

Northern Wisconsin's Forest Insect & Disease Newsletter

Wisconsin Department of Natural Resources
Division of Forestry

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*Figures 1 and 2: Leaf spotting on the top of red oak-leaves (left) and telial horns on the bottom of them, caused by eastern gall rust (*Cronartium quercum* f. sp. *banksianae*), abundant across jack pine country in northern Wisconsin.*

Forest Health News Across the Northern Third

Fall Webworms Common Along Roadways

Fall Webworms are creating noticeable webbing in the outer shoots of alders, cherries, birches, aspens, oaks, and probably more species across much of northern Wisconsin. There are some unlucky alders in Ashland and Price counties which are nearly enveloped in webbing. No one should be worried about this leaf damage. Concerned tree owners can manually extract nests and squish caterpillars underfoot.



Figure 3: Fall Webworms in a cherry in Oneida County.

Gypsy Moth Status and Activity in Northern Wisconsin

Speaking of squished caterpillars, I had a hilarious conversation yesterday evening with my significant other when I walked in the door:

Wife: *"What IS that on your shirt? That is disgusting!"*

Husband: *"Isn't that awesome? It's an exploded, diseased gypsy moth caterpillar. It's a bunch of viral particles."*

Wife: *"I want to barf."*

Husband: *"I wish I had this conversation recorded. It's going in my newsletter."*

Notes: wife deals with much more disgusting biota at her job; husband was surprised wife felt nauseous upon visual exposure to brown blob

Florence County: There were a couple aspen stands moderately defoliated in southern Florence Co. and some oaks defoliated west of Spread Eagle. Several citizens made complaints about abundant caterpillars. All areas inspected had massive numbers of dead and dying caterpillars from disease promoted by spring weather. I don't anticipate gypsy moth will be a problem in 2014.

Ashland County: A sizeable patch of aspen was moderately defoliated north of Marengo. Mating, egg laying,



Figure 4: Aerial photograph of a diseased gypsy moth caterpillar explosion. The target of the explosion was the shoulder of a Homo sapiens or H. neanderthalensis.

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pupating, continued leaf consumption by healthy caterpillars, and diseased caterpillars were all observed on July 30.

Bayfield County: No citizen complaints or forester reports of significant defoliation were submitted. Estimates of total defoliation have yet to be made, but it is undoubtedly small and light.

Elm Mortality Rampant

As the title suggests, elm mortality is rampant once again (3rd year in a row) across northern Wisconsin. Dutch Elm Disease is the cause. Symptomatic trees I've examined show advanced staining or no streaking at all in the xylem (a diagnostic symptom) because disease was contracted through root grafts. Why this epidemic? Perhaps the droughts of the last decade aided this disease's vectoring beetles to climb in population. That's just conjecture though.

Decline in Spruce Budworm Defoliation in the Northeast

The spruce budworm did not defoliate thousands of acres this year as predicted in northeastern Wisconsin. The reason for this probably was our late spring and abundant rains. I'm not confident this outbreak has ended just yet.

In areas that were defoliated by the budworm in recent years, there was substantial, scattered balsam mortality. The Florence County townships with the highest concentration of fir mortality are 40N,17E and 39N,17E. My USFS counterpart mapped a few federal spruce budworm stands in Forest County defoliated by spruce budworm.

Minimal Jack Pine Budworm Defoliation in the Northwest

Mary Bartkowiak has not seen any significant jack pine budworm activity in northwestern Wisconsin. Recent peak outbreaks in northwestern Wisconsin occurred in 1993 and 2005.

Ash Plant Bug Thinned Out Ash Canopies

Sickly street ash trees were reported in north-central Wisconsin communities several weeks ago. Their canopies thin; their leaves stippled. The cause was primarily the ash plant bug. This critter is not threatening to established ornamental ash (and lets hope not too many people are planting ash saplings these days). Direct interested homeowners to the following two websites:

<http://www.entomology.wisc.edu/diaglab/pdfs/landscape/Ash%20pbug.pdf>

<http://www.entomology.umn.edu/cues/Web/066AshPlantBug.pdf>

Rain Under Pines on Cloudless Days

Since I started in 2007, I have not seen such high numbers of spittlebugs on conifers as during spring 2013. Spittlebugs make white foam (air bubbles mixed with partially digested sap), and when it falls on your head it feels reminiscent of a raindrop. I have yet to see any indications of feeding stress on infested conifers, but it is possible. Heavy infestations can cause branch flagging (i.e. orange branches). This critter is *not* the dreaded Saratoga Spittlebug. I suspect it is the Pine Spittlebug (*Aphrophora cribrata*). By now, the spittlebug is probably in adult form, not making spittle, but still discharging undigested sap. Sooty mold may grow where nymphs previously formed spittle.



Figure 5: Pine Spittlebug's spittle and nymph, very common on conifers this spring. Photo from Clemson Univ., USDA Coop. Ext. Slide Series, Bugwood.org.

Aspen Leaf Issues

The majority of aspens in northern Wisconsin look great. There are scattered patches of aspens that are suffering from one to three issues:



Figure 6 (left): Marssonina leaf spot disease on aspens. Figure 7 (right): Yellowish-green blobs are leafblotch miners, and brown blotches/spots are from a Marssonina sp., both of which are common this year. Ants are protecting aphids, which are sucking on leaves. That's just cool.

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1. Aspen leafblotch miner: This is the 4th or 5th year of noticeable damage, although my gut tells me their population has declined in Oneida and Vilas Counties.
2. Marssonina Leaf Spot: This is a fungal leaf disease causing stunted leaves, yellowish canopies, thin lower crowns, and abundant brown leaf spots and blotches. Marssonina appears to be the most prevalent problem in north-central Wisconsin on aspen leaves.
3. Venturia Shoot Blight: I've only found this disease in a small aspen sapling stand in far eastern Bayfield County (45N,05W) where it had moderately defoliated all aspens in a corner of the stand. The species was *Venturia moreletii*.

Of the above three issues, *Venturia* is the most severe because it promotes lateral shoot dominance (i.e. crooked stems on lower trunks). Aspens over about 15 feet are safe from this effect. For all of these problems, I am not concerned for the long-term health of the aspens.



Figure 8: Magnified view (100x) of a blob of *Marssonina* asexual spores plucked from a single fruiting body from a single blotch on an aspen leaf. Multiply 20,000 by the number of leaves in an aspen canopy, and that's your approximate evil spore load from *Marssonina* on one day in July. (black circle on the right is an air bubble)

Oak Wilt Control—What Should Not Be Done

Oak Wilt Sneaking Up On White Lake

A recent aerial detection survey aided in finding oak wilt only 1.5 miles to the southeast of the village of White Lake in eastern Langlade Co. This is roughly 2 miles further west than what we previously knew as the western extent of oak wilt in this township.

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Unfortunately, a regeneration harvest in this infected stand was recently performed without addressing the underground spread of oak wilt first. This harvest quickly moved the disease to 3 surrounding residual oaks (perhaps shelterwood oaks). This is the same sort of management practice that can spread oak wilt around a high quality oak stand like wildfire. It can be devastating—think about a 12 acre stand of high quality oak, and 5 acres are blitzed by oak wilt. That’s the scenario just to the east of Wolf River Township in Oconto Co.



Figure 9: Initial symptoms of oak wilt—off-green foliage and thinning in the upper canopy. This tree will be dead in about 1 month.

Near known oak wilt areas, it is crucial to (1) know whether or not dying/dead oaks were killed by oak wilt and (2) first address the underground spread somehow. Simply cutting down infected oaks and leaving high quality residual oaks next to them is the last thing you want to do. It is not worth salvaging 5 diseased oaks if you’re going to immediately infect 10 adjacent oaks.

The Rot Room

Welcome to the Rot Room. Come here to keep your white, brown, and canker rots straight. Brown rot is more structurally unstable than white rot. Canker rotters cannot be compartmentalized well, so they are classified by the DNR as “high risk.”

It has been a glorious summer for varnish (lacquer) conk (*Ganoderma tsugae*) sporulation. This *Ganoderma* species causes a white stringy butt and root rot in dead conifers (especially eastern hemlock).



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Odds & Ends

Emerald Ash Borer Makes Big Jump to Mirror Lake State Park

Read the following article to learn about the recent EAB find at Mirror Lake State Park: <http://datcp.wi.gov/news/index.aspx?ID=876>

Forest Health Web and Phone Resources

- Insects
 - Invasive Insect [Factsheets](#)
 - [Emerald Ash Borer](#)
 - * EAB Hotline—1-800-462-2803
 - [Gypsy Moth](#)
 - * Gypsy Moth Hotline—1-800-642-MOTH
- Diseases
 - Invasive Pathogen [Factsheets](#)
 - [Annosum](#) Root Rot (Heterobasidion Root Disease)
 - [Oak Wilt](#)
- Plants
 - Invasive Plant [Factsheets](#)
 - [Timing of Herbicide](#) Applications for Planted Trees
- Sick Tree Diagnostic Keys:
 - U. of Minnesota Extension—[What's Wrong With My Plant](#)
 - [Natural Resources Canada](#)—navigate to a tree species to see insects/diseases
 - U. of Wisconsin Extension [Green Industry Website](#)



Figure 11: Proud new gypsy moth parents of 600 - 1000 new babies. I don't envy their task of naming these bundles of joy.

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Note: This pest report is an informal newsletter and covers forest health issues in the northern 18 counties of Wisconsin. The purpose of this newsletter is to provide forest owners and managers in Northern Wisconsin with regional up-to-date forest health information. I welcome your comments/suggestions on this newsletter *and your reports on forest health problems you observe in your area*. If you would like to subscribe to this newsletter, please contact Brian Schwingle at brian.schwingle@wisconsin.gov. Previous issues of this newsletter and regional forest health updates from other Wisconsin regions are available at <http://dnr.wi.gov/topic/ForestHealth/Publications.html> .