

Northeast Wisconsin Forest Pest Update

June 15, 2009

Topics covered this month:

Insects:

Arborvitae Leafminer
Eastern Tent Caterpillar
Emerald Ash Borer
Euonymus Caterpillar
European Pine Sawfly
Gypsy Moth
June beetle defoliation
Maple Petiole Borer
Maple Spindle Gall and Bladder Gall
Oak Apple Gall

Diseases:

Annosum in Marquette Co.
Ash Anthracnose and Early Ash Leaf Drop
Cedar Apple Rust
Plum Pocket on Sand Cherry
White Pine Blister Rust

Other:

Reverting in Plant Cultivars
Squirrel Damage to Maple

Insects

Arborvitae leafminer – brown foliage on cedar may indicate a leafminer infestation (at right a severe infestation). Arborvitae leafminer is a tiny caterpillar that mines the leaves, leaving a dead portion wherever they have fed. Adults are a tiny silvery grey moth that is out during June and July. They mate and lay eggs



which hatch and the larvae begin mining inside the leaf. They will mine through the rest of the summer and fall, but will continue feeding in the spring before they pupate, then later chew their way out of the leaf, leaving a tiny round exit hole. The photo at left shows the exit hole under



Photo by Shelley Wrzochalski

magnification. According to a Minnesota bulletin

<http://www.entomology.umn.edu/cues/web/064arborvitaeleafminer.pdf> the damage is usually most severe on the south sides of trees. Control can be achieved by using a systemic insecticide, or you can wait for the many parasitoids to take control of the population.

Eastern tent caterpillar – very high populations of eastern tent caterpillar were noticed in Waupaca, Waushara, Marquette, and Green Lake Counties (other counties throughout the regions have smaller populations). Other central counties in other regions are also experiencing very high populations. Wild black cherry is the preferred food source and in the

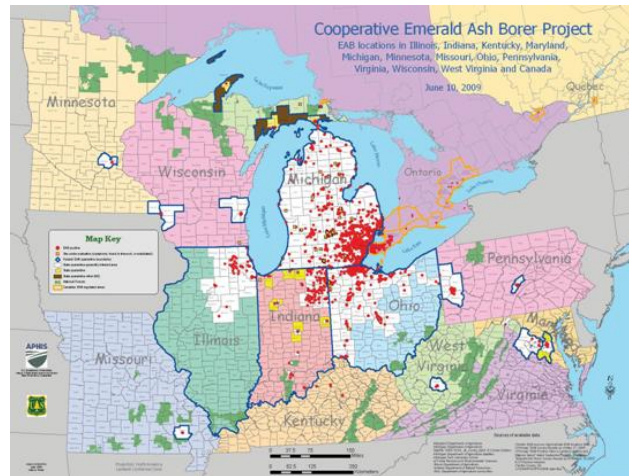


areas where populations are very high the caterpillars have exhausted the supply of cherry leaves and have host-shifted and are attempting to complete



development by feeding on young oak (left) and other species. Pruning out the branch with the web on will actually do more harm to the tree than the insects themselves would do. The caterpillars will be pupating soon and they will migrate to find a good spot to pupate. Mass migrations across roadways and caterpillars crawling on houses and buildings will prompt many more phone calls from the public.

Emerald ash borer – from Bill McNee. May's pest update announced that EAB had been found in St. Paul, Minnesota. Since then, 66 trees have been found to be infested and have since been destroyed. EAB has also been detected in two additional states so far in 2009: Kentucky and Iowa. Kentucky forest health staff have found three infestations in north-central KY. Iowa staff have found larvae inside a detection tree in Clayton County, approximately 20 miles southwest of Prairie du Chien and roughly 40 miles from Wisconsin's infestation at Victory in Vernon County. A large-scale distribution map (right) is available at http://www.emeraldashborer.info/files/MultiState_EABpos.pdf.



A new multi-state guide to insecticide treatments for EAB has been released, and is available at: http://www.emeraldashborer.info/files/Multistate_EAB_Insecticide_Fact_Sheet_22May09.pdf.

Six Wisconsin counties are now quarantined for EAB: Crawford, Fond du Lac, Ozaukee, Sheboygan, Vernon and Washington. A current statewide quarantine map has been produced (right) and is available at: <http://www.emeraldashborer.wi.gov/article.jsp?topicid=20>. Residents and affected businesses in these counties are restricted from moving any hardwood firewood, ash nursery stock, ash logs or ash lumber out of the quarantine areas. Questions about compliance agreements to move quarantined articles can be directed to Bob Dahl at DATCP (608-224-4573 or Robert.dahl@wisconsin.gov) or JoAnn Cruse at APHIS (608-231-9545 or Joann.m.cruse@aphis.usda.gov).



Purdue University in Indiana has released an updated cost calculator for communities dealing with EAB. The calculator, available at

<http://extension.entm.purdue.edu/treecomputer/index.php>, allows city foresters to determine annual and cumulative costs over a 25-year period for any management strategy - including mixtures of treatment, removal and replacement.

Euonymus caterpillar – just a few reports of this caterpillar defoliating some shrubs have filtered in from Brown and Outagamie counties. This caterpillar creates large webs that completely cover the shrubs and often defoliates the shrubs completely. Soapy water sprayed on the caterpillars, or insecticides, can control these populations.

European pine sawfly – large populations of European pine sawfly are occurring in Waupaca, Waushara, and Marquette Counties, and possibly others. European Pine Sawfly



caterpillars are dark green in color with 3 pale stripes on the body and a black head (right) and feed in groups, primarily on red pine and scotch pine. Damage can be severe but is usually limited to defoliation of the 2nd year needles (left). Tree growth rates can be reduced since only 1 years needles will be left on the tree to produce food. Control options include squishing colonies by hand, spraying colonies with a soapy water mixture, or spraying the insects with a general insecticide. This is the second or third year of large populations in many of these areas. Since the populations are so large this year, landowners with defoliation this year should be prepared for more defoliation next year.



Gypsy moth – from Bill McNee. The DNR gypsy moth suppression program has finished its spraying for 2009. Approximately 3,500 acres in 10 NER counties were treated between May 22-31.

So far, most gypsy moth reports have turned out to be eastern tent caterpillar. Expect to start receiving caterpillar calls over the next few weeks as gypsy moth caterpillars become larger and more noticeable to the public.

Yard tree calls from the public can be directed to the DNR's gypsy moth hotline, 1-800-642-MOTH. The DNR website, www.gypsymoth.wi.gov, is another source of information for property owners. For yard trees, burlap bands and insecticides are the most appropriate control options right now. Woodlot calls frequently have questions about MFL lands, timber value, etc. so they are best answered by a forester.

The wet weather so far this spring is anticipated to result in significant gypsy moth caterpillar mortality from the fungal pathogen, *Entomophaga maimaiga*, and the nucleopolyhedrosis virus (NPV). If you see dead caterpillars, the ones that hang vertically were killed by *Entomophaga* (photo, caterpillar on right) whereas the ones killed by the virus hang in an inverted 'V' (photo, caterpillar on left). It is currently too early to tell how much mortality will be seen.



June beetle defoliation – as adult June beetles are emerging this spring they will often congregate around lights and feed on a nearby tree. Adults prefer oak in this area but will also feed on other species. Since they only feeding during the night the defoliation seems to appear magically overnight, with no forewarnings. Control is difficult since defoliation is often complete before you even know that you should be spraying. Turning off exterior lighting can help by not attracting the adults to your yard.

On June 10th when I got home at about 9:30pm, I could hear a humming-buzz sound coming from a small oak near my house. Upon closer inspection it seemed to be a June beetle mating frenzy. I put some soapy water in a bucket and collected as many June beetles as I could (right). Although I'm not sure if it will affect the population it did limit the amount of defoliation to my trees, and it made me feel good to see all those dead beetles in a bucket.



Maple petiole borer – walking through a number of woodlots this spring I've seen the forest floors carpeted with green maple leaves falling to the ground. This is caused by a tiny sawfly larvae that bores into the leaf petiole and feeds within the petiole creating a weak spot which will break allowing the leaf to drop to the ground. Damage is usually light; even when the ground is covered you can look up and see a full canopy of leaves. No control is necessary.

Maple spindle gall and bladder gall – these two galls have shown up in high numbers in many



Maple Spindle Gall

areas of the region. Both of these galls are caused by mites. Although they look alarming because they are bright red and can cause leaves to be a bit misshapen, there is really no cause for alarm. The tree generally will not drop these leaves and the leaves will continue to photosynthesize as normal, so the overall health of the tree will not be affected by these particular gall insects.



Maple Bladder Gall

Oak apple gall – these large round galls (right) are showing up on oaks around the region. They are currently green but will turn brown and



papery as the summer wears on. If you cut them open you'll find a single larvae (left) which will eventually pupate and emerge as a tiny gall wasp. This species of gall wasp has a complex lifecycle, including a portion of time spent below ground feeding on the roots of oak trees.



Diseases

Annosum in Marquette Co – Marquette County has another known location of Annosum at T14N R10E Section 11, bringing their known locations of Annosum to 3.

This location was particularly exciting because we can almost pinpoint when annosum first came into the stand. Annosum requires a fresh stump for the spores to land and germinate and start an infection. The largest and oldest pocket in this newest Marquette County stand probably got started following the first thinning in 1985.

There are also at least 3 younger smaller pockets that probably got started following the second thinning in 2000. The photos at right show one of these smaller pockets, with just 2 dead trees, but the fruiting body that we found at this pocket was truly impressive, shown in photo with shovel, it was huge! If annosum did indeed enter this stand in 1985 then it came into the stand many years before the first formal identification of Annosum in Wisconsin in 1993. This also means that it's had a long time to spread to other stands.



In counties where Annosum is known to occur, and in neighboring counties, it is important to use a preventative stump treatment immediately following a conifer harvest (within 24 hours of a tree being cut) to prevent any new infections. Annosum is present in the following NER counties: Marquette, Waushara, and Waupaca Counties. If you have a pocket that you're unsure whether it's Annosum don't hesitate to contact me for a site visit. More info on management can be found at <http://dnr.wi.gov/forestry/Fh/annosum/> Once annosum is in a stand it is nearly impossible to eliminate so prevention is critical.

Ash anthracnose and early ash leaf drop – early infections of anthracnose on ash has caused some trees to purge the damaged leaves. Other trees have retained the leaves but the leaves are misshapen by the fungus (right). This damage is usually cosmetic and does not affect the long term health of the tree. Even the trees that drop most of their leaves will send out a second set of leaves and will not be bare for the summer.



Cedar apple rust – Chris Plzak noticed these starfish-like gummy growths that were so plentiful



that they were weighing down the branches on a red cedar in Door County. The orange blobs are the spore-producing structures of Cedar Apple rust and are only present for a short time. They come in a variety of sizes, some getting fairly large (left). For most of the year the gall appears as a brown pitted lump (below left). This rust requires an alternate host (apple or crabapple)



for part of its life cycle. It can cause serious defoliation and damage to fruit on apples, and can cause girdling of branches on cedar.

Plum pocket on sand cherry – this spring I spotted these strange pointy growths where fruit should have been on several sand cherry saplings. This strange growth is caused by a species of the fungus *Tephria* and is commonly referred to as Plum Pocket and can affect both plums and wild cherry species.



White pine blister rust – last month I mentioned white pine blister rust with information on the biology of the disease. Since then I have seen the rust fruiting on white pines. The orange powdery pustules will emerge from the canker margins (arrows). These spores will go on to infect *Ribes* leaves.



Other/Misc.

Reverting in plant cultivars – some plant cultivars are chosen for their special growth traits that are not typically found in nature, sometimes these are a color



pattern that is rare (variegation or yellow leaves), and some cultivars are chosen for a growth pattern that is not normal in nature (like brooms caused by growth hormone abnormalities). These cultivars, when planted in your yard, will occasionally revert to the traits of the original species.



Two examples came in recently. The variegated maple above is a cultivar of Norway maple and you can see that part of the tree is variegated (on the right side of the tree) but the other branches that have grown have the standard looking Norway maple leaves. Diligent pruning of these branches when they first emerge with their solid green leaves will preserve the variegated form.

And this Dwarf Alberta Spruce is a special form of white spruce that is supposed to grow



Photo by Michele Schampers

slowly, densely, and have a very different look than the usual white spruce (you can see this form at the base of this tree), but this tree grew a branch that was reverted back to the original phenotype of the parent white spruce (arrow pointing to the start of the reverted branch). Again, diligent pruning of these branches that emerge with the traits of the original parents can help preserve the desired shape and



Photo by Michele Schampers

characteristics of the cultivar that was purchased.

Squirrel damage to maple - Tom VandenElzen sent me some photos of maple twigs that had fallen to the ground. These twigs were about 14 inches long and were the new growth from this spring. After exhausting a search for insects that could have caused this (we have several but they don't cause this kind of damage until later in the year), I sent the photos around to the forest health staff and Jane Cummings-Carlson indicated that she has seen this in the past and it was caused by squirrels clipping off the new foliage. Mystery solved, pesky squirrels!

Report EAB:

by phone 1-800-462-2803

by email DATCPEmeraldAshBorer@wisconsin.gov

visit the website <http://emeraldashborer.wi.gov/>

Report Gypsy Moth:

by phone at 1-800-642-6684

by email dnrfgypsymoth@wisconsin.gov

visit the website <http://www.gypsymoth.wi.gov/>

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Note: This pest update covers forest health issues occurring in Northeastern Wisconsin. This informal newsletter is created to provide up-to-date information to foresters, landowners, and others on forest health issues. If you have insect or disease issues to report in areas other than northeastern Wisconsin please report them to your local extension agent, state entomologist or pathologist, or area forest pest specialist.

Pesticide use: Pesticide recommendations contained in this newsletter are provided only as a guide. You, the applicator, are responsible for using pesticides according to the manufacturer's current label directions. Read and follow label directions and be aware of any state or local laws regarding pesticide use.