

Entomology & Plant Pathology Weekly Review, June 5

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Weekly Review for June 5, 2024

This informal report by the Division of Entomology & Plant Pathology is a commentary on insects, diseases, and curiosities division staff encounter on a week-to-week basis. Comments and questions about this report are welcome and can be sent to your respective Inspector.

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Kristy Stultz (Nursery Inspector & Compliance Officer) - KStultz@dnr.IN.gov

Right now the biggest problem I'm seeing is spruce spider mites. They are enjoying the cooler temperatures and feeding extensively on arborvitae and spruce right now. These high populations are in areas where we've had some good, heavy rains. More control measures such as sprays containing insecticidal soap, horticultural oils, or specific miticides will be needed. Purdue Extension has some great information on mites [here](#).



Photo 1 – Arborvitae bronzing due to spider mite damage



Photo 2 – Close-up of mite damage on arborvitae



Photo 3 – Spruce mites

Diane Turner (Nursery Inspector & Compliance Officer) – DTurner2@dnr.IN.gov

While out this past week, an unsightly group of oak trees caught my eye. After a quick inspection, I noticed these Kindred Spirit oaks were heavily infested with solitary oak leafminers, *Cameraria hamadryadella*. These tiny larvae feed between the outer layers of oak leaves, forming irregular blotch-like mines. Their mature size can be nearly $\frac{1}{4}$ inch long and look like the rattles of a rattlesnake. Although these leafminers normally cause only cosmetic injury, heavy infestations may cause leaf browning, premature leaf drop, and eventually leaf death causing trees to look unsightly.



Photo 4 – Kindred Spirit Oak (*Quercus x warei* 'Nadler') infested with solitary oak leafminers



Photo 5 – Close-up view of solitary oak leafminer larvae, *Cameraria hamadryadella*

Vince Burkle (Assistant Division Director & Nursery Inspector) - VBurkle@dnr.IN.gov

Here are a couple of things I found while inspecting nurseries this past week. In Huntington County, I found a couple of sawflies feeding on elderberry. An adult would be needed to confirm the species

because there are several that use elderberry as a host. In Adams County, an extremely heavy infestation of spider mites was found in a greenhouse on impatiens and Bougainvillea.



Photo 6 – Sawfly larva on elderberry



Photo 7 – Heavy infestation of spider mites



Photo 8 – Close-up photo of spider mites

Jared Spokowsky (Nursery Inspector & Compliance Officer) - Jspokowsky@dnr.IN.gov

I've seen a number of cases of daylily leafminer while doing inspections and had a couple of people forward me reports of leafminer damage. The daylily leafminer is a non-native fly which was first found in the U.S. in 2011 and has since been widely distributed across the eastern United States. It does not pose any great threat to daylilies but if you would like more information I would suggest you go to the American Daylily Society's [website](#). I found some active leafminer larvae at one location and was able to get some photos of the fly maggot inside the leaf stem as well as a little more mangled photo of an extracted maggot.



Photo 9 – Daylily leafminer inside leaf



Photo 10 – Daylily leafminer maggot, arrow pointing at black hook-like mouthparts



Photo 11 – Daylily leafminer maggot extracted from leaf and on the end of a dissection probe

One of the more interesting things I saw this past weekend was during my visit to Chain O' Lakes State Park in northeast Indiana. I still get quite a few questions about Emerald Ash Borer (EAB) and what the future holds for the relationship between EAB and ash. It's hard to give anyone an exact answer.

I have always told folks that it will probably end up somewhat like the American elm. There are still American elms around and some are even mature. But the bark beetles that carry the Dutch elm disease fungus will disperse from a dying patch of elm in an attempt to find more host material. On occasion, they do find some and are able to reproduce and continue the cycle. Meanwhile, the dying trees sometimes are able to produce seeds that will germinate and start a new patch of elms. I can't be sure that this is the same pattern EAB will follow but I found quite a bit of young 2-4 inch DBH (diameter at breast height) ash at our campsite. Most of it was actively being attacked by EAB and the largest individuals had already died. I took the opportunity to take a couple of photos of how the trees leaf out which is the first thing I look at when trying to determine if an ash tree is infested.

When you look at an infested ash tree many times it will fully leaf out, especially in the first few years of EAB attack. But if you look closely you can tell that the leaves in the upper canopy are smaller than those lower down below the infestation. You can also look for the D-shaped exit holes, bark cracks, epicormic sprouts, and serpentine EAB larval galleries. But these signs generally show up later, where leaf size is a great early indicator. I have been fooled on occasion with a mature old ash which will sometimes have larger leaves in the lower canopy, but for the most part, I think leaf size is the best early indicator. If you have ash that has been treated, this is valuable to understand if you wish to quit treating at some point because the sooner you can catch an infestation flaring back up the easier it will be to control.



Photo 12 – Ash tree leaves from an infested ash tree. Lower leaves are about 50% larger than the leaves found in the upper canopy above the infested portion of the tree.



Photo 13 – Ash tree showing epicormic sprouting and bark cracking.

Lastly, I also had a couple of unwanted visitors at my site (besides raccoons). I had several spongy moth caterpillars drop from a maple down onto our canopy shelter. I also spotted a caterpillar at the Gene Stratton Porter State Historic Site in Rome City. Both spongy moth and EAB are great hitchhikers. EAB often would show up in the first invasion of an area near a campground and spongy moths can get moved on anything that's left outdoors where eggs can be laid. All of the caterpillars were promptly used for fish bait or campfire fuel.



Photo 14 – Spongy moth caterpillar

Angela Rust (Nursery Inspector & Compliance Officer) - ARust@dnr.IN.gov

I recently found Impatiens Necrotic Spot Virus (INSV) on *Kalanchoe* sp. and *Peperomia* sp. at a nursery dealer in my area. Plants appeared to have virus infection symptoms and I suspected INSV. Plants showed symptoms such as blackened or yellowish spots, blackened or yellowish ring patterns, and sunken spots on leaves. Whole plant samples were collected for analysis and INSV was confirmed by rapid ImmunoStrip testing. INSV is spread by thrips, primarily western flower thrips. Elimination of infected plant material and control of thrips are the most important management practices. Discard symptomatic plants since they serve as a source of virus inoculum that thrips can spread to healthy plants. INSV can infect hundreds of plant hosts. Some of the more common hosts are lettuce, tomato, pepper, impatiens, petunia, chrysanthemum, and geranium.



Photo 15 – *Kalanchoe* sp. with Impatiens Necrotic Spot Virus



Photo 16 – *Peperomia* sp. with Impatiens Necrotic Spot Virus

Division inspectors are doing several insect pest and disease surveys again this summer and autumn. Surveys include *Phytophthora ramorum* (the causal pathogen of Sudden Oak Death Disease), Boxwood Blight Disease, Spotted Lanternfly, Old World Bollworm, Thousand Cankers Disease of Walnut, Box Tree Moth, Silver Y Moth, several bark and ambrosia beetle species, Walnut Twig Beetle, Oak Processionary Moth, and Spongy Moth. Survey work for Spotted Lanternfly, Spongy Moth, and

Thousand Cankers Disease is conducted during the winter season as well.

The division also has some seasonal employees that help with surveys. If anyone is interested in seasonal survey work with us for next year, please don't hesitate to contact us.

Aerial mating disruption treatments for spongy moth are tentatively scheduled to begin the week of June 17. More information can be found on our spongy moth [website](#).

We post updates on our spongy moth treatments on our X (formerly Twitter) page. Join our [X page](#) for live treatment-day updates and other pest information.

Will Drews (Nursery Inspector & Compliance Officer) - WDrews@dnr.IN.gov

Besides periodical cicadas which are colorful, loud, exciting, and getting all the attention this year, I recently found a fun and new (to me) relative on a nursery inspection. Investigating some honeydew I found on white oak leaves, I looked up and noticed a group of very exotic-looking and cool oak treehoppers (*Platycotis vittate*). These brightly colored and unique insects are in the treehopper/thorn bug family (Membracidae), which is a close relative of the cicada family (Cicadidae). Like cicadas, the females will make little slits in the branches and lay their eggs there.

Oak treehoppers, as their name implies, are host-specific and only are found on oaks (*Quercus* spp.). Like a lot of treehoppers, they are more fun finds in the landscape than pests of economic importance requiring control. Below are some photos I captured of these unique insects.



Photo 17 – Several oak treehoppers on a white oak branch. The whimsical, unicorn horn-looking appendage on their heads is called an anterior pronotal horn



Photo 18 – Oak treehopper without a pronotal horn. While oak treehoppers often have frontal horns, this is not always the case, even within the same congregation of insects.



Photo 19 – A group of oak treehoppers on a white oak branch. Even though this may look concerning to a grower, they do not cause enough damage to warrant control.



Photo 20 – Slight honeydew deposits on oak leaves from the oak treehoppers.

No reports this week

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