



NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION
Volume 41-6 November - December 2011



NJMA OFFICERS

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Secretary - Katy Lyness
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DUES

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10th of even-numbered months.

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NJMA EVENTS HOTLINE

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

CALENDAR OF UPCOMING EVENTS

Sunday, November 13
10:00 am

**LAST FORAY OF THE YEAR:
WELLS MILLS COUNTY PARK**

Leader: Nina Burghardt

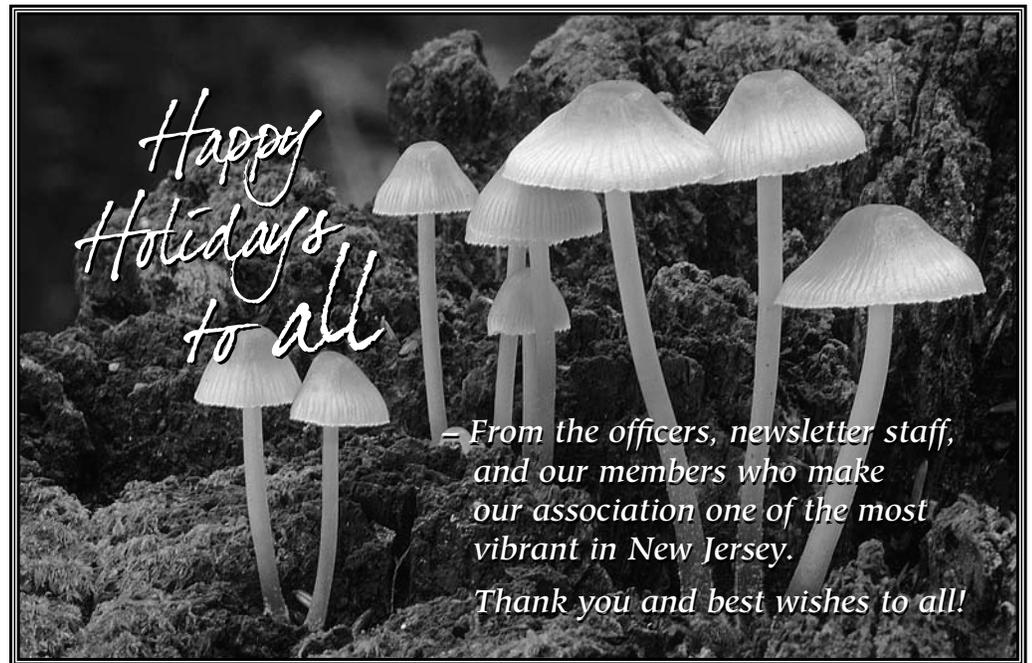
Sunday, December 4
2:00 pm

**HOLIDAY PARTY, PHOTO CONTEST,
AND ELECTION OF OFFICERS**
Unitarian Society, Tices Lane, East Brunswick

Registration is required. See page 19 for details and registration form.

Sunday, January 22
2:00 pm

**MEETING AND LECTURE:
MUSHROOM PHOTOGRAPHY**
with R. Allen Simpson and Jim Barg
Frelinghuysen Arboretum, Morristown



Directions to the Frelinghuysen Arboretum, Morristown

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

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

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

Directions to the Unitarian Society, Tices Lane, East Brunswick

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

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

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



PRESIDENT'S MESSAGE

We celebrated NJMA's 40th Anniversary and Dr. Eugene Varney's Lifetime Service Award in September at Willowood Arboretum. It was a gorgeous September day that many members will remember with fondness.

40 days and 40 nights and a rumble...we had record rainfall in August and September with the arrival of both Hurricane Irene, then Tropical Storm Lee. And just before both, an earthquake to shake things up a bit. We received a number of calls about toddlers and doggies gobbling up little mushrooms. Many demands from the public and press inquiring about what's growing in their yards kept us busy all summer. Record rainfall precipitated not just a record number of fungi, but record breaking sizes and quantities. Just the other day I stumbled across a *Phyllotopsis nidulans* (a.k.a. Orange Mock Oyster) big enough to cover my palm (yes I checked the spore color – pinkish). Persistent warm weather also brought much confusion to Chanterelles and *Lactarius* which fruited well into the end of September and early October. I may have heard somewhere that it takes a year for sclerotia to form to later become a fruiting body, so with all this rain we should have good mushrooming in 2012. Wishful thinking maybe, but I am hoping for a bumper crop next summer.

This is my last President's Message, and I feel both elated and sad as my term comes close to an end. There is still lots of work to be done, and I plan on doing my best to help to sustain our great organization. I have been told that old Presidents don't go away, they just stick around and become thorns in the new President's side. Actually being a thorn won't be much of a challenge for me (as a few of you already know) and some of you may have some suspicions about the way I can be.

I would like to see our Taxonomy and Public Outreach programs (Fungus Fest and the bioblitzes) continue to grow. I think it's our duty to educate our community about the important role fungi play in our ecosystem – and to educate them about respecting nature through our example.

I've heard that "You grow with those who give you difficult times, and you take comfort with those who love you". I think I would have preferred less difficult times and more love, but it worked out just fine. I thank you all for *being you*.

Lastly, I will echo Gene Varney and say that this is the best club I know. I know of no organization with so many interesting, intelligent and caring people. NJMA has played a major role in helping me to grow (not my height though) as a person. The most important asset of NJMA is each one of *us*. I am lucky to have stumbled onto people in NJMA who I have come to call good friends.

–Terri Layton



At the Rutgers banquet honoring Gene Varney: Back row: Phil Layton, Michael Rubin, Douglas Eveleigh, Terri Layton, Bob Hosh, Patricia McNaught, Nin Burghardt, Dorothy Smullen, John Burghardt, and in front: Dr. Eugene Varney and his wife Ruth.

WORDS ABOUT GENE VARNEY AND THE LIFETIME AWARD AT NJMA AND RUTGERS

by Terri Layton

We honored Gene Varney for his dedication to NJMA on September 18, 2011 at Willowood Arboretum. We thought we were going to have trouble keeping it a surprise, but true to himself, Gene never suspected that he would deserve or receive such an honor from NJMA. Ruth, their children (and spouses) and a grandchild joined in the celebration to make it extra special.

Again in October, Gene's dedication and accomplishments to NJMA were celebrated at Rutgers University Plant Pathology Centennial Banquet. NJMA member Dr. Douglas Eveleigh, Fenton Professor of Applied Microbiology at Rutgers University, graciously invited NJMA members to join in their celebration. It was a pleasure to share our affection for Gene with those who know him well and where he is also much respected as *professor emeritus*. I think the speech Phil made at the banquet on behalf of NJMA summed it up well: "Gene is a person who believes that knowledge is not owned, but held until you can share it with others... Gene is truly a gentle, quiet man who loves to share his wealth of knowledge."

We are grateful to Doug for his generosity and an opportunity to share with the Rutgers Plant Pathologists why NJMA chose Gene as the first recipient of the Lifetime Service Award. Dr. James F. White, Jr., Department Chair of Plant Biology & Pathology and Dr. Bruce B. Clarke, Director of the Center for Turfgrass Science also played a major part in honoring Gene at the celebration.

We sincerely hope to have many more years of Gene's dedication to NJMA.





EDITOR'S NOTES

As most of you are already aware, in January 2012, there is coming a major change in *NJMA News*. We will be changing over to an electronic format. This changeover is designed to accomplish a number of objectives. NJMA will be able to save a lot of money that now goes to printing and mailing the newsletter to all of our membership plus a number of mycological gurus who receive complimentary copies. There are also a fair number of copies that are sent to other mushroom clubs with whom we exchange newsletters. To a large part that will change. We still have a small percentage of members who are willing to pay a premium to have a hard copy of the newsletter arrive in their mailbox every two months. We anticipate that we will be facing an increase in printing costs in the near future. And (no surprise) postal rates are going up again next year.

An added benefit of the change will be that *NJMA News* will be undergoing a major change in format to best work with the new means of publication. We will be changing over to all-color, so that now all of the photos that you send us will be seen in their full glory. Jim Barg (our Art Director) is planning a major change in format as well. After all, we will now need a color "masthead" as well. What this means is that we will need a lot more of your contributions – photographs, articles, recipes, and so on. We will also be able to include much longer articles than before. We will be able to print many of the more technical articles from other club newsletters that we have not been able to use simply because of their size. And (of course) you can always print out the items that you want to read at your leisure. (Note for those who have opted to continue receiving the printed version: Your version of the newsletter will be in black and white; our primary focus will be on producing the newsletter as a color PDF, which you'll still be able to download if you wish.)

While I am on the subject of contributions, I would like to thank all of you who sent material to us for *NJMA News* 41-6. In particular, I would like to thank a couple of new contributors: Lynn Hugerich for a great article on her "freshman year in NJMA, from Fungus Fest to Fungus Fest"; and Stephen Sterling, both for his poetry and for a record number of photos from Washington Crossing and Fungus Fest. And, of course, there are the "regulars" who contribute a great deal to this newsletter: Patricia McNaught, Terri Layton. Nina Burghardt, Dorothy Smullen and John W. Dawson (who holds the record (still ongoing) for the longest series of articles we have ever published!)

One of the new things that we are planning on starting with the next newsletter is a column devoted to the neophytes in our group. We are anticipating that it will include articles by newcomers and (this is where you

come in) hints and suggestions from more experienced members that will be useful to new 'shroomers – especially those things that are hard to find in the standard books. Patricia McNaught and Lynn Hugerich have agreed to "moderate" this section. The idea is that the material will then be placed on a special "Beginners' Page" on the website, so that people that join NJMA in coming years will be able to quickly find tips that may make their life easier. For now, just send the material to me at njmaeditor@gmail.com and I will see that Patricia and Lynn get it.

I would like to take a couple of sentences to thank Terri Layton for the job that she has done as president for the last two years. While I do not agree with all that she done (no surprise there), she has managed to get this change to electronic format for the newsletter accomplished. (It had been talked about for many years but nothing ever happened) And she has been a major force in promoting public outreach programs to let the public know a bit more about NJMA. Terri had been a regular contributor to *NJMA News* before she ascended to the throne, and has continued to provide us with an abundance of photos and articles, including the "mandatory" President's Message. With her responsibilities as Chairman of NEMF 2012 (the NorthEast Mycological Federation, for those of you unfamiliar with this group), I know she will be very busy. But hopefully we will still get contributions from her on a more or less regular basis.

On a final note: a reminder, the deadline for the next newsletter is December 10th. ALL submissions should be sent to me at njmaeditor@gmail.com

– Jim Richards

Got a mushroom story to tell?
Share your experience with fellow mushroomers!
tell it here!
Send your articles and photos to njmaeditor@gmail.com

2012 ONLINE MEMBERSHIP, YOUR DONATIONS, AND PAYPAL

by Terri Layton

Our online newsletter will be starting in 2012 and thanks to many members who signed up and also to members making generous donations to the both the operating and scholarship funds. Thank you also for using Paypal to sign up for your membership.

Don't forget to send your check in to Steve Zahorbenski (upi can contact Steve at njmycomember@gmail.com) or pay through Paypal (it's simple) soon if you have not.

Thank you again for your generosity and you will receive a tax donation letter from us soon.

FUNGUS FEST 2011

by Terri Layton

It was a blast. We think we had a record number of visitors. We were so busy, we didn't get a good count. Our regular greeter, Mike Mudrak, was suffering from a back injury, so Mario Guiducci and Lynn Hugerich had to hold the fort. Jim Barg had to lecture all day since Glenn Boyd was under the weather.

Homer Hanson was busy cutting paper crowns for kids and adults. I hope to have as much energy and enthusiasm and take pleasure from the little things that life offers as Homer does when I am older.

Jim Richards again showered us with wonderful breakfast goodies that got gobbled up really fast. His real coffee was delicious too...ahhhh! No more Taster's Choice (instant stuff for those not familiar) and no more Coffee Mates. Pat Miller brought beautiful and delicious tomatoes, but had to leave early due to his wife's illness.

Our walks were as popular as ever. All the walks I saw had no less than 30 people and had to be split up. Patricia McNaught was also under the weather, but she persevered and stayed the whole day leading and organizing the walks.

Grace Gambino served the samples that Bob Hosh cooked up for visitors who patiently waited to taste. Artie Grimes, Jack Barnett, Steve Zahorbenski, and Katy Lyness all helped with chopping and dicing. (Steve cleaned the pots and pans as usual.) This is the first time we were permitted to serve food samples to visitors at the Frelinghuysen Arboretum. Thanks to our "bouncer" Paul Hugerich and company, visitors stayed and ate the samples in the classroom. We can continue to delight the public with tasty treats as long as we follow the Arboretum's guidelines.

Ursula Pohl displayed her beautiful scarf and wool dyes and Cheryl Dawson displayed her lovely *Mycena haemotosis* quilt. Cheryl demonstrated her dexterity with her knitting skills while greeting visitors.

As soon as we opened up, we were bombarded by the press! Verizon FIOS wanted to film us, so Jack Barnett and Jim Barg led the way. The story was aired to Verizon FIOS customers on their TVs and the Internet that day. We are trying to get a copy of the story on DVD to show to our members.

I think this was one of the best Fungus Fests ever.

(A full page of color photos from Fungus Fest is on page 13)



Mushroom Effect (from Men's Health, October 2011)

Tame tumors with 'shrooms. Researchers in Australia and Hong Kong found that when cancer-prone mice were given either water or an extract of turkey-tail mushrooms, only the water-drinking group of rodents developed prostate cancer. The extract may inhibit a signaling pathway that helps keep cancer stem cells alive.

NJDEP FALL FORESTRY FESTIVAL

submitted by Nina Burghardt

The New Jersey Division of Parks and Forestry and the Department of Environmental Protection held a Fall Forestry Festival on October 1st at the Forest Resource Education Center in Jackson, NJ. Jolanta Simonelli (who volunteers for the center) arranged for a table for our club. Jolanta and Frank Simonelli and John and Nina (me) Burghardt made an exhibit of mushrooms typical of the Pine Barrens. Jolanta displayed some shiitake and oyster logs which are grown at the forestry center. Viola and Melanie Spock explained about dyeing with mushrooms and displayed some of their beautiful dyed fabrics.

The festival was very well attended, with Cub Scouts and Boy Scouts earning badges, and with families with lots of children. There seemed to be a lot of teenage volunteers. Some of the activities included building bird houses and bat houses, sawing logs, painting pumpkins, and – a big favorite with the six to eight year old girls – swinging from a rope hoisted about 20 feet up in a tree. There were hayrides, guided hikes in the woods, apples and tree-shaped cookies to eat. If you have children or grandchildren, consider going to the Fall Forestry Festival next year, you will have a great time.



MEMBERSHIP UPDATE

It's Renewal Time! The deadline for renewals has been extended to **November 30, 2011**. If you've already renewed your membership, thanks!

As you know, we are in a period of transition for our new Membership Coordinator as well as being at a point where we need to completely overhaul our email list. We are currently in the process of entering all the data from the forms we've received by mail and through PayPal. Thank you for your patience.

If you have not yet renewed, please do so **before 11/30/11**. We want to get the records updated to use for our new online newsletter, which commences with the January/February 2012 issue. Fill out the form included on page 3 of this newsletter and send it to:

NJMA Membership
c/o Steve Zahorbenski
13 North Dover Avenue
Somerset, NJ 08873

Or, just visit www.njmyco.org, click on Membership and follow the simple instructions to renew using PayPal.



**DID YOU KNOW THAT
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PAY YOUR DUES
ONLINE?**

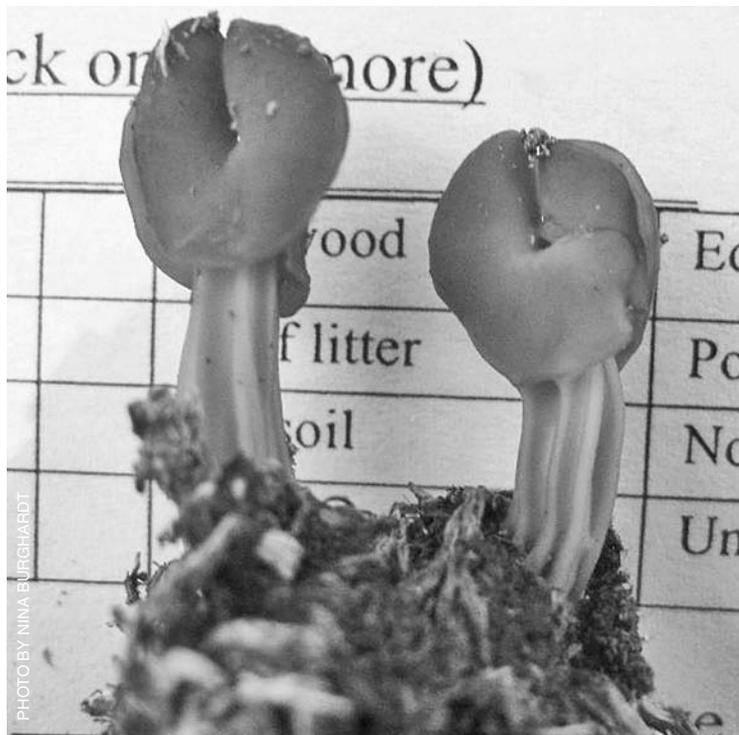
Go to www.njmyco.org
Click on Membership and follow the simple instructions.



FORAY REPORT
JULY 31ST WAYWAYANDA STATE PARK

submitted by Nina Burghardt

The foray to Wawayanda State Park was held on a warm, sunny July day. It was a beautiful day for swimming. Wawayanda has a lovely lake with a beach. People started streaming in as soon as the park opened, and by 10:30 the park was full and closed to swimmers. Our people and hikers were allowed in, but many people did not know this. Maybe this is why we only had thirteen people. We collected 71 species. One unusual mushroom was a *Helvella lacunosa*. It resembled a grey mitten on a stick. Helvellas are related to morels, so they have no gills. We had two young girls with us and they found lots of interesting stuff, including an incredibly blue *Cortinarius iodes*. Wawayanda is a beautiful place with lots of great mushrooms. I hope more of you will join us next year.



Helvella lacunosa found at Waywayanda

FORAY REPORT
**SEPTEMBER 17TH – GRETE TURCHICK
PICNIC AND FORAY**

by Dorothy Smullen

Sept. 17 marked the annual Grete Turchick Foray and Picnic at Stokes State Forest. Grete looked great as usual. Steve Zahorbenski was the leader. Over 100 species were identified mainly by Jim Barg, Bob Hosh, Jack Barnett, Dorothy Smullen, Marc Grobman and Dennis Aita. A beautiful cherry-red *Ramaria* with a white base was collected...probably *R. subbotrytis*. Another photogenic collection was *Leucopholiota decorosa*. One of the smallest species collected was *Collybia tuberosa*. The woods were full of *Cortinarius armillatus* as well as blackened specimens of Russulas covered with *Nyctalis asterophora*.



Cortinarius armillatus



Nyctalis asterophora on decaying *Russula*



Baeospora species on pine cones

PHOTOS BY JIM RICHARDS

PHOTO BY NINA BURGHARDT

FORAY REPORT

A LATE-SEASON FORAY AT SCHIFF NATURE PRESERVE

by Igor Safonov

This was NJMA's first foray at Schiff Nature Preserve this late into the season; in previous years our club has always foraged at this location during summer months. Upon arrival, we were greeted by Marissa Hartzler, the newly-commissioned young, energetic and amicable Executive Director of Schiff Natural Lands Trust, Inc.



A good-sized crowd showed up for our Schiff foray

Despite the chilly and damp weather, which is more typical of early November than October, a tremendous group of mushroom hunters, perhaps as many as 50 to 60, congregated at the Nature Center's parking lot on the second day of October. By the look of it, the bulk of the crowd consisted of either new members or intrigued newcomers, most of whom, no doubt, had their curiosity piqued at our well-attended and successful Fungus Fest on the last weekend of September. However, to our relief, we were also fortunate to have with us several seasoned club members: Jim Barg, John and Nina Burghardt, Marc Grobman, Terri Layton, Dorothy Smullen, et al., to pore over the books and help with the identification process following the foray.

Before the crowds dispersed into the woods, Marissa gave us a brief, but informative, perspective on the history of Schiff Natural Lands Trust, and supplied everyone with a nice copy of the map to navigate the area. Due to the large number of attendees, the group broke into at least two independent sections heading towards different parts of the Preserve's precipitous slopes. In retrospect, this was a wise idea because during the two-hour period devoted to foraging, we were able to explore diverse parts of this vast tract of land and collect at least 100 identifiable fungal species, based on the preliminary and modest count by NJMA's official recorder John Burghardt.

As expected, at this time of the year, the mostly deciduous landscape of Schiff Preserve was dominated by terrestrial autumn mushrooms, such as *Tricholoma*, *Cortinarius*, *Clitocybe*, *Russula*, as well as other more obscure genera (the shift from summer to autumn for species mycorrhizal with oaks and other hardwoods typically begins to occur by early September and concludes by the end of the

month). Also omnipresent were numerous lignicolous polypores that flourish regardless of the season and seem to retain their structural integrity even after they die. Gone were the juicy boletes, Amanitas, edible *Lactarius* species, chanter-elles, black trumpets, and other typical representatives of oak-loving summer genera we so much enjoy collecting for taxonomic as well as culinary purposes. Instead, the highlights of the Schiff collection included amongst others, a few robust clusters of the prized hen-of-the-woods *Grifola frondosa*, a sizeable collection of the "hedgehog mushroom" *Hydnum umbilicatum*, a deceptive *Hygrophorus russula* (indeed, like the name suggests, it looked exactly like a *Russula* sp. and thus misled a great number of people before the sharp-eyed Dorothy Smullen finally set the record straight and placed it on a separate plate), a single specimen of *Cortinarius caperatus*, the Gypsy (formerly known as *Rozites caperata* and typically flourishing in coniferous woods), and a vast array of other brightly colored *Cortinarius* species (while some defied identification, a great many were successfully named). There was even a tough case of Blewit, *Clitocybe nuda* (also called *Lepista nuda* by some), adeptly masquerading as one of several purple *Cortinarius* species and causing some members of our experienced ID crew to divide into two camps – eventually, Jim Barg took a spore print of this mushroom to settle the argument in favor of the pinkish-spored Blewit (as the ultimate identification proof, he actually intrepidly ate it later without suffering any ill effects to his health). There were several mysterious *Amanita* species that unfortunately remained unidentified owing to the absence of our illustrious Amanitaceae specialist Rod Tulloss, but at least we succeeded in placing them into the right sections. Finally, we did find a few lignicolous bolete species, such as *Boletellus chrysenteroides* and *Strobilomyces floccopus/confusus*, both welcome additions to our already impressive collection.



Igor Safonov explains a mushroom to a group of newcomers.

All said, the late-season Schiff foray was a success. While many neophytes attending this foray seemed to be exclusively interested in learning to visually identify edible species of fungi, they were also undoubtedly exposed by a measurable degree to NJMA's more important mission that is proudly and outwardly stated on the home page of our website. Hopefully, one day some of them will make this transition for the benefit of their own and others in NJMA and beyond.



SANDY HOOK BIO-BLITZ SEPTEMBER 17, 2011

By Todd Van Gordon

I had never heard of a Bio-blitz before I was asked to help with one at the Gateway National Park at Sandy Hook, NJ. The vision of a Bio-blitz caused me concern for all creatures great and small. It seemed that the NJMA had been asked to participate in some cruel ritual of driving animals off the land in into the sea. I learned, thankfully, that NJMA was only asked to coordinate, collect, identify, and record mushrooms found in specified areas of the park.

The "Blitz" seemed to refer to an assault on the naturalists' stamina to go the distance of a 24-hour biology survey. The fungus team was only expected to work 8:00 AM to 4:00 PM, though. This Bio-blitz was a survey of all flora and fauna, well-organized by Stevie Thorsen of the American Littoral Society in cooperation with the National Park Service. The work teams surveying the surrounding life forms were drawn from Rutgers University, American Littoral Society, Montclair State University, James J. Howard Marine Sciences Laboratory, and Georgian Court University.

The fungi team (NJMA members and Rutgers University graduate students) was led by Rutgers mycology graduate student Chris Zambell. The twelve people in our team were assigned several sectors on a satellite map to foray. We split up and covered terrain with and without paths. Not unexpectedly, we did not find many mushrooms in the dry sandy areas. The dominant holly and red cedar trees did not seem to support mycorrhizal growth. We did find much salt-water damage on plants from Hurricane Irene, tons of trash, greenbriar, and poison ivy which was difficult to avoid. The ever-present black gnats drew in a flycatcher bird that snatched them from right in front of one team member's face.

We were provided with many feet of sub sandwiches for lunch at the assembly spot at Fort Hancock. Half the crew started identification, while the other members went off to finish foraying on the remaining map sectors.

Even with the salt water flooding from Irene, our foray group was able to record 22 species, with several new ones not previously reported in the Gateway National Recreation Area. Newer members, Lynn and Paul Hugerich, as well as Sam Chanowich, made good contributions to the collection and identification process. The park rangers were snapping pictures of our foray team during the ID session and chuckled at the contentious way we "worked together" to name our collection. The sample data was ready for submission by 2:30 pm. So, we finished up our work, packed up our table and chairs, and left by 3:30 pm. Over all, I had a good feeling about contributing to the Bio-blitz data

collection. The management of a wildlife system like the park requires measurements of the system's components.

Patricia and I were reminded of our Bio-blitz experience two weeks later. When on vacation in Virginia, we stopped at a National Park ranger station to get directions to a trailhead in the Blue Ridge Mountains. When I walked in the station door, the ranger there looked at me and said, "I know you from somewhere. Oh, there was a picture of you on our NPS website yesterday working on a Bio-blitz in New Jersey." Small world! 

NJMA

by Stephen Sterling

*There are fungi that live in and on the ground
They do pretty amazing things
They act like a sponge then control the ground water
Flowing like underground springs*

*They actually water the trees and plants
Which they then draw their own life from
Acting like tender gardeners
Growing and eating some*

*Mushrooms know what they're doing
They're taking care of the trees
Some trees need fungus to help them bear fruit
As much as some trees need the bees*

*Some mushroom spit spores up to thirty feet
Forming a dark mushroom cloud
Some mushrooms lie down on the side of a tree
Some like to stand tall and proud*

*Some mushrooms are edible they taste pretty good
Some you should try to avoid
Some let men travel through time and space
When properly employed*

*I learned some of this on Saturday
I went on my first foray
Hunting for mushrooms with strangers
The people from NJMA*

*A small group of really nice people
Going on nature walks
Getting excited about mushrooms together
Giving short mushroom talks*

*Teaching a child about nature
Understanding the nature of God
Realize men really are made from the dust
Everything starts in the sod*

<http://sjsterling.posterous.com/>

WHO'S IN A NAME? *Fomitopsis cajanderi*

by John Dawson (twenty-eighth of a series)

How many mushrooms have been named for heads of state? One that immediately comes to mind is *Amanita caesarea* (Scop.) Pers., whose specific epithet reminds us that that was a delicacy “reserved for the Caesars”. But there is at least one other: *Fomitopsis cajanderi* (P. Karst.) Kotl. & Pouzar, a rosy shelf fungus saprobic on dead conifers. Its specific epithet commemorates Aimo Kaarlo Cajander, a forest ecologist who served as Prime Minister of Finland from 2 June to 14 November 1922, again from 18 January to 31 May 1924, and finally from 12 March 1937 until his resignation on 1 December 1939, the day after the Soviet Union’s invasion of Finland that initiated the so-called Winter War.

Cajander was born in Uusikaupunki, Finland on 4 April 1879 and died in Helsinki on 21 January 1943. He was educated at the University of Helsinki and lectured there in botany from 1904 to 1911, while conducting field research in Finland, northern Russia, and Eastern Siberia. In 1911, he was chosen to be the first occupant of the University’s newly established chair of silviculture, a post that he held until his appointment in 1918 as chief of the Finnish Board of Forestry—the same year that “he took the initiative in the establishment of the Forest Research Institute”, in whose subsequent development he played a leading role.¹ Cajander retained his title as Professor of Forestry until 1934, and from then until his death served as director-general of Finland’s Forest and Park Service.²

As an ecologist, Cajander is best known for his theory of forest types, first expounded in 1909 (the year he also founded the Society of Forestry in Suomi and its journal *Acta forestali fennica*) and developed further in later

works. In a similar vein, he also proposed a classification of peatland types.

Cajander’s theories were developed around the time that Finland became an independent nation, and as such became established pillars of “national science”. In addition, according to a recent historical survey of the development of vegetation science in Finland³, Cajander and his school “took an almost militant attitude toward other schools of vegetation science”, especially toward the ideas of Finnish ecologist Ragnar Hult; and though



Aimo Cajander

Cajander himself largely gave up scientific research after he became involved in politics, his theories were promoted by two of his sons, Aamo Kalela and Erkki Kalela, who became professors of botany and forestry, respectively, at the University of Helsinki. Consequently, until the introduction of numerical methods in ecology in the 1970s, “[Cajander] and his disciples continued to control much of the development of vegetation science and ecological botany” in Finland.

Cajander’s entry into politics came about in 1922, when Finland’s president Kaarlo Ståhlberg asked him to serve as a caretaker Prime Minister until the next round of parliamentary elections. The same sequence of events recurred in 1924. Three years later, Cajander joined the National Progressive Party, and in 1928 he was named Minister of Defense. He was elected a member of the Finnish parlia-

ment the following year, and served as chairman of the National Progressive Party from 1933–43. In that role, after the election of president Kyösti Kallio in 1937, he was asked to form a coalition government, and so became Prime Minister for the third and final time.

I have not found mention of any direct contribution by Cajander to mycology.⁴ But it was Petter Adolf Karsten, the “father of Finnish mycology”, who named *Fomes cajanderi* after him, so we may presume that friendship between those two botanists was what prompted that instance of eponymy.



¹ Information in this paragraph is taken from the unsigned obituary of Cajander published on p. 6 of the *New Zealand Journal of Forestry*, vol. 5, no. 1 (1944).

² According to the Wikipedia entry on Aimo Cajander.

³ Jari Oksanen, “Vegetation science in Finland”, *Journal of Vegetation Science* 1:2 (1990), 277–282, on which the statements in the rest of this paragraph are based.

⁴ Nor have I found any further biographical details about Cajander (in particular, concerning his family background, youth, marriage and death). Presumably such information is available in Finnish sources; if so, I would welcome being informed of their contents by readers of that language.

CULINARY GROUP FALL HARVEST DINNER – AN APPRECIATION

by Patricia McNaught

Traffic from Rutgers Homecoming celebration was not enough to keep NJMAers away from the Harvest Dinner culinary event which was held on October 15th in East Brunswick. The event is a “planned pot luck”, where Jim Richards and Bob Hosh do the hard work of selecting recipes. They also coach participants through the recipes via email exchanges, a vital service for those of us who find ourselves using unfamiliar cooking techniques.

The menu is selected for contrasting flavors and textures. Our starters included savory Sage Popcorn, salty olives, spicy eggplants, and liver paté with a touch of sweetness from reduced apple cider. The Squash Soup had sweetness from squash, tartness from pears and spice notes from cardamom and coriander.



Chicken and Mushroom Pot Pies – beat these, Swanson!

The mussels were a change from the marinara style most of us know: In addition to onion, garlic and white wine, they were steamed with fresh ginger. The Chicken and Mushroom Pot Pie with its buttery crust was a far cry from the Swanson’s version that many of us grew up on. A tender Pork Loin with Apple-Chestnut Stuffing completed the main course offerings. The side dishes focused on the vegetables of the season: Roasted Root Vegetables, Brussels sprouts au gratin, and a White Bean, Kale and Cabbage dish. Ellen’s bumper crop of sunchokes gave rise to the Watercress and Sunchoke Salad, very fitting for the harvest dinner theme.



Popcorn with a new twist – Sage



Showing off our mussels...not bad, eh?

The name of “Bob’s Bread Pudding” cannot do justice to the dish, chock full of raisins, currants, and pear, topped with a walnut, brandy, and brown sugar sauce. The Carrot Cake was light and delicate in texture, a distant relative of the usual “dense as a doorstop” version. Pumpkin Pecan Cake with whipped cream and Cranberry Upside-down Cake also graced the dessert table. As usual there were a couple of dishes that diners approached with some misgivings and took only small portions so there was a lot left to go home in “doggy bags.”

As always, the dinner was an opportunity to get to socialize with fellow mushroomers and enjoy a fabulous dinner, all for the price of the ingredients. If you’re interested in coming but can’t cook, don’t fear – Jim and Bob can accommodate you with other tasks. In fact, after many years of running the culinary events, they are looking for folks who can help shoulder the work. 🍄



Pumpkin Pecan Loaf Cake with homemade whipped cream

FROM FUNGUS FEST TO FUNGUS FEST: FRESHMAN FORAYS, FIRSTS, AND FUN WITH NJMA

by Lynn A. Hugerich

At Fungus Fest 2011, 44 new members and some of their families joined the New Jersey Mycological Association. As a Fungus Fest volunteer, I had the pleasure of welcoming visitors. "Welcome to Fungus Fest," in my best Walmart-greeter voice, I repeated to our over 500 guests. Some carried mushrooms for identification, and although I am a newbie myself and not confident enough to be an identifier, I was surprised at the fledgling knowledge that poured forth from my lips. "Oh, that's a stinkhorn. Honey mushroom? Don't eat that raw. Research how to prepare that. What a beautiful *Berkeleyi!*" Where did that knowledge come from? It was only a year ago that I joined NJMA at Fungus Fest 2010. What a difference a year makes!

A year ago, I knew NOTHING! I hadn't been mushrooming with grandma. I didn't live near nature. In fact, I was born and raised in Hudson County, a concrete satellite of New York City. I wasn't a scientist or an amateur naturalist. I didn't even know the difference between genus and species. I was a recent retiree from education (high school English), and I did have a bucket list, so to speak, with "learn to forage for mushrooms" at the top of the list. Why? I don't know. However, I did love Wordsworth's sonnets, particularly the one that reads, "Little we see in Nature that is ours." My experiences with nature were limited to whatever I could view behind plexiglas. Maybe now was the time to don hiking boots and develop relationships with REI and Campmor.

My friend, the Internet, brought me to the New Jersey Mycological Association. After doing a search, I found Fungus Fest 2010 at Frelinghuysen, might I add a lovely example of alliteration and somewhat whimsical and fun. Here my husband Paul and I were introduced to the world of NJMA. We toured the grounds with some of the club's "experts" and saw samples of nature's products. We watched a cooking demonstration, saw beautifully dyed products, and viewed interesting mushroom displays. We met members, talked to Terri, and were immediately convinced to join the club.

We attended the fall forays. I'm told that last season was not a good one for mushrooming. We didn't find much, but we did learn. We learned about boletes and chicken mushrooms and hen-of-the-woods, jelly fungus, even Laughing Jim – all labels that had not been in our vocabularies. We participated in spring classes and learned how to use ID books. Slowly, slowly we are layering together the lingo and establishing our mycomemories. Polypore, Bolete, Mycelium, stipe, pileus, and spore print are terms that we now discuss at dinner.

Although we joined NJMA because we wanted to forage, the club has given us joyous experiences that we had not anticipated. First of all, there are the beautiful parks that we have traversed. Having been basically "city" people, our forays exposed us to areas of New Jersey that we knew little of. To be in those majestic woods is soulful and inspirational. To experience and learn about the symbiosis of nature is spiritual and deep.

The club members willingly share what they have learned. Sages and "experts" gently guide and encourage and positively reinforce. Some are mycological "rock stars," and one can only hope to learn a tenth of what they know. Thank you all who have so freely given to our fungal education.

Wonderful social opportunities have also been extended to us. Fungal feasts – the Christmas dinner, the wild foods picnic, the annual picnic. We joined our first Bio-blight at Sandy Hook and had the experience of being a part of a scientific study of an environment. And we soon will participate in our first weekend foray at Kings Gap, Pennsylvania.

More than foraging, more than eating exciting new foods, more than learning about the world of fungi, the New Jersey Mycological Association is a fun organization that brings together like-minded people from all walks of life. Yes, this year we ate our first morels and chanterelles and chicken of the woods, but it was the camaraderie of sharing walks in the woods with interesting people that kept us coming back. We are happy and proud to be new members of NJMA, and we wholeheartedly welcome the new freshman 44 who joined this year at Fungus Fest 2011. We encourage you to become active members of NJMA. There is so much to learn, so much to experience, and so much to enjoy.



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THE POWERFUL SHAGGY MANE

by Nick Iadanza (reprinted from *MushRumors*, Oregon Mycological Society, Sept./Oct. 2011)

One of the first edible mushrooms I collected, and still one of my favorites, is the shaggy mane, *Coprinus comatus*. I picked my first batch on the recommendation of one of my graduate school professors, prepared a chicken-mushroom dish in a white wine sauce, and promptly got sick. The discomfort turned out to be a first-exposure event, and I've enjoyed them ever since with no problems.

Something I find fascinating about this fragile mushroom is its ability to force its way up through pavement. I've observed chunks of asphalt displaced by shaggy manes, and people occasionally send us photos of this seemingly impossible event. The force exerted by mushrooms was noted in the 19th century, with reports of pavement and hearthstones (one weighing 83 lbs.) being lifted by mushrooms. A report in the *Bulletin of the Torrey Botanical Club*, October 1882, 9(10): 129-30, describes the floor of the grain elevator, composed of a 1-foot-thick layer of asphalt, with six inches of tar and gravel underneath, developing a bulge that eventually burst open, revealing a "perfectly formed toadstool."

This phenomenon has been explained in some detail (*New Scientist*, 1995; *Spores Illustrated*, Winter 2002), and the basic concept is that the mushrooms function as vertical hydraulic jacks. The upward pressure comes from the turgor pressure (pressure exerted by water inside the cell against the cell wall) of the individual cells making up the wall of the stalk. Each cell has a helical arrangement of chitin fibers as a major structural component and grows as a vertical column by inserting new cell-wall material along its length. Chitin is an exceptionally strong bio-polymer, making the cell wall like a carbon fiber composite, and gives significant lateral strength to the fungal cell wall, so that internal pressure is confined as a vertical column. The cells gradually absorb water and expand, and the resulting turgor pressure provides a powerful mechanical force that allows the mushroom to push upward.

The mycologist A.H.R. Buller (1874-1944) describes measuring the lifting power of mushrooms in his *Researches on Fungi*. He placed weights on a *Coprinus* sp. growing in a glass tube and measured an upward pressure of approximately 9.9 lb/in² (balance a 10 lb. weight only in the center of your palm to get a sense of this). A report in *Science* (Sept. 17, 1999; 285:1896-99) calculated the drilling force of the hyphae of an invasive cereal pathogen as 54.4 kg/cm² (773 lbs/in²). This has been described as perhaps 50 times more force than an adult elephant can exert with its foot.

So, the next time you hold one of these seemingly fragile shaggy manes in your hand, and watch it deliquesce into a black goo, be aware of its hidden power.



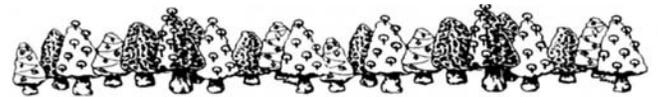
BEWARE! YOUR PHOTOS MAY BE GEOTAGGED

by Dennis Aita (reprinted from the newsletter of the NYMS)

If you are taking photos with your iPhone or some other smartphone and posting them on Facebook or some other social network, your photos may have been geotagged (geographical coordinates embedded in their metadata) without your knowledge.

A morel hunter recently found out the hard way how our new technology works!
(See <http://www.sheersoycandles.com/blogs/articles>)

You definitely should turn off the geotagging feature on your phone unless you really want others to know where your choice mushroom spots are located!



GREEN BURIAL PROJECT DEVELOPING CORPSE-EATING MUSHROOMS

by Paul Ridden (Puget Sound Mycological Society, July 29, 2011. Various sources.)

As part of the Infinity Burial Project aimed at getting people to accept and embrace their own mortality, visual artist Jae Rhim Lee is training mushrooms to decompose human tissue.

Lee is experimenting with two kinds of common mushrooms (shiitake and oyster mushrooms) that can be adapted to grow on the artist's own collected hair, nails and skin. She's built a tarpaulin-covered mobile laboratory to cultivate and fine-tune the tissue-digesting fungi, and has also developed a prototype of a spore-laden body suit that the dearly departed would be wrapped in while the mushrooms do their work. This would be used in conjunction with a special spore-slurry embalming cocktail to break down the body's organic matter and clean out the accumulated toxins, producing a nutrient-rich compost.

Special make-up based on the spore slurry is also being considered that will quickly break down and assist the decomposition process.

The project is aiming toward the development of a natural burial system which will facilitate decomposition of the body, remediate accumulated body toxins, and deliver nutrients to plants in the surrounding area.

A group called the Decompiculture Society has been formed to support the project. The group is made up of such people as green burial providers, health-care workers, and curious individuals.





fungus fest 2011

SEPTEMBER 25, 2011
FRELINGHUYSEN ARBORETUM



PHOTOS BY
JIM RICHARDS (jwr)
AND
STEPHEN STERLING (ss)





"Bet we can ID better than you!"

4 PHOTOS BY STEPHEN STERLING



Leader Glenn Boyd



Fungi roulette

Washington Crossing Foray

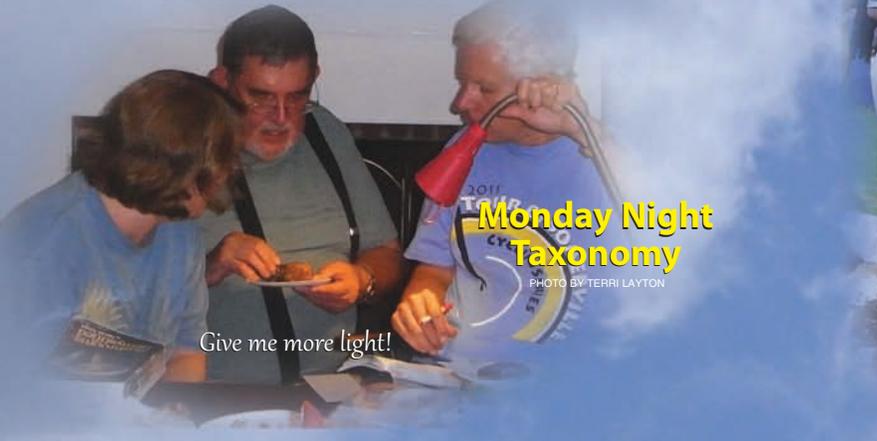


An Old Man of the Woods!
(the one on the left)

Marasmiellus nigripes

PHOTO BY JIM RICHARDS

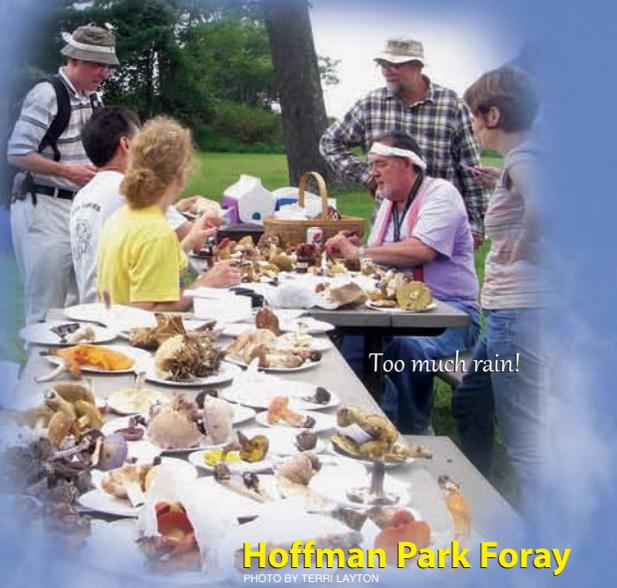
OUT AND ABOUT in the WORLD of NJMA



Give me more light!

Monday Night Taxonomy

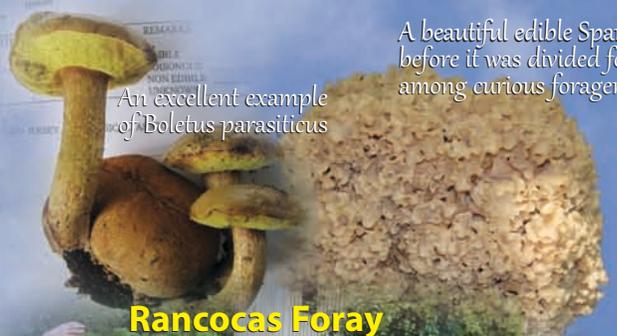
PHOTO BY TERRI LAYTON



Too much rain!

Hoffman Park Foray

PHOTO BY TERRI LAYTON



An excellent example
of *Boletus parasiticus*

A beautiful edible *Sparassis crispa*
before it was divided for cooking
among curious foragers

Rancocas Foray

PHOTOS BY PAUL S. FUNK



Glenn Boyd stands near a fairy ring and explains the structure of mycelium to NJMA members and guests.

Victor Gambino Foray 2011



PHOTO BY BOB HOSH

WHY DO WE DO IT - AND JUST WHAT ARE WE DOING?

by Gary Lincoff

Reprinted from *Connecticut-Westchester Mycological Association, Summer 2010*

What are mushroom clubs about? It's not really about what's edible or what can make you high, not that those questions don't come up over and over.

When I took a group to northern India some years ago, we met with local mycologists and their graduate students and went hunting mushrooms in places with romantic names like Kashmir. We asked about local mushroom clubs because we wanted to meet nonprofessionals who just went out in groups to hunt mushrooms, the way it's done in much of Europe and Japan and here in the States. We were told that mushroom hunting was only for the middle classes, that India was a poor country and that people had no leisure time to follow such pursuits. Whatever the truth of that statement, however, what interests me is what brings people together to hunt mushrooms in organized groups. Here in the States, despite our affinity for being joiners, for joining all kinds of groups for all kinds of reasons, very few people are actually members of mushroom clubs. If you travel a lot and go out with mushroom clubs around the country, or if you attend regional or national mushroom forays, it doesn't take many years before you know most of the people in those clubs. New people join, of course, and some leave for various reasons, but there's a known community of mushroom hunters who know one another, who seem to enjoy or tolerate one another's company, and who look forward to seeing others on mushroom hunts from year to year. It's like being in an extended family where you have no familial responsibility, just the pleasure of reunion.

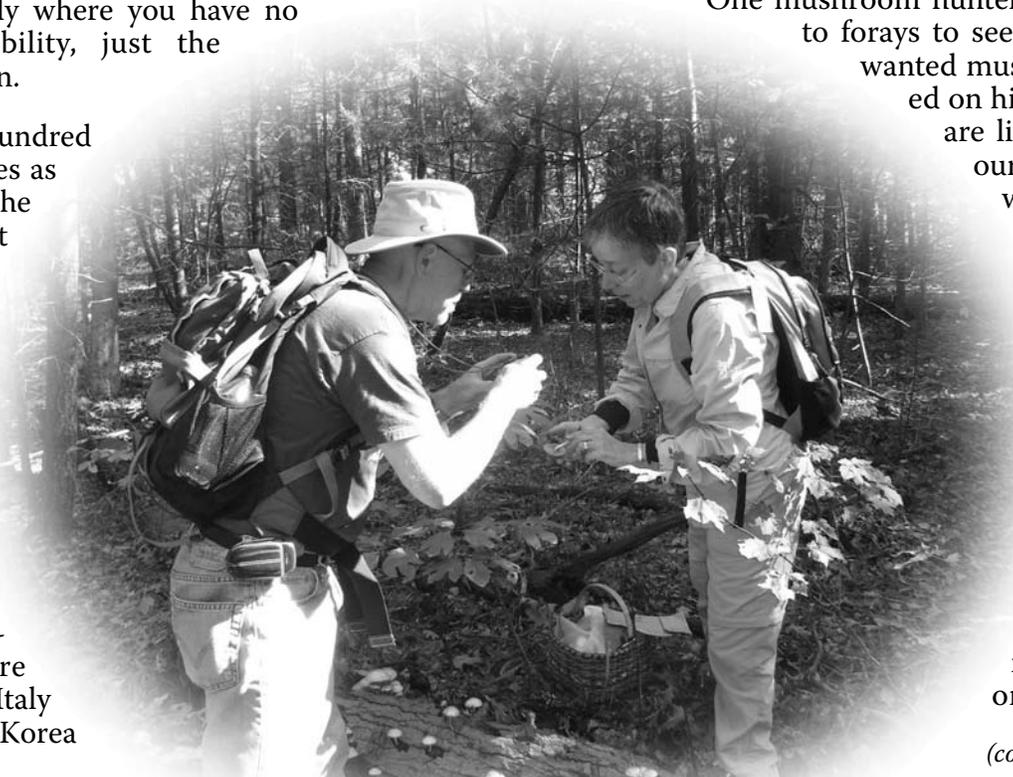
There may be a hundred or a thousand times as many people in the States who hunt mushrooms on their own and never connect with any club as there are members of mushroom clubs, but we rarely run into them on our mushroom walks. When we do, we often discover that they're immigrants from Italy or Russia or South Korea

and that their mushroom skills are far more advanced than their language skills. They are clearly hunting mushrooms to eat. Sometimes you see elderly gentlemen with sticks and paper bags looking for Hen of the woods, or small family groups of Asians looking for matsutake, or bus loads of people looking for one particular mushroom, like the Russians who go to the Cape to collect *Leccinum*.

Mushroom clubs, however, are not eating societies and nor are they dens of drug users hunting magic mushrooms. Even if "is it edible" is the first thing you ask on a mushroom walk, or "can you get high" is what you really want to know about this or that mushroom, what keeps most people coming on mushroom club walks is not about dinner or getting stoned. What brings people out into the woods, in the heat and humidity of summer and the chill of fall, in the midst of so many insects and ticks, and insect and tick-borne diseases, in the presence of rattlesnakes and copperheads, in the certainty of an eventual rash from poison ivy (in the east) or poison oak (in the west), is most certainly not about dinner. It's not about hiking, either. People can hike better if they're not constantly stopping to look at mushrooms. Nor is it like after a war when food is scarce and people are forced to hunt mushrooms to survive. Not only do mushroom club members appear to be especially wellfed individuals, but even if what they really want are choice edible wild mushrooms, most of the best of these can now be purchased at farmer's markets or in upscale groceries. There's no need to get sweaty and muddy and bitten up just to get a basketful of mushrooms. There's not even any need to risk getting poisoned anymore. Something else is at stake.

One mushroom hunter told me he went to forays to see old friends. If he wanted mushrooms, he hunted on his own. Many of us are like him. We know our 'spots,' the places where we can find the mushrooms we want to harvest. Club mushroom walks are often places of great distraction. You get yourself involved in conversations and you forget to look for mushrooms. No one wants to go

(continued on next page)



home with an empty basket, but even if the goal is to fill the basket with choice edibles, mushroom club hunters are far more often disappointed than satisfied.

So, what's going on? Why are we out there beating the bushes? Why are we so interested in weather reports, like where it has rained recently? Why are we willing to go to places that seem manifestly less likely to produce lots of mushrooms, like, say, Jamaica Bay Wildlife Refuge, than other places that are reliably rewarding year after year? Why are so many of us willing to go so far to hunt for mushrooms that we are more likely to find closer to home? What is that hunger that takes us out to hunt for mushrooms in the first place? Some of us couldn't care less about edibility, and even fewer care (or say they care) about getting high.

Freud is said to have taken his family out mushroom hunting on weekends, but he doesn't appear to have written about the psychodynamics of it. Others have and have suggested that we are acting out an archetype, a journey into the wilderness looking for the Promised Land (read, for example, chanterelles), or an unarticulated attempt by urban and suburban people to reconnect with the land or with an archaic hunting and gathering way of life, if only for a few hours at a time. Maybe you know exactly why you hunt mushrooms, and in particular, why you choose to do it in groups, with a schedule of where to go on which date. If it were just for social reasons, there are far easier ways to connect with other people than stumbling about in the woods, complaining of the heat or the bugs or no mushrooms.

It's a hot day in July. It hasn't rained much the past week or so, and yet a dozen or more people show up to walk through a woods looking for mushrooms. Every little mushroom find is exciting to someone on the walk. Things so small they are even difficult to hold and look at can become objects of intense interest, even affection. Sometimes with a hand lens they appear to be quite beautiful. Sometimes a mushroom has a distinctive fragrance that entrances even if it's not edible. Sometimes mushrooms stop us in our tracks because they are so colorful, so plentiful, so curious or so beloved. Even destroying angels can take your breath away, even without eating them. Edibility is beside the point. We are seeing something that means more to us than the oak trees nearby. We can't really say what it is that it means, just that it is somehow meaningful, and we feel grateful for having seen it. I see people walking past bins of beautiful wild mushrooms in the markets. They don't do more than give them a passing glance. Why do these same mushrooms immobilize us when we see them in the woods, or set us on them like people who haven't eaten in days? And this is especially perplexing if we know that what we've just found isn't even edible? Or rare? Or even beautiful? It's just another mushroom. What do you think is going on here? Send your thoughts to me (Gary@noahsquark.com) and we'll discuss this in a future issue.



GARDEN VARIETY MORELS

(reprinted from *Mycelium*, newsletter of the Mycological Society of Toronto, October-December 2011)

Last fall, MST members, Ken and Stephanie Burlakoff cut down a huge cluster of maple trees that was growing too close to their house. The tree roots were mulched and spread over the area left bare by the trees removal. This spring they were compensated for lost of the maples by morels in their garden. Over a dozen morels sprouted in the mulch where the maples had grown.

There are a number of names for this and related phenomena. There is the mulch morel that occurs in areas that have been covered with mulch made from with bark or wood chips. The theory is that soil is inoculated by spores from the trees that were used to create the mulch.

The fire morel follows a forest fire. Morels grow in abundance the year following a forest fire then taper off in succeeding years. For some reason, they are mainly found in the west. You can read Ethel Luhtanen's account of hunting fire morels in the British Columbia in the *Mycelium* of January 2011.

The stress or distress morel is found at the site of dead or dying trees. Dying elm trees are considered particularly good sites as elms are subject to fungal infection. President of Foray Newfoundland and Labrador and past MST member Andrus Voitk found morels growing around stumps of pine trees during a recent visit to Ontario. (See the article "Distress Fruiting", next page)

A common thread is change to the status quo. In all cases, trees that provided nutrients for the morel mycelium have undergone a disturbance and the mycelium experiences a loss of nutrients.

Tom Volk, in his experimentation with cultivating morels provides some insight. The morel is one of a group of mushrooms whose life cycle includes sclerotia. The sclerotia develop from the mycelium. From here, one of two events can occur - new mycelium can arise or a fruiting body can develop. This second and preferred event will not happen until the nutrients in its immediate area have almost run out.

The Burlakoffs reported that mulch from the maples was used in several areas of their yard but that morels only emerged in the area disturbed by the removal of the maples. They have concluded that their morels were more likely to be stress morels. However, to paraphrase William Shakespeare - a morel by any other name would taste as sweet.

Reference

Volk, Thomas J: "Understanding the morel life cycle: Key to cultivation." *Mcllvainea* 10(1):76-81, 1991.



DISTANT HARVESTS

by Susan Goldhor (an excerpt reprinted from the Boston Mycological Club's bulletin, #66-3)

I quoted from John Thorne's *Serious Pig* earlier. But he goes on in a darker vein:

"In part, mushrooms gain power because they have a meatlike presence, sometimes almost to excess. The flesh of the beefsteak (also oxtongue) fungus (*Fistulina hepatica*) is moist and sticky and marbled with fatlike veins; it also oozes bloody-colored juices when cut. And while one would never confuse a beefsteak tomato with its namesake, a well-cooked morsel of the fungus does in fact possess a meaty succulence...not like beef exactly, but easy to mistake for game."

"The beefsteak fungus should not be confused with the beefsteak morel (*Gyromitra esculenta*) a 'false' morel classified by Alexander H. Smith in *The Mushroom Hunter's Field Guide* as 'dangerous, but edible and choice.' Such oxymoronic bravado reminds us that bosky flavor isn't the only connection here to hunting. Like wild animals, wild mushrooms can be fierce."

"This brings us to the crux of things. All hunters put life at risk, but for mushroomers the moment of danger comes well after the quarry has been run to earth. The wild-boar hunter faces danger alone in the wilderness; the mushroom hunter brings it home to share around the table. Finding the mushroom is the initiation, but eating it is the test – which is why the eater, not the fungus, is the real trophy of the hunt."

Hunt safely. Take only what you need and disturb the forest as little as possible. Identify carefully, and cook well. Enjoy this most fruitful and beautiful season, when the organisms we love emerge from the decay of duff and wood – the offerings of the forest.



PHOTO BY STEPHEN STERLING

MUSHROOM SEASON IS GROWING

Alan Ganges, Professor at the University of London, has found that autumn mushroom season in England has increased substantially in the last 50 years. Using records kept by his father from 1959 to 2005 as an amateur 'fungal recorder' for his local natural history society, he found that the current autumn mushroom season has increased to 75 days from 33 days in the 1950s. In addition to this extended season, some species are fruiting twice, having added a spring fruiting.

from *Mycelium*, Mycological Society of Toronto, October-December 2011

DISTRESS FRUITING – THE DESPERATE FRUITING PATTERN OF THE MORCHELLA

by Andrus Voitk (reprinted from *Mycelium*, newsletter of the Mycological Society of Toronto, October-December 2011)

One May while visiting our grandchildren in Ontario, our eight-year-old granddaughter, Triina, proudly showed us a spot by two pine stumps near her back yard, where she had picked a small bagful of morels. Indeed, we found a few more. This find prompted a discussion with the grandchildren. Yes, they had looked and no, they had not found any morels elsewhere on the 26-acre forested property. We listed things special to this particular spot: pines, piles of brush from the branches of the felled trees, large amounts of pine needles on the ground, possible sawdust from felling the trees and disturbance of the ground from the excessive activity associated with felling the trees. To check whether any of these factors was a stimulus for morel fruiting, we sought out several other spots with pines, or brush piles, or pine needles, or sawdust, or ground disturbance. No morels. Finally grandson Toomas asked, "What about the dead tree?" He knew that two other pines in other locations on the lot were taken down last year at the same time. Surprise! A search of these areas yielded a crop of morels around each stump as well.

In some respects, morels behave like other mushrooms. They have their habitat requirements for temperature, light, moisture, substrate and plant associates. If morels have discovered a place where these are satisfied, they may fruit year after year for a long time, varying only as conditions vary. And, like most other mushrooms, DNA soil testing reveals that they live quietly in many other places without ever disturbing the terrestrial mycophile with the spectre of their sporocarps. Exactly like most other mycorrhizal mushrooms. How boring!

But morels also have other, much more peculiar fruiting habits. Consider the following:

1. Massive fruiting the first year after a forest fire.
2. In areas that still have them, morels are known to fruit around dead elms. Folks living in such areas claim that often the fruiting is around certain segments of the tree, not all around, changing over time. Further, most of these elms are not dead but

(continued on next page)

dying, losing more and more with each year but still having a few leaf producing twigs.

3. Gardeners often report an unexpected morel crop in their garden. Veteran mycophiles can appear very wise in the ways of the world by saying without being told, that the involved beds underwent major digging, fertilizing, mulching in the previous season. This turns out to be so, invariably. Veteran mycophiles can now inform the gardener that this is an ephemeral event, not to be repeated in future years. Invariably this disappointing information turns out to be correct and the mycophile's stock will rise in the gardener's evaluation, even if it takes a year.

What do the above three examples have in common with the pine stump morels? Death of a mycorrhizal partner. In the case of the felled pines and forest fires, this is obvious. In the case of the dying elm, it is dying piece meal, causing a shift in fruiting to last season's dead roots. As for the gardener, who always assumes the new manure and/or mulch to be the cause, if not the source of her morels, might it not be, instead, disruption of roots and/or mycelia, disconnection of mutualistic partners by the energetic digging that accompanies such enthusiastic revitalizing of flower beds?

Is it likely, at least possible, that Ms. Morchella establishes a mycorrhizal partnership with her sugar-daddy tree, which allows her to thrive quietly in such bliss that she never feels the need to engage in the tedious practice of sex? Is it further possible that if her selected partner dies or the connection is forcibly severed, Ms. Morchella, left without a ready source of succor, somehow senses it through her entire being as a threat to her survival? Is it possible that she is so programmed, that instead of weeping and throwing up her hands, filling the air with cries of "Alack!" and "Woe is me!", she instead regrets lost opportunities and unseized pleasures? Is it possible that her response to impending doom is to dust off her sexual urge and channel all her remaining energies into explosive orgiastic pursuits to produce a myriad of progeny around her deathbed, to whom she can give her last words: "Go forth and multiply"?

Farmers, woodsmen and other people close to nature often describe such a phenomenon: some organisms seem to react to the threat of imminent death by markedly increased reproduction. The teleological explanation proffered for this observation is that some organisms are programmed with such a response as an effort to save the species. The sound of the last knell spurs them to multiply, so that should they die, the gene pool is preserved.

With respect to morels, this phenomenon has been thoroughly discussed by Michael Kuo under the heading, "We're outta here!", in his highly recommended book, *Morels* (1). I am not aware that the concept has been the subject of scientific inquiry. Is there a trigger?

Is there a specific receptor? What is the mediator? Can agents be introduced that will trigger the receptors, regardless of disruption of mutualistic relationship? In other words, can we learn what is required to trigger fruiting and thereby "farm" morels pharmacologically? After loss of its mycorrhizal partner, does the organism establish other relationships with nearby trees? Or does it lie dormant, awaiting new mutualistic opportunities to present themselves? Or does it up and die?

I have named this phenomenon "distress fruiting" (2) to distinguish it from "stress fruiting". The latter condition has been investigated by publicly funded biosadists, who study the effect of various stressors on an organism's subsequent fertility and ability to reproduce. Stressors include application of noxious stimuli, administering non-lethal doses of toxins, giving chemicals (e.g. salt) in excessive concentrations or temporary withholding water or other requirement of fruit production. Not unsurprisingly, this type of calculated torture almost always decreases fruiting, confirmed by myriads of grant-endowed papers studying tortured animals and plants. Distress fruiting, on the other hand, is fruiting in response to an impending fatal or potentially fatal event to the organism or its status quo. Proponents of this theory believe that faced with loss of continued existence and given an opportunity to set its house in order, most organisms do not make out a will, forgive their transgressors, make confessions or ask for absolution. No, they have a last great fling.

Go big and then just go.

References:

- (1) Kuo, M: *Morels*. The University of Michigan Press, Ann Arbor, Michigan, USA; 2005.
- (2) Voitek AJ: "Polyozellus multiplex – an example of our mycological ignorance." *Osprey* 37:20-22; 2006.

Reprinted from *Omphalina* Vol. II, No. 4. May 7, 2011 with permission of the author. Andrus Voitek is a founder of Foray Newfoundland & Labrador and editor of their newsletter, the *Omphalina*.



PHOTO BY JIM BARE



Holiday Dinner 2011

The NJMA requests the pleasure of your company at our annual Holiday Dinner, Photo Contest, and Election of Officers meeting to be held at the Unitarian Society in East Brunswick on Sunday, December 4, 2011 at 2:00 p.m.

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

A donation of \$10.00 per person is required to offset some of the buffet costs. In order that we may cater the party properly, please respond by NOVEMBER 27, 2011! NO RESERVATIONS WILL BE ACCEPTED AFTER NOVEMBER 28, 2011!

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

Directions to the Unitarian Society:

The Unitarian Society is near the corner of Tices Lane and Ryders Lane in East Brunswick.

From New Brunswick via route 19: Take U.S. Highway 1 south, exit at Ryders Lane to East Brunswick, continue to 2nd light, turn left onto Tices Lane. The Unitarian Society is the 2nd drive on the right before you go under the NJ Turnpike.

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

From NJ Turnpike: Take exit 9 to Route 18 South to East Brunswick. On 18 turn right onto Tices Lane at 3rd traffic light. Follow Tices Lane until you pass under the Turnpike. The entrance is in the woods on the left just after you leave the underpass.

NJMA Holiday Dinner Registration Form

Fill out this form, make your check payable to **NJMA**, and mail both, before November 27th, to:

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

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

NAME(S): _____

TELEPHONE: _____ E-MAIL: _____

NUMBER OF PEOPLE ATTENDING _____

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

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

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

I will help with: _____ Setup _____ Serving _____ Cleanup

NJMA NEWS

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

FIRST CLASS MAIL

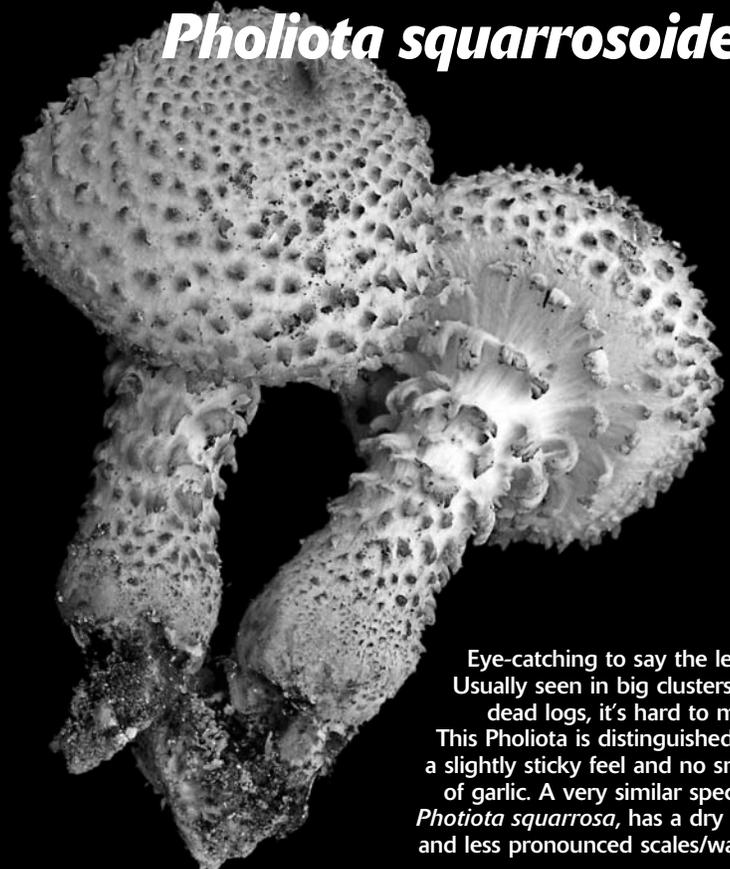
NJMA is a non-profit organization whose aims are to provide a means for sharing ideas, experiences, knowledge, and common interests regarding fungi, and to furnish mycological information and educational materials to those who wish to increase their knowledge about mushrooms.

In this issue:

- **HOLIDAY PARTY REGISTRATION**
- **WHY DO WE DO IT?**
- **WHO'S IN A NAME - PART 28**
- **FUNGUS FEST RETROSPECTIVE**
- **FRESHMAN YEAR**
- **THE POWERFUL SHAGGY MANE**
- **GENE VARNEY HONORED**
- **FORAY REPORTS**
- **FALL HARVEST APPRECIATION**
- **DISTRESS FRUITING OF MORELS**

...plus more!

Pholiota squarrosoides



Eye-catching to say the least! Usually seen in big clusters on dead logs, it's hard to miss. This *Pholiota* is distinguished by a slightly sticky feel and no smell of garlic. A very similar species, *Pholiota squarrosa*, has a dry cap and less pronounced scales/warts.