

Spores Illustrated

Winter 2015-2016

Spores Illustrated is the newsletter of COMA, the Connecticut-Westchester Mycological Association.

The Year's Best Log

The students of Mushroom University celebrated Columbus Day by having our last walk with Gary Lincoff at Fahnestock State Park. While driving Gary

to the park from the railroad station, I shared a thought that it would be fun to do a whole class just studying the fungi on one log. We didn't make a plan to do this, but this is what some of us actually did on that magical fall day.

At the start of the walk we made a plan to circle Pelton Pond. As usual I was one of the laggards with a small group bringing up the rear. Before we even arrived at the beginning of the pond we saw a very large, very decomposed log. Its cut end, which was facing us, was covered with bright orange, glossy dots - a neon sign beckoning us to come see. For our photographer wizards, Boris Martinov and Zaac Chaves, it was a photogenic prize of glistening orange on thick stalks: developing sporangia of *Trichia* or *Hemitrichia*, common slime molds, that require full maturity to identify to species.

There were six of us, Gary, Boris, Zaac, Jen Keane, Vincent Keane, and me, who were engrossed with the slime mold when all of a sudden someone cried out, "here's another," and then there was "another," and "another," and "another". It was the log that kept giving. It was soon clear that there was enough here to keep us busy for hours and we would not get to the lake that day. In addition to several slime molds, we saw ascomycetes, coral fungi, one crust fungus, polypores, and gilled mushrooms - at least fifteen species were discovered on that log.

It was our good luck to have some of COMA's wonderful photographic talents with us to capture the beauty and diversity of so much life on that one old log. I wouldn't be surprised to find more on that same log next year. - Rena Wertzler



The slime that started it all. Photo by Boris Martinov

[Additional photos of fungi and slime molds found on The Year's Best Log appear throughout this issue.]

Message from the President

At this time of year, most mycophiles in the Northeast are in full fungi withdrawal, and are ruefully regarding their favorite mushroom-collecting baskets, now resting in some out-of-the-way place, where they have been relegated to long-term parking until spring. By March, many of us experience the well-known phenomenon often called March Mushroom Madness— and

in fact, our friends at CVMS hold a terrific event of the same name at that time of year (appropriately referred to by the acronym "MMM") to celebrate their collective insanity.

Take heart friends— spring will be here again before you know it, and your all-time favorite mushroom club will have some great things in store for you in 2016! Now is when some of the committees responsible for club events put the blocks in place that will allow the magic behind COMA's wonderful programs to come to fruition throughout the course of the season.

I dare say that everyone who becomes a member of COMA does so because they like to have fun— whether it involves the simple pleasures of the great outdoors, the camaraderie, the learning, the photography, the weekend hunts, the mycophagy, programs, or whatever— but I'll tell you where the real fun is: in helping it all become reality. Without a dedicated core group, none of this happens.



Multiclavula mucida from 'the log'. Photo by Boris Martinov

The Programs Committee will be scheduling several fun and informative evening programs, and they are always on the lookout for interesting speakers, so if anyone has thoughts or suggestions, please let me know. In a few months, you will be receiving a schedule of weekend walks, but right now, we're looking for members who may be interested in leading a walk (or two) at a time of their convenience. (Please contact Tom Cascione: tcascione@aol.com) I know that the crown jewel of our activities, the Clark Rogerson Foray, seems to simply unfold like a beautiful flower for four days each year, but I assure you that (although it appears otherwise) this does not happen by magic. The Foray Committee is very receptive of members who want to be "part of the action" in what is widely considered to be one of the very best mycological forays in the country, and would welcome anyone who would like to make a contribution to the cause by helping with any aspect of the event, from planning to finish, or anything in-between. Have suggestions for certain things that you would like to see happen, or ideas (big or small) for improving any aspect of our little mycological community? Please don't keep them to yourself. Board meetings are open to anyone who wants to participate, and are a great place to learn about your club's inner workings. In the past few years, we've found it easy to have Board meetings one hour before some of the scheduled evening programs at the Friend's Meetinghouse in Purchase, NY (near the Westchester Airport), and we will be sure to announce these meetings well in advance. Anyone wishing to present a new idea, or address a particular issue is welcome to do so as time permits. Please feel free to contact me, either by email (jlbco@hotmail.com) or phone (203-544-9622). – Joe Brandt

Vignettes from the 2015 Rogerson Foray

Wilcox County Park

We climbed up a grassy meadow, with the smell of wild thyme. We walked on the low growing herbs – stopping to pick some of the fragrant purple flowers to crush and smell. Although the dry woods lacked an abundance of mushrooms, our group reveled in other treasures that we encountered. An old log sported many burls. Karen likened them to the Ferengi's ears (*a reference for Star Trek fans – ed.*); I agreed wholeheartedly. We passed a tree with a rectangular hole sculpted in a trunk; likely made by a woodpecker. Marie commented that when she was a child in Ireland, she and her friends believed such spaces were places for the fairies to congregate and live, and that they sometimes left coins in those holes. When the children searched such holes they invariably did find the coveted sixpence in them. Marie explained to me this was the doing of the local farmworkers who placed the sixpence in the trees for the children's enchantment. Listening to Marie Thorpe and her husband Larry speak I felt transported back in time and to another country.



Red chickweed – photo by juandev on Wikimedia.org

Lou Tartaro uncovered a beautiful white rock, we examined it and decided it was quartz. He found another round stone to which we both felt drawn; I took it home for my garden, courtesy of Lou.

A tiny flash of orange caught my eye - a chickweed. Orange petals, yellow stamens, purple in the center and green sepals. So tiny that we needed a loupe to fully appreciate its beauty. We did miss Carol Levine who couldn't make it to the Foray this year....

Back at my room at Camp Eisenberg, I ran into my next door neighbor, Roz Lowen, who had just finished watering the baskets of flowers that hung by the rafters on the porch. They perked up nicely and stayed lush the entire weekend; thanks Roz.

Appalachian Trail on Sunday

Bill Yule led a small troupe of us over a long bridge traversing a swamp and set us down into what felt to me to be a magical forest. He patiently taught us many things, including collecting etiquette after we found a patch of black trumpets. He said that if one wishes to collect in an area where one person has discovered

38th CLARK ROGERSON FORAY – September 22-25

Save the date! This year's Rogerson foray from Thursday, September 22 through Sunday, September 25 features **Chief Mycologists Alan and Arleen Bessette!** (Don't worry Gary Lincoff fans! Even though Gary can't make it to the foray this year, he will be leading this year's Mushroom University – see page 7.) Once again we'll be at Camp Eisenberg in Copake, NY. The past two, dry summers still yielded over 300 species each – with the foray a couple weeks later this year, we expect an even more productive mushroom yield.



a patch, one should ask permission to collect in that area. Seems so logical, but worth explicitly stating, since in the excitement of the hunt, one could easily breach protocol.

I took a video of Bill demonstrating with his knife how to cut the underside of a bolete: *Boletus pallidus*. He said that there is no other bolete that bruises exactly that color: greyish, greenish blue as seen in the sun. He said that Michael Kuo in his 100 Edible Mushrooms book states that this is his favorite edible mushroom. And we found it on the Appalachian Trail!

Carol McDonald was the most energetic and prolific mushroom hunter. Although we found many treasures including lots of *Boletus bicolor*, a whoop from Allan McLeod brought us to a dramatic, bright orange fruiting of *Omphalotus illudens*, the Jack-o-lantern mushroom. It appeared to glow and pulse with color from its clustered caps. Everyone took turns posing with the Jacks.

Back at the camp, recovering from the bounty after the pot luck, I found myself chatting with Carol and Allan McLeod. After a while, Carol excused herself for a minute. When she was gone for what seemed to be a very long time, Allan and I became concerned and went on a search for her in the kitchen. Turns out that our hosts had donated a crate of red peppers and Lou had decided to roast them for a side dish for mycophagy the following day. The peppers had emerged from the oven with seeds inside and skin intact, so Lou had recruited Carol to help. Allan and I washed our hands and the four of us, hands coated with olive oil, de-seeded the peppers and pulled off the skins.

Then Lou excused himself to make the vinaigrette, so we continued along without him. But he had brought along some of his home grown garlic and got involved in long conversations about how to grow it and gave away a few heads to those present. Meanwhile, we kept slogging away, trying valiantly to remember to put the skin and seeds in the garbage and the slippery red flesh in the basin while the vinaigrette remained unmade. Eventually, I decided that Lou had pulled a Tom Sawyer on us, although working with the peppers was more sensual than white washing a fence. Lou must have made the vinaigrette at some point – the peppers were a delicious punctuation to the mycophagy table the next day. –Diane Alden



Introduction to Mycology: A Mycophile's Journey into the World of Science

J.J. Murphy

On day one, students in Dr. Thomas J. Volk's mycology class stood around a lab table sorting an array of fungi by color, shape, texture, and later sorting gilled, pored and toothed fungi. I stood back and watched. It would be my only day of leisure in Biology 412 at the University of Wisconsin, La Crosse. I earned my M.A. in Journalism back in the 1970s, but fall semester 2015 took me on a journey into the lives of fungi which I was literally not prepared to take.



Simocybe centunculus on 'the log'. Photo by Zaac Chaves.

Thanks to NYMS and COMA I had familiarity with some vocabulary - saphrophytic, mycorrhizal, hyphae, mycelia. However, I had to learn other biological vocabulary already familiar to my classmates – haploid, diploid, plasmogamy, karyogamy. I've never noticed anyone discussing the ploidy level of the fungi we find during mushroom walks or ID sessions. Tom wants me to think (in Latin) instead of reaching for reference material, but I still need my vocabulary flash cards to sort out cystidia, conidia, capillitium and lists of other similar sounding terms. I had to grasp the biological concepts my classmates have worked with for two years, like taxonomic rank (Domain, Kingdom, Phylum, Class, Order, Family, Genus, Species (and their mycological suffixes)). I compared

flash cards from an alumnus who took Dr. Volk's class in 2006 to my own flash cards. In 2006 there were four phyla in the fungi kingdom and slime molds were still considered fungi by some.

The differences showed me just how quickly things change and how much we still have to discover about fungi. Taxonomy is in flux, so I had to remember that Dr. Volk wanted us to study the old Ascomycota classification system, even though we were also introduced to the newest one during lecture. And I had to remember that *Penicillium* sp and *Aspergillus* sp are classified as both Ascomycota and Deuteromycetes, which is why Dr. Volk repeated, "Alternate classification scheme. Write that down." at least three times during one lecture. Using left over paper that had covered lab tables in past years, I drew charts for the Basidiomycota and the Ascomycota, which hung in the hallway outside the graduate student office. When I got to the remaining phyla, I could not figure out how to draw any kind of chart or relationships. That paper remained blank for the rest of the semester

Over the next four months in addition to collecting fungi, sorting through keys, poring over reference books, and making our own slides, we would look at prepared slides, study life-cycle charts and study award-winning posters made by former students. Part of our homework was to prepare a collection of

twenty specimens. Tom had to see each fresh specimen to confirm our identification and we had to write a description of the fungus, provide a spore print if possible, describe and draw the spores, and explain why the fungus belongs in that particular genus. I'm still amazed at how little tissue is necessary to make a slide. I need a lot more microscope time to do this well, but at least I got a sound start.

Back in the 1970s faculty used black boards, overhead projectors and handouts to communicate. Students used paper and pencil or pen to take notes. In the 21st Century, lectures are made of up of PowerPoint images and students use electronic devices to take notes, make flash cards and as reference books. We viewed nearly 1200 PowerPoint files slides (1191 to be exact) over the semester. That's more material that I can even try to memorize, let alone understand in just 12 weeks. I have everything saved to a thumb drive and continue to work my way through the material.



Clavulinopsis corniculata on 'the log'. Photo by Boris Martinov.



Our photographers, Zaac Chaves and Boris Martinov, documenting 'the log'.
Photo by Rena Wertzler

Dr. Volk expects students to comprehend the material, not simply memorize it. I'm a long way from comprehension. It took me over four weeks just to understand how fungi digest their food. When I finally did "get it," I approached Tom, standing up straight and said, "I am a hypha. The vesicles are transporting exoenzymes to my tip," as I moved my arm from foot to head, tapping my head. "And the exoenzymes go into the substrate, breaking down the material, which I then absorb." "That wasn't so hard," he said.

Dr. Volk understands how to get an overworked student's affection. We enjoyed edible mushrooms as we began the study of each phylum. In addition to being a brilliant scientist, an inspiring teacher, and a great cook, Tom's got a great sense of humor. His flagellum dance performance made the mushrooms and slime molds most of us overlook more memorable.

I am grateful to Tom for giving me keys to the science building, the grad student office, the lab and his vast library. Many of those library books are out of print. Some are even out of date. But the two volume North American Polypores by Gilbertson and Ryvardeen had drawings of hyphal structure I have not found in any Internet search. It's one thing to know that a hypha is a filament-like structure. It's quite another to look at drawings of the different types of hyphae and understand how they create the fungal structure. I stared at those wiggly lines for weeks and tried to match those images to what I saw under the microscope.

I'm under a mycological spell. The more I learn, the more I want to learn. Dr. Volk is demanding, but he is also compassionate. I did well in my homework assignments, but poorly on the tests. There is a lot I do not understand – yet. I have a very accurate map of what I need to learn, along with a deep awareness that what I learn today will very likely not be true in just a few years. – *J.J. Murphy*

Mushroom University 2016

Gary Lincoff, noted mycologist and author of The Audubon Society Field Guide to North American Mushrooms will again be our instructor. His description of this year's program follows:

"COMA's Mushroom University 2016 will be a little more challenging and, I hope, mouth-watering, than in years past. The academic part of this year's program will be split between studying the Ascomycetes and the Basidiomycetes. The Ascomycetes that we'll explore are the Morels (of course) & their relatives, and the Carbon Fungi (you know, all the black spots & dots on wood and leaves). But don't despair, we'll also attend to the Basidiomycetes, especially the Gilled Mushrooms and, yes, the Crust Fungi (that are ever with us). One session will be devoted to just the Boletes, and in particular just what all the name changes are about and what we need to do as a result. The mouth-watering part of the program is the ever resplendent, delicious, and astounding creations COMA members bring to the table for our weekly shared lunch. This year, I will be bringing a Rocky Mountain morel dish to one session and a superb local porcini soup to another!"

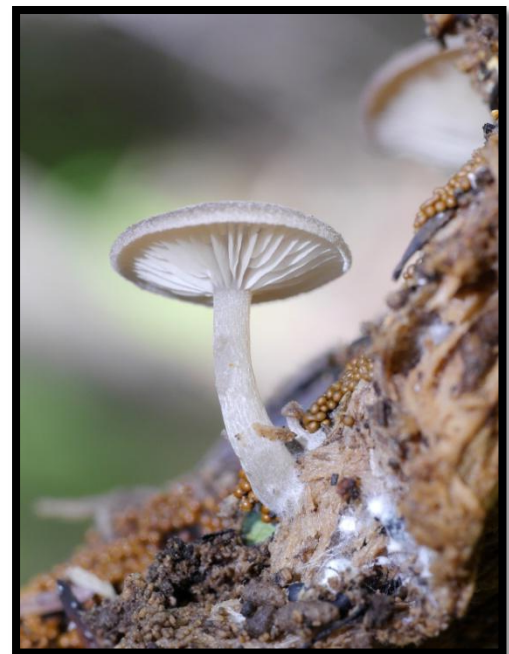
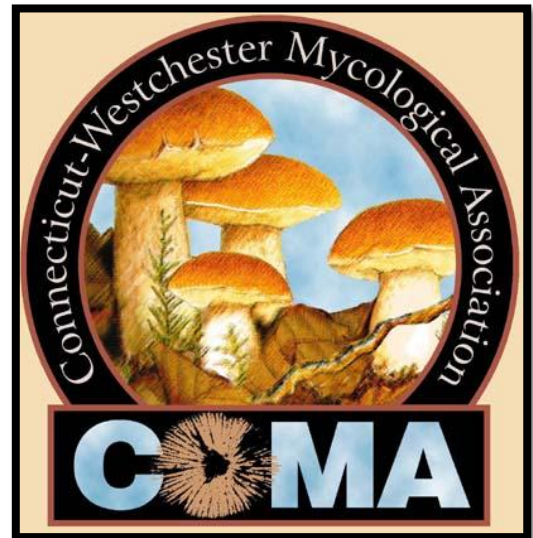
Dates: March 5, 12, 19, 26, April 16, 30

Location: Muscoot Farm 51 Route 100, Katonah, NY

Register at www.comafungi.org or by sending a \$115 check to Carol McLeod, 18 Capricorn Lane, Mount Kisco, NY 10549

COMA officers and committee members are:

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<i>Secretary</i>	Stephanie Scavelli
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<i>Scholarships</i>	Sue Rose (chair (susanmbrose@gmail.com)), Rena Wertzer (renawertzer@hotmail.com), Stephanie Scavelli
<i>Programs</i>	David Rose (tomashunders@gmail.com), Rena Wertzer, Lisa Solomon, Joe Brandt
<i>Mushroom U.</i>	Carol McLeod
<i>Rules</i>	Morris Palmer (morrssarian@msn.com)
<i>Hospitality</i>	Jen Keane
<i>Past presidents</i>	Sandy Sheine, Morris Palmer, David Rose, Dianna Smith, Taro letaka



*One last photo from 'the log'. Unidentified mushroom with Trichia slime mold sporangia.
Photo by Boris Martinov.*