



Spring 2018

Fungi Kingdom News

The newsletter of the Pioneer Valley Mycological Association



It's spring! And that means PVMA's Fungi Kingdom University is in full swing. On April 8, Noah Siegel (above) presented an information-packed and inspiring lecture on *Cortinarius*, followed by some very helpful tips on photographing mushrooms, a timely topic, given our photography show coming up in September (see below). Thank you, Noah, for sharing your expertise with us!

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PVMA Photography Exhibit Arcadia Wildlife Sanctuary September 2018

Calling all members: we'd love to include your fungal photos in our first-ever photography exhibit, this fall at Arcadia Wildlife Sanctuary. Amateur, hobbyist, take photos just for fun? Yes, we mean you! Start looking through your favorite photographs of fungi and choose a few you love. And when you are out collecting this summer, take photos with this show in mind. There will be space in the gallery area for photographs of varying sizes and styles. No frame? No problem. We want as many of our members represented as possible, so please consider sharing your photographs. If you have any questions, email JessicaBensonEvans@gmail.com. We'll share more info in the next edition of the newsletter, coming in July.



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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.fungikingdom.net

We Welcome Your Submissions!

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

jessicabensonevans@gmail.com
sue.lancelle@gmail.com

From the President...

I'm so glad that Spring is finally arriving; not that I don't love hiking in the snow, but I'm ready for warmer days and the first of the fleshy gilled fungi. For those in pursuit of morels, John Wheeler of the Berkshire Mycological Society will be out in May and welcomes us to join him!



It was wonderful to see so many of you in attendance at our potluck last month. I thank you for helping me (and Ella) put together the mushroom puzzle, for your willingness to volunteer your time and ideas for our upcoming events, and for the positive energy each of you bring to our group. We have some fantastic events and projects planned for this year, and I believe that we have the momentum to keep growing as a group.

We've been busily working behind the scenes putting together a great walk schedule for the season, including some new walk leaders and locations. Note that we have several special events planned. We have a public walk scheduled at lovely Stanley Park in July. As part of our collaboration with Arcadia Wildlife Sanctuary, we'll be hosting Bill Yule there for a presentation and walk in August. And in October, we look forward to hosting guest mycologist Larry Millman for a walk at the Federated Women's Club State Forest in Petersham.

In addition to our busy walk schedule, we've been planning our participation in the Citizen Science project, microscopy workshops in the summer, and a Fungi Kingdom Festival in conjunction with Arcadia Wildlife Sanctuary and Fungi Ally in September, which will also coincide with our first-ever photography exhibit at the sanctuary.

And don't forget about the multi-day forays that are coming up!

I look forward to seeing you soon!

- Jessica



Fun with puzzles at the members' potluck in March

PVMA's Weekend Walk Schedule 2018

Coordinated by Pat Diffendale

We are excited to bring you this year's walk schedule. Please print out the following pages so you have them handy. We will meet on **Sundays** and **some Saturdays at 10:00 a.m. or 1:00 p.m.** with some exceptions as well as special events as noted on following schedule. Please pay attention to time and day noted below.

Consider affixing this list to your front door, fridge, television, computer screen or entering the information on a calendar you are most likely to consult so that you don't miss any of our fantastic and informative guided walks.

Note that we are instituting some new procedures for our walks this year. We will require everyone to sign in upon arriving and sign out when leaving. You should also wear your membership card/ID badge at all walks. We will have these available for all current members so if you don't have yours, you can pick it up on any walk or other activity we sponsor. Nonmembers are welcome on walks, but will be asked to pay \$5 per person. We will also have membership applications available if anyone wants to join after trying out a walk (the \$5 will then be deducted from the membership fee). We will look for fungi for approximately 2 hours and then, for anyone who is interested, meet back at the starting point to spread our collected finds on a table and try to identify them. This will aid us in compiling a checklist for each walk. Any unidentified fungi can then be claimed by members to take home to study if they wish.

We will post reminders for walks on our Pioneer Valley Mycological association Facebook page. The sites are located throughout the Pioneer Valley and the Hilltowns. A few have restroom facilities, most do not. We suggest that you bring water, bug/tick repellent, a knife, a collection basket and small paper or waxed bags for specimens. Sturdy, comfortable shoes and a hat come in handy, as well as a walking stick, camera, a mushroom field guide, and a small notebook and writing instrument to write down notes about specimens you collect (especially important if you want to contribute to the Citizen Science Project). You can also download beginner or advanced checklists to use on the walks at **www.fungikingdom.net**. We welcome you to post photos of the fungi you find on our Pioneer Valley Mycological Association Facebook site.

For any questions or concerns, please email **JessicaBensonEvans@gmail.com**.

May morel season: please check Berkshire Mycological Society website at **<http://www.bms.iwarp.com/>** or their Facebook page to join John Wheeler's group to hunt for morels. Be prepared to hustle. His group meets on Sundays at 10:00 AM during mushroom hunting. (Morels are not abundant in the Pioneer Valley.)

May, TBA: Stay tuned for a Spring Pop-Up walk! Join Jessica at Jabish Brook Conservation Area in Belchertown for a trail-head clean-up and then a hunt for spring aquatic fungi. We'll announce the date and time on the PVMA Facebook page.

Sunday, June 10, 1:00 p.m., with Paul Thomas. Location TBA

Sunday, June 24, 1:00 p.m., Leyden Wildlife Area in Greenfield, with Joan Adler. Slight hill along a stream. Directions: take Rte. 5 North from Rte. 91 second Greenfield exit to Greenfield. Take a left on Severance, left on Barton Rd, right on Oak Hill Rd. Area is at the end of Oak Hill. Plenty of parking. Joan's cell phone 413-265-6560.

Sunday, July 1, 1:00 p.m., Buffam Falls Conservation Area, Pelham, with Jessica Benson Evans. Mixed woods, predominately pine/hemlock to oak/beech/pine. Relatively flat along stream/waterfalls. Directions: From Amherst Center follow Main St. until it becomes Pelham Rd. Continue on Pelham Rd until crossing to Pelham, when it becomes Amherst Rd. Take a left onto North Valley Rd. across the street from Pelham Community Center. Follow North Valley Rd until just past the intersection with Buffam Rd. Take a quick right onto Meetinghouse Rd. -- a sign says, "road closed", but you will find a small gravel parking spot on the right less than 1/4 mile up. Additional parking is available along the road further along as well as a small pull-off on North Valley Rd. Please be respectful of neighbors when parking. **JessicaBensonEvans@gmail.com**

July 7 or 8: TBA

Sunday, July 15, 1:00 p.m., Stanley Park, 400 Western Ave, Westfield, “The Mysterious World of Fungi” with Dianna Smith and Phil Hadley. This public walk is free for everyone. From the Stanley Park brochure: “Fungi are all around you, but often you don't realize it. They play many important ecological roles, including decay of organic material, nutrient recycling and exchange. Come and learn about different groups of fungi and the fundamentals of identification through their fruiting bodies, the mushrooms. Part of the fun in looking for wild mushrooms is that you never know what may be popping up! We will walk along some of the park's trails to see what we can discover.” At 6 that evening, there will be live music in the park (The Eagles Experience), so you might want to spend some time exploring the rest of the park, enjoying a picnic, and taking in the music.
Directions: Take Mass Turnpike (Rte. 90) to Westfield exit 3, take a right onto Rte. 10/202S, take a right onto Orange St., Left on Conner Ave., right at first cross street (Franklin) onto Russell Rd., left on Lloyd's Hill Rd., right on Western Ave, left onto Gillett Rd. Call Phil Hadley if you have any questions at 413-356-3069.

Sunday, July 22, 1:00 p.m., Lily Pond Wildlife Management Area, Goshen, with Dianna Smith, Dianna's cell number is 914-715-8983. Easy, heavily wooded trail which slopes off steeply on either side to uneven rocky terrain in spots, leading to mossy wetlands and a bog. Directions: from Northampton take Rte. 9 to Goshen, turning left onto Ball Rd. Go about 1 mile; Ball Rd. will take a sharp left, but stay straight onto Lily Pond Lane, which ends in a circle. Park at the perimeter of the circle, where we will meet. The sign for the trail head is hidden by trees.

Thursday, July 26 to Sunday, July 29: annual NEMF Foray at State University of NY at Geneseo. No PVMA walk. To register go to <http://www.nemf.org/>.

Sunday, August 5, 10:00 a.m., Arunah Hill Natural Science Center, 218 Trouble St, Cummington, MA. Joint walk with the Connecticut Valley Mycological Society (CVMS). From Northampton take Rte. 9 West to Williamsburg, left onto Rte. 143 W towards Chesterfield. Follow Rte. 143 W for ~ 15 miles, then right onto Trouble St. More information at <https://www.facebook.com/arunahill>.

Saturday, August 11, 10:00 a.m., Houston Gage Trail, Shutesbury, with Jessica Benson Evans. Strenuous, 1.7-mile loop walk through mixed oak and pine woods and streams throughout with steady gains in elevation on one side of the loop and one or two fairly steep downhill portions on the other. Pack lunch and water for the trip. Mandatory carpooling from Jess's home in Shutesbury due to limited space at trail head. Email her for directions at JessicaBensonEvans@gmail.com.

Sunday, August 19, 1:00 p.m., Herman Covey Wildlife Management Area, Belchertown, with Mary Obrzut. Mixed pine and hardwoods, streams. Slightly uneven terrain. 341 East St. (off Rte. 9), beyond the fish hatchery and across from Mass Wildlife Field Headquarters. Parking area is at the trail head.

Monday, August 20 at noon to Friday August 24 at noon; 5-day Free PVMA Foray-Vacation in the White Mountains with Dianna Smith at 72 Ledgewood Drive, Bethlehem, NH. Join Dianna for the week to participate in walks on White Mountain trails to collect fungi and identify them back at her NH home. See the “Forays” page in this newsletter for details. Dianna.smith@comcast.net.

Saturday, August 25, 1:00-4:00 p.m.: Bill Yule will give an indoor presentation entitled “The Secret Lives of Woodland Mushrooms” followed by PVMA member-led walks at Arcadia Wildlife Sanctuary, 127 Combs Rd, Easthampton. Directions: take Mass Turnpike to exit 4, then Rte. 91 north to exit 18, to Rte. 5, Northampton. Right on Rte. 5 South. After 1.4 miles, take a right onto East St. at the sign for Easthampton Ctr. Follow East St. for 1.2 miles and turn right onto Fort Hill Rd at the Mass Audubon sign. Go 0.9 miles and bear right at the next Mass Audubon sign and turn left at the sanctuary.

Labor Day Weekend: Friday, Aug 31 – Monday, Sept 3, COMA Foray at Hebron, CT. Register beginning in June at <http://www.comafungi.org/>. No PVMA walk.

Saturday, September 8, 12:00 noon-5:00 p.m. at Shantigar Foundation, Rowe, MA with Dianna Smith, who will give a talk and lead a walk. Directions Rte. 91 North to Greenfield exit 26, go West on Rt. 2 to Charlemont to Legate Hill Rd on the right. Take Legate Hill Rd up about 4 miles and take left on Davenport Rd. Go 0.7 miles to small Shantigar sign on the right. Enter the wooded area and park in the marked areas on the right. Office is large wooden shed bldg. <http://shantigar.org/mushroom-hunt> Dianna's cell phone is 914-715-8983.

Sunday, September 9, 1:00 p.m., William Cullen Bryant Homestead, Cummington, with Dean Colpack. Take Rte. 9 west to Rte. 112 South in Cummington. Follow Rte. 112 South up the hill 1.5 miles to a 5 corner intersection. Homestead is straight ahead. Meet at parking lot.

Sunday, September 16: TBA

Friday, September 21: We will need as many members as possible to join us for two walk locations to collect lots of different species of fungi to display on the tables the next day for our Fungi Kingdom Fungi Festival at Arcadia Wildlife Sanctuary. We will ask that you check our Facebook page for updates regarding where and when; tentatively, walks will be at Jabish Brook Conservation Area in Belchertown and Fitzgerald Lake in Northampton.

Saturday, September 22, 1:00-5:00 p.m.: Fungi Kingdom Festival! at Arcadia Wildlife Sanctuary Easthampton. A fun-filled and educational day hosted by Arcadia, the Pioneer Valley Mycological Association, and friends from Fungi Ally featuring presentations, demonstrations, display tables and guided mushroom walks on some of the sanctuary's trails. Come help us make this a great day for families and those curious about our passion for fungi! Directions at <https://www.massaudubon.org/get-outdoors/wildlife-sanctuaries/arcadia/directions> I-91 to exit 18, (Rt 5 Northampton), take a right on Rte. 5 South, right on East St. at sign for Easthampton Ctr. Continue on East St for 1.2 miles, take a right onto Fort Hill Rd at Mass Audubon sign. Go 0.9 miles and bear right at next Mass Audubon sign and turn left to sanctuary parking area.

Sunday, September 23, 1:00 p.m., Gill Conservation Area, Gill, with Joan Adler. Wooded, pond, mixed terrain. Directions: Rte. 5 North from Rte. 91. Right on Log Plain Road, left on Lampblack Rd, Right on Hoe Shop Rd and right again. The road seems to go straight but you will need to take a right after the bridge. Conservation parking area is on the left after ~1/4 mile. Joan's cell phone 413-265-6560.

Sunday, September 30, 1:00 p.m. with Marty Klein, location TBA. Marty will determine which trail, although he says it will be on the west side of the Connecticut River.

Columbus Day Weekend October 7-9. No walk scheduled.

Sunday, October 14, 1:00 p.m., Federated Women's Club State Forest in Petersham/New Salem with guest mycologist Larry Millman. Wide well-trodden mostly flat trails with deep leaf litter in a predominately oak and conifer forest. A wonderful home for fungi! Directions: From Rte. 202 turn onto Rte. 122, go 3.6 miles, turn right onto State Forest Rd, follow for 1.7 miles to gated entrance and pull-ins for parking. We will meet at the parking area in front of the gate. See www.mass.gov/dcr/massparks/region-central for directions from other parts of the state.

Sunday, October 21, 1:00 p.m., DAR State Forest, 78 Cape St., Goshen, with Dianna Smith. Directions: From Northampton take Rte. 9 West through Williamsburg to Rte. 112 North, turn right onto 112 North to the state forest. Meet in main parking area. The DAR trail map can be downloaded from the mass.gov site.

Sunday November 18, Ella's birthday walk (Jessica will lead) site and time TBA.

WEEKDAY WALKS

If you are interested in accompanying Dianna for a personal or small group free guided weekday mushroom walk, anywhere in the region especially within a day or so of a good rain, please e-mail her at [http://dianna.smith@comcast.net](mailto:dianna.smith@comcast.net) or message her on Facebook.



Beyond Spore Prints . . . Using the Microscope to Help get that I.D.

By Sue Lancelle and Jessica Benson Evans

It happens quite often. You find an interesting fungus while out and about. You take it home and carefully note all the physical features of the fungus, measure it, photograph it, and make a spore print to check the spore color. You use your field guides, keys and any other resources you can find, and you might not even come up with a possible genus. Aarrghhhh . . . !

It is then time to try something else, and that means turning to the microscope. The most basic next step is to study the spores, and that is the focus of this article. In the next newsletter, we'll talk about examining various hyphal structures with the microscope. This summer, we will be offering some microscopy workshops where you can investigate some of the micro-details of the fungi you find. You may find that once you have entered the fascinating world of fungal microscopy, there will be no turning back!



Figure 1. A spore print was made by placing part of the mushroom cap on a glass slide, and part on a piece of paper. This allows you to use the spores on the slide directly for microscopical study. J. Benson Evans

That spore print you made earlier? You can use it now to make a slide. Scrape off some of the spores and place them in a small drop of dilute soapy water (or 5-10% KOH if you have it). Alternatively, you can make a separate spore print directly on a slide with a small piece of the fungus (See Figure 1). Add the liquid and place a cover slip over it and have a look. You'll want to start by using a 10X objective lens to get in focus, then move up to the 40X objective. With very small spores, you'll want

to eventually use the 100X oil immersion objective lens. With careful (and continual) small adjustments of the fine focus knob, you can get a sense of the different structures of the spore, as well as its shape and any ornamentation on its outer wall. You should record your spore observations either by photographing them or drawing them.

Basidiomycetes

First, let's consider spores of the basidiomycetes, which include the gilled fungi, the polypores, and the boletes. Note that an excellent reference book for examining basidiomycetes is *How to Identify Mushrooms to Genus III: Microscopic Features* by D. Largent, D. Johnson and R. Watling.

Figure 2 shows spores in a lateral (or side) view of the spore, where you can see the *hyaline appendage*, the attachment point of the spore to the spore bearing structure, or basidium. The other end of the spore is the apex, and in some species the apex looks cut off, or truncated. Remember that you are looking at a 3-dimensional object, and it is often necessary to understand which orientation the spore is in, because the shape can be different in different views.

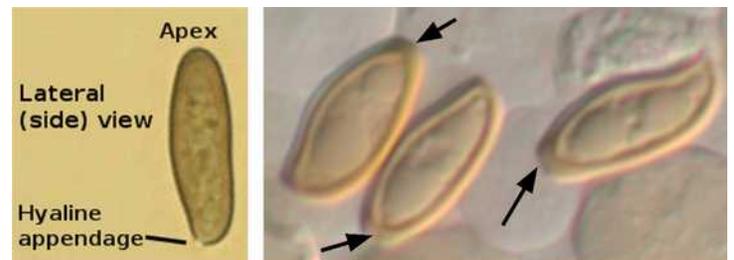


Figure 2. *Gomphidium smithii* spore in KOH, showing a narrow ellipsoid shape, apex (or top) of the spore, and the hyaline appendage, where the spore attaches to the basidium, or spore bearing structure. **B.** *Boletus truncatus*. The apex, or top, of some spores is truncated, giving it a "cut off" look. A: S. Lancelle, B: courtesy R. Halling.

Look carefully at the shape of the spores. While many fungal spores are ellipsoid, there are a wide variety of other shapes that you may encounter (Figure 3). There is a lot of terminology involved in describing spore shapes, and it helps to have a glossary nearby!

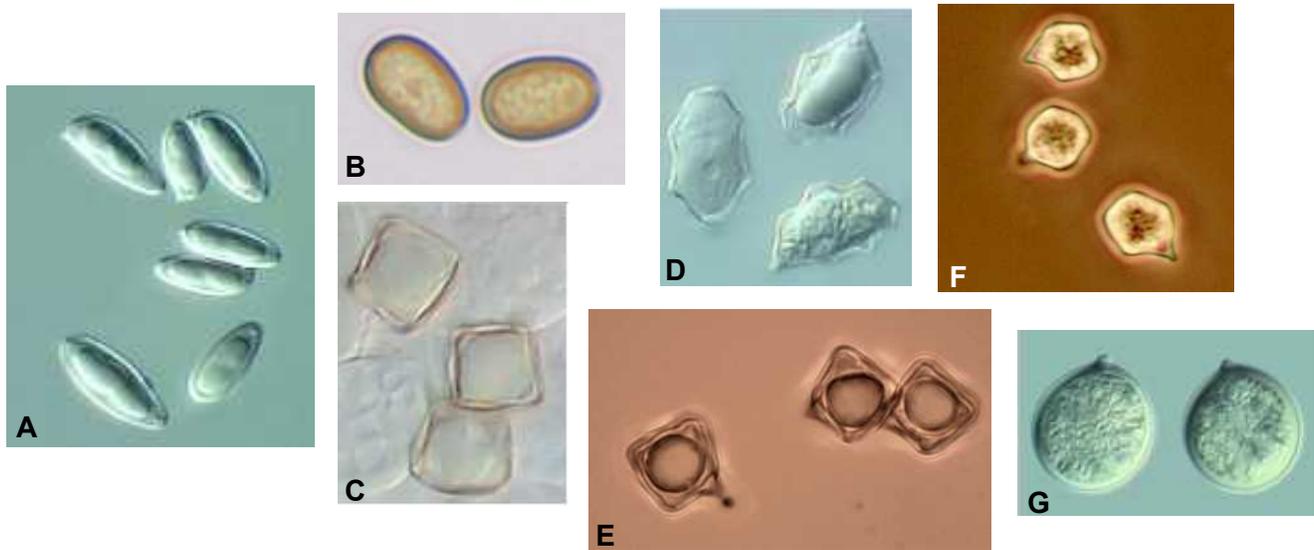


Figure 3. A few of the wide variety of spore shapes. **A.** *Tylopilus bulbosus*, subfusiform (narrowly spindle shaped). **B.** *Pholiota limonella*, ellipsoid. **C.** *Nolanea*, cuboidal. **D.** *Pouzarella*, polygonal. **E.** *Inocephalus luteus*, cuboidal. **F.** *Entoloma sp.*, angular, 4-6-sided. **G.** *Oudemansiella*, subglobose. A, C, D, G: courtesy R. Halling; B, E, F: S. Lancelle

In addition to overall shape, it is important to note if the spores have any ornamentation on their outer walls. It often takes careful adjustments of the fine focus knob, and either closing down the iris diaphragm or using a stain to add some contrast to see spore ornamentation while using a typical light microscope, but with careful observation, you can usually see it. As with spore shape, there is a lot of terminology involved in describing spore ornamentation.

Again, remember that the spore is 3-dimensional, so you have to carefully focus on different planes to see different kinds of details like surface structure. Figure 4 shows a variety of spore ornamentation types, imaged with various techniques. Figures 4 I and J were made by combining stacks of 5 images photographed at different focal levels. The combined images have a very 3-dimensional quality.

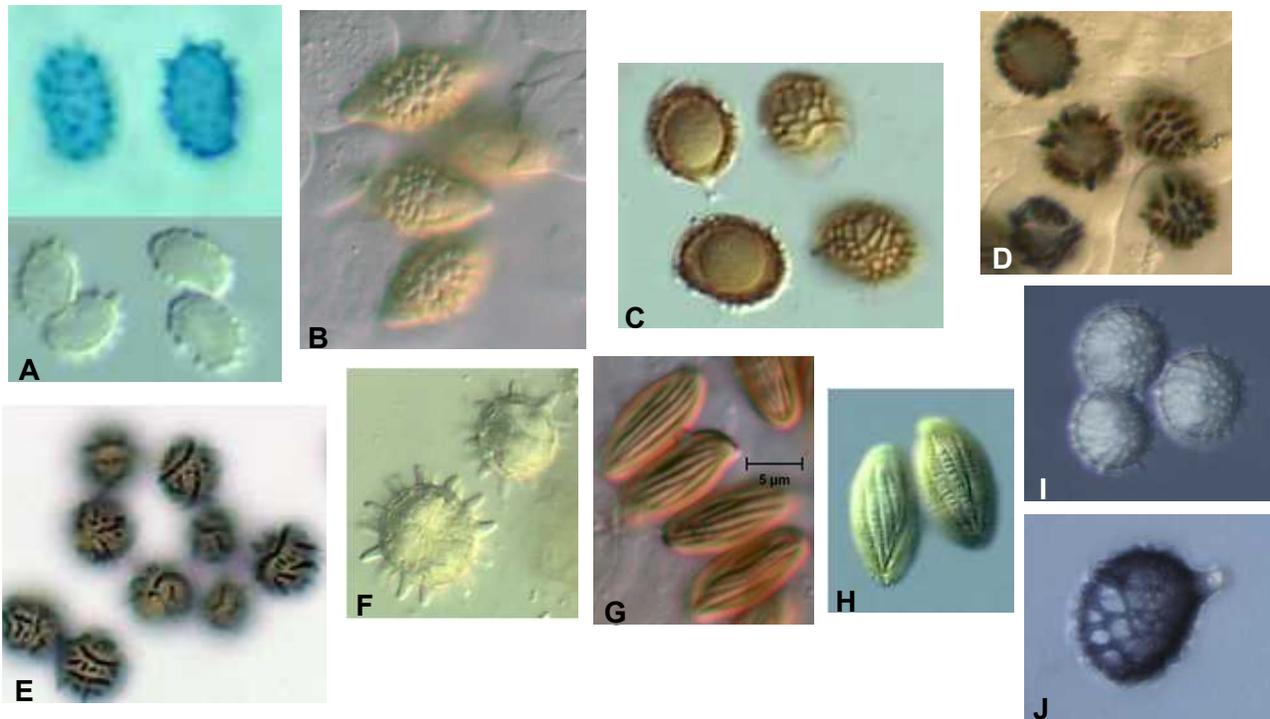


Figure 4. Spore ornamentation. Some of these are tropical species, but they are excellent examples of the variety of ornamentation that you might see. **A.** *Lepista nuda*. The surface is minutely rough, and this ornamentation can often only be seen by staining with cotton blue. **B.** *Austroboletus lacunosus* shows irregular warts and flattened pegs. **C.** *Strobilomyces floccopus*. Melzer's reagent stains the reticulations brown. **D.** *Bondarzewia berkeleyi*. Ornamentation is a combination of spikes and reticulations, stained in Melzer's reagent. **E.** *Russula sp.* Species of *Russula* and *Lactarius* show a range of reticulations on their spores. Stained with Melzer's reagent. **F.** *Dactylosporina steffenii*. Spiny ornamentation. **G.** *Boletellus sinapipes*. Ribbed ornamentation. **H.** *Boletellus ananas*. Ribbed and cross striate. **I.** *Laccaria amethystina*. Covered with small knobs. This is a stack of 5 images focused at slightly different levels. **J.** *Lactarius gerardii*. Reticulations as seen in a stack of 5 images. A-H: courtesy R. Halling. I, J: S. Lancelle

Spore Measurements

Now that you've carefully noted the shape and ornamentation of the spores and any staining reactions they show, the next very important step is to measure them. There are two ways to do this. The first requires that you have an ocular measuring scale in an eyepiece of the microscope you are using. You must use a stage micrometer to calibrate what each unit in your ocular scale represents, and this will be different for each magnification you are using. You can line up a spore with the ocular micrometer, and figure out how many units it measures, and then convert these to lengths in micrometers. A spreadsheet is very useful for this.

A second way to measure the spores is to photograph them, and then use measuring software to do the measurements. Many microscope cameras come with software that will do this, and there is also the very powerful (and free!) software available from the NIH called ImageJ.

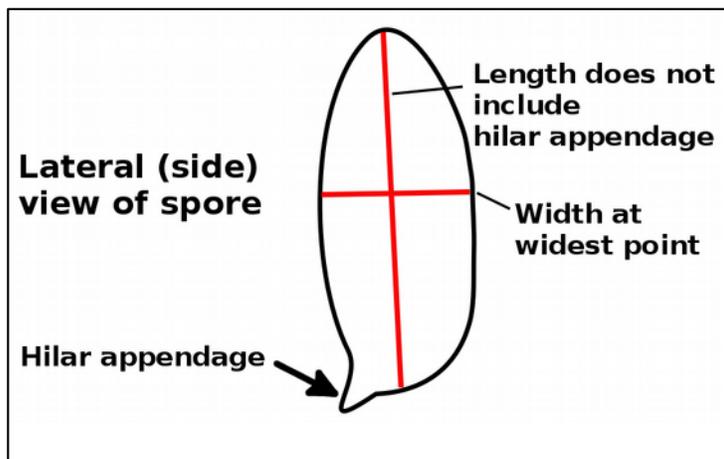


Figure 5. Measuring spores.

When measuring spores, you measure the length without including the hilar appendage (Figure 5). The width is measured at the widest point. If the spores have ornamentation, it is probably best to measure them both with and without the ornamentation, because you might see it reported either way. If the ornamentation is very prominent, it is usually measured and reported separately.

You should try to measure only mature spores, so getting them from a spore print is best. How many should you measure? To some extent, it depends on how much variation you are seeing, and what your sample is like. Sometimes you can only find 10 spores, so that is what you measure. Ideally, you measure at least 30.

Spore measurements are reported in a variety of ways, usually including a range. The simplest way to report it

is this: 8-10 x 4-6 μm . This represents the range of lengths and widths that you measured, excluding the very extremes. There are other more complicated ways to report the measurements, but this is a good way to start.

Ascomycetes

Ascomycetes differ from basidiomycetes in that they carry their spores in a structure called an ascus (plural: asci). They include the “cup fungi” that are often very tiny, for example, many people are familiar with *Bisporella citrina*, the yellow fairy cup. Larger common ascomycetes include *Galiella rufa*, the “rubber cup.” But ascomycetes also include fungi such as morels and truffles.

Although microscopy can be a bit challenging, often spore details are the only way to make definitive species identifications. Many of the ascomycetes carry eight spores within their asci, but others offer varying numbers of ascospores; the number, size, and features of the spores are all key determinants to getting ascomycetes to genus and sometimes species. Spore measurements are carried out the same way they are for the basidiomycetes.

When preparing slides, you can sometimes use a very sharp razor to section a small portion of the specimen and place it in soapy water or KOH (Figure 6). Otherwise, the entire specimen (if less than one millimeter in diameter) can be placed onto the slide in liquid and the cover slip placed over it. Then, using a soft item such as the eraser of a pencil, press down carefully onto the top of the cover slip, taking care not to break the delicate glass. This creates what is called a “squash mount,” which forces the specimen into pieces and allows you to see the asci, which might otherwise have been obscured (Figures 7 and 8).

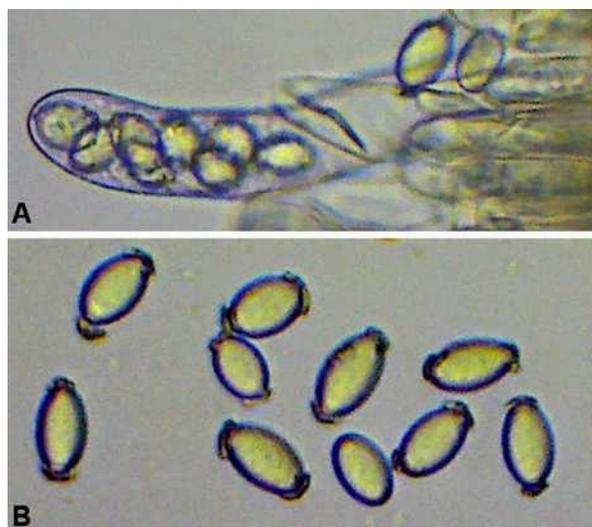


Figure 6. Fresh section of *Morchella* sp., a morel. **A.** Spores within ascus. **B.** Spores released from ascus.
J. Benson Evans



Figure 7. Squash mount of *Ascocoryne* sp. **A.** Spores within ascus. **B.** Spores released from ascus. J. Benson Evans

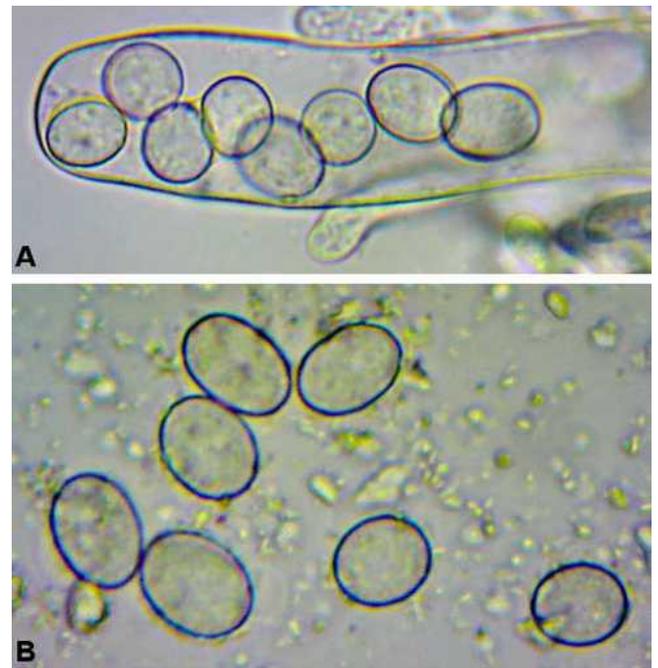


Figure 8. Squash mount of an as yet unidentified ascomycete found growing on a wet clay sculpture. It is probably a member of the Pezizales order. **A.** Spores in an ascus. **B.** Spores released from ascus. J. Benson Evans

There is no doubt that using the microscope to study fungal structures can be challenging. However, it is also a fascinating and rewarding endeavor. We would love to help you give it a try and we can all learn together. Watch for our schedule of microscopy workshops, which will be announced in early summer. We'd love to see you there!

Citizen Science Workshop!

Join Jessica, Sue, and Paul at a workshop introducing our club's Citizen Science project; you'll learn about our project goals, discover how to collect and document specimens for the project, and participate in a walk on the trails at Dianna's to put your new knowledge into practice. We'll walk you through all the necessary steps for participation in this incredible project.

Topics covered during the workshop will include:

- Documenting fungal specimens in the field through note-taking and photography
- Collecting specimens responsibly
- Creating thorough descriptions of collected specimens
- Using Mushroom Observer to record information on specimens
- Using the Mycoportal and GenBank to decide which specimens to submit
- Preserving specimens for herbarium storage

Save the date! Our Citizen Science Workshop will be **Saturday, July 21st from 10 a.m. until 2 p.m. at Dianna's house, 441 Kennedy Road, Leeds**

2018 Forays

Attending a multi-day foray is an exciting and rewarding experience. These forays provide opportunities for amateurs to rub elbows with professionals and well known advanced amateurs, go on fungus hunting walks in areas that are unfamiliar to you, hear talks from some of the foremost mycological experts, and make new mycophile friends. Some forays that our members have attended are listed below. There are many others around the country; check "Events" in the NAMA web site if you are interested. To help defray the cost of attending a foray, PVMA has a limited number of \$100 scholarships available for PVMA members. The deadline to apply is June 1. See the application procedure on the next page.

The 2018 NEMF (Northeast Mycological Federation, of which our club is a member) foray will be held July 26-29 in upstate New York on the SUNY-Geneseo campus in the Finger Lakes region. The local forays will include Letcher State Park, the "Grand Canyon of the East." Talks by professional and advanced amateur mycologists will take place every day and into the evening. More information and registration forms can be found at: <http://www.nemf.org/index.html>. NEMF also has a scholarship program with a deadline of the end of May; details are at: <http://www.nemf.org/homola-scholarship.html>



Free Foray/Vacation for PVMA members in the White Mountains with Dianna Smith at 72 Ledgewood Drive, Bethlehem, NH, Monday, August 20 at noon to Friday August 24 at noon. Join Dianna for the week to participate in walks on White Mountain trails to collect fungi and identify them back at her NH home. You need only bring up food for the week, wine, beer, juice, snacks, fruit, etc., cereal, and help make meals. Bring a sleeping bag if you have one, although depending on how many people decide to participate, we may have enough beds for everyone. Also on hand will be Dr. Roz Lowen, a specialist in ascomycetes. Please let Dianna know if you would be interested in participating by e-mailing her at Dianna.smith@comcast.net.

The annual COMA Clark Rogerson Foray will be August 31-Sept. 4 at Camp Hemlocks in Hebron, CT. Faculty will include Roy Halling, John Plischke III, Roz Lowen, Dianna Smith, and others. Attendees may register for 1-3 nights or as day visitors for either or both of the two full days, Saturday or Sunday. This year's rates and registration details will shortly be available on the Connecticut-Westchester Mycological Association website with registration open by early May. See comafungi.org/



The North American Mycological Association's annual foray will be held in Salem, OR, October 11-14. There will be pre-foray workshops on mushroom dyeing and microscopy. Registration will open in early May. Keep an eye on the NAMA web site for more information: www.namyco.org

Guidelines For PVMA Scholarship Application

The application is for current PVMA members and should be comprised of a letter to the scholarship committee that includes:

- 1) Which foray you want to attend.
- 2) Your specific interests in the field of mycology and how attending the foray will aid you in furthering your mycological education. Examples include learning about edibles, learning more about a particular group of fungi, wanting to hear presentations from experts in the field, etc.
- 3) Why you think you're a good candidate for the award.

The application deadline is due June 1. If there are no applicants by the deadline, late applications may be considered. In the event of a limited amount of funds, and there are multiple scholarship winners, the total award may be split. If a winning applicant is unable to attend the foray due to an extenuating circumstance, the award will be forfeited and given to the next qualified applicant. We must receive a copy of the foray registration before the award will be disbursed. Note: The number of scholarships in any given year will be dependent upon the PVMA treasury balance. Scholarship recipients who wish to re-apply in subsequent years will be considered after those who have never applied before.

Please email all inquiries and/or applications to Philip Hadley, chair of the scholarship committee, mphadley03@comcast.net

Special Events at Arcadia Wildlife Sanctuary

We are excited to start a new collaboration this year with Arcadia Wildlife Sanctuary. In addition to the **Photography Exhibit** scheduled for September, we have two other scheduled events that we would like to emphasize:

The Secret Lives of Woodland Mushrooms with Bill Yule, Naturalist

Saturday, August 25, 1:00-4:00 pm

Bill Yule is an engaging naturalist-educator with a passion for understanding the symbiotic relationships between trees and mushrooms, and other fungi. He is a popular speaker at major fungi forays and an expert on boletes, as well as insect-fungi interactions. After Bill's presentation indoors, members of the Pioneer Valley Mycological Association will lead walks to find and identify mushrooms in the Arcadia woods. There will be a nominal fee for this event, as it will be available to members of the public as well as PVMA. Audubon members pay \$15, while non-members (and non-registered PVMA members) pay \$20 to attend the talk and events. PVMA members who pre-register at JessicaBensonEvans@gmail.com will pay just \$5 (via check or PayPal prior to the event.)

Fungi Kingdom Mushroom Festival

Saturday, September 22, 1:00-5:00 pm

Free and open to the public. To be held jointly with Fungi Ally. Educational workshops, children's activities, mushroom identification walks, cultivated mushroom sales, and presentations by Pioneer Valley Mycological Association members.

Volunteer Opportunities:

We are looking for volunteers for a wide variety of roles at both events.

For Bill Yule's presentation and walk on August 25th, we'd love to have a few members helping to lead/co-lead walks on the trails of Arcadia.

For our Fungi Kingdom Festival on September 22nd, we are looking for folks to do the following:

- Create displays or posters on a variety of mushroom-related topics for the day of the festival
- Assist at mushroom ID tables and membership table
- Arrive before the festival to assist in set up or help clean up afterwards.

PVMA volunteers for either event will receive free admission to Bill Yule's talk on August 25th. Email Jessica at JessicaBensonEvans@gmail.com to volunteer.

Spring Fungi

We don't have to wait until mid summer to find a wide variety of interesting fungi out there. There are many beautiful fungi that favor the cool temperatures and rainfall of spring and early summer, and not just the challenging "LBMs" or "little brown mushrooms" of the lawn and wood mulch beds or the more well known spring edibles. So get out there and see what you can find! Shown here is just a small sampling of what you might see.



© Dianna Smith
Pleurotus ostreatus, oyster mushroom



© Dianna Smith
Ganoderma tsugae, hemlock varnish shelf or reishi



© Dianna Smith
Stereum ostrea, false turkey tail



© Dianna Smith
Trichaptum abietinum, on hemlock



© Dianna Smith
Amanita amerifulva group, tawny grisette



© Dianna Smith
Stropharia rugosoannulata, winecap



© Dianna Smith
Mycena haematopus, bleeding mycena



© Dianna Smith
Morchella esculentoides, yellow morel



© Dianna Smith
Phlebia tremellosa, jelly rot



Neofavolus alveolaris, hexagonal-pored polypore



© Dianna Smith
Cerioporus squamosus, Dryad's saddle or pheasantback



Mitrula elegans, swamp beacon



© Dianna Smith
Chlorociboria aeruginascens, green stain

Gary Lincoff

October 3, 1942 – March 16, 2018

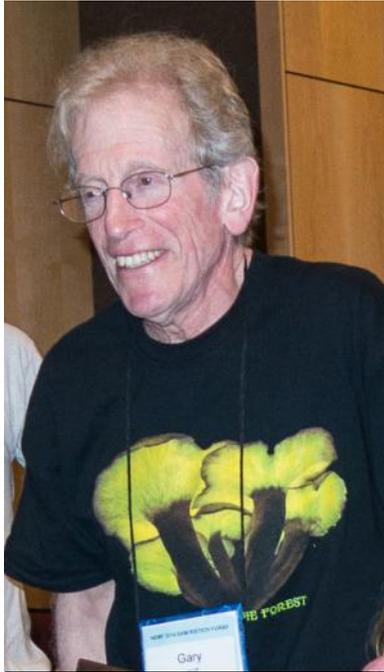
By Dianna Smith

Gary Lincoff was such a unique person with such a big sunny personality and influence on the growth of amateur mycology throughout North America, but especially here in the Northeast, that he will continue to live on vividly in our lives. Gary had many tens of thousands of fans of all ages and no detractors. Everyone loved him – even Martha Stewart! If you met Gary once, you were friends from then onward. If he saw you for the second time at a foray a year later, he would remember and acknowledge you with a huge grin, a wave and maybe even a warm hug. He listened attentively to questions, no matter how silly we thought he might consider them. He always responded thoughtfully, and usually was able to connect and amplify his answer with the addition of a funny experience or tale. Gary was especially gifted in storytelling. I often described him to others as the “Woody Allen of mycology” (except he never exhibited any of the psychological problems one may associate with the actor/director!). He was encouraging and contagiously inspiring. He could also be disciplined coach – letting you know there was always much more to learn. He was driven to challenge everyone, from the professional to the rankest newbie, to look deeper into the subject of fungi and their interactions with the ecosystem.

Gary was continuously learning more about plants and fungi, and taught roughly two thousand classes at the New York Botanical Garden on them (and was heralded as the “Instructor of the Year” more times than anyone else in NYBG teaching history). He was inspired by his knowledge of philosophy, Shakespeare’s plays, and the writings of poets and naturalists of the past and present. His deepest devotion was to his family, especially his wife Irene and son Noah. So many of us were fortunate enough to

have spent time and a snack or meal in their garden-level apartment on NYC’s Upper West Side, while working on a comedic play he wrote or a dance involving fungi characters to be performed at a meeting or foray.

Living in close proximity to Central Park, Gary spent years studying its fungal and plant life – alone, accompanied by, Irene, the New York Mycological Society members, world-renowned mycologists or occasional visitors like myself. He also knew every plant and tree at the NYBG and enjoyed photographing and posting seasonal expressions of nature’s cycles on Facebook. He knew and thought about the different fungi that appeared over the years in the wood-mulched landscaped gardens and woodland forests of NYBG. He was a founder of the annual Telluride Fungus Festival and was actively involved at the event since its inception. Last year, parade attendees at the festival all dressed up as Gary Lincoff!



Gary will be fondly and frequently remembered by everyone who has ever crossed paths with him. Everyone has a story about their relationship with Gary, even if they have met him just once. This is my story – in brief. Soon after joining the Connecticut-Westchester Mycological Association (COMA) in Westchester County, NY, I met Gary Lincoff, Ursula Hoffman, Don Shernoff, Sandy and Jerry Sheine, Roz Lowen and many other wonderful members to whom I remain close to this day. This happened while attending my first annual late fall COMA potluck dinner in 2002. Gary had already seen and passed judgment on three videos I created for my NY-Connecticut weekly half-hour cable television show, SCAPES, about attending a COMA foray. The first was devoted to field guides, baskets, wax paper bags, knives, etc. – everything we need to attend a

mushroom walk. The second and third shows were on the mushrooms the COMA group found that day and commentary on their characteristics. During the taping of these introduction to mycology videos narrated by COMA Treasurer and Foray Chair, Don Shernoff (father of Leon Shernoff, editor of the magazine *Mushroom: The Journal of Wild Mushrooming*), I fell in love with the beauty, colors, shapes and diversity of the mushrooms seen that late autumn afternoon in 2001 at Tallman State Park. At Gary's recommendation and the request of NAMA Education Chairperson and first COMA president, Sandy Sheine, I created a one-hour tape and DVD for the North American Mycological Association for beginners to borrow, rent or buy. So, when I met Gary at the COMA potluck dinner for the first time, we were officially introduced and became immediate associates. In subsequent years, I taped every presentation he gave at COMA meetings, annual COMA Forays and at various annual multi-day forays throughout the North and Southeast, and with his permission aired them regularly on my show. I must have 100 half-hour shows on mycology as a result of our friendship.

Gary was also a dear empathetic friend. I will always remember his taking time out of his busy life to trek across the city to give me a surprise visit at the Hospital for Special Surgery, while I waited in an oversized blue gown to be rolled down the hall for my second hip-replacement surgery. We also shared a close friendship with Ursula Hoffmann, former President of the Northeast Mycological Federation (NEMF), and a long-time member of both COMA and the NYMS. She, the Sheines and other founders of COMA had known Gary since he first became enthused with fungi and before he was given the daunting task of writing the *Audubon Field Guide to Mushrooms of North America*. All of these people had been turned on to fungi after taking an adult course on the topic with mushroom guru Sam Ristich, to whom the NEMF Forays are now dedicated. Sam and all the students who took that course played a part in what would popularly referred to as the "Bible of fungi," the Audubon Field Guide. It was Ursula, in fact, who dreamed up the new and uncommon "common name" Gary used in the book for *Hypomyces lactifluorum* – the "Lobster Mushroom."

Together that small group of people with various educational backgrounds became long-time close and supportive friends, who individually and together helped found or greatly enhance the creation of

mycological clubs in each of the states and Canadian provinces in northeast North America. Almost all of them have also made substantial contributions to the growth of the North American Mycological Association. Ursula worked with Gary on various projects, including the recording and publishing of the annual NEMF and COMA foray collection records on the NEMF website she created – while also tending her orchids and teaching at Lehman College in the Bronx. She came over from Germany as a teenager and went to Smith College in my current hometown of Northampton, MA. Given her thick accent, it was hard to imagine her teaching an undergraduate English literature course while there, but she did. All three of us worked on COMA forays together and on all the NEMF Forays as well. The two of them spent the better part of a year trying to convince me (unsuccessfully) to sign up for the annual NAMA foray in California near Christmas in southern California. Unknown to me, I was to be given the NAMA President's Award for taking over the Mycophile, and NAMA's Harry and Elsie Knighton Service Award. I was told it was the only time one person ever received two awards. Ursula had better luck convincing me to replace her as NEMF President. Well, actually she never convinced me. She just insisted I was the only one responsible enough to take it over. Good thing she can't see me now! I also recreated a modernized website for NEMF, which features among other treasures her writings on how to conduct forays, and Gary's lessons for beginners and intermediate students of mycology. Ursula passed a couple of years ago and has been dearly missed by many of us, including her ever-constant friend, Gary Lincoff.

I accompanied Gary on many mushroom walks and multi-day forays, drove him to the Mid-Hudson Mycological Association to give a presentation, participated in a NY Bio-Blitz with him, loaned him a book on polypores, filmed and edited his walks around fungi display tables while fans gathered around him to hear his insights about the rotting mushrooms spread out in morphological groups on a series of long paper-covered plastic tables. Unfortunately, I was always behind the camera and so I don't have any photos of us standing together, although I am sure others do. I didn't think to ask someone else to take a shot of the two of us, but I admit I was a closet Gary groupie. I spent the better part of one year scanning, digitizing and editing many hundreds of his slides for use in his book, *The Complete Mushroom Hunter*, and was honored to have so many of my own photos of fungi



Gary holding a "table talk" with some of his many fans at a foray.

included, as well as my name on the front cover.

Our most important project together involved the creation of COMA's Mushroom University. I met with him following one of his classes at the New York Botanical Garden to discuss his possibly teaching an annual course each spring for members. I wanted us all to be more knowledgeable about fungi than we were. I was also concerned that if I ever left the organization, there would be no one to take over fungi identification beyond what the oldest and most committed members already knew. He excitedly accepted the challenge and took the Metro-North train from Manhattan to Croton-on-Hudson, where either I or someone else nearby picked him up and drove him to our "classroom" and back again at the end of each session. Four to five hours of his time were spent just traveling back and forth to expose us to his relaxed teaching style. He devoted five or six Saturdays each spring to teaching us (in addition to many weeks at his desk in preparation for each topic). The first year we consisted of about 8 or 9 people sitting tightly together around a member's dining room table at her home in White Plains. To accommodate expanding interest in joining the program, we moved the operation to my slightly more spacious open-concept dining-living room-foyer for a several years, placing one portable table after another in a long line, surrounded by about 30 or so folding chairs. The year or so before I left

COMA to move to MA, we made a deal with Westchester County Parks to have our six sessions for free in their larger one-room building at Muscoot Farm in Katonah, NY, in return for leading two walks a year for them.

When Gary walked into the first Mushroom University session of 2018 he was not well. He felt badly that the class didn't go the way he hoped it would. He was exhausted, but carried on. It must have been difficult for him to feel he had to ask Carol McLeod to find other capable people to fill in for him for the remaining scheduled workshops. He needed to preserve his strength for a foray to Chile he organized that was to take place in a month or so. Carol asked me and Bill Yule to take over some classes and I recommended getting Noah Siegel too, which she did. Bill was scheduled to give a lesson on Saturday, March 9, but a strong snow storm with high winds had come through his area knocking down trees onto the impassable roads. Roy Halling, the lead mycologist at the NYBG, readily offered to take over the class. When Gary found out, he insisted he was feeling good and up to filling in for Roy, who was filling in for Bill, who was filling in for Gary! The class went well. He was physically weak, but mentally and emotionally energetic and entertaining. He probably succeeded into continuing to fool many in the class into thinking he was getting better. Gary never complained about

pain he felt, or even talked about his health to anyone, except for a close few. So, it was a shock to thousands of followers to learn of his death by emails, by Facebook posts, or by the news. I wasn't surprised, but I was stunned. I had been thinking he would be unlikely to survive the upcoming mushroom foray season, especially since he committed to leading more of them than in any previous year. That was Gary. He did as much as he could to fully live his life and be a positive force for amateur mycology until he literally dropped. Two days after giving his final workshop, he collapsed at home with Irene by his side due to a sudden heart attack. He remained unconscious until dying that Friday evening in the hospital.

I just returned from presenting a course to the current members of COMA's Mushroom University course on gilled mushrooms. The topic of the day's lesson was *Russula* and *Lactarius*. It was based on a course I originally took with Gary several years ago and have since continuously updated and expanded upon. As a "substitute teacher" for COMA's Mushroom University, I was pleased to be able stand in for my mentor. It felt good to learn that COMA's Mushroom University will continue with his student-associates taking the reins. Next year I will be giving a talk for them on the topic of medicinal fungi. I am especially happy that so many of our PVMA members regularly participate in our own Fungi Kingdom University programs – and have the opportunity to learn from a devoted student and others who learned from the best, Gary.

When I told Gary that my husband Howard and I had found a home in Massachusetts where we could retire near my daughter, Gary tried to talk me out of leaving NY and COMA. That was five years ago. Since then we rekindled our relationship at various NEMF forays, and through email and Facebook. Ever since Michael Ostrowski and I started the PVMA, we talked about being able to have him and Irene take a train or bus up from New York City and stay a few days, so I could introduce the PVMA members to him, have him give us a talk and accompany us on walks. Unfortunately, our club really wasn't able in the first three years to pay him enough to make it worth the time and effort of spending three or four days with us. I wanted him to come in August or September when we have lots of mushrooms – provided it has rained within a week or so. These past two years he accepted virtually every invitation from clubs to serve as Chief Mycologist. He was booked everywhere at least a year in advance and

no weekends were available. Fortunately, some of you have nevertheless had the distinctly warm pleasure of meeting Gary at a NEMF or COMA foray.

Gary will continue to live on through those who have known him. I will remember how easy it was to talk with him. I will remember his comedic sense of humor about human behavior, his funny stories about by-gone mycologists who influenced him, our laughter. I will continue to learn on my own as he did and as he urged those who met him. As Sam Ristich's teaching on fungi inspired Gary and so many other founders of mycology groups in the Northeast, so Gary will continue to inspire all of us – through his books, and through those of us who learned from and with him. I am committed to continue in his footsteps and work toward advancing our appreciation for and an ever deeper understanding of fungi and their interactions through time with mutually dependent plants, insects, bacteria and animals like us. I imagine his final thoughts to us would be to live life to the fullest, make smart choices, love and support each other, and never stop learning. Fun, friends, and fungi!



Gary examining sticks for minute fungi