

NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION
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Vice-President - Luke Smithson
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NJMA EVENTS HOTLINE

908-227-0872 for information on
NJMA events or cancellations due to
bad weather. It is NOT for general
inquiries or to contact officers!

THE COLD WON'T STOP THESE! (WELL, ALMOST!)

Flammulina velutipes, a.k.a. the Velvet Foot, Enoki or Enokitake, is found on dead trees and logs which still have some bark left on them during the colder months (especially when brief warm spells occur). The cultivated version (grown in the dark) is pure white and is sold in plastic packages in supermarkets. In the wild, it is brown with a velvety stipe which is either partly or entirely dark brown and grows in tight clusters. It has cream-colored gills and white spores.
It does not have a ring or any trace of a ring.

Stipe & gills
detail

PHOTO BY JIM BARG

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PRESIDENT'S MESSAGE

As you read this message in early January, I hope your New Year celebration has been peaceful and refreshing and you are looking forward to 2016.

I love to be in the woods. At first, I liked to look for fungi, because they live in the woods. The hunt gave me a reason to be there. Over the years, I have learned more about what fungi do, figured out where a fruiting body might be hiding, learned to recognize many by sight, and even learned to name a few. Looking for fungi has changed the way I see the woods and my enjoyment has grown. I am grateful to NJMA for the opportunity to walk in the woods with, and learn from, so many interesting people, old and young, knowledgeable about fungi and novices.

So, my primary goal as your new president is to help make sure NJMA continues to provide the opportunity for our members and people all over New Jersey to learn about fungi. NJMA's longstanding practice of limiting the president to two successive one-year terms has served us well. A core group of committed members make the organization function. These members essentially elect themselves by stepping forward to do the work. Having observed eight NJMA presidents, I have concluded that the president's role is to help our committed members ensure our core functions serve the diverse and changing interests of our members and people all over New Jersey. If you have ideas about what we should be doing or would like to be more involved with, please call (609-466-4690) or email me (johnab190007@gmail.com). NJMA is your club.

Before turning to upcoming events, I want to thank my two immediate predecessors, Philip Layton and Patricia McNaught, for their enormously important contributions to the future of NJMA. Phil initiated a process for revising our by-laws, and worked during his first year as President emeritus to fashion an excellent draft of the document. Patricia guided the process through discussion with the Board and membership to approval by members in April of last year. When my wife, Nina, became president in January 2008, she spent a lot of time trying to figure out what she needed to do. Fortunately, long-time members stood ready to help her succeed, but the existing, hastily written by-laws were no help. They didn't reflect how the club operated. The new by-laws and accompanying policies reflect how we operate. Thank you Phil and Patricia, for developing a structure that will allow NJMA to thrive for years to come and change as future members see fit.

I urge you to attend our January and February meetings. Gary Lincoff, author of the *National Audubon Society Field Guide to North American Mushrooms*, will speak

to us on Sunday, January 10, 2016 about an ongoing inventory of fungi in New York City parks. Many of us know Gary from NAMA and NEMF forays and prior presentations to our club. Three messages from his last talk several years ago have stuck with me:

- 1) Pick a place and learn its mushrooms.
- 2) Just because you can't eat most of them, don't pass up the fungi on dead wood.
- 3) Visit your chosen place often and in all seasons – fungi don't stop fruiting just because most of us have stopped looking for them.

So I look forward to hearing Gary's report about the inventory of New York City fungi. Gary is an engaging speaker and excellent educator. You will learn from his lecture and find it interesting no matter what knowledge of fungi you bring to it.

Our annual Mycophagy meeting and Mycoauction, a members-only event, will be held on Sunday, February 21, 2016 at the East Brunswick Unitarian Society. The chef this year will be Jay Chai, manager of two Hackettstown restaurants: Pandan Room and TOPO. The event is free, but reservations are necessary. Contact Igor Safonov (njmycomember@gmail.com) to attend. Space is limited. This is always an enjoyable occasion. And check your closets for mushroom-themed items to donate to the Myco-Auction (contact Marc Grobman (marc@marcgro.com) or Frank Marra (marraman@verizon.net) to let them know what you will be bringing.

– John Burghardt



WELCOME TO THE ONLINE EDITION OF NJMA NEWS

For the great majority of you who are viewing the online PDF of this newsletter, please note that **most web links and email addresses are clickable**. Clicking on a web or email address will launch your web browser and take you to the specified page or open your email software so you can send us an instant email. Just look for the "click finger" when you hover your mouse over these items.

IN MEMORIAM
GRETE TURCHICK
FOUNDING MEMBER OF NJMA

by Jim Richards

Grete Turchick, the last of the original members of the Lakeland Mushroom Club (which later became NJMA), died on November 24, 2015. She was the first Membership Secretary in 1972. In 1973, she became our Treasurer and held a tight grip on the club's purse strings until 1996.



Grete Turchick in June 2014 at Lake Ocquittunk

When I first joined NJMA, it was Grete that everyone turned to for those three most important questions: Can I eat it? How do I cook it? How do I keep the extras so that I can use them later? She was never too busy to take time for beginners to give them advice.

As Mike Rubin said, on hearing of Grete's passing, "I am very sad to hear about Grete's passing. She was my mentor and taught me a lot about mushrooms as well as other things. I will miss her."

Rhoda Roper echoes that sentiment. "I, too, am very sad about Grete. One by one, the people who taught me about mushrooms are passing away. and it is getting lonelier and lonelier. I remember the first time I found (*Grifola*) *frondosa* and it was huge, I called Grete to ask

her how to preserve it, as I called her about everything mycological. She was a mentor to many of us and we will miss her."

I first met Grete at the NJMA 1976 Picnic at Stokes. It was a rainy Sunday, and the assembled crowd was trying to squeeze into the pavilion to keep dry and to look at the mushrooms we had collected. She was everywhere, helping ID the finds, and making sure that the pots of food on the fires outside were being taken care of, and passing out her pickled Honey Mushrooms, of which she seemed to always have an endless supply.

I got to know Grete very well when we took over doing the Mycophagy demonstration in 1980. Paul Leuthard and Max Meister, the chefs who had cooked for us in 1978 and 1979, decided that two years was enough. Grete and I felt we could do it, and so we did, for a number of years. Back then, in the pre-Phillips Mushroom Farms days, we relied on donations of mushrooms that members had collected. Grete always had a treasure trove of dried boletes and frozen morels to share.

When we held the first Fungus Fest in 1979, Grete was a big part of it, circulating among the crowds passing out her Pickled Honeys and her Puffball Fritters. It was from her generosity that many visitors got their first taste of wild mushrooms.

She was the "Uber Pot-Hunter." And she had one very special characteristic that made her a force to be reckoned with in the field: If you valued your life and limb, you never wanted to be standing between Grete and any edible fungus. She would bowl you over to get at that morel or porcini, even a patch of honeys. She would share them with you afterward. But, she HAD to be the one who collected them.

For those of us who knew and worked with Grete, she will always be missed.

For those of you who never had the privilege, you missed out on meeting someone very special.



Grace Gambino, Grete Turchick, Hanna Tschekunow, and Dorothy Smullen at the NJMA 25th Anniversary Dinner in 1996

UPCOMING NJMA CULINARY GROUP EVENT: A MUSHROOM SOUP SAMPLER SATURDAY, MARCH 12TH AT 6:00PM

Unitarian Society, Tices Lane, East Brunswick

The next NJMA Culinary Group event will be a very special one: A Mushroom Soup Sampler. We have had several very successful soup suppers in the past, and they have always been very popular. For the first time, we will be featuring a special ingredient: Mushrooms! The range of possible soups varies from clear mushroom broths to hearty beef and mushroom soups which will include fresh cultivated mushrooms, wild mushrooms, and dried mushrooms. We already have members planning to bring soups made with dried boletes, frozen Hen of the Woods, and dried morels. We will start with a few appetizers, and then we'll serve the soups, along with breads and crackers...and maybe a salad or two. And we will definitely finish with some desserts, coffee, and teas.

The Culinary Group has been an active part of NJMA since the spring of 1982, usually putting on three dinners a year. These are planned meals, usually with a national or regional cuisine as a focus, although we have done vegetarian meals, game dinners, and summer salads.

The organizers of the dinner plan the menu from recipes that members suggest, and, in general, try to make sure that the meal goes smoothly. The meals are definitely not "potluck". If we get more than one person wanting to make a similar dish, the first person to send in their recipe will usually be chosen. So get your reservations in early.

Each person who prepares a recipe keeps track of the costs of their dish. At the meal, the cooks hand in receipts for the ingredients used in their dish, all is added together, a donation for the church is added, and the total is then divided by the number of participants. The average meal has been running around \$16 to \$18 a person, which is a fantastic bargain for the quantity and quality of the much-appreciated dishes.

Everyone brings their own tableware, dishes, glasses, and cutlery, plus any wine, beer, or other beverages they wish to enjoy with the meal. Coffee and tea are provided.

Not only do we enjoy a great meal, but these get-togethers are a wonderful way to get to know your fellow 'shroomers.

The dinner is limited to thirty participants, *so make your reservations as soon as possible*. To register for the dinner, you should contact Marja Van Ouwkerk (pamarja@embarqmail.com). For questions about the menu or for any additional information, contact Jim Richards (jimrich17@mac.com).

Remember that you must be a member of NJMA in good standing in order to attend these dinners.



EDITOR'S NOTES

2015 is done, and along with that is one of the odder mushroom seasons in quite a while. It is hard to believe that members have been finding a wide variety of "out-of-season" fungi; hedgehogs, stinkhorns, boletes, russulas, and lots and lots of oysters. Plus lots of mysteries as well. We have to just hope that El Niño is not just pushing winter weather later into 2016 so that we have snow in May when we are hunting morels.

I would like to take a few moments to thank Patricia McNaught for the job that she did for the last two years as club president. Now that she has stepped down, hopefully she will have some time to get back to contributing articles for *NJMA News*.

I have had a very long talk with our new president, John Burghardt, as to his ideas (and mine) for things we would like to see happen in NJMA during the next few years. I am sure that many of these "projects" will come to fruition as time passes.

NJMA News not only welcomes, but relies on, your contributions of articles, photographs, drawings, poetry, recipes, etc. to fill these pages. As we say (more times than you probably want to hear): This is your newsletter.

One very important function that *NJMA News* performs (and that most people do not probably ever think of): It is the only record that we have of club activities. In conversation with John, I learned that he has been able to assemble a complete set of newsletters from the very beginning. Don't be at all surprised if you start to see occasional articles from the past resurfacing from time to time.

Have a wonderful fungi-filled 2016. Check the Calendar of Upcoming Events and add those dates to your personal datebook. There is lots of excitement ahead!

– Jim Richards

NJMA ELECTION REPORT

The slate of officers and trustees that was presented by the Nominating Committee at the November 15th Annual Meeting was elected, effective January 1, 2016.

President:	John Burghardt
Vice-President:	Luke Smithson
Secretary:	Sharon Sterling
Treasurer:	Igor Safonov

Trustees:

One year term:	Dorothy Smullen
Two year term:	Glenn Boyd
Three year term:	Mike Rubin
Four year term:	John Burghardt
Five year term:	Melanie Spock

Nominating Committee:
Nina Burghardt (*Chair*), Mike Rubin, Phil Layton

MYCOREMEDIATION: ONE WAY MUSHROOMS CAN SAVE THE WORLD

by Patricia McNaught

Our lecturer for the November NJMA meeting was Lauren Czaplicki, a Ph.D. candidate at Duke University. In 2012, Lauren was finishing her masters degree in environmental engineering at Ohio State University, and thinking about her next step, when she saw Paul Stamet's TED talk, *Six Ways Mushrooms Can Save the World*. She found the talk inspiring; so much so, that to pursue her doctorate, she chose Duke University because there were professors there (Dr. Claudia Gunsch and Dr. Rytas Vilgalys) with the expertise and willingness to support her research project in mycoremediation.

Environmental remediation of soil is more difficult than remediation of groundwater or air. You can "cap" the site, or dig up the soil and treat or remove it; all these approaches are expensive. Lauren's project involves sites that were heavily contaminated with creosote, a wood preservative that is toxic. The chemicals in creosote are a mix of polyaromatic hydrocarbons or PAHs. These are big stable ring structures that don't degrade much in soil. They're too big to be transported into bacterial cells, so they really persist in the environment. Wood decay fungi are a promising candidate for bioremediation of creosote. All fungi pump their enzymes outside their cells, and then absorb the nutrients released, so cell transport isn't an issue. If a joint process is needed, fungi partner well with bacteria; with fungi doing the initial attack on the pollutant and bacteria then taking over. Bacteria can even use mycelium as a sort of fungal highway to move around a site. Lastly, wood decay fungi are tough; they can survive temperature extremes, an uneven nutrient supply, and exposure to multiple pollutants.

Bioaugmentation has been tried with fungi: just add a fungus that can degrade the pollutant to the site. But outside the lab, fungi grow in a complex community. There are many different species of fungi present even in a polluted site, many in competition with each other. The added fungi often just can't compete with the native fungi and

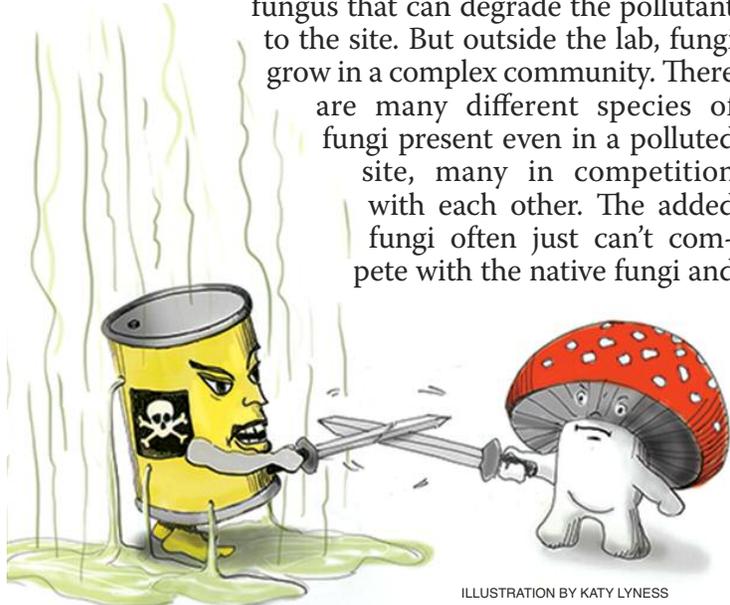


ILLUSTRATION BY KATY LYNES

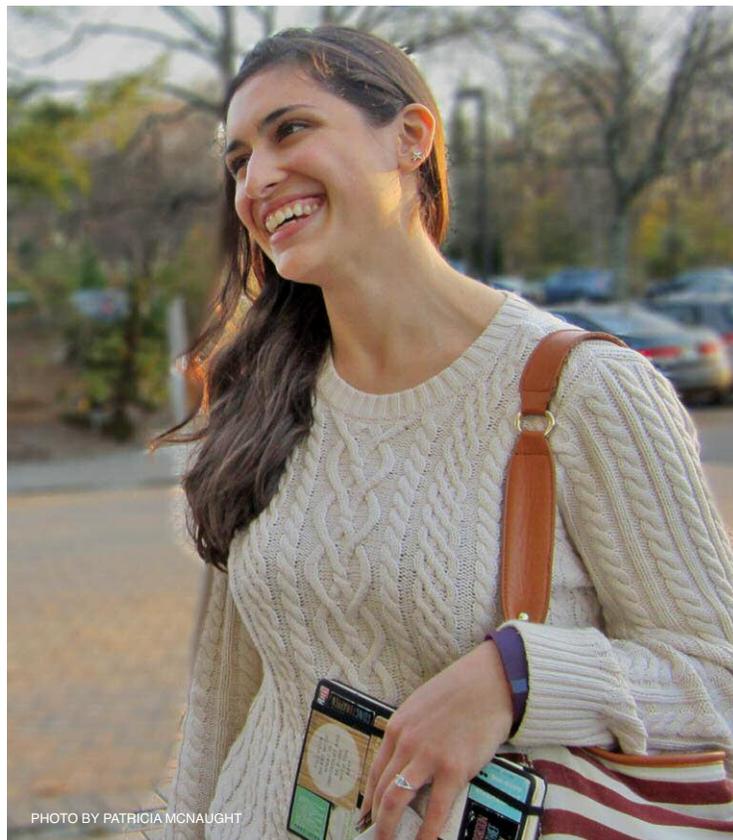


PHOTO BY PATRICIA MCNAUGHT

Lauren Czaplicki, speaker at our November 2015 meeting

they die out. The approach Lauren is pursuing is **biostimulation**: find out if any of the fungi *already present* can degrade the pollutant and, if so, help them grow, by adding woodchips, for example. The first step was to see what is growing on the creosote sites. In the old days, this would have been impossible; you can't identify a fungus by looking at hyphae. But with the techniques of molecular biology, you can identify to genus the fungi that are present. Lauren sampled soil with different levels of contamination, at two different sites. She found that many of the fungi at the contaminated sites were ascomycetes. This is an important finding, because the research to date on degrading PAH's has involved bioaugmentation using basidiomycetes, not ascomycetes.

The next step was to decide which of the fungi present are most promising. Lauren screened the fungi she found to see which of them, based on the mycological literature, are most likely to be able to break down the chemical bonds of creosote. Her "candidate" genera did increase as the level of contamination of the sample increased, with the exception of the most contaminated soils. It's possible the heavily contaminated samples had fungi not previously thought of as possible PAH degraders. The sites Lauren is working with have been heavily contaminated with creosote for decades – nearly 100 years for one site. It's possible that over this time span, there has been some natural selection for strains better able to metabolize creosote.

Even if fungi that are metabolizing creosote are identified, many questions will remain to be answered. What

(continued from [previous page](#))

are the breakdown products? Are they more or less toxic than the creosote? Once the PAH's are partially broken down by fungi, are bacteria involved in further breakdown? How do the fungi respond to added nutrients (i.e., wood chips or chitin)? Finding all these answers is not as easy as you might believe from Paul Stamets' TED talk. I asked Lauren about that, and she had an upbeat response: It's good that Paul Stamets makes it seem easy, because that inspired her to take on this project, with the belief that she could make a difference.

Some of the terms that Lauren used in her lecture were new to most of us. A couple of them are explained below:

Curated Database: Some of us have heard that submitting a fungal DNA sequence for a match on Genbank can send you in the wrong direction. The problem is that anyone can submit a sequence and there is no assurance that the fungi in GenBank were correctly identified when their DNA sequence was first submitted. (It's as if I sent Cornell Lab a recording and said it came from a bluebird, but I was wrong; it was actually a robin. Then, if someone later submits a recording that matches mine, they will be told there was a match to a bluebird. But it wasn't a bluebird, it was a robin!)

To avoid this problem, a curated database can be used. In a **curated database**, there is assurance that the specimens the data are based on were correctly identified. A curated database called RDP is at Michigan State University. It's based on RNA sequences in the ribosomes. (Ribosomes are the organelles involved in protein synthesis in a cell.) Lauren used RDP Release 11, which just came out a few months ago and has over 100,000 RNA sequences for the "fungal large subunit gene". This is a sequence that varies with the *genus*. Lauren didn't want to use a database that identifies to *species*, because many of the fungal *species* present in the contaminated soil may not be in the database.

Distance Coefficients: Many of us were puzzled when Lauren presented a "graph" showing dots representing the fungal communities at different sites. The x axis and the y axis weren't labeled – What good is a graph with no labels? The concept of distance coefficients comes from ecology. It's a way of comparing the "communities" at two or more sites. Do they have the same mix of species? If they're different, how different? A multidimensional statistical analysis is done, and the result is presented as the distance between two or more sites on a two dimensional plane. If they are clustered together, that means they have similar species composition. If they're far apart, the species mix is very different. Lauren used the VEGAN statistics package for her data analysis.

It might be interesting for us to compare the distance coefficient of our foray list for a particular site over time. In theory, we could tell how much the fungal community had changed over that time period.



NJMA FACEBOOK RE-BOOT

submitted by Luke Smithson

A quick note to our membership: the New Jersey Mycological Association's Facebook page has been turned into a group, The New Jersey Mycological Association Discussion Group. What this means is that the old NJMA page is no longer active and will be eventually taken down once the word has spread. The purpose of switching from a "page" to a "group" is to make NJMA's Facebook presence more interactive to the members of NJMA and others. It is a place to share photos of forays and finds, as well as a place to share mushroom related news and to stay in touch with fellow fungophiles.

To join the new group, follow either link and click the "Join" button:

<https://www.facebook.com/groups/720347348096916>

or

<http://tinyurl.com/jjualgz>



BYTES, BITS, & BITES

TASTY LITTLE TIDBITS FROM OUR MEMBERS

from Judy Glattstein:

Have you heard of this book?

Mushrooms Traded as Food. Vol II sec. 2

<http://tinyurl.com/zgppgej>

from the James Beard Foundation blog:

The Blend (blending meat with finely chopped mushrooms), has been called "the future of food," and is on its way to becoming the preferred burger format. It's at the intersection of flavor, health, and sustainability, and it's the new way to show how much you care about your guests. More than 200 well-known chefs took our blended burger challenge this summer, and for that we thank them.

The Blend: Flavorful, Healthy, and Sustainable Burgers

<http://tinyurl.com/hlsb6e4>

from Judy Glattstein:

Barometer Earthstars in *The New York Times*:

<http://tinyurl.com/h3uxpj7>

from Epoch Times:

Are Plants Conscious, Intelligent?

<http://tinyurl.com/hd7crl4>

from Alex Adams:

Came across this site in Facebook page "Eat Weeds" group. Though it seems light on foraging, maybe that's because it's winter in some of the world. happy new sun.

www.herbrally.com

(continues on [page 9](#))

NJMA PHOTO CONTEST 2015
GALLERY OF FIRST PLACE WINNERS



ADVANCED PICTORIAL – **JUDY GORAB**
“Orange Mycena”



NOVICE PICTORIAL – **RHODA ROPER**
Daedaleopsis confragosa



ADVANCED TECHNICAL – **TOM BIGELOW**
Terana caerulea



NOVICE TECHNICAL – **RHODA ROPER**
Lactarius indigo



ADVANCED JUDGES' OPTION – **SUSAN HOPKINS**
“Irene and Gary Lincoff with Tina Ellor”



NOVICE JUDGES' OPTION – **BETTY WISE**
“Chocolates, Anyone?” - *Strobilomyces floccopus*

(Best in Show is on following page; a complete list of all winners is on page 16.)

NJMA PHOTO CONTEST 2015



BEST IN SHOW

“Orange Mycena”

JUDY GORAB
Photographer



Visit the NJMA Discussion Group  facebook
<http://tinyurl.com/jjualgz>

2015 SUMMARY FROM THE FORAY CHAIR

by Nina Burghardt

2015 was my first year as foray chair. Many things went well and others can definitely be improved on. Our forays were very well attended in spite of the dry summer. I don't know how the participants found so many fungi. I would look at the woods, dry, not a mushroom in sight, and my heart would sink. At noon, people would return from the foray with their baskets and, pretty soon, the tables were full.

Nearly everyone made an effort to identify what they had collected. We even had newcomers put names to mushrooms that our more experienced identifiers were not familiar with and the names turned out to be correct. This year we emailed the participants the names of mushrooms we identified at the foray they attended. Maybe, in the future, we can associate pictures with some of the finds. We added over 100 new species to our herbarium; most of them were found at the public forays. I am now compiling a list of possible foray sites for 2016. It will be submitted at the board meeting for approval. If you know of a fantastic site, please let me know as soon as possible by emailing me at jnburghardt@verizon.net.

Every foray needs a leader who is familiar with the site. Volunteering to be a leader is a wonderful opportunity to be part of the club even if you know nothing about mushrooms. I have developed leader guidelines (in the right column on this page); look at them. If you think you would like to try your hand at leading, let me know.

I am also trying to think of ways to make the microscope sessions more meaningful. If you have any ideas, again, please let me know.

In addition to the regular public forays, I am planning to schedule a few smaller 'adventure' forays. These would be in areas with rough terrain, few or no trails, limited parking, no restrooms or facilities. They would be limited to less than 20 members who would need to sign up on a first-come/first-served basis. I am still working on the details.

I hope to see you all at one or more of our forays in 2016.



GUIDELINES FOR FORAY LEADERS

by Nina Burghardt

Many of you have asked what does a foray leader do. Here are some guidelines:

- 1) Phone one week ahead of time to let the foray site know when NJMA will be coming.
- 2) Put permit (if any) in your car's glove compartment so you have it handy if you are asked for it
- 3) Familiarize yourself with the trails. (*i.e.* maps or internet)
- 4) Be there when people arrive, and identify yourself.
- 5) When everyone is assembled, describe what we do, what is a fungus and how to collect and store the specimen. Tell everyone where the trails start, where the next foray will be, any NJMA news, introduce experienced members and when and where to return to identify the mushrooms found.
- 6) Save any unusual fungi for drying. Save any unidentified fungi which is in good shape for microscopic identification.
- 7) Collect ID tags and give them to the recorder.
- 8) Write a short summary for the newsletter (or have someone else do it for you).

The foray chairman will provide you with identification tags, a list of fungi found at the same site in previous years, plates for the display and permits (if any).



BYTES, BITS, & BITES (continued from page 6)

from Matt Porraro (via Igor Safonov):

Igor,

Thought you might like this.

Great way to end the mushroom season. About 15 lbs. of Oyster Mushrooms picked today.

Thanks, Matt



(continues on page 23)

CALENDAR OF UPCOMING EVENTS

Sunday, January 10 1:30pm **MEETING & LECTURE**
Frelinghuysen Arboretum, Morristown
“Mushrooms in the Park” with Gary Lincoff

For the last several years, the New York Mycological Society has been doing an inventory of all the fungi in NYC parks. For this lecture, Gary will focus on Central Park, and the lesser-known of the 350+ species of fungi that have been identified there. Come to be awed by these beauties, and inspired by the ID challenges they presented.

Our speaker, Gary Lincoff, is the author of the *National Audubon Society Field Guide to North American Mushrooms*, as well as *The Complete Mushroom Hunter*.

Sunday, February 21 1:30pm **NJMA MYCOPHAGY & MYCO-AUCTION**
Unitarian Society, Tices Lane, East Brunswick

Guest Chef: Jay Chai, Chef-Owner of Pandan Room that serves Thai and Indonesian Food and **TOPO Vietnamese Restaurant**; both establishments are located in Hackettstown, NJ. Growing up in a rural village on the island of Borneo, Jay started cooking at an early age with homegrown ingredients from the family garden. Back with new recipes from a recent trip back home, Jay’s demonstration will focus on the culinary techniques and flavors of Thailand with a special focus on mushrooms.

During breaks in Jay’s demonstration when samples of the dishes are being served, Marc Grobman and Frank Marra will once again be auctioning mushroom-related items. As a new feature this year (in an effort to speed things along so we will finish at a reasonable time) some of the items will be sold through a Silent Auction. Get there early and place your bids. If you have items that you would like to contribute to the Myco-auction, contact Marc (marc@marcgro.com) or Frank (marraman1@verizon.net). Note that the Myco-auction is a **fund raising event**, with the proceeds going to support a variety of NJMA activities, so donate and bid accordingly!

This event is open to NJMA **members only** and **pre-registration is required** (space is limited). To register, please contact Igor Safonov (njmycomember@gmail.com). If you can help with prepping and/or serving food, setting up and/or cleaning up, please contact Jim Richards (jimrich17@icloud.com)

Sunday, March 13 1:30pm **MEETING & LECTURE**
Frelinghuysen Arboretum, Morristown

“Medicinal Mycology” with Jonathan Reisman, MD, a physician at Massachusetts General Hospital in Boston, will give an overview of the role of fungi in human disease.

Sunday, April 10 1:30pm **MEETING & LECTURE**
Frelinghuysen Arboretum, Morristown

Tina Ellor, technical director at Phillips Mushroom Farm, will speak to us. The topic is not yet determined.

Saturday, March 19 6:00pm **NJMA CULINARY GROUP – A MUSHROOM SOUP SAMPLER**
Unitarian Society, Tices Lane, East Brunswick
Reservations are required. Full details are on [page 4](#).

July 28 - 31 **NEMF FORAY, FITCHBURG STATE UNIVERSITY, FITCHBURG, MA**

2016 marks the 40th anniversary of the annual Sam Ristich Foray. The Boston Mycological Club will be hosting the foray at Fitchburg State University in Fitchburg, Massachusetts. The theme will be “The Role of Fungi in the Ecology of the Forest”. The chief mycologist will be David Hibbett, Professor of Biology at Clark University in Worcester, MA. We will emphasize group learning and conservation of the biosystem. We also plan to have lectures on the relationship of fungi to the forest’s flora and fauna.

For more information, visit the [NEMF website](#).

NJMA CULINARY GROUP INDIAN DINNER REVIEW

by Mallory O'Donnell

My first experience with the NJMA Culinary Group was our Indian Feast. Consequently, I had no idea what to expect, but I was pleased to see the level of engagement that all our cooks and diners displayed with such a complex cuisine. Rather than a litany of Punjabi restaurant classics, there was a pan-subcontinental feel to the lineup of dishes, with classics of Indian cuisine representing North and South and even a region or two in-between. It only stands to reason that with this format, the range of dishes will represent something one would be more likely to see in a buffet spread rather than a home meal, where everything is part of one cook's vision. But in this case, that proved a strength rather than a weakness, since such a diverse cuisine (really a set of somewhat-related cuisines) can hardly be represented in one

It looked very much like a Thai eggplant to me, but it is a cucurbit, and had the refreshing taste one associates with that family. For a gathering of the mushroom-minded, it was perhaps odd to see only cultivated mushrooms in evidence, albeit in one of my favorite dishes, a mushroom and pea curry. But of course, Indian cuisine isn't reliably heavy on mushroom dishes. Despite this, my favorite Indian cookbook author, Julie Sahni, tantalizingly includes a pilaf dish made with *gochian*, a Punjabi morel. Perhaps in the Spring...

Our understanding of Indian cuisine in the West is largely dominated by restaurant cooking, as few non-Indian cooks will attempt to make this food at home. A shame, since Indian markets are becoming fairly common in our area and most of the "exotic" ingredients are inexpensive and quite stimulating to work with.

Indian home cooking is much more diverse and accessible than its fine dining counterpart, and can expose one to a world of flavor and intensity that one will never experience in that arena, dominated as it is by the flavors and preparations of one small part of the subcontinent. Regardless of the education involved, it is a cuisine that I have found a joy to cook over the years, making it as often or more often than I order it out. I hope that those new to it who prepared dishes for this delicious feast found it a joy as well, and one worth repeating.



sit-down meal. So what we had was a sampling, and one more diverse than one usually finds in a fine dining setting.

Everything that I ate was excellent, but the highlight for me was the wide variety of bread and accompaniments that were made available. I could quite happily tear up bits of *papadum*, *chapati* or *naan* and dip into chutneys, *raita* and lingering bits of various sauces all day long, heedless of the cultural mis-steps I might be taking. Alongside these, I savored a Southern coconut fish curry, *rogan josh*, not one but two *dal* dishes, and a number of perfectly executed desserts. Indian cuisine very often confronts us with unfamiliar produce as well as spices, so it was especially enjoyable to sample an excellent dish made with *tinda*, the Indian baby pumpkin.

WHO'S IN A NAME?

Mucronella bresadolae

by John Dawson (fifty-second in a series)

According to *Index Fungorum*, species in 31 different genera currently bear the epithet *bresadolae*, honoring the Italian priest and mycologist Giacomo Bresadola. Among them is *Mucronella bresadolae*, a pendant member of the family Clavariaceae that occurs on the west coast of North America from California to British Columbia, several excellent photos of which are posted on the *Mushroom Observer* site.

Born 14 February 1847 in Trent (in Italy today, but then a city in the Austro-Hungarian empire), Bresadola evinced an interest in botany while still quite young. He attended elementary school in Mezzana, and then at age twelve, after his father had given up farming to become a bronze merchant in the city of Montichiari, he enrolled at the technical institute in Rovereto, placing first in his class four years in a row. Despite that achievement, however, the school authorities unaccountably ranked him second overall, an action that so enraged him that he dropped out and returned to Trent to become a seminarian.¹

After graduating from the seminary Bresadola served as a priest in several parishes before becoming a vicar, first in Magràs and then, in 1884, back in Trent, where, three years later, he was appointed administrator of the estates of the Trent episcopacy. He remained in the city of his birth the rest of his life, retiring in 1910 but living on until 9 June 1929.

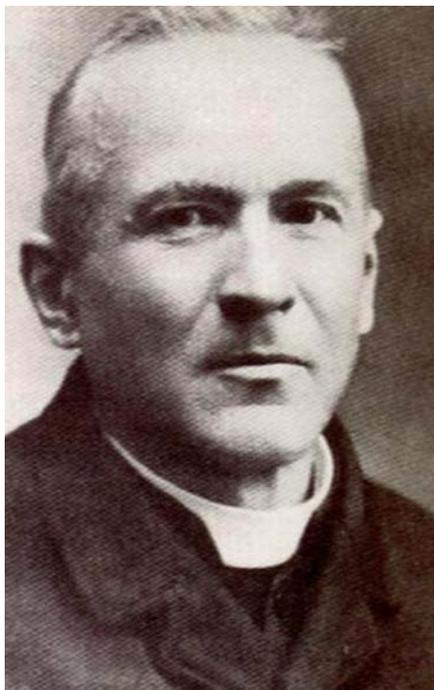
While in Magràs, his interest in botany re-emerged, and he soon began to focus on mycology. He became acquainted with the distinguished mycologist Pier Andrea Saccardo, professor at the University of Padua, who, in turn, put him in contact with the French mycologists Émile Boudier and Lucien Quélet (profiled in the preceding installment of this series). Before long, Bresadola began to correspond with a large number of mycologists both within and outside Italy,² and he collaborated in mycological studies with Quélet,

Narcisse Patouillard,³ and Adelbert Ricken (for whom the genus *Rickenella* is named).

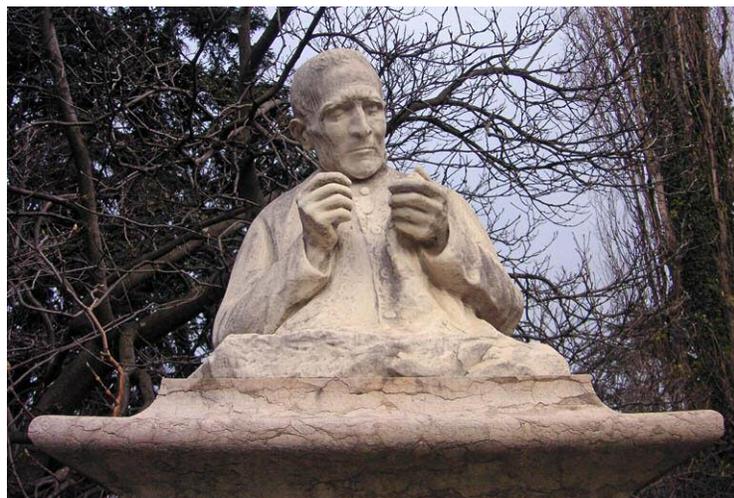
Beginning in 1890, Bresadola began publishing the results of his investigations. In some sixty articles and books, thirteen of which were published after he retired from the priesthood, he described no less than 15 genera and 1017 species of fungi. Bresadola's magnum opus was the 26-volume compilation *Iconografia Mycologica*, which contained a total of 1250 exquisite colored plates prepared from his original drawings, together with detailed descriptions of the species illustrated. Prepared under the auspices of the Italian Botanical Society and the Trent Museum of Natural History, publication of the *Iconografica* began in 1928 and extended beyond Bresadola's death. Now in the public domain, it is available for browsing online at www2.muse.it/bresadola/iconografia.asp?lang=eng.

Unfortunately, the economic effects of World War I so diluted the value of Bresadola's pension that he was forced to sell not only his drawings, but his extensive library and plant collection. His mycological specimens are now scattered among a number of institutions, including the universities of Uppsala, Paris and Leiden. The largest portion, comprising some 30,000 specimens, is preserved at the Natural History Museum in Stockholm.

Two years before Bresadola's death, he was named to the Order of the Crown of Italy and awarded an honorary doctorate by the University of Padua. In view of his indigent circumstances, he was buried at public expense. He is memorialized in his birthplace by the sculpture shown in the accompanying illustration.



Giacomo Bresadola



Giacomo Bresadola (bust by Jaqen, in Piazza Dante, Trento)

¹ This and much of the other information in this biographical vignette is taken from the *Wikipedia* entry on Bresadola, and the photo of the sculpture of him in the Piazza in Trent is reproduced from *Wikimedia Commons*.

² His voluminous mycological correspondence is now held at the University of Washington in Seattle.

³ Profiled in installment 39 of this series.

THE SANG PARK LECTURE SERIES: MICHAEL KUO – OCTOBER 11, 2015

summarized by Luke Smithson

So why should we care about all of the name changes going on in the mushroom world? And even if we did care, how can our mushrooming hobby possibly contribute anything to the science of mycology? These are the two main questions that Michael Kuo, a professional English teacher and very serious amateur mycologist brought to his NJMA lecture this past fall.

So why should I care if scientists are changing the names? As Kuo points out, this can be quite frustrating. One of his examples of a frustrating name change occurs with the Black Trumpet. At one time not so long ago, we accepted two main species: *Craterellus cornucopioides* and *Craterellus fallax*. Then, based on DNA studies, we were told that the two species are really one variable species. Now, based on even more recent DNA studies, we are told that they are indeed two distinct species, but *C. cornucopioides* occurs only in Europe and that *C. fallax* is the correct species for North-eastern North America. So which is it?

Like so many things in science, our understanding of evolutionary relationships in fungi is constantly growing. Many of the assumptions that we have made about mushrooms have been based on macroscopic characteristics, features that are visible to the naked eye. At one time, all gilled mushrooms were thought to be closely related, obviously because they all have gills. But DNA studies now show us that the mushroom gill has evolved many times over and just because two mushrooms have gills does not mean that they are closely related. They just both happened to have stumbled upon a good reproductive method.

Kuo's point is that, as we learn more and more about fungi, their relationships to each other and about DNA itself, we have to trust that scientists are really seeing evidence that *C. cornucopioides* and *C. fallax* are independent species. That evidence may not be obvious macroscopically, or even under a microscope, but the evidence that they are separate species is real. The scientists are not trying to dupe us.

But why care? Kuo points out three main reasons why we should care about accurate scientific names:

- 1) **The stomach:** many of us are pot hunters (we are collecting mushrooms to eat). Therefore, we should care that we are making correct identifications for edibility.
- 2) **A sense of order:** it is very satisfying to be able to sort out and name the various species of fungi living in the world.
- 3) **To help us really understand the evolutionary relationships between the fungi:** As pointed out above, macroscopic features of mushrooms do not always point us in the right direction. There are many examples of mushrooms that look extremely different,

but are actually quite closely related. Kuo's demonstrated this with a phylogenetic tree that places the puff-ball genus *Lycoperdon* in a very close relationship with several gilled mushroom genera, including *Leucoagaricus*, *Coprinus* and *Agaricus*.

So, supposing that I do care about nomenclatural accuracy, how can I actually contribute to this effort to sort out the macrofungi? How can our club work towards this goal? Kuo suggests that a species list is only valuable in a limited sense. While land management agencies may find a list useful in showcasing diversity, scientists don't find a species list very helpful in their effort to really understand diversity. The reason for this is that a list only suggests what somebody saw; it does not provide any confirmation. It is not repeatable.

To truly make our species list useful to the science of mycology, individuals and clubs need to focus on making collections that are both well-documented and maintained in a herbarium. Documentation of the collection is critical, including the ecology surrounding the mushroom, the morphology, smell and taste of the mushroom. It helps to think about what a scientist will want to know in ten years that a dried specimen won't be able to provide. (For a more detailed explanation of collecting methods, visit Michael Kuo's website, at <http://www.mushroomexpert.com/collecting.html>).

In addition to maintaining herbariums with well-documented collections, he also suggests that clubs find specialized projects to focus on. For example:

- 1) Pick a genus and really document it well. Chanterelles have been getting a lot of attention around the country with various studies, yet no New Jersey studies exist.
- 2) Consulting with local mycologists and asking them what they need in terms of fieldwork.
- 3) Conducting myco-blitzes in specific areas.
- 4) Making our work available to a wider audience through websites such as *Mycportal*. (<http://mycoportal.org/portal/index.php>)

I am happy to report that NJMA does indeed do many of these things through our Raymond M. Fatto - Eugene H. Varney Herbarium, which is maintained at Rutgers University. Many of our members are very serious about the study of mycology and are willing to dedicate time and energy toward the greater understanding of fungi. Individuals who are interested in becoming more involved are encouraged to come to our forays (especially forays that have taxonomy workshops). Read Kuo's suggestions on collecting and practice them. Try writing descriptions of the mushrooms that you collect and you will find that you learn (and remember) the features of the mushroom with much greater clarity.



Michael Kuo's lecture was made possible by a generous grant from Sang Park's family in his memory.

OCTOBER 18 – WELLS MILLS FORAY

by Luke Smithson, foray leader

Despite dry conditions, Wells Mills was a productive foray. The weather was beautiful and our turnout was roughly 15 people, with a nice mix of both newer and veteran NJMA members.

After our typical two hours of collecting, we set up in the nature center with identification tables and microscopes. 45 specimens were identified and nine “mystery mushrooms” have gone unnamed. Most, but not all, of these species are fungi that grow on wood. Three of the 45 named species are new to the NJMA list:

- *Antrodia heteromorpha*: a poroid fungus on wood.
- *Heterobasidium irregulare*: a poroid fungal parasite on pine.
- *Xeromphalina cornui*: a small, gilled fungus growing in sphagnum moss.

A couple of other notable finds:

- *Dentrothele nivosa*: a very common crust fungus on red cedar that we have only just begun to notice.



PHOTO BY I. G. SAFONOV

Amanita polypyramis

• *Amanita polypyramis*: Per John Burghardt, “not an uncommon *Amanita*, but rarely seen on NJMA forays (only three records of it)”.

• A large unnamed fungi that stumped us all. Looking at the photo of it, it does look like a *Tapinella atrotomentosa*, but it was found growing in sand with no apparent buried wood. Another mushroom mystery!



PHOTO BY I. G. SAFONOV

OCT/18/2015

Tapinella sp.?

A special thanks to all those who brought microscopes and chemicals to the foray, and to John Burghardt for providing the species list.



OCTOBER 25 – BRENDAN T. BYRNE STATE FOREST FORAY

by I.G. Safonov, foray leader

The late October foray at the 35,000+ acres BBSF was the third scheduled Pine Barrens walk in 2015. The austere pine-oak woods of the Atlantic coastal plain present two distinct populations of mycorrhizal fungi. In summer and early fall, oak-loving mushrooms dominate, and then the scraggly pitch pines take over to support a diverse array of autumn species that flourish in cooler weather.

This year, we assembled at the Park Office due to a motorcycle race taking place near our usual location at Pakim Pond. It was a beautiful, sunny and warm day for late October, and I figured that at least it would be a pleasant walk in the woods regardless of what we might find. We had a very good turnout, so we split into two groups. I led the first group on a walk through the local woods near the Park Office. John and Nina Burghardt and their cohorts drove off to an isolated section of the park across Rt. 72. To my knowledge, we have never forayed at either of these locations before.

(continues on [next page](#))

Brendan Byrne did not disappoint. We started collecting all sorts of fungi almost right off the bat, and most were fresh and in great shape. It took two hours to finish the two-mile loop on the Solid-red and Dotted-red Trails, and when we returned, the other group was already busy identifying their collections from Gates Road.

The BBSF species list stands at 51, a decent haul all in all, but certainly not a record-breaker for this park. Nevertheless, it is a well-balanced and taxonomically-rich collection. I would like to quote our recorder John Burghardt first, as his comments have a different perspective from mine:

“It’s an interesting list...About 20 species that we identified were collected at Brendan Byrne for the first time this year, and 10 or so of those are fairly unusual. The list includes three species new to our NJMA list, which Nina identified, and we are confident in the determinations: *Bankera violascens*, *Gymnopilus picreus*, and *Lycoperdon nigrescens*. There is one other, *Lactarius cf. caespitosus*, which is definitely new, but we are not sure the identification is correct. Our fruit body was a bit small for this species. We had just one fruit body, so it is not clear that the fungus was growing in a clump (caespitose). *L. caespitosus* appears to be known only or primarily from western North America, so this one remains a bit of a mystery.”

We recorded a robust collection of the beautiful and rare *Amanita persicina*. The Garden State circumscribes the northernmost range of this species. Originally thought to be a variety of the American Fly



Amanita persicina

Agaric, *A. muscaria* var. *guessowii*, it has recently been elevated to species rank by the amanita expert Dr. Rodham E. Tulloss. A photograph of the two mushrooms showing their distinct morphology was featured on the cover page of *NJMA News* 45-6 (November-December 2015).

We don’t usually find *Agaricus* in the Pine Barrens – perhaps these terrestrial saprobes don’t like the sandy, acidic soil. Of the 600+ fungal entities we have recorded from the Franklin Parker Preserve (located just to the south of BBSF) since 2009, none represent this genus! However, at this foray we found not one, but two *Agaricus*: *A. silvicola* and *A. silvaticus*.

Finally, my report would never be complete without at least a brief coverage of the fleshy pored mushrooms, a.k.a. boletes. We found *Aureoboletus projectellus*, *Suillus brevipes*, *S. granulatus* and *S. salmonicolor*, all of



Suillus brevipes



Leccinum pinorigidum, nom. prov.

which are common to the Pine Barrens. We also gathered a good quantity of the common orange-capped scaber-stalk, a *Leccinum*. We used to call it different names – *L. aurantiacum*, *L. vulpinum*, and *L. piceinum*. However, all three are European species that haven't been conclusively proven to exist in North America. Recently, Dr. Linas Kudzma, a member of our club, used DNA sequencing to determine that none of the above names apply to this critter. Additionally, no hits were recovered from GenBank, a database used by researchers for depositing gene sequences. So, for now, I created a provisional name for this bolete – *Leccinum "pinorigidum"* – to aptly signify its mycorrhizal association with the iconic tree of the Pine Barrens (see photo on previous page).



HAVE YOU BEEN DRAWING MUSHROOMS?

We are always interested in receiving accurate hand drawings, sketches, or artwork in any variety of media to grace our pages. While we cannot guarantee that your work will be published, we do file each submission and consider it for use either in conjunction with specific articles or for use as backgrounds or supplemental art when needed. You retain your copyrights and you'll be credited in all cases.

Contact our Art Director Jim Barg at jimbarg@bssmedia.com for more information or to submit your work.

WELCOME TO ALL OF OUR NEW NJMA MEMBERS!

We'd like to extend a warm welcome to the following members who joined us between November 7, 2015 and December 22, 2015. We look forward to seeing you at lectures, forays, and other NJMA events. Happy 'shrooming!

Satoka Abe	Basking Ridge, NJ
Mark Albano	Califon, NJ
Thomas Charles	Princeton, NJ
Guangming Chen	Bridgewater, NJ
Ellen Dunnder	Bernardsville, NJ
Rick Frost	Califon, NJ
Robert & Margaret Gargiullo	East Windsor, NJ
Ruth Anne Harrison	Asbury Park, NJ
Nelson Herreira	Paterson, NJ
Mark Lamb	Manasquan, NJ

COMPLETE LIST OF WINNERS NJMA PHOTO CONTEST 2015

NOVICE DIVISION

PICTORIAL

FIRST Rhoda Roper

SECOND Rhoda Roper

HONORABLE MENTION Kyoko Okabe

TECHNICAL

FIRST Rhoda Roper

SECOND Isaac Rozenberg

HONORABLE MENTION Isaac Rozenberg

JUDGES' OPTION

FIRST Betty Wise

SECOND Terri Gabriell

HONORABLE MENTION Rhoda Roper

ADVANCED DIVISION

PICTORIAL

FIRST Judy Gorab

SECOND Tom Bigelow

HONORABLE MENTION Tom Bigelow

TECHNICAL

FIRST Tom Bigelow

SECOND Tom Bigelow

HONORABLE MENTION Tom Bigelow, Judy Gorab

JUDGES' OPTION

FIRST Susan Hopkins

SECOND Susan Hopkins

HONORABLE MENTION Bob Hosh

BEST IN SHOW

Judy Gorab

Congratulations to the winners, and a big "thank you" to all those who entered – and thank you to all of the judges and NJMA officers and volunteers who helped to make this year's photo contest a success!

We hope to see more of you next time around!

REPORT ON FUNGUS FEST 2015

by Liz Broderick, co-chair of Fungus Fest 2015

photos by Steve Sterling

This year's Fungus Fest was moved to November 1 because our usual September weekend was preempted by the NAMA Blue Ridge Mountain Foray. Scheduling one of our club's premier events late in the season was risky, since cold weather can send many fungi into dormancy for the winter. Luckily, the mushroom gods smiled on us. The week preceding Fungus Fest was wet and warm resulting in a plethora of fruiting bodies to populate our ID tables, diorama, and ever-popular walks. Despite being held on the busy Halloween weekend, we had 176 participants, many who stayed for several hours to browse our exhibits and participate in walks and workshops. Several creative members capitalized on the Halloween theme. Jim Barg designed a beautiful spooky poster to publicize our program, and Dorothy Smullen made a terrific mobile with pictures of Halloween themed fungi like the Jack O'Lantern, Witch's Butter, Dead Man's Fingers and Witch's Hats. Rhoda Roper created a replica of the tombstone of the two young boys who died from mushroom poisoning in Piscataway back in the 1600s to adorn the Toxicology table. Nina Burghardt came up with the idea to use the creepy Halloween spider webbing to create mycelium along some of our tables.

Several new participants joined us this year. Frank Kushnir and his friends from groupgrowing.com joined our cultivation team. They ran excellent, well-attended workshops on the Home Cultivation of Oyster Mushrooms and Spawn Expansion. Enthusiastic participants created small oyster cultivation kits to bring home so they could enjoy home grown oysters. Nathaniel Whitmore's Medicinal Mushroom exhibit attracted many interested visitors. Natalie Howe, a Ph.D. candidate at Rutgers, helped at our Lichen Display along with Dorothy Smullen and Luke Smithson. Jerrad and Jean from NatureBone Studios sold their beautiful blown glass mushroom-related objects. Chris Darrah, one of our members who owns Mainly Mushrooms, sold a nice assortment of wild and cultivated fungi. I was excited to try some of his *Ovoli* (*Amanita caesarea*) in a salad.



I would like to extend a huge thank you to our fabulous volunteers who make this event possible, especially Phil Layton, who arrived early on Saturday to set up the signage and infrastructure, and then



works the Myxomycota exhibit the next day. I would like to thank Terri Layton for co-chairing with me and sharing the wisdom of her past experiences running the event. Igor Safonov also deserves a special thank you for driving down to Kennett Square to pick up the mushrooms donated by Phillips Mushrooms. This year he had to drive carefully while propping up a towering oyster mushroom display so it didn't get destroyed in transit. Bob Hosh and Luke Smithson and their team created wonderful mushroom dishes to share with our visitors at our Mycophagy demonstration. Patricia McNaught and Jim Barg ran packed workshops throughout the weekend on Mushroom Identification. It was great to see Herb and Ursula Pohl back at the book sales and mushroom dye exhibit,

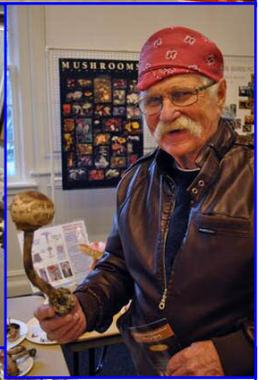
respectively. Nina and John Burghardt put up our sign in front of the Frelinghuysen Arboretum and helped ID mushrooms, along with Rich Balsley and Igor Safonov, that were brought in. Patricia McNaught, Sharon Sterling, Randy Hemminghaus and Luke Smithson ran our educational mushroom walks. Thanks you so much to all the other volunteers I haven't mentioned including Jim Richards, Kevin Broderick, Todd Van Gordon, Frank Marra, Mike Rubin, Steve Sterling, Ray and Gemma Pescavitch, Mike and Judy Mudrak, Virginia Tomat, Aluen, and Richard Kelly, Luke, Alex and Leigha Smithson, Betty Wise, Lynn and Paul Hugerich, Don Recklies, Artie Grimes and Katy Lyness. A special thanks goes out to Tina Ellor and Phillips Mushrooms for donating the gorgeous fungi for our cooking demonstrations and the Phillips display.



After the event, our potluck dinner gave us time to reconnect with old friends and make new ones. Without our dedicated club members, Fungus Fest would not be possible. We are always looking for new volunteers to help out, so mark your calendar for next year's Fungus Fest, which is on Sunday, September 25, 2016 (the last Sunday of the month). (See more photos on the [next page!](#))



FUNGI FEST 2015



REPORT ON NJMA FORAY COLLECTIONS IN 2015

by John Burghardt

The NJMA 2015 collecting season was one of the best in recent years. This may surprise readers of our foray reports over the summer and early fall, and some who attended them. We had a string of forays with dry conditions from late July to mid-September. The fleshy fungi seemed to have gone on vacation. Some common edibles that newcomers want to learn about were less frequent or simply never appeared. Fungus Fest was at the very beginning of November, and Franklin Parker Preserve was unusually dry well into the fall.

So why was this season one of the best in recent years? For starters, the participants who came to forays, no matter the conditions, were amazingly thorough in collecting all things fungal. They were eager to examine and ask questions about their collections. Many new participants got involved with sorting and identifying their collections. Some even put names to their collections – correct names, for the most part. Best of all, I remember one newcomer picking up something with an incorrect name assigned, and saying, “Hey, I don’t think this name is right; look again”. This effort produced about 550 identified taxa, including over 40 that were new to the NJMA list.

From May through mid-July (Princeton, Stokes Lake Ocquittunk, Holmdel, Horseshoe Bend, and Meadowood) enjoyed more or less normal moisture conditions and had more collections this year than last. Unfortunately, morels were among the missing at the Princeton foray. But their absence spurred collection of a wide variety of mostly wood-dwelling fungi, including two species we had never identified previously (*Annulohyphoxylon multiforme* and *Peniophora albida*). One new foray location, Horseshoe Bend, and one we have visited for many years, Meadowood Park, each produced about 100 identified collections. Moving into the dry stretch, The Tourne, Hoffman Park, Cheesequake, Manasquan, and Stephens had relatively small numbers identified (40-50 each). Conditions improved in September at Wawayanda and Stokes Kittle Field (70 each), but then fell back to the 40-50 range as we moved back into the dry coastal plain in October (Jakes Branch, Wells Mill, and Brendan Byrne). Still, over the ten forays during this very dry stretch, nearly 300 species were identified, including 84 that were collected at only one location all season, and 13 were new to the NJMA list. Interestingly, two boletes were added to our cumulative list during this dry spell, one at Cheesequake (*Boletus bicolor* v. *subreticulatus*) and one at Manasquan (*Boletus harrisonii*).

The regular foray season ended in early November, as it began, on a high note. Fungus Fest was held on November 1 in Morristown. Many members went out

collecting in their areas to bring specimens for identification and display. As a result, we had a dozen or more diverse collections of fresh fungi from all over New Jersey, neighboring Pennsylvania, New York City, and even Long Island. Overall, nearly 120 species found their way to the display tables, including a surprising number of late season mycorrhizal genera (*Amanita*, *Cortinarius*, *Laccaria*, *Lactarius*, *Leccinum*, *Russula*, *Suillus* and *Tricholoma*) and a few good edibles (*Boletus*, *Lepista*, *Grifola*, *Hypholoma*, and *Laetiporus*). This was the largest number of identified collections at any of our public forays this year.

The final foray of the season, at Belleplaine State Forest in Cape May County on November 8, was also very successful. Belleplaine has a mixture of habitats, including the predominant oak/pine forest, some stands of planted pine, and mixed hardwood and cedar swamps along small streams that eventually flow into Delaware Bay. The woods had received recent rainfall, but oak leaves covered the pine/oak forest floor, so finding the fungi required attention. The more than 40 participants found a surprisingly rich mix of mycorrhizal fungi, including some unusual late season *Amanita*, *Russula*, *Tricholoma*, and a *Rhizopogon*. The *Rhizopogon cokeri* is a truffle-like fruiting body that usually presents to the forayer as a small lump in the duff. It was one of four species identified at Belleplaine that were new to the NJMA list. Needless to say, we look forward to visiting Belleplaine again next year.

In recent years, our annual list has included species identified at Franklin Parker Preserve (FPP) in Burlington County as part of the inventory of fungi that NJMA is conducting for the New Jersey Conservation Foundation. We try to visit FPP at least once during every month of the year, and more often during the peak collecting months from July through November. Like many other areas of the state, conditions were extremely dry at FPP from July until November this year. Still, our members made about 16 trips spread across every month but January and March. The accompanying list includes just over 200 species identified at FPP this year.

In total, 552 taxa were identified, including 43 species that had not previously been identified on a NJMA foray. Nearly 120 specimens were dried for preservation in the Raymond M. Fatto-Eugene H. Varney Herbarium at Rutgers Chrysler Herbarium. The accompanying table lists all of the taxa identified. Readers interested in knowing which taxa were collected at each foray location for this (and other) years may view or download the list of “NJMA 2015 Collections by Location” at www.njmyco.org/njmushrooms.html.

We extend our thanks to everyone who participated in our forays this year and made them successful. We look forward to collecting with you in 2016.



SPECIES COLLECTED ON NJMA FORAYS 2015

(names shown in **bold type** are NEW to the NJMA list)

BASIDIOMYCETES

- Agaricus campestris
Agaricus placomyces
Agaricus silvaticus
Agaricus silvicola
Agaricus sp.
Amanita amerifulva
Amanita amerirubescens
Amanita banningiana
Amanita bisporigera
Amanita brunnescens v brunnescens
Amanita brunnescens v pallida
Amanita citrina v citrina
Amanita citrina v lavendula
Amanita cokeri
Amanita crenulata
Amanita daucipes
Amanita dulciarum
Amanita flavoconia
Amanita flavorubens
Amanita longipes
Amanita magniradix
Amanita muscaria v guessowii
Amanita muscaria var. persicina
Amanita phalloides
Amanita polypyraxis
Amanita ravenelii
Amanita rhopalopus
Amanita sinicoflava
Amanita sp.
Amanita subcokeri (Tulloss nom prov)
Amanita submaculata
Amanita vaginata v vaginata
Amanita vulpecula (Tulloss nom prov)
Amanita whetstoneae
Antrodia albida
Antrodia heteromorpha
Armillaria mellea
Armillaria ostoyae
Armillaria tabescens
Artomyces pyxidata
Astraeus hygrometricus
Aureoboletus projectellus
Auricularia auricula
Bankera violascens
Bankera fuligineoalba
Bjerkandera adusta
Bjerkandera fumoso
Bogbodia udum
Boletinellus merulioides
Boletus badius
Boletus bicolor v bicolor
Boletus bicolor v subreticulatus
Ganoderma lucidum
Ganoderma tsugae
Boletus edulis v edulis
Boletus fraternus
Boletus gracilis
Boletus harrisonii
Boletus hortonii
Boletus longicurvipes
Boletus nobilis
Boletus oliveisporus
Boletus pallidoroseus
Boletus pallidus
Boletus pseudosensibilis
Boletus rubropunctus
Boletus sensibilis
Boletus separans
Boletus sp.
Boletus spadiceus
Boletus subvelutipes
Boletus variipes
Boletus vermiculosoides
Bondarzewia berkeleyi
Caloboletus inedulis
Calocera cornea
Calvatia cyathiformis
Calvatia gigantea
Cantharellula umbonata
Cantharellus cibarius
Cantharellus cinnabarinus
Cantharellus ignicolor
Cantharellus lateritius
Cantharellus minor
Cantharellus tubaeformis
Ceriporia reticulata
Ceriporia tarda
Chalciporus piperatus
Chlorophyllum molybdites
Chroogomphus rutilus
Chroogomphus vinicolor
Clavaria cristata
Clavulinopsis fusiformis
Clitocybe candicans
Clitocybe candida
Clitocybe clavipes
Clitocybe gibba
Clitocybe phyllophila
Clitocybe robusta
Clitocybe truncicola
Collybia cirrhata
Coltricia cinnamomea
Coltricia perennis
Coniophora puteana
Coprinellus micaceus
Coprinus comatus
Inocybe caesariata
Inocybe sp.
Coprinus quadrifidus
Cortinarius alboviolaceus
Cortinarius anomalus
Cortinarius armillatus
Cortinarius caperatus
Cortinarius collinitus
Cortinarius corrugatus
Cortinarius croceus
Cortinarius iodes
Cortinarius lilacinus
Cortinarius mucosus
Cortinarius sanguineus
Cortinarius semisanguineus
Cortinarius sp.
Cortinarius violaceus
Craterellus cornucopioides
Craterellus fallax
Crepidotus applanatus
Crepidotus mollis
Crucibulum laeve
Cyanoboletus pulverulentus
Cyathus striatus
Cyptotrama asprata
Cystodermella granulosa
Dacrymyces chrysospermus (=palmatus)
Dacryopinax spathularia
Daedalea quercina
Daedaleopsis confragosa
Dendrothele nivosa
Dentipellis fragilis
Entoloma abortivum
Entoloma conicum
Entoloma exile
Entoloma formosum
Entoloma griseum
Entoloma luteum
Entoloma sp.
Entoloma striatum
Entoloma strictipes
Entoloma strictius
Entoloma subsericellum
Exidia glandulosa
Fistulina hepatica
Flammulaster erinaceellus
Flammulina velutipes
Fomes fomentarius
Fomitopsis spraguei
Galerina hypnorum
Galerina marginata
Galerina paludosa
Galerina tibiicystis
Ganoderma applanatum
Leucoagaricus rubrotinctus
Leucoagaricus sp.

SPECIES COLLECTED ON NJMA FORAYS 2015 (continued)

Gerronema strombodes	Inonotus hispidus	Lycoperdon molle
Gliophorus (=Hygrocybe) irrigatus	Inonotus tomentosus	Lycoperdon nigrescens
Globifomes graveolens	Irpelex lacteus	Lycoperdon perlatum
Gloeoporus dichrous	Ischnoderma resinosum	Lycoperdon pyriforme
Gomphus floccosus	Laccaria amethystina	Lyophyllum decastes
Grifola frondosa	Laccaria bicolor	Lyophyllum fuligineum
Gymnopilus junonius	Laccaria laccata v pallidifolia	Lyophyllum sp.
Gymnopilus liquiritiae	Laccaria longipes	Macrolepiota procera
Gymnopilus penetrans	Laccaria ochropurpurea	Marasmiellus candidus
Gymnopilus picreus	Laccaria ohioensis	Marasmiellus opacus
Gymnopilus sp.	Laccaria proxima	Marasmius rotula
Gymnopus dichrous	Laccaria sp.	Marasmius siccus
Gymnopus dryophilus	Laccaria trichodermophora	Marasmius sp.
Gymnopus sp.	Laccaria trullisata	Marasmius thujinus
Gymnopus spongiosus	Lactarius aquifluus	Megacollybia rodmanii
Gymnopus subnudus	Lactarius argillaceifolius	Melanoleuca niveipes
Gyroporus castaneus	Lactarius caespitosus	Melanoleuca subsejuncta
Hapalopilus nidulans	Lactarius camphoratus	Melanoleuca verrucipes
Harrya chromapes	Lactarius chelidonium	Meripilus giganteus
Hebeloma crustuliniforme	Lactarius chrysorheus	Meripilus sumstinei
Hebeloma sacchariolens	Lactarius corrugis	Merulius tremellosus
Hebeloma sp.	Lactarius croceus	Mycena corticola
Henningsomyces sp.	Lactarius deceptivus	Mycena epipterygia
Hericium coralloides	Lactarius gerardii	Mycena galericulata
Heterobasidion annosum	Lactarius hygrophoroides	Mycena griseoviridis
Heterobasidion irregulare	Lactarius lignyotus v lignyotus	Mycena haematopus
Hohenbuehelia mastrucata	Lactarius mucidus v mucidus	Mycena inclinata
Hohenbuehelia petaloides	Lactarius mutabilis	Mycena leaiana
Hydnellum pineticola	Lactarius paradoxus	Mycena maculata
Hydnellum spongiosipes	Lactarius piperatus	Mycena megaspora
Hydnochaete olivacea	Lactarius proximellus	Mycena pura
Hydnum repandum v repandum	Lactarius psammicola	Neofavolus alveolaris
Hydnum umbilicatum	Lactarius sp.	Neolentinus lepideus
Hygrocybe cantharellus	Lactarius subpurpureus	Nolanea murrayi
Hygrocybe coccinea	Lactarius subvellerereus v subdistans	Nolanea quadrata
Hygrocybe conica	Lactarius subvellerereus v subvellerereus	Nyctalis asterophera
Hygrocybe conicoides	Lactarius uvidus	Omphalotus illudens
Hygrocybe deceptiva	Lactarius vinaceorufescens	Oxyporus populinus
Hygrocybe flavescens	Lactarius volemus	Panellus serotinus
Hygrocybe laeta	Lactifluus glaucescens	Panellus stipticus
Hygrocybe marginata v concolor	Lactifluus petersenii	Panus neostrigosus
Hygrocybe marginata v marginata	Laetiporus cincinnatus	Peniophora albobadia
Hygrocybe marginata v. olivacea	Laetiporus sulphureus	Phaeocollybia christinae
Hygrocybe nitida	Leccinellum albellum	Phaeolus schweinitzii
Hygrocybe singeri	Leccinellum rugosiceps	Phallus ravenelii
Hygrocybe virginea	Leccinum holopus v holopus	Phanerochaete chrysorhiza
Hygrophoropsis aurantiaca	Leccinum luteum	Phellinus ferruginosus
Hygrophorus agathosmus	Leccinum piceinum (=aurantiacum).	Phellinus gilvus
Hygrophorus hypothejus	Leccinum snellii	Phellinus igniarius
Hygrophorus ponderatus	Leccinum sp.	Phellinus robiniae
Hygrophorus sp.	Lentinellus sp.	Phellinus sp.
Hymenochaete tabacina	Lentinellus ursinus	Phellodon melaleucus
Hymenopellis furfuracea	Lentinus tigrinus	Phlebia radiata
Hymenopellis radicata	Lenzites betulina	Phlebiopsis crassa
Hypholoma capnoides	Lenzites elegans	Pholiota aurivella
Hypholoma fasciculare	Lepiota cortinarius	Pholiota squarrosa

SPECIES COLLECTED ON NJMA FORAYS 2015 (continued)

Hypholoma sublateritium	Lepista nuda	Phylloporus boletinoides
Hyphodontia aspera	Leptonia sp.	Phylloporus leucomycelinus
Hypsizygus ulmarius	Leucoagaricus leucothites	Phylloporus rhodoxanthus
Phylloporus rhodoxanthus spp americanus	Russula elaeodes	Suillus americanus
Phyllotopsis nidulans	Russula flavida	Suillus brevipes
Piptoporus betulinus	Russula fragilis	Suillus decipiens
Pleurotus ostreatus	Russula fragiloides	Suillus granulatus
Pluteus cervinus	Russula fragrantissima	Suillus hirtellus
Pluteus lutescens	Russula incarnaticeps	Suillus salmonicolor
Pluteus petasatus	Russula inedulis	Suillus spraguei
Pluteus sp.	Russula laurocerasi	Sutorius eximius
Polyporus badius	Russula mariae	Tapinella atrotomentose
Polyporus brumalis	Russula modesta	Tapinella involutus
Polyporus craterellus	Russula ochroleucoides	Tephrocybe palustris
Polyporus leptocephalus	Russula ornaticeps	Tetrapyrgos nigripes
Polyporus squamosus	Russula parvovirescens	Thelephora palmata
Porodaedalea pini	Russula perlactea	Thelephora terrestris
Porodisculus pendulus	Russula pseudodecolorans	Thelephora vialis
Poronidulus conchifer	Russula pulchra	Trametes hirsuta
Postia caesia	Russula pusilla	Trametes pubescens
Postia fragilis	Russula sericeonitens	Trametes versicolor
Postia tephroleuca	Russula silvicola	Tremella fuciformis
Psathyrella delineata	Russula sp.	Tremella mesenterica
Psathyrella sp.	Russula subochrophylla	Tremella sp.
Pseudoboletus parasiticus	Russula subvelutina	Tremellodendron pallidum
Pseudocollus sp.	Russula variata	Trichaptum abietinum
Pseudohydnum gelatinosum	Russula ventricosipes	Trichaptum biforme
Psilocybe coprophila	Russula vesicatoria	Tricholoma aestuans
Pulcherricum caeruleum	Russula vinacea	Tricholoma caligatum
Pulveroboletus auriflammeus	Russula virescens	Tricholoma colossus
Pulveroboletus innixus	Sarcodon imbricatus	Tricholoma equestre
Pulveroboletus ravenelii	Sarcodon scabrosus	Tricholoma focale
Punctularia strigosozonata	Schizophyllum commune	Tricholoma magnivelare
Pycnoporus cinnabarinus	Schizopora paradoxa	Tricholoma myomyces
Radulodon copelandii	Scleroderma areolatum	Tricholoma pessundatum
Ramaria formosa	Scleroderma cepa	Tricholoma portentosum
Ramaria concolor	Scleroderma citrinum	Tricholoma subresplendens
Ramaria sp.	Scleroderma floridanum	Tricholoma sulphurescens
Resupinatus applicatus	Scleroderma geaster	Tricholomopsis decora
Retiboletus griseus	Scleroderma meridionale	Tricholomopsis formosa
Retiboletus ornaticeps	Scleroderma sp.	Tricholomopsis rutilans
Rhizopogon cokeri	Sebacina incrustans	Tricholomopsis sulphureoides
Rhizopogon rubescens	Skeletocutis carneogriseus	Tubaria furfuracea
Rhizopogon sp.	Sparassis spathulata	Tylopilus alboater
Rhodocollybia maculata v maculata	Spongipellis pachyodon	Tylopilus badiceps
Rhodocollybia maculata v scorzonerea	Steccherinum ochraceum	Tylopilus ballouii
Rhopalogaster transversarium	Steccherinum sp.	Tylopilus felleus
Rickenella fibula	Stereum complicatum	Tylopilus ferrugineus
Russula albonigra	Stereum gausapatum	Tylopilus plumbeoviolaceus
Russula aquosa	Stereum hirsutum	Tylopilus rubrobrunneus
Russula brevipes v brevipes	Stereum ostrea	Tylopilus violatinctus
Russula brunneola	Stereum striatum	Tyromyces chioneus
Russula brunneoviolacea	Strobilomyces confusus	Xanthoconium affine v affine
Russula compacta	Strobilomyces sp.	Xanthoconium affine v maculosus
Russula crassotunicata	Strobilomyces strobilaceus	Xanthoconium purpureum
Russula crustosa	Stropharia hardii	Xeromphalina campanella

SPECIES COLLECTED ON NJMA FORAYS 2015 (continued)

Russula cyanoxantha
Russula dissimilans
Russula earlei

Stropharia rugosoannulata
Stropharia sp.
Stropharia thrausta

Xeromphalina cornui
Xeromphalina kauffmanii
Xylobolus frustulatus

ASCOMYCETES

Annulohyphoxylon cohaerens
Annulohyphoxylon multiforme
Apiosporina morbosa
Biscogniauxia atropunctata
Bisporella citrina
Capitotricha bicolor
Chlorociboria aeruginascens
Cordyceps capitata
Cyphellopsis anomala
Daldinia concentrica
Diatrype stigma
Galiella rufa
Geoglossum difforme

Helvella elastica
Helvella lacunosa
Helvella sp.
Hypocrea pallida
Hypomyces chrysospermus
Hypomyces hyalinus
Hypomyces sp.
Hypoxyton fragiforme
Hypoxyton sp.
Kretzschmaria deusta
Microstoma floccosa
Mitrula lunulatospora
Mollisia cinerea

Morchella esculenta
Morchella semilibera
Otidea onotica
Peziza griseorosea
Phaeocalicium polyporaenum
Puccinia podophylli
Rhytisma sp.
Sarcoscypha occidentalis
Scorias spongiosa
Scutellinia scutellata
Spadicoides clavariae
Xylaria polymorpha

MYXOMYCETES

Ceratiomyxa fruticulosa
Comatrichia typhoides

Hemitrichia calyculata
Lycogala epidendrum

Stemonitis axifera
Tubifera ferruginosa



BYTES, BITS, & BITES (continued from page 9)

from Judy Glattstein:

In *The New York Times*: Spanish Truffles

<http://tinyurl.com/ogun5ap>

from the *Minnesota Mycological Society newsletter*, October 2015:

Could a mushroom a day help keep the doctor away?

A new University of Florida study shows increased immunity in people who ate a cooked shiitake mushroom every day for four weeks.

Of the thousands of mushroom species globally, about 20 are used for culinary purposes. Shiitake mushrooms are native to Asia and are cultivated for their culinary and medicinal value.

In a 2011 study led by UF Food Science and Human Nutrition Professor Sue Percival, 52 healthy adults, age 21 to 41, came to the Gainesville campus, where researchers gave them a four-week supply of dry shiitake mushrooms. Participants took the mushrooms home, cleaned and cooked them. Then they ate one, 4-ounce serving of mushrooms each day during the experiment.

Through blood tests before and after the experiment, researchers saw better-functioning gamma delta T-cells and reductions in inflammatory proteins.

“If you eat a shiitake mushroom every day, you could see changes in their immune system that are beneficial,” said Percival, an Institute of Food and Agricultural Sciences faculty member. “We’re enhancing the im-

mune system, but we’re also reducing the inflammation that the immune system produces.”

To be eligible for the study, participants could not be vegans or vegetarians. They also could not drink tea, take antioxidant supplements or probiotics before the study. They also could not consume more than 14 glasses of alcoholic beverages per week or eat more than seven servings of fruits and vegetables per day during the experiment.

Percival explained the dietary restrictions as follows: Fiber, tea and probiotics help the body’s immune system, so researchers didn’t want to start with people who already had a strong immune system. Additionally, that much alcohol could suppress immunity, she said.

The study was published online April 11 in the *Journal of the American College of Nutrition*.

(Reprinted from <http://tinyurl.com/gsg8gls>)



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BACK YARD OBSERVATIONS AND MUSHROOM MUSINGS: *HYPHOLOMA SUBLATERITIUM*

by David Porter. Reprinted from *Mainely Mushrooms*, newsletter of the Maine Mycological Society, January-March 2016

Hypholoma sublateritium is commonly called 'Brick Cap' or 'Brick Tops' because of the stunning brick red color of the pileus. It is a fall mushroom that appears on hardwood stumps and logs in dramatic clusters. *Naematoloma*, a genus that is synonymous with *Hypholoma*, no longer exists. It lost in a battle that started in the 1870s and succumbed to the rules of priority. We still see it used in some older field guides, and so it's nice to have field guide indices that list species epithets as part of the alphabetical index, rather than under the genus. If we are familiar with 'sublateritium' but can't remember the genus, we can find it in Miller and Miller (2006), Barron (1999), Bessette *et al.* (1997) and Voitek (2007), but not many other of our common field guides list species epithets in the index.

As we know, name changes are not just to annoy amateur mycologists, but to reflect our present understanding of phylogeny – the evolutionary relationships between species. It is satisfying that *H. sublateritium*, *H. capnoides* and *H. fasciculare* have survived recent gene sequence analysis and remain close relatives in a clade that includes other species of *Hypholoma*, *Stropharia*, and *Pholiota* (Moncalvo *et al.* 2002) that we know as the *Strophariaceae*.

So in the back yard...the flush of *Hypholoma sublateritium* that appeared from a buried stump in our yard this year was impressive in its longevity and apparent resistance to the periodic frosts that were part of the late November weather. I first noticed them as clusters of buttons in the last days of October and they were still making spores in the first cold days of December. The thin partial veil was visible in the young mushrooms when the gills were still a light color. It is a membranous veil, not cobwebby like a *Cortinarius*, and as the cap expands, it mostly adheres to the edge of the pileus with little trace on the stipe. (Look on the MMA website for photos of *H. sublateritium*.)

I was curious about how soon a spore print could be made from a developing brick cap. At the first hint of darkening of the gills, I cut off a cap and placed it on a sheet of white paper under a glass dish. Naturally, I forgot about it for several hours, after which time the print was a solid chocolate-brown donut-shaped mass, so thick that there was no hint of the gills. I moved this same cap to an adjacent spot on the paper and after a couple of hours, the result was the same. Repeating this exercise, I eventually had a dozen thick spore prints before they were any fainter and I could see the gill pattern. It is a wonder that a single mushroom cap can produce so many spores. Spore-producing basidia must continue to develop for days even after a cap is severed from its stipe.

Other late-season fruitings seen in the 'back yard,' even after a hard frost, include *Phallus ravenelii*, *Dacrymyces palmatus*, *Panellus stipticus*, *Hygrophoropsis aurantiaca*, *Phyllostopsis nidulans* in addition to the *Hypholoma sublateritium*.



A small group of Brick Caps, *Hypholoma sublateritium*, in New Jersey's Pine Barrens. Some mushroomers (at least here in New Jersey) think of these as "the last edible mushroom of the season". That's not quite so true this fall and early winter, though!

RECIPE: BRICK CAP PATÉ

There has been an abundant fruiting of *Hypholoma sublateritium* (Brick Cap) in our backyard the past several years from a buried stump of a birch tree that was cut about six or seven years ago. It's curious that many field guides are ambivalent about the edibility of this species. Some suggest that it is quite bitter and thus inedible (eg. Miller and Miller, 2006; Breitenbach and Kranzlin, 1994). It is true that one should always sample new mushrooms with caution, as there may be individual reactions. However, the brick caps in our yard were not bitter and were quite tasty. This year I decided to try them in a paté. It was definitely a good thing to do. Here is the recipe that I created (with good advice from Jean):

- 1 cup cooked black lentils
- 1 cup fresh, young *Hypholoma sublateritium*, diced
- 2 tbsp. unsalted butter
- 1 medium shallot, diced
- 1 tsp. fresh thyme
- 2 tbsp. chopped walnuts
- Salt and pepper to taste

Sauté shallots in butter for 2 minutes. Add mushrooms and thyme. Sauté on low heat for 10 minutes.

Wait a few minutes to cool. Combine mushrooms, lentils, and walnuts in a food processor. A tablespoon of brandy at this point is a nice addition. Add salt and pepper to taste. Serve on crostini or crackers. This simple recipe will probably work well for many species of mushrooms. Let me know what works for you.

