

Northeast Wisconsin Forest Health Update

October 17, 2011

Topics covered this month:

Insects:

Box elder bugs or milkweed bugs?
Emerald ash borer
Gypsy moth
Lacebugs
Poplar petiole gall aphids
Woolly alder aphids

Diseases:

Canker rot of oak
Cedar-Hawthorn rust
Spruce problems this year, an update

Other:

DEET, is it a true repellent?
Fall color on conifers
Firewood reminder

Insects

*information and photos in this document from Linda Williams unless otherwise noted.

Box elder bugs or milkweed bugs? – at this time of year the box elder bugs begin to congregate, looking for a protected place to spend the winter. Unfortunately they often congregate on the sides of houses, garages, and barns, and can find their way inside as well. One insect that can be easily mistaken for box elder bugs is the milkweed bug. As a general rule, box elder bugs will not be found on milkweeds, so if you see these kinds of bugs on milkweed it is probably milkweed bug. Although milkweed bugs are a little more orange and have a different



Box elder bug.



Milkweed bugs, adults and nymphs. Photo by Ellen Barth.

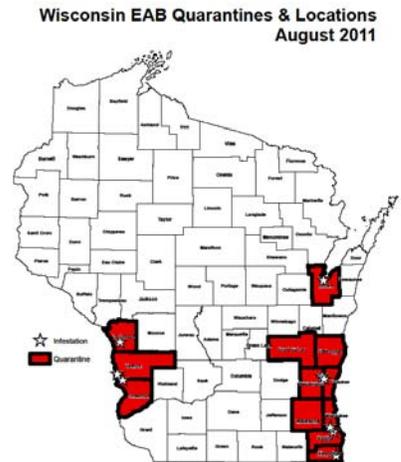
pattern of black on them it can be hard to distinguish the two unless you have both together for comparison.

Emerald Ash Borer – from Bill McNee. In August it was reported that Emerald Ash Borer (EAB) had been detected in La Crosse County and across the river in Minnesota. Since then, Minnesota has found infested trees and adult beetles at several sites. Infested trees have not been found in La Crosse County, although they are likely present.

La Crosse County has been quarantined to restrict interstate movement of ash articles, and a state quarantine restricting movement within Wisconsin is pending. An updated map of EAB-quarantined counties has been produced, and is available at:

http://datcpservices.wisconsin.gov/eab/articleassets/WI_EAB_Quarantines_and_Locations.pdf.

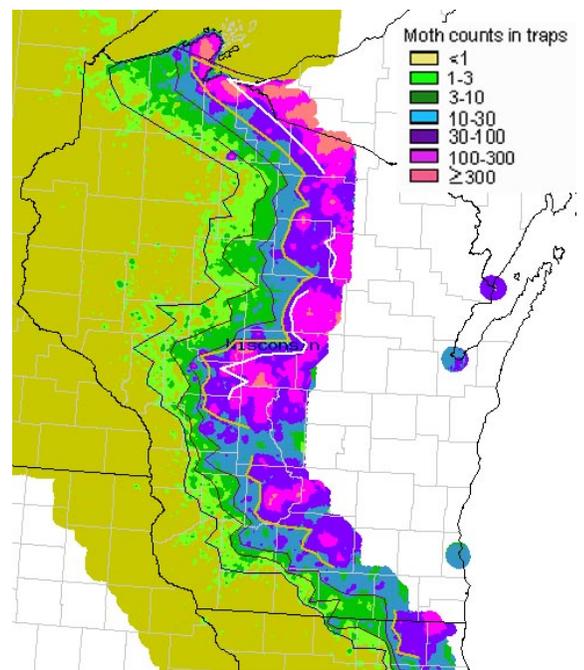
The Wisconsin Emerald Ash Borer Program has released a revision of the state's EAB strategic plan. It can be read at this link: http://datcpservices.wisconsin.gov/eab/articleassets/WI_EAB_Strategic_Plan.pdf.



Gypsy Moth – from Bill McNee. Now is the time for landowners and managers to look for gypsy moth egg masses to predict the pest's population size and potential damage to trees next year. We have had very few reports of high populations so far this fall.

Communities and woodlot owners should contact their county coordinator soon if they are considering participating in the 2012 Suppression Program. County coordinators must apply by Friday, December 2 of this year for aerial spraying in 2012. Information on the Suppression Program, egg mass survey instructions and a list of county coordinators are available at www.gypsymoth.wi.gov.

The Wisconsin Dept. of Agriculture, Trade and Consumer Protection (DATCP) has finished taking down its gypsy moth trapping grid, and has caught 213,451 male gypsy moths. Bayfield County led the way with 60,549 moths. Ashland, Clark and Jackson Counties helped to put the total above last year's 142,409 moths. Final numbers and maps should be available in November. Wisconsin's record catch was ~700,000 moths back in 2003. (Note: Catch numbers by are affected by the number of traps in a county, number of counties trapped and blow-in from other counties).



Preliminary 2011 gypsy moth trap catch map.

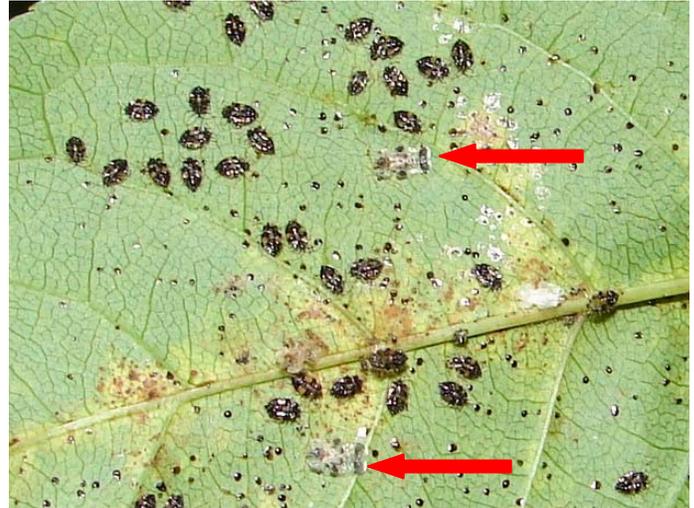
A preliminary map of gypsy moth distribution in western Wisconsin and adjacent states is shown here and also available online at: <http://da.ento.vt.edu/results3.html>. Eastern Wisconsin is not trapped due to the long-established gypsy moth populations.

Lacebugs - these insects can be found on the undersides of leaves. Cherry was so severely affected in some areas of northern NER that the trees appeared red from a distance. Closer inspection of these will show small areas where the insects sucked the plant juices from the



underside of the leaf creating a small dead area of leaf material. To see the insects flip the leaves over and look for adults (arrows at right) or smaller wingless

juveniles, you might also see the shiny dark brown “droppings” of the lacebugs.



Adult (red arrows) and juvenile lacebugs.

Poplar petiole gall aphids – these small galls occur at the base of the leaf on the petiole and are caused by the Poplar Petiole Gall Aphid, *Pernphigus sp.*. The feeding of the aphids causes the petiole tissue to grow and expand and form the gall. The aphids live inside the hollow gall, feeding on the sap from the plant. The aphids overwinter as eggs, hatch in the spring, and begin feeding on the leaf petioles, causing a gall to form which the aphids will live within. This aphid species has one generation of aphids that leaves the trees to go feed on the roots of other plants, which can vary based on the species of petiole gall aphid. I found some information that these aphids can cause problems for Quinoa growers. Other crops that I could find that can be damaged by this pest include cabbage, lettuce, broccoli, and there are undoubtedly more, but I didn’t do a very exhaustive search. Then at the end of the year they return to the poplars to lay their eggs and start the lifecycle over.



Woolly alder aphid – have you noticed fluffy white stuff covering branches of alder lately? Under that fluff are woolly alder aphids (*Paraprociophilus tessellatus*) which move from alder to silver maple and back again throughout the year. While on alder they are a plump bluish colored aphid covered by waxy filaments, which I spotted in Marinette and Oconto Counties recently. When present on maple they are sometimes referred to as Maple Blight Aphid. They spend the winter in bark crevices of silver maple. They don’t usually do any



significant damage but can be quite noticeable at times because of the large patches of fluff.

Diseases

Canker rot of oak – the fruiting bodies of *Phellinus everhartii* on northern pin oak (right) indicate the presence of rot or decay inside the tree. This is one of the canker rot fungi which trees are unable to compartmentalize and the fungus can continue to invade new wood and cause decay. The tree on the right was quite decayed, had multiple fruiting bodies of *Phellinus everhartii* along the main stem, and had failed in a wind storm.



Cedar-Hawthorn rust - Cedar-hawthorn rust (*Gymnosporangium globosum*) alternates between two tree species to complete its lifecycle. This disease occurs on eastern red cedar, common juniper and prostrate junipers in Wisconsin, with the other host being apple, crabapple, hawthorns, and sometimes pear, quince and serviceberry. In mid-September I saw hawthorn trees in the northern part of NER that had such heavy rust infections on their leaves that they looked yellow-orange from a distance. Usually I don't look at hawthorn very much but these really stood out! The



Gall formed on cedar with telial horns present.

fungus causes a leaf spot on the upper surface and tubes (aecia) grow from the lower surface of the leaf directly under the leaf spot. Severe infection can cause premature leaf drop.



Underside of hawthorn leaf showing fungal protrusions (aecia).

On cedar the fungus produces roundish galls, from which jelly-like arms or tentacles (telial horns) produce spores. These jelly-like protrusions eventually dry up and disappear, leaving the hard gall on the branch. The literature says that the galls caused by Cedar-Hawthorn rust rarely kill the branches,

while similar looking galls caused by Cedar-Apple rust can kill the branches of cedar.

Spruce problems this year, an update – there are a lot of spruce trees this year that look really bad, with needles dropping and branches dying! Recently I attended the North Central Forest Pest Workshop where a Michigan State researcher suggested some possibilities for what is causing this problem. Similar to what we’re seeing in Wisconsin, Michigan has also been seeing spruce that are losing their needles, with severe needle loss on the lower branches, progressing upwards, and the lower branches eventually dying. Some things noticed in Michigan include:

1. many things were eliminated as problems, including aphids, adelgids, midges, cytospora, needle rust, SNEED, and diplodia
2. rhizosphaera can be found on these trees but may not be the main cause of the dramatic needle loss and branch mortality
3. *Stigmina lautii* fruiting bodies were found on the needles (ITS matched the fungus to a *Mycosphaerella*). *Stigmina* fruiting bodies can look very similar to *Rhizosphaera* fruiting bodies until you put them under magnification, then you’ll see that *Rhizosphaera* fruiting bodies are spherical eruptions from the needle stomata and *Stigmina* fruiting bodies look like small explosions or maybe an upside-down octopus.
4. although *Stigmina* was found on the needles it appears that many of the branches are perhaps being killed by multiple cankers of a *Phomopsis* species (unidentified as of yet)



The following website, from Iowa, shows pictures of the fruiting bodies of *Rhizosphaera* and *Stigmina* for comparison: <http://www.ipm.iastate.edu/ipm/hortnews/2008/2-6/Stigmina.html> *Stigmina lautii* was first reported in the US in 1999 in North Carolina, but had previously been described in Canada in 1972. In 2008 in Michigan *Stigmina* was found in a plantation and the following report indicates that regular fungicide applications to control *Rhizosphaera* did not seem to be effective on *Stigmina* :

<http://ipmnews.msu.edu/landscape/Landscape/tabid/92/articleType/ArticleView/articleId/1681/Stigmina-found-associated-with-needle-cast-on-blue-spruce-in-Michigan.aspx>

So, the problems with spruce seem to be varied and are still a bit of a mystery, but the problems are significant in many areas. Is it one disease causing the problem, or does the tree need to be weakened by one needle cast fungus to then be attacked by a fungus that kills the branches? If I get more information on this problem I’ll pass it along because I know many of you are dealing with similar problems in spruce this year.

Other/Misc.

DEET, is it a true repellent? – from Bill McNee. Ever wonder how the bug repellants containing ‘DEET’ keep the insects off of you? A new study suggests that ‘DEET’ is actually not a repellent. The study suggests that the chemical sabotages their sense of smell by scrambling the signals between antennae and brain. Read more here:

http://www.google.com/hostednews/ap/article/ALeqM5jC6lb_OWYFVFplMFzz0hrQiCKwmQ?docId=c17032e06f624f3384e5c36345eeb997

Fall color on conifers – conifers have fall color too! When conifers display their fall color it can prompt calls from landowners and homeowners concerned that their conifer is dying. Conifers drop needles each fall, but they only drop the oldest needles.



White pine, fall color.

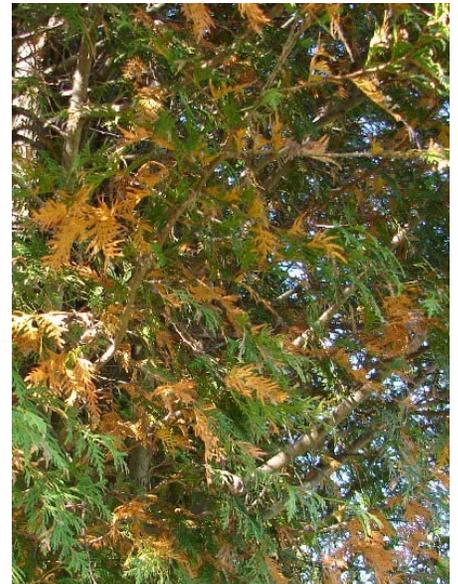
Pines tend to retain 2 to 4 years of needles, with the exception being white pine which will drop 2-year old needles. Spruce retain needles for 5 to 7 years, and on cedar the older leaves tend to die and remain on the twig, to be worn off over time, or, entire twigs may die and be shed, with just the current year growth remaining green. UW Extension has a publication on this and I find the “control” section particularly amusing where it states: control is not possible, nor would it be beneficial. HA! Check it out at <http://learningstore.uwex.edu/assets/pdfs/A2614.pdf>



Red pine, fall color.



Jack pine, fall color.



Northern white cedar, fall color.

Firewood reminder – from Bill McNee. As hunting seasons begin, hunters are encouraged to not move firewood long distances due to the risk of transporting pests such as emerald ash borer, gypsy moth and oak wilt. In addition, quarantine regulations for emerald ash borer and gypsy moth restrict the movement of firewood out of certain counties. In the DNR northeast region, hardwood firewood from Brown and Fond du Lac Counties cannot leave those counties. For more information, visit www.emeraldashborer.wi.gov and www.gypsymoth.wi.gov.

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 dnrfrgypsymoth@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.