Summer 2023

# Fungi Kingdom News

*The newsletter of the Pioneer Valley Mycological Association*



With all of the rain this summer, members found a bounty of black trumpets! This beautiful patch was photographed by Mike Ostrowski.




Dianna Smith and Gary Gilbert's Mycocards came in handy at the Morse Hill mushroom weekend to identify these *Lactarius atroviridis*!

## In this issue...



Pioneer Valley Mycological Association



**OUR MISSION STATEMENT**

The Pioneer Valley Mycological Association is dedicated to enhancing the public's knowledge and appreciation of the fungal kingdom by providing ongoing educational programming in the form of guided mushroom walks, lectures, newsletters, information on multi-day regional and national forays, and citizen science projects. Because fungi are integral components of complex ecosystems, we are committed to advocating for responsible and sustainable study and collection methods. We focus on, but are not limited to, the three counties of the Pioneer Valley in western Massachusetts (Franklin, Hampshire and Hampden).

PVMA is a member of the Northeast Mycological Federation (www.nemf.org) and the North American Mycological Association (www.namyco.org).

www.PVMAmyco.org

Also visit Dianna Smith's educational site fungikingdom.net for articles, fungi photos, and more.

**Submissions Welcome!**

This is your newsletter; we'd love to have you contribute to it! Art, prose, photos, drawing, recipes, scientific observations– send them all to:

**jessicabensonevans@gmail.com** or **jonkranz@kranzcom.com**

# From the President...

While I had the best intentions of getting this edition out to you by mid-summer, the days have just flown by! I suspect many of you feel the same during the mushroom season; just not enough time in the days to get out there and looks for fungi! My long work hours in the summer mean I have to sneak in mushroom time whenever I can find it. That included hosting a mushroom camping weekend at my place of work this year, which you can read about on page 7 of this newsletter. I think this may become a new yearly tradition!

It's been so wonderful seeing so many new faces and old friends at our walks this summer. We appreciate that all who attend are willing to share knowledge with others, are always ready to learn more, and are friendly and welcoming to folks brand new to fungi! I'm so glad to be part of such a supportive mushroom club.

Thanks for your patience, participation, and continued excitement. See you soon,

- Jess

©Mike Ostrowski

*Galliela rufa*, also known as "peanut butter cups," spotted by Mike O. at Fitzgerald Lake.

# Labor (Day Weekend) of Love

**Jonathan Kranz**

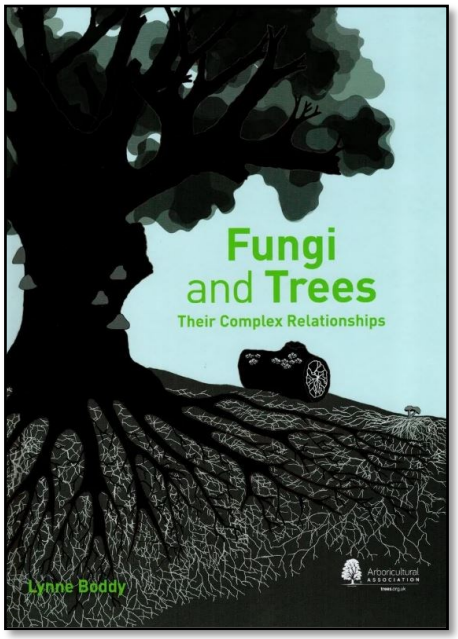
While other mushroom clubs dismissed the Labor Day weekend from their walk schedules, the PVMA doubled down with two exciting walks: Chesterfield Gorge on Saturday the 2nd and Wendell State Forest the following Sunday.

Guest educator, Bill Yule, led the Chesterfield walk that was more about depth than breadth; our small crew of a dozen or so participants probably didn't make it much more than 100 yards down the trail (and frankly, this author failed to keep track of the finds we made. Think: the usual suspects). But our slow, deliberative pace was rewarded by Bill's expansive reflections on the physiology and ecology of our forest mushrooms, particularly the decomposers responsible constructing new soil.

At one point, the discovery of a long-stemmed *Amanita americitrina* (AKA *A. citrina* or A*. lavendula*) emerging from a well-decayed conifer (probably hemlock) log prompted a long conversation about decay and mushroom growth. What was an ectomycorrhizal mushroom doing in the depths of soggy lignin?

Well, growing *through* the log rather than *in* it, Bill said. The effective labor of brown-rot fungi creates a virtual sponge that holds water and encourages organic growth; the mycelium *under* the log took advantage of the available water to create its fruiting body. Further, Bill noted, brown-rot fungi (the kind the leave threads or cubes of brown lignin behind) succeeded white-rot fungi on the evolutionary timeline. Digesting lignin as well as cellulose proves to be metabolically inefficient; the brown-rot fungi save energy by focusing on the cellulose and hemicellulose alone, leaving the more difficult lignin behind.

Bill concluded the walk by encouraging us to learn more about fungal ecology by reading Lynn Boddy's book, *Fungi and Trees: Their Complex Relationships*.




Published by the Arboricultural Association in 2021, Lynn Boddy's book is well worth the read!

©Jonathan Kranz

Bill Yule inspects the goods, Chesterfield Gorge, September 2, 2023.

Sunday's walk in Wendell attracted the attention of two park rangers. My initial anxiety was relieved when the rangers, Kelly and Devon, not only directed us to the most optimal trails, but elected to join us. That gave Peter Russell the opportunity to share the basics of Wax Cap identification with them (and by extension, us). Our trail took us along a small pond rich with conifers and the occasional bogs; Kelly and Devon had to direct us away from a number of expanding sinkholes.

In addition to finding a small number of Black Trumpets and Hedgehogs, we found the usual *Amanitas* (*A. rubescens* group, *A. flavoconia, A. americitrina, A. muscaria, var. Guessowii)* and a couple of welcome surprises: *A. pallida* and the Gunpowder Amanita, *A. onusta*. Naturally, we found numerous *Cortinarius iodes* (which no one tires of seeing) and the *C. corrugatus.* Bucket loads of *Suillus sprageui, S. americanus, and S. weaverae* were accompanied by the slightly less common, *S. placidus*. Other Boletes were much scarcer, but we seem to have come across a *Boletus vermiculosus* whose cap flesh slowly stains blue while the cut stipe flesh turns deep red.

But we found the most startling flush of the day in the field just behind park headquarters. There, multiple fairy rings of *Laccaria ochropurpurea* covered the sandy soil just at the edge of the forest, encouraging some of us to make profane exclamations of delight.

*Laccaria ochropurpurea*

©Jess Evans

©Jonathan Kranz

At right: PVMA members admire the multiple rings of Laccaria ochropurpurea at Wendell State Forest, September 3, 2023.

## Upcoming event, sponsored by the Massachusetts Department of Conservation and Recreation!*


*Not a PVMA-sponsored event: open to all members of the public.

# Members' Summer Mushroom Sightings!

©Mary Obrzut

*Mycena haematopus,* the "Bleeding Mycena"

©Karen Thornburg

*Mycena leaiana,* the "Orange Mycena"

©Jess Evans

PVMA members enjoy a buggy walk at Fitzgerald Lake in Northampton, led by Karen Thornburg (front right)

©Mary Obrzut

©Jess Evans

Multiple views of *Exsudoporus frostii*, also known as “Frost’s Bolete.” This gorgeous mushroom made an appearance at several walks this summer, including at Fitzgerald Lake in Northampton.

©Mike Ostrowski

*Sarcoscypha occidentalis,* the Stalked Scarlet Cup.

# Morse Hill Mushroom Weekend

**Jess Evans**

Early in August, I hosted the first-ever Mushroom Weekend at Morse Hill Outdoor Center in Shutesbury (where I work year-round.) Six adults and one junior club member joined me and Ella for hiking, camping, mushroom identification, and s'mores on the Morse Hill campus. With 85 acres of mixed forest and trails, Morse Hill has been a great spot for previous club walks in the past. In addition, its campsites, cabins, and easy access to the kitchen and bathrooms made it an accessible choice for folks across the camping-experience spectrum. Finally, the camp director generously offered the space for the weekend for our club.

We began by setting up our tents and getting gear into cabins, depending on each club members' choice of overnight lodging. Signe and Ramona, Ella and I, and Tim and Kat all set up tents in the big field. (Plenty of room for more tents there next year!) Next, I handed out maps of Morse Hill and we got our baskets ready to head out for a long hike. I took the group to areas of Morse Hill that aren't accessible in the amount of time we have for regular club walks, including a long portion off trail along the far edge of the Morse Hill property that follows a seasonal stream.

While conditions were somewhat dry (in the context of a very rainy summer), we did find several interesting specimens along with the usual suspects seen in early August in our area. We spotted *Lactarius atroviridis*, a beautifully "ugly" Lactarius with deep green tones and creamy white latex. I only find this every few years, making it a treasured species in my eyes!

©Jess Evans

After our long hike, we reconvened in the large field to start working on identifying our finds. Our small group included folks with years of mushroom experience and those new to fungi, so it was a great opportunity to demonstrate how to use guidebooks to help identify mushrooms. Our junior member, Ramona, spent a long time working with a tricky Bolete. Karen also had some difficult boletes to identify, and the group worked through the keys in the Bessette's *Boletes of Eastern North America.* Mary and I had our MycoCards out; Mary worked on Amanitas, while I tracked down a few Lactarius species. Mike arrived after a weeklong trip to Maine and arrived with a mystery polypore to identify, so he perused *Polypores and Similar Fungi of Eastern and Central North America* (by Dianna Smith and Arleen and Alan Bessette). We were so immersed in our study of the specimens on the table, we almost forgot to have dinner!

After a potluck dinner, we built a fire and I treated the group to s'mores. After all, what's a campout with s'mores? The two junior members present were delighted, as were the adults. We were also joined by a deer crossing the field at dusk, and later barred owls calling back and forth after we retired for the evening. Mike also spotted one of the Morse Hill foxes early the next morning; a good omen for another great day of mushrooms and myco-folk.

Club members began arriving for the 10am walk, and we had almost 30 members in attendance for the day! Per usual, we spent the first 30 minutes of the walk admiring the many mushrooms on the periphery of the parking lot. A number of waxy caps and Suillus were found close by, along with a horde of *Tapinella atrotomentosa* and more *Russula compacta* than anyone really wanted to smell.

As has become tradition on Morse Hill walks, we made our way to the mossy woods just down the main trail. We spotted various Cortinarius species, along with Lactarius specimens, a number of boletes, and a few yellow-foot chanterelles. Despite the overall drier conditions than most of the summer, it was a very successful walk! The crowning glory was the mystery Hodophilus/Camarophyllopsis specimen, which Peter Russell took home to send for DNA sequencing. This waxy cap relative is new to me, and I'm still learning to distinguish between the two genera out in the field. Hoping to hear back from Peter on that one in the near future!

Feedback from participants of the mushroom camping weekend was that I should plan to host it again next summer. Please let me know if you'd be interested in joining us next year!



*Amanita onusta*, also known as the Gunpowder Lepidella.



Peter Russell says, "Here, smell this!" to Ramona.

# Morse Hill Mushroom Weekend

©Jess Evans

Fresh chanterelles

©Jess Evans

Levity at the Identification Table

©Jess Evans

Our mystery Hodophilus/Camarophyllopsis specimens

©Jess Evans

*Ramaria sp.* finds itself in Ramona's mushroom guidebook

# Morse Hill Mushroom Weekend

## Species List

**Gilled mushrooms:**

Amanita brunnescens

Amanita citrina

Amanita frostiana

Amanita fulva

Amanita onusta

Amanita rubescens

Amanita submaculata

Amanita vaginata group

Cortinarius corrugatis

Cortinarius iodes

Gliophorus irrigatus

Gloioxanthomyces nitidus

Gymnopus dryophilus

Hodophilus sp.

Humidcutus marginata var. marginata

Humidicutus marginata var. olivacea

Hygrocybe cantharellus

Hygrocybe miniata

Hymenopellis furfuracea

Inocephalus quadratus

Lactarius atroviridis

Lactarius camphoratus

Lactarius deceptivus

Lactarius gerardii

Lactarius lignyotus

Lactarius piperatus

Russula compacta

Russula sp.

Tapinella atrotomentosa

**Boletes:**

Harrya chromapes

Hortiboletus rubellus

Retiboletus griseus

Retiboletus ornatipes

Strobilomyces strobilaceus

Suillus spraguei

Tylopilus felleus

**Puffballs:**

Scleroderma citrinum

**Chanterelles:**

Cantharellus sp.

Craterellus fallax

Craterellus ignicolor

**Corals and clubs:**

Clavulina cinerea

Clavulinopsis fusiformis

Ramaria sp.

©Signe Predmore

**Ascomycetes:**

Earth tongue- no micro done

Hypomyces hyalinus

Leotia lubrica

Tolypocladium ophioglossoides

Xylaria longipes

**Polypores:**

Coltricia cinnamomea

Coltricia perennis

Daedalopsis confragosa

Ganoderma tsugae

Piptoporus betulina

Trametes elegans

Trichaptum biforme

©Jess Evans

# What The Fungus?

©Jess Evans

This month's "What The Fungus" comes to us from a walk earlier in the season at Erving State Forest. A small group of members found this grouping in a few places along the trail, in mixed woods.

With its dark coloration of both cap and gills, you might expect this to have a dark spore print. It did, however, have a white spore print. Chemical testing by Jonathan Kranz revealed that the cap turned green with the application of ammonia.

**A: This is most like *Gymnopus alkaliverens*, a saprobic (wood-rotting) species that is fairly common in the northeastern United States along with the Appalchians and the Rockies.**

**As Michael Kuo notes on his Mushroom Expert website, "...This small, dark brown saprobe...can be recognized quickly if a drop of KOH or ammonia is applied to its camp, producing a green color change. But without the chemical test...well, you're looking at a little brown mushroom with a white spore print and no distinctive odor or taste. In short, you may need to unpack your microscope."**

**Little brown mushrooms are notoriously difficult to identify, and this edition's "What The Fungus?" species beautifully illustrates the usefulness of chemical testing.**

**Source: MushroomExpert.com**

# In The News

**Jess Evans**

This week, all of the mushroom social medium groups I'm a member of have been sharing, re-sharing, and discussing a very recent news article published on August 29 entitled "'Life or Death:' AI-Generated Mushroom Foraging Books Are All Over Amazon (404media.co). In the article, author Samantha Cole notes that many of the books available on Amazon aimed at new foragers and mushroom beginners are likely written by AI, or artificial intelligence, rather than experts in the fields of mushroom and plant identification. When a sample of these books were checked by a tool called ZeroGPT, which analyzes text to evaluate whether it's been generated by AI, a number of them were clearly not written by humans with knowledge of these topics. Many of them mix anecdotes about fictional family memories collecting mushrooms with inaccurate information about poisonous and deadly species, or include flowery language about the power of mushrooms within paragraphs about potentially deadly mushroom species.

The danger here is clear; AI-generated content can mislead new mushroom enthusiasts or create false confidence in identification skills, which can end badly for all involved. For now, it sounds like Amazon has pulled each of the AI-generated books that have been reported to them. As a club, we can continue our mission of educating the public by recommending accurate identification resources to both our members and the public. Books on mushrooms written by human authors are the result of many years of experience, research, and expertise.

Here are some of the guides we recommend:

- *Mushrooms of the Northeastern United States and Eastern Canada,* by Tim Baroni (Timber Press, 2017)
- *Mushrooms of Northeastern North America*, by Alan Bessette, Arleen Bessette, and David Fischer (Syracuse University Press, 1997)
- *Mushrooms of the Northeast*, by Teresa Marrone and Walt Sturgeon (Adventure Publications, 2016)
- *Mushrooms Demystifed*, by David Arora (Ten Speed Press, 1686)

You can find a comprehensive list of recommended guides on our website: https://www.pvmamyco.org/field-guides

To read more on this topic, follow these links to recent news articles:

https://www.404media.co/ai-generated-mushroom-foraging-books-amazon/

https://www.theguardian.com/technology/2023/sep/01/mushroom-pickers-urged-to-avoid-foraging-books-on-

Walk Schedule Correction:

The walk schedule included a walk listed for Saturday, September 7 at Brooks Woodland Preserve in Petersham, MA. This should read **Saturday, October 7th**! Our apologies for the error. This walk will be led by Jess Evans.

## Upcoming Event:

## Sponsored by NOFA/MASS*


"Join us in our journey of diving deep into the world of compost and mushroom substrate. Throughout the day, we'll be looking into the living world of soil and mycelium and sensing how to **integrate spent mushroom substrate into home and small-scale farm composting systems**. Learn about Woven Roots Farm's no-till, hand-scale, growing, composting, mulching, and harvesting practices, and how mushroom substrate is being incorporated into their farming practices.

Mushroom substrate is an amazing way to increase the bioactivity of your compost, making your soil rich and nutrients more accessible to plants. **We will be looking at compost at all stages: mixing it ourselves, observing a well-inoculated sample, and spreading compost on our beds**. We'll also take a close look at compost throughout the inoculation process **via microscopes**, guiding you to know what to look for on your own. For those that don't have a microscope at home, this is a great chance to learn how to build one using simple materials and a smartphone. DIY kits will be for sale. Afterwards, you'll be able to *sense into* making your own beautiful mushroom compost blend, look for the creatures who make compost happen, and apply this knowledge to your very own beds.

**Cost:** **Location:** Tyringham, MA (Berkshire County)

Sliding Scale: $75/105/135 (includes $15 for lunch)

Full Scholarships available: Apply here

No one will be turned away for lack of funds."
More info here: https://www.nofamass.org/event/building-soil-health-with-mushroom-compost/

***Not a PVMA-sponsored event**