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<th>September 30, 2016</th>
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<td>Coordinator Weekly IPM Report: Stanton Gill, Extension Specialist, IPM for Nursery, Greenhouse and Managed Landscapes, <a href="mailto:sgill@umd.edu">sgill@umd.edu</a>. 301-596-9413 (office) or 410-868-9400 (cell)</td>
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<td>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) and David Clement (Extension Specialist) 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 &amp; Education Center) Design, Layout and Editing: Suzanne Klick (Technician, CMREC)</td>
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Magnolia Scale

By: Stanton Gill

Last week, I received in a sample of deciduous magnolia with a soft scale on it from York, PA. Normally we see tuliptree scale on deciduous magnolia, but this one was magnolia scale. The last time I had a sample of this scale was in 2003 when Brian Dahl brought me a sample from a planting in Silver Spring. The magnolia scale is much larger than tulip tree scale and the female does not hump up as much when full of eggs. The sample submitted was loaded with eggs, but no crawlers were present. This scale should be going to crawlers in the next week or so.

**Control:** Distance or Talus should be the best control for the early instars.
New Way to Make *Beauveria bassiana* Work on Pests
By: Stanton Gill

In one of the biological control sessions I attended on Monday at the national entomology meetings, it was mentioned that they were taking barley seed and heating them up to 160 °F to kill the seed. They then spray the entomopathogenic fungus, *Beauveria bassiana*, onto the seeds. The seed is sprinkled into an area and the plant feeding insects feed on the barley seed and inject the *Beauveria* fungus. A very clever way of getting a fungus into an insect to kill it.

**Locust Borer**
Ron Muir, Jr., First Energy Corp, found a locust borer beetle on goldenrod in Martinsburg, WV. As goldenrod flowers finish blooming in the next few weeks, look for this native yellow and black beetle. The black locust beetle adult is often found feeding on the pollen of goldenrod. The larvae bore into black locust (*Robinia pseudoacacia*) trunks and branches. The healthier a tree is, the less likely it is to be attacked. Trees suffer less injury when grown in stands of mixed species. Females lay eggs August into early October. Young larvae overwinter in the inner bark.
**Catalpa Sphinx Moth Caterpillar**
John Mowbray, Bartlett Tree Experts, found catalpa sphinx moth caterpillars (aka catalpaworms). John noted that two catalpa trees were completely defoliated a few months ago and are now being attacked for a second time this week on Gibson Island. He found caterpillars of various sizes on both trees. John reported that the trees were already about 10-20 percent eaten, despite signs of parasitic wasp activity.

**A Wasp and Soft Scale**
Ron Muir, Jr., First Energy Corp, found this paper wasp hanging around tuliptree scale on a tuliptree in West Virginia. The soft scale is producing a lot of honeydew at this time of year on which the wasp is feeding. Paper wasps prey on caterpillars to feed to developing larvae.
Sawfly on Contorted Filbert
Marty Adams, Bartlett Tree Experts, found sawfly larvae feeding gregariously on *Corylus avellena* ‘Contorta’ (Harry Lauder’s walkingstick). If treatment is needed this late in the season, Conserve can be used for control.

Many sawfly larvae form an s-pattern on the edge of a leaf when disturbed
Photo: Marty Adams, Bartlett Tree Experts

Beneficial of the Week
By: Rebecca Waterworth and Paula Shrewsbury

Maryland has many state symbols. The state bird is the Baltimore oriole. The state flower is the black-eyed susan, *Rudbeckia hirta*. Maryland even has a state fossil shell, *Ephora gardnerae gardnerae* (an extinct snail)! This list of state symbols would not be complete without a state insect, the Baltimore checkerspot butterfly, *Euphydryas phaeton* (Order Lepidoptera, Family Nymphalidae) (see photo). It was named for George Calvert, the first Lord Baltimore because the orange and black colors on the butterfly match those on Calvert’s heraldic shield. Maryland named this butterfly as the state insect in 1973.

Baltimore checkerspots have only one generation a year in Maryland. Adults (wingspan of 1.6 to 2.5 inches) have a single flight period, June through early July. Mated females seek out white turtlehead (*Chelone glabra*) (see photo) where they will lay several hundred eggs on a host leaf. Small caterpillars (or larvae) feed exclusively on *C. glabra*. Newly hatched caterpillars spin a communal web around the end of a turtlehead leaf. This looks similar to an Eastern tent caterpillar nest but checkerspots never defoliate forest trees! This web offers some collective protection from predators and parasitoids, such as ichneumon wasps. Larvae within the web continue to eat and grow until the end of the third instar or stage (mid-August). They molt one more time to the fourth instar and remain in the web in a state of diapause (do not feed or grow). They move out of the web by the end of October and roll up in leaves within leaf litter to spend the winter.

By mid-April, temperatures have warmed enough for the over-wintering larvae to emerge and search for white turtlehead. However, they no longer feed communally and no new webs are spun. Late instar larvae are probably unpalatable to birds and other predators because they are covered in stiff hairs (see photo). Caterpillars will eat *Viburnum recognitum, Plantago lanceolata, Penstemon* spp., and *Lonicera* spp if turtlehead is too small or scarce. Once caterpillars reach their full size, they form a chrysalis (or pupal case) suspended from their host plant. An adult butterfly emerges about two weeks later. Adult nectar sources are much more varied and in Maryland include: *Asclepias* spp., *Apocynum* spp., *Pycnanthemum* spp., and *Rubus* spp.
This species is found outside of Maryland as far north as Canada to the mountains of Virginia and North Carolina and across to the west in the Great Lakes Region. However, if you are like me, you have never seen Baltimore checkerspots “on the wing” in Maryland. Historically, butterflies were found in 15 mostly northern Maryland counties with multiple breeding sites per county. Now, there are 11 breeding sites in seven counties. As the result of this significant decline in recent years, Maryland in 2010 designated this species with a state conservation rank of S2. This insect is considered imperiled in Maryland because of its rarity with 6 to 20 estimated occurrences or few remaining individuals in the state. A number of factors have contributed to the decline of butterfly colonies and include habitat loss and degradation, deer browse on larval host (white turtlehead) and nectar plants, and wetland succession.

Maryland residents have responded to the decline in the butterfly’s population by forming the Baltimore Checkerspot Recovery Team (BCRT), comprised of federal, state, and county agency representatives, university professors, local schools, and nature and education center staff. The team published in 2013 its conservation and management plan for the Baltimore checkerspot. In this plan, they discussed enhancing and conserving sensitive habitat and increasing the butterfly populations through captive rearing and release programs. Much of this work is underway.

For more information about the BCRT and to view the entire conservation and management plan, see: [http://dnr2.maryland.gov/wildlife/Pages/plants_wildlife/BCRT/index.aspx](http://dnr2.maryland.gov/wildlife/Pages/plants_wildlife/BCRT/index.aspx)

For more photos of adults and additional life stages of Baltimore checkerspot butterflies, see this blog: [http://talesfromthewilds.blogspot.com/search?q=checkerspot](http://talesfromthewilds.blogspot.com/search?q=checkerspot)

**Plant of the Week**

By: Ginny Rosenkranz

*Hydrangea paniculata* Pinky Winky® is another Proven Winners® plant that has taken an old standby, *H. paniculata* ‘Grandiflora’, and created a new, two-toned white and pink flower on a vigorous upright deciduous shrub. As this plant blooms on new growth, pruning the plant close to the ground each spring will create a full shrub with brightly colored flowers at the tips of each branch by mid-summer. Pinky Winky® flowers start out white but quickly turn pink, while new flowers are starting out white, giving the entire plant a bi-colored look. The stems are strong and stiff, holding the flower panicles upright without any drooping. The flower panicles are very dense, cone-shaped and can grow as large as 10-12 inches long. The tiny fertile flowers are covered by the larger, showier sterile flowers. Flowering starts in July and continue to bloom into October.
It grows 6-8 feet tall and 6 feet wide. Pinky Winky® is one of the most winter hardy *H. paniculata*, hardy in USDA zones 3-8. It grows best in full sun with moist well drained soils and the flower color is not dependent on soil acidity. This hydrangea can be used in a mixed shrub border or an open woodland garden or as an accent plant that provides late summer color. Hydrangeas are susceptible to bud blight, bacterial wilt, leaf spot, rust, mildew, aphids and mites.

The flowers of *Hydrangea paniculata* Pinky Winky® start white and become pink

Photos: Ginny Rosenkranz, UME

### Degree Days (As of September 28)

<table>
<thead>
<tr>
<th>Location</th>
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<tbody>
<tr>
<td>Annapolis Naval Academy (KNAK)</td>
<td>3970</td>
<td>Baltimore, MD (KBWI)</td>
<td>3809</td>
</tr>
<tr>
<td>College Park (KCGR)</td>
<td>3701</td>
<td>Dulles Airport (KIAD)</td>
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<td>Ellicott City (E3247)</td>
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<td>Fairfax, VA (D4092)</td>
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<tr>
<td>Frederick (KFDK)</td>
<td>3551</td>
<td>Greater Cumberland Reg (KCBE)</td>
<td>3642</td>
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<tr>
<td>Gaithersburg (KGAI)</td>
<td>3533</td>
<td>Martinsburg, WV (C1672)</td>
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<tr>
<td>Natl Arboretum.Reagan Natl (KDCA)</td>
<td>4402</td>
<td>Rockville (C2057)</td>
<td>4162</td>
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<td>Salisbury/Ocean City (KSBY)</td>
<td>3778</td>
<td>St. Mary’s City (St. Inigoes, MD-KNUI)</td>
<td>4107</td>
</tr>
<tr>
<td>Westminster (KDMW)</td>
<td>3840</td>
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**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
- **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.
Commercial Horticulture Conferences

5th Annual Trees Matter Symposium
October 19, 2016, 7:30 AM – 4:00 PM
Silver Spring Civic Building
Details are available online

New Location for 2016 December 2016 Conference
Howard Community College in Columbia for December 16, 2016. Look for the schedule in mid-October.

Advanced Landscape Plant IPM PHC Short Course
January 3rd to January 6th
Website: landscapeipmphc.weebly.com
For registration information visit our website or contact:
Kiley Gilbert, University of Maryland, Dept of Entomology
Tel: 301-405-3911, Monday-Friday 8-4:30
Email: kgilber4@umd.edu

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