

Northeastern Wisconsin Forest Health Update

Wisconsin DNR – Division of Forestry

December 22, 2014

Topics covered this month:

Insects:

Blister beetle
EAB info
Eastern larch beetle
Pigeon horntail

Diseases:

Christmas tree pest manual updated
Smooth patch fungus

Other:

12 weeds of Christmas quiz
Imprelis contaminated materials allowed in landfills for 2015

Of Historical Interest:

25 years ago - 1989 –

- Cytospora canker
- White pine seedling root rot

60 years ago – 1954 -

- Jack pine sawfly
- Birch skeletonizer

Insects

Blister beetle – These large metallic blue/black beetles are fascinating critters, although worthy of caution. From their leg joints, blister beetles can exude droplets of liquid that contain the chemical cantharidin, which can blister skin (I did not test this with this beetle). These oils remain effective even after the beetles are dead so if grazing animals consume hay with dried beetles in the hay they can suffer blistering of their mouths and internal systems. Literature claims that this beetle falls on its side and feigns death when disturbed but this one didn't, this one was just ticked and appeared to glare at me as I was photographing it.



Blister beetle.

Blister beetles have an interesting life cycle. They undergo “hypermetamorphosis” which means that they change forms more than once throughout their life, first emerging from the egg as a slender long legged larvae (which to me looks similar to a stonefly), then later turning more grub-like and losing the legs, eventually pupating to emerge as the adult as shown here. The larvae are parasitic on bees. Adults lay their eggs on the ground and after hatching the larvae with the legs climb nearby plants waiting for bees to come to the plants, when the bees arrive the blister beetle larvae grab on and hitch a ride back to the bees’ nest. Once there they change again, and begin munching on bee larvae.

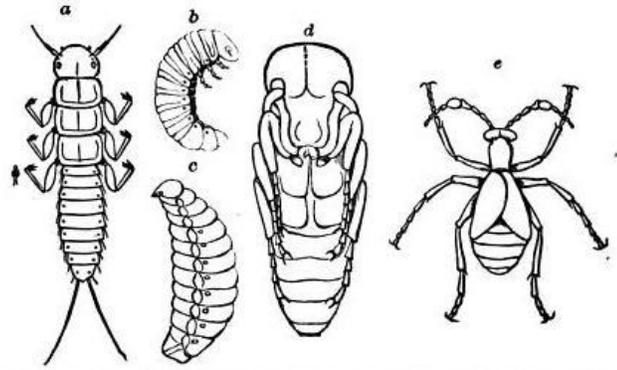


FIG. 98.—a, freshly-hatched larva of *Meloë*, first or Campodea-form stage; b, second or carabidoid stage; c, coarctate, footless larva, third stage; d, pupa; e, imago, male.

Life cycle of blister beetles. From the book *Entomology For Beginners* by Alpheus Spring Packard.

EAB info – a recent email from the city of West Bend listed the number of ash trees that the city has removed since they first identified EAB. It started with 10 ash trees in 2010, and this year they estimate that they’ve removed 500 as EAB continues to spread through the city.

EAB new finds in WI - In the past month emerald ash borer has been identified in the following areas around the state:

New County Quarantines:

- none

New finds in Counties already Quarantined:

- none

Emerald Ash Borer Quarantine



Wisconsin Department of Agriculture, Trade and Consumer Protection
Map Updated 10/7/2014



EAB additional reading:

- Watch an EAB rap video <https://drive.google.com/file/d/0B-frHxab236sYldYcUVCRU9Ubm8/view?pli=1>

Eastern larch beetle – this bark beetle attacks tamarack. Since 2000 we have been having an extended outbreak. Historically, this insect was “well behaved” and would attack trees following a stress like drought, flooding, or defoliation. The population of beetles would rapidly increase, attack and kill the stressed trees, then collapse after a few years once the stress was gone. But this latest outbreak began in 2000, and is continuing far longer than expected.

Fraser McKee, a PhD student with Brian Aukema, is doing research on eastern larch beetle and has found that the beetles seem to have changed their life cycle in recent years. The young beetles that complete development at the end of the season would typically overwinter and lay eggs in the spring,



Woodpeckers will remove the bark of tamarack infested with eastern larch beetle.

but Fraser McKee has found that in recent years these end-of-the-season beetles are mature enough to lay eggs in the fall, perhaps allowing the current outbreak to continue longer than normal. There may be other factors allowing the current outbreak to continue, such as some longterm low-level drought, or significant annual fluctuations of water availability, or maybe something we haven't identified yet. Read more about Fraser's work at <http://www.mprnews.org/story/2013/07/08/bark-beetle-destruction> and Fraser wrote a nice article about how eastern larch beetle attacks tamarack, on page 4 at <http://www.mnnp.org/newsletter/2013/Winter2013.pdf>

Pigeon Horntail – sometimes called Pigeon Tremex, or woodwasps, this insect attacks stressed



Adult Pigeon Horntail.

and dying hardwoods. The large adults (left) lay their eggs in the wood of dead, dying, and diseased trees. Maple, hickory, and beech are favored hosts in this area. The female uses her ovipositor (which looks like a stinger) to deposit eggs under the bark of trees. She also deposits some fungal spores of the canker rot fungus *Cerrina unicolor* to help rot the wood where the larvae will be feeding. Larvae need the canker

rot fungus to help decay the wood so that they can eat it. Mature larvae create a tunnel the diameter of a pencil. Larval galleries can be as long as 2 meters! In Wisconsin larvae take 2 years to complete development. Since pigeon tremex prefer dead, dying, or highly stressed trees they are not usually considered a pest.



Pigeon Horntail larvae from piece of firewood. Photo by Jean Romback-Bartles.



Fish caught using Pigeon Horntail larvae. Photo by Jean Romback-Bartles.

Apparently these larvae are also great for fishing bait! Think of them as giant waxworms. Jean Romback-Bartles was able to put this to the test when she discovered some nice large larvae while splitting wood. She noted that the wood had been sitting around for a year or two in the yard waiting for a splitter. After collecting the larvae that were in a maple log, she and her husband and son went ice fishing ... a good reward for



Perch caught while ice fishing, using Pigeon Horntail larvae from a piece of firewood. Photo by Jean Romback-Bartles.

the hard work of splitting wood. Jean caught 70 fish (all were released back) within a 1/2 hour of fishing, and still had some larvae left over!

Additional insect reading:

- New way to survey for early infestations of Hemlock Woolly Adelgid using remote sensing http://www.eos.unh.edu/Spheres_1114/williams.shtml
- check out Minnesota's latest Forest Insect & Disease Newsletter <http://www.dnr.state.mn.us/fid/index.html>
- Mark Guthmiller's December 2014 Pest Update has several good articles in it, including one about the invasive Princess Tree in Wisconsin, invasive crab apples, and an article about planting in lowland ash sites (Avon Bottoms planting). <http://dnr.wi.gov/topic/ForestHealth/documents/2014/ForestHealthSO-Dec14.pdf>
- Minnesota proposes quarantine against Mountain Pine Beetle http://www.ifallsjournal.com/news/outdoors/mda-seeks-comment-on-proposed-state-pine-quarantine/article_64307766-0da9-5f5b-80de-7578783563b6.html
- and something that many scientists aspire to ... entomologist May Barenbaum gets a new cockroach species names after her <http://entomologytoday.org/2014/11/21/may-berenbaum-receives-new-species-of-cockroach-named-after-her/>

Diseases

Christmas tree pest manual updated – in August it was announced that the Christmas tree pest manual, produced by Michigan State University, was updated and a 3rd edition was released. You can request a printed copy, or download an electronic version (251.26 Mb in size) at

http://msue.anr.msu.edu/news/revised_christmas_tree_pest_manual_now_available The 2nd edition is still available online at <http://www.na.fs.fed.us/spfo/pubs/misc/xmastree/>



Smooth patch fungus – this fungus is not parasitic, in that it does not invade the living parts of



Smooth patch fungus creates smooth areas in bark.

the tree, but it does live on the bark of trees and digest the rough outer bark, leaving a smooth area on the tree. This fungus will not kill the tree, does not indicate stress on the tree, and it will not move beyond the bark into the living tissue. It can often be spotted more easily from a distance, where the differences in the bark stand out more clearly. The fruiting body of this fungus is small, and not something that you'll see from a distance.



Smooth patch fungus, fruiting bodies. Photo by Bill Kandler.

Other/Misc.

12 weeds of Christmas quiz – check out this quiz and see how well you do on some invasive plants that are used at Christmas time http://techlinenews.com/articles/2014/12-weeds-of-christmas?utm_source=Manage+Your+TechLine+Subscription&utm_campaign=4ad407520b-2014_December&utm_medium=email&utm_term=0_303e819c5b-4ad407520b-331773081 How well did you do? I will admit that I missed a few but it was interesting to learn about them.

Imprelis contaminated materials allowed in landfills for 2015 – Imprelis, a weed control chemical previously produced by DuPont, caused a significant amount of unintended tree mortality even when properly applied. It was available only to professionals, not over the counter. Materials affected by Imprelis, including the wood/branches of trees killed by Imprelis have been shown to contain enough Imprelis to have continuing impacts if that wood is then used around other plant material (for instance if used as woodchips).

Wisconsin has continued a special exemption to allow Imprelis contaminated materials into landfills. This order continues for 2015. Below is a portion of a letter sent out to all Municipal Solid Waste Landfill Operators recently:

There is evidence that Imprelis® may persist through composting and that compost and mulch containing Imprelis®-affected trees, grass, and other yard materials may adversely affect plants where the compost or mulch is used. DuPont has stated that clippings from grass treated with Imprelis® and trees that may have been injured by Imprelis® should not be composted. Therefore we believe there is a short-term need for an alternative option for disposing of trees and plant material that may contain residues of Imprelis®.

This letter is to inform you that the Department of Natural Resources will continue to allow the landfill disposal of trees and plant material affected by Imprelis® for calendar year 2015. This extends the temporary, limited exception to our enforcement of the yard material landfill ban in s. 287.07(2), Wis. Stats., that we issued two years ago. Materials not affected by Imprelis® remain subject to the ban.

If you have any questions about this you can direct them to Brad Wolbert (Brad.Wolbert@wisconsin.gov, 608-264-6286)

Of Historical Interest

25 years ago, in 1989 –

- **Cytospora Canker** – *Leucostoma kunzei* (Fr.) Munk. Cytospora canker was identified on balsam fir in Marinette County, northeastern Wisconsin, and Douglas fir in Ashland County, northwestern Wisconsin. Infection was light in both counties. Insect wood borers were commonly associated with the cankers as secondary invaders. Drought stress probably predisposed the trees to infection.
- **White Pine Seedling Root Rot** – *Fusarium oxysporum* Schlect. This disease continues to be present in Wisconsin's forest tree nurseries. Disease incidence was moderate to

severe at Hayward Nursery. Sawyer County, northwestern Wisconsin. The diseased stock will be sorted and culled in the 1990 spring lifting season. The U.S. Forest Service has initiated a study of disease epidemiology at Wilson Nursery, Grant County, southwestern Wisconsin. Disease development and its relationship to moisture stress is the primary factor being studied. Plots were set up in 1989.

60 years ago, in 1954 –

- **Jack Pine Sawfly** – *Neodiprion americanus banksianae* Roh. A heavy infestation was reported on a 40-acre tract of jack pine plantation in Lincoln County.
- **Birch Skeletonizer** – *Bucculatrix canadensisella* Chamb. Severe browning of white birch foliage was sustained over the entire northern half of the state in the late summer.

Contact Us

Forest Health Staff - contact info for each Forest Health Specialist can be found our webpage at <http://dnr.wi.gov/topic/ForestHealth/staff.html>

Report EAB:

by phone 1-800-462-2803

by email

DATCPEmeraldAshBorer@wisconsin.gov

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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/>

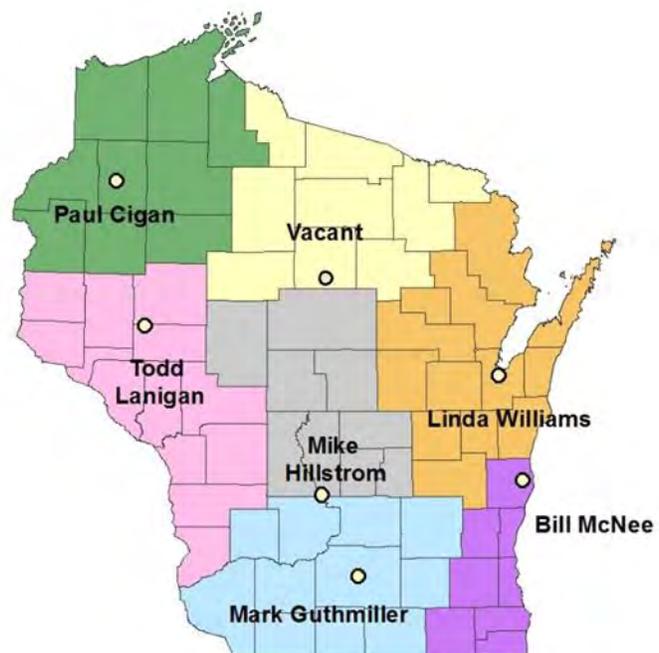
Northeast Region Pest Update produced by:

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<http://dnr.wi.gov/topic/ForestHealth/>

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.