

OHIO Woodlands, Water, & Wildlife

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Hammerhead Hysteria

Lee Beers, Extension Educator

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What - Hammerheads in Ohio?!

No, we are not talking about hammerhead sharks. What we are referring to are the hammerhead flatworms that have been re-discovered in Ohio this year. It sounds like something from a horror movie, but hammerhead flatworms are real and might be in your backyard if your backyard contains prime habitat and plenty of invertebrate snacks such as earthworms. **Should you worry about them? Probably not.**

From a distance these flatworms look just like any other worm, but a closer examination will show a broadened head that gives them their name. Unlike earthworms that eat plant debris in the soil, hammerhead flatworms eat other invertebrates like snails, slugs, and earthworms. Several species of these flatworms are found across the globe outside of their native ranges, including the five species that have been well documented in North America:

- *Bipalium adventitium* (wandering broadhead planarian)
- *B. kewense* (shovel-headed garden worm)
- *B. pennsylvanicum* (three-lined land planarian)
- *B. vagum* (mollusc-eating hammerhead worm)
- *Diversibipalium multilineatum* (multilined hammerhead worm)

The shovel-headed garden worm has even been reported on all continents except Antarctica (Winsor, 1983). Much of this spread has been attributed towards the movement of soils that came with exotic ornamental plants. Today, invasive hammerhead flatworms are typically associated with greenhouses, gardens, parks and woodland areas.

The following maps, on page 2, show the distribution of hammerhead worms in the US based on reports up through June 2022.

The eastern US contains habitats suitable for all five of these land planarians, although in more northern states with cooler winters, some species such as *B. vagum* are more likely to be found in indoor settings such as greenhouses where temperatures and humidity are higher year-round (Fourcade et al. 2022). After rainfall, these flatworms may appear on decks and sidewalks where it is usually too dry.

Some species of hammerhead flatworm have a very pronounced hammer-shaped head, but the species we are finding here in Ohio, the Wandering Broadhead Planarian (*Bipalium adventitium*) and Three-Lined Land Planarian (*Bipalium pennsylvanicum*), have heads that look slightly flattened. Another distinguishing feature of these flatworms are the black lines running down their back. From the pictures you



Above: Wandering Broadhead Planarian
Below: Three-Lined Land Planarian



Photo by BobiJo Penque, used with permission

can see the single line of the *B. adventitium* and the multiple lines of the *B. pennsylvanicum*. Hammerhead flatworms consume their prey by secreting a toxin in their mucous that dissolves their food so they can consume it in liquid form. Gross right? Well, this is where much of the hysteria surrounding these worms comes into play. That toxin they secrete has been known to give some people skin irritation if they are sensitive to it, so it is best to handle these worms with gloves. There are similarities in their toxin to that of the pufferfish, a tetrodotoxin, but there is little known about how this toxin affects the environment where hammerhead worms are found. Unless consumed in large quantities, there is likely little to be concerned about with your family and pets.

We mentioned that these species have been *re-*discovered – this is because hammerhead flatworms have been present in Ohio since at least 2004, but anecdotal encounters go back to the 1980's. These invasive flatworms have been here for many years, but they have gained more attention recently. If you do encounter one, you can carefully kill it with salt, rubbing alcohol, or vinegar applied directly to the flatworm. Use these methods carefully as they are more likely to damage your plants than the flatworm itself. There are no products or home remedies that you can apply to your entire yard to kill them all that won't kill everything else, so our advice is to not worry about them until you see one. When that happens, then take action with the aforementioned methods and report sightings through the Great Lakes Early Detection Network App, available at <https://apps.bugwood.org/apps/gledn/>. Original article: Beers, L. and E. Lyon. 2022. *Hammerhead Hysteria*. Buckeye Yard & Garden OnLine. Available at <https://bygl.osu.edu/node/1977>

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EDDMapS
Early Detection & Distribution Mapping System

Legend
 [White Box] No Data
 [Green Box] Species Reported

Ohio Resource Connection Builds Network for Vendors and Landowners

COLUMBUS, Ohio – A new website, the Ohio Resource Connection, aims to build a network of forestry and wildlife professionals, habitat vendors, and landowners in the Buckeye State, according to the Ohio Department of Natural Resources (ODNR).

The Ohio Resource Connection is a partnership between ODNR's Division of Wildlife and Division of Forestry, along with the Ohio Society of American Foresters and The Nature Conservancy. These partners are working to provide landowners with better access to habitat vendors and forestry and wildlife professionals through a single statewide network. These connections are designed to best meet the missions of partner organizations as well as landowner goals.

Forestry and wildlife habitat improvement projects are becoming increasingly important to many landowners in Ohio. The Ohio Resource Connection will be a useful tool to enhance these endeavors.



Improving habitat on private property has many benefits for landowners, the forests, wildlife, and other habitats in Ohio by increasing wildlife use of your property, improving soil health and water quality, boosting the aesthetics of your property, enhancing forest health and timber value, and providing the necessary food resources for wildlife.

Through ohioresourceconnection.com, landowners can find vendors who provide a variety of services including wetland construction and enhancement, invasive plant control, tree thinning, and planting. Landowners can also find contact information for forestry and wildlife professionals in their area through the website. The program's benefits extend to vendors, who gain advertising for their company, inclusion in a statewide network of forestry and wildlife vendors, a larger client list, networking with other professionals, exposure to training opportunities, and growth of provided services.

Interested vendors should visit the Ohio Resource Connection site to learn more about being added as a listee.

The mission of the Division of Wildlife is to conserve and improve fish and wildlife resources and their habitats for sustainable use and appreciation by all. Visit wildohio.gov to find out more.

The Ohio Division of Forestry promotes the wise use and sustainable management of Ohio's public and private woodlands. To learn more about Ohio's woodlands, visit Forestry.ohiodnr.gov. Follow us on [Facebook @odnrforestry](https://www.facebook.com/odnrforestry) and on [Instagram @odnrforestry \(instagram.com/odnrforestry\)](https://www.instagram.com/odnrforestry).

ODNR ensures a balance between wise use and protection of our natural resources for the benefit of all. Visit the ODNR website at ohiodnr.gov.

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Ambrosia Coloration in Maple

Andrew J. Londo, Professor of Silviculture and State Extension Forestry Specialist

Ambrosia doesn't refer to any given species of maple, rather it's a discoloration which affects many maple



Photo Credit: Andrew J. Londo

species found in Ohio, including sugar and red maple. This discolored wood is called ambrosia due to the

beetles which burrow into the tree. It's also called wormy maple, or ghost maple. It will also be found in maples which have been tapped for maple syrup production, with the ambrosia appearing around the tap holes.



Photo by Robert Blanchette, Univ. of Minnesota

These compounds are essentially sterilants intended to prevent further injury from decay. This discoloration does not reduce physical wood properties, does not fade over time, and can be used for anything maple is used for. It is often favored by woodworkers who like the color combinations it provides.

Another member of the maple family which exhibits this ambrosia behavior is box elder. However, the ambrosia color in boxelder is red, instead of greenish brown in red and sugar maple. Just like in sugar and red maple, the red ambrosia color in boxelder, often called flame, is caused by the same decay preventative process. However, instead of the colors being brown and green, they're pink to red. This red/pink color will also fade over time when exposed to UV radiation.

Boxelder typically grows in wetter areas across Ohio, but usually doesn't reach the size where it's commercially viable to harvest. The wood is also less suitable for many uses due to its relative softness (compared to other maples) and lack of grain pattern makes it less desirable. However, wood workers like it for the red color and its easy machining.



Photo Credit:
Jerry's woodturning

Check out the Gwynne Conservation Area during 2022 Farm Science Review!

Marne Titchenell, OSU Extension Wildlife Specialist

The Gwynne Conservation Area is a 67-acre conservation area hosting conservation demos, talks,



and guided tours during the three days of Farm Science Review (FSR). This year's FSR is September 20th – 22nd, and each year the Gwynne offers a host of new presentations, exhibits, and demos on natural resources conservation and management. Come visit the forage plots and learn about how grasslands and carbon, how to improve soil health, and grazing native warm season

Unlike blue and black stain in many southern and western conifer species, ambrosia in maple is not caused by a fungus. Rather, it's the tree's generic defense mechanism against injury. The colors are made by different compounds produced by the tree in the area of the wound to prevent fungal and bacterial infection.

grasses. Our woodland amphitheater will host talks on maple syrup, tree planting, how to be tick safe, and updates on invasive species. New this year will be a fly fishing demonstration on Wednesday afternoon. Don't miss Thursday's mornings monarch butterfly release, and be sure to stay to learn about beekeeping, carbon storage in soils, Ohio snakes, and so much more! Check out the complete schedule of presentations by visiting gwynne.osu.edu and learn more about the Gwynne Conservation Area!

Are you wondering how to get to the Gwynne Conservation Area?

The conservation area is located just north of the FSR Exhibit Area on Arbuckle Road. Shuttle wagons run to the Gwynne on a continuous basis each day from 9:00 am until 3:30 pm. *Catch a shuttle at the west end of the FSR exhibit area in front of the Fendrick Headquarters Building. Expect to wait about 10 minutes to take the quick shuttle ride to the Gwynne. It's worth it!* Aren't interested in the presentations? That's ok – we have a vendor and exhibit tent with professionals ready to answer your questions, or you can enjoy a peaceful tour of the Gwynne on one of our shuttle wagons.

Ohio State Maple

Kathy Smith, OSU Extension Program Director - Forestry

The 2022 syrup season was better than the 2021 season but still not one of the best for the sugarbush



Student interns and volunteers working in the Mansfield sugarbush.

located at the Ohio State University Mansfield campus. However, the research continued, and the interns and volunteers tapped in the snow to get the season started.

While research and student involvement are two key components to the project at Mansfield there is a third



In the woods at Ohio State Mansfield working with tubing for Maple Bootcamp. Photo credit Jessica Caton, OSU/SENR



In the woods with maple producer Stan Hess for Maple Bootcamp. Photo credit Jessica Caton, OSU/SENR



In the sugar house with maple producer Dan Brown for Maple Bootcamp. Photo credit Jessica Caton, OSU/SENR



Sap collecting research canisters at the Mansfield sugarbush

goal for the program. The program is focusing on outreach for woodland owners – giving them a chance to explore this potential income opportunity for their acreages. One of the first programs was Maple Bootcamp that was offered in June. Bootcamp is a three-day workshop that explores a maple enterprise from evaluating the woodland for its potential all the way to installation of an operation and how to handle the end product.

One of the program goals is to show landowners that they can get annual income from something as simple as leasing taps to a maple producer all the way to installation of a sugar shack where sap is processed into final products including syrup, sugar, cream, and candy to name a few. There is also the option of just doing maple as a hobby – producing enough syrup for family and friends and perhaps a few

others. The options are endless. If you want to know more about hobby maple syrup production, check out our fact sheet <https://ohioline.osu.edu/factsheet/f-36> .

Stay tuned to the Woodland Stewards website as we continue to add programming to help landowners explore the potential for maple syrup production. One of those programs is Ohio Maple Days which will be December 10th at Ashland University Convocation Center. There landowners can explore what is going on in the maple industry and interact with vendors who sell maple and related equipment to producers along with producers from around the state. We hope to see you there!



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Look for newsletter articles, links to fact sheets and other publications by browsing our site. Registration for upcoming Woodland Stewards classes may also be done electronically. Website: woodlandstewards.osu.edu
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