



Spring 2019

Fungi Kingdom News

The newsletter of the Pioneer Valley Mycological Association

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Morchella americana



© Dianna Smith

Morchella punctipes



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Spring Ascomycetes! From the tiny water loving ones (left) to the delicious morels (right), it will soon be time to be on the lookout for these lovers of the cool damp days of spring. **For a downloadable list of 150+ spring fungi found in our area, click [here](#).**

Last Renewal Reminder

This will be your last newsletter issue if you haven't renewed your membership for 2019. The exception is if you are a *new* member who signed up on or after August 25, 2018 (the day of Bill Yule's talk at Arcadia Wildlife Sanctuary); your membership is good through 2019.

Benefits include weekly guided fungi identification walks, access to our newsletter, eligibility to participate in Fungi Kingdom University seminars, programs with leading experts in various mycology topics, possible access to free PVMA late August 5-day Foray in White Mts. of NH, information on multi-day regional forays, and scholarship opportunities to attend multi-day forays.

Membership dues remain just \$15 for an individual and \$25 for a family. You may renew online by [clicking here](#). We hope you'll consider joining us for another year of friends, fun, and fungi!



BOARD OF DIRECTORS

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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.namyc.org).

www.PVMAfungikingdom.org

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...

It looks like Spring is finally arriving; the last of the snow piles are completely gone, and the first of the spring peepers are calling from the vernal pools and ponds throughout my woods. Although I enjoyed a long winter of studying and reviewing my mushroom knowledge, I also spent much of my time preparing educational programs to share with others. It has been wonderful to see so many new faces and old friends at our Fungi Kingdom University workshops, still ongoing!



I've also been hard at work preparing our walk schedule, which you will find on the next page of this newsletter. We've added a few new locations thanks to fantastic volunteers and will also be returning to many of our favorite and fruitful trails throughout the season. There are also several incredible large forays coming this summer; I'll be attending both the NAMA and COMA events and encourage you to consider immersing yourselves in all things fungi at one of these large regional forays. Take a look and be sure to mark the dates on your calendar!

Our official season kicks off with a late May walk, but you can get out there and find fungi any time. While the elusive Pioneer Valley morels may be calling to you, be sure to look for the myriad crusts and polypores that are ever-present in our forests. This is also the season of spring ephemeral wildflowers, so please take care not to damage fragile plant and animal life while out on the trails. In the coming weeks, I'll be out exploring the woods surrounding my new home; with connecting trails to Quabbin land, I may never run out of new areas to explore!

I look forward to seeing you soon,

- Jessica

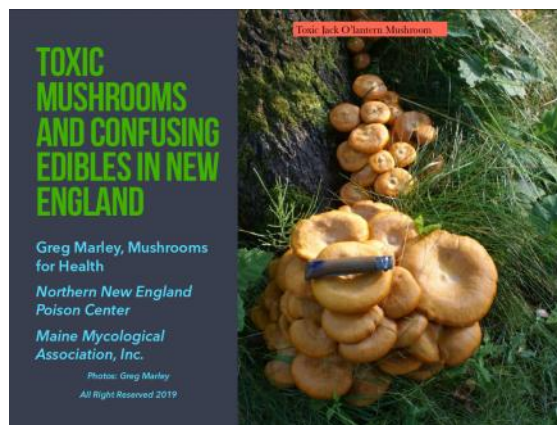
Edible Mushrooms and Poisonous Lookalikes in New England

With collecting season about to swing into full gear, it is extremely important to be sure that you make careful identification of the mushrooms you choose to eat. Here are a couple of great resources to help you.

Greg Marley of the Maine Mycological Society has published a pamphlet titled "Toxic Mushrooms and Confusing Edibles in New England," covering the mushrooms most commonly involved in poisoning cases in New England. Greg is a volunteer mushroom identification consultant for Poison Control Centers across New England. The pamphlet is available free as a pdf by clicking [here](#).

From our club's web site, you can also download Dianna Smith's comprehensive list of **"100+ Edible Mushrooms and Poisonous Lookalikes."**

So happy hunting, but be careful out there!



PVMA's Weekend Walk Schedule 2019

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. ***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.***

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 \$10 per person.** We will also have membership applications available if anyone wants to join after trying out a walk (the \$10 will then be deducted from the membership fee). We will look for fungi for approximately 2 hours.

We will post reminders for walks on our PVMA Facebook page. A few of the sites 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.org. We welcome you to post photos of the fungi you find on our PVMA Facebook site. *Please avoid foraging on each trail for the two weeks preceding the scheduled walk.* 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.)

Sunday May 26, 10:00 a.m., Jabish Brook Conservation Area, Belchertown with Jessica Evans. On Rte. 202 going North towards Pelham from Belchertown on the right. Small parking area. Please carpool from the parking lot of the North Brookfield Savings Bank, at the corner of Rts. 202 and 9 in Belchertown – parking is very limited at the trailhead. Bring a pair of gloves and help Jess do a bit of trailhead clean up, then we'll head off in search of spring "aquatic" fungi such as *Vibrissea truncorum*.

Sunday, June 9, 1:00 p.m., Granville State Forest, Granville, MA with Paul Thomas.

This walk at Granville State Forest begins and ends at the HQ (323 West Hartland Road) where there should be sufficient parking in the lot. The hike is moderate with slight elevation changes and some easy wetland traversal and proceeds via 1. HQ Trail North to 2. Corduroy Trail to 3. CCC Trail to 4. HQ Trail South. Link to trail map: <https://www.mass.gov/files/documents/2016/12/xy/granville.pdf>

Sunday, June 23, 1:00 p.m., Location TBD with Mary Obrzut and Lloyd Hubbard.

Location information and directions will be shared via email in mid-June.

Sunday, June 30, 1:00 p.m., Knightville Dam, Huntington, MA with Phil Hadley and Jessica Evans

Located off Rte. 112 in Huntington: <https://corpslakes.erdc.dren.mil/visitors/projects.cfm?ID=E609080>. From Westfield, west on Route 20 to Huntington, then north on Route 112 about 4 miles to Knightville Dam Road. Parking available at the picnic area. Easy to moderate trails that parallel the river.

Sunday, July 7, 1:00 p.m. Citizen Science Hike and Workshop with Jessica Evans.

Register for this hike/brief workshop focusing on our club's participation in the Mycoflora project by emailing Jess directly at JessicaBensonEvans@gmail.com. Location TBD based on registrations.

Sunday, July 14, 10:00 a.m., Huntington State Forest with Phil Hadley.

Route 66 to Sampson Road, Huntington. Mixed woods.

Saturday, July 20, 1:00 p.m., Shantigar Foundation, Rowe, MA, presentation and walk with Dianna Smith. 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. Dianna's cell phone is 914-715-8983. Register at <https://www.shantigar.org/mushroom-hunt-july>.

Sunday, July 21, 1:00 p.m., Cadwell Forest in Pelham, MA, with Dianna Smith. From Amherst Center go East on Main St. through the intersection with Northeast St. At this point, Main St becomes Pelham Rd. Follow Pelham Rd past the library to Enfield Rd on your right. Turn onto Enfield Rd and go about one mile. Stay to the left at the first Y intersection. At the second Y intersection, Enfield Rd becomes Packardville Rd. to your left. The gate and parking area to Cadwell Memorial Forest are on your left about 100 yds. beyond this intersection. Small parking area. We suggest carpooling. This is an easy wide trail of mixed hardwoods/conifers and crisscrossing streams managed by UMass.

Saturday, July 27, Time TBD. Stay tuned for more details: we hope to hold a summer potluck and pool party! More details will be announced this summer.

Sunday, July 28, 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.

Thursday, August 1 to Sunday, August 4: annual NEMF Foray at Lock Haven University, Lock Haven, PA. No PVMA walk. To register go to <http://www.nemf.org/> or see registration form in this newsletter.

Thursday, August 8 to Sunday, August 11: NAMA Foray at Paul Smith's College, Paul Smiths, NY. To register, go to <https://www.namyco.org/events.php>.

Saturday, August 3, 10:00 a.m. to 2:00 p.m., Houston-Gage Trail in Shutesbury, MA with Jessica Evans. Sparse parking at trailhead – mandatory carpooling from Shutesbury Elementary School, 23 W. Pelham Rd. in Shutesbury. This strenuous 1.7 mile loop trail has several gains and drops in elevation with one very steep downhill portion. Pack a lunch and plenty of water – this is a several-hours journey with all the fungi this trail yields!

Saturday, August 17, 1:00 p.m. Quabbin Gate 15 with guest mycologist Bill Yule and Michael Ostrowski. Route 202 in Shutesbury. See www.mass.gov/files/documents/2017/10/16/quabbin%20fishing%20map.pdf for an idea of where this gate is. Parking in a small gravel area along the road- please do not block the gate. Gradual but strenuous downhill towards the reservoir, with mixed woods and streams.

Monday, August 19 at noon to Friday August 23 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. Current PVMA members only. See the "Forays" page in this newsletter for details. Dianna.smith@comcast.net.

Saturday, August 24, 1:00 p.m., Chesterfield Gorge in Chesterfield, MA with Dianna Smith. Take Rte. 9 West from Northampton, approx. 4.4 miles. Take a left onto Rte. 143 W Chesterfield Rd. At intersection of 143 and Ireland St go South 0.8 miles taking a left onto River Rd to parking area. For more information go to www.thetrustees.org/places-to-visit/. This is a fairly flat trail that follows along the Westfield River. There are numerous interesting fungi. Always a fascinating walk!

Labor Day Weekend: Friday, Aug 30 – Monday, Sept 2, COMA Foray at Hebron, CT. Register beginning in June at <http://www.comafungi.org/>. No PVMA walk.

Saturday, September 7, 1:00 p.m., Shantigar Foundation in Rowe, MA presentation and walk with Dianna Smith. 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. Dianna's cell phone is 914-715-8983. Register at <https://www.shantigar.org>

Sunday, September 8, 10:30 a.m, Harvard Forest, Petersham, MA: joint walk with the Boston Mycological Club. Directions: **Please note:** Do not try to find the Forest by typing "Harvard Forest" into a GPS. You must enter the address: 324 North Main Street, Petersham, MA. Exit 17 off of Rt. 2/202, Harvard Forest will be on the left. Harvard Forest is a nature classroom that allows Harvard Students to conduct research in a protected setting. This is a rare opportunity to explore this site. Highlights include an old growth stand of eastern Hemlock (*Tsuga canadensis*) and a boardwalk trail through the Black Gum Swamp (*Nyssa sylvatica*). Common trees include oaks, maples, beech, and pine. The Black Gum and Natural History Trails are flat and easily traversed, however some portions of the trail in the Hemlock stand are very rocky and can be wet during rainy periods. Map: <http://harvardforest.fas.harvard.edu/trails-recreation>

Sunday, September 22, 1:00 p.m., Stanley Park, 400 Western Ave, Westfield with Jessica Evans and Phil Hadley. 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.

Saturday, September 28 - Sunday, September 29, Arunah Hill Natural Science Center, 218 Trouble St, Cummington, MA. Joint walk with the Connecticut Valley Mycological Society (CVMS). Join members of CVMS for an astronomy demonstration and overnight camping, followed by a joint foray at 10:00 am on Sunday morning. From Northampton take Rte. 9 West to Williamsburg, left onto Rte. 143 W towards Chesterfield. Follow Rte. 143 West for about 15 miles, then right onto Trouble St. More information at <https://www.facebook.com/arunahhill>.

Saturday, October 5, 1:00-3:30 p.m. Arcadia Wildlife Sanctuary, Easthampton MA. Dianna Smith will give a presentation on "The Medicinal Mushroom of Immortality: *Ganoderma lucidum* (Ling zhi, Reishi)," followed by a guided mushroom ID walk. Registration will be through Arcadia Wildlife Sanctuary; details will be available this summer.

Sunday, October 6 at 1:00 p.m. at Lily Pond, Goshen, with Dianna Smith. . 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. Dianna's cell number is 914-715-8983.

Sunday, October 13 at 1:00 p.m., Federated Women's Club State Forest in Petersham/New Salem with Jessica Evans. Wide well-trodden mostly flat trails with deep leaf litter in a predominately oak and conifer forest. 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 20, 1:00 p.m. at Mt. Toby in Sunderland, MA with Dianna Smith. Take Rte. 91 to Deerfield Exit, go East on Rte. 116. After crossing the bridge over the Connecticut River make a left onto Route 47 (N. Main St.) Bear right onto Montague Rd. At border of N. Sunderland and Montague, make a right onto Reservation Rd. Park on the right near the metal gates. (If you go down the road to the lake, you have gone too far).

Sunday, October 27, 1:00 p.m., Rock House in West Brookfield, MA with Mary Obrzut and Lloyd Hubbard. Details and map can be found here: <http://www.thetrustees.org/places-to-visit/central-ma/rock-house-reservation.html>

Sunday, November 3, 1:00 p.m., Fitzgerald Lake Conservation Area in Northampton, MA with Dianna Smith. Cooke Ave entrance. go to www.broadbrookcoalition.org/files/Fitzgerald_Lake.pdf for map. Meet at parking area on Cooke Ave. Shady mixed hardwood and conifer forest with streams and marked easy trails.

Asterophora, the "piggyback mushrooms"

By Sue Lancelle

Mycotrophs are fungi that grow on other fungi, either as saprobes or parasites. Many of these are parasites that you might be familiar with: the various *Hypomyces* that form a crust-like covering on many different mushrooms; *Entoloma arborivum*, the "aborted entoloma" that parasitizes an *Armillaria*; *Pseudoboletus parasiticus*, parasitizing the earthball *Scleroderma citrinum*, and various "cordyceps" that parasitize truffles. There are many more; see Michael Kuo's "Key to 25 Mushroom Eating Mushrooms and Fungi." However, there is one particularly interesting genus of parasitic mushrooms that we only occasionally run across, and those are species of *Asterophora*, the "piggyback mushrooms."

Currently there are two species of *Asterophora* recognized from North America: *A. lycoperdoides* and *A. parasitica*. These are small (caps typically 1-2 cm when mature) mushrooms that parasitize species of *Russula* and occasionally *Lactarius*. Last summer and fall we were observing more of both of these species than is usual; perhaps it had something to do with the very wet weather we had. What makes these species especially interesting is that they rarely produce basidiospores, the reproductive spores produced by basidia in the gills and pores of Basidiomycetes. Species of *Asterophora* reproduce mainly asexually by the production of chlamydospores, thick-walled cells produced directly by hyphae.



Figure 1. Illustration of *A. lycoperdoides* by Oscar Brefeld. The parasite is growing on *Russula nigricans*. Note the detailed drawings of chlamydospores, especially just under the right side of the *Russula* cap.

Figure 1 shows a detailed illustration of *A. lycoperdoides* made by the German mycologist Oscar Brefeld and published in 1877. The illustration shows the mushroom growing on the cap of *Russula nigricans*. It also contains microscopic details, including the knobby or starburst-like chlamydospores (see also Figure 2). As described in the Australian National Botanical Gardens website on *Asterophora*, Brefeld also repeated and confirmed earlier experiments that showed that mushroom caps parasitized with *Asterophora* broke down more slowly than those that were not parasitized. Presumably, this effect allows the parasite to more efficiently absorb nutrients from its victim.

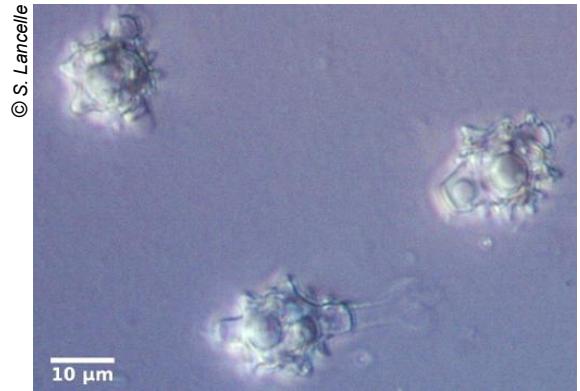


Figure 2. Thick-walled, starburst-shaped chlamydospores of *A. lycoperdoides*, Nomarski optics.

The chlamydospores of *A. lycoperdoides* are formed on the surface of the cap. As they mature, they form a powdery tan cap surface of spores that are then released into the wind, hence the common name "powdery piggyback mushroom." In Figure 3, you can see the change in the cap surface texture from silky smooth when young, to rough and powdery when mature. Figure 4 illustrates another characteristic of *A. lycoperdoides*, the formation of only rudimentary gills. Again, basidiospores form only rarely in this species, so the loss of distinct gills probably reflects this change in reproductive strategy.



Figure 3. *A. lycoperdoides*, showing younger, smooth caps, and mature caps that have become tan and powdery as the chlamydospores mature.



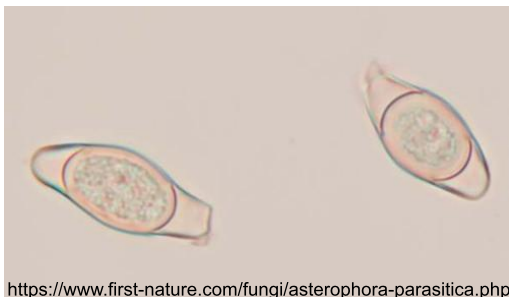
Figure 4. Flattened, rudimentary gills of *A. lycoperdoides*.

The other species that we encounter, *A. parasitica*, is commonly known as the “silky piggyback mushroom,” illustrated by Brefeld in Figure 5. This species also



Figure 5. Illustration of *A. parasitica* by Oscar Brefeld, showing the more highly developed gills of this species, as well as the development of the smooth chlamydospores (lower right) that occurs within the cap tissue.

reproduces by chlamydospores, but they are not formed on the surface of the cap, which maintains its silky texture through maturity. Rather, the chlamydospores form in the cap tissue itself, and



<https://www.first-nature.com/fungi/asterophora-parasitica.php>

Figure 6. Smooth chlamydospores of *A. parasitica*.

sometimes on the gills, but again, they are formed asexually by hyphae rather than through the normal sexual reproductive process that results in basidiospores. Chlamydospores of *A. parasitica* are smooth (Figures 5 and 6), and easy to distinguish from *A. lycoperdoides*. Gills are often thick and more well developed (Figure 7) than in *A. lycoperdoides*, but as in that species, they rarely produce basidia.



Figure 7. *A. parasitica*, showing thickened, more well developed gills than typically seen in *A. lycoperdoides*, and smooth, silky cap.

To look for these interesting little mushrooms, it helps to pay attention to what might at first glance just look like a brown or black blob of disintegrating mushroom in late summer to early fall. Poke around a little more closely, and you may be lucky enough to find one of our piggyback mushrooms!

References and Resources

Australian National Botanical Gardens. Case Studies: Fungi on Fungi – *Asterophora*.

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2019 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, attend interesting workshops, 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 or a workshop such as those at Eagle Hill (see page 9) , PVMA has a limited number of \$200 scholarships available for current PVMA members. The deadline to apply is June 1. See the application procedure on page 8.

The 2019 NEMF (Northeast Mycological Federation, of which our club is a member) 43rd annual Sam Ristich foray will be held August 1-4 at Lock Haven University in Lock Haven, PA. 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: <https://www.nemf.org/2019/03/23/2019-foray-and-registration/>. The registration form is also found on the last page of this newsletter. NEMF also has a scholarship program with a deadline of the end of May; details are at: <https://www.nemf.org/samuel-ristich-foray/homola-scholarships/>



Free Foray/Vacation for current PVMA members in the White Mountains with Dianna Smith at 72 Ledgewood Drive, Bethlehem, NH, Monday, August 19 at noon to Friday August 23 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 to share, 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. Number of participants is limited; please email Dianna at Dianna.smith@comcast.net to explain why you are interested in attending. The following criteria will be used to prioritize who can attend if there are more applicants than spaces available:



- Can stay all four nights
- Participates in our club locally (attends our walks, workshops, or other events)
- Interested in learning about *all* fungi, and not just the edibles

The annual COMA Clark Rogerson Foray will be August 30 - Sept. 2 at Camp Hemlocks in Hebron, CT. 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 be available soon on the Connecticut-Westchester Mycological Association website with registration open in June.

<http://www.comafungi.org/special-events/clark-rogerson-foray/>



The North American Mycological Association's annual foray is held at sites all over the country, but this year it will be almost in our back yard in the Adirondacks at Paul Smith's College in Paul Smiths, NY, Aug. 8-11. Roy Halling will be chief mycologist. For more information click [here](#). You must be a current NAMA member, but you get a discount for being a PVMA member as well. Register online now by clicking [here](#). If you are interested, don't wait! This foray will reach capacity very quickly!

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 or educational workshop 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

Announcing Eagle Hill Mycology and Lichenology/Fungal Symbionts Seminars in 2019

On the coast of Eastern Maine, just east of Acadia National Park

May 26 – June 1: Old-growth Forest Lichens and Allied Fungi, with a Focus on Calicioids – Steven Selva and Troy McMullin

June 16 – 22: Independent Study: Topics in Fungal Biology – Donald Pfister

July 28 – August 3: Mushroom Identification for New Mycophiles: Foraging for Edible and Medicinal Mushrooms – Greg Marley and Michaeline Mulvey

August 11 – 17: Crustose Lichens, Accessory Fungi, and Symbiotic Transitions – Toby Spribille

August 18 – 24: Mushroom Microscopy: An Exploration of the Intricate Microscopic World of Mushrooms – David Porter and Michaeline Mulvey

September 27 – 29: Fall Maine Mushrooms – David Porter and Michaeline Mulvey

For more information on the individual seminars: <https://madmimi.com/p/66239d?>

For general information: <https://www.eaglehill.us/>

Contact information: office@eaglehill.us

Just What IS an Herbarium?

By Sue Lancelle



Recently, we've been trying to spread the word about our citizen science project, which involves identifying, documenting, drying, and submitting fungal specimens for permanent storage at the New York Botanical Garden's William and Lynda Steere Herbarium. Some of our specimens will also undergo DNA sequencing through the North American Mycoflora Project.

It occurred to me that you may be wondering, "What exactly IS an herbarium anyway?" An herbarium is a repository for preserved and documented plant specimens, which are then available for scientists worldwide to study. Some herbaria, however, also include fungal specimens, and the New York Botanical Garden is one of these. Their herbarium is among the four largest in the world, with an inventory of about 7.8 million specimens, including over a half million fungal specimens.

To understand herbaria and the important roles they play, listen to these two short videos in which Dr. Barbara Thiers, the director of the William and Lynda Steere Herbarium, describes the herbarium's inner workings. In the video produced by JSTOR (bottom),



The New York Botanical Garden: The Steere Herbarium



JSTOR Global Plants: Inside The New York Botanical Garden Herbarium

Barbara illuminates very clearly the various ways that scientists use herbarium specimens. Just substitute the word "fungus" for "plant," and you will see how important our contributions to the fungal collection can be!

Fungal specimens are carefully dried, but unlike plants, they are not glued to sheets of paper. Rather, they are stored in specially made boxes of different sizes, depending on the size of the specimen (Fig. 1). The boxes are then stored in specially designed herbarium cases. Each box has a label with detailed information including the name of the specimen, where it was collected, its habitat, and the collector's name and date. The herbarium gives each specimen



Figure 1. Fungal herbarium boxes.

a unique accession number. All of this information is eventually made available online and can be found through a searchable database in the [C.V. Starr Virtual Herbarium](#). The data for fungi also appear on the [Mycoportal](#).

With funding from various sources but especially the National Science Foundation, the herbarium staff has been working since 1995 to produce digital images of all of their millions of specimens, including the fungi (Fig. 2). As these images are produced, they become available for scientists to access via the C.V. Starr Virtual Herbarium. This can eliminate the need for scientists to physically borrow these sometimes very fragile specimens.



Figure 2. Fungal herbarium specimen photographed for the virtual herbarium.

Whether you are interested in simply learning more about our citizen science project or actually participating in it, please register for the workshop on July 7 (see walk schedule in this issue).

Book Recommendation

Forest Trees of Maine

The Maine Department of Agriculture, Conservation and Forestry. 2008. 176 pp.

Available in print for \$15 or free in pdf format from:

https://www.maine.gov/dacf/mfs/publications/handbooks_guides/forest_trees/index.html

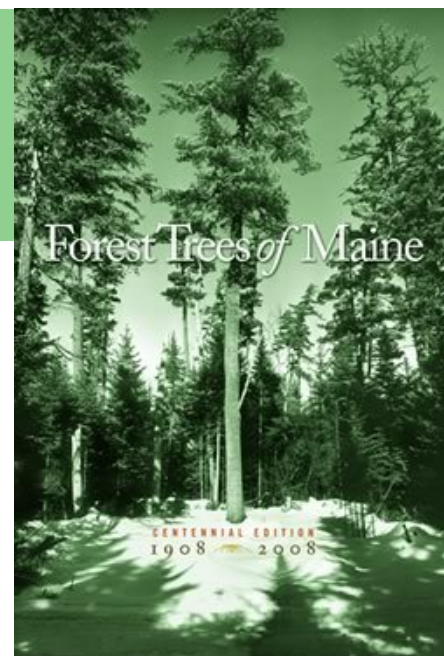
By Sue Lancelle

If you are seriously interested in understanding fungi, you can't ignore the trees! Trees and many of the macrofungi that humans are most interested in are intimately linked in many different ways. Learning to identify trees is an essential part of the process of taking a wholistic view of the role of fungi in our ecosystems. Therefore, when you are identifying fungi, it is important to note which trees or type of wood they are growing on, if at all possible.

Identifying trees can sometimes go beyond just looking at the leaves, especially at times of the year when the leaves are absent. Branching patterns, buds and bark are all key characteristics, and learning trees by their bark, especially, is helpful in identifying rotting wood that still has some bark.

The field guide *Forest Trees of Maine* is an especially good resource for learning about the trees of our area (most of the trees described occur here in Massachusetts). It has excellent descriptions and illustrations of both conifers and

hardwoods, and includes images of buds, bark and fruit along with the leaves. When there are several species in a genus, a summary table provides a quick reference for separating them. The book is spiral-bound (handy for the field) and includes a ruler on the inside back cover. The only criticism I have of this otherwise excellent guide is that it doesn't include images of the flowers for all of the trees.



They gray bark of the chestnut oak is very deeply furrowed.

CHESTNUT OAK *Quercus prinus* L.

Chestnut oak only occurs in the southern tip of Maine. It is found on Mt. Agamenticus in the town of York and has been reported from Oxford County. In Maine, trees grow 12 inches or more in diameter and about 40 feet in height.

The gray-brown bark is smooth on young trees, but becomes thick and very deeply furrowed on older trees. The leaves are similar to those of the American chestnut. They are yellow-

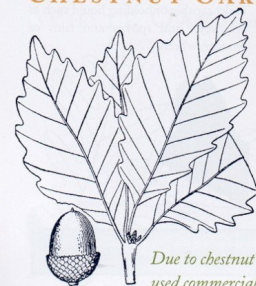
green above, hairy below, narrowly elliptical with shallow rounded lobes without bristle tips. They are often widest above the middle.

Male flowers are yellow-green, borne on catkins and appear in May. Female flowers are reddish, borne in spikes with the leaves in mid-spring. The edible fruit is a large, 1½ inch long, ellipsoid acorn that matures in one season. Its cup encloses about half of the acorn. The twigs are hairless and orange-brown to gray. The chestnut brown buds are clustered toward the end of the twig, pointed, and quite long and narrow in shape.

The wood is similar in character to white oak and has similar uses. In areas where chestnut oak is more abundant, it is sold as white oak. Due to its rarity in Maine, it is not used commercially here.



MAINE REGISTER OF BIG TREES 2008
Chestnut Oak Circumference: 191" Height: 90' Crown Spread: 72' Location: Yarmouth

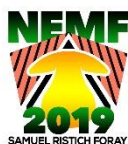


Due to chestnut oak's rarity in Maine, it is not used commercially here.

Do you know the differences among the several species of birches that occur in our area? (Hint: they don't all have white bark!) Can you distinguish a young sweet birch from a beech? If there are no leaves visible, can you differentiate a big old maple from an oak? There are so many oaks; how can you start to learn about the different species? This book can be an indispensable aid in helping you learn the key characteristics of trees in our area, and that will help you develop a deeper understanding of the fungi you are finding as well. I highly recommend this book as an addition to your field guide collection.

CHERRIES AND PLUMS *The Important Distinctions*

	Pin Cherry <i>Prunus pennsylvanica</i>	Black Cherry <i>Prunus serotina</i>	Common Chokecherry <i>Prunus virginiana</i>	Canada Plum <i>Prunus nigra</i>
BARK				
TEXTURE	Nearly smooth. Large horizontal lenticels show orange when rubbed.	Young trunks: prominent white lenticels. Older trunks: fissured and ridged.	Smooth with a pungent, disagreeable odor. Lenticels less prominent than on other <i>Prunus</i> species.	Lenticels yellowish
COLOR	Reddish-brown	Young trunks are black	Grayish-brown, with light-colored fissures	Dull reddish-brown to black
LEAVES				
GENERAL DESCRIPTION	Long and tapering from base to tip. Widest in the lower 1/3; thin and firm textured with round teeth. Glands on stalk, and no hairs on midribs.	Elliptic/oblong, widest in the center, thick leathery and shiny. Underside of midrib near stalk end covered with rusty, brown hairs. Glands on stalk near blade. Margin has rounded teeth.	Obovate, widest in the terminal 1/3, sharply saw-toothed and without hairs, medium leathery in texture, glands on stalk and no brown hairs on midrib.	Ovate or obovate tapering abruptly into a long thin point. Teeth rounded. Glands on stalk.
TWIGS				
SHAPE	Very fine	Waxy	Medium slender	Thorns common on older twigs
COLOR	Red and reddish-brown	Red-brown with a lighter or greenish margin	Gray or purplish-brown	Current growth gray, older growth darkening to black
ODOR	Slight cherry odor	Sharp, pungent smell when broken	Strong, pungent bitter-almond odor	None
BUDS				
SHAPE	Football-shaped with a longitudinal furrow	Ovate, flattened	Cone shaped, slender-pointed, side buds not flattened	Cone shaped, pointed
COLOR	Red-brown	Red-brown with a lighter or greenish margin	Purple to tan pattern	Gray-brown
FRUIT				
COLOR	Bright Red	Black	Deep red to purple	Light red to yellow
SIZE	1/4 inch diameter	1/2 inch diameter	1/4-1/2 inch diameter	1 inch diameter
ARRANGEMENT	Hang in umbellate or corymbose clusters	Produced in a raceme, the individual fruit have a persistent basal disc	Produced in racemes, basal disc not persistent	Football-shaped with a longitudinal furrow



**2019 Samuel Ristich Foray: 43rd Annual Foray – Northeast Mycological Federation
August 1--4, 2019 – Lock Haven State University**

Registration Form -- Registration closes July 15. A late fee applies after June 30.

Name(s): (Nickname for nametag?) _____ Organization and/or Hometown _____ If child, age _____

Home Phone: _____ Cell Phone: _____

Address: _____

Email address: _____

____ I want to share a room/suite with: _____

____ Please assign a roommate. I am ____ male ____ female.

____ I want a single room; to assign a suitemate, I am ____ male ____ female.

Liability waiver-ALL adults in your party must sign: By signing below, I release Lock Haven State University and the Northeast Mycological Federation, Inc., the host clubs, their officers and members, foray participants and instructors from any and all liability and loss arising from any accident, injury or illness which may result from activities while attending the NEMF foray.

Print name	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

If you need more lines, attach a copy of this sheet.

Special needs (We will try to accommodate needs; handicap access, special dietary, late arrival, local transport, etc.):

____ I can help at the foray. ____ I am interested in being a vendor. ____ I can help with local transport.

Fees (see note below):	<u>Number of persons</u>	<u>Fee</u>	<u>Total</u>
➤ Resident (double occupancy rate is per person)*:			
-Adult: 3 nights (Thurs.-Sat.), single occupancy	_____ X	\$405 =	_____
-Adult: 2 nights (Fri.-Sat), single occupancy	_____ X	\$340 =	_____
-Adult: 3 nights (Thurs.-Sat.), double occupancy	_____ X	\$390 =	_____
-Adult: 2 nights (Fri.-Sat), double occupancy	_____ X	\$325 =	_____
-Child 4 to 12: 3 nights in suite with parents	_____ X	\$100 =	_____
-Child 4 to 12: 2 nights in suite with parents	_____ X	\$75 =	_____
➤ Commuter, Thurs--Sun:			
All activities including 8 meals & socials	_____ X	\$240 =	_____
➤ Commuter, Fri—Sun:			
All activities, including 5 meals and socials	_____ X	\$215 =	_____
➤ Student or commuter -- activities only, no meals or socials	_____ X	\$100 =	_____
➤ Late registration (after June 30):	_____ X	\$30 =	_____
➤ 2019 T-shirt ____ XXL + ____ XL + ____ L + ____ M + ____ S	_____ X	\$15 =	_____

***Note:** 3 nights includes 8 meals (Thurs. dinner—Sun. breakfast), 2 nights includes 5 meals (Fri. dinner—Sun. breakfast).

Total owed: _____

Make check out to NEMF (in US dollars on a US bank) for the total, and mail with this form to: NEMF registration
 c/o John and Cheryl Dawson
 393 Waters Road
 York, PA 17403-4751

Confirmation of registration and detailed directions will be sent by email if an address is provided, otherwise by regular mail.
 Questions may be directed to the registrars, John or Cheryl Dawson, by email at nemf2019registration@comcast.net, or by phone at 717-846-1225. Find more information at www.nemf.org.