

Northeastern Wisconsin Forest Health Update

August 21, 2012

Topics covered this month:

Insects:

Acorn pip galls
Aspen blotchminer
Brown marmorated stink bug
Emerald ash borer
Fall webworm
Gypsy moth
Japanese beetles
Northern widow spider

Diseases:

Armillaria

Other:

Drought
Wood decay pub

Insects

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

Acorn pip galls – have you noticed acorns dropping prematurely? Or have you noticed small fleshy “plugs” that seem to be slipped in just under the acorn caps? I’ve been



Divots near cap edge are where the pip galls form and later fall out. Photo by Scott Reuss.

noticing these in most of the counties in northeastern Wisconsin. These are acorn pip galls, caused by the gall wasp *Callirhytis operator*. Inside each “plug” is a larvae. Gall wasps can have complex

life cycles and the pip galls are the “fall form” of this insect. The “spring form” apparently utilizes oak catkins. This insect will damage the acorns enough to make them nonviable.



L-R, whole pip gall, pieces, and finally, the larvae inside. Photo by Brian Schwingle.

Aspen Blotchminer – I’ve seen noticeable defoliation from aspen blotchminer in western Shawano County, northern Oconto County, and northwestern Marinette County, with older aspen leaves being severely mined and turning brown and curled, but remaining on the tree while new leaves are pushed out at the tips of branches.



Aspen leafminer damage.

Aspen blotchminer larvae (tiny naked caterpillars) feed between the upper and lower leaf surface of quaking aspen leaves and

create round or oval blisters. These turn brownish in color, and cause the leaf to curl or cup. Other insects causing minimal damage on aspen this year include aspen leafminer and cottonwood leaf beetle, but each

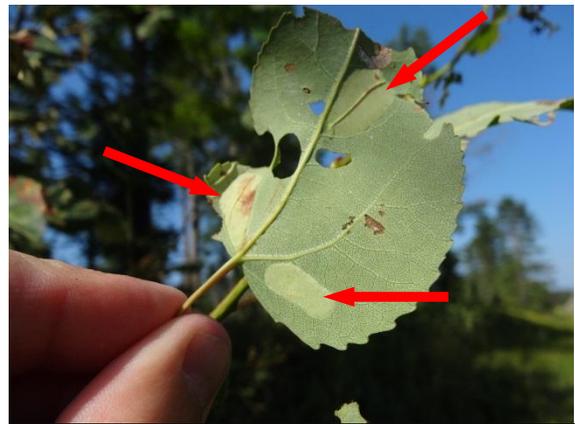


Cottonwood leaf beetles and damage, notice that they leave one thin layer of cells, as well as feeding around the veins.

has their own pattern of damage different from the blotches or “blisters” that blotchminer causes.

Damage from aspen blotchminer can be extensive enough that almost the entire leaf turns brown. The larvae pupate in the leaf and the tiny moths emerge and fly in August and search for sheltered sites to overwinter.

This spring Minnesota reported that where aspen blotchminer was a problem last year the conifers in those areas were having the outer layers of bark flecked off them by woodpeckers. The woodpeckers were going after the overwintering adult blotchminers. The tiny adult moths were overwintering in the bark cracks and crevices. The moths, at just 4mm in length, can jam a surprising number of adults into a tiny spot, making it a worthwhile endeavor for the woodpeckers to flake off the outer layers of bark to access the smorgasbord underneath. So this will be something to watch for next spring.



Aspen leaf with just 3 blotchmines (red arrows).



Leaf with extensive damage from blotchminers.

Brown Marmorated Stink Bug - UW Extension Entomologist Phil Pellitteri confirmed that a single specimen of the brown marmorated stink bug (BMSB) was collected “at lights” in west Madison on July 14. Last spring there was one detection of BMSB in Middleton. It would seem that this invasive pest is



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probably established in Dane County. The BMSB has been found indoors or in association with shipping materials on at least seven occasions since 2010, but to date has not been detected in any agricultural setting in Wisconsin. Although it prefers fruit and agricultural crops, researchers have found BSMB attacking the seeds and tender shoots of forest tree species, including box elder, maple, white ash and hackberry. The effects of this feeding are currently unknown. Michigan State has a nice “how to ID” page

http://msue.anr.msu.edu/news/how_to_identify_a_brown_marmorated_stink_bug/ If you spot this pest in Wisconsin please report it, or collect a sample and send it in for identification.

Emerald Ash Borer – from Bill McNee. Since last month’s pest update there have been several new EAB detections in Wisconsin:

- Perrot State Park in Trempealeau County (western Wisconsin)
- Big Foot Beach State Park (Walworth County)
- Town of Linn immediately adjacent to Williams Bay (Walworth County)

Other recent detections of note:

- Prospect, Connecticut (first EAB detection in that state)
- Kansas City, Missouri (westernmost known EAB infestation)

The EAB adult flight period is now over in Wisconsin, and detection traps are being taken down. So far, traps in NER counties have not found any EAB.



Wisconsin counties with 2012 first EAB detections are shown in red. Counties in yellow had first EAB detections in 2011 or earlier.



Pocket of heavy ash mortality near Newburg, Ozaukee County.

A recent DNR aerial survey found that there are pockets of heavy ash mortality in and around known EAB detection sites. Widespread, heavy ash mortality is not yet being seen but is likely over the next few years.

Lately, state staff have heard scattered reports of incorrect or dishonest diagnoses of emerald ash borer infestations. A recent media report stated that individuals are falsely being told that their sickly-looking, drought-

stressed trees should be treated with insecticide or cut down because they are infested with emerald ash borer.

Before property owners make any plans to treat trees or cut them down, they should:

- Be certain that they actually have ash trees, since EAB only infests true ash,
- Check www.emeraldashborer.wi.gov to see if EAB has been found in the local area,



EAB adult on a penny. Photo from www.forestryimages.org

- Be able to recognize the signs of EAB infestation, and
- Check the credentials of anyone they may want to hire

For more information, read this recent news release:

http://content.govdelivery.com/attachments/WIDATCP/2012/08/15/file_attachments/150072/EABHomeownerAdvice.pdf.

As a final note: be careful when looking into or taking down insect traps, because you never know what may have made them home. The hornets at right were not happy to be evicted from an EAB trap in Door County last week.



Fall webworm - webs are appearing in trees. Fall webworm does most of its damage late in the season, when the tree is preparing for fall, so people should not be too concerned about this defoliation. It can be a very messy web nest that the insects create but it's not something that will kill the tree. If it's just too ugly to look at I recommend tearing it down with a rake, there is no need to prune out portions of your tree just to get rid of the webs as this does more damage to the tree than the insects themselves would do, likewise, burning them out with a flamethrower is also a bit of an overkill.



Gypsy Moth – from Bill McNee. As of mid-August, the flight of male gypsy moths is over in southern counties but a few moths are still flying in northern Wisconsin. Trappers from the Dept. of Agriculture, Trade and Consumer Protection (DATCP) are currently taking down traps south of Highway 29 (approximately Eau Claire – Wausau – Green Bay). Takedown will begin in the northern NER counties during the week of August 20. So far, Ashland and Bayfield Counties in the far north are catching several times more moths than any other counties.

If you see a white, female moth sitting on a tree trunk or other object, crush it with a stick. Egg masses within reach can be scraped into a can and drowned in soapy water, or sprayed with an egg mass oil to suffocate them.

If an area is thinking of participating in the DNR suppression program to spray in 2013, oil the masses or wait until this December to remove them so that surveyors can determine if an area should be sprayed.



Female gypsy moth laying an egg mass.

Japanese beetles – this exotic insect continues to defoliate a variety of plants across the region. They feed on a variety of plant species, including some trees. The most common trees that they defoliate seem to be plum and birch. They leave a lacy looking leaf behind. Homeowners who put up Japanese beetle traps should



Defoliation caused by Japanese beetle.

place the traps away from plants they are trying to protect as the traps will draw in beetles.

Northern widow spider – did you know that we have northern widow spiders (*Latrodectus variolus*) here in Wisconsin? They look similar to black widows but with different red markings and although they do have poisonous venom they are not aggressive. A single northern widow spider was found in Door County in July. Northern widows are not commonly seen. Michigan State University has a nice page on northern widows including photos <http://www.pestid.msu.edu/InsectsArthropods/NorthernBlackWidowSpiderLatrodectusvariolus/tabid/263/Default.aspx> That page also says that their venom is 15x more potent than rattlesnake venom ... but since you only get a tiny amount from the spider, compared to what you get from a snake bite, the mortality rate is really very low, just 1% from spider bites.

Diseases

Armillaria - this opportunistic fungus lives in the soil or old root systems until a tree comes under stress at which point the fungus is able to attack and colonize the roots of the tree. In counties with severe drought the trees are under significant amounts of stress and if they don't die directly from the drought, then Armillaria may be a problem for several years to come.

Armillaria can infect many different species of trees, and trees of any age or size, but the end result is usually a slow decline and eventual death of the tree. This will occur 1-3 years after the stress event. To verify this disease on a declining tree just dig down to the roots and peel the bark off a root, or peel off the bark at the base of the tree to look for the white mycelial mat. You might also see the shoestring, or rhizomorph stage on trees that have been dead for a while, or you might even see the mushroom stage. Armillaria causes a white rot of the wood and eventually trees may break over at the base.



Brown "strings" are the shoestring rhizomorph stage of armillaria.



White material under the bark near the root collar is armillaria that killed this sapling. Knife is at the edge where it goes from fungus to clear wood.

The most common question I get regarding armillaria is "how does the fungus know that the tree is under stress so that it can attack?". Here's the answer: when trees are under stress they use up the stored starches in their roots, and have to resort to making glucose. The amino acid Asparagine increases within the tree during times of stress as well. There are other physiological changes that occur in a tree when it is under stress but research seems to show that it is the presence of glucose and asparagine in the roots that stimulates armillaria to grow and invade the roots ... so now you know!

Other/Misc.

Drought – significant effects of the drought are still being noticed and in our forests they will continue to be noticed for the next couple years as the weakened trees are attacked by insects and diseases that take advantage of stressed trees. The biggest issues will probably be armillaria on any species of tree, attacking the roots and causing a slow decline, two-lined chestnut borer in our oaks, and bark beetles in the pines. There are certainly many other insects and disease that take advantage of trees under severe stress, and of course, some of the trees are dying purely from the drought since it was so severe, especially as you move south in the state.



Mortality in young pine plantation due to drought conditions. Photo by Buzz Vahradian.

There is a nice article on how drought affects trees <http://warnell.forestry.uga.edu/warnell/service/library/for99-010/for99-010.pdf> which reviews things like leaf drop, wilting, and reduced growth rates of shoots and roots, just to name a few of the topics.

And MN has a nice document on two-lined chestnut borer and what should/shouldn't be done in forest stands http://www.dnr.state.mn.us/treecare/forest_health/tlcb/management.html

Wisconsin landowners with young plantations may qualify for emergency WFLGP cost-share funding for plantations established between 2008 and 2012 that have suffered significant mortality due to the 2012 drought. Contact the DNR forester in your county for more information and to see if you would qualify.

Wood decay pub – there's a nice publication titled Wood Decay in Living and Dead Trees: A Pictorial Overview, which is now available on the web http://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs97.pdf Lots of great pictures to demonstrate concepts and show decay patterns. Check it out! You may want to print it off as it may be easier to read if it's printed out.

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.