



NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION
Volume 41-3 May - June 2011



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Payable on calendar year
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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, May 1
10:00 am | FIRST FORAY OF THE SEASON:
Princeton Water Works (Institute Woods) |
| Saturday, May 14
4:00 pm - 8:00 pm | WORKSHOP – COOKING WITH FUNGI
Instructor: Bob Hosh. At the home of Bob Hosh in Somerset.
<i>Registration required.</i> Get registration form on page 12. |
| Saturday, May 21
10:00 am - 1:00 pm | CULTIVATION WORKSHOP
Instructors: A.J. Bozenmayer and Dr. Gene Varney. Will be held at the residence of Dr. Gene Varney in Somerset. <i>Registration required.</i> Get registration form on page 12. |
| Saturday, June 4
10:00 am - 1:00 pm | WORKSHOP – USING KEYS TO IDENTIFY FUNGI
Instructor: Dorothy Smullen. NOTE: The location for this workshop has been moved to the NJ Audubon Center. <i>Registration required.</i> Get registration form on page 12. |
| Saturday, June 4
1:15 pm - 4:15 pm | WORKSHOP – PHOTOGRAPHING FUNGI
Instructor: Klaus-Peter Steitz. Will be held at the Frelinghuysen Arboretum. <i>Registration required.</i> Get registration form on page 12. |
| Saturday, June 11
10:00 am - 1:00 pm | WORKSHOP – INTRODUCTION TO MYXOMYCOTA
Instructors: Dr. Gene Varney, Dr. John Dawson, and Phil Layton. Will be held at Foran Hall, Rutgers University. <i>Registration required.</i> Get registration form on page 12. |
| Sunday, June 12
10:00 am | BOB PEABODY WILD FOODS FORAY AND PICNIC, Deer Path Park (Round Mountain section)
Bring a food dish to share, and be sure to include a card which shows the ingredients of your dish. Also bring your own place settings. |
| Saturday, June 18
10:00 am - 1:00 pm | WORKSHOP – MUSHROOM CLASSIFICATION
Instructor: Dr. Glenn Boyd. Will be held at the Frelinghuysen Arboretum. <i>Registration required.</i> Get registration form on page 12. |
| Saturday, June 25
10:00 am | FORAY: LAKE OCQUITTUNK GROUP CAMPING AREA, Stokes State Forest <i>Leader: Jim Barg</i> |
| Sunday, July 10
10:00 am | FORAY: MANASQUAN RESERVOIR ENVIRONMENTAL CENTER <i>Leader: Patricia McNaught</i> |
| August 4 - 7 | 2011 NAMA Dr. Dick Homola Memorial Foray Clarion University in Clarion, PA (just off Interstate 80)
Visit the NAMA website at www.namyo.org for additional information and registration. |
| August 11 - 14 | 35th Annual NEMF Samuel Ristich Foray Paul Smith's College, Paul Smith's, NY www.nemf.org |
| September 25 | NJMA FUNGUS FEST
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.



PRESIDENT'S MESSAGE

Bright, lemony-yellow buds on willows and maples speckled with burgundy buds say that spring is really here and summer is looming just beyond. Ramps are out, and morels should be poking out soon along with the Mayapples. Spring means Earth Days and Bio-Blitzes for nature conservation organizations, which will be keeping us busy for the next few months. We have three Bio-Blitz requests in June, and if you would like to participate, please contact our Bio-Blitz leader Dorothy Smullen (dsbs@bellatlantic.net)

Our treasurer, Bob Peabody, as many of you know, has been suffering from arsenic poisoning (read about it in a special issue of *Fungi* magazine, Spring 2010). He was hospitalized in March. Bob is still not out of the woods yet, but dialysis seems to have improved his vitality and he is looking better each time I see him. Gene Varney is also recovering from his bout with cancer and has finished his treatment. We wish full recovery for both Bob and Gene.

The online newsletter is now a step closer to becoming a reality. The committee has definite plans to implement it sometime this fall. We will have more specific information in the July/August issue of *NJMA News*. As an incentive to get as many of you as possible to sign up for the electronic newsletter, we will be offering discounts to those who sign up for the online mailing. There will be a slight increase in membership rates for those members wishing to continue to receive hard copies, but it's still the best deal in NJ. We hope most of you will sign up for the online newsletter option. We appreciate your support in our endeavor to ensure our club's healthy financial future.

Many educational programs will be offered in the next two months. During May, Bob Hosh will be teaching "Cooking with Fungi" and A.J. Bozenmayer will be teaching a Cultivation Workshop. We've also added two new classes; "Using Keys to Identify Fungi" will be taught by our taxonomist extraordinaire Dorothy Smullen, and Classification Workshop, covering some of the larger genera will be taught by the ever-popular Glenn Boyd. Then there will be an "Introduction to Myxomycota" and a "Photographing Fungi" workshop. Thanks so much to our new Education Coordinator Patricia McNaught for putting together these wonderful workshops and to all the teachers, Jim Barg, Bob Peabody, Dorothy Smullen, Gene Varney, John Dawson, Philip Layton, A.J. Bozenmyer, Bob Hosh, and Klaus-Peter Steitz.

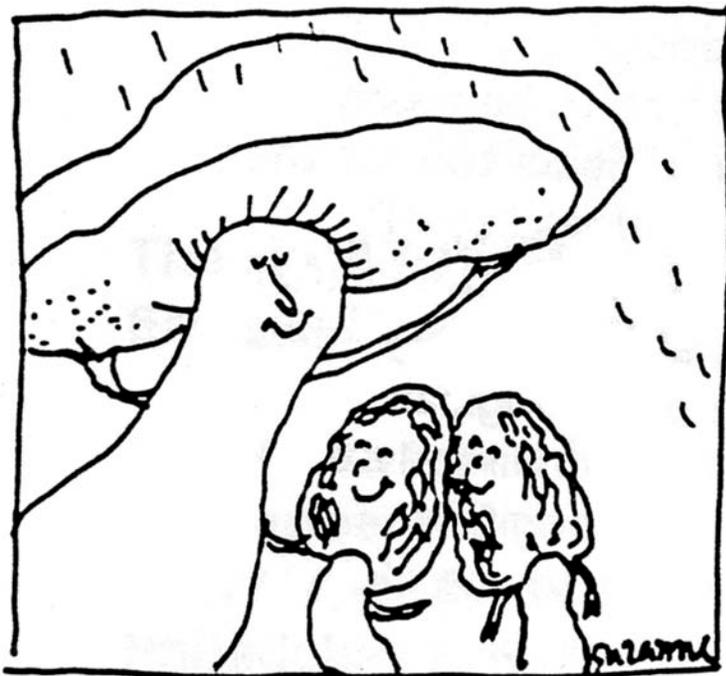
Some of you thought you missed out on registration for the annual Victor Gambino Foray (VGF). This year, VGF will be held on October 7, 8 and 9 in beautiful

Carlisle, PA. We've had dry forays in July and August for the past few years, so we have decided to try out October instead. Our chief mycologist will be John Plischke III. Those of you who know John will know that he is an excellent field taxonomist and an excellent photographer. Please welcome our new VGF coordinator Margaret Papai. Eastern Penn Mushroomers is also having its annual Helen Miknis Foray in Mont Alto, PA in July. If you want to, give them a try. And, it's not too late to sign up for both the regional (NEMF) and national (NAMA) forays in August.

Happy 40th anniversary to NJMA! We plan on doing something sometime during this summer or early fall to celebrate the event. Bob Hosh has volunteered to look for some interesting place to have a party. If you have suggestions, please contact him at gombasz@comcast.net.

We look forward to another wonderful 40 years.

—Terri Layton



HEALTH BENEFITS OF MUSHROOMING

from the Mycological Society of Toronto

A report in the July 5th *New York Times* advises us to spend more time outdoors for the sake of our health. The article cites studies on the effects of the outdoors on the immune system and stress level. A two-hour walk in a forest can increase the number of natural killer cells that fight viruses and tumors, lower the level of the stress hormone cortisol, and decrease the heart rate and blood pressure.

Our advice to mushroomers: Don't feel badly about your lack of success when others return from forays with full baskets. You never return from a foray empty-handed.

2011 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 1 (Sunday)	Princeton Water Works (a.k.a. Institute Woods)	Randy Hemminghaus
June 12 (Sunday)	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 25 (Saturday)	Lake Ocquittunk Group Camping Area, Stokes State Forest	Jim Barg
July 10 (Sunday)	Manasquan Reservoir Environmental Center	Patricia McNaught
July 16 (Saturday)	Meadow Wood Park	Dorothy Smullen
July 31 (Sunday)	Waywayanda State Park	Nina Burghardt
August 21 (Sunday)	Rancocas Audubon Nature Center	Glenn Boyd
August 27 (Saturday)	Hoffman County Park	Bob Hosh
August 28 (Sunday)	Stephens State Park	Randy Hemminghaus
September 10 (Saturday)	Washington Crossing State Park	Glenn Boyd
September 17 (Saturday)	Stokes State Forest – Grete Turchick Foray & Picnic <i>Bring food to share and your own picnic gear.</i>	Steve Zahorbenski
September 25 (Sunday)	Fungus Fest 2011 – Frelinghuysen Arboretum, Morristown, NJ	
October 2 (Sunday)	Schiff Nature Preserve	Glenn Boyd
October 7-9, 2011	Victor Gambino Foray Kings Gap Environmental Center, Carlisle, PA	<i>Registration required. Contact Margaret Papai papai@rci.rutgers.edu</i>
October 22 (Saturday)	Cheesequake State Park	Frank Marra
October 23 (Sunday)	Brendan Byrne State Forest	Rod Tulloss
November 5 (Saturday)	Cattus Island County Park	Igor Safanov
November 13 (Sunday)	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 NEME, 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.

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 WOOD 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.

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.

(continued on next page)

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.

WELLS MILLS COUNTY PARK: From Garden State Parkway northbound, exit 69 (Route 532), turn left (west), proceed 2 1/2 miles to park entrance on left. From Garden State Parkway southbound, exit 67 (Barnegat, Chatsworth), turn right on West Bay Ave. (Rt. 554). for about 5 miles to Route 72. West on 72 a short distance to Route 532 east. Turn right and proceed 3.8 miles to park entrance on right.

**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

WHO'S IN A NAME?

Mycena leaiana

by John Dawson (twenty-fifth of a series)

Mycena leaiana (Berkeley) Saccardo is a common mushroom whose specific epithet is a spelling challenge to many. Peeling off the attributive suffix *-iana*, however, reveals the eponymous root *lea*, which commemorates the early American botanist Thomas Gibson Lea.

Biographical information about Lea's younger brother Isaac, a malacologist whose collection of seashells provided the basis for the collection at the Academy of Natural Sciences in Philadelphia, is readily available. Details of Thomas Gibson's life, however, are much harder to find. Only one biographical dictionary, *Appleton's Cyclopaedia of American Biography* (published in 1888 and available online at <http://famousamericans.net/>) has an entry for him, and that a very brief one. Fortunately, however, some of his papers, as well as a posthumous biographical sketch of him in an unknown hand, are preserved¹ in the archives of the Ewell Sale Stewart Library at the Academy of Natural Sciences, to which his herbarium was donated some 26 years after his death by his son James. The details that follow are drawn largely from that manuscript source, which I recently had the pleasure of examining in Philadelphia.

T.G. Lea was born in Wilmington, Delaware, on 14 December 1785. His parents were Quaker merchants whose forebears had come to the United States with William Penn. Lea himself became involved in mercantile affairs, first in Pittsburgh (to which he moved in 1810) and, from 1822 until 1827, in Cincinnati. In the latter year, however, he retired from all business pursuits and began to devote himself to botany, a subject to which he was perhaps first introduced by his mother. Reportedly, from then on his natural history studies took "complete possession of him", occupying "his days and a great part of his nights"² He was a diligent collector, who maintained an active correspondence and exchange of specimens with various eminent botanists in the U.S. and Britain, including the lichenologist Edward Tuckerman; the mycologist Miles Joseph Berkeley (profiled in the second installment of this series), who was responsible for the epithet honoring Lea; and the botanist Sir William Jackson Hooker.

It was Lea's intention to publish "A catalogue of plants native or naturalized in the vicinity of Cincinnati, Ohio", of which a 48-page manuscript is preserved among his papers at the Academy of Natural Sciences. He died (in Waynesville, Ohio, on 25 September 1844) before

accomplishing that task, but left both the manuscript and his herbarium to a friend, N.L. Sullivant, who, with the assistance of Berkeley and Tuckerman, saw to the posthumous publication under Lea's name of the book *Catalogue of the Plants of Ohio* (1849).

The manuscript at the ANS primarily records the vascular plants that Lea collected; cryptogams are listed only on its last two pages, and all of them appear to be ferns or mosses. But whoever wrote the biographical sketch of Lea declared that the final three to four years of Lea's life were "zealously devoted to the study of the Fungi"; and among the list of specimens Lea sent to Hooker³ are species of *Agaricus*⁴, *Amanita*, *Boletus*, *Cantharellus*, *Clavaria*, *Hydnum*, *Peziza*, *Polyporus*, *Scleroderma* and *Thelephora*, as well as myxomycetes belonging to the genera *Didymium* and *Physarum*.



PHOTO BY RHODA ROPER

Mycena leaiana

Lea is credited with having discovered a number of species new to science. Though primarily a collector, rather than a taxonomist, he was evidently a highly respected one. Of his life outside of botany very little has been recorded, apart from the names of his wife (Harriet, who died ten years before him), one son (James), three brothers (Henry, Isaac and John) and two sisters (Eliza and Hannah). Perhaps further digging might shed more light on his personal life, beyond the statement by the author of the anonymous sketch that he was a "truly religious" man who once said "he never knew what it was to live on God's earth until he began the study of Natural History."

I have found no portrait of Lea. Beautiful photos of *Mycena leaiana*, however, can be found on Wikipedia and at Tom Volk's site, where that species was the Fungus of the Month for September 2005:

http://botit.botany.wisc.edu/toms_fungi/sep2005.html



¹ As collection 139. A scope and content note for that collection is available online at http://www.ansp.org/library/archives/coll_100-199/coll0139.xml#indepth

² This and all other quotations herein are taken from the aforementioned manuscript sketch of his life.

³ Also preserved among Lea's papers at the ANS.

⁴ To which genus *Mycena leaiana* was originally assigned.

REGIONAL AND FAR-FLUNG FORAYS

A little advice from one who's not been there...

by Alex Adams (reprinted from NJMA News, May-June 1997)

...until relatively recently, that is. There were many reasons for being unworthy to attend a regional foray such as NEMF. Too busy at home. Not yet up to par with all those really educated mycoveterans. Can't ID the fungi I find around home, so why invite total overload by staring blankly at forty tablesfull? (see below) Finally, with a healthy reverence for the scope of my ignorance, I arrived at Quinnipiac College for NEMF and lots of welcoming, user-friendly activities suited to a very wide range of interests and sophistication. There, a greenhorn of only several months exposure to the terminology, methods, and frustrations of mushrooming could reap the benefits of many Sunday morning NJMA outings and lecture sessions in one place and weekend. Nuances of color, shape, gill attachment, and other macroscopic features could be seen side-by-side and burned into memory. Well-respected researchers presented programs and slide shows from their particular points of view. Non-learned forayers such as I brought in specimens marveled over by the pros, or even Ray.

So here's the scoop, folks, from one limited point of view: My field ID skills, general understanding of mycology, confidence, and discrimination would have developed much faster and with less frustration/sleep loss had I gone to a regional foray sooner, instead of waiting for some vague "readiness" to arrive. One more NEMF and this year's NAMA foray have only reinforced this, and were definitely not repetitive. So take a vacation day, spend some stored-up green energy, and take advantage. You can get more bang for your buck than can the long-timers.

GOOD REASONS TO STAY HOME (NOT!)

- I'm not expert enough
- Everybody there is famous
- They probably know each other
- What could I possibly contribute?
- Surely it'll be way over my head
- It probably won't rain
- I can learn it at home
- It won't be any fun

GOOD REASONS TO GO

- Mycophagy thrills
- Congenial people
- Get away from home
- Mushroom art
- Myco-shoppportunities
- Hobnobbing with biggies
- Hear experts confess uncertainty
- Contribute to collection
- Compound learning



EDITOR'S NOTES

In her President's Message, Terri has put forth her reasoning for the conversion of this newsletter, *NJMA News*, to electronic format. She has concentrated on the financial reasons for this changeover. While they are valid, they are not the only benefits that will occur once this transformation happens. We feel that the newsletter will be improved in many ways.

First: We will not be restricted to two color pages as we are at present. So that the photos that you submit will be shown in their full splendor, which is especially valuable for the illustrations of fungi and food, which are two of the main topics reported on in this publication.

Second: we will be able to publish much longer articles from other newsletters. For now, space considerations are a major factor in my deciding what articles from other clubs we can reprint. So that has meant that many of the more technical and taxonomic articles have been bypassed. The same has been true of submissions that you may have sent us – many were simply too big to use in our present format. We will also be able to re-format the newsletter to make it even more graphically interesting and exciting. We are sure that you will be pleased with the proposed changes. If you are not, please do not hesitate to let us know. By "us," I mean myself (*njmaeditor@gmail.com*), and Jim (*jimbarg@bssmedia.com*), both who actually put this publication together every two months. And also I mean the club officers: Terri, Randy, Bob Peabody, and Katy, who can pass on your comments to us.

It will be extremely important that you reply quickly to the announcement that Bob Hosh is preparing for the next issue of *NJMA News* (Vol. 41-4, July-August 2011). And, of course, this changeover will mean that we will need even more contributions from you: more articles, more photos, more recipes, more, more, more!

Have a great spring! Collect lots of mushrooms and keep those submissions coming.

– Jim Richards

VICTOR GAMBINO FORAY TO BE HELD OCTOBER 7-9

Submitted by Margaret Papai

This year's NJMA Victor Gambino Foray will be held at the Kings Gap Environmental Center in Carlisle, PA, October 7-9. This is a beautiful site on top of a mountain and the fall colors will be beautiful and the mushrooms plentiful (we hope). The food and friendship is always good. A registration form will be printed in the July-August issue of *NJMA News*.



NJMA CLASSES - INTRODUCTION TO MUSHROOMS AND COLLECTION / FIELD I.D.

a review by Ellen Hess

After a week of snow, sleet, freezing rain and other assorted wintery surprises, the sun was shining as NJMA members arrived at the Great Swamp Visitors Center on Saturday April 2 to learn about, among other things, the mating habits of mushrooms. NJMA President Terri Layton began her presentation, "Introduction to Mushrooms" with a PowerPoint display of award winning photographs taken by NJMA members, illustrating the variety, exquisite beauty and vast array of shapes and forms that fungi encompass. After listing the many functions of NJMA, Terri went on to discuss the essential role fungi play in our ecosystems (not to mention beer, wine, bread and cheese). She answered the question "What are fungi?" with an inclusive description, then proceeded to explore more precise characteristics, classifications (by scientists and mushroom enthusiasts) and comparative features of fungi, plants and people. Patricia McNaught and Igor Safonov provided more scientific information regarding specific aspects of mycology.

The second presentation by Jim Barg began with an exercise in sensory perception designed to increase member's awareness of how they can use the vision, smell, touch and taste clues to identify a specimen. In his entertaining presentation, Jim provided descriptive words to use in describing the overall appearance of a mushroom. He elaborated on the use (and limitations) of color reference charts, and provided members with superb handouts, one depicting comparative mushroom characteristics and another illustrated chart showing the features of common gilled mushrooms. Jim discussed the subtle variations and distinctions to be aware of when examining the various parts of a mushroom, and questions to ask: Does it stain, change color, exude a substance? How is the reproductive surface attached? What are the characteristics of the flesh?

After demonstrating a spore print, Jim handed out mushrooms and asked members to name the odor they perceived. He offered a list of common smells: fruit, curry, anise, chlorine, roasting nuts, mothballs, rotting meat. He discussed taste as a clue, to be used only after a positive ID of the genus. Jim cautioned members not to taste any mushrooms in a state of decay, to be sure to spit out the small sample that is tasted, and to always cook all mushrooms before eating them. The class concluded with a question and answer session, and with Jim providing even more excellent handouts.

With all the expertise offered in the two classes, it was a day well spent deepening our awareness, understanding and appreciation of the world of fungi.



THE RUSSIAN CULINARY CELEBRATION

by Judy Mudrak

With great anticipation did Mike and I look forward to the Russian culinary dinner. Having had an all-day herbal lecture in Lancaster County, we arrived just after the hors d'oeuvres had been served. Although the meals from all the cuisines are usually incredible, this was the one dinner we absolutely did not want to miss. Having travelled to Russia and the Ukraine several times already (even before the walls came down), we have always been intrigued by the taste, variety and colors in the presentation of their meals!

The culinary meal on that cold February night was all that we had hoped for: the arrangements of the foods along with their beautiful colors (a feast for the eyes!!) and of course the taste (the feast for the mouth!!)

Sorry for all those who missed this meal of such great culture and the vastness of good tasting food!!

Jim and Bob, you did an excellent job putting the menu together! I want to thank you both, that I was able to share some memories and slides from our culinary experience in Russia/Ukraine.

Yes, these folks do eat a good amount of meat/fish along with the layers of fat and sour cream! Comparing that with the WHO and their statistics, it is amazing that America, which has been preaching a low-fat diet publicly since 1956, is now 49th of all the world's countries in life expectancy and 37th in health! Something is not right here. It would be great if we could get back to the real traditional farm-raised foods and fats of the 'old' countries!

Some of the slides from the Ukraine (of Mike's family) showed how they store the bounty of their gardens for the long winters in glass jars. We call it canning here. Someone mentioned that the Amish still do that today. Unfortunately, much wisdom has been lost even with the Amish about storing foods as they use heat, vinegars and sugars for preservation. The true traditional way of "canning" or preserving is not through heating the foods, but by lacto-fermentation. Canning is actually a very modern way of preserving foods and it kills most of the goodness, whereas lacto-fermentation not only preserves the food, but it is enhanced with even more nutrients, loads of enzymes and is therefore truly a living food, something that has been wiped out of the American diet.

Jim and Bob, ever considered a workshop on how to preserve foods without electric/refrigeration/chemicals – just all natural, including meats?

Thank you for holding these wonderful dinners!



CULINARY GROUP TAKES A TOUR TO THE FORMER SOVIET UNION

by Marja van Ouwerkerk

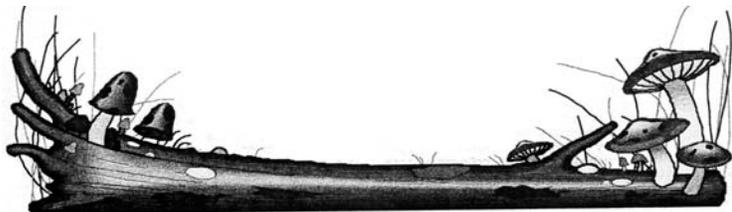
On Saturday February 26, the NJMA Culinary Group met in East Brunswick for its winter event. 33 fortunate virtual travelers had a wonderful Russian-inspired meal and photo tour of the Ukraine. 19 dishes were sampled at this culinary feast.

We started with *Peljmeni* (Beef Dumplings), *Blini* (Russian buckwheat pancakes with smoked salmon), cooked on the spot by Mark and his daughter Rachel. A beautiful, Layered Herring Salad, Salted Cucumbers and Marinated Mushrooms, and a Chicken Liver Paté completed the first course.

After a short intermezzo a colorful Moscow-style *Borscht* (beet soup) was devoured. Then the main courses were served, a Beef Stroganov and a vegetarian version of Mushroom Stroganov were sampled, along with Stuffed Cabbage, Chicken with Walnut Sauce, two versions of Fried Mushrooms with Root Vegetables, Uzbekistani Pilaff, and Russian Salad with Ham and Vegetables rounded out the main courses.

While taking a rest from eating to make room for dessert, we were treated to an armchair tour of Mike and Judy Mudrak's trip to the Ukraine visiting relatives in 2007(?). The countryside and people were very colorful and the lifestyle is much more in touch with the earth, with many people growing their own vegetables and producing their own meat products. The pace of life seems to be calmer and more in tune with the seasons than our lives here in New Jersey.

After the tour, we enjoyed lovely desserts including a light and creamy *Charlotte Russe*, *Baba au Rhum* (Rum-soaked cake with currants and raisins), *Aleksander Torte* (raspberry-filled pastry strips) and Baked Cheesecake accompanied by various teas and a Spiced Honey drink. The meal was a great success. My husband and I are both vegetarians, so there were a number of dishes we did not sample. But those we did were all delicious. I especially liked the Walnut Sauce, of which I saved a small amount prior to it being mixed with the baked chicken. It was outstanding on the Blini (without salmon). Between the sampling of the many dishes we also drank some vodka and various wines, adding to the festive mood of the occasion. A very pleasant evening was had by all. Thanks to all the great chefs and to Jim and Bob for organizing this event.



Aficionados agree that the morel is the one mushroom that, dried, remains truest to the unique flavor and texture of its fresh form, although a fresh morel is nice too.



RECIPE FILE

Marinated Mushrooms

adapted from *The Food and Cooking of Russia* by Elena Makhonko (Anness Publishing, 2008)

1½ lb. mixed wild mushrooms
(I used cremini for the dinner - JWR)

2 cups water

2 tablespoons sea salt

2 tablespoons red wine vinegar

1 tablespoon sugar

5-6 allspice berries

5-6 black peppercorns

5-6 cloves

2 bay leaves

1 small cinnamon stick

3 cloves garlic

1. Wipe the mushrooms with paper towels to remove any dirt. If the mushrooms are large, cut in half but leave small mushrooms whole.
2. Put the mushrooms in a large pan, add the water and 1 tablespoon salt. Bring to the boil, then reduce the heat and simmer for 30 minutes, stirring occasionally.
3. Add the remaining salt, the vinegar, sugar, and spices to the mushrooms. Simmer for a further 10 minutes. Set aside until completely cool.
4. Store in a cool, dark place or in the refrigerator. The mushrooms will taste better after a few days.

Makes 1 quart

NJMA EDUCATION CLASSES for the 2011 SEASON

NJMA is offering classes to furnish mycological information and educational materials to those who wish to increase their knowledge about mushrooms; and to promote interest in mycology. **We have just added a Photographing Fungi workshop for the afternoon of June 4.** All classes are offered on weekends at various times and places. For all-day sessions, please bring lunch. *Pre-registration is required for all classes. (Registration form on page 12) Please note that the "Using Keys" workshop has been MOVED to the NJ Audubon Center!!*

Saturday, May 14

4:00pm to 8:00pm – COOKING WITH FUNGI

at Bob Hosh's residence in Somerset. (directions will be furnished to registrants)

Mushrooms are fascinating, mysterious, sometimes elusive, but (for some, anyhow) above all, delicious. This is a hands-on workshop led by Bob Hosh in which participants will prepare (and consume!) a number of dishes that incorporate mushrooms. Recipes will be provided. **\$20.00 fee. ATTENDANCE IS STRICTLY LIMITED to 8 registrants.**

Saturday, May 21

10:00 am to 1:00 pm – CULTIVATION WORKSHOP

at the residence of Gene Varney in Somerset (directions will be furnished to registrants)

Frustrated with the drought conditions of last year? When nature doesn't cooperate by providing mushrooms, you can grow your own. AJ Bozenmayer and Dr. Gene Varney will show you how to cultivate mushrooms, with either commercial spawn or a mushroom as the starting material. Techniques suitable for the home grower will be demonstrated, and resource lists covering equipment, spawn, and books will be distributed. Spawn and other materials will be available so that participants can assemble sacks that (held under proper conditions) will yield oyster mushrooms. **\$10.00 fee. Limited to 15 registrants.**

Saturday, June 4

10:00 am to 1:00 pm – USING KEYS TO IDENTIFY FUNGI

NJ Audubon Center, 11 Hardscrabble Road, Bernardsville (NOTE: THIS IS A CHANGE OF LOCATION!)

Dorothy Smullen will teach you the different ways that keys are organized, and show you how to move forward (and backward!) through keys for genera and species. You may think you know how to use a key, but if you can't explain the difference between a dichotomous and a multivariate key, you need this workshop. **\$10.00 fee.**

Saturday, June 4

2:00pm to 5:00pm – PHOTOGRAPHING FUNGI (NEW!!)

Frelinghuysen Arboretum

In this workshop, instructor Klaus-Peter Steitz will help you move past point and click, to the creation of photographs of fungi that capture the moment and setting, as well as the fungus. Participants will learn how to light and frame fungi in natural settings. **\$10.00 fee. Limited to 20 registrants.**

You may know Klaus-Peter as a judge of NJMA's photography contest, but he also has three decades of experience as a professional photojournalist and freelance photographer. In his work, he provides timeless and compelling imagery, with an emphasis on fine art.

Saturday, June 11

10:00 am to 1:00 pm – INTRODUCTION TO MYXOMYCOTA

Rutgers University, Foran Hall (Cook College campus)

When is a mold not a fungus? When it's a slime mold of course! Slime molds are traditionally studied by mycologists, although slime molds are not true fungi. But they are beautiful and strange, with delicate features, bright colors, and streaming cytoplasm. Come to this workshop, see these strange, otherworldly life forms, and learn how to collect and preserve them. Dr. Gene Varney, Dr. John Dawson and Phil Layton. **\$10.00 fee. Limited to 15 registrants.**

Saturday, June 18

10:00 am to 1:00 pm – CLASSIFICATION WORKSHOP

Frelinghuysen Arboretum (location subject to change - registrants will be notified if changed)

Dr. Glenn Boyd will focus on how to deduce a mushroom's classification to as narrow a taxonomic group as possible. You will learn key characters of common families and genera, primarily macroscopic and chemical. For a few of the larger genera (such as Amanita, Boletus, and Russula), you will then delve further into sections and species. This workshop is best suited for the mushroomer with some collecting experience and familiarity with technical terms. [The review of mushroom statures (as taught each year in the field identification class) will be lightning quick, for example.] Much of the information, including some keys, is extracted from *How to Identify Mushrooms to Genus VI: Modern Genera*, by Baroni and Largent. We will conclude with suggestions on how identifiers can make their own "cheat sheets" to speed up field identification. **\$10.00 fee.**

DIRECTIONS to the NJ AUDUBON CENTER

From Route 287 North or South, take Exit 30B. From the exit ramp, bear right and go a short distance to the light by the Old Mill Inn, at the Intersection of Route 202. Proceed straight ahead through the light onto Childs Road. Go 0.2 miles and bear right onto Hardscrabble Road. Follow this road for about 1 mile until you see our sign and driveway on the right-hand side of the road. Turn right into the driveway, and follow it up the hill.

DIRECTIONS to RUTGERS UNIVERSITY, FORAN HALL

From NJ Turnpike: Take Exit 9, bear right to Route 18 North, New Brunswick. Follow 18 to Route 1 South. *Follow Route 1 south past Sears and Ryders Lane exit to next exit at Squibb Dr./College Farm Road. At end of ramp turn right onto College Farm Road. **Go past NJ Museum of Agriculture and barns to 4-way stop. Turn right at stop sign, go past Food Science building on left to adjacent parking lot #90. Follow path to Foran Hall, a large new building behind the parking lot.

From Route 1 or 130 from the South: At intersection of Route 1 and 130 go north on Route 1. Pass DeVry Institute on right and take next exit onto Squibb Drive/College Farm Road. Follow U-turn under Route 1 to stop sign. Turn left onto College Farm Road and continue from ** in the directions above.

From Route 287: Take Route 287 to Exit 9, River Road. From exit ramp, keep right onto River Road. Follow River Road to lights where you turn right on Route 18 over the Raritan River. Continue on Route 18 to exit for Route 1 South. Follow from * above.

Alternate route from Route 287: From 287 take Exit 10 to Easton Avenue, Route 527. Follow Easton to end at the RR station in New Brunswick. Turn left on Albany Street and then right at light onto George Street. Follow George through the city and at about the 9th light turn right onto Nichol Avenue and then left at the bookstore onto 1-way Lipman Drive. Continue straight at the curve in the road to 4-way-stop, then turn left and park in lot #90 on left next to Food Science building. On the weekend, you can park on Lipman Drive and ignore the parking meters.

NOTE: You may wish to copy the other side of this page before clipping and mailing this application.

REGISTRATION FORM for NJMA EDUCATION CLASSES 2011



NAME _____

ADDRESS _____

TOWN/ZIP _____

PHONE _____

EMAIL _____

Please mail your check, along with this completed form, at least 10 days before the **first** class for which you're registering. Remember – classes are limited in size.

Send check, payable to "NJMA", to:

Igor Safonov, 2215 Arch Street, #501, Philadelphia, PA 19103

MAY 14 COOKING WITH FUNGI	\$20.00	x _____	persons = total _____
MAY 21 CULTIVATION WORKSHOP	\$10.00	x _____	persons = total _____
JUNE 4 USING KEYS TO IDENTIFY FUNGI	\$10.00	x _____	persons = total _____
JUNE 4 PHOTOGRAPHING FUNGI	\$10.00	x _____	persons = total _____
JUNE 11 MYXOMYCOTA WORKSHOP	\$10.00	x _____	persons = total _____
JUNE 18 CLASSIFICATION WORKSHOP	\$10.00	x _____	persons = total _____

Questions? Call Igor Safonov at 215 313-1764
or Patricia McNaught at 908-766-9565

TOTAL AMOUNT ENCLOSED \$ _____

FORAYING-HOW TO MAKE IT BACK

by Cathy Richards, reprinted from the newsletter of the Mycological Society of Toronto

Getting lost is something we all want to avoid. If in a group, it worries and inconveniences the others. And of course, it can be downright terrifying for the person who is lost. Here are a few basic guidelines to ensure you don't get lost while out foraying:

Preparation

- Tell someone where you are going and what time you should be back.
- Stay near a marked trails. If there are no trails, don't wander too far from the path. Return to the path periodically.
- Check out the area before you go to familiarize yourself with key landmarks.

While hiking

- Mark a trail as you go. Use natural materials such as forked branches to indicate your direction.
- Use the sun to determine directions. The sun is in the east before noon and in the west after.

Gear

Nothing beats common sense and following the tips above, but some gear might help if in a pickle.

- A map of the area.
- A good compass. Using a compass requires some skill, so learn to use it properly before you head out.
- A whistle is a very basic precaution. Its high-pitched sound travels further than voices.
- Your cell phone. This is probably the best bet if you get lost. (*if you have coverage*)
- A GPS. There are GPS units for hiking and GPS apps for iPhones that allow you to mark your starting spot and then leave a virtual trail of "bread crumbs". A car GPS, while not as good as a handheld, can map the route you are taking and get you back to where you started.

If you do get lost, I read a tip that I found most intriguing. Follow the direction of a stream, as people often live near a water source.

Were there those for whom this did not work? We may never know.



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

FUNGI ECOLOGY: BEWARE, KILLER FUNGI!

by Kit Marx, reprinted from newsletter of the Puget Sound Mycological Society

One of the most fascinating aspects (there are soooo many!) of fungi ecology is carnivorous fungi. (Here's a good vocabulary word for you: nematophagous. In this case, the kind of fungi that consume nematodes; there are more than 160 known nematophagous fungus species.)

A few carnivorous mycorrhizal fungi have been detected, but most of the predatory fungi discovered so far are saprobes, primarily wood decomposers. Why?

Wood is almost entirely made of carbohydrates: carbon, hydrogen, and oxygen. The key missing ingredient for making more complex substances such as proteins is nitrogen. Although what you are breathing now is almost 80 percent nitrogen, very few organisms can use atmospheric nitrogen biologically. It has to be processed by other organisms (mostly bacteria) and absorbed by other organisms (*e.g.*, plants), which are consumed by other organisms (*e.g.*, animals). One way saprobic fungi have developed to obtain the essential nitrogen is to capture animals and suck out their guts.

Fungi prey are mostly microscopic-nematodes (nonsegmented worms, very unlike earthworms), springtails, copepods, rotifers, protozoa, amoebae, and bacteria.

The trapping devices are mostly passive, adhesive, and built along the hyphae. During the victim's struggle to escape, some of these snares can break away from the base hyphae. Thus, the prey spreads the hyphae, while being consumed by them. Trapping devices consist of sticky primary hyphae, columnar branches, hemispherical bumps, hour-glass knobs, spiny balls, stiff sharp points, nets (2-D and 3-D), and rings. Rings can be either inert (a nematode enters the loop and gets stuck) or expanding. In the latter, the inside of the loop is pressure and heat sensitive. The nematode activates the cells (three to a ring), which expand inward to maximum size in 1/10th of a second, crushing and capturing the nematode.

In addition, traps may release chemicals that attract nematodes, chemicals given off by the nematodes may cause the fungi to initiate or increase the formation of traps, and the fungus may secrete toxins that stun or kill the prey.

Upon ensnaring a nematode, new hyphae grow and penetrate the body. The hyphae exude enzymes (digestive proteins), which decompose the worm's internal components by turning large organic molecules into small inorganic molecules, which the hyphae absorb. Complete digestion takes from a few hours to a day or so. After digestion, the nutrients are translocated for use throughout the fungus.

(continues on page 14)

DOUSING YOURSELF WITH PERMETHRIN? NOT SO FAST!

by Claudine Michaud (reprinted from the newsletter of the New York Mycological Society, Winter 2010)

This in response to an article by Dennis Aita in the NYMS newsletter that recommended the use of the chemical Permethrin for repelling ticks (“Permethrin for Ticks” Summer 2010).

Permethrin is a very dangerous chemical for your body and the environment and it is not the only solution for preventing illness due to bites by ticks.

What else can be done? The first step is to learn about ticks. Yes, they can carry dreadful disease-causing bacteria, including *Borelia burgdorferi* (the bacterium responsible for Lyme Disease), *Babesia microti*, and *Ehrlichia chaffensis*. These diseases can be transmitted when an infected tick bites and attaches itself to a host for 24 to 48 hours.

Approximately 25% of ticks carry Lyme Disease. Flu-like symptoms and a target-shaped rash can appear about a week after a bad bite. Lyme Disease is treatable (consult the Center for Disease Control website for more information, <http://www.cdc.gov>).

Deer ticks mature in three stages – larva, nymph, and adult – feeding once at each stage. The larva bite, being the tick’s first meal, is no danger. Nymphs and adults, however, may have had their first meal on an infected mammal – and from there can transmit the diseases to humans.

Next, do some research on Permethrin and other chemical repellents like DEET.

Keep in mind that a great deal of this research is funded by the corporations that produce these chemicals and that it can take many years to appreciate the damage they do to the body and the environment. Many more serious studies should be done before making the decision to use these products.

A good alternative to potentially harmful chemical repellents is to work on prevention when going outdoors. Choose light-colored clothing that provides sufficient contrast for spotting ticks on your body. Wear long pants that can be tucked into socks and some sort of long-sleeve shirt or jacket. After each use, wash your outdoor clothing in hot water and dry at high heat.

Also, it is very important to always make a full body check as soon as you return home, using a mirror if necessary. Pay special attention to favorite tick hiding places: armpits, groin, scalp, and in folds of skin (like between your toes).

If you find a tick attached to your body, it’s not the end of the world. Use a pair of tweezers to remove it. Grip it

as close to the head as possible and make sure to remove all of it. Then clean the point of attachment with alcohol. Do a full body check even if you use Permethrin and/or DEET, as they are not 100% effective at repelling ticks.

I don’t use any chemicals on my clothes when I go outdoors. I am still occasionally bitten by ticks, but I’ve never caught any diseases caused by ticks by following these simple steps of prevention.

Know what you are doing and why – make the decision to use Permethrin or not based on knowledge. There is a lot of time to do research before our next mushroom season starts with the Morel Breakfast in May. 

BEWARE KILLER FUNGI (continued from page 13)

Some predatory fungi will use the remaining nematode husks as armor to protect their hyphae from those who want to prey on them – for example, nematodes.

Many of the capture methods are probably at least partially intended to defend against myceliophilagous (hyphae-eating) predators.

All the above doesn’t even get into using spores to attack microfauna. Spores can attack by swimming (they are attracted to the smell of nematodes); by being injected into the victims; by sticking to an animal’s exterior (and sending hyphae inside); by entering the body as part of the food intake; or by blowing a hole in a nematode’s “skin” and injecting a spore.

Yet another of those soooo-many fascinating fungi ecology stories.

Two parting thoughts:
Animals consume their food, then digest it; fungi digest their food, then absorb it.

The next time that you are enjoying those oyster mushrooms, try not to think of all the nematode guts it took to make them. 

NO MORE POISON CONTROL CENTERS?

by Richard Dart, reprinted from the newsletter of the Puget Sound Mycological Society, April 2011

As you may or may not know, the federal funding of poison centers has been cut by the US House of Representatives. I’m President of the American Association of Poison Control Centers, and it’s taking all our time fighting to get back our funding. If you have the time, please consider going to www.AAPCC.org and click on “Save Our Poison Centers”. It will allow you to easily submit letters to your Representatives and Senators in support of maintaining funding for poison centers. 

EVOLUTION OF THE MOREL

reprinted from *The Spore Print, The Journal of the Los Angeles Mycological Society, Inc.* This article originally appeared on *ScienceDaily.com* on March 3, 2011.

Dinosaurs squashed them with impunity. Thousands of species that lacked culinary appreciation have turned up their noses at them. And a study based on advanced DNA analysis has shown that this shameful indifference went on for 129 million years.

Finally, however, one animal species came along that would learn to appreciate this particular fungus with almost a global reverence – *Homo sapiens*. Thus was born the human affection for the morel – for millions of people around the world, it’s what you mean when you say “mushroom hunting.”

Spring is coming soon, and with it the timeless quest for morels. For some, it’s almost a way of life.

Nancy Weber, a researcher with the College of Forest Ecosystems and Society at Oregon State University, has had a lifelong love affair with the morel.

Her parents took her on her first mushroom hunt in the Michigan woods at the age of six months. Presumably they sat her down in front of a morel, wiped the drool from the corner of her mouth and said, “Now pay attention, Nancy. This is important. This is what you look for.”

“Morels probably became so prized because of their distinctive appearance, which almost anyone can learn to recognize,” Weber said. “That means you’re not apt to pick a poison mushroom. But for a lot of people, mushroom hunting becomes part of your life, stories you tell around a campfire, a favorite picking spot whose location you hide like a great fishing hole.”

Weber was part of a research team that has published one of the most detailed genetic analyses ever done on morels, to help identify their ancestry, show how they evolved and what conservation policies may be needed to manage and protect this valuable resource.

Among other things, they concluded that morels have been around for a lot, lot, longer than people have – true morels split off from all other fungal species 129 million years ago, during the beginning of the Cretaceous Period. Back then, mammals were primitive little things, dinosaurs still ruled the world and morels were kind of an afterthought.

Which pretty much proves that dinosaurs had small brains. Or lacked culinary skills.

Since then, morels have evolved into 177 related species, and western North America – particularly the Pacific Northwest – has been an evolutionary hot spot. Despite the varying species, in many ways morels have

“remained remarkably static since the Cretaceous,” the researchers said. The study was done by scientists from OSU, the U.S. Department of Agriculture, Eastern Illinois University and private industry. It was published in *Fungal Genetics and Biology*, a professional journal.

“Oddly enough, most animal species aren’t particularly attracted to morels,” Weber said. “A few slugs and other things will eat them. But humans have probably been eating them for about as long as there have been humans.” A few inches tall but can get larger, it is a harbinger of spring and often gives people an excuse to get outdoors after winter is over, Weber said. They can last much of the summer into early fall and provide



PHOTO BY JIM BARG

plenty of opportunity for hiking up and down hills, peeking under leaves, and trying to convince yourself you have a special technique and understanding about how to find this often-elusive mushroom.

“There are things you can know about how to find morels, but on another level they are wherever you find them,” Weber said. “When I was a kid, we once drove all over the place, hiked everywhere, came up empty-handed and then went back home, found a bunch of them growing under our apple tree next to the house.”

Morels are, in fact, a delicacy, although cooking them doesn't need to be fancy – a few morels sauteed in butter with a little salt and pepper is difficult to improve upon. They are the people's mushroom – clearly more sophisticated than the ubiquitous and bland button mushroom sold in bulk at the grocery store, but not so fancy as the chanterelle prized in French cuisine or the matsutake favored for Japanese dishes.

People who eat morels usually have mud on their boots and aren't afraid to work for their prize.

Getting them can be as simple as a couple hours stomping around in the woods, or traveling hundreds of miles to compete in a mushroom hunting festival. Sometimes you get lucky and come home with a bag full. Often you don't.

“You can grow morels in confinement, but it's pretty tricky and unpredictable, and some people don't think they taste as good,” Weber said.

In the Pacific Northwest, finding morels has even evolved into a cottage industry. One species is fairly common after a forest fire, leading to the odd phenomenon of crowds of people sometimes showing up in the spring in an area that burned the previous summer. Dried morels are now sometimes found in supermarkets or available on the Internet.

Based on the new genetic analysis, scientists now know that morels are very old, but not at all the oldest of 1.5 million species of fungi. They are found widely around the world, probably traveled with the continents as they drifted apart, but still look pretty much the same way they did millions of years ago.

There's one big difference now.

At least one animal on Earth has finally come to appreciate them.



MANUFACTURING WITH MUSHROOMS - THE ECO-FRIENDLY ALTERNATIVE

by Ray Cicin, reprinted from the newsletter of the Mycological Society of Toronto, January-March 2011

The beacon of forestial delights we so lovingly pursue in the woods each year has many important purposes beyond satisfying our curious and epicurean pursuits.

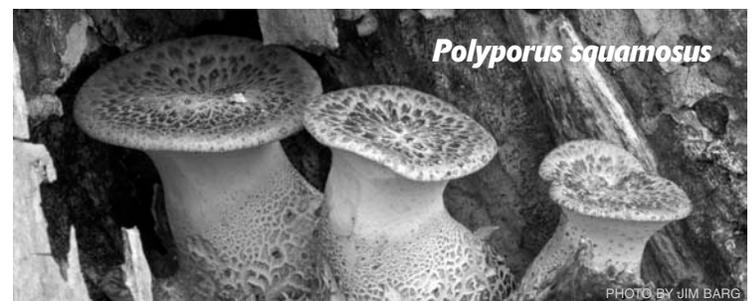
Mushrooms are the great recycler of organic matter. They may now also be a part of a key turning point in the human manufacturing of synthesized compounds.

In the industrial design documentary *Objectified*, senior Apple Product Designer Jonathan Ive discusses how designers have a moral obligation to work toward making the products they generate 99% biodegradable. A phone which has a lifespan of only two to five years should not be composed of materials that will never break down. A cell phone should be made of mostly plant fibre not metals, silicons and plastics.

Eben Bayer is one person meeting the challenge and posing this question: “Are mushrooms the new plastic?” Eben is a product designer that has created a way to use plant materials and mushroom mycelium as the bonding agent to manufacture a new source of packing material. Waste plant products are inoculated with mycelia and placed in a mold. In five days, you have a packing material that decomposes in your garden. Unlike styrofoam or other foamed plastics, Eben's composite uses no petroleum fuels and a fraction of the energy to fabricate.

Watch Eben Bayer describe this interesting process in his nine-minute video on *TED.com*. Enter his name in the TED site search window or copy this link into your web browser address pane:

http://www.ted.com/talks/eben_bayer_are_mushrooms_the_new_plastic.html



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SLIME DESIGN MIMICS TOKYO'S RAIL SYSTEM

Reprinted from *Science Daily*, January 22, 2010, via the *Oregon Mycological Society*.

What could human engineers possibly learn from the lowly slime mold? Reliable, cost-efficient network construction, apparently: a recent experiment suggests that *Physarum polycephalum*, a gelatinous fungus-like mold, might actually lead the way to improved technological systems, such as more robust computer and mobile communication networks.

This revelation comes after a team of Japanese and British researchers observed that the slime mold connected itself to scattered food sources in a design that was nearly identical to Tokyo's rail system.

The related report was published by the journal *Science* on 22 Jan 2010.

"Some organisms grow in the form of an interconnected network as part of their normal foraging strategy to discover and exploit new resources," Tero writes in the report. "*Physarum* is a large, single-celled amoeboid organism that forages for patchily distributed food sources ... [It] can find the shortest path through a maze or connect different arrays of food sources in an efficient manner with low total length yet short average minimum

distance between pairs of food sources, with a high degree of fault tolerance to accidental disconnection."

The researchers knew that capturing the essence of this biological system in simple rules could be useful to inform the construction of self-organizing and cost-efficient networks in the real world. They captured the core mechanisms needed by the slime mold to connect its food sources in an efficient manner and incorporated them into a mathematical model.

Since the slime mold has been subjected to countless rounds of evolutionary selection, this formula based on its feeding habits might provide a route to more efficient and adaptive network designs for transportation and communication.

In a related Perspective, Wolfgang Marwan of Otto von Guericke University in Germany writes, "The model captures the basic dynamics of network adaptability through interaction of local rules, and produces networks with properties comparable to or better than those of real-world infrastructure networks ... The work of Tero and colleagues provides a fascinating and convincing example that biologically inspired pure mathematical models can lead to completely new, highly efficient algorithms able to provide technical systems with essential features of living systems, for applications in such areas as computer science."

Tero and the other researchers say that their model provides a starting point for improving efficiency and decreasing costs for self-organized networks without centralized control, like remote sensor arrays, mobile ad hoc networks, and wireless mesh networks.

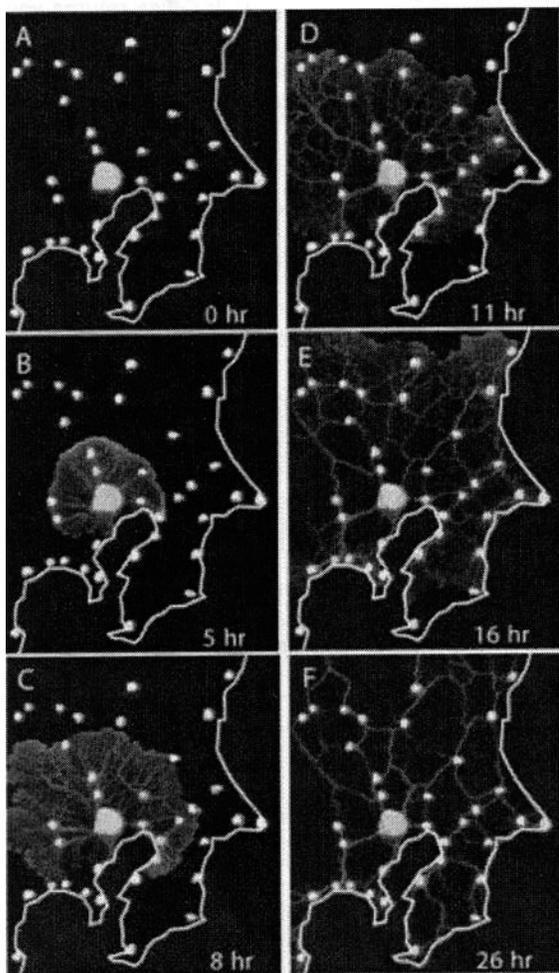
The slime mold just did what came naturally.

This is the network formation in *Physarum polycephalum*.

(A) At $t=0$, a small plasmodium of *Physarum* was placed at the location of Tokyo in an experimental arena bounded by the Pacific coastline (white border) and supplemented with additional food sources at each of the major cities in the region (white dots). (B to F) The plasmodium grew out from the initial food source with a contiguous margin and progressively colonized each of the food sources. Behind the growing margin, the spreading mycelium resolved into a network of tubes interconnecting the food sources. (image from *Science/AAAS*)

Atsushi Tero from Hokkaido University in Japan, along with colleagues elsewhere in Japan and the United Kingdom, placed oat flakes on a wet surface in locations that corresponded to the cities surrounding Tokyo, and allowed the *Physarum polycephalum* mold to grow outwards from the center. They watched the slime mold self-organize, spread out, and form a network that was comparable in efficiency, reliability, and cost to the real-world infrastructure of Tokyo's train network.

Reprinted (with editorial adaptations by *ScienceDaily* staff) from materials provided by American Association for the Advancement of Science:
http://www.sciencedaily.com/releases/2010/01/1001211_41051.htm



NJMA NEWS

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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.

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PHOTO BY JIM BARG