Blue Ridge Mycelium

Edition 3; Winter 2024-25

The Spore Drop

A Letter from the President

Dear BRMS Mushroom People,

It brings joy to my heart to be writing the last Spore Drop of the 2024 season. Last year, we set out to bring changes to BRMS. Together, we've achieved many of our goals and set ourselves up to run a sustainable and successful mushroom club. Our myco-community has grown, and we've increased the amount and quality of our programming. I cannot express enough gratitude for all the folks who have volunteered to make this happen.

I would like to draw special attention to each of our outstanding board members.

Harry Puffenberger has always been an amazing advocate for the club. Now, as our Vice President, his role is formalized and properly appreciated. Harry has done several workshops over the year and tackled some of the membership management responsibilities with me. Simply having him around is a massive morale boost. His enthusiasm for observing all things fungi is contagious and refreshing. Thank you, Harry!

Lina Schneider took on the role of secretary. I have a lot to learn about asking for help, which no doubt makes Lina's role more challenging. Has that slowed her down? NO! Lina has taken it upon herself to help me grow in that area and has made it easy to ask for things. She has been not only productive but also proactive as she prepares for meetings and thinks ahead to keep us efficient and focused on our club. Thank you, Lina!

John Dent has been a superhero to BRMS. Early in 2023, I knew that I had to make some changes for things to become more sustainable. John picked up on this from a few of my posts to the Facebook group and directly asked me what I needed. I told him I thought we should become incorporated and apply for 501c3 status, but I was hesitating because I had never done it myself and I had no treasurer. There was no flinching or hesitation – John immediately volunteered to fill that role, and he has done so flawlessly. He has provided us with amazing guidance that comes from his decades of experience with other foundations. Thank you, John!

It is also appropriate to thank Isaac Hopkins, without whom this newsletter would not have happened. Isaac came to us during a series of dry months with few mushrooms to examine. The fact that he stayed is a testament to how invested he is[1]. The work he does as editor for

[1] Editor's note: the fact that I kept coming back is a testament to the warmth, knowledge, and love of nature that thrives in the BRMS community. That's there even when the mushrooms aren't.

the club has really helped to lighten my burden and add to the many things that BRMS can offer its members, as well as the general mycological community. Thank you, Isaac!

I hope that you all will join me by thanking these individuals in person the next time you see them. We all owe them that and much more. My gratitude reminds me how important it is for us all to be as involved as we possibly can be. Your membership dues are essential for the future of the club, but, more than finances, we need volunteers. Without the amazing folks that banded together for the 2024 Virginia Joint Foray, we would not have had such a successful event! If you volunteered for that event, thank you! Bridget Pleasants put together our website; without her, it would not be as beautiful as it is now. There are more of you all who have stepped forward to pitch in, and I am so very grateful. Keep it coming! We are, right now, in the process of integrating a brand new membership management system which will greatly improve our communication with you all. We hope to use this to reach out to members and provide opportunities for more involvement. Ultimately, this is not my club. It is OUR club!

Looking forward, we have a great year that is already beginning to come into shape. Check out our Upcoming Events! If you have any ideas for additional programing between now and April, please let us know by emailing Lina at BRMSClubSecretary@gmail.com.

I am excited to grow and learn in this coming year with all of you. Let's take this club even deeper into the woods!

Pat Mitchell
Blue Ridge Mycological Society Club President

A pair of puffballs found during the August BRMS foray. *Photo by Isaac Hopkins*

Teaming up with Fungus for Climate Resilience

by Isaac Hopkins

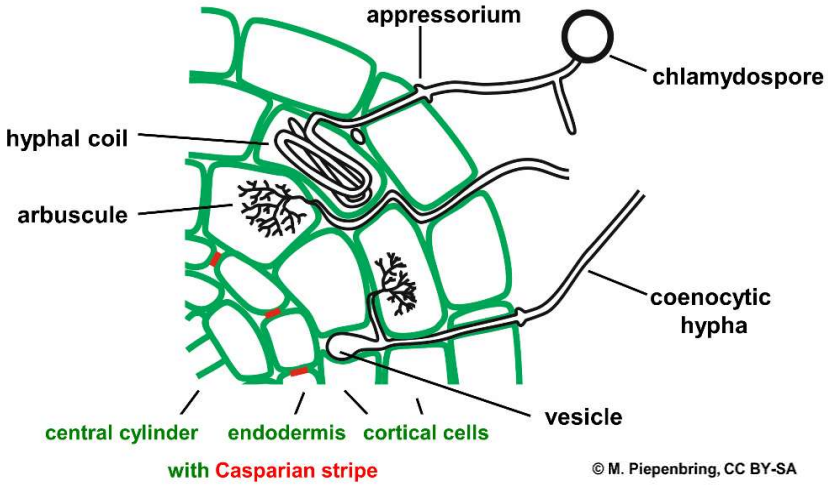
In June 2024, Nature Microbiology published an article that documented the emergence of new fungal pathogens in response to warmer temperatures and drew the alarming conclusion that "global warming can promote the evolution of new fungal pathogens."[1] This came on the heels of the success of The Last of Us, a video-game-turned-TV-show in which climate change has fueled a global fungal pandemic that threatens to wipe out humanity entirely.

Clearly, there's a growing narrative that fungi and climate change are a pair of looming specters, but many scientists think fungi are as likely to be fighting on our side as against us. For example, researchers at North Carolina State University are investigating the possibility of restoring some crops' ability to form close relationships with fungi in order to make them more resilient to stress and more productive in the face of rapidly changing climates.

Among the many captivating secrets of fungi is just how fundamentally important they are to the plant world. They're the invisible partners behind almost all of the charismatic plants that we see and love... and eat. As Earth heats up, weather becomes more extreme, and conventional farming depletes soil fertility, fungi may emerge as crucial partners for humanity, too.

Arbuscular Mycorrhizae

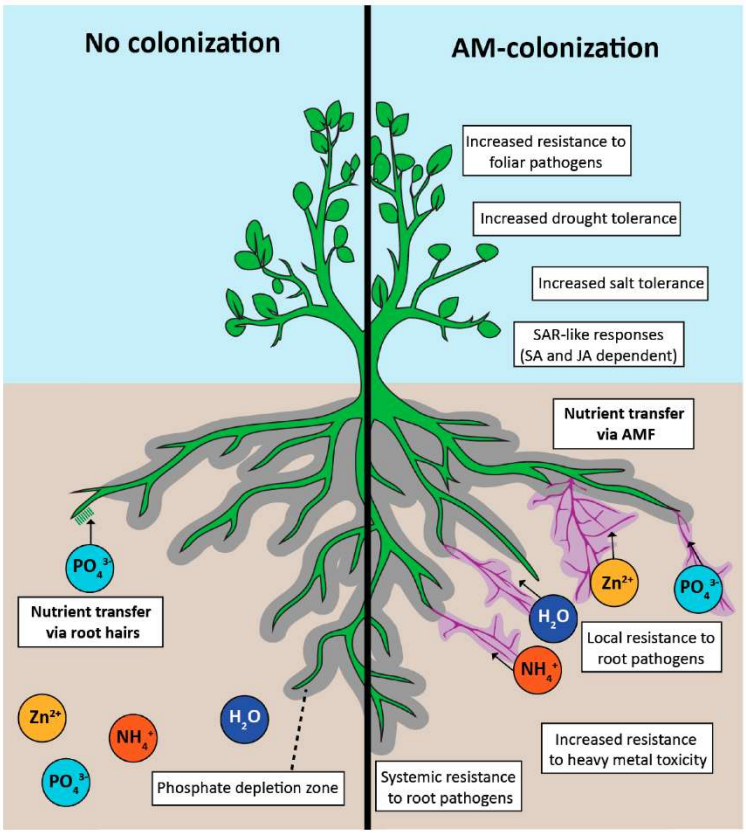
Most plants on Earth, including many crops, form symbiotic mycorrhizal relationships with fungi, relinquishing sugars in return for access to the nutrients and water collected by the mycelial network. Some of these relationships take on an especially intimate character, with fungal strands, or hyphae, growing between and even into the very cells of their host plants, making it easier to trade resources. This relationship is known as arbuscular mycorrhizae.



A diagram of a Glomeromycota arbuscular mycorrhizal relationship as it integrates into the cells of a plant's roots.
Image by Meike Piepenbring through Creative Commons
https://species-id.net/openmedia/Category:Diagrams_by_M._Piepenbring

The first arbuscular mycorrhizae emerged very early in the history of terrestrial plants – at least 450 million years ago – and many paleobotanists think that it predated the move onto land and helped make that transition possible. Today, 70% of plant species still form these relationships. However, some plant groups have lost that capability, including many prominent crop species.

"Most plants can form a symbiotic relationship in their root systems with soil fungi for the mutual benefit of nutrient exchange," says Dr. Heike Sederoff, a professor of plant and microbial biology at NC State. "We are trying to understand why [some] plant groups lost the ability and if we can re-engineer it back in."



The development of arbuscular mycorrhizae, or "AM," confers dozens of documented benefits when compared to plants without them. This diagram is not comprehensive, but highlights some important advantages.
Image by Catherine N. Jacott, Jeremy D. Murray, and Christopher J. Ridout. Creative Commons
https://doi.org/10.3390/agronomy7040075

Dr. Sederoff's team is building on recent findings from researchers around the world that arbuscular mycorrhizae provide enormous benefits to plants.[2] The most obvious benefit is the access that the fungus offers to nutrients (especially phosphorus) and water that it extracts from the soil. However, other benefits for plants are numerous: crops with arbuscular mycorrhizal partners are more resilient to high and low temperatures, drought and flooding, microbial pathogens, and even insect pests. They grow faster and are healthier. For farmers, that usually means greater yields and less pesticide.

But if these collaborations are so beneficial for plants, why have as many as 50 different plant groups lost the ability to establish them at different times? Researchers have identified two possible reasons, and both may be important parts of the puzzle.

First, plants have to spend their resources and energy on their fungal partners, which can get expensive. As much as 30% of a plant's energy may be traded for nutrients and water, which may not be worth it for plants in rich soils and wet climates, where they could get what they needed without arbuscular relationships.

Arbuscules and hyphae in vesicular arbuscular mycorrhizae in a root of Macrotyloma uniflorum.
Image by Rajarshi Rit through Creative Commons
https://commons.wikimedia.org/wiki/File:Vesicular_Arbuscular_Mycorrhizae_40X0031_03.jpg

Second, it's possible that harmful fungal pathogens began to exploit the pathways used by some plants to form arbuscular mycorrhizae, naturally selecting for plants that lost those pathways. After all, allowing a foreign organism past your immune system and directly into your cells requires a great deal of evolutionary "trust" between plants and fungus.

Indeed, one of the hurdles identified by Dr. Sederoff's group will be getting non-mycorrhizal plants to stop viewing mycorrhizal fungi as a threat.

Restoring an Old Capability

Evolutionary biologists believe that the first land plants formed arbuscular mycorrhizae with fungi so early in their evolution that they didn't even have proper root systems yet.[3] Since then, fungus and plants have co-evolved to adapt to many environments and niches, often becoming fully dependent on each other to survive.

The fact that all modern plants had ancestors with this ability makes it a promising target for genetic engineering. Most of the required genetic infrastructure is still there, often broken by just a handful of changes, and those changes are frequently the same across different groups of plants.

Dr. Sederoff's team thinks that this engineering will require five tasks: making the plants compatible with the fungus, getting them to feed the fungus, equipping them to accept nutrients from the fungus, helping them form the correct arbuscular structures, and then setting them up to start and regulate the process successfully.[4]

If that sounds complicated, Dr. Sederoff agrees. "It is quite complex," she admits, "But nowhere near the most complex engineering systems."

Dr. Sederoff emphasizes that the research her team, and others around the world, are doing is still early and foundational. "It is difficult, but provides a lot of information - especially the failures, which are plenty."

The thale cress plant, Arabidopsis thaliana*, was the first plant to have its genome sequenced, and it remains one of the most often studied and manipulated plants by researchers to this day.*

They've demonstrated some proofs of concept, including introducing the regulator gene IPD3 to thale cress (*Arabidopsis thaliana*), a common model plant for research.[5] However, plenty of work remains before a system to restore arbuscular mycorrhizae can even be tested. If it were picked up by a company who fully funded its development, Dr. Sederoff estimates that it would be 5-10 years before a real-world crop could be offered to farmers.

And before that, it would need to be carefully tested. Dr. Sederoff is approaching with caution. "Our lab [is] under very strict regulation and controls. Theoretically, I don't think the gene, IPD3, that we added to *Arabidopsis* could do any harm, but we did show that it has an impact on its pathogen defense system, so it might attract other pathogens. We still know too little to predict those outcomes, and I would be very careful."

However, she points out that the potential ecological risk of this sort of engineering appears to be minimal, since the genes they're introducing are already common among plants. With the clear harm of today's high rates of fertilizer and pesticide use, the probable benefits of developing arbuscular mycorrhizae in more crops will likely dramatically outweigh any risk of harm.

Fungus and Climate Resilience

Arbuscular mycorrhizae have helped plants and fungus weather many evolutionary challenges together. Human-induced climate change will likely put that relationship to the test once again, and the outcome will have an enormous impact on humanity's ability to survive and thrive on a rapidly warming planet.

The effort to restore arbuscular mycorrhizae in certain plants is only one example of the many ways in which fungus may help the planet and humanity cope. Researchers have been exploring the use of fungi to generate biopesticides to combat pathogens in agriculture,[6] improve food security and biocultural conservation with wild mushrooms,[7] sequester carbon in soils,[8] and improve our forest management techniques and decisions,[9] among many other avenues.

Many of these opportunities to partner with fungus have implications for agriculture, which is already feeling the effects of climate change.

"One of the drawbacks of intensive breeding is actually that many ancient resilience traits (especially pathogen resistances) have been lost in modern crop lines because breeding

focused on yield, yield, yield," says Dr. Sederoff. This makes them especially vulnerable to climate change.

The research is beginning to paint a picture: the farmers of tomorrow, informed by science and equipped with modern tools, such as targeted genetic engineering, should adopt a broader, more collaborative ecological approach to farming. To illustrate this principle, consider that fields that have been heavily fertilized with macronutrients (e.g., N, P, and K) have far less mycelial and mycorrhizal development than fields without fertilizer or with slow-release organic fertilizers. "As mycorrhizae must be established before stresses occur in order to provide a benefit, growth in highly fertilized soils that repress mycorrhization limits the extent to which [arbuscular mycorrhizae] can provide its unique defensive benefits to these stresses."[10]

In short, farmers should get used to working *with* fungi instead of against them, protecting the ecology of their soil so their crops can trade with it, and trusting it to support them in return.

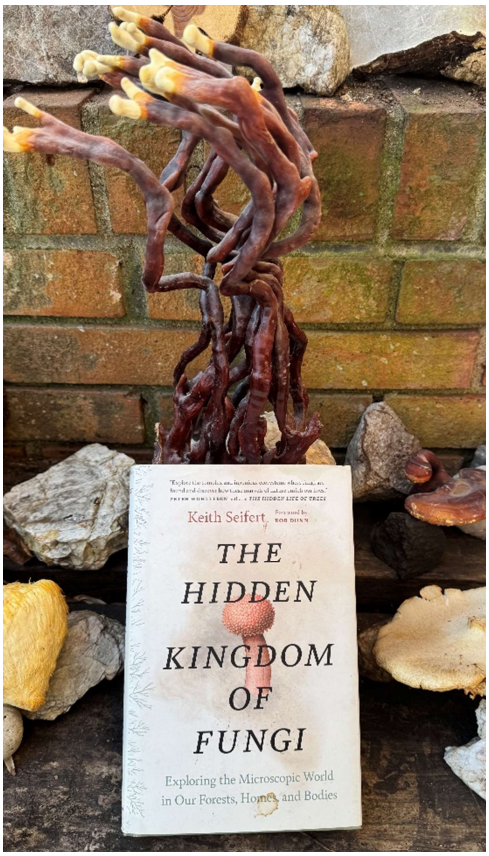
[1] Huang et al., "Pan-Drug Resistance and Hypervirulence in a Human Fungal Pathogen Are Enabled by Mutagenesis Induced by Mammalian Body Temperature."
[2] Berruti et al., "Arbuscular Mycorrhizal Fungi as Natural Biofertilizers."
[3] Brundrett, "Coevolution of Roots and Mycorrhizas of Land Plants."
[4] Hornstein and Sederoff, "Back to the Future."
[5] Hornstein et al., "Re-Engineering a Lost Trait."
[6] Xu et al., "Antifungal Secondary Metabolites Produced by the Fungal Endophytes."
[7] Pérez-Moreno et al., "Edible Mycorrhizal Fungi of the World."
[8] Emilia Hannula and Morriën, "Will Fungi Solve the Carbon Dilemma?"
[9] Tomao et al., "How Does Forest Management Affect Fungal Diversity and Community Composition?"
[10] Hornstein, "Genetic Engineering to Retrace the Evolutionary Loss of Arbuscular Mycorrhizae, with Implications for Sustainable Agriculture."

Book Review

The Hidden Kingdom of Fungi

Exploring the Microscopic World in Our Forests, Homes, and Bodies

by Glen Mitchell



I started reading Keith Seifert's The Hidden Kingdom of Fungi after it was a suggested read for my wife. In my mind, fungi equals mushrooms. I have family members who are into mushrooms. I eat mushrooms. How could I go wrong?

Wow! This book totally fascinated me by opening a whole world that I have lived in, but for seventy years I had been oblivious to. The world of fungi is so much more than mushrooms! The part about the leaf-cutting ants, the section about penicillin, and what fungi have to do with farming – and pretty much every part of our existence – captured my full attention. I have to admit that the scientific names were over my head, but by the end of the book, I was starting to catch on.

This book went from something useful to pass the time to one that I could not put down. If you have an ounce of curiosity or adventure, then you have to read The Hidden Kingdom of Fungi by Keith Seifert.

Report from the Highlands Mycological Course

by Grace Newton

At the end of last summer, I had the opportunity to attend the 2024 Highlands Mycological Course. It is held each year in the beautiful mountainous town of Highlands, NC, at the Highlands Biological Station. One of the facility's very early researchers, and the second director, was the well-known botanist and mycologist William Coker.

The course is limited to 12 students, and other BRMS members have participated in previous years. It is a week-long immersive course taught, designed, and hosted by Arleen and Alan Bessette. They have a strong mission to give back to the mycology community, and teaching this annual course is one of the many ways they do so. They develop the content of the course yearly depending on the participants' experience, and our group had a wide range.

There were daily forays in addition to classroom and laboratory work. Mushrooms collected on forays were identified, dried, cataloged, and tallied. Our group, being very competitive, was very motivated to identify more species of mushrooms than previous highland mycology participants had, despite the fact that the weather was suboptimal, or dry. Indeed, our group exceeded previous records by identifying 636 species during the week!

Most of the group participated, making and having evening meals together. Many of these meals were mushroom themed.

More experienced members of the group were very helpful in assisting those of us who were less experienced.

It was a delight to be surrounded by mushroom enthusiasts in a beautiful setting and to be taught by the Bessette team, who both excel in teaching and are exceptionally knowledgeable.

Remembering Clark

by Pat Mitchell

The Blue Ridge Mycological Society is reeling from the loss a club member in early December, as Clark Bechtle, 32, succumbed to a sudden and severe illness. A beautiful obituary can be found here. It highlights how great of a human he was and provides a little bit about his background. The BRMS board and I thought it would be fitting to project our own thoughts about Clark into the mycological ether. He was not just a club member but a friend to many of us.

Clark proudly displays his "Find of the Day" and the prize it earned him at the July foray this year. Photo by Pat Mitchell

Clark joined our club in the fall of 2022. From the very beginning I saw that he was engaged and happy to share his knowledge. Even at the first meeting he attended we spent a long time connecting in the parking lot, sharing experiences of both the hard and happy things of life. And, of course, fungi. This was not just my experience – several of us got to share these moments with Clark. He was so great at talking and connecting with people that I noticed he became an unofficial greeter for our club. One of his strengths was stepping in to meet a need before the need was communicated. His extensive experience in non-profit organizations gave him the confidence and competence to do this. When it was time for BRMS to grow and evolve, Clark coached me many times during our parking lot conversations. He provided great insight and suggestions. One thing that he will forever be remembered for was that he took it upon himself to count heads before a foray began. He would keep tabs on the number of people on the foray to ensure that everyone returned safely.

Clark (left) was known for his warmth and hospitality toward new foray participants, such as Irene Dorrier and Fred Schneider (right). Photo by Nicole Sawczyszyn

I really enjoyed experiencing Clark's love of fungi in the short two years that I knew him. I was so fortunate to watch his interests evolve and take shape as he grew, not only in mycology but also as a person. What started as a hobby focused on foraging for food blossomed into a diverse appreciation of how fungi operate in a forest ecosystem. He began to be intrigued with mycology as a field

of science, specifically documenting and properly collecting specimens for identification and vouchering. This year was a big one for his journey into mycology. Last winter, he attended a small volunteer retreat that we organized to rally folks together to brainstorm ideas of how to improve and expand our club's impact. He not only participated but continually brought those topics back to my attention every time I saw him. He also broke from the comforts of our monthly club meetings and attended two out-of-state mushroom events: the Field to Lab event and the West Virginia Mushroom Foray, both hosted by our mycelial family from the West Virginia Mushroom Club. I had the privilege of attending both of those with him.

In addition, he became more motivated than ever to pour energy into our club's infrastructure and organization. The new membership management system we recently began setting up was one of his recommendations and he was planning to help us launch it. As if that was not enough, Clark had also joined the board of directors for the Quarry Gardens, which has been the home base for BRMS since its inception in 2018, and he had planned to become more involved with them using his background in grants and non-profit work.

Clark displays some of his enthusiasm for mushrooms while gathering folks together for walk number 10 at the 2024 West Virginia Mushroom Foray. Photo by Nicole Sawczyszyn

Clark made it clear that he really loved and wanted great things for BRMS. He backed up those feelings with actions: showing up, talking to newcomers, counting heads, inspiring board members, and enveloping us in both goofiness and kindness.

Clark was such a special member of our community. We will never fill the void that he left, but we owe it to him to carry on his legacy. As a board, we would like to honor Clark with some combination of a physical space or thing, a single or recurring event or foray, and some type of scholarship that would empower BRMS members to attend events like the ones that inspired Clark this summer. We would appreciate feedback on this in the form of an email sent to BRMSClub@gmail.com.

If you haven't already, please visit Clark's obituary. If you have any stories or memories of him, please consider sharing them through the "memories" link at the bottom. And lastly, Clark's family has asked that any financial donations should be made to the Quarry Gardens at Schuyler in his honor. You can make your donation through their website and leave it in his name.

Club Highlights

Monthly Club Meetings

May – May is always a fun month at BRMS. It's the first month of the year where we start to find more fungal diversity. Our May club meeting did not disappoint! To start, Pat got to knock a bucket list mushroom off his list after one of the club members found *Gliophorus psittacinus*, the parrot wax cap. We found two other notable fungi: *Pseudocolus fusiformis*, the stinky squid, is a uniquely shaped mushroom with few lookalikes; and a unique entomopathogenic fungus growing out of a mud dauber nest. Because female mud daubers pack their nests with paralyzed spiders, it is likely that the fungus is a species of *Gibellula*. The process of a parasitic organism being parasitized is known as hyperparasitism.

Left: A hyperparasitic fungal infection in a mud dauber nest, likely a species of Gibellula. *Right: A parrot wax cap,* Gliophorus psittacinus. Photos by Pat Mitchell

June – We expanded our horizons in June by moving our monthly meeting to Albemarle Cider Works. We explored the mountainside above the orchards and returned to the outdoor seating area to discuss our finds. Most people ignored us, but our public display of mycology interested some of the other patrons and could be a form of outreach and education.

Old Man of the Ants? Photo by Isaac Hopkins

John Dent, club treasurer, shows off a mycological treasure at the June foray at Albemarle Cider Works. Photo by Pat Mitchell

July – The summers in the last few years have been particularly dry. This always presents a challenge for us mushroom people. As dry as it was this July, we did manage to find some beautiful fungi at this particular club meeting. *Boletus separans* showed up where it always does for us. And we also got to observe some stunning displays of *Hygrophoropsis aurantiaca.*

Left: A reliable Boletus separans. *Right:* Hygrophoropsis aurantiaca, *the false chanterelle, is often confused with true chanterelles and is sometimes considered poisonous. Photos by Pat Mitchell*

August – August provided a mountain of mushrooms, including a bounty of boletes. Our collection tables were stuffed to the gills with a rainbow of fungi of all sorts.

A beautiful, hand-crafted basket filled with the range of fungal colors that we found on our August foray. Photo by Isaac Hopkins

October – Since the Joint Foray replaced our September meeting, coming back home to the Quarry Gardens was lovely. We spotted our faithful lion's mane, who shows up every fall from the same two trees. In addition, we got to meet *Amanita persicina* as well as H*ygrophorus russula. A. persicina* is one of the east coast cousins of the classic "Mario mushroom," *Amanita muscaria.* Meanwhile, *H. russula* looks so similar in person to a russula that the species was named for that similarity.

Left: An old friend, a lion's mane that has returned every fall for years. Right: A new friend, a Hygrophorus russula *pretending to be an actual russula. Photos by Pat Mitchell*

November – We began this meeting by building a stone fire pit for the Quarry Gardens. After our foray, we surrounded the fire pit with our mushroom finds and then hung out in the rain next to the warm fire.

November's foray attendees inaugurate the new firepit that they built for the Quarry Gardens, complete with fungal decorations. *Photo by Lina Schneider*

December – To wrap up our 2024 season, we decided to have a potluck for our December club meeting. We had quite a diverse assortment of goodies to share. We enjoyed a brief walk around the quarry and even got to introduce a few new folks to the mushroom family! Let's do this again next year!

Left: December attendees enjoyed a holiday potluck at the Quarry Gardens pavilion.

Right: proof that Photogenic mushrooms can be found year-round, including in December.
Photos by Pat Mitchell

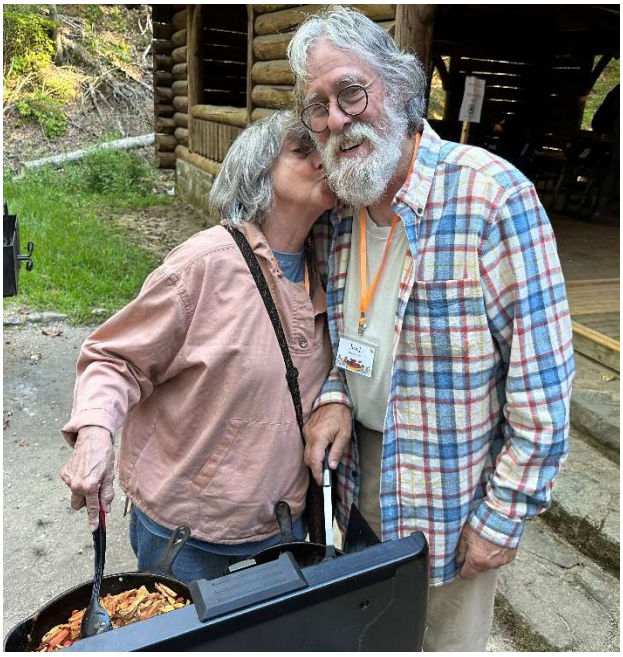
Special Events

Second Annual Virginia Joint Foray

The second annual Virginia Joint Foray was held Sept. 6-8, 2024. This year, the Central Appalachian Mycological Society joined BRMS and the New River Valley Mushroom Club as co-hosts for the event. We returned to Cave Mountain Lake Recreation Area near Natural Bridge, VA, for three days of mycological education and adventure. Total attendance for the foray was 64.

We enjoyed outstanding presentations. We learned about tuckahoes from Charlie Aller, and returning speaker Brett Smith illuminated the world of carnivorous fungi. The keynote presentation from Adam Boring got us up to date on recent discoveries about burn morels in the eastern US.

Participants split into four groups for the main foray walks, visiting a range of different ecosystems and microclimates in search of



Above: Jim Jenkins and Debee van Wagner pose while preparing chicken of the woods for attendees of the Foray.

Below: Adam Boring educates the room about some interesting finds during the table talk portion of the weekend.
Photos by Pat Mitchell

mushrooms. Despite the unfavorably dry weather, the iNaturalist project associated with the foray cataloged 208 finds, representing 106 species, several of which stumped or fascinated our identifiers enough to have them genetically sequenced. Many finds weren't added to the project, so the true numbers were even larger!

This example of the striking Laccaria ochropurpurea *was just one of many nice finds from the 2024 Virginia Joint Foray. Photo by Isaac Hopkins*

Everyone also had opportunities to make spore print art with Lina Schneider and mushroom cultivation buckets with Harry Puffenberger, and Pat Mitchell led a UV light walk at night. The joint foray concluded with a traditional mushroom composting ceremony at the dam. For many returning foray attendees, the highlight of the weekend was the lack of holes in the newly replaced shelter roof. However, Kathy Uricek's pancakes gave this a run for its money.

BRMS leadership would like to extend an enormous "thank you" to all of the many people who volunteered their time and effort to make this foray a great success!

Foray participants on Saturday before heading out on the four walks. We enjoyed the recently repaired shelter roof, which no longer had large holes in it. Photo by Pat Mitchell

Field to Lab Event

The lab at provided an excellent space in which to learn proper techniques for mycological microscopy and sample preparation. Photo by Pat Mitchell

Field to Lab (F2L) was a very special event put on by the West Virginia Mushroom Club. This unique course took a small group of participants, nine of whom were BRMS club members, out to WV to learn from two fungal giants: Dr. Amy Honan and Dr. Shannon Nix. These experts brought their own unique styles together for an incredible learning opportunity. In addition to some excellent presentations, the class went into the field to document and collect fungi. We took our findings to the lab, where we were taught proper mycology-specific microscopy and how to prepare our findings for herbarium collections and genetic sequencing.

As we grieve the loss of club member Clark Bechtle, we should remember the profound impact that this event had on him, especially in regards to the importance of mycological citizen science. Clark began to dream big after this event, and we owe it to him to carry on in that spirit.

Newly minted field-to-lab mycology citizen scientists. Photo by Pat Mitchell

Pollinator Day 2024

On June 22, 2024, BRMS once again sent a team to run a booth and lead a mushroom walk for Scottsville's Pollinator Day. While the extreme heat and dry conditions put a bit of a damper on the event, those who braved the weather were treated to great conversation and mycological learning.

West Virginia Mushroom Foray

Over the past few years, BRMS has really bumped up our attendance for this marvelous regional event. Put on by one of our lovely sister clubs, the West Virginia Mushroom Club does a great job of making this one feel like a mushroom family reunion.

BRMS president Pat Mitchell led one of the walks at this year's West Virginia Mushroom Foray!
Photo by Pat Mitchell (that guy does everything)

If you would like to dip your toes into mycology, this is hands-down the best event to attend in our area. It has a great range of programming that serves both beginners and experts alike. We rented several cabins at Blackwater Falls State Park to offer our club members for their lodging for the event. We will likely do that again in 2025, so keep an eye out for that! Last year, the rental was about $250 per room in the cabin for the entire weekend. We will announce this as soon as WVMF dates are announced.

NAMA Camp

There were a few BRMS club members at this event held in the state of Washington. A friend of the club wrote a very nice article about the event on page 10 of the Oct-Nov edition of the Mycophile Quarterly.

Upcoming Events

Club Meeting and Quarry Garden Clean-Up

January 12
The Quarry Gardens at Schuyler

To show our gratitude to the Quarry Gardens for being such a generous host for many of our Club Meetings, we will continue last year's tradition of giving back by helping maintain the space. Come ready to help with any projects they want us to tackle, whether that's removing trash from the quarry or debris from the native plant beds. Pat will likely be rappelling over the edge of the quarry – you won't want to miss it! Come join the fun!

Mushroom Inoculation Workshops

February 9

We're excited to announce two upcoming mushroom cultivation workshops: one in Charlottesville and one in Lynchburg! Club members always get first access to events.

Brandon of Hill City Mushrooms will lead an in-depth workshop in Lynchburg that explores various aspects of indoor mushroom cultivation. Topics will include grain preparation, substrate preparation, laminar flow hood usage and sterile procedures, autoclaves and sterilizing media, and agar and liquid culture work.

Each participant will also receive a pre-inoculated 5-lb block to take home, providing a hands-on opportunity to continue learning and growing after the workshop.

Price to attend: $25/person or $20/person for groups.

Harry Puffenburger will lead a low-tech workshop in Charlottesville using pasteurized straw to grow oyster mushrooms in buckets.

Price to attend: $15/person.

Basket Weaving Workshop

February 16
The Quarry Gardens at Schuyler

The amazing Karen Milnes will be returning to teach us how to make a basket that you can use to collect mushrooms! This workshop will feature a new basket design, so it should be great even if you've made a basket with her before. This is an all-day paid event; registration will open soon. All the materials will be provided, and she'll coach you through each step of the process. If you've made a basket with Karen, you know what a lovely experience it is, and we know you're itching to add a new, stylish design to your foraging ensemble.

Britt Bunyard Talk

March 9
Ivy Creek Natural Area

We're thrilled to welcome back mycologist Britt Bunyard, author of Amanitas of North America, to give a talk at Ivy Creek. This time, he'll focus on regionally significant amanitas. This will be a great time to have him sign your copy of his book or to buy a copy if you don't have one yet!

Mushroom Melodies

Amanitaville

Ode to the 2022 Foraging Season

A parody of "Margaritaville"
Original song by Jimmy Buffet
Lyrics modified by The De-Composers – Michelle Kisliuk and Claudette Beit-Aharon

Pushing the leaves back
As we all bushwhack
All of the foragers crunching the soil
Feeling that sun bake
Looking for Beefsteak
Shrimp of the Woods are beginning to spoil

Searching away again in Amanitaville
Hunting for some – late Chanterelles
Some people claim
That there's a drought here to blame,
But I know – it could be my fault

Foraged all season
Don't know the reason
Nothing to show but a tick friend or two….
They were real cuties
Urgent Care beauties
When we got hitched I still don't have a clue

Wasting some time right here in Amanitaville
Looking for a – last Hen of the Woods
Some people claim
That there's a drought here to blame,
But I know – well it might be my fault

Ponder my folly
'neath American Holly,
Feeling so parched, gonna cruise on back home
Turkey Tail in the blender
And soon it will render
That fungal concoction that helps me hang on

Biding our time again in Amanitaville
Hoping for a – Lion's Mane or two,
Bugs in our hair
But we're with friends in fresh air,
And we know – there's always next year.

Strumming my 4-string
Dreaming of next spring
Morels in the pan – with onions and oil (yum!)
We'll get through off-season
With mushroom books teasin'
Though photos of Stinkhorns make us recoil (yuck!)

Waiting till spring comes back to Amanitaville
Brushing up on – mycelial lore
Stranger than fiction, it's become an addiction
Yeah we know, we could quit any time!
But we won't, 'cause shrooms are sublime!

Little Spores

You all remember Herschel? Well, let's meet Herschel's cousin, Myrtle. She's a box turtle. She goes by Myrtle the Box Turtle. Thank you to Ida for suggesting a great name! Now that it's winter, Myrtle is currently brumating (which is similar to hibernating, but for cold-blooded animals). She left us a note saying that once it warms up in the spring, Myrtle plans on hosting some adventures in the woods, and she'd love to meet you!

Myrtle wants you to know a little more about her. Sometimes she gets a little nervous and pulls her head and legs inside her shell until she feels safe again, but usually she's very adventurous. Myrtle may not be fast, but she does like to roam–even as much as 55 yards a day![2] She loves eating lots of different things, including insects, fish, frogs, slugs, plants, and mushrooms! Maybe we'll be able to convince her to tell us what her favorite mushroom is.

While we wait to meet Myrtle the Box Turtle, she has a scavenger hunt for you to complete. These are some of her favorite things in nature. See if you can find them before she warms back up this spring. Can you find:

- An earthworm
- A muddy spot
- A hole in a stump or log
- Something yellow (her favorite color)
- Some moss
- A mushroom

Keep it cool, like Myrtle, this winter!

Make sure you read Little Spores in the future for more updates!

Can you help us find Chestnut the Ant?

This is Chestnut. She's a carpenter ant. She likes mushrooms, so she tends to hang out in this newsletter. In fact, I bet you'll find her somewhere in every edition of Blue Ridge Mycelium. If you find her in this edition and let us know where she is, you'll earn a sticker at the next mushroom walk! You can email brmsclubsecretary@gmail.com when you find her!

[2] Smithsonian, "Eastern Box Turtle."

The Blue Ridge Mycological Society is a 501(c)(3) non-profit.

Our goal is to learn about fungus and share that knowledge as a way of sparking interest in others.

Society Officers

President - Pat Mitchell
Vice President - Harry Puffenberger
Treasurer - John Dent
Secretary - Lina Schneider

Editor - Isaac Hopkins

Membership

An annual membership in the Blue Ridge Mycological Society is available to anyone for $20 per individual (or $30 per family).

Sign up for BRMS membership here.

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