Welcome to the BYGL Newsletter

May 8, 2008

This is the 6th 2008 edition of the Buckeye Yard and Garden Line (BYGL). BYGL is developed from a Tuesday morning conference call of Extension Educators, Specialists, and other contributors in Ohio.

BYGL is available via email, contact Cheryl Fischnich [fischnich.1@cfaes.osu.edu] to subscribe. Additional Factsheet information on any of these articles may be found through the OSU fact sheet database [http://plantfacts.osu.edu/].

BYGL is a service of OSU Extension and is aided by major support from the ONLA (Ohio Nursery and Landscape Association) [http://onla.org/] and [http://buckeyegardening.com/] to the OSU Extension Nursery, Landscape, and Turf Team (ENLTT). Any materials in this newsletter may be reproduced for educational purposes providing the source is credited.

BYGL is available online at: [http://bygl.osu.edu], a web site sponsored by the Ohio State University Department of Horticulture and Crop Sciences (HCS) as part of the "Horticulture in Virtual Perspective." The online version of BYGL has images associated with the articles and links to additional information.

Following are the participants in the May 6th conference call: Pam Bennett (Clark); Barb Bloetscher (Entomology/C. Wayne Ellett Plant and Pest Diagnostic Clinic (CWEPPDC)); Joe Boggs (Hamilton/Piketon); Jim Chatfield (OSU Extension Center at Wooster/Hort and Crop Science); Dave Dyke (Hamilton); Gary Gao (Delaware); David Goerig (Mahoning); John Lloyd (Rainbow Tree Care, Minneapolis MN); Tim Malinich (Lorain); Joe Rimelspach (Plant Pathology); Dave Shetlar (Entomology); Dave Sprootman (Rainbow Tree Care, Minneapolis MN); Nancy Taylor (CWEPPDC); Shawn Wright (OSU Piketon Centers); Curtis Young (Allen) and Randy Zondag (Lake).

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1. WEATHERWATCH.
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3. BUGBYTES: Annual Maple Leaf-Drop Commences [Maple Petiole Borer]; Tent Cats Prowl [Eastern Tent Caterpillars, Forest Tent Caterpillars]; Emerald Ash Borer Look-a-Like [Six-Spotted (Green) Tiger Beetles]; April Showers Bring March Flies; Not All Calicos are Pets [Calico Scale]; Elm Flea Weevil Update; and Spider Bite: Undeniable Evidence [Yellow Sac Spider].
4. DISEASE DIGEST: Moist Chamber [Apple Scab, Frogeye Leaf Spot, Cedar Quince Rust, May-Apple Rust, Sphaeropsis Tip Blight, Dothistroma Needle Blight, Black Root Rot, Volutella Leaf Blight and Stem Canker on Pachysandra, Ash Anthracnose, Septoria Leaf Spot of Dogwood].
WEATHERWATCH - May 8, 2008

The following weather information summarizes data collected at various OARDC Weather Stations spanning the dates: May 1-7, 2008, with the exception of the soil temperatures which are readings from Wednesday, May 7 at 12:00 p.m.

<table>
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<tr>
<th>Weather Station</th>
<th>Region of Ohio</th>
<th>Ave. High Temp F</th>
<th>Ave. Low Temp F</th>
<th>Total Precip.&quot;</th>
<th>Normal Precip. &quot;</th>
<th>Soil Temp F 2&quot;/3&quot;</th>
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<td>0.70&quot;</td>
<td>64.08 / 62.28</td>
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<td>62.26 / 60.14</td>
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<td>46.8</td>
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<td>0.60&quot;</td>
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<td>0.80&quot;</td>
<td>63.01 / 61.29</td>
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<td>45.6</td>
<td>0.67&quot;</td>
<td>1.10&quot;</td>
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</tbody>
</table>

For more information, see:
OARDC Weather Station

GROWING DEGREE DAYS - May 8, 2008

GDD is a measure of the daily maximum and minimum temperature and directly relates to growth and development of plants and insects. The GDD of any zip code location in Ohio is estimated using the GDD of ten OARDC weather stations and available on the web at the site below.

The range of GDD accumulations in Ohio from north to south is 259 to 427. Following is a report of GDD for several locations around Ohio through the end of the day of May 6, 2008: Painesville, 259; Cleveland, 270; Toledo, 271; Canfield, 277; Lima, 281; Wooster, 291; Coshocton, 315; Columbus, 351; Springfield, 323; Dayton, 330; Cincinnati, 390; Ironton, 407; Portsmouth, 409; and Piketon, 427.

To put these GDD accumulations into perspective, the following is an abbreviated listing of plant and insect species with their respective phenological event and average GDD accumulations at which these events occur. Due to variations in weather, temperature, humidity, etc., these events may occur a few days earlier or later than predicted by the average GDD. By looking at a city, town, or village near you from the above list, or visiting the above web site, you can see what could be taking place in the landscape around you.

Common horsechestnut, first bloom, 251; hawthorn lace bug, adult emergence, 253; hawthorn leafminer, adult emergence, 260; flowering dogwood, first bloom, 263; red buckeye, first bloom, 265; blackhaw viburnum, first bloom, 269; imported willow leaf beetle, adult emergence, 274; sargent crabapple, full bloom, 298; red horsechestnut, first bloom, 304; pine needle scale, egg hatch - 1st generation, 305; cooley spruce gall adelgid, egg hatch, 308; eastern spruce gall adelgid, egg hatch, 308; common lilac, full bloom, 315; pink princess weigela, first bloom, 316; blackhaw viburnum, full bloom, 322; redosier dogwood, first bloom, 323; dwarf fothergilla, full bloom, 325; winter king hawthorn, first bloom, 328; lilac borer, adult emergence, 330; slender Deutsia, first bloom, 338; Japanese kerria, full bloom, 342; common horsechestnut, full bloom, 344; red chokeberry, full bloom, 351; doublefile viburnum, first bloom, 353; Pagoda dogwood, first bloom, 363; red Java weigela, first bloom, 365; black cherry, first bloom, 368; common sweetshrub, first bloom, 371; lesser peach tree borer, adult emergence, 372; Ohio buckeye, full bloom, 374; holly leafminer, adult emergence, 375; Vanhoutte spirea, full bloom, 406; euonymus scale (first generation), egg hatch, 406; black cherry, full bloom, 419; Miss Kim Manchurian lilac, first bloom, 422; and locust leafminer, adult emergence, 437.

For more information, see:
- Growing Degree Days and Phenology for Ohio
- Understanding and Using Degree-Days
**PLANTS OF THE WEEK**

Read all about perennials and landscape trees and shrubs in the ONLA publications "Perennial Plants for Ohio" and "Landscape Plants for Ohio." The descriptions and photographs of plants were provided for these publications by the OSU ENLT Team along with other industry plant lovers. These full-color publications are available at [http://Buckeyegardening.com](http://Buckeyegardening.com) for $5.00. Click on "garden store" and then "ONLA plant guides." ONLA members can purchase these in quantities at a reduced price at [http://onla.org](http://onla.org).

**PERENNIAL PLANT OF THE WEEK. COLUMBINE - (Aquilegia spp.).** The columbine world has expanded with all of the introductions in the past several years. There are some really cool plants with dense clusters of flowers ranging from pinks to purples to light blues and whites. 'Nora Barlow' for instance, has a double pom-pom pink flower that nods gracefully atop a 30-36" tall plant. 'McKana Giants' have large blooms in a variety of colors. It blooms later in spring and on into the summer. Don't forget the native Ohio columbine (A. canadensis), it's great for woodland areas and has a tendency to spread nicely. The only drawback for these plants is that they are affected by columbine sawfly (Pristorphora aquilagae) and columbine leafminer (Phytomyza spp.) so be on the lookout for these critters in the early spring.

**WOODY PLANT OF THE WEEK: CRABAPPLES.** The ornamental Malus (apples less than two inches in diameter at maturity) were at their spectacular peak in northeast Ohio this past weekend, just in time for Secrest Arboretum's Plant Discovery Day. Ohio is a major nursery producer of crabapples and it is easy to see why this year with their range of flower and bud color and contrast, range of plant shape from upright to weeping, range in size from dwarfs to 20 footers, and later this season, taxa with yellow to orange to red to purple fruits. Below are just a few of the many apple scab-resistant crabapples for Ohio; check out "Landscape Plants for Ohio" for additional selections.

- 'Adirondack' - One of the few outstanding crabapples with a narrow, upright tree form. Clean foliage, orange-red fruits, and showy white flowers. Excellent autumn foliage and fruit with combinations of reds and oranges.
- 'Louisa' - Outstanding weeping form with graceful, arching branches and soft pink flowers. Fruits are a golden-orange color. Other crabapples that are more spreading-weepers rather than true weepers are 'Manbeck Weeper', 'Molten Lava', 'Mary Potter' and 'Candymint'.
- 'Prairifire' - Rounded to open tree form. Consistent, stunning display of coral-pink flowers. Attractive glossy green foliage with a purple tinge. Purple fruits are ornamental from late June to early December and are paired with orange fall color of the spur leaves.
- 'Sugar Tyme' - Good rounded overall form, but the flowers and fruits are the main attraction. Sugary white mass of blooms are consistent from year to year followed by showy apple-red fruits that are ornamental well into the winter months.

For still more on crabapples, check out Lake County Nursery's Maria Zampini's article on Mini-Malus in the March 15, 2008 edition of American Nurseryman.

**THE WEEKLY WEED.** BYGLers noted that GARDEN YELLOWROCKET (Barbarea vulgaris) is making its annual appearance in Ohio's fields and landscapes. This non-native invasive biennial weed belongs to the mustard family (Brassicaceae), so it is a prolific seed producer. Plants spend the first year in the vegetative stage as tightly clustered rosettes of prostrate leafy stems that are often hard to spot lurking beneath other plants. The weed shows its true colors the second year when it enters the reproductive stage. Abundant clusters of tiny, bright yellow four-petaled flowers borne atop hairless, stout, light green to reddish purple flower stalks appear to "rocket" above 1-2' tall rounded, bushy plants.

Prior to flower production, yellowrocket is sometimes mistaken for other nefarious weeds such as the ever-loathsome GARLIC MUSTARD (Alliaria petiolata). However, a close look at the basal leaves will reveal important distinguishing features. The lobed, shiny dark green basal leaves of yellowrocket are 2-8" long, with 1-4 oppositely arranged lateral lobes and a large terminal lobe. The terminal lobe has a heart-shaped base.

Yellowrocket control measures include herbicide applications, hand-pulling or cultivation prior to seed production. The weed is susceptible to glyphosate (e.g. Roundup) as well as triclopyr; however, since this is a biennial weed, it is important to target the prostrate rosettes as well as the bushy flowering plants. Unfortunately, seed production has already commenced in southern Ohio, so while control measures will reduce the overall seed bank for coming seasons some seed has already been dispersed this year.

**For more information, see:**
- Natural Resources Conservation Service Garden Yellowrocket Info
- Robert W. Freckmann Herbarium
SOIL TESTING FOR LAWN AND GARDEN

Homeowners often apply fertilizers to their lawns and gardens without knowing what nutrients might be deficient. This practice can lead to over or under-fertilization or even application of the wrong fertilization. It is possible that homeowners can waste quite a bit of money on wrong fertilizers or inappropriate application rates. High energy prices have caused fertilizer prices to increase significantly. It makes more sense now than ever to have your soil tested.

The soil test is an excellent measure of soil fertility. It is a very inexpensive way of maintaining good plant health and maximum crop productivity. The standard soil test provides the status of phosphorous (P), potassium (K), calcium (Ca), magnesium (Mg), pH, cation exchange capacity, lime requirement index and base saturation. Additional tests are also available for iron (Fe), zinc (Zn), manganese (Mn), soluble salts and nitrates.

A list of commercial testing labs can be obtained from OSU Extension offices across the state. Some Extension Offices stock “soil testing kits” for one or two labs. County Extension Educators can help homeowners or professionals interpret their soil test results. You will need to call your local Extension Office to determine how to take and process a soil sample, and where to send the sample to have it tested.

For more information, see:
- Soil Testing
- Interpreting a Soil Test for Lawns

RASPBERRY AND BLACKBERRY SPRAY SCHEDULE

Dave Goerig reported the Mahoning County office received a call last week for raspberry (Rubus spp.) spray schedule information. The home fruit grower was determined to get ahead of some of the things that plagued his personal berry crop last year. The program the professional small fruit growers use is published in OSU Extension Bulletin 861, "Midwest Small Fruit Pest Management Handbook” and its companion Bulletin 506B2 "Midwest Commercial Small Fruit and Grape Spray Guide.” These bulletins are a must for anyone attempting to grow or care for brambles and other small fruits throughout Ohio and the Midwest.

The information located in these bulletins is phenologically organized. The charts are labeled with a description of what the plant looks like when one might see a particular pest. The information in the guide starts when the plants are dormant. It moves through the pre-bloom stage and petal fall, then lists post-bloom through harvest stages. It finishes with the post harvest chart. It also lists the legal controls, rates of application and other important comments.

The information does a great job of identifying cover spray options to help manage fungal infestations of the plant and its precious fruit. Towards the end of the raspberry section the writers publish some special comments relative to the plant health care product labels, disease cycle information and raspberry cultural tips. Copies can be ordered from your local county extension office or are available online. An OSU Extension Factsheet on backyard raspberry production can be viewed at: [http://ohioline.osu.edu/hyg-fact/1000/1421.html].

For more information, see:
- Midwest Small Fruit and Grape Net
- Raspberry Factsheet

THOSE BLOOMING CRABILICIOUS TREES

This year’s floral display for CRABAPPLES is FABULOUS! With the freeze last year killing almost all of last year's blooms, it resulted in the trees producing an exquisite flower display in every crabapple this year. A perfect Spring, combined with few frosts, has not dampened the impact of flowers for this season. This truly glorious impact is viewed daily by hundreds of people flocking to see the colors of crabapples at Secrest Arboretum. Knowing which taxa of crabapple blooms in the front yard is also very important when using them as phenological predictors. This is due to the fact that there can be as much as a 2-3 week difference when blooms are produced, depending on the taxon selected.

For example, 'Dolgo' is one of the first crabapples to bloom in the research plot. This year 'Dolgo' had its
first bloom opened April 21, was in full bloom on May 1, and was past bloom or of little ornamental impact by May 5. Contrast that bloom sequence with that of 'Silver Moon', which as of May 6, had just opened its first bloom! Knowing when trees bloom can help to create a possible extensive and intensive crabapple floral display for over three weeks! If trying to control the gypsy moth caterpillar, knowing that it hatches from the egg mass when 'Floribunda' or the Japanese flowering crab begins to bloom, will aid in targeting the perfect time to apply insecticidal sprays as a control. However, if any old crabapple is used to time sprays, like the 'Silver Moon' or 'Dolgo' crabapple, it is feasible that the window of opportunity to easily control that pest could be off by as much as 7-10 days. So if for no other reason than to admire their colors, get out there and enjoy the show of the diverse and beautiful flowering crabapples.

For more information, see:

- Research Reviews

### ANNUAL MAPLE LEAF-DROP COMMENCES

Joe Rimelspach reported that sugar maples in central Ohio are beginning to experience the annual leaf drop caused by MAPLE PETIOLE BORER (*Caulocampus acericaulis*). Although sugar maples are generally preferred, this sawfly will also occasionally infest other maples. Fortunately, while the number of fallen leaves beneath an infested tree may look dramatic, defoliation seldom exceeds levels that are considered detrimental to the overall health of the tree.

This non-native sawfly was introduced into the United States from Europe. It spends the winter in the pupal stage buried 2-3" in the soil beneath the affected tree. Adults emerge in the spring. After mating, the females use their saw-like ovipositors to insert a single egg into the petiole near the leaf blade. The resulting grub-like larva feeds by boring down the center of the petiole. Larvae drop to the ground once they complete their development. They crawl into the soil to pupate and remain buried until the following spring. There is one generation per year.

The initial symptoms of a maple petiole borer infestation are highly variable. Some leaves may become wilted and discolored while still attached to the tree, with the petioles collapsing and turning brown just prior to leaf drop. Other infested leaves show no outward symptoms and appear perfectly healthy when they drop from the tree. However, all of the fallen leaves will retain only a very small portion of the hollowed-out petiole. Most of the petiole, along with the larva, remains attached to the tree. Thus, raking and destroying fallen leaves will not reduce the sawfly population. The sawfly has a minimal impact on tree health, so controls are not necessary.

For more information, see:

- Maple Petiole Borer

### TENT CATS PROWL

Joe Boggs reported that some EASTERN TENT CATERPILLARS (*Malacosoma americanum*) are now reaching late instar stages in southwest Ohio. Where trees have been completely defoliated, the caterpillars are now abandoning their highly visible silk nests located in branch forks to crawl off trees in search of food.

The caterpillars are covered in short, grayish-white hairs, and they have a distinct, unbroken white stripe down their backs. Eastern tent caterpillars prefer to feed on trees in the family Rosaceae, particularly those in the genus *Prunus*, such as cherries. However, once the caterpillars commence their food-seeking walk-abouts, they may appear on a wide variety of plants.

Joe noted that FOREST TENT CATERPILLARS (*M. disstria*) seem to be less synchronized compared to their Eastern tent cat cousins. He observed 2nd instar caterpillars feeding among 5th instars in southwest Ohio while Dave Shetlar observed 5th instars this past week in the central part of the state. Joe indicated that localized infestations are heavy in western Hamilton County with reports of "raining frass" and caterpillars spinning down on silk threads to entangle vegetation, slow-moving gardeners, etc. Noticeable defoliation is occurring on oaks and sugar maples, with lighter damage occurring on ash, sweetgum, birch, cherry and crabapples.

Unlike Eastern tent caterpillars, forest tent caterpillars construct only rudimentary mat-like silk nests on leaves or bark. The caterpillars have short grayish-white hairs and a row of distinct white markings running down their backs. These markings have been variously described as looking like foot prints or as being keyhole-shaped. The markings are flanked by cobalt-blue lines running the length of the caterpillars' bodies.
Small, recently planted trees that are heavily infested by forest tent caterpillars can be seriously stressed by the caterpillar’s defoliation. The overall health of larger, more established trees is less affected. Small trees should be closely inspected. The caterpillars may be difficult to spot among the leaves, but they can be easily dispatched using the highly effective five-fingered smash and/or smear control method. The caterpillars are also susceptible to most pyrethroid or carbamate (e.g. carbaryl) insecticides labeled for the target host plant.

For more information, see:
- Tent Caterpillars, KY
- Forest Insect Leaflet

**EMERALD ASH BORER LOOK-A-LIKE**

Several BYGLers noted that the native SIX-SPOTTED [GREEN] TIGER BEETLES (*Cicindela sexguttata*) are now out in force in much of Ohio. These beetles love to cruise Ohio’s forests, and they have a curious affinity for darting about on woodland trails. The shiny beetles are actually more emerald green in color than the emerald ash borer causing them to sometimes be mistaken for the borer. The tigers have excellent eyesight, quick speed, and they are agile flyers. These traits make it difficult for people to get a close look for identification.

As the common name implies, the six-spotted green tiger beetle has white spots that are arranged along the trailing edge of the wing covers, three per side. However, the spots are small and sometimes obscured by the highly reflective light bouncing off their shiny green bodies. The beetles have elongated bodies with the thorax about half the width of the front wings and abdomen. They have long legs and their protruding black eyes make them look like their wearing dark goggles. As with all tiger beetles (family Cicindelidae), this is a ferocious predator and it sports powerful sickle-shaped mandibles that are used to grab and dispatch hapless arthropod prey. Keep your eyes peeled for these tigers prowling woodland trails!

For more information, see:
- Tiger Beetles of the United States
- Six-Spotted Tiger Beetle

**APRIL SHOWERS BRING MARCH FLIES**

Dave Shetlar reported that the March flies (family Bibionidae) had begun their annual habit of swarming and hovering just above healthy turfgrass. Unbeknownst to the casual observer, this annoying behavior is actually an erotic frenzy of anxious males looking for love. When a female flies through the swarm, males crowd around her until one triumphant male grabs her and lands on a leaf to finish the act. The female will then lay a batch of eggs in the ground in organic debris.

March flies can be identified partially by their dark color and larger size (about 3/8”) and the fact that they tend to rest with their heads pointed downward. Generally, they have small heads, although the males have bigger heads than the females. A dark spot can be seen half way up the front edge of each wing. The larvae are a yellowish-gray white and "worm like" with a dark brown head capsule and spine-like projections on each segment. Although they may be found in the thatch of lawns, they are seldom considered to be damaging to turfgrass.

Core aerification can help to decrease the amount of thatch in lawns which in turn may reduce the number of these larvae as well as many other thatch feeding insects. Adults are not harmful and do not require control, in fact they are usually consumed by birds.

For more information, see:
- March Flies, UC IPM
- March Flies
**NOT ALL CALICOS ARE PETS**

Dave Sheltar and Joe Boggs reported observing substantial CALICO SCALE (*Eulecanium cerasorum*) infestations on honeylocust and other ornamental trees in a southern and central Ohio. Currently the overwintered scales have begun feeding and producing copious quantities of honeydew that will drip onto branches and leaves below the area where the scale insects are feeding as well as anything else positioned under the tree.

The calico scale is a globular, blackish-brown soft scale that is about 1/4” in diameter. It is easy to recognize because of the distinct rows of squarish, white patches on the back. Its life cycle is similar to European fruit lecanium. The scale has one generation per year and overwinters on twigs as partially developed nymphs. As spring progresses, the nymphs will feed, molt, and mature into globular adults. In late spring to early summer, eggs are laid and the hatching nymphs migrate to the undersides of leaves. In late summer to early fall, the nymphs molt to second instars and move from the leaves to stems, branches, and the trunk where they overwinter.

The calico scale has numerous hosts that can support its growth and development including: honeylocust, maple, magnolia, sweetgum, ornamental fruit trees and dogwood. Calico scale is seldom a direct killer of established landscape trees; however, heavily infested trees may lose enough sap to cause them to succumb to other stress related factors. The large quantities of honeydew can be colonized by sooty molds giving the host an unsightly, black appearance. If suppression is deemed necessary, applications of the systemic insecticide imidacloprid (e.g. Merit) targeting first instar crawlers will provide effective control. Although it is not typically the right time of year to treat infested trees now because it may take up to six weeks to get the insecticide up into the foliage where the crawlers will be feeding, there may be some impact on the population. First instar crawlers hatch from eggs when the GDD reaches 748. Additionally, trials in Ohio have indicated calico scale can be managed using soil drenches of neonicotinoid systemic insecticides such as imidacloprid (e.g. Merit, Marathon), clothianidin (e.g. Arena), and dinotefuran (e.g. Safari) made from September into November.

For more Information, see:
- Calico scale insecticide trial
- Calico scale alert

**ELM FLEA WEEVIL UPDATE**

Curtis Young reported that the elm flea weevil eggs have begun to hatch. The eggs had been and continue to be laid by the overwintered adult weevils into the main mid-rib veins of the host elm leaves. The adult females chew a small hole in the vein and deposit a single egg into the hole. Even though the leaves of the host elms have been expanding very slowly, the weevils have been attacking them almost as soon as they are exposed. Many small leaves are showing extensive deformation as a result of this oviposition activity. Some of the earliest laid eggs have hatched and the young larvae are producing serpentine mines toward the tips of the leaves. In some cases, blotch mines have already been constructed by the older larvae. First, second and possibly third instar larvae are present in the mines. The larvae range in color from a light leaf-green color of the earliest instars to white of the older larvae. The larvae are legless and cone-shaped, broadest at the head-end. All stages of the elm flea weevil are relatively minute and are less than 1/8” in length. Yet defoliation and mining can be extensive on elm hosts.

Curtis reports the greatest activity is on Siberian elms (*Ulmus pumila*) but has also seen the weevil on other species including the true Chinese elm (*U. parvifolia*). Currently, only eggs and first instar larvae are present on the Chinese elm. Part of the reason for the difference between the hosts in the development of the weevil is the difference in the foliage development. The Siberian elm leaves are much further along in their expansion. The Chinese elms lag behind by at least a week. Joe Boggs reports not being able to find the critter in the Cincinnati area. Thus, BYGLers are curious as to what the BYGL readers are seeing with this insect. Please drop us a note by e-mail to Curtis Young as to what you see on elms in your area at: young.2@cfaes.osu.edu.

For more information, see:
- BYGL Issue 10, 2007 - Elm Flea Weevil Article
- Morton Arboretum Report on the Elm Flea Weevil
SPIDER BITE: UNDENIABLE EVIDENCE!

Curtis Young received a call from a resident of Hancock County who was concerned about a spider that had bitten her. Curtis suspected that the diagnosis of a "spider bite" was a false accusation. There was no doubt that an injury had occurred, but blaming a spider for the injury may have just been a convenient "scapegoat" when no other cause could be found. Quite to the contrary, the caller assured Curtis that she was certain it was the spider that had inflicted the wound. Her evidence was that the spider was still hanging on her impaled toe when she raised her foot to inspect the injury. The spider was delivered to Curtis for identification. It was a YELLOW SAC SPIDER (Cheiracanthium spp.).

Several species of sac spiders are suspected of being responsible for most indoor spider bites to humans. As with most spiders, sac spiders typically do not bite unless they are trapped against the skin or provoked. Sac spiders are among the few medically important spiders in the United States. Sac spider venom is cytotoxic, causing tissues at the bite site to die (necrose). Recluse spider venom also is cytotoxic; hence many victims, even doctors, mistakenly believe a brown recluse spider is responsible for some bites. However, sac spider venom is not very toxic to humans. Initially, the bite of a sac spider may result in sharp pain, although some persons do not experience any pain. The bite seldom results in more than localized redness, a brief (30-60 minutes) burning sensation, and slight swelling at the site of the bite for a day or two. Usually the reaction to a sac spider bite is mild and is no more severe than a bee sting. As with bee venom, though, some individuals have more severe physiological reactions than others. The other concern with any break of the skin is the introduction of bacteria through the wound, especially MRSA (Methicillin-resistant Staphylococcus aureus). All such wounds should be watched closely for potential infection. If an infection develops, seek medical attention immediately.

For more information, see:

- OSU Extension Sac Spider Factsheet
- UNL Extension Sac Spider Factsheet

MOIST CHAMBER

Other plant diseases noted by BYGLers around the state include:

*CEDAR QUINCE RUST, with bright orange masses of fungal spores is evident on juniper stems and these spores are being disseminated to hawthorns, where the fungus causes infections mostly on the developing fruits. MAY-APPLE RUST is starting its annual show up on this woodland wildflower.

*Disease samples noted in the CWPPDC include: Sphaeropsis Tip Blight on Pine (Austrian, Scots) from infections last season, though infections (but not yet symptoms) are occurring on new growth this year as candles emerge and elongate; Dothistroma Needle Blight on red pine; BLACK ROOT ROT on holly; and Volutella Leaf Blight and Stem Canker on Pachysandra. Volutella often develops in spring on plants injured by other factors. Cold temperature injury this winter and spring may be a factor in development of this disease. Other diseases noted by BYGLers include ASH ANTHRACNOSE in southern Ohio and Septoria Leaf Spot of Dogwood in central Ohio.

*And, yes, we have NO APPLE SCAB symptoms on nursery trials of crabapples in Circleville in central Ohio and at the Crablandia plots at Secrest Arboretum in Wooster - but infection periods have occurred and infections have probably started already. Many landscape managers time the first fungicide spray for scab on crabapples at petal fall, so that time has arrived or is past in much of the state for many crabapple taxa. Some Frogeye LEAF SPOT disease is evident, with small tan spots with purple borders showing on leaves from infections occurring from spores in overwintering cankers and fruits on the trees.

MUCH ADO ABOUT MOSS

Dave Goerig reported an increase in calls relating to moss growing in lawns. Dave did explain to them that mosses are bryophytes, plants that do not have vascular systems and belong in a division of the plant kingdom that also includes liverworts and hornworts. One of the most common mosses seen in lawns is from the genus Bryum. The USDA plants database lists over 60 different species of Bryum. Bryum spp. are not the only mosses known to colonize lawns; Amblystegium spp. and Brachythecium spp. can usually be discovered on wet and poorly drained soils.

Mosses are opportunistic plants that cannot out-compete a healthy stand of turfgrass. They usually develop and grow in bare soil areas...
or where turfgrass is weak and thin. They can spread rapidly via asexual reproduction or by wind-blown spores. Mowing would seem to spread moss as it involves removing stem cuttings and distributing them to other bare parts of the lawn. One cultural method for moss control is to keep your lawn healthy. There are many reasons lawns thin out. Dense shade, poor drainage, low soil fertility, soil compaction, insect and disease activity, and low soil pH can stress any lawn. BYGLers all agree that moss encroachment can be minimized where good stands of turfgrass are maintained.

Turf managers and homeowners can combat moss invasions with mechanical methods. The "roots" of a moss-type plant are called rhizoids. Their primary function is to anchor moss plants to its substrata. Unfortunately for the moss these structures do not hold the mosses firmly. To take advantage of this weakness, dethatching is recommended. Flail type dethatching equipment is available at rental agencies. Early spring is the best time to control moss using mechanical methods.

Discussion of chemical controls was limited. Chemical controls on the market are effective, but will not prevent mosses from returning. The group acknowledged that chemical control without good cultural controls was a waste of time and money. Most commercial formulations contain iron (Fe), copper (Cu), or zinc (Zn) as active ingredients. Chelated iron products applied as liquids work well, but the results turn the moss black and stain concrete and other surfaces. Copper and zinc formulations will remove moss on patios and roofs but can injure desirable plants including turf grasses. Liming the soil to raise the pH may benefit turf, but for the most part, will have no direct effect on the moss. Cryptocidal soaps are available for moss control and act as contact killers by bleaching the moss foliage. The golf course industry has sodium carbonate peroxyhydrate (e.g. TerraCyte), and carfentrazone-ethyl (e.g. Quicksilver) labeled for use on moss that is growing on established greens, tees and fairways. As always, it is illegal to apply these and other plant health products in ways not stated on the label.

For those who can appreciate the natural side of things, consider moss as a ground cover. Instead of struggling to grow grass, let the moss form a carpet in certain areas of your property, such as under trees or on the Northeast side of the landscape. Carpets of moss do not require any fertilization, excessive watering or mowing. Stands of moss carpet can give your landscape a mature and established look. Moss carpets will not tolerate foot traffic and will require prompt leaf removal in the fall to keep it alive.

For more information, see:

- Chemical Control of Moss on Putting Greens
- Moss in Lawns
- Controlling Moss in Lawns

**DANCE OF THE FAIRY RINGS**

Dark green rings or arcs ranging from 2-3' to several hundred feet in diameter may be seen in lawns in the spring and fall that may or may not be accompanied by mushrooms. In severe cases, the rings die, forming ugly dead arcs in which turfgrass will not survive.

Although not completely understood, the belief in supernatural interaction has been replaced by the evidence that the rings are caused by a complex of at least 54 species of basidiomycetes fungi. The disease usually originates from mycelium growing in roots or logs which are buried in the soil. As the organic debris rots, mushrooms develop which then spread spores to adjacent turfgrass. More important than the sexual reproduction however, is the constant growth of mycelium growing outward in the thatch. As the fungi digest organic debris, not only is nitrogen released, causing the luxurious green color, but hydrogen cyanide is also secreted, damaging roots. The dense, white mycelium is impervious to water, causing turfgrass roots to die. This ring can last for years until it meets a permanent barrier, such as a sidewalk, or another fairy ring.

If a plug of the declining turfgrass is dug and examined closely, the mat of mycelium may be seen in the thatch. If the sample is moistened and placed in a plastic bag over night, the mycelium will have grown substantially throughout the thatch, and be obvious the following day.

To reduce the severity of fairy ring, dig the soil directly outside of the ring and work composted soil into the mix. In severe cases, the soil is actually removed and replaced with clean, sterilized soil. In less serious situations, a light application of fertilizer will obfuscate the green ring. Heavy rates of fertilizer are not recommended. Hand water the turf and use a wetting agent if necessary to improve penetration. Of course, one can always hope for a fairy nice miracle.

For more information, see:

- Fairy Rings in Turfgrass
- Fairy Ring Management Strategies

**GALL TIME**
Dave Shetlar reported receiving a phone call from a garden center asking for a recommendation for controlling galls on oak … a tall order. Over 700 different kinds of galls can occur on oaks; however, little is known of the life-cycles for the vast majority of the gall-makers. Making control recommendations without knowing the life-cycle would literally be a shot in the dark. The good news is that most oak galls simply affect the tree's appearance. Only a handful cause sufficient harm to the tree to support the possible need for control recommendations.

Galls may detract from the aesthetic appeal of an oak; however, beauty is in the eye of the beholder. Their development could teach us much about host-plant relationships and plant physiology. Galls are plant structures. Their entire development is orchestrated by a gall-maker that has hijacked the plant's normal growth directives. On oaks, the most frequent gall-makers are wasps belonging to the family Cynipidae or midge flies belonging to the family Cecidomyiidae.

The female wasp or fly initiates gall growth by injecting chemicals when she inserts her egg(s) into developing plant tissue. Once the eggs hatch, the larval gall-maker continues to direct gall growth by exuding chemicals that turn plant genes on-and-off in just the right order to guide gall growth. These chemicals are often plant hormones or plant hormone analogues ... but they are produced by an insect!

The close relationship between the growth of the plant gall structure and the gall-maker's timely release of specific chemicals explains why gall-makers have a very specific relationship with their host plant. The host-plant relationship is so specific that gall-makers can be identified to species based on the gall structure alone. Since gall-makers must use plant tissue that can be changed by their chemicals, spring is a prime time to find galls developing on newly expanding leaves. Once leaves stop expanding, galls cannot form.

Joe Boggs noted that fellow galloholics do not have to search hard to find roly-poly galls and oak-apple galls adorning oak leaves in southwest Ohio. Both are produced by cynipid wasps. Roly-poly galls are hollow, ball-like structures so-named because the seed-like cell housing the wasp larva rolls around inside the gall cavity. They range in size from 1/4-3/4" in diameter and are produced by several wasp species. The galls come in a range of colors: green, green mottled with white, red and reddish-purple. They may have smooth surfaces, roughened surfaces, surfaces covered in fine hairs or surfaces dusted in a white powder-like substance.

Oak-apple galls look like … apples. They range in size from 1/4-2" in diameter when they mature, and are also produced by several species of wasps. The galls are usually green in their early stages of development, but as they mature many become light brown in color. Some are conspicuously spotted. Surfaces range from smooth to hairy. Oak-apple galls each hold a single wasp larva housed in a seed-like cell at the center of the gall; however, they are generally divided into two groups based on the tissue surrounding the larval cell. A spongy tissue closely resembling the flesh of an apple surrounds the central cell in "succulent" oak-apple galls. The central cell of "filamentous" oak-apples is surrounded and supported by very distinct, radiating filaments of tissue.

For more information, see:
- Common Oak Galls
- Oak Galls Caused by Wasps

CINCINNATI BYGLIVE! DIAGNOSTIC WALK-ABOUT

The 2nd 2008 BYGLive! Diagnostic Walk-About will be held Monday, May 12th, from 12:00-3:00 p.m. at Cox Arboretum & Gardens Metropark, 6733 Springboro Pike, Dayton, 45449. This monthly hands-on training for green industry professionals focuses on diagnosing plant pest, disease and physiological problems. ISA Certified Arborist CEU's will be available.

Driving directions from Cincinnati to the meeting location are as follows: travel north on I-75 to exit 44 (Dayton Mall or Centerville/Miamisburg exit); turn right at the bottom of the exit onto SR725. Turn left onto SR741/Springboro Pike (first major intersection). The Park entrance is about 4 miles on the left (just past the park's employee entrance). We will meet in the "Overflow Parking Lot." For more information, contact Joe Boggs at 513-946-8993.

LANDSCAPE DIAGNOSTIC WORKSHOP IN CENTRAL OHIO

OSU Extension in Delaware County is proud to present the 2008 Landscape Diagnostic Workshop in Delaware, Ohio on June 9, 2008. This will be an all-day program which features Jim Chatfield, Dr. Dave Shetlar, Dr. Gary Gao, and Amy Stone. Topics include: Diagnosing
Nutrient Disorders in the Landscape; The Most Damaging Insects of Herbaceous Perennials; 20 Infectious Diseases in the Landscape; Diagnosing Insects and Mites of Woody Plants in the Landscape; Emerald Ash Borer (EAB) Update; and EAB Hands-on Training. The registration fee is $40.00 per person. The fee includes the program, handouts, breaks and lunch, and a certificate of completion.

The registration deadline is June 5, 2008. Space is limited to 80 attendees. Registration will be accepted on a first come, first served basis. Late or on-site registration is subject to a $5.00 late fee. Please call OSU-Extension at 740-833-2030 to confirm space availability before registering onsite. Follow this link http://delaware.osu.edu/horticulture/upcoming-programs to download a program flyer or email Cindy Kaelber at kaelber.1@cfaes.osu.edu for a program flyer.

**BYGLOSOPHY - May 8, 2008**

This one takes on a new meaning in the current vernacular.

"It's not easy being green."

--Kermit The Frog

RSS

Where trade names are used, no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely, and accurate, the pesticide user bears responsibility of consulting the pesticide label and adhering to those directions.

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Website designed by Dr. Tim Rhodus. Direct comments or questions to Webmaster