



NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION
Volume 40-3 May-June 2010



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Payable on calendar year
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10th of even-numbered months.*

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

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NJMA EVENTS HOTLINE

908-362-7109 for information on NJMA events or cancellations due to bad weather.

CALENDAR OF UPCOMING EVENTS

Saturday, May 1 and
Sunday, May 2

**NJMA PUBLIC OUTREACH:
GRAND OPENING OF THE HOFFMAN CENTER
FOR CONSERVATION AND EDUCATION**
at the Scherman-Hoffman Wildlife Sanctuary, Bernardsville
(Exhibit coordinator: Terri Layton)

Sunday, May 2
10:00 am

FIRST FORAY OF THE SEASON
Princeton Water Works (Institute Woods) *Leader: Jim Barg*
with Bob Hosh on tree identification.

Saturday, May 22
10:00 am - 1:00 pm

**NJMA EDUCATION CLASS:
CULTIVATION WORKSHOP**
at the home of Gene Varney in Somerset, NJ \$10 fee.
Registration form in March-April issue. Instructor: Gene Varney

Saturday, May 29
10:00 am - 2:00 pm

**NJMA EDUCATION CLASS:
EXPLORING LICHENS**, at Rutgers University, Foran Hall
(Cook College campus) \$10 fee. *Registration form in March-April
issue of this newsletter. Instructor: Dorothy Smullen*

Sunday, June 13
10:00 am

**BOB PEABODY WILD FOODS FORAY &
PICNIC - Deer Path Park (Round Mountain Section)**
*Leaders: Bob Peabody and Bob Hosh. Bring a food dish to share, and
be sure to include a card listing your ingredients! Also bring your
own place settings, plates, napkins, etc.*

Saturday, June 26
1:00 pm - 5:00 pm

**NJMA EDUCATION CLASS:
COOKING WITH FUNGI**
at the home of Bob Hosh in Somerset, NJ \$20 fee.
Pre-registration is required. Instructor: Bob Hosh

Sunday, June 27
10:00 am

**FORAY: LAKE OCQUITTUNK GROUP CAMPING
AREA, Stokes State Forest** *Leader: Jim Barg*

Saturday, July 10
10:00 am

FORAY: MEADOW WOODS PARK, Mendham
Leader: Mike Rubin

Saturday, July 17
3:00 pm

**NJMA CULINARY GROUP EVENT:
AN ARGENTINIAN GRILL, Somerset**
*Coordinators: Bob Hosh (gombasz@comcast.net) and Jim Richards
(jimrich35@mac.com). Please contact them to reserve a spot.*

Sunday, July 18
10:00 am

FORAY: SCHIFF NATURE PRESERVE, Mendham
Leader: Alex Adams

July 23 - 25

NJMA VICTOR GAMBINO FORAY
King's Gap Environmental Center, Carlisle, PA
Information and a registration form are in this issue.

August 12 - 15

NAMA ANNUAL FORAY Winter Park, Colorado
Information can be found on the NAMA website, www.namyco.org

Sunday, September 19
10:00 am

**FUNGUS FEST, Frelinghuysen Arboretum,
Morristown** *Chairpersons: Nina Burghardt and Terri Layton*

September 23 - 26

**NEMF FORAY - Soyuzivka Ukrainian Cultural Heritage
Center, Kerhonkson, NY.** Registration form is in the previous
issue of *NJMA News*, #40-1 (January-February 2010)

2010
FORAY
SCHEDULE
ISSUE

[see page 3]



PRESIDENT'S MESSAGE

Spring came a little too early this year. Spring ephemerals were truly fleeting this year as temperatures soared to a record high near 90 degrees in early April. Reports of finding morels west of us (Western Pennsylvania and Wisconsin) a few weeks back threw some of us for a loop. Hopefully we will find some morels at our Princeton Water Works foray.

April is also a month to celebrate the Earth. With increased awareness and concerns about our environment, we have experienced an increase in requests for our participation at various public outreach programs from the New Jersey park system, conservation organizations and county extension offices. This is a chance for us to share our knowledge and educate the public about the roles fungi play in our ecosystem.

This spring, our first public outreach programs were Earth Day Celebrations at Lewis Morris County Park and Essex County. We were one of the 20 or more nature-related organizations under a large tent (just across from the Frelinghuysen Arboretum booth) at Lewis Morris. There were also many vendors, food courts and a live band playing music all day. Having been spoiled by the hot spell in early April, none of us were prepared for the weather. I don't think the thermometer hit 50°, and the wind was gusting pretty much the whole day, but we stuck it out to the end and had a productive day. Despite the blustery weather, we had a steady stream of people stopping by to check us out. We made many contacts with folks who were delighted to find out what fungi do for our environment and the wide range of interesting activities our club has to offer.

Jim Richards, our editor, stood (seemed sitting down was colder) for the six solid hours without wincing (remember he had a quad bypass end of last year and had tendons taken out of his leg which have not yet healed). Such a trooper! Bob Peabody, our treasurer, showed up midway and added to the success of the program. Also, our newbie-in-training, Marcus Morreale, joined us to add yet another dimension to the program.

It was truly interesting to see both Jim and Bob engage people and how expertly they were able to hold their interest and attention. They really brought color and much expertise (over 70 years of mushrooming combined) to the program. I have to say that our brand-spanking-new banner, designed by Jim Barg, was the best banner out of the whole bunch and was very eye-catching.

We have a few more public outreach programs scheduled in May and September. I would love to hear from you if you are interested in joining us, coming out to talk to the public about the roles fungi play in our ecosystem, what our club offers, learning to participate in

public outreach programs or simply to have fun being with each other.

Hopefully we will see some new faces as a result of these public outreach programs. Don't be surprised if people come up and tell you that they've heard of us.

Don't forget our forays coming up and the Bob Peabody Wild Foods Foray and Picnic in June.

Being a member of NJMA can truly be rewarding and a lot of fun.

—Terri Layton



Bob Peabody and Jim Richards at the Lewis Morris County Park public outreach event.

SPRING BIOBLITZES COMING UP!

Union County Parks will sponsor their sixth annual 24-hour Bioblitz on June 11-12 from 5:00pm Friday to 5:00pm Saturday.

Marc Grobman (marcgro@comcast.net) and Dorothy Smullen (dsbs@bellatlantic.net) will chair the NJMA team. You must contact them and also register with Union County if you are interested in helping out. The locations this year are Esposito Park, Clark Reservoir and Milton Lake Park.

On Sunday, June 27th, Duke Farms is also planning a bioblitz. More information to follow on the NJMA website, www.njmyco.org. Call Dorothy (908-647-5740) or email her at dsbs@bellatlantic.net if you want to help out.

Gotta mushroom story to tell?
Share your experience with fellow mushroomers!

tell it here!

Send your articles and photos to jimrich35@mac.com

2010 NJMA FORAY SCHEDULE

(Driving directions to forays are on pages 5 and 6)

Forays begin at 10:00 AM and identification activities usually last for several hours after the foray walk ends. Don't forget to bring lunch!

DATE	LOCATION	LEADER
May 2, 2010	Princeton Water Works (a.k.a. Institute Woods)	Jim Barg
June 13, 2010	Deer Path Park (Round Mountain section): Bob Peabody Wild Foods Foray and picnic <i>Bring food to share and your own picnic gear.</i>	Bob Peabody and Bob Hosh
June 27, 2010	Lake Ocquittunk Group Camping Area, Stokes State Forest	Jim Barg
July 10, 2010	Meadow Woods Park	Michael Rubin
July 18, 2010	Schiff Nature Preserve	Alex Adams
August 1, 2010	Stephens State Park	Randy Hemminghaus
August 8, 2010	Manasquan Reservoir Environmental Center	Glenn Boyd
August 15, 2010	Hoffman Park	Bob Hosh
August 22, 2010	Waywayanda State Park	Nina Burghardt
August 29, 2010	Rancocas Audubon Nature Center	Patrick Bernardo
September 12, 2010	Stokes State Forest – Grete Turchick Foray & Picnic <i>Bring food to share and your own picnic gear.</i>	Randy Hemminghaus
September 19, 2010	Fungus Fest 2010 Frelinghuysen Arboretum, Morristown, NJ	Nina Burghardt
October 10, 2010	Cheesequake State Park	Bob Hosh
October 17, 2010	Washington Crossing State Park	Nina Burghardt
October 24, 2010	Brendan T. Byrne State Forest	Rod Tulloss
October 31, 2010	Cattus Island County Park	Jim Barg
November 14, 2010	Wells Mills County Park	Nina Burghardt

Please note that regional and national forays are no longer listed on this schedule. See the Events page at www.njmyco.org for information on NEMF, NAMA, COMA and other such forays.

Before attending any NJMA foray, READ and UNDERSTAND our foray guidelines!

NJMA FORAY GUIDELINES

1. Unless noted otherwise, meet at the designated foray site at 10:00 AM. Groups will form and start off by 10:15. Forays will continue until about 12:30, at which time a lunch break will be taken at an area designated by the foray leader.
2. Forays will be held rain or shine and might be over rough trails or through heavy woods. Dress accordingly. Hiking shoes & insect repellent are strongly recommended. Do not hunt at selected foray sites within one week prior to the foray.
3. The Foray Leader is responsible for organizing and conducting the foray. Cooperation of members and guests is expected. It is the responsibility of each mushroom hunter to remain with the group. Your best learning opportunities will be in watching and hearing experienced forayers.
4. Collection: Paper bags or waxed paper, a knife and a basket are essential. Do not use plastic bags or plastic wrap, which induce premature spoilage. When collecting for identification, try to get specimens of the same species in various stages of development. Disregard old/rotting specimens. Use a knife to dig up the entire specimen, including those parts below the surface of the substrate. Do not mix different species in the same bag.
5. Specimens belong solely to the finder. However, when mushrooms of particular interest are located, please allow others to examine and photograph them in situ. Disposition of the specimen is the prerogative of the owner, but cooperation with the Taxonomy Group in building the club herbarium is urged for the benefit of the entire membership.
6. Collectors are urged to use good conservation practices and to endeavor to leave foray areas as undisturbed as possible. If fungi populations are repeatedly decimated by over-zealous collectors, future years will see decreases in the size and variety of the fungi flora of the area. Please think ahead!
7. Identification: After lunch, two tables will be set aside for the sorting, identification and display of fungi collected. Members are invited to place any specimen collected during the foray on the sorting table. Plates and collection forms will be available. Identified specimens will then be moved to the display table for general examination.
8. ***WARNING: Never eat anything which has not been positively identified, and known to be edible!***
Poisonous mushrooms can be fatal. While foray leaders and others may aid in classification, neither the NJMA nor the individual members are responsible for the identification of any fungus.
9. Members are encouraged to bring friends who may be interested in our programs to any club function except – for insurance reasons – those where wild-collected foods are shared.
10. Suggestions are welcome. Please advise the foray leader or any club officer.

NOTE: In the past, the burden of identification has fallen on a few of our members whom we refer to as “experts”. Please don’t “dump” your collection on the table and expect someone to sort and identify your mushrooms. This is supposed to be a learning experience, so please try your best to identify your specimens to at least the Genus level. Beginners are encouraged to ask questions and be helped in their quest to identify mushrooms. However, beginners should collect only a few specimens (3-4) and try to learn these mushrooms before collecting more. It is easy to become overwhelmed with collecting and identifying mushrooms, so be patient and learn only a few at a time. For detailed field collecting notes, please check www.njmyco.org/guidelines.

DRIVING DIRECTIONS TO NJMA FORAYS

BRENDAN T. BYRNE STATE FOREST: Take US 130 South or NJ Turnpike to Bordentown. Take US 206 South (left at Vincenttown Diner) Go 10 miles to NJ 70/72 Circle & go east on Rt. 72 for 1 mi. to entrance. Follow signs to Pakim Pond picnic area.

CATTUS ISLAND COUNTY PARK: Garden State Parkway to Exit 82 - Route 37 EAST/Seaside Heights. Take jughandle to Fischer Blvd., then go north on Fischer Blvd. for approximately .3 miles to Cattus Island Blvd. Turn right at light, and left at park entrance. For more information, call 1-877-OC PARKS.

CHEESEQUAKE STATE PARK: *From the Garden State Parkway:* Take exit 120, Make a right at the end of the exit ramp and follow to the first light. Make a right. At the next light make a right and follow road into the Park.

From Route 34 South: Make a left turn onto Disbrow Road which is the light immediately south of the Marketplace Shopping Plaza. Make a right at the end of Disbrow Road. Make a left at the first light and follow into the Park.

From Route 34 North: Make a right turn onto Disbrow Road which is the light immediately north of the Berg Animal Hospital. Make a right at the end of Disbrow Road. Make a left at the first light and follow into the Park.

FRELINGHUYSEN ARBORETUM: *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.

HERRONTOWN WOODS: Herrontown Woods, owned by Mercer County and run by the County Park Commission, is located in the northeastern corner of Princeton Township. It can be reached by taking Snowden Lane off Route 27 (Nassau Street). The entrance to the parking area is located on the left a few hundred feet before the intersection of Snowden and Herrontown Road.

HOFFMAN PARK: *Directions from the East/Clinton Area:* Take Route 78 West to exit 11. Follow the circle around to the left and cross over Route 78, following the signs for Pattenburg. Immediately after crossing 78, turn left at the light. Proceed to the remains of an old church and veer right onto Baptist Church Road. Proceed on Baptist Church Road under a railroad bridge and shortly thereafter turn left into the park entrance, which is marked by a large brown sign.

MANASQUAN RESEVOIR: *From north on Garden State Parkway:* to Exit 98, Interstate I-195 West. Proceed onto I-195 West to Exit 28B, Rt. 9 North-Freehold. Stay in right lane when entering Rt. 9 North. At first traffic light, turn right onto Georgia Tavern Road. Proceed on Georgia Tavern Rd. for 1/2 mile to the Environmental Education Center on right. Meet in the parking lot.

From Freehold, heading south on Rt. 9: Take jughandle at Georgia Tavern Rd. to turn left onto Georgia Tavern Rd. and proceed as above.

MEADOW WOODS PARK: *From junction of US 206 & NJ 24 in Chester,* go east on Route 24 for 3 miles. Just past Parks' fruit farm stand, see Old Mill Rd. on the left.*

From Morristown area, go west on NJ 24 and pass blinker in Mendham. Go 2.4 miles; past Mendham Animal Hospital, and see Old Mill Rd on right (blue house).*

*Go 1.3 miles north and see stone gate on left. Enter and bear left to parking area.

NOTE: NO TABLES, WATER, TOILETS, ETC. Be prepared to meet all your own needs.

(continued on next page)

PRINCETON WATER WORKS (a.k.a. INSTITUTE WOODS) *From US 1 North or South* to exit at Alexander Road WEST. Go approximately 1/2 mile to canal and take first left just across the canal onto West Drive. At fork, see sign for Chas. H. Rogers Wildlife Refuge. Bear right to small dirt road, and parking lot on right after about 200 ft.

From US 206 South: Turn left at Lovers Lane, one block to traffic light at Mercer St. and turn left. Proceed down Mercer St. and turn right onto Springdale; proceed past the Institute for Advanced Study and take dirt lane about 300 feet to parking lot used by bird watchers.

RANCOCAS AUDUBON NATURE CENTER: *From NJ Tpk Exit 5,* go left approximately 1 mile to I-295 South, and exit at 45A, Rancocas Rd. east. After 1.7 mile, see Center on right.

From US 206 near Mt. Holly, take NJ 38 West to Co. 541, and turn right. At 2nd intersection, turn left (west) on Rancocas Rd. After 1 mi. see Center on left.

DEER PATH PARK (Round Mountain section): *From I-78/ Clinton,* take NJ 31 South for approximately 6.4 miles and make a left onto West Woodschurch Rd. using the jughandle.*

From Flemington Circle (Rts. 31, 202, 12) take NJ 31 North approx. 4 mi. and turn right onto West Woodschurch Rd.

*Go 0.7 mile to joint entrance for both Deer Path Park and YMCA. Turn right and go straight to main parking lot near rest rooms and pond.

SCHIFF NATURE PRESERVE (located in Mendham): *From Route 287:* Take Rte 287 to exit 22B (Bedminster/Netcong/Rte 206 North). Travel 3.5 miles on 206 North (pass the Sunoco gas station on your right) to Holland Road and make a right. Turn left at the stop sign at the end of Holland Road. Travel 1.1 miles and turn right onto Mosle Road. Travel 2.7 miles and as the road forks look for the white Union School House, bear right here onto Pleasant Valley Road. Travel 0.1 miles and make a left between the stone pillars into the Schiff Natural Lands Trust. Make a left at the "T" at the far end of the parking lot and follow the winding road for 0.5 miles to the top of the hill. Pass the two houses and follow the road into the parking lot.

STEPHENS STATE PARK: I-80 to exit 25. Take the first right turn-to Waterloo Village. Turn right at the first traffic light to County 604 South. Make a left turn onto 604 South (Waterloo Road) toward Waterloo Village. Park entrance is seven miles on the left. Look for House of the Good Shepherd sign.*

NJ 24 West to NJ 183 / or US 46 to their intersection in Hackettstown. Go north on County 604 (Willow Grove St.) for 1.5 miles to entrance on the right.

*Turn right across river, and right again to lower parking, potties, & picnic areas.

STOKES STATE FOREST: I-80 to US 206 North, and through Branchville & Culver Lake. Entrance is about five mi north of Branchville, on the right at a sign for the office. Pass the office and follow signs for Kittle Field Parking, near ball field. Restrooms & some roofed tables are available. Be prepared for colder and/or wetter weather than at home!

LAKE OCQUITTUNK GROUP CAMPING AREA, STOKES STATE FOREST: I-80 to US 206 North, and through Branchville & Culver Lake. Pass the Stokes main entrance on 206 and continue north until you see signs for Lake Ocquittunk and the Montclair State University Research Station. Make a right here (Flatbrook Rd.), bear right at the T, continue past the Cabin Area entrance, and make a right onto Skellenger Road. Drive past the lavatories and make a right onto the road between the pond and the big lake. Parking area is on the right just past the pond but before the lake dam.

**NOTE TO THOSE WHO ARE PREPARING DISHES
FOR THE DEER PATH PARK AND STOKES FORAY/PICNICS:**

Clearly write on a card the ingredients of your dish including the oils, spices, etc. that you used. Place card next to your dish. Provide appropriate serving utensil(s). Bring your own place setting, setz-pad, bowl, cup, and any tablecloth, cushion, or other amenities you want. A grill will be provided.

HEADS UP!

Many places we foray have fees in season, carry-out garbage policies, open picnic areas, poison ivy, stinging or biting insects, rain, or other potential inconveniences. Nature isn't your mom. Indiscriminately, it drops trees, caves in, produces lightning, bears, and snakes, and turns from sunny to cold or from familiar to "Where the heck am I?" Be prepared, but don't forget to have a good day in the woods! Please bring any revisions or improvements to these directions to the Foray Committee's attention. It's easy: E-mail Bob Hosh at gombasz@comcast.net

HOW MUCH WOOD WOULD A WOOD-ROT ROT?

by Glenn Boyd

You might expect an educational lecture on wood-rot fungi to be informative, but dry ... Rotten, you might even worry! But Tom Volk's "Wood Decay – Good Decay" lecture on April 11 was lively and entertaining. Interspersed between basic wood-decay biology and the latest advances in potential myco-industrial applications were interesting anecdotes, quirky bits of humor, and eye-catching PowerPoint animations.

After a quick time-lapsed film clip of hyphae growing in culture, Tom explained that hyphae digest their dinner outside their tip (but not along the sides), then suck up the nutrients. Whereas you and I have stomachs filled with enzymes that can break down complex organic products, fungal hyphae contain only little vacuoles (microscopic bags) containing exo-enzymes. These vacuoles are attached to spindles (micro-fibers) that guide them to the tip of the hyphal thread, where they stick to the wall of the tip. Since the membranes of the vacuoles are made of the same material as the "skin" of the hyphae, the vacuoles merge into the hyphal tip wall, opening their contents to the outside. This is how the enzymes get secreted into the wood, agar, soil, or other material surrounding the fungal tip. For wood decay fungi, the exo-enzymes break down cellulose and/or lignin, and the fungus subsequently absorbs the by-products.

Wood is mainly composed of cellulose (the primary cell wall) and lignin (a secondary wall that provides strength). Cellulose is the white stringy stuff inside of celery, and is chemically a long chain of sugars (glucose) connected by a simple hydrogen-oxygen bond. An organism that can produce an enzyme to snip that one particular bond can break down an entire long chain of cellulose, since the chain is composed of repeating units with the same structure. This is why many organisms can eat cellulose, ranging from fungi, to bacteria, to sloths (but not humans). Fungi that eat only cellulose leave the lignin behind, and are called brown rots. That's because the left over lignin is light, crumbly, BROWN wood.

Fungi that eat only lignin, or eat both lignin and cellulose, are called white rots. Again, the reason is that the left-over wood is WHITE with cellulose. Fungi that eat lignin and cellulose at equal rates also leave cellulose behind, because there is more cellulose than lignin in wood. White rots are ecologically important, because no other known organism can digest lignin. Unlike cellulose, lignin is not formed of simple repeating units in a line, but involves complicated three-dimensional structures tied together with hundreds of complex bonds. Without brown-rot fungi, we would be over our heads in downed logs, and the nutrients in lignin would never be recycled into the ecosystem.

The unique ability of fungi to digest lignin, while leaving the cellulose untouched, opens potential applications for paper processing. Current industrial bleaching methods leave contaminants like dioxyn. A suitable wood-day fungus, such as *Phanerochaete chrysosporium*, leaves no such pollutants. Research in the 1980s hit obstacles trying to scale up to production level, but Tom suggests a more myco-intensive focus (as opposed to engineering/chemical) may be more successful.

Other industrial applications for wood-decay fungi may exist in bio-remediation. Tom's group conducted experiments that suggest *P. chrysosporium* can also degrade certain hard plastics (phenolic resins called "bakelite"). These phenolic resins are found in bowling balls, toilet seats, Formica countertops, the glue that fuses plywood, and many other places. No known organism could degrade them, until now.

While the plastic did not decompose visibly in the experiments, the evidence that the fungus ate some of the plastic is convincing. *P. chrysosporium* turned pink after eating away at bakelite, a clear sign it was decomposing the plastic (one of the components of the plastic is pink). When the plastic is fabricated using a heavy isotope of carbon (C_{13}), the heavy carbon later turns up in the fungus. Finally, electron micrographs show microscopic scarring of plastic exposed to the fungus.

Tom's paper was initially submitted to *Science*, but was rejected by the editors without review. Instead, the research was published in the prestigious journal *Environmental Science & Technology*, but only after overcoming one of the referee's steadfast belief that (despite the new evidence) "fungi don't do that." After publication, *Nature*, *The New York Times*, and a number of other periodicals published synopses of the groundbreaking research. Ultimately, even *Science* belatedly published a review of the research, vindicating Tom and his collaborators by the reversal.

Science took a while to understand the importance and interest of wood-decay fungi. Not so members of the NJMA audience, who got the entertaining and educational presentation we've come to expect from Dr. Volk. 



PHOTO BY TERRI LAYTON

TOM VOLK POLYPORE WORKSHOP

by Patricia McNaught

On April 10, an enthusiastic group of thirty (mostly amateur) mycologists met in the teaching laboratory of Foran Hall (Rutgers) for a hands-on workshop on polypores. The workshop was led by Dr. Tom Volk, Professor of Biology at University of Wisconsin-LaCrosse, where Dr. Volk teaches several mycology courses.

Dr. Volk began the workshop with a presentation using slides to illustrate both the polypores and their microscopic characteristics. (Thank you, Susan, for finding a digital projector tucked away in a cabinet.)

The first question Dr. Volk addressed was why the polypores, which were originally part of Fries' *Boletus* genus (anything with pores), and then given their own genus *Polyporus* (anything hard, with pores and growing on wood), have now been assigned to 100 different genera. This is not a case of "splitting"; this is case of diverse fungi that never belonged in a single genus.

The next question Dr. Volk addressed was: Why study polypores? Polypores are of essential importance as "recyclers" in wood decay. The beetles may get the "credit", but the fungi do the heavy lifting, or rather the decomposing. In addition, polypores are used as edibles (think *Grifola frondosa* and the *Laetiporus* species) and



PHOTO BY SUSAN HOPKINS

potential sources of medicinal drugs (reishi). And for NJMA members, polypores will always provide the enthusiast with a successful foray. In winter or during drought (look under logs), you can always come home with some polypores to study.

This leads to the essential challenge of polypores. Macroscopic characteristics are just not very reliable, even for identification to genus. A single family, *Hymenochaetaceae*, includes polypores with pores, with teeth, and with smooth spore-bearing surfaces. While environmental factors including the type of rot (brown or white) and species of host tree will aid the identification process, many of the identifying criteria for polypores are based on microscopic characteristics.

Hence, most of the workshop was spent preparing and evaluating microscope slides of the many polypores available for study. Our assigned task was to find at least two types of hyphae. (Thanks to all who brought along polypores, and to Dr. Gene Varney for providing other materials and reagents.) The technique Dr. Volk taught us was easier than the ones described in various microscopy guides. (Vol. III of Largent describes sectioning the mushroom using a razor blade, with the thumb serving as a backstop. Scary.) We took a small bit of the context (flesh) of the mushroom, hydrated it on a slide with a drop or two of potassium hydroxide solution, and then "made chowder": Chopped it well with a razor blade, added a bit of phloxine solution and a cover slip and we were ready to go.

An important identification characteristic is the "hyphal system". All polypores have generative hyphae to transport nutrients. These generative hyphae have septa (similar to cross-walls), and in some species also have clamps (little nubs near the septa). Some polypores also have skeletal hyphae (long, non-septate) and/or binding hyphae (branched, non-septate). The types of hyphae present define the hyphal system. If you have tentatively identified a polypore (based on other characteristics) as a species with clamps, then you need to find generative hyphae to confirm the identification. That can be a real challenge. It might take an hour of peering through the microscope at structural and binding hyphae before you find some generative hyphae to see if they have clamps.

Our workshop was a model of collaborative learning: "Hey, do you think this is a clamp?" "Want to see some cool *Gandoderma* spores?" "Oh, I found some binding hyphae!" "Who has the KOH solution?" We were able to check our findings against the definitive guide to microscopic polypore characteristics, *North American Polypores*, by Gilbertson and Ryvarden, as well as consult with Dr. Volk. Part of the experience was wandering around to the various lab stations to see what people were working on, and peering at their slides.

The workshop was great fun and a terrific introduction for anyone thinking about pursuing microscopy. Dr. Volk has expressed his conviction that non-professional mycologists make important contributions to the field. Dr. Volk's generosity with his time, his expertise and accessible teaching style, and his obvious love of his subject all help ensure that we non-professional mycologists will be willing and able to make such contributions.

If you missed the workshop (or didn't take notes), check out Dr. Volk's "Polypore primer" at:

http://botit.botany.wisc.edu/TOMS_FUNGI/polypore.html

And if you know how to get a book that is not only out of print, but unavailable at any price, back into print, speak up. We need more copies of *North American Polypores* available!



WHO'S IN A NAME? *Phaeolus schweinitzii*

by John Dawson (nineteenth in a series)

The dyer's polypore, *Phaeolus schweinitzii* (Fries) Patouillard, is named for the early American theologian and botanist Lewis (originally Ludwig) David von Schweinitz, who was born in Bethlehem, Pennsylvania, on February 13, 1780 and died there February 8, 1834. A contemporary of Christiaan Persoon and Elias Fries, whose works are the starting points for mycological taxonomy, Schweinitz is considered the father of American mycology, based on his works *Synopsis fungorum Carolinae superioris* (1822), which listed 1373 fungi, all but a few from North Carolina, with descriptions of those (about a quarter of the total) then new to science — a volume that has been called “the first considerable publication on North American fungi and one of the great early mycological works”¹; and, especially, *Synopsis fungorum in America Boreali media digentium* (1832), which classified 3098 species of North American fungi, around 80% of which were newly described.

Schweinitz was the son of Hans Christian Alexander von Schweinitz, who had come to America from Saxony in 1770 to take charge of the secular affairs of the Moravian Brethren (known officially as the Unitas Fratrum), and Dorothea Elizabeth de Watteville, grand-

daughter of Nicholas Lewis Count Zinzendorf, the founder of the Unitas Fratrum. Dorothea came to America in 1778 with other members of that church,

crossing with difficulty through lines of opposing troops in the Revolutionary War, to settle in the community of Bethlehem, which was then owned by the Unitas Fratrum and open only to its members.

At age seven, Schweinitz entered the Moravian boys school Nazareth Hall, where he displayed linguistic talent and was introduced to botany by one of the teachers. He remained there eleven years, until his parents took him with them back to Germany in 1798. Later that year, he enrolled at the Moravian theological seminary in Niesky, Silesia, from which he graduated in 1801. He then served as

a teacher and preacher, first in Niesky and then in Gnadensburg, until he was ordained a deacon in 1808 and transferred to Gnadau, Saxony.

After four years in Gnadau Schweinitz was placed in charge of the Moravian Church's holdings in North Carolina. Just married, he set off with his bride to take up residence there in Salem. His return to America, however, was beset with extraordinary delays and difficulties, occasioned both by the Napoleonic wars then going on in Europe and the War of 1812 that broke out en route. Before being allowed to set sail aboard the American ship *Minerva Smith*, he was detained for nearly a month in Kiel, pending resolution of a lawsuit against the ship by a Danish privateer. The *Minerva Smith* finally left port and made its way under cover of fog to Göteborg, Sweden, in order to evade boarding of the ship and impressment of its officers by the British. There, delayed by storms, it remained for ten days. It then sailed without incident by the British Isles, but was subsequently captured by a British fleet en route home from the West Indies. When darkness fell, however, the



Portrait of Schweinitz copied from the frontispiece of vol. 3 (1886) of the *Journal of the Elisha Mitchell Scientific Society*.



PHOTO BY SUSAN HOPKINS

¹ Donald P. Rogers, “L.D. von Schweinitz and early American mycology”, a 1973 lecture to the Mycological Society of America, published in *Mycologia* LXIX:2 (March-April 1977), pp. 223–245. Surprisingly, given Schweinitz's preeminence as both a theologian and mycologist, there are few sources that provide much detail about his life. The memoir by Rogers, from which the quotations and most of the information herein were taken, is the best that I have found.

ship managed to escape from its captors and sailed on — only to encounter a hurricane a few days later that nearly capsized it. It finally landed at Newport on September 7, 1812. Nine days later — 103 days after departing from Gnadau — Schweinitz and his wife reached Bethlehem, and on November 14 they arrived at their new home in Salem.

Schweinitz's ecclesiastical duties were burdensome, involving not only teaching and preaching, but attending frequent meetings of governing boards and overseeing the church's extensive tract of land in North Carolina. His work required him to travel a great deal, both to missions at home and church conferences abroad. Yet, despite all those demands, he somehow found time for frequent botanizing. He built up a large collection of specimens, which he carefully catalogued and described, and conducted an extensive correspondence with other botanists, both in Europe and America.



PHOTO BY SUSAN HOPKINS

In 1817, Schweinitz was awarded an honorary doctorate by the University of Kiel, partly in recognition of his first published work, *Conspectus fungorum in Lusatie*, a 400-page volume on the fungi of Lusatia (a region in eastern Germany between the Elbe and Oder rivers), co-authored by J.B. de Albertini, which had appeared in 1805. In addition to portions of its text, Schweinitz provided illustrations of 93 of the species discussed therein, which were displayed in twelve colored plates that he engraved.

In 1821, “out of obedience and against his will”², Schweinitz was placed in charge of the Moravian church's northern estates and left North Carolina to become the senior pastor at Bethlehem. Among other new duties, he had to visit congregations both formed and to be formed in Pennsylvania, New York, New Jersey, Ohio and Indiana; and four years later still more obligations were added, when he was elevated to the post of Senior Civilis, charged with “representing the Moravian Church in its relations with the government.”³ Nevertheless, he persevered with his botanical collecting and writing.

In May of 1830, Schweinitz fell seriously ill for a year, and it was during his convalescence that he completed the manuscript of the *Synopsis fungorum*. The next year, though only partly recovered, he undertook a journey of some 2100 miles, by “stage, river boat and backwoods rig,” that took him as far west as Goshen, Indiana, and combined his church duties with further botanical collecting. He had hoped that the trip west would restore his health, and for a short time in 1832 he thought it might have. Just two years later, however, he died, “presumably of consumption”, and was buried at Bethlehem.⁴ His home there, originally the communal **Gemeinhaus** for the Moravian brethren, is the oldest surviving house in that city, and was made a National Historic Site in 1975.

After Schweinitz's death, his herbarium, together with much of his correspondence, personal papers, and drawings, was bequeathed to the Academy of Natural Sciences in Philadelphia. Others of his papers reside at the library of the New York Botanical Garden.

Summing up Schweinitz's place in the history of mycology, Donald Rogers refers to an “apostolic succession ... : Persoon to Schweinitz to Fries”; for “Schweinitz acquired Persoon's *Synopsis methodica fungorum* at the beginning of his work on the *Conspectus*”, and the latter, in turn, “taught Fries [as he himself attested] knowledge of more things than any other book.”⁵

² Ibid., p. 230.

³ Ibid., p. 233.

⁴ Ibid., p. 235.

⁵ Ibid., p. 241.

2010 MYCO-AUCTION REPORT

The myco-auction at our February mycophagy meeting brought in over \$830.

Our thanks to the following members for donating items to the auction:

Phillips Mushroom Farm

Richard Balsley

Jim Barg

Jane Bourquin

The family of Pat Fusaro

Randy Hemminghaus

Susan Hopkins

Judy & Mike Mudrak

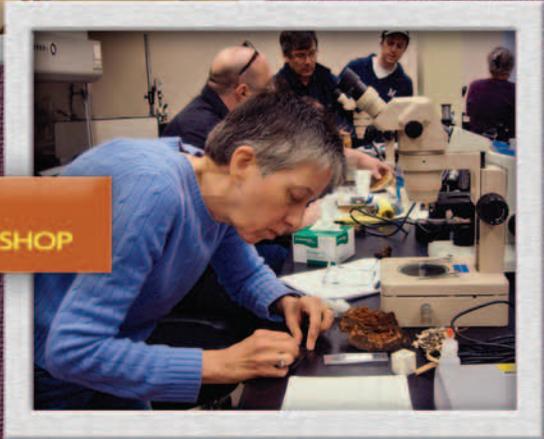
Robert Peabody

Rhoda Roper

Dorothy Smullen

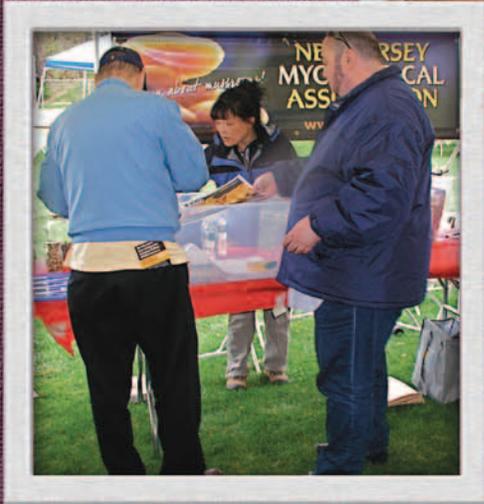


TOM VOLK
POLYPORE WORKSHOP



PHOTOS BY SUSAN HOPKINS

NJMA GOINGS-ON



PUBLIC OUTREACH:
EARTH DAY 2010
LEWIS MORRIS PARK

PHOTOS BY JIM RICHARDS



"Guy talk"



Baked beans



Cheeses and crackers



Marinated mushrooms



Red Flannel Hash

A cheerfully delicious time was had by all...

A New England Supper

NJMA Culinary Group - March 20, 2010



Spiced pork spread



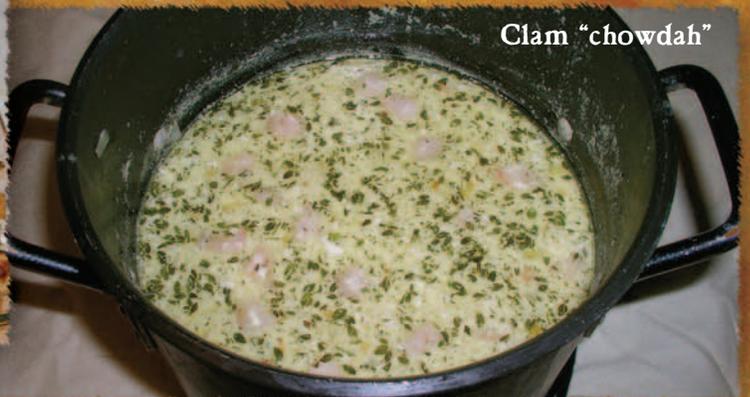
One of the apple pies



"Serving" time



Roasted root vegetables



Clam "chowdah"



EDITOR'S NOTES

As I was working on putting this issue of *NJMA News* together, I realized that there seemed to be a theme that was uniting many of the articles. This has turned out to be the EATING issue! This is not terribly surprising, since eating mushrooms is one of the major drives that brings people into NJMA in the first place. The vast majority of people join because they want to discover which mushrooms are worth consuming, how to identify them, and where this great source of *free food* can be found. Once they are in the club, they may begin to find out what else can be done with mushrooms, from photographing them, or using them for crafts such as dyeing or papermaking, or growing them, and so on.

Eating is certainly the major focus of the NJMA Culinary Group – and this issue features photos from their most recent dinner (A New England Supper) and an announcement of their next event (an Argentinian Grill is scheduled for July 17).

Those members who attended February's Mycophagy demonstration are certainly clued in to the eating of mushrooms. This issue contains a recipe from that event (the rest of the recipes will appear soon on our website, njmyco.org) Also in this issue is the 2010 Foray Schedule, so that members can plan where they can learn what edible (and other) fungi abound in New Jersey and where they can be collected.

This issue also contains several articles on Tom Volk's recent workshop and lecture on polypores that EAT cellulose and lignin and keep our planet from being buried under mountains of dead trees. Thanks to Patricia and Glenn for their articles.

Thanks also, once again, to John Dawson for continuing to add to our knowledge of the people who have been immortalized by having fungi named after them. (Even though we would not want to eat *Phaeolus schweinitzii*! It is better to dye with.)

On June 13, we have the first Potluck Picnic of the season, the Bob Peabody Wilds Food Foray, where we can learn about the wild plants that we can EAT!

And speaking of eating mushrooms, I just ran across an interesting approach to cooking mushrooms: morels, in this case. Thomas Keller (chef-owner of the top-rated French Laundry and Bouchon restaurants in California and Per Se in New York). He uses large amounts of butter melted in larger amounts of water to poach the mushrooms for 20 to 30 minutes or until tender. The cooked mushrooms are drained and served with gnocchi or other starchy accompaniments. The cooking liquid can

be reused to cook vegetables and then can be reduced and used as a sauce. This might be worth a try – it's yet another way to EAT mushrooms.

One additional note: Please change my email address in your records: ALL newsletter-related material should be sent to me at: njmaeditor@gmail.com

Thanks for your contributions. Keep them coming!

– Jim Richards

NJMA CULINARY GROUP "AN ARGENTINIAN GRILL"

The next Culinary Group Dinner will be held on Saturday, July 17 at 3:00pm. The theme is "An Argentinian Grill". Featured will be a range of Latin American specialities along with, of course, grilled meats, and maybe a vegetable or two.

The event will be held at the home of Bob Hosh (Hageman House) in Somerset, New Jersey.

For additional information, or to register please contact Bob Hosh at gombasz@comcast.net, (908) 892-6962 or Jim Richards at jimrich17@mac.com, (908) 852-1674.

CULINARY GROUP'S MARCH 20TH NEW ENGLAND SUPPER

by Jim Richards

On March 20, thirty members of the NJMA Culinary Group and guests gathered for a New England Supper. The meal began with Marinated Mushrooms, a pair of Vermont cheeses (a *chevre* and a maple-smoked cheddar) and a Spiced Pork Spread, all served with crackers and *baguettes*. Next came a traditional New England Clam Chowder with salt pork and cream (not a tomato in sight) and Mussels with a wine/butter sauce.

The entrees were Joe Booker Stew (a beef and vegetable casserole with dumplings), Red Flannel Hash (corned beef hash with the additional of boiled beets) and fantastic Scalloped Oysters. On the tables with these were Baked Beans, Winter Squash Puree, Cabbage Slaw, Braised Kale, and Roasted Root Vegetables. A couple of pans of home-made rolls partnered with the rest of the goodies.

Unbelievably, we still had room for dessert. Who could turn down two versions of Apple Pie (one with a bit more spice just for variety), Boston Cream Pie and Marlborough Pie (another apple pie, but this had lemon as well) and the traditional Indian Pudding?

The cost of this meal (with doggie bags to take home the extras) was \$17 per person.





RECIPE FILE

These two recipes were prepared by Bob Hosh and Jim Richards at the 2010 Mycophagy Demonstration. The rest of the recipes prepared at the meeting will be available on our website, www.njmyco.org, in the near future.

Creamed Morels and Pasta

by Jim Richards

1 tbsp. butter

2 tbsp. shallots, minced

1 tsp. garlic, minced

1 ounce dried morels

(Cover with 2 cups boiling water and let stand for one hour. Drain the mushrooms and set aside. Strain the soaking liquid through a coffee filter and set aside.)*

1/2 cup heavy cream

2 tbsp. Beurre manie

(Equal parts of flour and softened butter blended together)

8 ounces pasta shells, cooked

Salt and pepper to taste

Parsley, chopped

1. Heat butter in a large skillet over medium heat. Add the shallots and garlic. Cook, stirring, until translucent, about four minutes.

2. Add the morels. Cook for three minutes. Add the strained soaking liquid and cook for eight minutes or until tender.

3. Add the heavy cream and cook for two minutes, stirring. Add the *beurre manie*, one tablespoon at a time, and cook stirring, until thickened as desired.

4. Add the cooked pasta and heat thoroughly. Correct seasoning with salt and pepper. Serve garnished with chopped parsley.

NOTE: This recipe can also be made with 8 ounces of fresh morels or with 1/4 ounce of dried morels plus 8 ounces of fresh white button mushrooms or cremini.

* You can also substitute vegetable or chicken stock for the soaking liquid.

Serves 4

Pom Pom Mushrooms with Goat Cheese and Apricot Brandy

by Bob Hosh

8-12 ounces fresh Pom Pom mushrooms
*(*Hericium erinaceus*) sliced 1/4-inch thick*

2 tbsp. unsalted butter

2 tbsp. minced shallots

1 tsp. sea salt

1/2 cup low-fat chicken broth

1/2 cup heavy cream

1/2 cup sour cream

2 tbsp. flour

2 ounces plain goat cheese, cut into bits

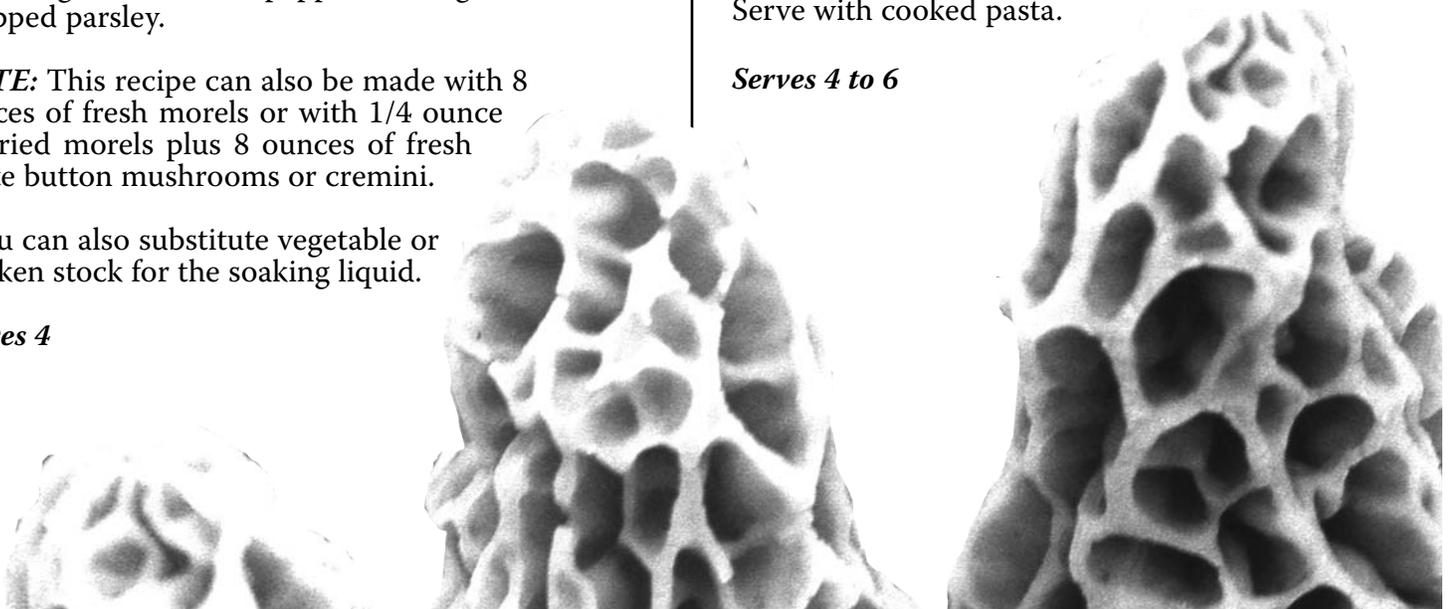
1/4 teaspoon freshly ground black pepper

1/4 cup Hungarian apricot brandy (*Barack Palinka*)

Saute the sliced Pom Pom mushrooms in the 2 tablespoons butter over medium heat until all the liquid has been released by the mushrooms and evaporated. This may take 15 to 20 minutes. Add the minced shallots and sauté for about five minutes; add the chicken broth. Blend the 2 tablespoons flour into the sour cream and add it and the heavy cream to the mushrooms. Cook for 5 minutes stirring. Blend in the goat cheese bits and the apricot brandy. Add the black pepper and adjust the seasonings.

Serve with cooked pasta.

Serves 4 to 6



NJMA 2010 Victor Gambino Foray

King's Gap Environmental Center, Carlisle, PA

Located near Pennsylvania's beautiful Michaux State Forest and Colonel Denning State Park

July 23-25, 2010

Join your fellow NJMAers at the King's Gap Environmental Center for two nights' accommodations in the mansion, feast on *delicious meals*, and attend forays and lectures – only three hours away from Morristown, NJ!

REGISTRATION FEES

\$175 for two nights' accommodations and meals, including Friday dinner to Sunday lunch.

\$100 for meals and programs for the entire weekend. No overnight accommodations.

\$55 for Saturday programs and dinner only. No overnight accommodations.

\$30 extra for single occupancy.

Camping is available at Colonel Denning State Park and at a bostel at Pine Grove Furnace State Park.

Note: Increase in registration fee from last year is due to rental of the environmental center.

Register early! Overnight accommodations limited to 30 people!
Deadline for registration is June 15, 2010

NJMA 2010 VICTOR GAMBINO FORAY REGISTRATION FORM

NAME 1: _____ (CIRCLE YOUR CHOICE)

NAME 2: _____ VEGETARIAN MEALS? Yes / No

PHONE: _____ ROOMMATE PREFERENCE: Male / Female

EMAIL: _____ ROOMMATE NAME: _____

I will be attending: WEEKEND w/ACCOMMODATIONS WEEKEND-MEALS & PROGRAMS ONLY SATURDAY ONLY

Total number of people attending _____ **x FEE** (*see above*) = \$ _____ (*Enclose check*)

Liability waiver: By signing below, I release New Jersey Mycological Association and King's Gap Environmental Center, and their officers and members, from any and all liability and loss arising from any accident, injury, or illness which may result from activities of the July 23, 24, and 25th weekend foray.

SIGNATURE NAME 1: _____

SIGNATURE NAME 2: _____

Make your check payable to "NJMA" and send payment, along with this completed form, to:
Terri Layton, 1319 Reed Lane, Kintnersville, PA 18930
Telephone: 610-346-9099

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:

- **2010 FORAY SCHEDULE**
- **FORAY GUIDELINES**
- **WHO'S IN A NAME - PART 19**
- **DIRECTIONS TO FORAYS**
- **2010 KINGS GAP FORAY INFO**
- **REACHING OUT**
- **TOM VOLK AND WOOD ROT**
- **BIOBLITZES!**
- **POLYPORE WORKSHOP**
- **ARGENTINIAN GRILL**

...plus more!

The "Tulip" Morel

'Tis a warm bright sunny day, almost makes me want to go out morel-ing...! The time is imminent! The heartbeat increases in anticipation... but not yet; they only pop up, and continue to do so, when the ground temperature starts to exceed the air temperature (and then, that trend is reversed when sunlight is blocked after the trees start to sprout leaves).

Well, that is the theory, anyway...

