



# NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION  
Volume 39-4 July-August 2009



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Payable on calendar year  
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## NJMA EVENTS HOTLINE

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

Come.  
Walk around.  
Collect fungi.  
Learn.

*NJMA forays  
are for you!*

## CALENDAR OF UPCOMING EVENTS

Friday, July 10 -  
Sunday, July 12

NJMA VICTOR GAMBINO FORAY at the King's Gap Environmental Center, Carlisle, PA. Coordinator: Terri Layton. Registration required.

Sunday, July 12  
10:00 am

FORAY: Meadow Woods Park  
Leader: Jim Barg

Saturday, July 18  
1:00 pm - 4:00 pm

FORAY: Hoffman Park  
Leader: Marc Grobman

Sunday, July 19  
10:00 am

FORAY: Schiff Nature Preserve  
Leader: Susan Hopkins

Saturday, July 25  
3:00 pm

NJMA CULINARY GROUP: Locavore Summer Garden Party (Hageman Farm, Somerset) Coordinators: Bob Hosh and Jim Richards

Sunday, July 26  
10:00 am

FORAY: Stephens State Park  
Leader: Alex Adams

Sunday, August 2  
10:00 am

FORAY: Manasquan Reservoir Environmental Center, Leader: Melanie Spock

Sunday, August 9  
10:00 am

FORAY: Rancocas Audubon Nature Center  
Leader: Dorothy Smullen

Saturday, August 22  
10:00 am

FORAY: Deer Path Park (Round Mountain Section), Leader: Bob Hosh

August 21-23

COMA Foray, Cave Hill Resort, Moodus, CT  
Registration required – visit [www.comafungi.org](http://www.comafungi.org)

Sunday, August 30  
10:00 am

FORAY: Herrontown Woods  
Leader: Nina Burghardt

Sunday, September 13  
10:00 am

FORAY: Grete Turchick Foray and Picnic, Stokes State Forest, Leader: Bob Hosh

Saturday, September 19  
10:00 am

FORAY: Cheesequake State Park  
Leader: Jim Barg (Note: be sure to bring your membership card)

Sunday, September 27  
10:00 am - 4:00 pm

FUNGUS FEST 2009  
Frelinghuysen Arboretum, Morristown, NJ  
Terri Layton and Dorothy Smullen, co-chairpersons

October 15-19

NEMF 33rd Annual Samuel Ristich Foray, Eastham (Cape Cod), MA  
Sponsored by the Boston Mycological Club.  
Registration required, and the deadline is approaching.  
Visit [www.nemf.org](http://www.nemf.org) for more information.

"I am... a mushroom; On whom the dew of heaven drops now and then."

– John Ford



## PRESIDENT'S MESSAGE

Ah, summertime, time for mushroom forays and “what the heck is that horrible smell?!” It is amazing how one small mushroom left in a basket can create such a stench.

Fungi use odor for many things. Some fungi use odors (i.e. esters and alcohols) to repel slugs and insects which might eat the spore-bearing surfaces before the spores are ready to be dispersed. Others use odors to attract insects, which ‘smell’ with their antennae, to disperse the spores. Odors also attract animals that eat the mushroom and then disperse the spores in their feces, which not only hold the spores but also provide food and protection for them.

Odors are also important for fungal identification. Sometimes they are key to whether something is good to eat or not (i.e. *Agaricus*). There are agreeable odors such as the apricot smell of Chanterelles (*Cantharellus cibarius*) or the anise smell of the Horse Mushroom (*Agaricus arvensis*), and then there is the disagreeable odor of rotting flesh (often described as fetid) of the Stinkhorn (*Phallus impudicus*), or the chemical creosote smell of *Agaricus placomyces*. Books try to help us with identification using words such as farinaceous, coal tar, and the above-mentioned creosote. These words can be helpful if a person has some point of reference but many of us do not. To add to this, smell is very subjective. The average person has 1,000 receptors in his nose but some people have more and some people have less, plus everybody's brain interprets the information a little differently. This is why going on forays is so important. Once you have been on a foray and have smelled some mushrooms, you will recognize what the word farinaceous smells like. A formerly-meaningless word will become a valuable tool in your identification library, otherwise it is just a meaningless word.

Odor can be affected by moisture. This is why it is good to smell your mushrooms immediately while they are still fresh and moist. Since many odors are alcohol-based molecules, they will only last a very short time. Odors can be affected by age. I have some *Russula* in my lawn that come up smelling like almonds but, in a few days, they smell like vomit. Sometimes mushrooms only smell when they are crushed or cut. And sometimes you just have to walk away to prevent smell overload when you just cannot smell another mushroom.

Many animals smell mushrooms better than we do. Dogs smell very well, and this is why they are so good at finding truffles. Unluckily, this is probably also why so many dogs suffer from mushroom poisoning. Flying squirrels will detect truffles from far away and will come out of the safety of the treetops to the ground to eat these treats, which puts them at risk to be eaten by

foxes and predators who live on the forest floor.

Scientists have discovered that some fungi can even destroy an insect's sense of smell. Recently (public release 5/7/09) Dr. Thomas Baker, Dr. Mathew Thomas and Dr. Andrew Reid of Penn State University, have been doing research into a fungus that affects the malaria mosquito's sense of smell. The female mosquito needs blood to reproduce, and the way she finds blood is through smell. If this sense of smell is impaired, she will not be able to locate blood, and so will not be able to reproduce or spread the malaria virus.

You will learn much more about odors if you go to our weekend foray at King's Gap Environmental Center, Carlisle, PA, on July 10 to 12. Walt Sturgeon will be our guest identifier, and he is a big proponent of using smells to identify mushrooms.

If you want to find out more about mushroom odors, search for Professor William Wood of Humboldt State University with your favorite Web search engine.

– Nina Burghardt

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## VICTOR GAMBINO FORAY UPDATE: WALT STURGEON AT KINGS GAP

submitted by Terri Layton

Walt Sturgeon will be our guest speaker at the Victor Gambino Foray, July 10 through 12, 2009, at Kings Gap Environmental Center, Carlisle, PA. Walt is a nationally-recognized amateur mycologist who is a recipient of NAMA's Award for Contributions to Amateur Mycology and NEMF's Friend of the Amateur Award.

He has authored numerous articles on mushrooms and is an award-winning photographer. He also is a consultant and photographer for *The Audubon Society Field Guide to North American Mushrooms* by Gary Lincoff. He serves as President of the Ohio Mushroom Society and is a Ohio Poison Center consultant.

Walt will be discussing Appalachian boletes at our foray. If you have not attended his lectures before, or will not have a chance to attend either NEMF or NAMA forays this year, here is your chance to spend a whole weekend with one of the very best speakers and to be entertained by his wit!

Come and be prepared to have fun, enjoy good accommodations and food, and learn from the experts! If you have been to Kings Gap, you already know how good it is and we hope to see you there again.

Registration form can be found in May-June 2009 *NJMA News*. To register, contact Terri Layton at [mycoterri@verizon.net](mailto:mycoterri@verizon.net)



## BIO-BLITZ RESULTS – 2009

by Dorothy Smullen

Thanks to all participants who helped collect and identify in the two BioBlitzes this year. Melanie Spock, Mike Rubin, and Gerry Breitenbach deserve special thanks for helping at both.

Others in May included John and Cheryl Dawson, Randy Hemminghaus and Katy Lyness, and Susan Hopkins. In June, Rhoda Roper, Marian Glenn and Anthony Romero assisted me and the other co-leader, Marc Grobman.

The Great Swamp NWR BioBlitz, sponsored by three groups in May, yielded over 600 total species, which included 32 macrofungi and 10 lichenized fungi.

The Union County Park BioBlitz in June took place in three locations: Briant Park, Hidden Valley Park and Houdaille Quarry, in both Summit and Springfield. 50 fungi and 11 lichens were collected and identified.

Many more species are out there, but the locations represent huge areas, and collecting time is limited to just a few hours.

Join us next year at some new location for the excitement, T-shirt, food and fun. Remember – more eyes lead to more species!



## CONTRIBUTE YOUR PHOTOS TO THE NJMA WEBSITE!

by Rob Robinson

Current NJMA members are invited to contribute their digital photos to the NEW “Fungi Finds” Photo Page of the NJMA website. The goal is to provide a pictorial guide to fungi found in New Jersey, while showcasing the photographic talents of NJMA photographers.

Just visit the NJMA website at [njmyco.org](http://njmyco.org), and click the Photo Page button for details on how to contribute your photos. Happy snapping!



ASK A QUESTION OR SHARE YOUR KNOWLEDGE

### NJMA YAHOO GROUP [tech.groups.yahoo.com/group/NJMYCO](http://tech.groups.yahoo.com/group/NJMYCO)

A free forum on the Internet for NJMA members to share mushrooming experiences and to freely exchange any kind of mycological information.

**Join now, and start communicating!**

## CULINARY GROUP LOCAVORE GARDEN PARTY: SATURDAY, JULY 25<sup>th</sup>

NJMA's Culinary Group will be holding a Locavore Garden Party on Saturday, July 25 beginning at 3:00 pm at Hageman Farm, a registered historic property, in Somerset. (To get a preview of the farm, go to <http://www.themeadowsfoundation.org/hageman.html>) “Locavore” events are becoming more and more popular as consumers begin to realize that eating foods that are locally grown may well be the most beneficial – both from a nutritional standpoint and an ecological one. They are certainly the freshest! And they have the smallest carbon footprints.

The menu will feature in-season produce such as berries (blue-, black-, straw-, and rasp-), cherries, tomatoes, beets, cucumbers, eggplant, string beans, kale, kohlrabi, onions, squashes, etc. We expect that much will come from members' gardens and the many local farmers' markets. (more at [newjersey.gov/agriculture](http://newjersey.gov/agriculture))

Meats, cheeses, etc. that are produced within a hundred miles of New Jersey will also be featured.

And we certainly expect to have local seasonal mushrooms like chanterelles on the menu.

To register for the meal, or for additional information, please contact Bob Hosh ([gombasz@comcast.net](mailto:gombasz@comcast.net)) at 908-892-6962, or Jim Richards ([jimrich17@mac.com](mailto:jimrich17@mac.com)) at 908-852-1674.



## WHO'S IN A NAME?

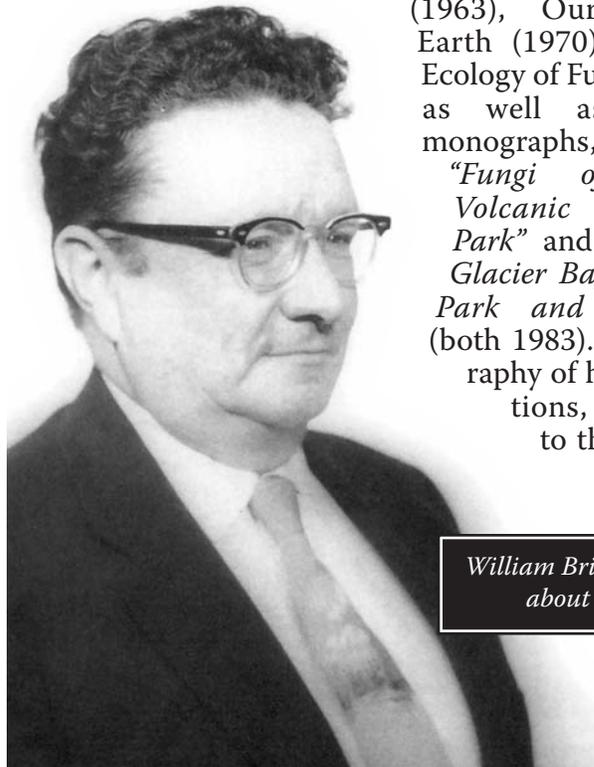
### *Bridgeoporus nobilissimus*

by John Dawson (fourteenth in a series)

*Bridgeoporus nobilissimus* is an extremely rare polypore — the first fungus to be designated as an endangered species — that grows only on noble fir trees (themselves endangered due to intensive logging) in the Pacific Northwest. It has been documented at only a dozen sites, and much of its life history remains shrouded in mystery. Even whether it is parasitic, saprophytic, or commensal with its host remains unknown, and it has never been successfully cultured in the laboratory. It is unusual as well in several other respects, not least in its size and appearance: Some fruiting bodies have measured 56 inches in diameter and weighed more than 300 pounds, and have been described as resembling sisal door mats or slumbering bears!

Appropriately, *Bridgeoporus* is named for a mycologist who was himself notable for his girth: William Bridge Cooke (1908–1991), whom one appreciative former student described as “an unforgettable figure; a large lumbering man with the dimensions of a football player past prime, jowly face and very thick glasses.” Cooke was a familiar figure at forays of the Mycological Society of America, on whose foray committee he served for thirty years, at those of NAMA and NEMF, and at International Mycological Congresses. He served in particular as recorder of specimens collected on MSA forays, for which the MSA gave him a Special Service Award in 1990. He was also well known as the author of several books, especially A laboratory guide to fungi in

polluted waters, sewage and sewage treatment systems (1963), *Our Mouldy Earth* (1970) and *The Ecology of Fungi* (1979), as well as various monographs, including “*Fungi of Lassen Volcanic National Park*” and “*Fungi at Glacier Bay National Park and Preserve*” (both 1983). A bibliography of his publications, appended to the obituary



William Bridge Cooke,  
about 1860

memoir of him in *Mycologia*, lists 192 items.

Born in Foster, Ohio, a hamlet about 20 miles northeast of Cincinnati, Cooke was the oldest of four children of a gardener father and a schoolteacher mother. He graduated from high school at age 17, but his subsequent education was protracted. In 1928 he enrolled in a University of Cincinnati night school program, then spent a year in Berkeley, California at the Pacific Unitarian School for the Ministry, followed by a brief stint at the University of California. He returned to the University of Cincinnati in 1932, from which he graduated in 1937 with a B.A. in botany. After that he went to Oregon State College, earning an M.S. there in 1939.

When World War II broke out, Cooke was drafted into the army, where he served two years as a supply clerk before being transferred to the Tropical Deterioration Research Laboratory in Philadelphia to investigate the role of tropical fungi in the destruction of clothing and other materials. He married in 1942, following a twelve-year courtship, and, at his wife's urging, went on to obtain a Ph.D. from the State College of Washington after his discharge from the service. Thereafter, from 1950 until his retirement in 1969, he was employed at the Robert A. Taft Sanitary Engineering Center in Cincinnati. In his work there he “pioneered standards for microbial observations during waste-water treatment, and was renowned for his knowledge of fungal ecology and taxonomy”. Those who encountered him at forays were also impressed by his “truly ... encyclopedic mind; [for] he not only provided the name and group of [each] fungus, but told who first described it and gave the complete history of its taxonomy.” He was remembered too for the mushroom print shirts he wore, made for him by his wife, and for “his somewhat eccentric personality”, as manifested, for example, by his dislike of driving: As a young man he hitchhiked several times from Cincinnati to California and Montana and “walk[ed] ... many miles from his home to the University of Cincinnati, often reading a book” as he did so. After his marriage he was either chauffeured by his wife or took the bus wherever he went.

Bridge was, in short, a very productive scholar, “the ultimate forayer”, and “a legendary mycological character”. He never taught at a university, but after his retirement from the Taft Center he served as a research associate at the University of Cincinnati and at Miami University of Ohio; the bulk of his personal herbarium of some 70,000 specimens now resides at the W.S. Turrell Herbarium at the latter institution. During his long mycological career Cooke published descriptions of ten new genera and 144 new species. Besides the genus *Bridgeoporus* he is commemorated in the names of a number of fungi bearing the specific epithet *cookei* — confusingly, since that epithet has also been used to honor Mordecai Cubitt Cooke, the subject of the third installment in this series.



# SO YOU THINK YOU'VE SEEN IT ALL.....

by Terri Layton

Coprophilous Fungi. Translated: "Dung-loving fungi," and was one of the subjects of the NJMA Education Classes this spring. Oh, come on, don't crinkle your nose...hear me out.

If you have no idea what one of these Coprophilous fungi look like, visit our website ([www.njmyco.org](http://www.njmyco.org)) and you will see a *Pilobolus crystallinus* (commonly named Dung Cannon or Hat Thrower) on the home page. It is quite beautiful! It's a small wonder that such beautiful things will grow on such a despised substance. This particular fungus is unique in that it adheres its spores to vegetation, which are eaten by grazing animals. They then pass through an animal's digestive system and grow in their feces. Although these fungi only grow to be two to four centimeters tall, they can shoot their spores up to two full meters away (up and over a full-grown cow).

The variety and numbers of specimens (50+) lovingly collected by teachers Dr. Gene Varney and Dr. John Dawson were a sight to behold. Varying stages of the decaying dung collection included white-tailed deer, horse and alpaca. There was one that particularly caught my eye because of its obvious deviation in shape and size from the rest (folks, I, like most of you, know how to zero in on this sort of substance from years of working). For one thing, this big wet glob was in a BIG glass jar instead of in a Petri dish. As I was peering into the jar, Gene smiled gently and advised that it was that of a deer with "the run" problem. Ha! As far as I know, no one touched it or examined it very closely.

Gene lectured on the major groups of dung loving fungi which include Zygomycetes (*Pilobolus*), Ascomycetes (many perithecial and cup fungi), few Basidiomycetes and the Hypomycetes. After lectures on various characteristics pertaining to mycelium, fruit bodies and spore formation, we gingerly lifted the covers off Petri dishes for a closer inspection.

As we began to examine the various specimens under stereoscope and microscope, we just couldn't believe how beautiful and delicate they were. We were also grateful for the mild odor as well!

John lectured on taking digital photos through both stereoscope and microscope. He shared his passion and expertise in photomicrography. He discussed ways to mount cameras on microscopes, light setting, focusing and many tips on how to take the best pictures. As many you know, John is an accomplished photographer and he won the Best in Show in the NJMA photo contest last year. Also I have seen many of his beautiful photos at NAMA and NEMF events.

Gene enjoyed teaching with John. Here is what Gene said:

"It was great having John take an active part in the class. He had a lot of information and he saved me a lot of energy. At 85+, I no longer cover as much ground in a specified time frame as I once did."

John would be happy to e-mail copies of the notes from the presentation for those who missed the workshop. He expressed his appreciation of our interest and enthusiasm and suggested the following;

1. Those interested in stereo photos of fungi, including lichens and slime molds, may wish to look at Fred Rhoades' site "Cryptogams in Depth":

[http://www.ac.wvu.edu/~fredr/3D\\_Photo\\_Main.htm](http://www.ac.wvu.edu/~fredr/3D_Photo_Main.htm)

2. The source for the Lens Plus adapter I use for my digital SLR is <http://www.lensadapter.net/>

3. The source for the optical adapter I use for my Nikon Coolpix camera is:

<http://www.mvia.com/Coolpix/clpxadpt.htm>

I was told once that a slime mould is a good thing to study when you are too feeble to go out for a long walk, since they are readily available. But I think Coprophilous fungi take the cake in terms of availability. We all know there is enough dung to go around everywhere. So next time some one gives you one, just say "Thank you" and add, "I will look into it".

(color photos to accompany this article are on page 8)



## Top 10 Lies Told By Mushroom Hunters

10. THEY TASTE TERRIBLE. IT'S THE FRIED BUTTER I LIKE.
9. YES, AS A MATTER OF FACT, I DO OWN THIS PROPERTY.
8. NO, I'M NOT MUSHROOM HUNTING. I LOVE CRAWLING THROUGH BRIAR PATCHES.
7. I DON'T KNOW ANY GOOD SPOTS. LET'S CHECK YOURS.
6. SURE, I'LL TELL YOU WHERE I FOUND 'EM.
5. NO. I DIDN'T FIND ANY.
4. OF COURSE I HAVE PERMISSION TO HUNT HERE.
3. IT'S TOO EARLY FOR MORELS.
2. I THINK THOSE ARE POISONOUS. BETTER GIVE THEM TO ME FOR PROPER DISPOSAL.
1. THE BIGGEST MUSHROOM I EVER FOUND HAD A SHADOW THAT WEIGHED 3 POUNDS.

©1966 Morel Mania  
This "Top 10" list is available on T-shirts from Morel Mania.  
<http://www.morelheaven.com/>

# GENETIC TECHNOLOGY REVEALS HOW POISONOUS MUSHROOMS COOK UP TOXINS

by Sue Nichols, *Michigan State University News Bulletin*, reprinted from *Oregon Mycological Society's MushRumors*

Heather Hallen spent eight years looking for poison in all the wrong places.

Alpha-amanitin is the poison of the death cap mushroom, *Amanita phalloides*. The plant biology research associate was looking for a big gene that makes a big enzyme that produces alpha-amanitin, since that's how other fungi produce similar compounds. But after years of defeat, she and her team called in the big guns – new technology that sequences DNA about as fast as a death cap mushroom can kill.

The results: The discovery of remarkably small genes that produce the toxin – a unique pathway previously unknown in fungi.

The discovery is reported in the *Proceedings of the National Academy of Sciences*. It is work that not only solves a mystery of how some mushrooms make the toxin – but also sheds light on the underlying biochemical machinery. It might be possible one day to harness the mushroom genes to make novel chemicals that would be useful as new drugs.

“We think we have a factory that spits out lots of little sequences to make chemicals in *Amanita* mushrooms,” said Jonathan Walton, Michigan State University plant biology professor who leads Hallen's team. “Our work indicates that these mushrooms have evolved a mechanism to make dozens or even hundreds of new, previously unknown, chemicals, besides the toxins that we know about.”

Of the thousands of species of mushrooms, only about 30 produce alpha-amanitin. Most of them look much like their edible cousins. But poisonous mushrooms are powerful in folklore and in history. In 54 A.D., Emperor Tiberius Claudius was fed a death cap mushroom by his wife Agrippina to put her son Nero on the throne of Rome.

Alpha-amanitin kills people by inhibiting an enzyme necessary for expression of most genes. Without the ability to synthesize new proteins, cells quickly grind to a halt. The intestinal tract and the liver are the hardest hit as they come into first contact with the toxin. By the time symptoms show up, a liver transplant is often the only hope.

Hallen, a mycologist, gathers mushrooms in the Michigan woods and often is called upon to help identify mushroom species for veterinarians, parents of small children and local hospitals – often in a desperate race to beat alpha-amanitin's effects.

Walton's lab works to understand the biochemical pathways by which natural products are synthesized in fungi. Fungal natural products that benefit human health include penicillin and the immunosuppressant drug cyclosporin. Studying their biosynthesis could lead to the discovery and development of new medicines.

To find the elusive gene for alpha-amanitin, they used what they term “brute force” – a new machine at MSU that can sequence immense quantities of DNA quickly. The 454 lifeSciences pyrosequencer generates 100 Mb DNA sequence in one overnight run – twice the size of a fungal genome. Traditional sequencing methods require months to yield the same quantities. What they found was a gene that encodes the toxin directly – with no need to first synthesize an enzyme that in turn would make the toxin.

“The RNA goes in, and out comes the backbone of the toxin,” Hallen said. After its initial synthesis, the toxin is then modified in several ways by the mushroom to make it exceptionally poisonous.

Walton said the discovery poses some interesting evolutionary questions. For example, why do only some mushrooms produce this toxin? And how did a handful of other, unrelated mushrooms evolve the same trait? Finding the genes points to how the trait could appear in one mushroom, but not how it evolved in mushrooms that aren't related to *Amanita*.

Hallen and Walton also see the doors opening to a diagnostic test that could use DNA to determine if a mushroom is toxic or not. Identifying a mushroom by shape and color alone is often impossible if the mushroom has been cooked or partially digested, yet rapid and accurate identification in an emergency room situation is critical.

Source: Michigan State University, *MSU News Bulletin* <http://newsbulletin.msu.edu/2007-1121/Mushrooms.html>





*Rhizopogon sp.*



OK, sometimes we try to be tree huggers!

# Franklin Parker Preserve

## May 31, 2009

First foray of many to study the biodiversity of a former cranberry farm in New Jersey's Pine Barrens



Turkey Beard



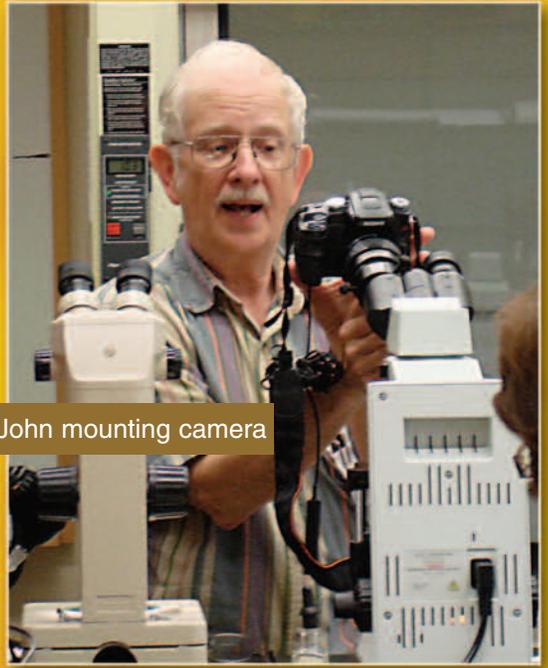
Ticks? What ticks?



The group that showed on May 31.



"Get closer, it doesn't smell that bad"



John mounting camera



Gene preparing to use the 'scope

# DUNG FUNGI WORKSHOP

Instructors Dr. Eugene Varney and John Dawson made sure that it didn't stink!

PHOTOS BY TERRI LAYTON

## WILD FOODS 2009

"Wildman" Steve Brill visits NJMA



PHOTO BY ROB ROBINSON

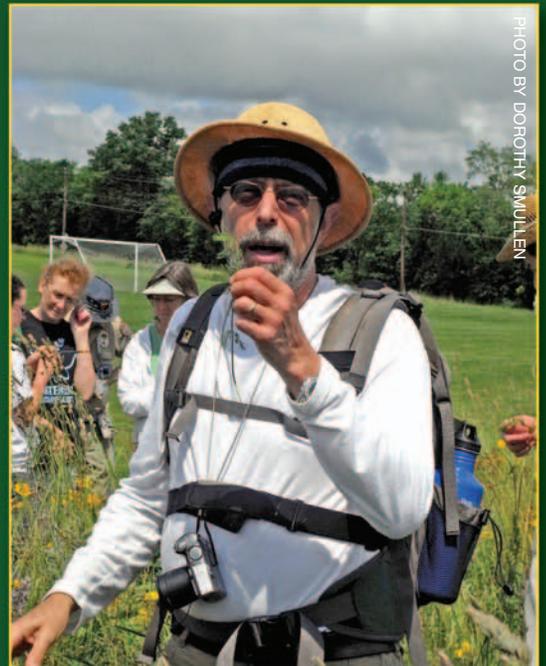


PHOTO BY DOROTHY SMULLEN

## NEMF 2009 UPDATE EASTHAM, CAPE COD, MA

submitted by Gene Yetter

Think Patti Page and Anne Murray, Northeastern forayers!

I pass on to you a reminder from chairpersons, Tim and Nina Rose of the Boston club, to not delay in registering for the foray. If you have already registered, great! We look forward to seeing you there. The dates, again, are October 15-18.

To date, registrations with payment have been received covering half the minimum number of double rooms to satisfy our booking obligation with the hotel, The Four Points by Sheraton, in Eastham, on Cape Cod. We are committed to taking a minimum of sixty double rooms by July 15.

Be forewarned, Eastham fire regulations limit to 200 the number of persons allowed to occupy the hotel's meeting rooms. Therefore, it's "first come, first served." The registration list will be capped once forms covering 200 persons have been received. That includes everyone: primary registrants, spouses, children, guests, roommates, commuters, faculty, etc.

After July 15, registration will cost an additional \$30 on top of options selected on the registration form.

If you haven't seen announcements about the foray in your club newsletter, information and registration forms are downloadable from the homepage of [www.nemfdata.org](http://www.nemfdata.org) and from [www.nemf.org](http://www.nemf.org). Also at [nemfdata.org](http://nemfdata.org) are links to (1) a book review I wrote about *Mushrooms of Cape Cod and the National Seashore* by Alan and Arlene Besette and Bill Neal; (2) a direct link to the Four Points Web site; and (3) a link to Weather Underground for Eastham.

The collecting habitats of the Cape are well described on the official information sheets at the above links and in *Mushrooms of Cape Cod*. The stellar mycology faculty for the foray includes Bart Buyck, Gro Gulden, Roy Halling, David Hibbett, Sue Hopkins, Renée Lebeuf, Gary Lincoff, Bill Neill, Don Pfister, Anne Pringle, Moselio Schaecter, Michaela Schull, Elinoar Shavit and Tom Volk.

Tim and Nina, and everyone connected with running the foray, hope you will take time asap to register. Don't wait until the last days before the July 15 deadline, only to have your registration returned because 200 people are ahead of you. Please recirculate this NEMF message among your fellow club members if possible.

Cheers!

– Gene Yetter

## NEMF 2009 OFFERS ENGROSSING PROGRAM, QUALITY SHOPPING

submitted by Andrea Ignatoff

NEMF 2009 is looking great! The faculty and program will be stimulating, while the shopping has never been more attractive. You'll find them at the Northeast Mycological Foray, October 15-18, 2009 in Eastham, Cape Cod, MA, sponsored by the Boston Mycological Club.

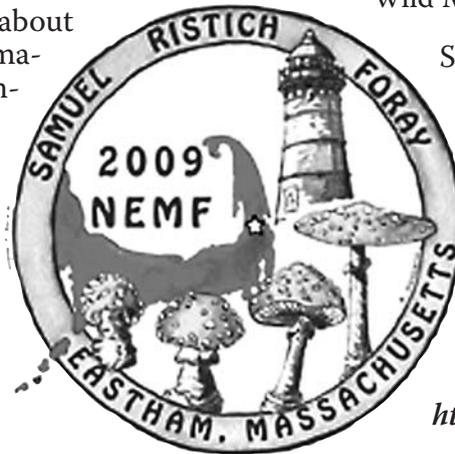
### Workshops and Lectures

The NEMF program accommodates every level and every interest. Workshops cover the range of expertise from Beginning ID (Gary Lincoff) to Ascomycetes Microscopy (Don Pfister). On the aesthetic side, NEMF offers mushroom photography (John Plischke III) and mushroom dyeing (Ellen Neelands). Other workshop topics include lichens (Michaela Schull) and mushroom cultivation (Wesley Price).

More than fourteen lecture topics will cover a wide range, for example "Mushrooms and the Tree of Life" (David Hibbett), "Spores Illustrated" (Tom Volk), "Of Mushrooms and Smells" (Renee LeBeuf), "Macromycetes of the Arctic Archipelago Svalbard (Spitzbergen)" (Gro Gulden), and "Arsenic in Morels: A Different Approach" (Elinoar Shavit). The Maine Mycological Association will present "Development of Guidelines for Certification of Wild Mushroom Foragers."

Several evening presentations are planned. Commemorating the 200<sup>th</sup> anniversary of Darwin's birth, Gary Lincoff will discuss "Darwin & Mushrooms." Remember those 3D goggles you wore at the horror movies? You'll get a pair to enjoy Kay Fairweather's photo presentation.

Check the website for updated program and faculty information:  
<http://www.nemf.org/files/2009/2009.html>



### Shopping

Declare your fungal allegiance by posting a 2' chainsaw 'shroom or a cement garden ornament on your lawn! The NEMF store will stock novel items as well as past favorites.

For your house, you'll find delicate hand-blown glass, signed original paintings, hand-painted Christmas tree ornaments, Connie Borodenko's prints, and Terry Stoleson's mushroom wreaths. For personal use, seamstresses and knitters are making handbags, ornaments, casserole dish holders, jewelry bags, aprons, and mushroom-dyed wool hats. Decorative felt mushroom orna-

(continued on next page)

ments and vase holders have been specially commissioned from Germany. Pascale's Books and Lubrecht and Cramer will offer a wide variety of mushroom books, including *Mushrooms of Cape Cod* and the *National Seashore*, children's books, and books written by the NEMF faculty.

### **Registration Alert!**

Registration is filling up fast! The limit of 200 people may be reached before the July 15 registration deadline. Latecomers will be put on a waiting list. Get a registration form online at the NEMF 2009 home page <http://www.nemf.org/files/2009/2009.html>.

### **And a new note from Nina and Tim:**

Hello, NEMF Members,

Due to the overwhelming positive response to the NEMF 2009 Foray in Eastham this October, we are evaluating the possibility of expanding the number of registrants beyond the 200 people limit.

Although there is no guarantee that we will be successful, please continue to send your registration forms to hold your place on the waiting list. You do NOT have to include a check with the registration form. If you are notified that your registration has been accepted, you will have to send your check within one week to secure your place.

Thank you for your understanding.

*Nina and Tim Rose  
Co-chairs, NEMF 2009*



## **EAGLE HILL FOUNDATION SEMINARS OFFERED BY THE HUMBOLDT INSTITUTE**

In support of field biologists, researchers, field naturalists, faculty members, and students with interests in the natural history sciences, Eagle Hill offers specialty seminars at different ecological scales for those who are interested in understanding complex natural history questions. Seminars range from watershed level subjects, and subjects in classical ecology, to highly specialized seminars in advanced biology, taxonomy, and ecological restoration.

In support of scientific illustrators and artists, Eagle Hill offers a diverse range of workshops focusing on natural history art.

Eagle Hill has long been recognized as offering hard-to-find seminars and workshops which provide important opportunities for training and meeting others who are likewise dedicated to continually learning more about natural history.

Eagle Hill field seminars and workshops are of special interest because they focus on the natural history of one of North America's most spectacular and pristine natural areas, the coast of eastern Maine from Acadia National Park to Petit Manan National Wildlife Refuge and beyond. Most seminars combine field studies with follow-up lab studies and a review of the literature. Additional information is provided in lectures, slide presentations, and discussions. Seminars are primarily taught for people who already have a reasonable background in a seminar program or in related subjects, or who are keenly interested in learning about a new subject.

There is an online application form at:  
[www.eaglehill.us/programs/general/application-web.shtml](http://www.eaglehill.us/programs/general/application-web.shtml)

Descriptions and syllabi are available. Please let us know if we can help with questions. Prior discussions of personal study objectives are welcome.



## **MUSHROOM Trivia**

One portabella mushroom has more potassium than a banana. White and cremini (all *Agaricus bisporus* species) are also good sources of potassium. Potassium helps the human body maintain normal heart rhythm, fluid balance, and muscle and nerve function.

*(Source: USDA)*

## **20 FOOT TALL FUNGUS?**

**A fossil from about 400 million years ago has been identified as likely being a fungus. Called Prototaxites, it would have been the largest known organism of its day, and it lived worldwide. It stood branchless, tree-like trunks, more than 20 feet tall and a yard wide.**

See the full story at:

[http://www.livescience.com/strangenews/070423\\_mystery\\_fungus.html](http://www.livescience.com/strangenews/070423_mystery_fungus.html)

# USE OF FUNGI BY NATIVE AMERICANS

reprinted from *MushRumors*, newsletter of the Oregon Mycological Society, vol. 47, no. 2

Ethnobiology, defined as the study of the uses of living organisms by indigenous peoples, is a fascinating science. The following information on the use of fungi by indigenous peoples of the Americas is from a University of Wyoming website. Although it is not possible to verify much of the information cited in the article, the list sheds light on the extensive use of fungi by native Americans.

## Food Use

- The Lilloet inhabited the Rocky Mountains in Canada and used mushrooms extensively for food including: *Tricholoma gambosum*, *T. populinum*, *Pleurotus ostreatus*, *Hygrophorus gliocyclus*, *Morchella* sp. They also used black tree lichen for food.
- The Nlaka'pamux lived in the Canadian Rocky Mountains and had an extensive recorded ethnobotany which includes four mushrooms used as food sources: *Tricholoma gambosum*, *T. populinum*, *Pleurotus ostreatus* and *Cantharellus cibarius*.
- The Iroquois relished *Agaricus* mushrooms. They boiled them after peeling and dicing, just as some still do today.
- The Salish ate three types of mushrooms: *Tricholoma populinum*, *T. magnivelare* and *Pleurotus ostreatus*.
- The Omaha cut large puffballs into chunks and fried them in sunflower oil, bear oil or deer tallow like meat. They also peeled, diced and then boiled them in water with salt, grease and bits of meat as seasoning to make a tasty puffball soup.
- The Zunis dried puffballs for winter use, while the Iroquois fried them and added them to soups.
- The Kiowa have published records indicating they used both puffballs and lichens. The puffballs (*ai-pee-o-pa*) were eaten at a young age.
- Bracket fungi, sulfur yellow to orange brackets which grow on the bases of decayed or dead trees, were sliced and then boiled for more than thirty minutes before they were eaten.
- The Dakota ate only the young bracket fungi and avoided those found on ash trees, owing to their bitterness.
- The Hopi avoided all brackets because they associated them with the malignant growths of cancer and feared contamination.
- Several tribes gathered corn smut as it appeared on corn plants and boiled it as a food.

- The Omaha and Poncho grew corn and ate corn smut which they called *Wahaba hthi* (corn sores).
- Although the lichens were not regarded as common foods, in emergencies many types were eaten and some were considered delicacies.

## Medicinal Use

- The use of puffballs as a styptic was universal among Native Americans. The Kiowas used the dried spores of puffballs as a styptic on cuts and scratches and for the umbilical cords of infants.
- The Arikari used puffballs for poultices on swellings and abscesses.
- The Wood Crees made use of shelf fungi (*Inonotus obliquus* or *Poria obliqua*) by boiling the conk for tea.
- The Kiowas used dried and powdered lichens on teething infants' gums, or applied to abscesses.
- The Cheyennes used a mixture of purple cone-flower roots with puffball spores and skunk oil in the treatment of boils.
- The Blackfoot name for puffballs is *Ka-Ka-Too*, which translates into "fallen stars." The fungus was assumed to have a connection with the spirits and was burned as an incense to keep ghosts away.
- Images of puffballs were painted on the outside of the tipi as a talisman to insure warmth would always be present inside the lodge.
- An array of art forms carved from and made out of mushrooms were part of the shamans mystic paraphernalia that provided symbols of spiritual power.

## Domestic Use

- Crow Indians used morels (*Morchella* sp.) as a soap substitute.
- The Sioux used lichens as a dye (*Usnea barbata* and *Palelia borreri*). These lichens yielded a bright yellow dye used on porcupine quills and hides.
- The Lilloet rolled strands of the black tree lichen together and wove them into clothing. This clothing was not common, and was considered a sign of a person too poor to have leather clothing.
- The Kiowas used some lichens in a smoking mixture. While the lichen is not identified scientifically, the report describes the lichen "growing on the north side of the tree trunk."
- Dried puffballs were used as tinder to start fires.

Source: Adapted from <http://www.uwyo.edu/~fungi/indian.pdf>

## **NJMA NEWS**

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### **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.*

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- **PINELANDS NOT BARREN**
- **GENES AND POISONS**
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*...plus more!*

## ***Entoloma murrainii***

This distinctively-pointy pale yellow mushroom is found in bogs and wet areas during the summer, and contrasts beautifully with the moss that it usually grows in. It is suspected to be poisonous.



PHOTO BY JIM BARG