is an easy-to-pull weed, but consideration should be given to do this weeding before it goes to seed. In turf, it will thrive in taller mowed settings. This plant when found in an undesired setting can be controlled using the following options. Many post emergent broadleaf product will work including oxyfluorfen (Goal), Quinclorac, carfentrazone (Quicksilver) with good results and Dicamba, and Three-way selective providing fair results. Remember to use a surfactant to get the best results. Use caution with using post emergent broadleaf products above the root zone of plants as these some of these products can move downward in the soil and be absorbed by plant roots of desired species. In landscape and nursery settings, the use of oxyfluorfen (Goal) will be effective as a pre-emergent/ early post emergent product. Non –selective products used in landscapes will include glyphosate based products but caution should be considered with these products to avoid contact with any roots or suckers of desired plant species.

**Plant of the Week**

By: Ginny Rosenkranz

*Incarvillea delavayi ‘Snow Top’* is known as hardy gloxinia and sometimes as flowering fern. It develops strong tap roots and is difficult to move once established. A rosette of long, medium green pinnately compounded leaves form a 1-2 foot mound. From the center of the mound, 1-2 foot stems emerge and are topped by a cluster of 3-inch trumpet-shaped, pure white flowers with a bright yellow throat. Hummingbirds and butterflies are attracted to the flowers which last from late spring to early summer. Removing spent flowers will encourage more flowers until early summer. Plants are hardy from USDA zone 5-7 and grow best in part shade with excellent winter soil drainage and a winter mulch. Plants are tolerant of acidic and alkaline soils. Slugs can be pests.
Plant Phenology Indicators

<table>
<thead>
<tr>
<th>PLANT</th>
<th>PLANT STAGE (Bud with color, First bloom, Full bloom, First leaf)</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albizia julibrissin</td>
<td>First bloom</td>
<td>Columbia (June 23)</td>
</tr>
</tbody>
</table>

Degree Days (As of June 22)

- Annapolis Naval Academy (KNAK): 1179 Baltimore, MD (KBWI) 1157
- College Park (KCGS): 1144 Dulles Airport (KIAD) 1175
- Ellicott City (E3247): 1089 Fairfax, VA (D4092) 1336
- Frederick (KFDK): 1008 Greater Cumberland Reg (KCBE) 1114
- Gaithersburg (KGAI): 1033 Martinsburg, WV (C1672) 1096
- Natl Arboretum.Reagan Natl (KDCA): 1424 Rockville (C2057) 1368
- Salisbury/Ocean City (KSBY): 1157 St. Mary’s City (St. Inigoes, MD-KNUI) 1340
- Westminster (KDMW): 1176

Important Note: We are now using the [Online Phenology and Degree-Day Models](#) site.

Use the following information to calculate GDD for your site at the [Online Phenology and Degree-Day Models](#) site:

- Select your location from the map
- Model Category: All models
- Select Degree-day calculator
- Thresholds in: °F
  - Lower: 50
  - Upper: 95
- Calculation type: simple average/growing dds
  - Start: Jan 1

Once you know the GDD and/or plant phenological indicators (PPI, what plants are blooming) in your location, you can go to the [Pest Predictive Calendar](#) to determine what pests you can expect to be active soon in that location.

**Biocontrol Conference for Nursery and Greenhouse Growers**

We are organizing a Biocontrol conference for **August 18, 2016**, so mark your calendar. We will put out a complete schedule of topics and speakers in June. The location will be Brookside Gardens in Wheaton, Maryland. We will be bringing in speakers from the Ontario Experiment Station, the Connecticut Experiment Station, BioWorks from Florida, local growers who have adopted biocontrol options, and several University of Maryland Extension faculty. Each will talk about their latest research in biological control options in the nursery, greenhouse and landscape. This program is co-sponsored with MNLGA and they will handle registration for this conference.

**2016 Summer Conferences**

**Hops and Drones**
June 29, 2016, 4:00 PM - 8:00 PM
Location: Milkhouse Brewery at Stillpoint Farm 8253 Dollyhyde Road Mt. Airy, MD 21771
Contact: 410-823-8684, office@mnlga.org
[Register online at MNLGA](#)

**Maryland Christmas Tree Association Summer Meeting**
Saturday June 25, 2016 at Thomas Tree Farm, 3501 Hanover Pike, Manchester, MD
For info: wayne@thomastreefarm.com

**Hands-on Perennials Diagnostic Workshop**
July 20, 2016
Location: The Perennial Farm, 12017 Glen Arm Road, Glen Arm, MD 21057
Contact: 410-823-8684, office@mnlga.org

**FALCAN 2016 Truck & Trailer Safety Seminar**
August 10, 2016, 8:00 to 2:45
**Topics include:**
- State and Federal laws as they apply to our various industries.
- Pick-up, one-ton, and larger truck requirements, as well as inspection points.
- Permits, licenses, covers, tie-downs, and fuel.
- Real truck and trailer demonstrations done on site.

All instruction provided by Maryland State Police and Safety Industry Representatives.

**Added Feature Topic:** Commercial Drone Technology

[Registration Information](#) - under seminars and forms

**Biological Control for Greenhouses and Nurseries**
August 18, 2016
Location: Brookside Gardens, 1800 Glenallan Avenue, Wheaton, MD 20902
Contact: 410-823-8684, office@mnlga.org
IPMnet Has a New On-line tool:  The Pest Predictive Calendar

This [Pest Predictive Calendar](#) is intended to assist landscape managers, growers, IPM professionals and others in predicting the appearance of pest insects and mites in order to make more timely management decisions. By using the Plant Phenology Indicators (PPI) and Growing Degree Days (GDD) on this table you can anticipate when the susceptible life stage(s) (stage you want to target for control measures of pest insects and mites are active.

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  
Extension Educator  
cfs@umd.edu

David Clement  
Plant Pathologist  
clement@umd.edu

Andrew Ristvey  
Extension Specialist  
aristvey@umd.edu

Ginny Rosenkranz  
Extension Educator  
rosnkrnz@umd.edu

Nancy Harding  
Faculty Research Assistant

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association, Professional Grounds Management Society, and FALCAN for your 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 of Maryland Extension programs are open to all citizens without regard to race, color, gender, disability, religion, age, sexual orientation, marital or parental status, or national origin.