

NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION

VOLUME 43-5 SEPTEMBER - OCTOBER 2013



CALENDAR OF UPCOMING EVENTS

NJMA OFFICERS

President - Phil Layton
Vice-President - Patricia McNaught
Secretary - Igor Safonov
Treasurer - Bob Peabody

DUES

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Send ONLY newsletter submissions to the Editor. All other correspondence should be sent to the Secretary:

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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!

Saturday, September 21 10:00 am GRETE TURCHICK FORAY & PICNIC
Stokes State Forest, Kittle Field picnic area

Leader: Jim Barg
Bring food and picnic gear! **MEMBERS ONLY!**

Sunday, September 29 10:00 am - 4:00 pm FUNGUS FEST 2013
Frelinghuysen Arboretum, Morristown

Sunday, October 6 10:00 am FORAY - Brendan Byrne State Forest
Leader: Rod Tulloss

Saturday, October 12 10:00 am - 12:30 pm EDUCATION CLASS:
INTRODUCTION TO MUSHROOMS
Warming Hut, Pleasant Valley Park, Bernards Township
Instructors: Terri Layton and Patricia McNaught
Registration required. Register at njmyco.org/education.html

1:00 pm - 3:30 pm EDUCATION CLASS:
COLLECTION & FIELD ID OF MUSHROOMS
Warming Hut, Pleasant Valley Park, Bernards Township
Instructor: Jim Barg
Registration required. Register at njmyco.org/education.html

Sunday, October 13 10:00 am FORAY - Cheesequake State Park
Leader: Bob Hosh

Saturday, October 19 10:00 am FORAY - Jakes Branch County Park
Leader: Bob Hosh

Friday, November 1 DEADLINE for entry into the
NJMA 2013 PHOTO CONTEST (see pages 29-31)

Sunday, November 3 1:00 - 4:00 pm EDUCATION WORKSHOP:
TREE FUNGI JEWELRY
Warming Hut, Pleasant Valley Park, Bernards Township
Instructor: Rhoda Roper, assisted by Chrissy Dudas
Registration required. Register at njmyco.org/education.html

Saturday, November 9 6:00 pm CULINARY GROUP DINNER:
SOUTHWESTERN FRANCE
Registration required. See article and details on page 11

Sunday, November 10 MEETING & LECTURE
Frelinghuysen Arboretum, Morristown
Speaker and topic TBA





PRESIDENT'S MESSAGE

I am not sure that any of you have noticed but; it is September. We are in the last third of the year. I am not sure I know where the first two thirds went. There are still a lot of things that need to get finished by the end of the year. The by-law project is well under way, but, as in a lot of things, the last twenty percent of the project takes eighty percent of the effort. We are still on schedule for the actual by-laws; however, we are seriously behind schedule on a lot of the supporting documents that the new by-laws require.

There are plenty of other “behind the scenes” items that are going on in the club. One issue that is being researched is how deep we, as a club, want to get into the DNA vouchering of our herbarium specimens. As one of our speakers, Dr. Else C. Vellinga, said “If is not a vouchered, DNA-coded specimen its identity is just a rumor.” There are practical limits to what we can do with our financial situation and the time constraints of our members. We are exploring our options.

Another issue is our library. It is essentially dysfunctional and needs to be evaluated in terms of what functions it should provide and what is the best way to meet those needs, which may not be a physical library. We may find that there is a “WWW” that better meets our needs without the limitations of a traditional library. Your input on this topic will be welcome. Please let me know what you think (mycophil@verizon.net).

The last issue we are trying to deal with is perhaps the most important. The ability to correctly identify mushrooms is the foundation of our club. It is not reasonable, or fair, to expect our current identifiers to be there for every foray or to be there forever. The probability of having a qualified identifier just show up on our doorstep is between slim and “are you kidding”. We are looking for the environment that will first spark the interest and then develop the expertise that we need. Again your input is welcomed.

– Phil Layton

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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.

No more clumsy “writing it down” or copying and pasting!

2013 PHOTO CONTEST SPECIAL NEWS

We are happy to announce that noted mycological expert and author (and friend of NJMA) and will be the judge of this year’s NJMA Photo Contest.

A complete description, instructions, rules, and entry form are on pages 29-31 of this issue of *NJMA News*.

The deadline for entries into the contest is Friday, November 1, 2013.

HERE COMES OUR 35TH ANNUAL FUNGUS FEST SEPTEMBER 29, 2013 FRELINGHUYSEN ARBORETUM

This year will mark our 35th consecutive fall mushroom show, where we share our enthusiasm and knowledge of the fungal kingdom with the general public. Once again, Terri Layton will serve as chair for the show.

Our event would not be possible without the help of volunteers. Yes, YOU!! If you haven’t volunteered yet, you are really missing out! We are able to put on such great shows year after year because of our dedicated volunteers, so please consider joining the team. NJMA has so many fabulous and interesting people to work with and to learn from. There are many different activities and tasks available, some requiring no knowledge of mushrooms at all. We promise a great experience and access to a not-to-be-missed volunteer’s hospitality room.

If you have not already done so, please contact Terri Layton (mycoterri@gmail.com) to volunteer. See you at Fungus Fest 35.

(Editor’s note: this article was very freely “adapted” from Milton Tam’s announcement in *Spore Prints*, Bulletin of the Puget Sound Mycological Society, No. 494, September 2013)



RECIPE FILE

Reprinted from Mainely Mushrooms, the newsletter of the Maine Mycological Society, July-September 2013

Summer is upon us, when I crave complex salads and use the stovetop as little as possible. But, every once in a while, eggs are just the thing, eggs with the dark yellow yolks of summer. Time to give up the pale yellow yolks of super-market eggs and head to your local farmer or farmer's market for fresh eggs. Hard-boiled is simplest, but try this frittata with your fresh foraged mushrooms. Expect to see the first Chanterelles in late June, but wait to harvest until they've gained some size, generally a couple of weeks. Black Trumpets (*trompettes de mort*) start appearing in mid-July and take only days to become perfect for harvest. Of course you will leave some in the forest to do their job! Adapted from what is becoming a favorite cookbook for the simplicity of its recipes: *The Cafe Cookbook* by Rose Cray and Ruth Rogers, Broadway Books, New York, 1998. Notice the interesting way of cleaning the trumpets. Of course, you can use this basic recipe for other mushrooms as the season progresses, just keep in mind the basic proportions.

Trumpet and Chanterelle Frittata

- 8 eggs
- 12 oz. black trumpets
- 8 oz. chanterelles
- 1/4 cup chopped fresh basil or parsley and fennel greens (or other herbs of your choice)
- 2 cloves garlic, peeled and thinly sliced
- 4 tbsp. olive oil
- 1/4 cup Parmesan cheese
- salt and pepper

1. Cut off the stalk end of the black trumpets. Wash the trumpets by plunging them briefly into cold water and dry in a salad spinner. Cut off the stalk ends of the chanterelles; clean with a brush. Tear or chop both into bite size pieces, keeping them in separate piles.

2. Heat 2 tbs of the olive oil in a 10" ovenproof skillet. Add the garlic and cook quickly until tender and remove from the pan with a fork, leaving the oil in the pan. Add the chanterelles and fry for a couple of minutes, then add the trumpets and continue cooking for a few more minutes, until most of the liquid has evaporated. Stir in the herbs, salt and pepper.

3. Heat the oven to 400°.

4. Add the remaining oil to the skillet and keep warm. Lightly beat the eggs, add 3/4 of the mushroom mixture, pour it into the warm skillet and cook over low heat, from time to time loosening the eggs from the sides to allow uncooked eggs to run under until mostly set. Scatter the remaining mushrooms and Parmesan over the top before putting into the hot oven for a few seconds to crisp the mushrooms and cheese. Cut into wedges.

Serves 6 with a green salad and crusty bread.



ATTENTION ARTISTS AND CRAFTERS

**To display and/or sell
your creations at
Fungus Fest 2013
Contact Jim Richards
jimrich211@gmail.com**

WELCOME TO ALL OF OUR NEW NJMA MEMBERS!

*We'd like to extend a warm welcome
to the following members who joined us
between June 17 and August 20, 2013.
We look forward to seeing you at lectures,
forays, and other NJMA events.
Happy 'shrooming!*

Nels P. Anderson	Shamong, NJ
Joseph N. Basilone	Wall Township, NJ
Karn J. Booream	Stockton, NJ
Michael R. Bridges	Philadelphia, PA
Fred L. Fishkin	Jackson, NJ
Theresa R. Gabriell	Lawrenceville, NJ
Gregory M. Genovese	Haddon Township, NJ
Carl F. Hoffman	Eatontown, NJ
John J. Latyshev	Lakewood, NJ
Sara Lepard	Middletown, NJ
Jerry Malangone	Tuckerton, NJ
Megan Murphy	Wilmington, DE
Annabelle S. Murray	Chatham, NJ
Ramon N. Pesceovich	Mountain Lakes, NJ
Craig J. Pritch	Burlington, NJ
Glenn M. Sonnabend	Brick, NJ
Jessica L. Sontag	Malvern, PA



EDITOR'S NOTES

It seems impossible, but I just realized that I have been doing this job for the last ten years. When I look back at the first issues I edited, I am embarrassed by how bad they were. Typos everywhere! Bad design (really bad) or none at all. There were so many errors in formatting that did not get corrected before printing, etc. But, somehow I muddled through for a couple of years. Most members were able to get the information that they needed from the Calendar of Upcoming Events, and they did not complain.

Then, in 2005, Jim Barg volunteered to start helping out as Art Director of *NJMA News* – the idea being that I would gather the material for the newsletter, proofread and edit it, and then send it on to Jim. He would then use his graphic arts training to take all the various bits and pieces and turn them into a coherent and cohesive publication.

When I volunteered to be editor of *NJMA News*, I wanted to increase the amount of material that we used that was generated by NJMA members, to increase the pictorial content with photos and graphics, and to make the newsletter more pro-active. I am pleased that that has happened. *NJMA News* has continued to grow in size and in content all because of your increased participation. And I have acquired a rudimentary familiarity with Word, Excel, Quark XPress, Photoshop, my scanner, cut and paste, and a few other skills along the way.

We now have an Associate Editor, Patricia McNaught, who is also NJMA Vice-President and Education Chair. I think she wrote a quarter of all the articles in this issue – thanks! We now have a number of members who regularly contribute articles and photos and review books, and so on – too many to name. You know who they are! Thank them when you see them! We would love to have you join them by becoming contributors.

And then there are the changes that happen without our planning for them. Those members who receive the hard copy of the newsletter should have noticed several changes that members who read *NJMA News* online would not be aware of. At the very last minute, the printer we have been using for many, many years told us that he would no longer be able to print the newsletter. So, we had to find another printer ASAP. Jim was able to find one who did a great job. They made a couple of “small” changes that make a big difference. Instead of printing on 8½ x 11 paper, they printed on 11 x 17, and instead of stapling in the upper left corner, they stapled in the middle of the folded issue. Now that you open to two pages at a time, some new considerations arise with regard to how articles are laid out and how many pages we need have. More work for Jim B, I am afraid?

There are some discussions going on about the fate of *NJMA News*, and we need your opinion. It has been suggested that we publish four issues per year rather than the six we currently produce. There have also been suggestions as to limiting the size of each issue, probably to 24 pages – which is the limit we were keeping to before we went electronic. If these changes do happen, we will have to reduce the amount of copy. We need to know your feelings on what we should keep in order for you to get the greatest value out of it. Of course, there would be no changes to the Calendar of Upcoming Events, or the Foray Reports, or announcements of classes and club events. So (this is always the hard part for you), we need you to respond and let us know what you want to see covered. Do you want more recipes, more technical articles, more “human interest” items, or less of something we already do? *We need to know. Send us your thoughts by clicking on this sentence!*

And, again, many thanks to all of you who help make this *your* newsletter.

And very special thanks to Jim Barg for all his work, and for making me spend so much more time trying to be more careful about getting things ready for him to tweak. And tweak he does! And we do appreciate it!

– Jim Richards



WELCOME TO “THE STAIN MASTER”

by Patricia McNaught, NJMA Education Coordinator

About every year or so, NJMA runs a workshop at the Cook College Foran Hall lab on microscopic techniques and their use in mushroom identification. But any workshop participant who got hooked and wanted to continue the work had some obstacles, even if they had access to a microscope.

Stains and chemical reagents are used to make features of fungi visible under the microscope, but these are not readily available for purchase. Even if an ingredient can be purchased, often the minimum quantity is 100 times more than a lifetime supply for one person. Clearly, if we can coordinate and share, we'd all be better off.

I'm delighted that Mike Rubin has agreed to be our “Stain Master” to address this situation. Mike has his Ph.D. in microbiology and has worked in that field of study throughout his career. The effort to coordinate stains (and other supplies?) is a new endeavor, and we don't know how many people will be interested, or what their needs will be. Let us know your thoughts.

If you've been struggling with the stain and reagent issue, please contact Mike at microman12@hotmail.com.

THE TYROMYCOLOGIST

SPORE PRINTS

by Patricia McNaught

There's a paradox that you'll encounter if you observe the expert identifiers during the ID sessions that follow NJMA forays. Identifiers closely examine gilled mushrooms – smell them, perhaps taste them or drip chemical solutions on them – and then check their books and write down the species name on the ticket. Yet every mushroom guide emphasizes the importance of obtaining a spore print for gilled mushrooms as a first step to identification. In Barron's *Mushrooms of Northeast North America*, species are grouped by spore color, and virtually every key to gilled mushrooms has spore color as one of the first determining characteristics. But at club ID sessions and even at regional events, taking the mushroom home to get a spore print seems the last resort, when other methods have failed.

The experts don't usually need a spore print, because even if they haven't seen that particular species, they are already familiar with the genus; they recognize the "aspect" of the mushroom. It's like trees: if you're familiar with oaks, you'll have no difficulty recognizing that Black Oaks, Northern Red Oaks, and Pin Oaks are all members of the genus *Quercus*, although you might have trouble with Chestnut Oak. When an expert makes a spore print of a mushroom, it's like the Chestnut Oak – a confusing specimen.

Beginners can quickly recognize the easy genera, but the others are a challenge; in other words, we don't always even know it's an oak. The brown-gilled mushrooms with white spores, and the white-gilled mushrooms with green, brown or pink spores don't make it easy. So if you work on mushroom identification on your own, make spore prints of any gilled mushroom of unknown genus.

Every mushroom guide will tell you how to make a spore print. You need a specimen that is neither too immature nor too old and dried out. Usually the advice is to cover the specimen with a bowl or cup to prevent the specimen from drying out. (The spore release mechanism is dependent on water, the famous Buller's drop.) I have had unhappy experiences covering the specimen – overnight my beautiful mushroom has been overgrown with fuzzy white mold. Recently, I saw a photo in *Le Grand Livre des Champignons...* of a procedure that McNeil recommends for small specimens that can dry out. I have since tried it and it works nicely. You cut a hole in an index card for the stipe, and then suspend the card and mushroom over a glass of water, with the very base of the stipe in water.

While it's fine to sniff mushrooms in the woods, do not leave spore prints lying around. If either you or a family member acquires an allergy to the spores, as happened to one former NJMAer who cultivated mushrooms in

his home, your mushrooming days may be over.

But why do you need to do this? Can't you just learn mushrooms at forays? It depends on your level of interest and your time frame. If you're impatient, the quickest way to learn is to acquire a "mushroom buddy" and learn together. At the most recent NEMF, I met a couple that was an inspiration. Terri and Donna (who are retired) started mushrooming less than a year ago, but they could put many mushroomers to shame as far as their ability to find mushrooms and then identify and name field characteristics, as well as to identify many of their finds to species. As Terri explained, "We realized that we don't bike or kayak anymore; we spend all day in the woods and then come home and work on identification. But we love it!" They have a strong club in their area, and have learned much from the club workshops and forays, but their own efforts have made all the difference.

(Note: Spore prints are less useful for boletes than for gilled mushrooms. Bolete genera can often be assigned based on stipe characteristics and pore surface color)

I could have included many more examples, but I think you get the idea. The post-foray ID session is the place to "pick the brains" of the experienced identifiers and ask questions: "I thought this was *Daedalea quercina*. How can you tell it is *Daedaleopsis confragosa*?" The table with identified mushrooms gives you the opportunity to see how the idealized descriptions in the field guide apply to real-life specimens. If you're relatively new to mushrooming, it's not realistic to try to learn the 50 to 100 species that you will find on the ID table after a typical foray. Instead, focus on comparing a few of the species with their descriptions in your field guide. Could you identify them from their descriptions? Which descriptors would have tripped you up?

There are many reasons to come to NJMA forays – it's fun to walk in the woods, collecting mushrooms, meeting new people and seeing old friends. Foraying helps "train your eye," so you learn the small terrain differences that favor mushrooms. And lastly, the post-foray ID session is a great place to increase your skill at identifying mushrooms, by learning how the field guide descriptions apply to actual specimens. 

NOTEWORTHY TIP relating to this article

- Spore color is a valuable characteristic because it is stable. It's essential to make a print to determine spore color when you're working on your own because gill color is deceptive. Working on identification on your own (or with a buddy) will fast-track your ID skills.

– Patricia McNaught, Associate Editor

RUSSULA ID WORKSHOP

by Luke Smithson

The NJMA Russula ID Class was held at Rutgers University on Sunday, July 28. The workshop had about 13 attendees who spent the afternoon using Rutgers' microscopes to practice identification techniques on the genus *Russula*. Most participants had some previous experience with microscopes. A few, including myself, were pretty new to using microscopic techniques. As always, the more experienced NJMA members were willing to pair up and help the newer members.

The hands-on class started with our leader, Glenn Boyd, giving a brief lecture on the large genus of *Russulas*. We reviewed some descriptions and keys, including Glenn's own Excel key that he wrote using several sources and his own research. After reiterating the difficulty of identifying a *Russula* to the species level based on macroscopic characteristics, we got into the microscope work.

We started by taking a gill sample of one of three "mystery" *Russulas* that Glenn had previously identified. After making slides and honing in on the spores, we compared our samples to several descriptions Glenn had provided. We looked at various characteristics such as ridges and reticulation on the spore surface and the various heights of warts on the spore. Again, the more experienced members were very helpful to us less experienced members in assisting with the microscopes and slides. I was able to focus in on some spores after a little work, which was a very gratifying first experience for me.

After we identified our mystery specimens, Glenn presented a lecture on pileocystidia, unique ends of hyphae often present in the pileus of certain *Russula* species. As Glenn described these hyphal ends, they appear to be full of "glass" or other refractive substances. Their function is not entirely understood, but their presence can often help identify a species. We looked at some images of pileocystidia, and then took samples from several fresh *Russulas*. Making these slides proved a little more difficult than making the slides of spores, but after three attempts and a little help, I was able to locate some pileocystidia.

We wrapped the class up with a little more discussion on the characteristics of various *Russulas*, as well as some general information on the genus. Glenn received a well-deserved round of applause for teaching a well-organized and thoroughly fascinating class. It was pointed out by several club members that Glenn might be the only NJMA member who could have taught such a class. So once again, a big thank you to Glenn Boyd and all the other members of NJMA who helped to organize this class!



BYTES, BITS, & BITES

TASTY LITTLE TIDBITS FROM OUR MEMBERS

from California Farm Bureau Federation, July 17, 2013::

To keep up with our growing appetite for mushrooms, California farmers have been increasing their production. In addition to familiar button mushrooms, more exotic species are also being raised on the state's farms. Mushroom sales in the US reached a record of more than \$1 billion last year. California ranks as the second-largest producer of mushrooms, growing about 20 percent of the nation's crop.

from New York Magazine's Grub Street blog:

Mushrooms make Kim Jong-un (Supreme Commander of North Korea) very happy:

<http://tinyurl.com/l8qlcwx>

from Judy Glattstein:



Here's the back story: <http://tinyurl.com/p2g3hwh>

from Judy Glattstein:

They're calling it "a mushroom" but isn't "cluster of mushrooms" a better description? Whatever. I thought it would amuse you.

<http://tinyurl.com/l8qpdpx>

and another from Judy Glattstein:

So I was pushing a cart full of weeds down the driveway towards the compost heap at its bottom, when from the corner of my eye I caught a glimpse of egg-yolk yellow. Well! You know what that means. I got my Opinel

(continues on page 23)

SCIENTISTS IN THE KITCHEN

NJMA EDUCATION WORKSHOP - JULY 14

On July 14th, Patricia McNaught and Igor Safonov presented a first-time workshop, Scientists in the Kitchen. Instead of the usual “cooking workshop” at which participants concentrate on how to prepare mushrooms for the table, the emphasis this time was on an “unbiased” comparison of cooked “unseasoned” mushrooms, cultivated and wild, dried and fresh. The following three articles present the methodology and views of the presenters and the reactions of some of the tasters.

SCIENTISTS IN THE KITCHEN: A PARTICIPANT'S VIEW

by Terri Layton

I was intrigued by the title, and thus I attended this workshop led by Igor and Patricia who both have extensive professional scientific backgrounds.

We were served six rounds of dishes (two dishes each round). Each of us was given the task of rating these mushroom dishes on a scale from 1 to 9. We were not blindfolded, so some of the dishes were obvious to me as to what the mushrooms were. But, overall, it was visually hard to tell what was being served. What surprised me was that portabellas got a pretty high score. I have not considered them a choice edible, perhaps because I have become a snob over the years having had so many delectable wild mushrooms. Also, perhaps, the workshop was dominated by beginners who have not yet had the opportunity to taste wild mushrooms and had no reference to work from. Nevertheless, I will stop scoffing at people who say that portabellas are wonderful, because I liked them, too.

Between dishes, as we were cleansing our palates with crackers and water (no wine), we had a chance to make an acquaintance with other members and share our passion for Kingdom Fungi while Igor was slaving in the kitchen.



Here are some comments from members who attended the workshop:

“Although I have eaten many forms of wild animal life from sea, land and sky I had never eaten a wild mushroom. Sunday’s workshop was eye-opening for a beginner as to how tasty wild mushrooms actually are.”

– Frank Katsua

“I thought “Scientists in the Kitchen” was an interesting concept for an NJMA class. It was an enjoyable way to spend an afternoon. I learned a lot.”

– Betty Wise

“I loved the class! To spend three hours having various mushrooms prepared for me to eat and to share this with so many interesting people is quite extraordinary.”

– Carl Hoffman

But what did I take away from this session? This is the hard part. I totally understand what we were trying to accomplish, but I am not sure we did (or at least I didn’t think we did). We were told to rate each mushroom individually, yet we were served mushrooms in pairs. When asked if we should compare the two mushrooms we were told “No”, but after the test, when we were told what the mushrooms were, it appeared that the two mushrooms were chosen for some sort of comparison.



The point system is one we are all familiar with. It is easy to understand that 1 is the worst and 9 is the best. However, what is a 5? Is it an average mushroom? Is it a mushroom that we don't care one way or the other?

Then there is point of reference. Suppose the very first mushroom you taste is pretty good, so you give it a 7. The next mushroom tastes better than the first so you give it an 8. Now you have a problem, you are right up against your top score. Should you have really given that first mushroom a 6?

When the results were read out, this was interesting. For some mushrooms, you would get consistent scores, while other mushrooms it was more you liked it or you didn't.

I found the discussions after each tasting to be the most valuable. Here you learned about personal preferences and experiences. For me, this is the most valuable information.

All and all, we all had a great time tasting and getting acquainted with each other.

SCIENTISTS IN THE KITCHEN: WILD vs. CULTIVATED TASTE TESTS

by Patricia McNaught and Igor Safonov

Procedure: A tasting panel on a number of fresh and wild mushrooms was conducted, presenting two similar samples at a time and asking panelists to rate them on a nine point hedonic scale. All samples were freshly prepared by sautéing in bland olive oil. (Dried mushrooms were first rehydrated by soaking in warm water). All nine panelists were NJMA members (in order to have liability coverage) and about half of them were relatively new to wild mushrooms. They were cautioned about the possibility of allergic reactions to wild mushrooms and offered the use of “spit” cups to avoid ingesting the sample. A preliminary test (with two types of blueberries) was done to familiarize the panelists with the procedure and the use of the nine point hedonic scale. Panelists were asked to not discuss the samples until everyone had tasted and rated them. Samples were presented blind with a three digit code number, and the order of the two samples within each test was reversed for half the panelists.

The ratings were as follows:

1. Shiitake mean: 7.6
Baby Bella mean: 6.9
Not significant
2. Tulip morels (dried) mean: 6.2
Black morels (dried) mean: 6.6
Not significant
3. Parboiled Portabella mean: 6.3
Control Portabella mean: 8.1
Significant. $p = .0002$ (there is a 0.02% chance that they are actually equally good)
4. Golden chanterelles mean: 5.2
Cinnabar chanterelles mean: 5.5
Not significant
5. *Boletus edulis* (dried) mean: 6.33
Leccinum aurantiacum, sensu lato (1)* (dried) mean: 4.8
Borderline significant. $p = 0.054$ (there is a 5.4% chance that they are actually equally good)
6. *Boletus auripes* (dried) mean: 7.0
Leccinum aurantiacum, sensu lato (2)* (dried) mean: 6.56
Not significant

* Two different collections of *L. aurantiacum* from two different sites.

Discussion: There is anecdotal discussion of the relative acceptability of different species of mushrooms. This project was undertaken to see if we could prove to a meaningful confidence level any differences in accept-



ability. We invited NJMA members to register for a “Scientists in the Kitchen” workshop where twelve participants would rate and taste wild and cultivated mushrooms. Despite our efforts, only 9 people attended the course – a very small panel as far as achieving statistical significant results. We presented two samples at a time and analyzed the data by a paired t-test, as the most likely approach to yield statistically significant results. (The website GraphPad.com was used for the paired t-test calculations). We had originally planned to prepare the samples by roasting them in a very hot oven, which would have enabled us to speed up the preparation time; we had planned to run five additional tests (10 additional samples). However, the day of the workshop was during a heat wave, and we deemed it impractical to run two very hot ovens for several hours.

Before the evaluations, there was a brief presentation of the difficulty of obtaining meaningful test results, and the importance of standardizing the procedure and not discussing the samples (or using facial expressions, gestures, etc.) before everyone had rated the samples. The nine point scale used was a line with numbers and no anchor words; participants were simply told a high number means “better”. Using the hedonic scale eliminates the need to disguise color or texture differences; the rating is based on overall acceptability. Participants were asked to clear their palate by nibbling a low salt cracker and then take a sip of water before each sample.

About half of the participants were relatively new mushroomers and were unfamiliar with any mushroom besides *Agaricus bisporus* in its various incarnations (white buttons, Baby Bellas and Portabellas). All participants showed some fatigue towards the end of the session; 12 samples may have been too many. Their comments during the open discussion periods between tests when the next samples were being prepared were thoughtful. They raised the point that their ratings could be affected by how fresh the samples were, or where the mushrooms were collected. (A comparison for the ratings of the collections in *Leccinum* in test 5 and 6 subsequently confirmed this, with $p = 0.035!$) They raised the point that tasting plain unsalted mushrooms was not how mushrooms are usually eaten; one participant

commented that a particular test sample was too strong as it was presented, but she would love to put that mushroom in a stir-fry.

Three samples had standard deviations greater than 2.00 (a measure of variability of the ratings): the two morels and the cinnabar chanterelles. The morels were presented whole, and their appearance may have been “off-putting” to new mushroomers. The cinnabar chanterelles had not been completely cleaned, and a couple of participants received samples that were gritty.

Conclusions: It is difficult to run large taste panels on wild mushrooms because of supply issues and because of liability concerns. In this experiment, statistically significant results with a panel of nine tasters were obtained for a cultivated mushroom prepared by two different methods (test 3), and borderline significant results obtained for two wild mushrooms (test 5). If the hypothesis that was included in the original experimental design is considered (*B. edulis* is better than *Leccinum*), this allows for a one-tailed t-test. When analyzed this way, the results for Test 5 are significant, with $p = 0.027$. (There is a 2.7% chance the results are due only to random variation.)

Conclusions should not be drawn about the relative acceptability of the species *in general*; the results hold only for the samples. We would have to repeat the tests before general conclusions could be drawn. But the results do indicate that meaningful results can be obtained by a small untrained panel rating wild and cultivated mushrooms in an informal setting.

We extend a sincere thank you to the NJMA members who came and spent their Sunday afternoon tasting plain unsalted mushrooms without complaint!



SCIENTISTS IN THE KITCHEN: A BIT OF STATISTICS - WITHOUT THE MATH!

by Patricia McNaught

If you throw a coin into the air ten times, you expect to get heads five times and tails five times. If you get heads six times and tails four times was it by chance, or is the coin “loaded”? Similarly, if you do a taste test with ten people and sample X gets an average score of five and sample Y gets an average score of seven, does it really mean that people liked sample Y better? Or was the difference just from random variation?

The answer depends partly on how “spread out” the ratings were for each average. The silly example to explain the importance of rating spread is, that if your feet are in a block of ice and your head is in boiling water, the fact that the average temperature you are experiencing is 122°F isn’t very comforting!

One statistical test used for evaluating data is the *paired t-test*. The t-test gives you the p value, which is the probability that the difference is just from random variation. Scientists don’t consider a test result valid (“significant”), unless the value of p is 0.05 or less, which means there is a 5% or less chance that the test difference was from random variation and a 95% or greater chance that the test results measured a real difference.

So what about the difference between a rating of 5 and a rating of 7? *You can’t tell from the averages*, you need to run a t-test on the “raw data” or actual ratings. Here’s the result of some “dummy” data I made up to illustrate the point:

Sample A: 6, 5, 4, 5, 5, 5, 5, 5, 5, 5 average rating: 5.0
Sample B: 7, 8, 6, 7, 7, 7, 7, 7, 7, 7 average rating: 7.0
Results of t-test: $p = 0.0001$; results are *highly significant*
(We are 99.99% sure the test showed a real difference!)

Sample C: 1, 1, 1, 1, 1, 9, 9, 9, 9, 9 average rating: 5.0
Sample D: 4, 4, 4, 4, 9, 9, 9, 9, 9, 9 average rating: 7.0
Results of t-test: $p = 0.22$; results are *not significant*
(There’s a 22% chance there’s no difference.)

So if someone says they ran a taste panel, and mushroom Y is better than mushroom X, beware! They haven’t told you the whole story.



FORAY REPORTS

JUNE 22 - LAKE OCQUITTUNK

report by Jim Barg

On a typically beautiful sunny June morning, about 25 members and guests of NJMA conducted their annual foray of the Lake Ocquittunk Family Camping Area in Stokes State Forest. Inconveniently, several new members initially missed our location because the NJ Division of Parks and Forestry had decided to change the numbering on the campsites, but in the end, all who intended to be there joined us (we hope!) and our foray proceeded.

One of the first things we noticed was that the landscape had changed quite a bit due to the ravages of Hurricane Sandy. Many of the larger hemlocks were toppled by the storm. In some cases, habitats were destroyed where we had found interesting fungal species in the past. It will be interesting to see how the area regrows and recovers in future years. How will Mother Nature deal with all of these dead-and-down trees? Stay tuned for details in coming years!

During a typical June, there usually aren't a lot of mushrooms, but even in dry or unusual conditions (and this year can be classified as "unusual" for sure!), the Lake Ocquittunk area never disappoints with the number of species we find (this is true through out the season as well). June was a wet month, but conditions had been dry for several days prior to our foray. On first glance, it didn't appear that the mushrooms in Stokes had gotten the "wetness" message, yet our group managed to find and identify 46 different species (plus a large number which went unidentified).

New to our species list this year was *Boletus roseipes*, which actually was the only "large" bolete collected on this foray. As had occurred in other areas of the state, *Suillus granulatus* also was making a nice stand. Other boletes found, albeit in small numbers, were *Boletus subvelutipes* and *Xanthoconium affine v. maculosus*. Amanitas, of which several species were commonly found here in prior years, were few and far-between; though we still did find a handful of *Amanita flavoconia* and *Amanita flavorubescens*. Many of the polypores that we saw were remnants from the previous season. The few usually-showy *Ganoderma tsugae* were being eaten by hordes of black-and-orange beetles, so we didn't find any particularly photogenic Ganodermas this year.

Not surprisingly, *Russula nigricans* was making a nice showing, as it seems to love the area around the Big Flatbrook (it is often found there during other parts of the year as well). Other Russulas were not as abundant as usual. We saw two species of Marasmius carpeting some areas of the hemlock forest alongside the brook. (Unfortunately, these went unidentified to species.) Absent, however, was the Garlic Marasmius which we

normally encounter near the parking area. (Interesting in that if you put one of these tiny mushrooms in your car, your vehicle will smell like garlic for days!).

All in all, it was an interesting foray not only for what we found, but for what we didn't find.



JULY 6 - WAWAYANDA STATE PARK

report by Nina Burghardt

We had a perfect day for looking for mushrooms: blue sky, comfortable temperature, and maybe a few mosquitos (but repellent took care of that). There were about twenty people, including a thru-hiker on the Appalachian Trail. He had started his walk back in March in Georgia. Everyone took part in the identification of the mushrooms. No one, except Steve Sterling, asked if the mushrooms were good to eat and he only said that to get my goat. He's a guy with a lousy sense of humor but a great photographer!

We found a Yellow Thread Cordyceps (*Cordyceps ophioglossides*). (see below) We did not find the false truffle that it was growing out of, but we did see lots of the yellow basal threads. We also collected *Sarcodon imbricatum*, a toothed mushroom. All together we named 57 species, although there were very few of any one mushroom.



MORE PHOTOS FROM THE WAWAYANDA FORAY



PHOTO BY STEVE STERLING



PHOTO BY JIM RICHARDS

Xanthoconium affine v. affine



PHOTO BY STEVE STERLING

JULY 21 - MEADOWOOD PARK

report by Dorothy Smullen

It was a Sunday following a week of no rain and record high heat and humidity, but the small number of NJMA members that came out to Meadowood had a really fun and educational time.

There were enough specimens to keep everyone busy (60 total species), and the cooperation, teaching and checking with field guides was very impressive. Everyone had a seat at the picnic tables under the canopy, with questions and answers flowing. Old-timers and more recent members worked together to label and discuss the collected specimens.

It was a time of peak wineberry harvest, and many members went home with filled containers.

Some of the highlights for the day include: *Pluteus admirabilis* collected by Marc Grobman and *Clavaria zollingeri* spotted by Bob Hosh.



PHOTO BY DOROTHY SMULLEN

Pluteus admirabilis



PHOTO BY DOROTHY SMULLEN

Clavaria zollingeri

Bob also helped newer members with identification of *Lactarius corrugis* after collecting a bag himself near the mossy hillside close to one of the springs along the trail. *Lactarius volemus* and *L. hygrophoroides* were also collected. Several specimens of *Cantharellus lateritius* were found as well as troops of *C. cinnabarinus*. Someone located *Craterellus fallax*, but most did not see any of these black trumpets. Many found specimens of the tooth fungus *Hydnellum spongiosipes*. Myxos were represented by *Fuligo septica* and *Stemonitis sp.* Ascos included *Leotia lubrica*, *Chlorociboria sp.* and *Hypoxylon sp.* Several *Hypomyces* species were found including one on *Lactarius camphoratus*.



JULY 27 - WELLS MILLS FORAY

report by Nina Burghardt

When I heard that I was going to lead the Wells Mills foray, in the Pine Barrens, in July, my first thought was “Are you nuts?”. My second thought was “I’m going to give Bob Hosh a piece of my mind”. July in the Pine Barrens is usually hotter than Hades, full of chiggers and ticks with few mushrooms. This year we were lucky. It was just 80 degrees, very few biting insects but, alas, still a lack of mushrooms. Fifteen eager people showed up, six of them had never been on a foray before.

We did find some unusual *Entolomas*, recognized by their attached gills, pink spore prints (giving the often white gills a pinkish cast). They most often grow out of the ground rather than on wood. If you have access to a microscope, you will see that the spores are angular, and often shaped like pentagons or peaked-roofed houses.

There were pretty delicate white *Entoloma* (*Leptonia*) in the sphagnum moss and there were small brown peaked ones in the leaves. The most beautiful was a dark blue, delicate, fairly large *Entoloma* found by a young woman from Manhattan. It was growing in a pine-oak habitat. We named it *Entoloma bloxamii* (midnight blue) but in checking with the *Entoloma* expert, Tim Baroni, it is probably *Entoloma nitidum*, although that needs to be confirmed. Either way, it was a rare find. Thank you all who attended.



PHOTO BY NINA BURGHARDT

Entoloma nitidum showing blue cap

AUGUST 4 - STEPHENS STATE PARK

report by Jim Richards

All signs pointed to a productive foray at (for me) nearby Stephens State Park. There were heavy rains all day Thursday. Saturday morning, more rain. A couple of light showers again Saturday afternoon. When I walked out of my apartment on Sunday morning to head to the foray, there were fruitings of a half-dozen different species of mushrooms – some boletes, Amanitas, and a few LBMs. All looked like they had just come up. They were in great condition. When we got to Stephens,



PHOTO BY STEVE STERLING



there were a few people who had arrived early. In total, we had about 30 people on the foray, most NJMA members including a number of our most experienced collectors. Then, we went into the woods. And were greatly disappointed. There were scattered finds of mostly small mushrooms, many growing on fallen trees, but no big collections of anything. The rest of the foray continued that way for most participants. It turned out that we had a decent number of species collected, but generally in ones and twos, and not a lot of anything in particular. Still, we did identify about 80 species and another 20 or so were returned to the woods without having been identified.

Not a bad result, but, I am sure that we were all hoping for more. 2013 has not been a particularly memorable season so far.

We did find enough good specimens of readily-identifiable species to keep some of the newcomers busy getting a chance to see how to use keys to put names on things. Having a separate table that can be used by the “tyros” works well in several different ways. First, it gives them an opportunity to learn, with the help of some of our more experienced members, how to begin to identify finds. It also makes it easier on the identifiers who do not have to deal with people just dumping stuff on the table, and expecting immediate answers. Definitely a win-win situation.



Terri Layton and Patricia McNaught at the “Tyro Table”

Addendum to Stephens foray report from John Burghardt:

As usual at Stephens, there were collections of several fungi that we don’t see very often. These included *Crepidotus malchius* (seen less than every other year on average), *Pachyella clypeata* (a cup fungus on soggy wood per Kuo and fairly common per Phillips), which appears on our list, but had never been recorded on a foray; *Mycena acicula*, an orange-red *Mycena*, and *Tremella reticulata*, a large firm, white jelly fungus that fruits on the ground (not on wood), each recorded in just six years.



Todd Van Gordon samples fungi from a tree trunk



Betty Wise leans down to a wise old log bearing fungi

NJMA CULINARY GROUP SOUTHWEST FRANCE DINNER

Saturday, November 9th,

Unitarian Center, East Brunswick

by Carl Hoffman (additional material by Jim Richards)

I just recently joined NJMA, and at one of the courses I took I was told that the Culinary Group may want some help. So I sent an email to Jim Richards offering my assistance. Jim said that he was waiting until later in the summer to start planning the next event.

Some time passed by and it so happened that I was preparing a meal for a group of people. I felt I wanted some kind of mushroom dish and so I pulled out a French cookbook and found this amazing recipe “Ragout of Forest Mushrooms” which took two days to prepare and was fabulous!

Soon after that feast, I got an email from Jim asking for some ideas for the Culinary Group’s Fall Dinner. France and Italy were suggested, but Jim thought that maybe we should concentrate on a particular region. The cookbook I used for the mushroom dish is Paula Wolfert’s *The Cooking of Southwest France – Recipes from France’s Magnificent Rustic Cuisine* (1983, Dial Press, Revised 2005, Wiley) so I emailed Jim back suggesting that area as the inspiration for the dinner.

Southwest of France, you may ask: What regions are we really talking about? The book describes it this way:

There is a quadruple overlapping of place names in Southwest France that may require some explanation. The entire area encompassed by this book is sometimes thought of as two distinct regions: the Aquitaine, whose important city is Bordeaux, and the Midi-Pyrenees, whose “capital” is Toulouse. Additionally, cutting across these two regions are the two old duchies of Gascony (Gascogne) and Guyenne – and Gascony consisting of the Landes, Gers, and some other parts – Guyenne consisting of the Bordelais, the Dordogne, parts of the Quercy, and the Rouergue.

The region that constitutes Southwest France has expanded since I wrote the last edition of this book. It now includes the Limousin, the Charente, the Languedoc and the Auvergne.

OK, that gives us an idea of where it is, but what are the people who live in Southwest France like? And more importantly, what about the **food**?

In recalling her memories of Southwest France, Paula Wolfert tells of a region which is richly varied. The commune Pau, which resides on the northern edge of the Pyrenees, is an oil-rich town similar to Dallas. Then there is the smell of cheese that slowly engulfs you as you wander around the town of Roquefort-sur-Soulzon. A feeling of holiness can make you pause and reflect when you see the pilgrims lighting candles before the grotto at Lourdes.

For the food, she has a story about the time she was invited to a dinner in the half-abandoned town of Poudenas in Lot-et-Garonne. She was told it was going to be a “very typical dinner”. Well, this dinner consisted of local wines, grilled duck breasts, an intensely flavored *daube* of onions cooked in red wine, fresh goat cheese whipped with Armagnac and sugar and, for dessert, a closed flaky pastry filled with apples and pears – called a *croustade*.

So, if we can, with the help of this book, come up with a “typical” Southwestern France dinner. I think we will all be very happy!

The Culinary Group has been active since the spring of 1982, usually putting on three or four dinners a year. The dinners are planned meals, usually with a national or regional cuisine as a focus, although we have done Vegetarian meals, Game Dinners, Summer Salads as well as Bread and Soup Suppers.

The organizers of the dinner plan the menu, select and distribute recipes to members, and, in general, try to make sure that the meal goes smoothly. The meals are definitely not “pot-luck”. We have plenty of those as it is. Each person who is assigned a recipe keeps track of the costs of their dish. At the end of the meal, all the cooks hand in the receipts for the ingredients used in their dish, all is added together, a donation for the church is added and the total divided by the number of participants. The average meal has been running about \$16 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, as well as any wine, beer, water or other beverages they wish to enjoy with the meal. Coffee and tea are provided.

The Southwest France Dinner will be held at the Unitarian Center, East Brunswick on Saturday, November 9th at 6:00pm.

To register for the dinner, or for additional information, please contact Jim Richards (jimrich17@mac.com) or call him at 908-619-1438.

Reminder: Registration is limited to 30 members and their guests, so sign up early.



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.

A MUSHROOM ROADTRIP

Exploring the Adirondack mountainsides
with Luke Smithson and his nephew Mark

by Luke Smithson, photos by Mark A. Smithson

Over the weekend of July 15-17, my nephew Markie and I made our annual pilgrimage to the Adirondacks. These trips are really backpacking trips with the main objective to climb the peaks, but I always have mushrooms on my mind in any of my activities.

We parked our car on Route 73 and had to walk about one mile to reach our trailhead. The dry sun-bleached roadside was void of any visible mushrooms for the entire stretch. Not a promising start to our weekend I thought. We entered the Dix Mountain Wilderness at an elevation of about 900 feet above sea level. The plan was to hike an unmarked trail on the south fork of the Bouquet River to a slide that would take us to the peak of East Dix. We would camp just before reaching the slide.

The bleak, mushroom-less landscape of Route 73 began to change for the better almost immediately upon entering the forest. Within the first ten minutes of hiking along the river, we spotted large stands of *Gomphus floccosus* and *Gomphus kauffmanii*, beautiful mushrooms that I have only seen in guidebooks. This was an exciting start. We started seeing many boletes as the elevation gently climbed, leaving behind the pine and sugar maple forest for a more mountain-like mix of pine and white birch.

We picked a few chanterelles (*Cantharellus cibarius*) along the stream bank for our dinner, while observing many amanitas, waxcaps and russulas. I found a few hedgehogs and a single *Leccinum*, and then saw what I thought to be a large flush of *Ganoderma applanatum*. Unfortunately, we were losing light quickly by this point and needed to find a campsite, so I didn't go off-trail to look at the *Ganoderma*.



After a good “mushroomy” meal and a night’s rest in a very secluded (and mostly flat) campsite, we worked our way up to the summit of East Dix. We then started along the faint ridgeline trail to South Dix, Hough, the Buckhorn and finally the main goal, Mount Dix (elevation 4857'). The summit of Mount Dix is in what is called an “Arctic Alpine Zone”, an area that is above the tree line, and which is rather rare in the Adirondacks. It is a very fragile landscape that exists at the higher elevations where trees struggle to survive due to the exposure and harsh winds. As you climb higher, the trees become smaller and scragglier until they stop growing altogether, only to be replaced by low lying vegetation, mosses and lichens. I saw no actual mushroom fruiting bodies at the summit, although I did notice lots of smaller, inconspicuous mushrooms in the zones just below

(continues on page 17)

WHO'S IN A NAME?

Clavaria zollingeri

by John Dawson (thirty-eighth of a series)

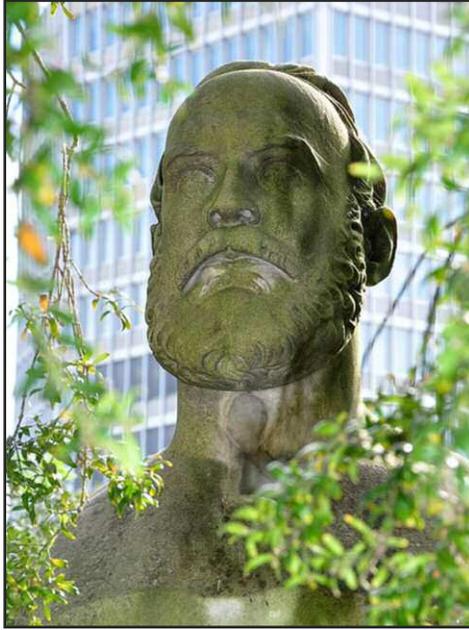
The beautiful deep magenta coral fungus *Clavaria zollingeri* Léveillé is always a treat to find (though its color is a challenge to photograph accurately). Its specific epithet honors the Swiss botanist and explorer Heinrich Zollinger, who was born on 22 March 1818 into a very large family in Feuerthalen, a town in the canton of Zurich.

Though physically weak, young Heinrich possessed an exceptionally lively intellect — a trait, however, that his family failed at all to appreciate. Schooled initially at home, he rebelled when his parents sought to forcibly suppress his desire for higher education. He ran away to the home of a sympathetic relative, who sent him to a cantonal teacher-training institute in Küssnacht. Zollinger excelled in his studies there, but after passing the examination for his teaching certificate he did not immediately enter into the teaching profession. Instead, he enrolled at the University of Geneva to study French and natural history, especially botany and geology. His most influential teacher there was Augustin-Pyramus de Candolle (profiled earlier in this series), with whom Zollinger developed a close, life-long friendship.

At the conclusion of his studies in Geneva, Zollinger passed another examination for a higher-level teaching credential and accepted a teaching position at a school in Herzogenbuchsee in the canton of Bern. After only a year there, however, he succumbed to an irresistible desire to travel to distant lands, and on De Candolle's recommendation, he was engaged by a French society that funded plant collecting endeavors in faraway places. And so, in 1841, he traveled to Java on such a quest. Upon Zollinger's arrival in what were then the Dutch East Indies (now Indonesia), his work was supported by a wealthy Zurich merchant, Abraham Meyer, who was then living there. Meyer provided everything that Zollinger needed, but when he died a short time later, Zollinger was left in dire financial straits. Fortunately, through the efforts of some newly found friends who recognized his intelligence and uprightness, he was able just in time to find a position in the Dutch colonial

government service, under whose aegis he was able to continue his botanical and geological investigations.

During the years from 1842 to 1847, Zollinger traveled widely throughout the Indonesian archipelago, conducting floral, topographic and cartographic surveys in Java,



Heinrich Zollinger

Sumatra, Celebes, Bali and Sumbawa, and studying the volcanoes of eastern Java and Sumbawa, several of which he climbed. In particular, in 1847, he became the first European to visit the crater of Mount Tambora, whose violent eruption in 1815, the most massive in recorded history, caused the worldwide 'year without a summer' in 1816. There he studied both the geology of the eruption and the extent of plant recovery during the ensuing years, and also collected accounts of the eruption from various surviving eyewitnesses.

Given his never robust state of health, it is hard to imagine how Zollinger managed to carry out his explorations, over difficult terrain and without guides or porters, in little-known regions of the islands. Nevertheless, he brought back to Batavia (now Jakarta) a rich trove of specimens for the botanical gardens and the natural history museum there. By 1848, however, his health had deteriorated to such an extent that he resigned his government post and returned to Switzerland, where he was appointed director of the teacher training institute in Küssnacht at which he himself had studied.

Although apparently successful in "furthering pedagogical science and the interests of the teaching profession,"¹ Zollinger found the vexations of administration distasteful, and so he developed a plan to return to the Indies as a private plant collector, his journey to be funded through popular subscription by other collectors, who would be sent specimens of rare plants in return for their investment.² He set off for Java again in 1854, but went first to Egypt, where he suffered a broken leg and other serious injuries that forced him to return to Switzerland until his recovery. He finally arrived back in the Indies in 1855, where for the next four years he continued his explorations and collecting, at the same time serving as deputy director of a firm involved in setting up coconut plantations in the islands. Then in 1859, on his return to Java after two fruitful years of

¹ Quoted from Viktor Hansch, "Zollinger, Heinrich," in *Allgemeine Deutsche Biographie* (1900), available online at <http://www.deutsche-biographie.de/pmd117012769.html?anchor=adb>. That encyclopedia entry is the principal source for this article, much of whose text is a close English paraphrase of that German original.

² According to the web page of the Working Group for Zollinger Family History Research (<http://www.zollinger-genealogy.com/FamousZollingers/heinrichzollinger.php>), which further notes that Zollinger "insured his life high enough to fully refund the subscriptions" in the event of his death before his return.

exploration in Madura and Bali, he became seriously ill and died in Kandangan on 19 May,³ aged 41, leaving behind a wife and two or more children.

Zollinger was the author of numerous publications on the botany and geology of Indonesia⁴ and contributed over 270 plant specimens to the Dutch National Herbarium housed at the universities of Leiden and Utrecht. A bust of him, reproduced here from an image at Wikimedia Commons, resides today in the Alter botanischer Garten in Zurich.



³ Apparently of liver failure exacerbated by the long-term effects of malaria.

⁴ Many of which are listed in the work by Hansch cited in footnote 1.

A MUSHROOM ROADTRIP (continued from page 15)

the summit. It appeared that the larger mushrooms tapered off as the area became more exposed. No doubt, there are plenty of fungi existing above the tree line, just not big, obvious mushrooms.

Many of the low-lying bushes and grasses at the summit were in bloom, attracting huge numbers of various bees and flies that kept the summit literally awash in buzzing sounds.

The descent from Mount Dix was considerably steeper than the route we took up, so the forest ecosystem changed rapidly from the bald summit, through the dwarf forests and back into the pine and white birch forest. Again, boletes and amanitas became abundant, along with russulas and waxcaps.

We picked a few oysters, puffballs and chanterelles for our dinner once we found our way to the north fork of the Bouquet River. The plentiful rainfall that had brought the abundant fungi had other effects on the forest ecology as well. Amphibians were abundant! We noted several species of frogs, and there were toads virtually everywhere. My nephew witnessed a mass migration of toads while leaving the tent for a bathroom break in the middle of the first night. They were apparently heading towards the river. We spotted a newt, a garter snake and another small, unidentified snake with a half-eaten toad in his mouth.

Our second night was spent along the north fork of the Bouquet River, where I confirmed my earlier sighting of *Ganoderma applanatum*, also known as Artist's Conk. I picked several large specimens and spent the evening sketching pictures on their undersides. I left them along the trail to amuse fellow hikers.

Our final day was spent hiking out towards the road, with a side trip to the summit of Noonmark Mountain. Near the summit, we encountered a large swarm of dragonflies. Hundreds were buzzing around a clearing, for no obvious reason (obvious to us, at least). This is one of the many reasons I love our trips into the back-country. You never know what kind of hidden treasures

the mountains hold, whether it is stands of fascinating mushrooms, swarms of insects or mass migrations of toads working their way through the nighttime forest. You may even encounter skinny dippers taking advantage of a remote swimming hole (which we did).

Our three days and two nights in Dix Mountain Wilderness turned out to be quite a mushroom extravaganza. I kept an informal list of the mushrooms I saw, often just noting the genus. My only regret was that I was not carrying any guidebooks, which can really weigh down a backpack. Perhaps just a small one, like Lincoff's *Audubon* would have been OK. Or better yet, I'm thinking of another trip, but this time with a milk crate full of my books and a backpack full of collecting equipment! Happy mushrooming!

The informal list:

Cantharellus cibarius (eaten)

Lycoperdon perlatum (eaten)

Pleurotus ostreatus (eaten)

Leccinum aurantiacum (eaten)

Strobilomyces floccopus (or perhaps *S. confusus*... eaten nonetheless)

Hydnum umbilicatum (I think)

Gomphus floccosus

Gomphus kauffmanii

Ganoderma applanatum

Piptoporus betulinus

Lactarius camphoratus

Amanita vaginata

Amanita flavoconia

At least three other Amanitas, including what

I think was *A. caesarea*

Several Russulas

Many waxcaps

At least one Cortinarius

Multitudes of tiny, beautiful mycena and marasmius.

More boletes than I could count

And so many more that will remain a mystery...for now!



RIMOUSKI NEMF-FQGM FORAY REPORT

By Patricia McNaught

In early August, there was a joint meeting of the North East Mycological Federation (of which NJMA is a founding club) and the *Fédération Québécoise des Groupes de Mycologues* (the association of mushroom clubs in the province of Quebec). When we arrived at Rimouski, we learned that, while other areas of Quebec had received lots of rain, in the Rimouski area it had been dry. But since the *Cercle de Mycologie de Rimouski* (the local club) had carefully selected sites with lakes, rivers and streams, the forays were productive.

A new system was tried to avoid some of the back-ups in the sorting room we've seen at some regional events. Participants identified their own finds, and after the expert mycologists "signed off" on the identification, they carried their finds to the display table. If a species was new to the foray, the collector would be instructed to take it to the recorder first, where the ID was confirmed and the species logged in. The system engaged collectors in working on identification, with the assistance of expert mycologists. And since the ID'ed samples were being replenished as each foray group came in, we had fresh samples to examine on the display tables each day instead of "mushroom goo".

A new system was also used for mycophagy – we had little trays of tasting samples – there were no lines. The unexpected treat on the tray was algae – it was delicious, as were all the dishes.



PHOTO BY TERRI LAYTON

NEMF participants out on the algae walk

Rimouski is at the convergence of the boreal forest and the mixed hardwoods forest, similar to what we have in north and central New Jersey. North of the St. Lawrence, there had been a white pine forest, but that was logged out hundreds of years ago for the British Navy ship masts. There remains some spruce and plantations of red pine. The forests around Rimouski are younger than NJ forests because the area was intensively logged until the early 1980's.



PHOTO BY FRANK MARRA

Marie-Claire with the biggest lobster mushrooms anyone had seen.

Many workshops were presented twice – once in French and once in English. For several of the evening programs, a translation was presented after each topic: essential, but unavoidably, a bit clunky. The programs I attended were excellent. Marianne Meyer, French specialist on myxomycetes, enlivened her presentation with several wonderful clips from the 2003 film "*Les mystères des champignons animaux*" (*Mysteries of the Animal Mushrooms*). The French are definitely more serious about slime molds than we are. (On one foray, I was disoriented (a.k.a., lost!) but discovered a group from the foray when I heard their distant cries of delight when someone found a slime mold.) Mieke Verbeke from the University of Ghent gave two presentations; one on how to distinguish *Lactarius* from *Lactifluus*, and one on developments in the Russulaceae. It was nice to learn that it appears that Russulas in North America have more named species than can be supported by DNA analysis of the specimens. For once, DNA analysis may hand a victory to the "lumpers". Greg Thorn of Western University (formerly the University of Western Ontario) presented work on the untangling of *Auricularia auricular-judae* (wood-ear). From DNA analysis it appears that the European species growing on hardwoods is different from both



PHOTO BY TERRI LAYTON

Patricia with Delmar Small (NEMF database manager) and Greg Marley, author

the North American species that grows on hardwoods and the North American species that grows on conifers. He also reported on work done on chanterelles from Newfoundland that was initiated because forayers had noticed that the chanterelles on the west coast (of Newfoundland) were always more crumbly and larva-ridden than east coast ones. The researchers discovered that there was no genetic difference between the east and west coast Newfoundland chanterelles. (The difference is likely due to environmental factors.) In doing this research, they established that the species was not *Cantharellus cibarius* but *C. roseocanus* and that another chanterelle, *C. formosus*, was also on the island. A third chanterelle, *C. amethysteus* was found in only one site on Newfoundland; there it is not violet, as in Europe, but yellow! Perhaps it came in on an imported tree. Greg Marley, author of *Medicinal Mushrooms: Medicinal Secrets of Northeastern Fungi* gave a workshop in that topic. Greg introduced his subject with a discussion of the medicinal properties of the two fungi carried by the Ötzi, the 5000 year old "ice man" found in the Alps. He reviewed the various classes of compounds found in mushrooms that have medicinal properties. There was much interest, a lot of comments and questions, and many people lined up to buy his products afterwards. Medicinal mushrooms are definitely a hot topic these days!

At times, Rimouski seemed like a vacation trip. We traveled to one foray on a large comfortable ferry for the hour ride to foray on the northern shore of the St. Lawrence. We could sit inside by big windows or stand outside at the ship's rail as people shouted and pointed when the whales spouted. For another foray, participants took a small open boat over to the *Ile St. Barnabé*, a small wooded island closer to Rimouski. We found the *Québécois* friendly and incredibly patient with any attempt by English speakers to communicate in French. As always, there were too many choices, and it was impossible to go to every foray and workshop. I missed the algae workshop, and the panel discussion on certification of commercial mushroom harvesters. But I learned a lot, found my first ever Parrot Waxcap, and

met many interesting, wonderful people. I'm already looking forward to the next NEMF (Maine, October 2014), but I'm not sure I can wait the seven years for NEMF to return to Quebec. I just might have to go to a FQGM in the meantime.



PHOTO BY FRANK MARRA

Rachelle was our bus driver who met us at the ferry dock to take us to the foray location. She saw what we were doing and joined in and looked for mushrooms.



PHOTO BY SUSAN HOPKINS

Terri Layton, Walt Sturgeon, and Patricia McNaught

THE CASE OF THE CURRY SCENTED MILKCAP

by Steve Sterling

My wife Sharon likes to play detective.
We watch *Mystery* on PBS all the time.
She likes doing puzzles and solving problems.
I think that's why she likes identifying mushrooms.
It's a mental challenge.
I think that's why she likes me.
I can be mentally challenged.

We recently went to Washington Crossing State Park and policed the grounds for mushrooms. We found at least a dozen specimens and brought five or six samples back to the lab for forensic analysis... (The lab currently consists of a microscope on our kitchen table).

Inspector Sterling decided to concentrate her investigation on a *Lactarius* with a peculiar odor.

I like to call my wife "Inspector Sterling" because I had a custom gold-plated "Mushroom Inspector" badge made for her at Badge.com. Now when a park ranger questions us, she flashes her badge and demands to speak to their Commanding Officer.

The first things she does in the field is examine the physical evidence, smell for any distinctive scent, and score the surface to test for lactation.

One particular subject was suspected of being the notorious "*Lactarius deliciosus*".

This was later ruled out because the latex was not orange but pinkish/tan. She theorized that it might be "*Lactarius mutabilis*". This proved false because the spore print was cream-colored, not white/yellow.

Roger Phillips was brought in as a consultant on the case. He suggested the unusual curry scent of this mushroom indicated it was "*Lactarius camphoratus*".
Alias: Curry Scented Milkcap.

This mushroom had been picked out of a lineup in several other similar cases. The suspect was then moved to the Schiff Nature Center to be positively identified by John and Nina Burghart.

They concurred with Inspector Sterling's conclusions and congratulated her on a job well done.



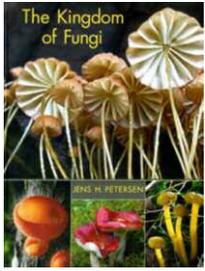
CASE CLOSED

NEXT WEEK: "A Mysterious Death by Fungus"

BOOK REVIEW

THE KINGDOM OF FUNGI

a book review by Mike Rubin



The Kingdom of Fungi

by Jens Petersen

When Jim first asked for volunteers to review some new books he had acquired for the NJMA library, I wasn't sure what I was getting myself into. I had done a few articles for *NJMA News*, our club's newsletter, in the past, so I decided to pitch in and do my part for the club by reviewing a few books. (*Editor's note: Mike was our newsletter editor back in 1991*) Jim suggested I review *The Kingdom of Fungi* by Jens Petersen, a Danish professor of mycology and photographer. My first reaction was "that's a huge topic". Did I need to dust off my Ph.D., get out my copy of Ainsworth and Bisby's *Dictionary of Mycology*, and compare this book to Alexopoulos and Mim's *Introductory Mycology*? No, thank goodness. When Jim handed me the book, my reaction was that of surprise. The cover of the book is stunning, with beautiful photographs of fungi saturated with color. So then I am thinking, "oh no, this must be a coffee table book". You know, the ones they have on display for \$10 at B&N around holiday time. Again, I was pleasantly surprised when I started to explore the depths of the book.

When the topic of Kingdom comes up as a taxonomic group, it has a very specific meaning. It is a huge group only superseded by domain, of which there are three: Archaea, Bacteria, and Eucarya. The kingdom of Fungi falls under the domain Eucarya. Slime molds, by the way, are now in the kingdom of Protozoa: it's sad that we lost one of our own to another kingdom – the spoils of a taxonomic war, I suppose. Phylum is the next group down from kingdom. In fungi, there are currently eight phyla of which only three produce fruiting bodies, Ascomycota, Basidiomycota, and one genus in the Zygomycota. This book, fortunately, restricts itself primarily to the Ascomycota and Basidiomycota. Within Phyla are class followed by order, and then the more familiar family, genus, and finally species. The good news is that this book is not as dry as the preceding taxonomic breakdown.

Each taxonomic group is fabulously illustrated with photomicrographs (photos from a microscope) and close-up photos that highlight the taxonomic point that is being made. The depth of field of the close-up photos is amazing and the photomicrographs clearly show the features being discussed. This is very useful for those of

us that use a microscope for identification. Often, when we make a slide preparation, there is so much material under the microscope that we have to keep focusing up and down in order to view the specimen. Jens Petersen is able to isolate these morphological structures in such a way that the entire field is in focus. The only comparison I have would be to line drawings, where the artist can illustrate these features clearly. These photos are that good.

There is a short section about fungi imperfecti: the molds. I have worked with these organisms for years, and can tell you first-hand that identifying them is just as difficult, if not more so, than the fleshy fungi. The imperfect descriptor refers to the lack of sexual reproduction. They have conidiophores that produce conidia that parallel fruiting structures that produce spores. Petersen highlights *Penicillium*, *Aspergillus* and other molds in both the petri dish as well as microscope slides. These organisms are mostly associated with food spoilage and antibiotics.

The Ascomycetes encompass those fungi that produce spores in an ascus (a sac). Many of the cup fungi, including morels, fall in this category. Yes, morels are a type of cup fungus. Think about it this way; all those pits and folds are cups that are linked together. The photo of *Morchella conica* illustrates this well.

The "ascos" are broken down into two groups; operculate and inoperculate. This refers to a feature on the ascus themselves. The operculate fungi have ascus that open by means of a small lid, the operculum. The Pezizae have this characteristic; but you can only see it with a microscope. There is a great photomicrograph in this book that shows the ascus of a *Peziza* opened and closed side by side so you can clearly see what is being described. Inoperculate fungi look just like the operculate fungi macroscopically but microscopically can be distinguished from each other; a little stain helps in viewing this under the microscope. Some cup fungi have developed stalks that hoist the cups into the air; presumably for better spore dispersal, take *Leotia lubrica* for example.

One of my favorite photos is that of *Diatrypella quercina* which shows a beautiful perithecia in transverse section. Perithecia are flasks that contain the ascus. While apothecia are open cups, perithecia are closed flasks. Cordyceps contain perithecia. While we are on the topic of fungi and insects, did you know there is another group of fungi that live on insects? The laboulbeniomyces live on insects without killing them like Cordyceps does. Check out the beetle on page 100.

Finally, to close out the features of the Ascomycetes there are the cleistothecia. These look like closed spheres that crack open to release the ascospores. They look like little sputniks; but again, can only be seen under magnification. The great thing about this book is that Petersen has already done the hard work and made

superb preparations that highlight all of these features.

Not to be outdone by the Ascomycetes are the Basidiomycetes. There are numerous beautiful photos of the gilled, pored, toothed, and tubed fungi. Perhaps the most important ones are on pages 134 and 135. Here Petersen illustrates the differences among the gill attachment descriptions of free and attached, adnate and adnexed, decurrent and emarginate. These terms can be very confusing and subtly different. If you are using keys to identify mushrooms this feature can often send you into never-never land. With these close-up photos, at least you stand a fighting chance to get to the correct identification.

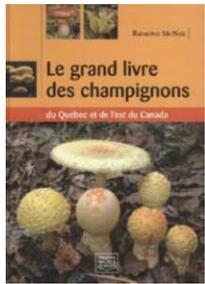
I could go on and on about the photos in this book but I will let you explore the rest on your own. In summary, I believe this book is well worth the list price of \$29.95. I have bought much more expensive tomes that have disappointed me. The short descriptions and beautiful photos and micrographs will surely enhance your learning about fungi.



BOOK REVIEW

LE GRAND LIVRE DES CHAMPIGNONS DU QUÉBEC ET DE L'EST DU CANADA

a book review by Patricia McNaught



Le Grand Livre Des Champignons du Québec et de l'est du Canada

by Raymond McNeil

Published by Editions Michel Quintin, Canada
[in French, although the index includes
English common names]

The title of this book translates to *The Big Book of Mushrooms of Quebec and Eastern Canada*. At six pounds and 571 pages, it surely is a big book. I came across it at the recent NEMF in Rimouski, Quebec. I wondered when I saw several Americans who are professional mycologists or accomplished amateur identifiers buying this book, especially since the book is in French. Experienced mycologists are usually more interested in adding specialized books on specific families of mushrooms to their library rather than yet another general guide.

The Big Book covers more than 1000 species. Species are ordered by phylogenetic relationship, but there is an extensive (12 page) visual key to help determine the genus of a specimen. The heading for each species includes the scientific name with the author who first described it, synonyms for the scientific name, and the common names in French and English. Each species is illustrated with one or more photographs, taken in the natural setting. The species description is positioned next to the photograph. Sometimes, mushroom guides

with photographs “skimp” on the written descriptions; not *The Big Book*. The technical descriptions of the fruiting body and spore characteristics are extremely complete. The *Remarque* (comment) section of each entry often includes appropriate references. For instance, the Scarlet Cup entry includes references to the publications that differentiated the two Eastern species, *Sarcoscypha austriaca* and *S. dudleyi*, from the Western species, *S. coccinea*. It also has a description of the differences in the spores; the only way to differentiate the two Eastern species from each other. (I will no longer consider Scarlet Cup an easy mushroom to identify to species.) Full information on the more than 180 references is given in the bibliography.

The “standing” of a mushroom guide is a consequence of the knowledge, experience, and abilities of its author. Raymond McNeil is Professor Emeritus of the University for Montreal. For many years, he was the Director of the Center for Ecological Studies and Director of the Biological Sciences Department, both at University of Montreal. He has authored more than 150 technical publications. He is a former president of the *Cercle des Mycologues de Montréal*, and serves on their administrative council. For most of the species included in *The Big Book*, the author retained the photographed specimens in his herbarium. Specialists at the National Mycological Herbarium at Ottawa assisted in identification of some of the species.

More than 80% of the species described in *The Big Book* occur in New England, New York and northern and central New Jersey. English speakers will recognize many of the terms used in the descriptions (clearly fusiforme = fusiform) and, for others, can use the diagrams. (The drawings of sporocarp and spore characteristics are extensive and detailed). The Google Translate site may be helpful for the comment sections.

In the introduction, Raymond McNeil states that the target audience for *The Big Book* ranges from the beginner looking for some edibles, to the professional mycological researcher. But the sections of the book covering topics essential for a beginner are in French. *The Big Book* is not suitable for the beginner who does not read French.

In reviewing this book, I tried to see if some of the fine points in the species descriptions were covered in other books and guides. The answer was mostly yes, but I had to go to book after book and various online sources to find all the information in this one volume. No other book had the beautiful drawings of asco spore shapes and entries for seven species of Hypomycetes and the cap-peeling characteristics for the *Russula* entries. This book is like having a Phillips' *Mushrooms of North America* with a broader range of species, more technical details, and photographs taken in a natural setting. For the serious, experienced mushroomer, the breadth, depth and completeness of the *Le Grand Livre Des Champignons du Québec et de l'est du Canada* make it a well-worthwhile acquisition.



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

mushroom knife and a couple of brown paper lunch bags. Went slithering down the slope and woo hoo!, that 2.6 inches of rain must have done its mushroom magic.

Aren't they beautiful? I picked 1 pound 10.25 ounces of prime chanterelles. And there are more on the way.

Happy, happy Judy!



from Stephanie Ritson:

Hi Jim. These are oyster mushrooms I found in my yard here in Hackettstown on Tuesday, July 30! An especially exciting find for me since I have been on crutches for a month and haven't been able to get out and about. I'm going to send



a few more pics. Sorry I can't figure out how to send them all on one message from my phone.

Thanks – Stephanie

from Joan Wood:

I know, who NEEDS yet another morel photo! But who can resist the enchantment of them! (And I recognize that the first one is probably not suited for a family

newsletter but, I swear, it just happened, Officer!)

The Lion's Mane "portrait" was taken by a mushroom mentor of mine, Terri Gabriell, Trenton, NJ.

Also: Is there a special path to follow to give a gift subscription to the Society?

Thanks for all your work!



from Norbert Rousseau:

if fund these under a pin tree in my back yard
i could't identified them??



reply from Jim Richards:

Good hearing from you -
They are some type of bolete -
I am going to forward your photos to a couple of our
identifiers to see if we can get a name for them.

reply from Jim Barg:

It's *Suillus somethingorotherii*. :)

The photo isn't very clear, the color looks screwy (bad
light), and it's impossible to see the stem.

Without a better photo, it's anyone's guess.

reply from Bob Hosh:

Very poor photo with no additional info...since was
growing under a "pin" tree could possibly be a *Suillus*.

more from Norbert:

the stems look like the bolete no gill
but i didn't eated any way
i also have chesnut bolete
funy they growth under the oak tree
but they'r very good
thank's jim have a nice day

reply from Jim Richards:

Suillus are a type of bolete - so that part seems to be
correct. Many of them are eaten, but usually after the

sticky top of the cap is peeled away.

reply from Gene Varney:

I will leave this to Igor.

reply from Igor Safonov:

Well, naturally, it's a *Suillus* sp. It can be further
narrowed down to the section that contains species
with a ring. Beyond this, I can only conjecture as to the
species name, as the pictures are of very low quality and
lacking any details (true colors, size, glandular dots,
etc). I think this might be *Suillus luteus* that grows
under pine and spruce from August till October and is
widely distributed throughout North America. I hope
this helps.

Regards, Igor

From Jim Richards:

Thanks. That confirms what Jim, Bob and I had agreed
on - although we stopped short of species.

reply from Norbert:

thank you so much for your reply
thas was a big help
have a nice day
ps - with all that rain you must find them by truck load??

from Paul Funk:

Thought you might like this:

<http://tinyurl.com/mdwtg8w>

from Judy Glattstein:

I keep finding these things about mushrooms...

<http://tinyurl.com/m5axhv3>

from Bob Hosh:

Nice photos at the Weather Channel website about
mushrooms.

<http://tinyurl.com/kltml43>

from Judy Glattstein:

Hi Jim,

Too lovely not to share. Last image.

<http://tinyurl.com/q63vmks>

from Judy Glattstein:

I did a nice chanterelle dish the other day:

Clean chanterelles and make sure they are dry. Tear
lengthwise into large pieces – many only need to be
halved or in thirds.

Saute in butter and herb-infused olive oil (Something I
make myself using EVOO, thyme, rosemary, and
oregano.) Set aside.

Cut garlic scapes into inch and a half pieces. Sauté.

Combine, sprinkle with a pinch of salt and fresh thyme leaves.

I served it with salmon marinated with soy sauce, peanut oil, minced shallots, lime juice and baked in parchment bags in a very hot oven. Could also broil.



PHOTO BY JUDY GLATTSTEIN, © Bellewood Gardens. All rights reserved.

from Paul Funk (August 24):

Hi Jim,
I was going to ask you if you would pinch me to see if I was dreaming. After I found these. They are within walking distance from my house! which is in a subtropolis of Philadelphia. They are on a live Sugar Maple.



from Paul Funk (September 4):

Hi Jim,
This time I must ask you if you believe in miracles.

There has been a second bloom on the same tree only three this time as opposed to the seven or eight at my previous writing.

I have not seen this tree for a good week I guess to bad I missed the bloom when all the caps were white and the Honey mushrooms(?) were fresher.

I have put these in a dehydrator how long should I dry them for?

Can we use them for the herbarium one is very fresh and the cap is white the others are still nice though no longer with the white pileus.



from Jim Richards:

Hudson Valley Mushrooms Hit the Table

from the Dining New York column in the *Village Voice*

<http://tinyurl.com/nnuol9m>



PHOTO BY BRADLEY HAWKS, VILLAGE VOICE

Bulich mushrooms are Greenmarket staples

We have a copy of Lawrence Millman's **Giant Polypores & Stoned Reindeer** that needs to be reviewed.

If you are interested, please contact Jim Richards at njmaeditor@gmail.com

THE NEW JERSEY MYCOLOGICAL ASSOCIATION PRESENTS

fungus fest

sunday, september 29

10:00 AM - 4:00 PM

frelinghuysen arboretum

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Your mushrooms identified
(bring your mushroom finds!)

Exhibits and talks

Guided mushroom walks

Mushroom cooking demos

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Mushroom arts & crafts

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Activities for the kids – and more!

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MUSHROOMS...A SECOND LOOK

by Joyce Gross. Reprinted from the *Western Penn Mushroom Club Newsletter*, April-May 2010.

It's inevitable. "Can you eat it?" they ask. "No," is the answer. Then it happens. The little spark in their eye is extinguished and off they go to find a more worthy specimen.

That's a shame because there is a lot more to experience from many mushrooms than just eating them. Some of the most overlooked and seemingly lowly little ones can be the starting point for a lot of craft projects or art. In our club's workshop meetings we have used some of these mushrooms to make everything from paper to jewelry.

Turkey Tail (*Trametes versicolor*) and False Turkey Tail (*Stereum ostrea*) mushrooms are two useful and very abundant examples. Artist Conks (*Ganoderma applanatum*) are probably the most recognized choice for displaying images and have been used for centuries to provide the basis for everything from crude scratchings to elaborately detailed pictures.

Some mushrooms are gathered for their ability to render beautiful colors used in the process of dying fibers as a more natural alternative to chemical dyes. In fact, most of the mushrooms that we've used are not of the edible variety.

I have found from my own experience of trying to learn the names of mushrooms that my artistic appreciation for them has grown immensely. When you pick a mushroom to identify it, you have to really look at its features. Look at the cap. Do you see zones of color? Look at the stalk. Is it striped or is there a certain pattern? Some of the above mentioned little polypores are absolutely beautiful when viewed from behind the lens of a loupe or magnifying glass.

Photographing mushrooms is an excellent way to learn more. You have a photo to look at and refer to the next time you think you have encountered the same mushroom. While you're at it, how about honing your photography skills and you will end up with a perfect subject to perhaps frame and display.

Another way to not only learn the mushroom, but appreciate its beauty is to sketch them. At the 2005 NEMF foray, I met a woman named Debra Veiss (a.k.a. Amanita Rita). She was sitting off in a corner by herself drawing individual pictures of specimens that were East coast varieties unfamiliar to her (she is from the West coast). At her disposal were a small sketch tablet, some pencils and colored pencils. She was putting down on paper the main features, colors, etc. of each mushroom so that when she got home the details would be easier to recall. This is an excellent way to emphasize the things that you feel will help you identify the mushroom the next time you see it. The features that help you may

be different than features that someone else requires.

We all visually record things in our own way. A lot of times, an artist can capture minute details that perhaps don't quite translate well in a photo. How many times have you gotten that picture printed only to find that the developing process has somehow converted that delicate lilac color to a ruddy pink?

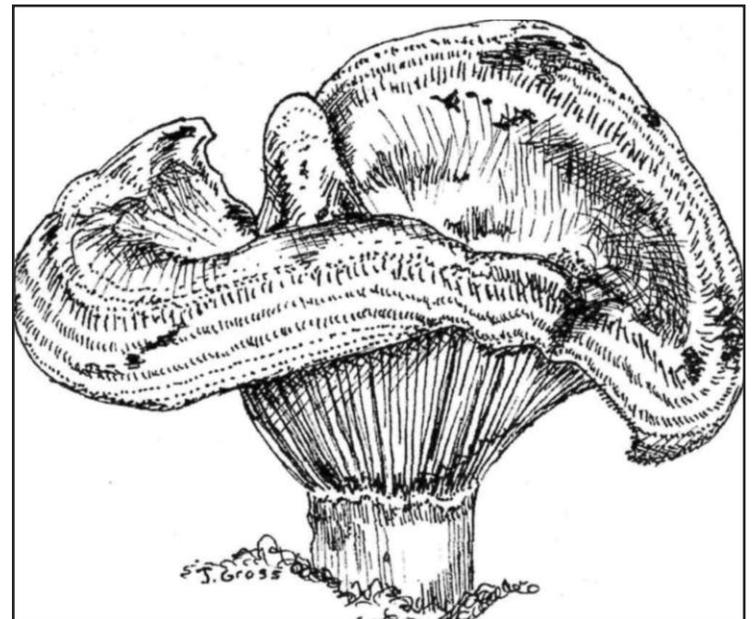
In my opinion, mushrooms are some of the most fascinating things in nature to draw because they can be so different even within the same species. They are truly products of their environment. A dry mushroom will appear different from a wet mushroom, thus changing the colors perceived.

Some specimens will be affected by nearby objects, like sticks or grass, which have been incorporated into the body of the mushroom. Some will be forced into an unnatural pose by an unyielding obstacle. Embrace these "by chance" occurrences and your drawings will be enhanced with even more artistic appeal.

Here in our world of all things fungi, we know the appeal of the fleshy fruiting bodies that peek their heads above the ground.

The vivid colors and ephemeral qualities of mushrooms entice us to gaze upon their upturned caps and squatty stems thus drawing us into their world of magical existence.

If you've never taken the time to appreciate the beauty that lies just beneath the grass or hidden within the moist recesses of the forest, I invite you to pick up a camera, sketch pad, or loupe and challenge yourself to take another look at a mushroom with not the eye of a hungry forager but the eye of one who seeks all things that are beautiful.



For those of us with artistic ability mushrooms can provide a very diverse subject matter. This sketch of a *Lactarius* sp. mushroom was done by the author.

THE CREE UPSAGAN

by Lawrence Millman

Ouje-Bougoumou is a small Eastern Cree village located 750 miles north of Montreal. In my capacity as an ethnographer, I visited “oogee,” as it’s sometimes called, several times in the late 1990s. During these visits, I collected lore about such things as mitunsaawakans (scapula divinations), medicinal plants like katcibogotik (Labrador tea), and the Cree cultural hero Tchakapesh.

One of my main informants was Jimmy Mianscum, a large, robust man who was the former chief of the Ouje-Bougoumou band. Although he was around seventy-five years old, Jimmy did not look a day over fifty. A lifetime spent in the bush seemed to have preserved him from the worst aspects of time’s ravages.

One day, Jimmy and I hiked into a mixed grove of birch, poplar, and black spruce a mile or so from his camp. Beneath one of the spruce trees, he placed a bear trap, then began spreading a blend of peanut butter and “beaver juice” (the contents of a beaver’s musk glands) all over the tree’s bark.

Black bears find this blend irresistible, he said. So irresistible, in fact, that they’re completely oblivious to the trap until they happen to step into it. Jimmy would skin the animal, sell the pelt to the Hudson’s Bay Company, and save the meat for himself. The talons were good luck charms, so he’d kept them until several years ago, when the village’s fire-and-brimstone minister informed him that the use of such charms could land him in Hell.

I was turning over the occasional log in search of fungi. Bears do the same thing, Jimmy told me, but they’re looking for ants, not fungi. Sometimes bears will purposefully set up a log to make a good home for ants, and then they’ll come back several weeks or a month later to dine on the log’s residents.

Under one log, I saw some compressed mycelium that looked like cheesecloth. “We used that stuff for bandages in the old days,” Jimmy said.

And on a nearby birch tree, I noticed several fruiting bodies of the so-called Hoof Polypore, *Fomes fomentarius*. When I pointed to them, Jimmy nodded in recognition, calling the polypore by its Cree name “upsagan”. He said that that upsagans were traditionally used by the Cree for the quick starting of fires. At the same time, they provided a convenient receptacle for transporting a fire from one camp to another.

Here I might add that the Eastern Cree do not regard polypores as fungi. Rather, they’re simply bizarre growths on a tree, the result of some no less bizarre inner sickness. The Cree name for polypore, *adoosh* ikind, means “windigo bread.” Whether the demonic creature known as a windigo considers polypores to be of culinary interest is not known.



After finding an upsagan, Jimmy informed me, he would run a string through it and hang it to dry. After a few days, he’d take a piece of quartz (flint isn’t readily available around Ouje-Bougoumou) and strike sparks off it with glancing blows from his knife. As soon as a spark landed on the upsagan, he’d blow it into a flame. Whereupon he’d put the burning polypore next to some dry tinder.

What Jimmy described to me was not the only use of *F. fomentarius* among the local Cree. They also used a smoldering polypore as a mosquito, black fly, and moose fly smudge. Of its efficacy in this regard, I can personally attest. No only does it work better than DEET, but it’s a lot healthier, too. In Labrador, I once walked into a black cloud of mosquitos with a smoldering Fomes...and emerged unbiten rather than exsanguinated.

The Ouje-Bougoumou Cree depended on upsagans until the middle years of the last century, then matches took over. But matches have their drawbacks, Jimmy said. You can’t use the same match more than once, whereas you can use the same upsagan repeatedly. All you need to do is douse it with water and scrape out the charred area.

I asked Jimmy whether he still ignited upsagans during trips into the bush. “Sometimes,” he replied. I gathered that he used them primarily for sentimental reasons or to exhibit their former use to curious visitors like me. He smoked cigarettes, and he lit them with a spiffy new Bic lighter.

All this made me think of Otzi, the so-called Iceman, whose 5,300 year old body was recovered from a melting glacier in the Tyrol in 1991. Otzi had pieces of two polypores, *Piptoporus betulinus* (the birch polypore) and *F. fomentarius* on his much-desiccated person. He seems to have used the former to rid himself of intestinal worms. In all probability, he used the latter as a fire-starter, since there were traces of pyrites in the hyphal strands of his specimen.



As we were walking back to his camp, I mentioned the Iceman to Jimmy. He shook his head. He had never heard of the fellow. Yet the two men, the one a contemporary Cree hunter-trapper, the other a denizen of the Bronze Age, had at least one thing in common – they burned polypores.

A slightly different version of this article appears in the author's book Giant Polypores & Stoned Reindeer: Rambles in Kingdom Fungi, which was due out this past August.

NJMA PHOTO CONTEST 2013

Send us your best shots!

DEADLINE FOR ENTRIES: NOVEMBER 1, 2013

NOTE: This year, due to meeting scheduling, you MUST email or US Mail your entries!

If you haven't already started doing so, get your photos together *now* and don't miss the deadline. Winners will receive valuable awards (see below), plus you'll receive heaps of praise from your fellow NJMA members. Also, your winning photos will become a permanent part of the NJMA Photo Library.

If you need technical assistance to prepare your digital-format photos for entry, contact Jim Barg at jimbarg@bssmedia.com or call him at 908-362-7101. You can now send in your entries by email, with two important restrictions. ONE: You MUST send all your entries in one email message, and TWO: You MUST include a scanned copy of your completed entry form in that message.

Please note that, due to lack of competitive entries in past years, we have eliminated the Creative category. We have "widened" the rules for the Activity category to allow you to enter digitally-manipulated images in this category alone.

THE JUDGE FOR THIS YEAR'S PHOTO CONTEST IS GARY LINCOFF.

ENTRY CATEGORIES AND DIVISIONS

For all entries, the main considerations in judging will be composition, clarity, lighting, and all the other criteria that make for a good picture, whether using a camera or a scanner. Entries will be accepted in three categories in two divisions (Novice or Advanced) There will be a total of six first-place awards:

TECHNICAL (Divisions: *Novice and Advanced*)

This category is for photos that can be used to aid in the identification of fungi, as if they were going to be used in a field guide. Emphasis will be placed on portrayal of key morphological characteristics. The subjects may be photographed *in situ* or removed to a more photographically appropriate setting. Photos through the microscope are included in this category.

PICTORIAL (Divisions: *Novice and Advanced*)

The entries in this category should be more concerned with pictorial beauty and aesthetics. It is expected that most entries will be taken *in situ* to illustrate the fungus and its surroundings. Judging criteria include consideration of both technical (focus, depth of field, exposure, lighting, color, absence of distracting elements) and artistic (composition, color, background, lighting) aspects.

ACTIVITY (Divisions: *Novice and Advanced*)

The entries in this category should be mushroom-themed or mushroom-club-related and can depict anything not covered in the Pictorial or Technical Categories. For example, they may depict either people working (or playing) with mushrooms or the results of this work or play. You can use this category for photos of club or regional events, forays, and gatherings (NJMA, NEMF, NAMA, etc.) or use it for creatively-manipulated photos involving mushrooms. It may also show people cooking mushrooms (or the dishes prepared). The use of a mushroom theme as part of a craft project and the finished objects are also appropriate entries for this category...basically, anything that is *not strictly* a mushroom photograph. (If you use digital manipulation, we will **not** need to see your originals, but it is imperative that all components of your image be your original work.) Creative use of text in the image is acceptable.

Here is a summary of the categories and divisions in which prizes will be awarded (note the **boldface category code**, for use when submitting):

NOVICE DIVISION	ADVANCED DIVISION
T echnical	T echnical
P ictorial	P ictorial
A ctivity	A ctivity

AWARDS

BEST IN SHOW (chosen from all entries): \$50.00 NJMA gift certificate

FIRST PLACE in each division of each category (six prizes total): \$25.00 NJMA gift certificate

SECOND PLACE and **HONORABLE MENTION** will be given in each division of each category.

As always, winners' photos will become part of the permanent photo collection of NJMA. (We will make copies of slides and return your originals. Digital photos will not be returned.) We also reserve the right to publish them on our website, in our newsletter and other NJMA publications with due credit.

SEE NEXT PAGE FOR CONTEST RULES AND HOW TO ENTER

NJMA 2013 PHOTO CONTEST RULES

1. The contest is open to current NJMA members only. Images that have previously won (including Honorable Mention) are not eligible.
2. You are only permitted to enter photos in one division or the other (Novice or Advanced). Novice contestants may not enter the Advanced Division and Advanced contestants may not enter the Novice division. **You must check the box on the top of the entry form indicating your entry into either the Novice or Advanced division.** If the Photo Contest Committee determines that you have entered into the improper division, you will be reassigned to compete in the proper division.
3. **Which division to enter:** The following types of contestants may **only** enter the Advanced Division and are not permitted to enter the Novice Division: (a) Professional photographers or those who earn any portion of their livelihood with their photographs, and (b) Anyone who has won First Place in the NJMA Photo Contest three times over the past five years.
4. All entries must be made either by electronic file (.jpg or .tif) in their original resolution or as color transparencies (slides). If you have a print that you wish to enter into the contest, *you* must have it scanned and converted to a digital .jpg or .tif file. (Most copy centers now have good quality scanning services and can provide you with files in either of these formats. We recommend scanning at 300 dpi resolution at an image size of roughly 8"x10") All judging will be done on a computer monitor. If you're not sure how to prepare your digital files for submission, please call Jim Barg at 908-362-7101 for technical assistance.
5. For digital image files, name each file with **your initials**, followed by the **category code** (see previous page), followed by the **number of your entry**. For example, if your name is **John Doe**, and you are entering into the **Technical** category, and this is your first entry, the entry code on your first slide should read **JD-T-1.jpg** or **JD-T-1.tif** (don't forget the .jpg or .tif suffix!). Record this same number on the entry form under "Entry Code".
6. For slides, use the same convention for labeling as for digital images (see previous item). Be sure to mark each slide with a projection dot at the lower left corner of the mount when viewed right-side-up out of the projector. Also label each slide on the dot side with your initials, category initial, and your photo number (in that order). For example, if your name is **John Doe**, and you are entering into the **Technical** category, the entry code on your first slide should read **JD-T-1**.
7. Fill out the entry form below, recording your entries using this code and also, if they are mushroom photos, providing your best attempt at determining the scientific name of the mushroom(s) included in the photo. (*Improper ID is no longer a cause for disqualification, but we are a mushroom club, and we'd really like you to attempt a proper ID!*) We suggest that you make a photocopy of the entry form and keep it for future reference.
8. Electronic images should be submitted on optical media such as CD-R or DVD-R or PC/Mac flash storage devices (NOT the cards which are used in your digital camera). At your request, we can return flash storage devices if you provide us a stamped, self-addressed envelope along with your entry. We can accept entries by email, **but you must include a scanned copy of the completed entry form.** If you choose to email your entries, we cannot take responsibility for lost, damaged, or undelivered files. If we receive your entries by email, we will send a confirmation when we get them.
9. **For photos entered in the Pictorial and Technical categories only:** If you do any digital manipulation to your photo, you **MUST** provide us with the original file or print to allow us to see the manipulation you did. Cropping, color correction, contrast and brightness adjustment, dust, dirt, or scratch removal, grain reduction, and sharpening are acceptable forms of digital manipulation in these two categories. Digitally-manipulated photos will not be considered for judging if we do not receive a copy of your unmodified original (It is acceptable to watermark this copy if you wish). If you intentionally add to, subtract, or move any element or object that's in the original photograph, your entries will be disqualified. (Entries in the Activity category are exempt from this requirement.)
10. **For photos entered in the Activity category only:** Your subject must include mushrooms or anything mushroom-related (club activities and food photos are permissible just so long as they are identified in the title of the work.) You may do whatever manipulation, augmentation, subtraction, filtering, effects...whatever you wish. Any components you use must be your work (e.g., not scanned from a book or magazine or taken from the Internet). You may also creatively use text or other elements of your own making in your entry. You do **NOT** need to submit your originals.
11. Slides may be cropped using opaque tape to mask out the area you wish to hide.
12. Entries are limited to 12 photos per contestant, including any which may be disallowed for improper or non-permitted forms of digital manipulation.
13. Current members of the Photo Contest Committee may not enter into this contest.
14. By submitting to this contest, you grant NJMA the right to reproduce or publish your photos (without compensation, but with due credit) in the club newsletter, on the NJMA website, on promotional posters, or in any publication which NJMA provides to its membership or prospective members.

SUBMITTING YOUR ENTRIES

Please be sure that your entries are labeled properly (see Rules, above) and enclose them **with your entry form** and mail or deliver them to:

Jim Barg
NJMA 2013 Photo Contest
220 Millbrook Road
Hardwick, NJ 07825-9658

Email entries should be sent in ONE email message (with multiple attachments) to jimbarg@bssmedia.com. *YOU MUST also attach a scanned copy of the entry form in your message.* Multiple emails from a single entrant will **NOT** be accepted. If you do not know how to add attachments to an email message, or if your outgoing email cannot handle large files, please US Mail your entries on CD-R, DVD-R, or USB flash drive to the above address.

NJMA PHOTO CONTEST 2013

OFFICIAL ENTRY FORM

(Please fill out according to the instructions and make a copy for your records.)

I AM ENTERING IN THIS DIVISION
<input type="checkbox"/> NOVICE
<input type="checkbox"/> ADVANCED

NAME OF ENTRANT _____

ADDRESS LINE 1 _____

ADDRESS LINE 2 _____

CITY, STATE, ZIP _____

EMAIL ADDRESS _____

TELEPHONE (DAY) _____ TELEPHONE (EVENING) _____

ENTRY NUMBER	ENTRY CODE <small>(see items 5 and 6 in Rules)</small>	CATEGORY <small>(check one per entry)</small>	IDENTIFICATION or CAPTION
1		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
2		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
3		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
4		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
5		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
6		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
7		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
8		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
9		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
10		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
11		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	
12		<input type="checkbox"/> TECHNICAL <input type="checkbox"/> ACTIVITY <input type="checkbox"/> PICTORIAL XXXXXXXXXX	

*Please remember that photos submitted on digital media will not be returned.
Also remember that, if you digitally manipulated or retouched your entry in the Pictorial or Technical categories,
you must enclose the original (or an unmodified copy of the original, or a watermarked copy of the original) as well!*

DEADLINE FOR ENTRIES IS FRIDAY, NOVEMBER 1, 2012

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.

In this issue:

- **2013 PHOTO CONTEST ENTRY**
- **LOOKING AT NEMF 2013**
- **WHO'S IN A NAME - PART 38**
- **A MUSHROOM ROADTRIP**
- **CULINARY SOUTHWEST FRANCE**
- **BOOK REVIEWS**
- **SPORE PRINTS**
- **THE CREE UPSAGAN**
- **FORAY REPORTS**
- **SCIENTISTS IN THE KITCHEN**

...plus more!

Scutellinia scutellata **The Eyelash Fungus**

These diminutive ascomycetes grow on wet rotting wood, many times in huge numbers. They are each less than 3/8" wide, but they often occur in such density that they can make parts of an old log appear orange from a distance.