

NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION

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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!

CALENDAR OF UPCOMING EVENTS

Sunday, December 9
2:00 pm

2012 HOLIDAY DINNER, PHOTO CONTEST, and ELECTION OF OFFICERS
Unitarian Society, Tices Lane, East Brunswick
Registration required. See page 23 for details.

Sunday, January 20
2:00 pm

MEETING AND LECTURE
Frelinghuysen Arboretum, Morristown
Our guest speaker will be Dr. James F. White from Rutgers University. His topic will be his new book *The Fungal Community: Its Organization and Role in the Ecosystem* (on which he's collaborated with John Dighton and Peter Oudemans), plus a few related topics.

IT'S TIME TO RENEW YOUR NJMA MEMBERSHIP!

Renew quickly, easily, and securely using PayPal® by visiting the [Membership page of the NJMA website](http://www.njmyco.org/membership.html), <http://www.njmyco.org/membership.html>. Don't miss out! If you don't renew now, this will be your last issue of *NJMA News*.

You can also renew by mail by completing the form below and enclosing a check made payable to "NJMA" and mailing it to New Jersey Mycological Association, c/o Igor Safonov, 2215 Arch Street #501, Philadelphia, PA 19103. Remember, you MUST include the form with your payment!

NJMA MEMBERSHIP FORM

(Name, address, email address, phone, and membership option are required!)
Do not forget to enclose your check!

NAME: FIRST _____ LAST _____

ADDRESS _____ CITY _____ STATE _____ ZIP _____

EMAIL (print VERY clearly!) _____ PHONE _____

Option A (Online newsletter) Individual - \$10 (one year) Family - \$15 (one year)

Option B (Hardcopy and electronic newsletter) Individual - \$20 (one year) Family - \$25 (one year)

Optional Contributions to NJMA (no amount is too small): General Operating Fund \$ _____

Scholarship Fund \$ _____

TOTAL AMOUNT ENCLOSED: \$ _____

We look forward to your active involvement in NJMA!

Directions to the Frelinghuysen Arboretum, Morristown

Traveling from the South: I-287 Northbound to Exit 36A (Morris Ave.). Proceed East approx. 1/2 mile in the center lane, past Washington Headquarters (on left). Take left fork onto Whippany Road. Turn left at 2nd traffic light onto East Hanover Avenue. Proceed for about 1/4 mile. Entrance is on left, opposite the Morris County Library.

Traveling from the North: I-287 Southbound to Exit 36, following signs for Ridgedale Avenue (bear right in exit ramp). Proceed to traffic light, then turn right onto Ridgedale Avenue. At 2nd traffic light, turn right onto East Hanover Avenue. Proceed for about 1/4 mile. The Arboretum entrance is on the right just past the traffic light at the Morris County Library.

Traveling on New Route 24: New 24 West to Exit 1A, (also labeled as Rt. 511 South, Morristown) onto Whippany Road. Stay in right lane. Turn right at 1st traffic light onto East Hanover Avenue. Proceed for about 1/4 mile. Entrance is on left, opposite the Morris County Library.

Directions to the Unitarian Society, Tices Lane, East Brunswick

From New Brunswick via Route 18: Take U.S. Highway 1 south, exit at Ryders Lane toward East Brunswick, continue to the second light, and turn left onto Tices Lane. The Unitarian Society is the 2nd drive on the right before you go under the NJ Turnpike.

From the south via the Garden State Parkway: Take Route 18 north toward New Brunswick to Tices Lane exit (take jughandle from right lane of Route 18 across to Tices Lane). Follow Tices Lane until you pass under the Turnpike. The entrance is in the woods on the left just after you leave the underpass.

From the NJ Turnpike: take Exit 9 to Route 18. Take Rt 18 South into East Brunswick. From Route 18, turn right onto Tices Lane at the third traffic light. Follow Tices Lane until you pass under the Turnpike. The entrance is in the woods on the left just after you leave the underpass.

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.



EDITOR'S NOTES

Following in the footsteps of President Phil, I am going to make this a very brief Editor's Message, Notes, Ramblings, whatever-you-want-to-call-it. No scolding for late or missing articles, foray reports, book reviews. Just a few thanks for the articles and photos that we did get.

I hope you will note that we have some new contributors. We have had photos submitted by a number of new members, which are mostly “mystery mushrooms” that they would like a name attached to. Those I send to our experts to see if they can come up with a name. A lot more people are taking pictures with their phones these days, so quality is not always optimal, and attaching names to fuzzy blobs does not always work out. We have also added some new writers. One in particular stands out: Lorna Wooldridge. Lorna, with the help and photographs of her husband, Phil, publishes a blog which recently featured a number of NJMA activities. She graciously allowed us to reprint her articles in this issue: Fungus Fest, the dyeing workshop and the introductory workshops. For more of Lorna's writings on gardening and nature, check out her blog, Wild About Nature, <http://freeunionschoolhouse.com/b2e/blog7.php>.

As usual, I ask you to thank our contributors for their efforts when you meet them at NJMA events.

See you all at the general meeting on November 11th and at the Holiday Party on December 9th. Have a great holiday season.

And (oh yes, just so you know that I have written this article): ***Please, please, please contribute, this is your newsletter!!!***

– Jim Richards



PRESIDENT'S MESSAGE

After the very lengthy message from the last issue I promise to return to my normal brevity, thank you for your patience for my NEMF comments.

Another Fungus Fest is in the record books. By all accounts, it went pretty well. Thank you to everyone who worked for its success on Sunday and Saturday. It was encouraging to see some new faces among the setup crews.

For those of you who read the schedule in the last issue, you may have noticed that the lecture on November 11th was titled “An Experiment”. Once again we were “weath-ered” out of our late October/early November meeting. I would like to explain what that experiment was going to be. All of our business has always been conducted at an “Executive Meeting,” where the attendance is by invitation only. In the forty plus years of NJMA's history, there has never been a business meeting that has been open to the general membership! I had polled the other officers and several trustees and the consensus is to have a general meeting as an experiment to see if it has value.

Among the topics to be discussed at the meeting was to be the new by-laws. Working with a ten-year-old set of by-laws, we found numerous issues that have to be resolved in order to support and protect our club. This would have been an opportunity to learn where we are headed and offer your input. Also, we were to discuss how effective the electronic newsletter is compared to the hard copy. What are our options as we go forward? We will introduce the Board of Trustees and talk about what their responsibilities are and will be. There will be a surprise topic which I promise will be very interesting. Finally, we were to talk about what the club does, what it does well and what it does not so well and what it should be doing. Is it our structure that keeps the club from doing what we should be doing and for the things we are not doing well?

Since the November meeting was cancelled, I will compact the high points into a brief PowerPoint presentation and present it at the holiday meeting on December 9th. I will also summarize the by-law activities by email and solicit your thoughts, concerns and suggestions through that medium.

– Phil Layton

AMANITA INFO ON THE WEB

Rod Tulloss recently updated his website dedicated to the Amanitas of New Jersey and nearby states. The link to the revamped site is:

<http://www.amanitaceae.org?US++NJ+and+PA>

It features over 100 species of known and novel mushrooms from all sections of the genus *Amanita* that have been reported from our neck of the woods. This website is of tremendous value to both novice and more advanced mushroomers/taxonomists in our club who want to learn about this fascinating genus.

MUSHROOMS MAKE GEOLOGICAL HISTORY

reprinted from the newsletter of the Mycological Society of Toronto, July-September 2012

In the June 2012 issue of the journal *Science*, researchers announced that mushrooms may have brought the geological era known as the carboniferous period to a close.

During the carboniferous or coal-bearing period, plants evolved that could produce lignin, a tough new material that gave support for plants to reach massive sizes. Brown rot fungi and assorted bacteria that were the main decomposers of this period could break down cellulose in these plants but left behind the lignin. Layers of un-decomposed organic material accumulated over time, became buried, and were turned into coal by pressure.

Around 300 million years ago, coal stopped forming. This occurrence has been attributed solely to physical factors. However, David Hibbett of Clark University in Massachusetts and his associates believe differently. Using molecular clock analysis and fungal fossils, they determined that white rot fungi made their appearance precisely at this time. White rot fungi have enzymes to decompose lignin that is needed for coal formation. Thus, they have the potential to have ended the carboniferous period.

Geology texts may have to be rewritten to acknowledge the role of mushrooms in changing geological history. 

UNDERSTANDING PLANTS' RELATIONSHIPS WITH HELPFUL SOIL FUNGI: THE PETUNIA

from ScienceDaily.com, March 8, 2012, via the newsletter of the Los Angeles Mycological Society.

Most plants live in symbiosis with soil fungi and are supplied with water and nutrients as a result. Based on the petunia, plant biologists at the University of Zurich have now discovered that a special transport protein is required to establish this symbiotic relationship. The targeted control of this protein could lead to greater harvests.

About 80 percent of all terrestrial plants enter into a symbiotic relationship with fungi living in the soil. The fungi provide the plant with water, important nutrients like phosphate and nitrate, and certain trace elements like zinc; the plant, on the other hand, supplies the fungus with carbohydrates. It is assumed that plants were only able to migrate onto land 400 million years ago thanks to this symbiosis.

The formation of this symbiosis is a strictly regulated process that the plant activates in low nutrient levels.

(continues on page 4)

IT'S TIME TO RENEW YOUR NJMA MEMBERSHIP

Don't miss out on NJMA members-only activities, and don't let this be your last issue of *NJMA News*!

Click this link:

www.njmyco.org/membership.html

to be taken to our Membership page where you can instantly renew your NJMA membership using PayPal®.

(If you prefer to pay by check through the mail, you will find a mail-in registration form on the front page of this newsletter.)

DOLE VITAMIN D MUSHROOM POWDER WINS 2012 NUTRAWARD

by Rebecca Prescott

reprinted from Foodbev.com, March 21, 2012, via the newsletter of the Los Angeles Mycological Society

The first food product of the Dole Nutrition Institute (DNI), Dole Portobello Mushroom Powder, won the NutrAward as the Best New Finished Product at the 2012 Nutracon and Engredea events during the Natural Products Expo West in California (US).

The 2012 NutrAward was decided by a committee of industry experts, scientists and nutritionists, including registered convention voters.

The Dole Portobello Mushroom Powder was judged on its creative product concept, distinct health application, unique packaging and online marketing.

Dole senior vice president, Jennifer Grossman, said, "We are so honored - and excited - to receive this prestigious award. As we have always believed that the DNI's Vitamin D Mushroom Powder is a revolutionary, innovative breakthrough, the NutrAward gives it tremendous validation."



LOOKING FOR CULINARY INSPIRATION? - TEMPURA

from *MushRumors*, newsletter of the Oregon Mycological Society, Vol. 51-4

This has been a particularly challenging season for collecting morels and spring boletes. When “mush-rumps” reveal one *Ramaria* after another, they start to look darn good! A recent post on Langdon Cook’s blog provided an enticing recipe for coral mushroom tempura. Most people find coral mushrooms “blah” tasting and a real pain to clean. However, let’s admit it... almost anything tastes good when it is deep-fried.

Cook offers some cautions concerning *Ramaria* species at his fat-of-the-land.blogspot.com, offering advice to mycophiles ... “careful foragers can rely on a few rules of thumb when gathering coral: avoid species with a gelatinous base; that bruise brown when handling; that taste bitter.” Study up on your coral basics. It is best to stay away from fall *Ramaria* species.

Pass up any corals that are past their prime or overly dirty. Concentrate on young specimens just pushing up. You can minimize your frustration by trimming the hard-to-clean parts and focusing on the more solid branches and base.

Use your favorite tempura recipe or try one of these.

Langdon Cook’s Tempura Batter

- ¾ cup flour
- ¼ cup cornstarch
- ½ cup ice-cold water, maybe more
- 1 tbs rice wine
- 1 egg

In a bowl mix the flour and cornstarch. In a second larger bowl, beat an egg until frothy, then add the ice water and beat some more. Stir in the rice wine. Now add the dry ingredients and mix quickly, not worrying about the lumps. Don’t over-mix! If the batter oozes off a spoon, it’s too thick. Add more ice water until the batter is watery.

Beer and Brown Rice Tempura Batter

- ¾ cup beer (do not use a dark beer!)
- ¾ cup brown rice flour
- ¾ teaspoon salt
- ¼-½ teaspoon cayenne pepper (optional)

Whisk beer with the brown rice flour, salt and cayenne until very smooth. Let sit out at room temperature for 10 minutes.

Dip mushrooms in the batter and deep fry at 370°.

Langdon Cook, author of *Fat of the Land*, has an outstanding [website and blog](#) for Pacific Northwest foragers, be they mushroomers, shellfish diggers and/or collectors of wild greens and herbs.



UNDERSTANDING PLANTS’ RELATIONSHIPS WITH HELPFUL SOIL FUNGI: THE PETUNIA

(continued from page 3)

The roots release the hormone strigolactone, which is detected by the fungi. The fungal hyphae grow towards the roots, penetrate the epidermis and isolated passage cells, and enter the root cortex. There, the fungal hyphae form tiny branch-like networks, which resemble little trees (arbusculum) and gave the symbiotic relationship its name: vesicular-arbuscular mycorrhizal symbiosis.

Until about five years ago, the hormone strigolactone was known to induce and entice parasitic plant seeds in the soil to germinate. At that stage, no one understood why plants produced this substance, which is harmful to them. Only when the new role of strigolactone in mycorrhiza formation was discovered did it become clear that the attraction of the parasites was a harmful side effect of the symbiosis.

Exactly how strigolactones are released into the soil from the roots and how the fungi find the specialized entry points in the roots was not known until now. The research group headed by Professor Enrico Martinoia from the University of Zurich has now found the answers to these questions in collaboration with Professor Harro Bouwmeester’s team from Wageningen in the Netherlands. “Based on the model plant the petunia, we were able to demonstrate that the protein PhPDRI transports strigolactones,” explains Professor Martinoia. The protein belongs to the ABC-transporter family found in simple organisms like bacteria, but also in humans.

The researchers observed that PhPDRI is expressed more highly in a low nutrient content in order to attract more symbiotic fungi, which then supply more nutrients. But there are also plants like the model plant *Arabidopsis* (mouse-ear cress) that do not form any mycorrhiza. If the researchers added PhPDR 1, however, the *Arabidopsis* roots transported strigolactones again.

“Our results will help to improve the mycorrhization of plants in soils where mycorrhization is delayed,” Professor Martinoia is convinced. “Mycorrhization can thus be triggered where it is inhibited due to dryness or flooding of the soils.” This would enable the plants to be nourished more effectively and achieve a greater harvest. Moreover, thanks to the discovery of the strigolactone transporter the secretion of strigolactone into the soil can be halted, which prevents parasitic plants that use up the host plants’ resources from being attracted. “This is especially important for regions in Africa, where the parasitic weed *Striga* and other parasitic plants regularly destroy over 60 percent of harvests,” says Martinoia.



A LOOK BACK AT *fungus fest* 2012

by Lorna Wooldridge

*Text originally published on the Wild About Nature blog
<http://freeunionschoolhouse.com/b2e/blog7.php/fungus-fest>*

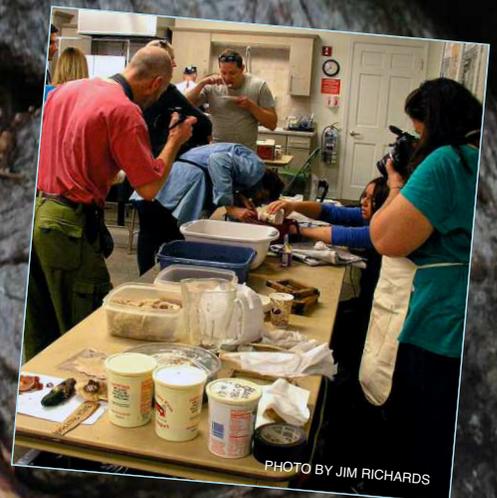


Fungus Fest is a feast for the eyes. Phil and I headed over to the Frelinghuysen Arboretum in Morristown, NJ on Sunday September 30th after picking up Jim Richards, founder of Fungus Fest, for this great event. Phil and I have been members of New Jersey Mycological Association (NJMA) for about three years, but this was our first time at Fungus Fest. On our journey there, Jim explained to us the beginnings of NJMA and how Fungus Fest has been such a great way of bringing in new members.

After helping Jim set up his fungus-themed arts and crafts, which he was hoping to sell that day, we had a good look around downstairs before moving upstairs to see what was happening.

Downstairs, I was fascinated to watch the set up for the mushroom papermaking and Phil and I chatted with Artie and Bob as they prepared food for the mushroom culinary area. It smelled so good, but unfortunately my gluten intolerance issues meant these particular dishes were off-limits to me; Phil said they were delicious.

(more story and photos on the next page)



BACKGROUND PHOTO BY STEVE STERLING

A LOOK BACK AT FUNGUS FEST 2012 (continued)

Upstairs, everyone was busy setting up a wide range of displays. We delivered Jim's *Amanita crenulata* mushroom specimen to the identification table, and both of us enjoyed seeing the tremendous variety of mushrooms being placed into various categories. We have so much to learn!

We also learned a little more about poisonous mushrooms, mushroom spores and medicinal mushrooms.



PHOTO BY JIM RICHARDS

Mike Rubin answers questions at the poisonous mushroom display

The gourmet mushroom exhibit was revealed once Fungus Fest was opened to the public, and what a display!

It was good to see Ursula Pohl again – she led the mushroom dyeing workshop a few weeks ago, and her table of wools and felted items was varied and beautiful.



PHOTO BY PHIL WOOLDRIDGE

Knitted mushrooms with colors courtesy of mushroom dyes!

We attended Glenn Boyd's talk and slide show (a well-presented gazetter of the fascinating world of mushrooms), but before heading out I had to try my hand at mushroom papermaking. What fun! I'm now hooked and this week we have been collecting birch polypores, *Piptoporus betulinus*, and rotting logs bright with Green Elfcap, *Chlorociboria aeruginascens*, so I can do



PHOTO BY STEVE STERLING

Glenn Boyd conducting his talk and slide show



PHOTO BY PHIL WOOLDRIDGE

Making paper with *Chlorociboria aeruginascens*

this at home! The perfect mushroom craft for a card-maker, like myself!

Fungus Fest is fascinating, eye-catching, well-organized and staffed with dynamic and enthusiastic volunteers, and we plan to be there again next year! Thank you NJMA. 🍄



PHOTO BY STEVE STERLING



PHOTO BY STEVE STERLING

WORKSHOP REVIEWS

MUSHROOM DYE WORKSHOP SEPTEMBER 16TH

by Lorna Wooldridge

Originally published on the Wild About Nature blog,

<http://freeunionschoolhouse.com/b2e/blog7.php/mushroom-dye-workshop>

Phil and I attended a New Jersey Mycological Association mushroom dye workshop on Sunday September 16th, at the home of Terri Layton in PA. Terri's beautiful forest/shade garden, landscaped with native plants, shrubs and trees provided the perfect backdrop location.

When we arrived at 8:30 AM, Ursula and Cheryl were already busy setting up the dye pots. These, they explained, were either stainless steel or enamel, and are not used for cooking food. The wool we were to use had to be 100% wool that had already been spun into yarn. Mushroom dyes will only work on protein fibers such as wool or silk.

We had brought some unspun roving with us, but it contained too much lanolin. It would need to be scoured before the wool would be able to take up the dye.

Wool for dying needs to be pre-soaked at room temperature for at least an hour (overnight is better.) In order to prevent tangling, the yarn was coiled into loose skeins, tied in four places with cotton string. You can see the cotton string in the photos below as it isn't a protein fiber and doesn't take up the dye.

Next we prepared the dye bath. During the course of the day, we dyed with six different dried mushroom specimens. It is very important to use the correct ratio (generally 1:1 by weight) of dried mushroom to wool. Here we used 2 oz. of dried mushrooms to 2 oz. of wool for all our dye baths. The mushrooms are broken up into small pieces and then placed in warm water for at least an hour. The mushrooms are then covered in water, and cooked at 170°-180°F for an hour. At this point, the mushrooms can be removed, or wrapped in cheesecloth, to prevent the wool from picking up all the bits of mushroom when it is added.



Whilst all this was going on, the wool was being pre-mordanted. It is important to wear rubber gloves as some mordants are toxic. We were also doing all the dyeing outside as ventilation can be a problem inside.

We used alum, tin, copper and iron mordants. The mordant allows the dye to bind to the wool and remain color fast. The mordants were weighed, dissolved in 1 to 2 cups of hot water, and then added to a stainless steel pot with enough water to cover the wool, while still allowing it to move around. Wet, pre-washed wool was then added to this pot. The temperature is slowly raised to 170°-180°F.

For alum, the wool needs to be cooked for an hour. If the wool is then dried, before it is dyed, this can improve both the color and light-fastness of the wool. For iron, tin and copper mordants, the wool is cooked at the same temperature but for only 20-30 minutes in the mordant, and then removed to a pot of clear water at the same temperature and cooked for the remainder of the time to make up the hour. Wools can also be mordanted in a copper or iron pot, but this is less of an exact science as you can't easily measure the mordant take-up.

Finally, the wet, pre-mordanted wool is added to the dye bath at the same temperature with sufficient water to allow the wool to move around. It is important to slowly return the temperature to 170°-180°F and cook for an hour, turning the wool once or twice during that time.

It is best to allow the wool to cool to room temperature in the dye bath, without stirring. It can then be removed and rinsed in warm, not cold, water. After this, the wool is squeezed to remove the water, and spun out.



PHOTO BY PHIL WOOLDRIDGE

The wool was placed out of direct sunlight to dry, and labeled with the mushroom, mordant and bath number. The bath number indicates how many times a dye bath has been used. It is possible to use a dye several times, with the color changing as the dye gets used up.

Six mushroom specimens were used, all with various mordants:

(article continues on next page)



Spinning a skein.

- *Cortinarius semisanguineus* gave us colors from blood red to orange, using an alum mordant, depending on the dye bath.
- *Hydnellum aurantiacum* gave a pale green (alum mordant) in the first dye bath.
- *Phaeolus schweinitzii* dyed gold in the first bath, using an alum mordant, and yellow in the second bath.
- *Hapalopilus nidulans* used with an alum mordant, provided a range of violet purple, light purple and when the pH was adjusted, a darker purple in the third bath. The tin mordant gave more of a blue color.
- *Inonotus hispidus* dyed wool was yellow in the first dye bath, using an alum mordant, and in the second bath, with iron mordant, an olive green. The alum-mordanted second bath wool was a yellow-green color.
- *Hyndellum spongiosipes* gave a light olive green in the first dye bath, but I forgot to note the mordant, so I'm wondering if this was copper as I know a copper dye bath was used.



A wool rainbow

Dyeing with mushrooms takes time, but a beautiful location and great company made for a most enjoyable day. We got to meet some wonderful and very knowledgeable people, and take home a rainbow of samples from each of the wools.

We are especially grateful to Terri for opening her home to us, and providing us with some wonderful food treats, as well as to Ursula, Cheryl and Dorothy for sharing their skills, knowledge and time with us. 

AN INTRODUCTION TO MUSHROOMS FOR BEGINNERS WORKSHOPS – OCTOBER 6TH

by Lorna Wooldridge

Originally published on the Wild About Nature blog, <http://freeunion-schoolhouse.com/b2e/blog7.php/njma-an-introduction-to-mushrooms>

Although Phil and I have been members of New Jersey Mycological Association for about three years, in all that time we have only attended one foray and one presentation. We have enjoyed the newsletter, and often thought about attending more forays and events, but it just didn't happen until this year.

At the beginning of the year, I made a determined effort to book us into a number of classes. We attended the oyster mushroom cultivation class in the spring, dyeing with mushrooms last month, we finally got to Fungus Fest two weeks ago, and last weekend we attended our first introductory day to mushrooms arranged by NJMA.

After all this time, you may well ask why we were doing this? Well, the simple answer is we realized how much we didn't know about mushrooms! We had attended a presentation and Field ID day three years ago, led by Dorothy Smullen and NJ Audubon at Duke Farms, NJ. It was Dorothy who encouraged us to join NJMA. We also purchased two ID books, and tried to identify some mushrooms ourselves, with limited success – we felt we needed more help. I'm glad to tell you that last Saturday's event really made a difference.

The morning session, led by the NJMA Education Chair, Patricia McNaught, provided an overview of what NJMA has to offer its new members. There is a lot, so do check out their website.

Patricia also discussed the symbiotic relationship fungi have with other plants, especially trees. We learned about their development and their place in the Tree of Life, and the fact that mycorrhizal mushrooms can only be found near certain trees (oak, pine, spruce, fir, beech, birch and hickory) and you need to look for the older trees. We were introduced to the classification of types of fungi, and how to use the identification books. The lifecycle of a mushroom is simply fascinating.

Patricia also went through some scary information about poisonous mushrooms and recounted stories of how even the experts can get it wrong.

Jim Barg followed Patricia in the afternoon. I liked the way Jim introduced us to the topic of identification. He produced some very similar looking vegetables and fruits, and challenged us, using our senses of sight, touch and smell, to describe them and note their differences. He encouraged us to apply these same methods to mushroom identification. I realize now how important it is to write down your own descriptions before turning to the identification books. He gave us some great questions to ask ourselves when we are faced with an unknown mushroom. We learned about form and shape, cap and stem characteristics, including whether a mushroom has a veil, ring or a “reticulated stipe”, gills or pores and their attachment, the cross sectional features, spore prints, odor and finally taste (with cautions!)

Jim sent us home with a portobello mushroom, from which we took a spore print before consuming it for breakfast the next day.

We are very grateful to Jim and Patricia for such a great introduction to the world of mushrooms. We highly recommend these classes to anyone that wants to get started on mushroom identification.



AUGUST 11TH **BOLETE MINI-WORKSHOP REVIEW**

by Igor Safonov

At the beginning of this year, Patricia McNaught (the newly-elected NJMA VP and Education Coordinator) approached Terri Layton, Dorothy Smullen and me with a proposal to teach a series of three introductory-level mini-workshops on specific groups of fungi to interested members of the club and the public. Patricia's idea to incorporate such hands-on classes into our typical educational repertoire offered each year was intended to deliver a desirable and refreshing element of novelty to our program. Each of these would take place following a scheduled NJMA foray, and collections of mushrooms gathered on the forays would then be used for demonstrative purposes at said workshops.

Terri and Dorothy were given the task of teaching a Polypore and a Dark-spored, Gilled Mushrooms mini-workshop, respectively, whereas I was responsible for leading a Bolete mini-workshop. Though I have some teaching experience (all in college and graduate school), I haven't taught a class of any kind in more than a decade. Moreover, this was my first experience as an instructor of a mushroom class. After a slight hesitation due to not knowing what I was about to get myself into, I quickly convinced myself that time had finally come for me to get

involved in teaching some aspect of mycology at an introductory level. I told Patricia that I would be delighted to be the leader of the Bolete mini-workshop.

It's not a secret to those in the club who personally know me that I have an unflagging enthusiasm for the fleshy, pored mushrooms (I can see many people smile as they finish reading this line). Yes, it's a passion, but not an obsession. Ever since I joined NJMA in 2005, my countless trips to a multitude of forays with NJMA and on my own year after year have primarily been used to develop, broaden and perfect my field identification skills of this marvelous group of fungi for the benefit of the club and for my own edification. Seven years seems to be a long time to focus one's undivided attention on a single group of mushrooms and that, regrettably, comes at the expense of missing the opportunity to thoroughly study the other fungi Mother Nature graciously offers for our delight and enjoyment. However, I would certainly like to think that time is still on my side. But I am digressing...

When the foray schedule was finalized and approved, it became evident the Manasquan Reservoir Foray on August 11 was the only reasonable choice for my workshop as far as the time of year and location were concerned. In my experience, the month of August is the apogee of the growing season for many summer mycorrhizal fungi, including boletes. It is during this month that deciduous trees seem to be particularly generous in sharing their plentiful sugar reserves with the mycelium. Aside from a meal of carbohydrates, an abundant supply of moisture is the other key requirement in the reproductive cycle of fungi, especially the boletes, and August also happens to be the month when precipitation patterns in our region of the country become more favorable and reliable (recall that the last two Julys were abominable scorchers). Though the oak-pine woods of Manasquan never impressed me as the place that would deliver a “mythical trove of boletes” (even if the soil moisture were adequate), I was still hoping to find enough boletes – in terms of both variety and quantity – to be able to teach the workshop. For me, this aspect was crucial to my teaching plans because without a collection of specimens, my class would have to be given as a lecture, with handouts and/or a computer presentation. Though not ideal from the mushrooming perspective, Manasquan nevertheless has one clear advantage over other of the foray sites: an air-conditioned nature center with large rooms and display tables that we could use in case the weather was too hot or rainy. I would also like to add that through the years, the staff at the Center was always friendly, welcoming and accommodating to NJMA's needs.

Time passed unbelievably quickly, and before I knew it the calendar page was showing the month of July. It was hot and dry, with no prospects of rain in the forecast. All NJMA forays that took place that month were

worrisomely unproductive. I led a foray at Hoffman Park at the very end of July, and that walk culminated in the most pathetic collection of terrestrial fungi I had ever seen there – slim pickings was an understatement! As my worst fears were about to be realized, I was on the verge of beginning to work on a Power Point presentation and poring over my collection of hundreds of bolete photographs which are organized into a humongous tree of file folders that could easily rival Dorothy's dichotomous mushroom keys. And then, a few days before the NEMF foray, some parts of the state began to get the much-needed precipitation. At last, the highly-desirable shift in the weather pattern was upon us, and it lasted for the first three weeks of August.

Nevertheless, still concerned about the possibility of a mediocre bolete collection at Manasquan, I decided on the spur-of-the-moment to foray on my own elsewhere in the state the day before the workshop. Patricia McNaught was able to join me, and we gathered an excellent assortment of fungi from undisclosed locations in NJ. When we returned from our expedition to Patricia's home, I taught a one-on-one workshop using the boletes we had just found. For me, it was the perfect opportunity for a practice run right before the real thing, and for Patricia it was her first comprehensive and detailed bolete training session of this kind. Now I did not have to worry about anything, and I had all the pored mushrooms I wanted to talk about. When I returned home, I prepared a handout containing a summary of information on 11 genera of boletes commonly found in NJ using *North American Boletes* by Bessette-Roody-Bessette (a.k.a. "the bolete bible") as my reference.

Ten people registered for my workshop, of which number, six were able to attend. After we returned from the foray, I spent some time identifying fungi from the Manasquan collection and selecting a few additional boletes to supplement my pickings from the day before. I grabbed a cart and randomly laid out the mushrooms on it – part of my plan was to ask my students to group the specimens according to their gross morphology.

After briefly introducing myself and allowing others to do the same, I defined, in broad strokes, the goals of the workshop and how I was going to teach it. As soon as I said "Boletes are fleshy pored mushrooms growing almost exclusively in a symbiotic relationship with hardwoods and conifers", I knew I was on.

In the beginning, I discussed, in detail, the basic anatomy of a typical bolete, focusing on the properties of the cap, the pore surface and the stipe. In particular, I stressed how certain aspects of morphology visible to the naked eye and pertaining to these key anatomical components, such as the original color and staining of the pore surface and the texture type of the stipe, are important in the initial placement of specimens into specific genera, i.e. *Boletus*, *Tylopilus*, *Leccinum*, before identification to

species can take place. Then came the aforementioned exercise of grouping the boletes according to their likeness in appearance. Overall, my students did pretty well, though two groups of boletes wound up to be a mixed collection of similarly-looking species (granted one of them contained specimens belonging the notorious *Boletus bicolor* type that even I couldn't identify to species with certainty). Finally, in the last section of my workshop, I went over each species in every group of boletes on the cart, frequently referring to my handout to complete the picture for each genus.

I was very pleased with how the class went; I think it was a success. I didn't lose a single participant, which meant to me that I succeeded in not overwhelming or boring my audience to death with too much information and a deluge of minor details. While I didn't time myself, my workshop must have lasted about hour and a half, and all that time I spoke off the cuff with just a few brief respites and interruptions. With the exception of the scientific presentation during my dissertation defense, never in my life had I spoken publicly at such great length and with so much intensity and enthusiasm. I had a great satisfaction with finally being able to unleash the greater part of my knowledge of boletes to fellow club members. It was more fun than I could ever imagine, and I will gladly teach this workshop again in the future.



HANDS OFF MY HONEY!

NJMA member Paul Funk stumbled onto this possessive Black Rat Snake, stared it down, and didn't dare pick those mushrooms!



PHOTO BY PAUL FUNK

FORAY REPORTS

AUGUST 19 - STEPHENS STATE PARK

by Jim Richards

After a rather frustrating, to say the least, spring and early summer of dry weather, early hot spells and a rather confused Mother Nature, we finally had a foray that produced more than a handful of mushrooms. Over eighty species were identified from the collections of the twenty-five or so collectors that showed up.

It was an interesting mix of foragers. We were lucky to have a good number of our more experienced identifiers, including Jim Barg, Terri Layton, Nina and John Burghardt, Patricia McNaught, and Rich Balsley, along with a mixed group of new members that had not been on forays before and visitors that had found our website and just decided to check us out.

Some of the group were even lucky enough to see a black bear who seemed not all that happy that we were rummaging through its back yard. It turned out well for everyone, in that it decided to walk off in a huff rather than to decide to deal more stringently with “trespassers”.

One of the highlights of the foray was the identification table that Patricia set up for the edification of the newcomers. She took a number of the more easily identified specimens and a selection of field guides and set the beginners to work (with the help of a handful of more experienced club members) using the keys to put names on these mysteries. Most of the tyros did quite well and were pleased when they actually put the right



PHOTO BY JIM RICHARDS

names on the mushrooms they were working on. It is something that we should try to make sure gets done on every foray. We have often talked about this method of teaching but it seldom gets put into practice. It accomplishes a number of things, and not just for the begin-



PHOTO BY JIM RICHARDS

ners who start to learn a little taxonomy. It also makes things easier for the experts who are trying to put names on the other specimens. They are not interrupted nearly as often with people waving mushrooms in their faces and demanding to be told what it is and whether or not they can eat it.

The foray must have been a success. I had two couples hand me their dues as they became members for the first time. Another way that I knew that people were enjoying themselves: Usually, everyone clears out by about 2:00 pm. It was after 3:30 when we finally broke up.

A couple of days later John Burghardt sent me the list of foray finds. One mushroom that proved to be of particular interest was this *Amanita* (below) with Nina's note:

Hello everyone,

We had this *Amanita* at Stevens that looked very much like *A. flavoconia*. John and I said it was probably that, but all of you said no. Well I took it home, John photographed it, we dried it, and I found it on the old Tulloss site which has the list of Pine Barren mushrooms. The name is *Amanita elongata*. I had to go over to Rod Tulloss with some FPP mushrooms, and he confirmed that it was indeed an *A. elongata* and it is not in the database.

– Nina



PHOTO BY JOHN BURGHARDT



SCHIFF DOESN'T RESULT IN BIG FINDS, BUT PRODUCES BIG FUN

by Marc Grobman

The Schiff Nature Preserve (Morris County) foray back on September 2nd offered comers three opportunities: a mini-workshop on dark-spore fungi conducted by Dorothy Smullen, and a foray where folks split into three teams — one led by John and Nina Burghardt, one led by Dorothy Smullen, and another led by little ol' me, who reports the following...

It can be a delightful experience to lead a foray when the participants are a fifteen-person pack of newcomers to mycology, and even to forest lore. The experience can reawaken the excitement of wonder and discovery they may have lost after childhood.

Exhibit A: Newcomer finds a leaf gall on the ground, and excitedly asks, "Look at this strange little brown ball! Is it a mushroom?"

Answer thought of, but not delivered: "Well, no, but it's very rare. Those come from deer with a genetic defect that cause them to grow just one antler, and one testicle. Each year, they drop both the antler, and, um, the thing you are holding in your hand."

Answer actually delivered: "Well, no, but it's pretty interesting. That's called a gall. It's formed when an insect or mite chews on the leaf, and then the leaf grows the gall around the injury. People used to think that the insect made the gall, but it's really all the leaf's work. For some reason, it's usually an almost-perfect sphere." Reply: "Wow! That is sooooo cool."

Our good turnout of newcomers appeared to result from the Schiff Natural Lands Trust having promoted the foray on its website. Almost the whole gang was new to mushroom hunting, and several were apparently not even used to walking in the woods off trail. Some had dressed in shorts, which let them achieve intimacy with Japanese barberry, multiflora rose, and wineberry thorns, and two even wore strap-on sandals. That inhibited their navigational ability, but their enthusiasm gave them the energy and courage to persevere. The group's inexperience also made it much easier for this foray leader to help them view the safari as a brief adventure and learning experience, even without the edible finds that all newcomers hope for.

Exhibit B: "I found one [mushroom]! It's really weird!" Oh, good! People call that one the 'Old Man of the Woods' (*Strobilomyces floccopus*). Can you guess why they call it that?"

"I know! I know! It's because it looks all hairy with gray hair or a beard and stuff!"

"You're pretty clever! I'd bet you're right!"

"Can you eat it?"

"You can, but it's not worth it. Does anyone here know the three classifications of whether or not you can eat something you find in the woods?"

(Blank stares. Some venture that some things can be poisonous, but are otherwise stumped.)

"Some things can be classified as 'edible.' That means you can eat them. Some things are classified as 'poisonous,' which means that they will either make you feel bad, or get sick, or even die. And some things are classified as 'inedible.' That means you can eat them without any problem, but you wouldn't want to because they either taste bad or don't have a taste. Think of how much you'd like to have a meal of sawdust or cardboard. That's the case with the Old Man of the Woods. Eating him won't hurt you, but you won't find him very tasty."

As the trek through the wilderness went on, the participants interacted more, and began to achieve some feeling of camaraderie. That, along with our little discoveries, learning, hunting tips, and beautiful weather seemed to alleviate the pain of the newcomers' failure to find gobs of edible mushrooms.

They also seemed intrigued by mushroom hunting stories and tips: "Have you ever heard of mushrooms called 'morels'?" (Some heads nod.) "If you can learn to recognize that tree over there by the bark, it can be very helpful for hunting morels, which come out in late April and early May. That's a tulip tree, and morels, which are very good edible mushrooms, tend to grow near them. It's good to learn to recognize the bark of tulip trees, because at morel time, you usually can't see the leaves."

It also helped that we'd split up the foray into two teams, which yielded a greater variety of finds back at the ID table. Many newcomers stuck around for the sort-and-identify session, where they eagerly watched and asked questions about the day's assortment of collected fungi. The collection included a few chanterelles (*Cantharellus cinnabarinus*) from the other team, and a mother and her two daughters were grateful for the opportunity to take them home for a new culinary experience.

End result: The newcomers didn't find the big batches of edible mushrooms they'd hoped for, but they learned something more important: foraging can be fun! The evidence is in **Exhibit C:** Some of them showed up at subsequent forays.

Mini-workshop report from Dorothy Smullen:

I only had three people for the mini-workshop on dark spores...very few were collected on the Schiff foray. We went over how to key them out with handouts I made.

WASHINGTON CROSSING FORAY

by Virginia Tomat

The September 16th Washington Crossing State Park Foray was the first that I have led for NJMA. Preparation for the event included a survey of the woods to both become more familiar with the trails and to attempt to determine the sites of fungal growth. The scouting was conducted the previous day. My husband and youngest daughter accompanied me. The previous week had been pretty dry and a cursory scan did not reveal many specimens. *Boletus* species were noted to be present along the Red Trail and it was decided that it should be the one down which forayers should be led.

One of the things that I enjoy about mushroom forays is the excitement of coming across new treasures that may unexpectedly appear during the walk. One such surprise was encountered along the path which followed to our parking site, where we found a meeting in progress of the Princeton Astronomy Club, which was enjoying its annual picnic. Telescopes, of course, were part of the course, and the leaders invited Aluen to peer through one of these at Mars. So, our focus that initially had been fixed to the ground finished that day in the heavens and our eyes were opened to a new learning experience.

The day of the foray began with trips to the train station and TCNJ college campus to pick up our older daughters who wished to assist me; thereby making the foray a family outing. As a result, we arrived three minutes late. (Our apologies.) More people than anticipated came. It had been conjectured that participation might be low due to the absence of recent rain. Approximately four people new to NJMA were in attendance. Unfortunately, absent from those who had previous foray experience were the club's mushroom identification experts.

Participants were directed, as planned, along the Red Trail. After a short time, it was decided that one group would walk toward the spring as the other headed toward the Nature Center and self-guided trail. When we met at noon, I was surprised that so many varieties of mushrooms had been found. Everybody helped in the classification effort. We were happy to see Rich Balsley, who has been with NJMA many years, as he helped to fill the void of identification ability that had existed prior to his arrival. An honest effort was made by all to use the available resources to identify the collected fungi, but when doubt still existed, Richard was our resource of final recourse.

On the classification table, my eye was caught by an unexpected beautiful treasure in the form of a blue mushroom that somebody had found and which I thought for a moment was paint on a stick. Upon closer inspection, however, I realized it was in fact a mushroom.

Up to that point, I had never seen a fungus with such a thrilling cobalt-blue color. I guess it attracted to me so much because I love the color blue. The mushroom was identified as *Pulcherricium caeruleum*.



PHOTO BY VIRGINIA TOMAT

Pulcherricium caeruleum from Washington Crossing

Fortunately, a few stayed late to carry out more identification. Nina and John Burghardt later joined the effort and proofed the IDs. They took a few specimens home with them to verify their classification.

A few days later, John sent the list of the specimens classified and comments on four species that had been misclassified. Amongst these was a very interesting species we had classified as "*Clitocybe dilitata*". Inasmuch as the literature indicated that this species grows only in the West, he was led to change the classification to a look-alike *Lyophyllum connatum* which is found in the East and which NJMA has recorded three times in the past 30 years. The second misclassified fungus was initially identified as *Russula cremoricolor*. However, once Nina checked the spores, it turned out not to be a *Russula*, but a *Tricholoma*, which Nina keyed out as *Tricholoma columbetta*. John had never

seen it before, but the club has recorded it in 9 years.

Toward the end of the foray, Betty found next to an old oak tree a very large *Bondarzewia berkeleyi* which she photographed. So even so though it was fairly dry, and even though not many of the NJMA classification experts came, the result of this foray was nonetheless interesting with a total of 54 species which were almost exclusively, and almost all completely correctly identified by novices.

Addendum from John Burghardt:

Finally, Igor Safonov thought the specimen labelled *Austroboletus gracilis* was instead a *Tylopilus indecisus*. In addition, Nina named a *Boletus innixus* and decided that the specimen labelled *Innonotus hispidus* was most likely *not* this species, although we could not determine what species it was. All-in-all, a very interesting days collecting and good, careful work by the group identifying.



PHOTO BY VIRGINIA TOMAT

Betty's *Bondarzewia berkeleyi*

ANOTHER PERSPECTIVE ON THE WASHINGTON CROSSING FORAY

by Irina K. (translated from Russian by Igor Safonov)

“It so happened that this was my second time at such a foray. The first one was last year. This time it appeared to me to be poorly organized. I remember the first time, when Jim was the foray leader and I learned a lot. First, the entire group of at least 20 people went together. Then people dispersed quickly, I lost the leader, and never found out if she succeeded at her task. I wandered around the woods for half hour but didn't find much beyond some Russulas and dried-out remnants of other mushrooms. Then I went to the section of the woods where my husband and I had collected my boletes last month (I think it's called the Continental Trail). This time around, I found there some black trumpets, some *Laccaria ochropurpurea* and one large and beautiful gilled mushroom with a gray cap (later I found a good

match on the Internet. It was the Deer mushroom). Though the overall collection wasn't all that bad and the people found different mushrooms, most were in poor shape – desiccated and wormy. There were lots of *Gyrodon merulioides* [*Boletinellus merulioides* is the new name – IGS], but I didn't take any because I had tried them earlier this year and they weren't much to my liking. The woods were very dry. There were many Russian-speaking folks who thought that the woods left much to be desired. :-)”

SEPTEMBER 22 – GRETE TURCHICK STOKES STATE FOREST/KITTLE FIELD FORAY & PICNIC

by Jim Barg

Aside from having another “excuse” to have an NJMA food event (and many say that this club *loves* to eat more than just about any other club out there), this annual foray way up north in Stokes State Forest never ceases to amaze in both the number and variety of species we find. This year, conditions were a little bit drier than we've experienced in recent years, but the total number of species found was still near 90. (And, thankfully, the number of foragers who got lost in the woods was exactly zero!)

Once unleashed, the enthusiastic group of about 25 people (many new members) didn't stick together for long...there were mushrooms beckoning from everywhere! This is one foray that most of us look forward to every year because it's not only one of the most productive, it's also the time of year when lots of interesting things are emerging for their fall stand. From the looks of the collection table, it seemed like everyone found quite a bit; there were many species that went unidentified, and some species overflowed their plates because of their abundance.



PHOTO BY JIM RICHARDS

As is often the case at this foray, Stokes seemed to be at a time when the summer fungi were finishing their stands and the fall mushrooms were just starting to

fruit. Several members found a few laggard specimens of summer mushrooms like *Lactarius corrugis* and *Boletus pallidus*, but the fall mushrooms like *Cortinarius armillatus* and *Armillaria mellea* were being found in good numbers. *Suillus granulatus* and quite a few species of *Laccaria* were also in abundance. Conspicuously absent, however, were some of the fall regulars which we usually find at this foray, namely *Grifola frondosa* and *Coprinus comatus*. Maybe it was a bit too early?

Among the more fascinating finds was the Jelly Tooth, *Pseudohydnum gelatinosum*, which was found on a downed hemlock log not far from an area where we regularly find many old black birch logs which bear the tiny colorful (and abundant!) fruitings of *Chlorociboria aeruginascens*, the Green Stain fungus. For those interested in edible mushrooms, there were literally hundreds of *Hydnum umbilicatum* under the hemlocks which are common in this area. And Randy Hemminghaus was the finder of a gigantic (though slightly aged) *Hydnum repandum* v. *repandum*, which is also a good edible. (But, as you may be aware, nobody took any of these home to be eaten, per the terms of our State Parks foraging permit...right?)



PHOTO BY STEVE STERLING

Randy shows off his enormous *Hydnum repandum*

And, to accompany our ID session, what better than a nice afternoon picnic “catered” by our own members? This is one of two forays where we have a feast (the other being our Wild Foods Foray in June), and what a feast it was! Members brought everything from mushroom dishes to salads to gumbos to luscious desserts. As usual, all was consumed with glee and nothing was left to waste.

It’s too bad that Fungus Fest was still one week off – the variety of species we found was enough for an exhibition all unto itself.



PHOTO BY JIM FICHARDS

A lunch, fit for a forayer, at the annual Stokes picnic!

OCTOBER 7 – CATTUS ISLAND COUNTY PARK

by Igor Safonov

If memory serves me right, I’ve been the leader of every Cattus foray since NJMA added this park to the foray schedule in 2007. Last year, we forayed at this location in early November, right after the infamous snow storm of October 29. Following the wild weather patterns of 2011, namely the record-setting August precipitation followed by the aforementioned out-of-season nor’easter and the ensuing mild and snowless winter, the foray committee decided to revert back to scheduling all late season forays in the month of October.

The unseasonably chilly and rainy weather forecast for October 7th probably had some negative impact on people’s decision to attend the foray. We still had a decent turnout of at least 20 souls, mostly new and prospective members who had never forayed with us before. Thankfully, Mother Nature obliged – despite the ominous clouds our walk was rain-free until about noon. By that time, most of us had already returned from the woods and congregated inside the warm and dry Cooper Nature Center.

In previous years, I invariably led the group to the “island” section of the park with mixed results, as abundance and variety of species has typically not been as rich as one would expect to find in the Pine Barrens in the opening weeks of autumn. Those of you who are familiar with Cattus Island Park perhaps know that the second half of the name is a misnomer. The “island” part of the park is actually a tiny peninsula that gets cut off from the mainland when the surrounding salt marshes get flooded due to an overabundance of precipitation. This time, I wanted to foray in the inland section of the park, taking advantage of a long loop trail that cuts through a wider swath of mixed oak-pine forest to the west of the nature center.

After my usual introductory spiel that briefly covered the rich history of this park and the goals of mushrooming with intent to identify specimens, I led the group to the park perimeter trail. As sometimes happens during our forays, walk leaders who want to cover a lot of territory, walk briskly, and collect as many specimens as possible wind up with just a few followers. For better or for worse, I happen to fall into that category of “leadership”. I am of the opinion that the actual act of foraging is not supposed to be a mushroom lecture. That’s what the ID sessions are for; when mushrooms are displayed, researched and named, and the public can examine the specimens and appropriately ask questions about them. Preaching to the crowds at great lengths about each found mushroom is a prerogative of a few expert field mycologists with a penchant for teaching, which in all honesty I am not. Besides, having a large crowd on a narrow trail is hardly a great setup for a group of people who want to enjoy the experience of finding lots of mysterious mushrooms. So it happened that I had just Paul and Lynn Hugerich, Irina Kononovich and Vladimir Ostrovsky accompanying me, while the others either forayed alone or stayed with Nina and John Burghardt who must have gone in a different direction.

It is not unusual for us to conduct ID sessions following our forays outside, especially if the weather is nice. Conveniently, most foray locations we visit with regularity year-after-year have either nature centers or, at least, a covered pavilion that can protect us and our collection from inclement weather. As I mentioned above, Cattus Island has a Nature Center – however, our foray coincided with a festival that made our use of the facility virtually impossible due to the vendors occupying the space both inside and on the perimeter deck. Naturally, identifying mushrooms in 50-degree weather while being rained on is not fun, to say the least, and I dreaded such a prospect as the weather showed no improvement by the end of our walk. Fortunately, Chris Claus (the Nature Center manager) was able to graciously accommodate us in the exhibit room and even provided a large table for laying out the fungi. It

was rather rowdy and crowded because of the families with kids who came to the festival, but our ID session turned out to be one of the most engaging and productive ones this year. With Nina, John and yours truly as the only veteran members to work on the mushrooms, there was little time to be wasted. The people who stayed with us after the foray were nice and eager to learn, and we even got some unanticipated attention from the folks who came to the festival.

As I write these lines, the current species tally stands at 70, including the ones the Burghardts had taken home and later identified with the help of microscopy. Overall, our collection was rather unremarkable given the season, but yet not entirely unexciting. While we didn’t find any rare, unusual or beautiful fungi, our fall collections should perhaps be generally regarded as the ones we should really try to study more. Many fungi typically found in the autumn either have a short growing season or fall into large genera that are difficult to be proficient in (e.g., *Cortinarius*, *Lactarius*, *Russula* and *Tricholoma*). To my surprise, we found no *Tricholomas* and very few species of *Amanitas*. In fact, the only *Amanitas* we found were *A. amerifulva*, *A. amerirubescens*, *A. bisporigera*, *A. citrina*, *A. muscaria*, and *A. vaginata*. On the other hand, there was no shortage of assorted *Russulas* and *Lactarius*. As far as *Russulas* are concerned, I would like to point out *R. ventricosipes*, *R. fragrantissima*, *R. albonigra* (stains black) and *R. dissimulans* (also known as *R. nigricans*; flesh staining red and then black) as the ones that yielded to identification and had a chance of being remembered due to their distinctive appearance. We found several *Cortinarius* species, but with exception of the easily recognized *C. caperatus* (aka, the Gypsy), *C. iodes* and *C. semisanguineus*, identification of the others was nothing short of a Herculean effort. There was a single collection of *Laetiporus sulphureus*, which is not common in the NJ coastal plain. There are very few species of boletes that fruit in the Pine Barrens in the autumn months (unless you like to include the members of genus *Suillus*, which is no longer in the family Boletaceae). The boletes we encountered on this occasion were *Boletus projectellus*, *Gyroporus subalbellus*, *Strobilomyces* sp., *Tylopilus felleus*, *Tylopilus peralbidus*, and *Suillus salmonicolor*. I was astonished not to see a single specimen of the common and very edible, but yet to be properly identified, red-capped *Leccinum* species, which sometimes grows in prodigious numbers in association with pitch pine through late October. Finally, we also found the colorful *Hygrocybe coccinea* and *Cantharellus cinnabarinus* to spice up the drab colors of many other nondescript, boring, and too-difficult-to-identify gilled brown mushrooms that we never got around to investigate properly.

After the ID session was over, we left about a dozen representative species in good shape with their ID tags on display for the public.





MEMBER FINDS

Photos on these pages are random submissions from our members, and represent unusual, out-of-season, and/or especially attractive fungi which they've captured as photos. We present them as we've received them (often as email correspondence). Enjoy the views!

Hi Jim,

Driving this morning, spotted these mushrooms from my car. Camera with me, no traffic. Pulled over, flashers on, Judy out in the fine drizzle to admire these beauties. Something has taken V-shaped bite out of a couple - turtle, bird maybe. Any idea who they might be?

Aren't they handsome though, and huge!

– Judy Glattstein

Judy,

Thanks for sending me an easy one – It is *Amanita muscaria* – the so-called Fly Agaric, one of the most photogenic of all mushrooms.

– Jim Richards



PHOTO BY JUDY GLATTSTEIN



PHOTO BY JUDY GLATTSTEIN



PHOTO BY JUDY GLATTSTEIN

This was one of the strangest creatures I've ever seen. It was growing between the two panes of glass in a window. It could be described as a powdery substance that disintegrated immediately upon contact when the pane was opened to clean it. It looked like a seed pod or a sea urchin but I believe it must be a fungus. (?????????) I would have saved it, but there was nothing to save. As I said it was a very fine powdery substance.

Thought you might be interested, I was lucky enough to take this photo. Perhaps you can identify it.

– D. Nowak



PHOTO BY D. NOWAK

Jim (Richards),

It is a *Stemonitis*; probably *Stemonitis fusca* or *Stemonitis splendens*, depending on spore markings.

The next question is: What is it doing on a window sill? The sill looks sound, possibly freshly painted, but the plasmodium which produced the sporangia was feeding in rotted wood. An ice pick or other sharp point would help find the rotted area. There is a leak between the panes, the wood is rotted and needs repair.

– Gene Varney



PHOTO BY BARBARA PROSPERO

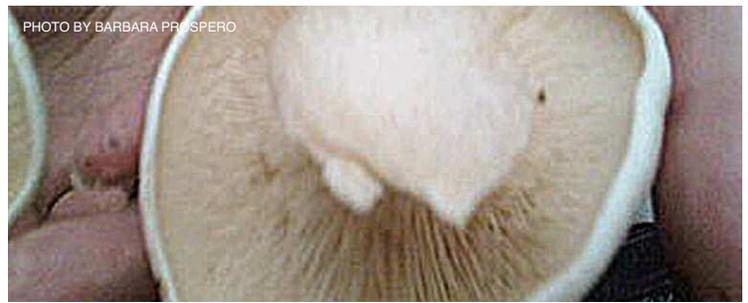


PHOTO BY BARBARA PROSPERO

To whom it may concern,

Since I am rather limited with my computer abilities, may I forward some pictures of white mushrooms with creamy colored lamels could you kindly help to identify the same.

Thank you,
Mrs. Barbara C. Prospero

Just looked at them, but it is difficult to ID them from the photos. I am going to pass them on to a few of our better identifiers for their ideas. I will let you know what I learn.

– Jim Richards

Thank you sooo much, have a 10 pound basket sitting in my garage.

– Barbara

Do not even consider eating them until you hear from me!!!!

They are certainly not one of the better common edibles. I have not heard from any of the experts. As soon as I get a reply to my inquiry I will let you know.

It is often very difficult to identify mushrooms only from photographs. There are many characteristics that are used to confirm identification that cannot be determined by photographs, especially low-resolution ones like yours.

– Jim Richards

Well, I'll put my 2 cents in...I used to find this or something like it in Cheesequake State Park and it would key out as *Clitocybe geotropa*...now re-classed as *Infundibulicybe geotropa*. The photos are not very good, but the close gills point to *I. geotropa* in my opinion! Most other *Clitocybes* are tan, gray rather than white. Anybody want to add their 2 cents?

– Bob (Hosh)

I don't think we'll be able to tell from photos. As we all know, there is a wide range of mushrooms with this type of coloration and stature, ranging from

Russula to Lactarius to Clitocybe to Lepista to Clitopilus, even to Leucoagaricus. And within those genera (some being easier to rule out than others), these photos don't provide enough clues. I guess we can't call it an Amanita --- that's about it. We need more data. Smell, texture of the flesh, stem characteristics, spore print, etc. --- all the things we look for. There are too many unanswered variables. I would advise this person to NOT, under ANY circumstances, attempt to eat this one.

That said, being the season we're in and what tends to appear at this time, my first reaction is *Lepista irina* (*Clitocybe irina*), but that is ONLY a guess, and probably a dangerous one at that!

– Jim (Barg)

I'm just going to throw my best guess in: Looks a lot like *Clitocybe robusta*, but there's really no way to tell for sure with these pictures.

– Pete (Bohan)

I agree with Pete. I think it may well be a *Clitocybe*. There are several things that would help in identifying this mushroom. Take a closeup profile with a ruler next to it. Are the gills running down the stem or stop when they get to the stem? Take a picture of the base of the mushroom. Is it wider than the rest of the stem or does it taper? Does the mushroom smell? Is there any latex? Where was it growing? On the soil, on wood, in conifer needles, in leaf duff? Did it change color when it was bruised or cut? What color is the spore print?

– Nina (Burghardt)

Thanks for your input. I will pass your emails along to the member who sent the request. She has 10 pounds of them in her garage waiting for my reply.

I had already advised her not to eat them under any circumstances. If she sends any additional photos I will pass them on.

– Jim Richards



PHOTO BY BARBARA PROSPERO



PHOTO BY BARBARA PROSPERO

Here's an oddball found by Pete Bohan in Harriman State Park (southern New York State). It appears to be some kind of *Lactarius* species, yet the gills protruding from the top are quite an unusual sight. Does anyone have any idea what this is or can they explain why there are gills on top?



PHOTO BY PETE BOHAN

And Pete also sent us this photo of an intriguing *Leccinum* species, also from Harriman.



PHOTO BY PETE BOHAN

NJMA HITS A MILESTONE

Membership in the New Jersey Mycological Association has crossed the 400 member threshold!

Hopefully, you find our club to be rich with shared experiences, knowledge, and fun. But we can't do it without your participation.

We hope that you value your membership and get everything you expected when you signed up.

We are always open to suggestions on how to improve our organization... just be sure to speak up!

Jim,

Here is a picture I took this past Friday on a hike along the Palisades, my dad thinks its *Mycena* - I have no clue and did not stop to sniff it for a strong radish smell.

I renounce all rights to this picture and any future royalties.

– Steve Horvath



PHOTO BY STEVE HORVATH

SEX AND THE STRESSED-OUT FUNGUS

by D. Andrew White

reprinted from the newsletter of the Mycological Society of Toronto,
July-September 2012

It has long been noted that fungi are more likely to engage in sexual reproduction when they are “stressed” in some manner. When they are not stressed, some tend to clone themselves. Alternatively the fungi may reproduce with asexual spores when conditions are optimum.^{1, 3, 4}

Some soil dwelling fungi tend to clone themselves when the soil is moist and rich in organic matter. But in “stressful” environs sexual spores are more common. For example, the sexual phases of *Aspergillus* mould are more prevalent in arid or salty habitats.⁶ Morels, genus *Morchella*, spend most of their time underground as vegetative mycelia that feed off plant roots. Usually it is only when the host plant weakens, or dies, that the sexual fruiting bodies appear.⁵ The fungus-like oomycete, *Phytophthora cactorum*, usually requires starvation to trigger its sexual phase. Otherwise the fungus-like organism reproduces asexually.²

The zoologist Sarah P. Otto has done several cost-benefit analyses of sex in ‘lower’ organisms. When growing conditions are good, sexual reproduction is more likely to reduce fitness. However, when conditions are unstable it may help to have some extra ‘experimental’ variation. Sex increases the genotypic variability. Some of these variants may perchance be more fit in the new and changing environment.⁴

Sexual reproduction could be described as the ‘shuffling’ of gene variants (alleles) to increase the variability in the offspring. It is this allele ‘shuffling’ that increases in times of stress. There is some strategy in this. Genotypic variation increases when it is most needed. This genotypic variation decreases when it is less useful. In other words, fungi have a built-in ability to evolve.

References:

¹ Grishkan, I; Korol. A.B.; Nevo, E. and Wasser, S.P. 2002. Ecological stress and sex evolution in soil microfungi. *Proc. R. Soc. Lond. B.* 270: 13-18.

² Jee, H-J. and Ko, W-H. 1998. *Phytophthora cactorum* can synthesize substances needed for sexual reproduction but requires a stress factor to trigger the process. *Microbiology.* 144, 1071-1075.

³ Jung, K-W. and Bahn. Y-S. 2009. The Stress-Activated Signaling (SAS) Pathways of a Human Fungal Pathogen, *Cryptococcus neoformans*. *Mycobiology.* 37, 3: 161-170.

⁴ Otto, S.P. 2009. The Evolutionary Enigma of Sex. *The American Naturalist.* 174. S: 1-14.

⁵ Ower, R. 1982. Notes on the development of the morel ascocarp: *Morchella esculenta*. *Mycologia.* 74: 142-144.

⁶ Schoustra, S; Rundle, H.D.; Dali, R. and Kassen, R. 2010. Fitness-Associated Sexual Reproduction in a Filamentous Fungus. *Current Biology.* 20: 1350-1355.

Mushroom Hunting

by Steve Sterling

I'm addicted to hunting mushrooms
That's how I've been spending my days
I'm really not sure if I'll keep it up
Or if it's a passing phase

It's kind of becoming the latest craze
Go out in the woods and find fungi
Stop eating the crap they've been feeding you
Start seriously questioning why

Why mushrooms ensure man's survival
Without them we'd surely be dead
A huge part of nature men simply ignore
Like they ignore things that God said

But we're nothing without the mushrooms
That's really how fragile we are
I understand that much better now
But don't comprehend it by far

There's so much to learn about mushrooms
One brain just can't take it all in
It almost defines infinity
And often reminds me of Him

I like hunting mushrooms and talking to God
Which just must sound pretty crazy
But mushrooms never run away
It's a good sport for someone who's lazy

So if you grow tired of chasing the wind
Go out in the woods and pick shrooms
Clear your mind of worrisome thoughts
And leave God a little room

If you let Him Christ will amaze you
Demonstrating what awesome means
To know He's much bigger than
you had imagined
And nothing is what it seems

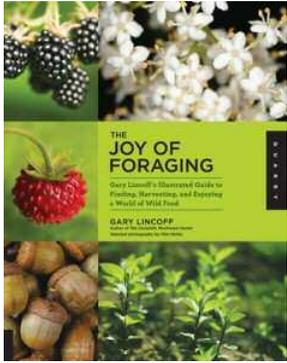
I'm addicted to hunting mushrooms
That's what I've been doing today
I'm learning to quiet my soul before God
And think about what He would say.

PHOTO BY SHARON STERLING

BOOK REVIEWS

THE JOY OF FORAGING: GARY LINCOFF'S ILLUSTRATED GUIDE TO FINDING, HARVESTING, AND ENJOYING A WORLD OF WILD FOOD

a book review by Bob Hosh



*The Joy of Foraging:
Gary Lincoff's Illustrated
Guide to Finding, Harvesting,
and Enjoying a World
of Wild Food*
by Gary Lincoff
Published by Quarry Books, 2012.

The latest book from Gary Lincoff is about foraging for wild foods. It is a great book for the beginning forager! The introduction is certainly different in that he opens up the world of wild foods to the reader by discussing what wild foods are available in farmers markets and even your local grocery store.

Gary also mentions *The Joy of Cooking* (written by Irma Rombauer during the great depression of the 1930s) which included descriptions and recipes for foods gathered in the wild. I've actually used *The Joy of Cooking* for that purpose and must admit the illustrations of the easiest way to skin a squirrel are very accurate!

Gary's book does not go into so much detail, but his brief descriptions and color photographs, in general, are very useful. If I must quibble, it is with the quality of a couple of them; such as the photo of the Jerusalem Artichoke tubers. Over the years, I've grown them in my garden and harvested them in the wild, but have never encountered such smooth and dark colored ones; pale tan and very knobby is more the rule!

Some old wives' tales are also perpetuated such as that wild American persimmons get sweet and palatable after a hard frost. My own experience has been that frost or freezing has nothing to do with it! What is needed is a long warm growing season and especially a tree with a genetic makeup with less tannin in the fruit. I've found many trees bearing fruit that never loses its astringency regardless of frost or number of warm days in the season. I know of a grove of such trees I'd love to introduce Gary to!

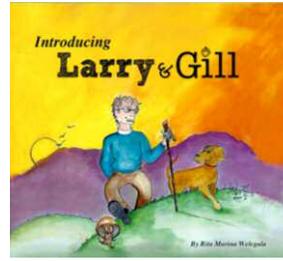
Gary steers the reader away from most poisonous lookalikes. Included in the back of the book are numerous recipes that are an adventure in themselves. I intend to explore them in detail come next Spring!

Gary's descriptions of the wild edibles are accurate and I would not hesitate to recommend this fine book to the beginning forager!



INTRODUCING LARRY & GILL

a book review by Jim Richards



Introducing Larry & Gill
by Rita Marina Welegala
Independent publisher, 2011.
(cartoons below reprinted with permission)

Rita has been an aspiring artist for many years and began (after joining the Colorado Mycological Society) to do a series of cartoons based on her husband and a "friend" of his, who happens to be a mushroom named, appropriately, Gill. After chronicling their adventures for a number of years, she decided to gather them together in book form. Art is her way to express the love she feels for her family and the natural world. In about one hundred comic strips and a number of one-page drawings, she sets forth a simple world where everything is just a little better than the real one.

Admittedly, it is not great art (and, I am sure, was never intended to be), and sometimes the humor is a bit strained. But it is like a pleasant walk through the woods with a mushroom companion and "his" friends – with a couple of bumps along the way – with a smile or a chuckle or two tossed in for good measure.



SNIFFER DOGS SUCCESSFULLY DETECT SICK TREES

by Kuo Chu-chen and Nell Shen, originally posted at <http://focustaiwan.tw>, May 23, 2012. Reprinted from *Spore Prints*, the newsletter of the Puget Sound Mycological Society, June 2012.

Taipei (CNA) - Sniffer dogs trained by a university in southern Taiwan successfully sniffed out brown root rot disease in trees Wednesday, a feat that the trainer described as unprecedented anywhere else in the world.

Brown root rot disease, caused by the fungus *Phellimis noxius*, was reported to be affecting trees in Chung Shan Park, Pingtung County, in the south of the country. The park officials then asked National Pingtung University of Science and Technology to use its trained dogs to help find out exactly how many trees were infected.

Chi Wei-lien, the dogs' trainer, brought two beagles to the park that morning and led them around each tree. When the dogs detected a sick tree, they would sit down on the infected roots and wait for Chi to give them food treats as a reward.

"Within only six seconds, the dogs were able to sniff out the location of the brown root rot," Chi said, adding that there have been no reported cases from abroad of using sniffer dogs to detect brown root rot disease.

He explained that the idea came from the dogs used by truffle hunters to sniff out the valuable underground

fungus. From this, he correctly inferred that every type of fungi, including *Phellimis noxius*, has a distinct scent.

He then started training three beagle bitches aged around five, using *Phellimis noxius* grown in the lab. Vigor and a fondness for eating are the basic requirements for selecting dogs suitable for the task, he said.

With over 1,000 trees in the park, Chi said he expected to take about three days to finish examining all the trees. Pingtung Magistrate Tsao Chi-hung also went to the park to find out how many trees were infected with the disease. He noted that the sick trees must be brought down in case they collapse suddenly upon people using the park.

Officials from the county's Public Works Department expressed hope that the dogs will help them find out which trees are infected before the disease runs rampant in the park.



MUSHROOM ILLUSTRATORS WANTED

Thank you to all who have submitted mushroom illustrations which have allowed us to enhance *NJMA News* for our members.

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 August 30th and October 26th. We look forward to seeing you at lectures, forays, and other NJMA events. Happy 'shrooming!

Camille A. Amadio	Lawrenceville, NJ	Karen E. Linder	Kingston, NJ
Peter A. Axelrod	Berkeley Heights, NJ	Alex Liotta	Lake Como, NJ
Denise M. Baracia	Plainsboro, NJ	James J. Lyon	Wayne, NJ
John F. Boyle	Forked River, NJ	Nancy & Andrew Madacsi	Sparta, NJ
Tamara Browning	Teaneck, NJ	Alan Main	Far Hills, NJ
Gilda V. & James M. Calvin	Montville, NJ	Daniel L. Marquardt	Trenton, NJ
John Campbell	Warren, NJ	Walter Meissner	Morristown, NJ
Charles Cohen	Englewood, NJ	Nicholas J. Menonna, Jr.	Cresskill, NJ
Elizabeth Terrance & Daniel Confonti	Garfield, NJ	Pamela L. Mistretta	North Arlington, NJ
George H. & M. Sue Daniel	Bound Brook, NJ	Natasha Navidad	Oakland, NJ
Christine & Dennis Duncan	Kendall Park, NJ	Vladimir Ostrovsky	Livingston, NJ
Thomas R. Dunham	Trenton, NJ	Russell & Loree Proops	Morristown, NJ
Robert M. Duvall	Mendham, NJ	Eugenia Quilli	New York, NY
Michael Ferraro	Bloomfield, NJ	Carol L. Radovich	Plainsboro, NJ
Ariela Weinberg & Leandro Fosque	Lawrenceville, NJ	Stephen A. Remley	Mays Landing, NJ
Helene C. Franz	Ledgewood, NJ	Bethany S. Robinson	Lebanon, NJ
Vincent Guglielmo	Willingboro, NJ	Mary Sari	Sterling Forest, NY
Richard Johnson, Jr.	Montvale, NJ	Jennifer Soh	Hackettstown, NJ
Maureen Johnston	Manahawkin, NJ	Alfonse Solomita	Hackettstown, NJ
Andrew Jones	Wanaque, NJ	Judith B. Stamper	Ridgewood, NJ
Sarah Katzenbach	Hopewell, NJ	Carolyn S. Swayze	Hamburg, NJ
Kimberly Kettle	Jersey City, NJ	Jasmine & Michael J. Travaline	Lyndhurst, NJ
Jeremy Kilar	Oak Ridge, NJ	Maureen E. Verbeek	Sandyston, NJ
Mark H. Koch	Garwood, NJ	Ken Woo	Union City, NJ
		Katrina L. Zapotulko	Chatham, NJ

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Holiday Dinner 2012

The NJMA requests the pleasure of your company at our annual Holiday Dinner, Photo Contest, and Election of Officers meeting to be held at the Unitarian Society in East Brunswick on Sunday, December 9, 2012 at 2:00 p.m.

Please bring a favorite dish (sufficient to serve 8 to 10 people) for the buffet table. If you plan to bring a dish containing wild mushrooms **you must get clearance for the dish from Bob Hosh**, who is coordinating the buffet menu. You may contact him via e-mail at gombasz@comcast.net or by phone at (908) 892-6962. Dishes must be labeled to show ingredients and should arrive ready for the buffet table with serving utensils. All questions concerning the buffet menu should be directed to Bob. The club provides beverages.

Please note that a donation of \$10.00 per person is required to offset the buffet costs. In order that we may cater the party properly, please respond by DECEMBER 5, 2012! No reservations will be accepted after December 6, 2012!

Directions to the Unitarian Society are printed on the front page and are also available on the NJMA website at www.njmyco.org/directions.html

PLEASE NOTE THAT YOU MUST REGISTER IF YOU WISH TO ATTEND, WHETHER OR NOT YOU'RE BRINGING FOOD WITH YOU.

NJMA Holiday Dinner Registration Form

Fill out this form, make your check payable to NJMA, and mail both, before December 5, to:

Bob Hosh, 209 South Middlebush Road, Somerset, NJ 08873

Questions? Phone: 908-892-6962 E-mail: gombasz@comcast.net

NAME(S): _____

TELEPHONE: _____ E-MAIL: _____

NUMBER OF PEOPLE ATTENDING _____

x \$10.00 each = \$ _____ (Don't forget to enclose your check for this amount)

I will bring sufficient to serve 8 to 10 people (please specify below):

_____	Hors d'Oeuvres	_____	Meat dish
_____	Vegetable dish	_____	Green salad
_____	Potato or pasta dish	_____	Dessert

I will help with: _____ Setup _____ Serving _____ Cleanup

NJMA NEWS

c/o Jim Richards
211 Washington Street
Hackettstown, New Jersey 07840

FIRST CLASS MAIL

NJMA is a non-profit organization whose aims are to provide a means for sharing ideas, experiences, knowledge, and common interests regarding fungi, and to furnish mycological information and educational materials to those who wish to increase their knowledge about mushrooms.

Season's Greetings from NJMA

In this issue:

- **TIME TO RENEW FOR 2013!**
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- **BOOK REVIEWS**
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- **FUNGUS FEST REPORT**
- **MUSHROOMS & GEOLOGY**
- **STRESSED-OUT FUNGI**
- **WHEN IN DOUBT, TEMPURA!**

...plus more!

