NJMA NEWS

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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!*

Mycena galericulata

Often misidentified as *Mycena inclinata*. They are both extremely similar and both grow on well-decaying hardwood logs in the cooler weather of spring and fall. *Mycena inclinata* can usually be recognized by a "toothed" margin when young, as well as hairs at the base.

(Thanks to Dorothy Smullen for assisting with the ID)

PHOTO BY JIM BARG

WHAT'S INSIDE:

PRESIDENT'S MESSAGE

I hope you have enjoyed a peaceful close of 2016, and are looking forward to 2017. Our club moved through its year-end activities with the visit of Dr. Roz Lowen and election of officers at our November meeting, followed by the Photo Contest and Holiday Party in December. Now we start planning for 2017.

The November meeting featured a short workshop in which Roz Lowen helped participants examine microscopic features of some ascomycete specimens, followed by a lecture introducing a larger audience to this fascinating division of the kingdom of fungi. I was especially glad to have several newcomers participate in the microscope session. On behalf of the officers who stood for re-election - John Burghardt, President; Luke Smithson, Vice President; Igor Safonov, Treasurer; Sharon Sterling, Secretary; and Dorothy Smullen, Trustee, I would like to thank members for the opportunity to serve you again in 2017.

The Photo Contest and Holiday Dinner were great fun. Jim Barg organized the photo contest, and recruited Tom Bigelow, Randy Hemminghaus, Katy Lyness, and Dave Wasilewski to serve as judges. The judges did an excellent job of explaining the criteria they used in judging and offering constructive comments on the large number of entries received this year. We enjoyed the Holiday Dinner between sections of the Photo Contest. Virginia Tomat decorated for the Holiday Dinner and purchased beverages. Luke Smithson managed the flow of food from the kitchen counters to the serving tables. Special thanks to Jim Barg and Virginia Tomat for organizing this wonderful year-end event, and to the Unitarian Society for allowing us to use their home. Thanks also to the photo contest judges and many volunteers who contributed dishes and made everything work smoothly. Congratulations to Maricel Patino for her "Best in Show" photo.

Early in 2017, we look forward to Dr James White's lecture on the "Secret World of Endophytes" on January 8th and the Executive Committee Meeting on January 22nd, both at Frelinghuysen Arboretum in Morristown. Jim Richards is organizing our winter Mycophagy Meeting and Myco-auction for February 12th at the Unitarian Society in East Brunswick.

In closing, I would like to welcome our new members, thank those who have participated in our activities, and encourage others to become engaged in any of our activities that interest you. Don't be shy about asking questions and offering suggestions.

Best wishes for a happy and healthy 2017.

– John Burghardt
President, New Jersey Mycological Association
609-651-2728

EDITOR'S NOTES

Welcome to the New Year!

If all goes well, I hope to be receiving all kinds of reports – *with captioned photos* – from you of your fantastic fungal finds. Have no doubt, I will be reminding you from time to time that *NJMA News* depends on your contributions: foray reports, lecture notes, workshop recaps, book reviews, an occasional recipe or two, and tidbits for BBB. In other words, any thing that you think will be of interest to other club members.

Thanks to those of you who read my last Editor's Notes. You responded to my reminder email (as I promised) and either: (1) sent in your contributions pre-deadline, or (2) let me know that you would be sending them in for the next newsletter. It really makes my job a lot easier.

I would especially like to thank Fran for "Dyeing Divas", Dave Wasilewski for his review of the Agaricus monograph, John Dawson for #58 in his long-running series "Who's In A Name?", and John Burghardt for his annual guide for the pothunters which tells all the information about when and where to find their favorites in one place. There was almost no need for me to edit anything :-)

See you at the winter meetings!

– Jim Richards

Visit the NJMA Discussion Group

facebook

http://tinyurl.com/jjualgz

WELCOME TO THE ONLINE EDITION OF NJMA NEWS

For the great majority of you who are viewing the online PDF of this newsletter, please note that **most web links and email addresses are clickable.** Clicking on a *blue* web or email address will launch your web browser and take you to the specified page or open your email software so you can send an instant email. Just look for the "click finger" when you hover your mouse over these items.

AT OUR APRIL 2ND MEETING

DR. DENIS R. BENJAMIN ON MUSHROOM TOXINS

by John Burghardt

Our speaker at the April 2, 2017 meeting at the Frelinghuysen Arbortum will be Dr. Denis R. Benjamin. He will speak on "Mushroom Toxins: Common Myths and Misconceptions".

Born in South Africa, Dr. Benjamin migrated to the USA in 1970. He completed his residency in Pathology and Laboratory Medicine at the University of Washington in Seattle and was on the faculty until 2000. He practiced pediatric pathology at the children's hospital in Seattle and later at Cook Children's in Fort Worth, Texas. While living in the Pacific Northwest, he became an avid mushroomer and pothunter, and eventually became an expert in the effects of mushrooms on health.

He was a board member of the Puget Sound Mycological Society, Chairman of the Toxicology Committee of NAMA for a number of years, and a consultant for the regional Poison Control Center. His landmark book *Mushrooms: Poisons and Panaceas: A Handbook for Naturalists, Mycologists, and Physicians* (1995, WH Freeman and Co. NY, NY) remains an indispensible reference for amateurs and professionals concerned with mushroom poisoning. Dr. Benjamin's second book, *Musings of a Mushroom Hunter: A Natural History of Foraging* (2010, Tembe Publishing, Cle Elum,WA) a delightful series of essays, was inspired by his early career as a self-described "obsessive pothunter".

Now retired from medical practice, Dr. Benjamin devotes his energy to natural history and documenting wildflowers and mushrooms with photography and watercolor. He lectures and gives workshops for mushroom groups all over the country.

AN UNUSUAL FIND

submitted by Nina Burghardt

On December 3rd, Dave Wasilewski, Igor Safonov, Maricel Patino, John and I visited the Franklin Parker Preserve in Chatsworth, where NJMA is conducting an ongoing fungal survey. There were lots of Tricholoma buried in the sand road in the Speedwell section of FPP. Dave and I were collecting the Tricholoma when we noticed that several had bright cherry red staining. I figured that it was due to the frost, but Dave put the pictures on *Mushroom Observer* to see if anyone else had noticed the same phenomena. A MO contributor in Canada had also found mushrooms with the same stain. Another contributor identified the stain as the bacteria *Serratia mercescens*. It attacks weakened organisms such as frozen mushrooms. Apparently, it is a problem in hospitals, where it can cause urinary tract infections and pneumonia. If you want to see the bacteria on our mushroom or want to read up about it, you can look it up at ***http://mushroomobserver.org/263726***.

NJMA'S ANNUAL MYCOPHAGY MEETING AND MYCO-AUCTION, SUNDAY, FEBRUARY 12, 2017

1:30 PM, UNITARIAN SOCIETY, EAST BRUNSWICK

by Jim Richards

It is getting near the time for NJMA's best-attended event of the year, our annual Mycophagy Meeting and Myco-Auction. For the unititiated, this is the one meeting each year where we demonstrate and sample the art of mushroom cookery.

Here is a short history lesson for our newer members: NJMA's Mycophagy began in 1978 as a way to give us a taste (literally) for the way that chefs work with mushrooms in the kitchen. After a couple of years of demonstrations by New York chefs Paul Leuthard and Max Meister using frozen or dried mushrooms collected by club members, the reins were handed over to NJMA members Grete Turchick and myself. After a few years, Bob Hosh put on his apron and Grete retired from the demo kitchen. Another short span of time and a huge change occurred: Phillips Mushroom Farms became involved and has generously provided us with a supply of fresh mushrooms – allowing Bob and I to prepare all kinds of different dishes. We continued to cook together until about six years ago, at which time it was decided to try to get professional chefs once again. We have been very lucky in getting some very talented chefs to dazzle our taste buds, including, not least of all, NJMA's Vice-President Luke Smithson, who is Executive Chef of Jamie Hollander Gourmet.

The original chef which I had lined up for the 2017 program has had to cancel, so I am working on finding a suitable replacement. Details will be available on our website and at our January 8th meeting.

The Myco-Auction was added by Bob Peabody as a way to fill the gaps between dishes, and rapidly became an event in-and-of itself. It has been a great way for members to transfer ownership to, or obtain, all kinds of mushroom-related "treasures". Dried mushrooms such as morels, black trumpets and boletes donated by our very generous collectors are always very, very popular.

The Mycophagy Meeting and the Myco-Auction are only open to NJMA members. **Reservations are essential!** Contact Igor Safonov at ***njmycomember@gmail.com***. Space is limited and the chefs need to know how much food to prepare, so **register early**.

The cutoff date for reservations is Sunday February 5th.

If you have items to add to the Myco-Auction, contact auctioneers Frank Marra (***marraman1@verizon.net***) or Marc Grobman (***marc@marcgrobman.com***).

If you would like to volunteer to help in the kitchen, contact me (***jimrich17@me.com***).

foray reports

FINAL FORAY OF 2016 AT BELLEPLAIN STATE FOREST

by John Burghardt

Conditions in Cape May County were ideal for our foray on October 30. The woods were moist from recent rains. The weather was clear and mild, with very little wind. Twenty or so experienced members and many newcomers arrived at our meeting point in the State Forest Office parking area just before 10:00 AM. Foray leader Rod Tulloss gave a brief introduction to Belleplain and the foray. Then the group dispersed to collect in three areas. One group walked with Rod along the service road toward Nummy Lake, collecting on both sides of the road. A second group drove to Nummy Lake, and then dispersed into the woods and along trails near the lake. The third group, led by Igor Safonov, carpooled to a stand of pines off Jake's Landing Road in the Dennis Creek area known for its *Amanita phalloides* and other pine-loving species.

Back at the Nummy Lake Pavilion at noon, the tables were full. After the sorting, we had a fine collection of fall fungi, probably well over 100 taxa. We eventually identified 90 species.

Mycorhizzal fungi were out in force. Amanitas were well-represented including *Amanita persicina, A. polypyramis* and, of course, *A. phalloides* (see Igor's nice photo of a specimen at ***mushroomobserver.org/260825***). Several Cortinarius appeared on the tables. Most remained unidentified, since this group is extremely difficult to identify beyond a relatively few common species. But it is important to collect them, and sometimes we get lucky and key one out. After the foray, Nina Burghardt selected a Cortinarius collection with several specimens from her basket. After hours staring at her specimen, examining its microscopic features, and consulting her iPad, Nina determined that it was *Cortinarius decipiens. (See photo below.)* This mushroom is new to the NJMA Species List and the collection was dried for the herbarium.


PHOTO BY NINA BURGHARDT

The mycorhizzal genera Laccaria, Lactarius, Russula, Tricholoma, and Suillus were each represented by three or more species. One of the Russulas had a pinkish cap with yellowish/ochre color over the center, dark cream colored gills, a white stem with deep yellow at the base, dark cream spores, a mild taste, and distinctive spores. This eventually keyed out nicely to *Russula luteobasis* in the *Keys to the Species of Russula in Northeastern North America* by Geoffrey Kibby and Raymond Fatto. Seldom are we so lucky with an unknown Russula. This one appears to be unusual – I found only three references to it including Peck's original description, and just one photo from Illinois. This is also new to our list.


PHOTO BY JOHN BURGHARDT

Two views of ***Russula luteobasis*** *from Belleplain*


PHOTO BY JOHN BURGHARDT

The foray also produced some nice collections of wood decay fungi, including *Grifola frondosa, Laetiporus sulphureus, Globifomes graveolens,* and *Phaeolus schweinitizii.* The gilled saprobes included several Mycena and Marasmius, as well as *Lepista nuda*, *Pleurotus ostreatus,* and a *Hypholoma fasciculare*. There were also two important odd balls in our baskets that we discovered upon arriving home; *Pseudoarmillariella ectypoides (shown below)* and *Lycoperdon maury-*


PHOTO BY NINA BURGHARDT

annum. *P. ectypoides* looks like a velvety, soft brown, slightly funnel-shaped Clitocybe or Omphalina, which are earlier generic classifications for this taxon. *Lycoperdon mauryannum* resembles a *Lycoperdon perlatum* (the Gem-Studded Puffball), except that it has long hairy spines instead of "studs' on its outer surface. (See photo). Nina keyed out both of these, and corrected my misidentification of the Lycoperdon as a Gem Studded Puffball. Both of these are new to the NJMA cumulative list.

Another oddball from Bellplain: ***Lycoperdon mauryannum***

If you have read this far, you are probably tired of hearing about all the unusual species we found at Belleplain, but this is one of its charms. Like Stokes State Forest in the far northwest corner of New Jersey, Belleplain harbors a richly diverse macroflora. And not coincidentally, our foray at Stokes in August was the only other regular foray at which we identified four species that were new to the NJMA list.

Thanks to Rod Tulloss for leading the foray and to the many participants who made very careful collections, asked good questions, and helped with sorting and identification.

I look forward to returning to Belleplain next fall.

MANY THANKS TO OUR PHOTO CONTEST JUDGES

On behalf of the Photo Contest Committee and all of the members of NJMA, we'd like to thank the judges (all NJMA members!) of the 2016 Photo Contest: **Tom Bigelow**, **Dave Wasilewski**, and the team of **Randy Hemminghaus** and **Katy Lyness**. We know you had a big job this time around (Over 160 photos entered, a record for us) and your time does not go unrecognized!

COMPLETE LIST OF WINNERS NJMA PHOTO CONTEST 2016

NOVICE DIVISION

PICTORIAL

FIRST Maricel Patino
SECOND Matthew Porraro
HONORABLE MENTION Brian Gallo

TECHNICAL

FIRST Maricel Patino
SECOND Maricel Patino
HONORABLE MENTION Liz Broderick

JUDGES' OPTION

FIRST Kumiko Itagaki
SECOND Brian Davies
HONORABLE MENTION Christina Niciporciukas

ADVANCED DIVISION

PICTORIAL

FIRST Luke Smithson
SECOND Judy Gorab
HONORABLE MENTION John Dawson

TECHNICAL

FIRST Luke Smithson
SECOND Susan Hopkins
HONORABLE MENTION Rhoda Roper

JUDGES' OPTION

FIRST Judy Gorab
SECOND Judy Gorab
HONORABLE MENTION Judy Gorab

BEST IN SHOW
Maricel Patino

Congratulations to the winners, and a big "thank you" to all those who entered – and thank you to all of the judges and NJMA officers and volunteers who helped to make this year's photo contest a whopping success!
We hope to see more of you next time around!

NJMA PHOTO CONTEST 2016

BEST IN SHOW

Xerula megalospora

MARICEL PATINO
Photographer

NJMA PHOTO CONTEST 2016
GALLERY OF FIRST PLACE WINNERS

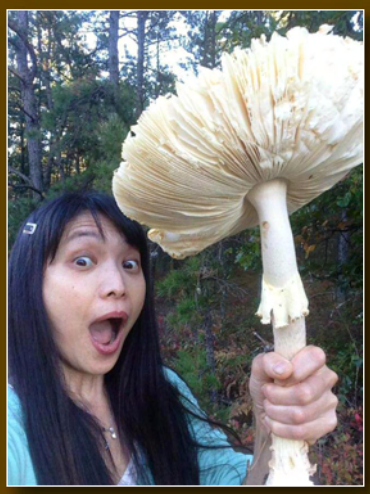
ADVANCED PICTORIAL – **LUKE SMITHSON**
"Slime mold on *T. gibbosa*"

NOVICE PICTORIAL – **MARICEL PATINO**
Xerula megalospora

ADVANCED TECHNICAL – **LUKE SMITHSON**
Boletus auripes

NOVICE TECHNICAL – **MARICEL PATINO**
"Orange yeast"

ADVANCED JUDGES' OPTION – **JUDY GORAB**
Hard Agrocybe



NOVICE JUDGES' OPTION – **KUMIKO ITAGAKI**
"Amanita umbrella"

(A complete list of all winners is on page 5.)

THE DYE DIVAS

THE 2016 NJMA MUSHROOM DYE WORKSHOP

report and photographs by Fran Sheldon

Anyone who has attended Fungus Fest and visited NJMA's own dye-meister Ursula Pohl's "Dyes from Mushrooms" display knows the range of dazzling colors that can be coaxed from a number of fungi. Even unassuming species like *Phaeolus schweinitzii* or *Hapalopilus nidulans* can be persuaded to give yarns and fabrics brilliant shades of orange and purple, and dozens of other fungi provide pigments to complete the spectrum. The transformation that occurs in the dye pot seems magical, but relies on knowledge and skills learned and passed down from master to student over centuries of experimenting with natural dyes and fibers.

When I learned that Ursula had agreed to lead a mushroom dye workshop for NJMA on Saturday, October 29, 2016, I signed up right away. I had attended a couple of natural dye sessions with my weaving guild, experimented on my own, and was eager to combine my love of mushrooms with my love of fibers. Despite having Arleen Bessette's excellent book, *The Rainbow Beneath My Feet: A Mushroom Dyer's Field Guide*, at my side, and having a strong desire to add some lovely fungal colors to my yarn stash, I was intimidated by the thought of trying mushroom dyeing on my own. There are so many steps to the lengthy process, so many details that demand attention, so much, I thought, that can go wrong. The all-day NJMA Dye Workshop was just what I needed: A simplified process (mushrooms collected, yarns prepared for dying, equipment and supplies ready), three of us students to pay attention to the dye baths, and Ursula's experienced hands and eyes to ensure that nothing would go wrong.

The goal of our workshop was to learn some basic skills, to have rewards for immediate enjoyment (silk scarf) and for working into future fiber projects (yarns), and to have fun! The workshop location was Liz Broderick's

garage, airy, well-lit, and spacious enough for a worktable for the bags of previously-collected mushrooms, supplies and equipment, a drying rack to hold the large quantity of yarns Liz had prepared in advance, and a second work table large enough for several dye pots. When Ursula Pohl, Patricia McNaught and I arrived, Liz and her husband Kevin had the workshop set up and ready to go, including a huge pot of hot water, which we used to speed up preparation of the dye baths. Kevin kept the supply of hot water coming all day.

Liz had already prepared most of the yarn, but held out just enough so Patricia and I could practice forming loose skeins, weighing them, and deciding the amount of mushrooms needed for the amount of yarn. We also learned about mordanting the yarn, which helps the pigments bind to the yarn and usually affects the color in sometimes subtle (and sometimes dramatic) ways. We used alum, tin, and iron as mordants. Finally, we soaked the skeins of yarn thoroughly, so that the pigments in the dye bath would distribute evenly throughout the yarn.

The next step is to prepare the dye baths by adding water to the mushrooms, slowly bringing the pot to temperature, and adjusting pH level. After the dyes have been extracted, we strained the mushrooms, reserving them for use in subsequent dye baths. The

strained liquid is then ready to accept the soaked yarn. (Note: ensure the temperature of the soaked yarn and the dye bath are equivalent. Never shock the yarn.)

Working with a total of eight different dye mushrooms, we had several things going on at once. We often had three or four dye baths on the hot plates and camp stoves at a time, and mordanted yarn soaking in readiness. Temperatures and timing can be critical, and Ursula kept a careful eye on the thermometer and her watch. Her tip to label the pots with the name of the mushroom in the dye bath and the time required after the bath comes to temperature helped us novices keep track.

The actual dyeing process involves maintaining the dye bath and yarn at the required temperature for about 60 minutes. Lifting the yarn and allowing it to drain slightly gives an indication of the intensity of the color. In addition to watching the temperature, the pH level of the dye bath should be checked regularly with litmus paper and be adjusted, by adding vinegar or ammonia, to achieve the best colors.

After the yarn is judged ready, it should remain in the pot to cool gradually to improve colorfastness. We moved the pots to the driveway where they cooled in about half an hour. We then lifted out the yarns, rinsed and drained them, spun out excess liquid, and hung the damp skeins on a rack to dry. (Note: If the dye is not exhausted, save it for another bath. The colors won't be as intense, but still may be lovely.)

An important step we were not about to skip was to admire our results. From eight different mushrooms we achieved about 20 different shades of purple, orange, gold, green, yellow, brown and even blue, as follows:

- *Boletopsis subsquamosa* – brown with iron and yellow-brown with alum
- *Phaeolus schweinitzii* – yellow with alum, green with iron and tin
- *Cortinarius semisanguineus* – shades of salmon and purple from tin and shades of orange-beige from alum
- *Hypomyces lactoflorum* – peach
- *Hydnellum spongiosipes* – blue with alum
- *Inonotus hispidus* – yellow with alum
- *Hapalopilus nidulans* – purple with tin and alum
- *Phellodon niger* – taupe

So the NJMA Mushroom Dye Workshop achieved its goals: We all learned some basic skills, took home some lovely rewards, and had fun. But there were other take-homes from the day for me. Ursula's calm response to each surprise fluctuation in temperature or acidity of the dye bath, made me realize that nothing was about to go seriously wrong. She demystified the process of yarn preparation, mordanting, and dyeing, which makes me confident to try mushroom dyeing at home. And Ursula emphasized inexact aesthetics over time charts, taking the yarn from the dye pot when we agreed we were satisfied with the color, and then each became more beautiful as it dried.

Many thanks to Ursula, Liz Broderick and Kevin for all the effort that went into making this event possible.

NJMA 2016 FORAY SEASON IN REVIEW

by John Burghardt

The NJMA 2016 foray season was marked by a wonderful mix of new and experienced participants, new and familiar collecting locations, and a great many excellent collections of fungi. It was great fun to meet and talk to so many people curious about fungi who attended our forays all over New Jersey.

We held forays at five new locations this year. The Victor Gambino Foray was held on the southern edge of the Delaware Water Gap National Recreation Area, about 30 miles south of the Pocono Environmental Education Center (PEEC). We returned to Rancocas Nature Center in Burlington County, NJ after a several year hiatus, and extended our collecting to Rancocas State Park north of the Rancocas Creek. We also held forays for the first time at the Ted Stiles Preserve on Baldpate Mountain in Mercer County, State Line Lookout on the Palisades Parkway in Bergen County, and the New Jersey Department of Forestry Forest Resource Education Center in Ocean County. Our familiar collecting locations were Princeton Institute Woods (Mercer County), Stokes State Forest (Sussex County), Stephens State Park (Warren County), Cattus Island Park (Ocean County), Brendan Byrne State Forest (Burlington County), Wells Mill Park (Ocean County), and Belleplain State Forest (Cape May County).

Our list this year also includes species brought to Fungus Fest, the new survey of Ted Stiles Preserve, and an ongoing survey of Franklin Parker Preserve in Burlington County, which completed its eighth year in 2016. Teams lead by Patricia McNaught and Liz Broderick made eight collecting visits to Ted Stiles Preserve between May and October, in addition to the regular mid-July foray. Teams led by Nina Burghardt visited Franklin Parker Preserve 15 times from February to December.

The accompanying species list (beginning on ***page 16***) displays the richness and diversity of New Jersey's mycoflora, despite very dry conditions at many of our early and mid-summer forays. A listing of species by foray location is at ***http://tinyurl.com/hookclh***. We identified 660 taxa this year, including 57 species that are new to our cumulative NJMA foray species list. This was a significant increase over the 550 taxa and 48 new species identified in 2015. Since moisture patterns in 2015 were similar to those we encountered this year, the large increase from 2015 to 2016 surprised me.

I think the addition of a second survey project (Ted Stiles Preserve) played an important role in the large increase in the number of species identified. The Ted Stiles and Franklin Parker Surveys involve multiple collecting trips at different times of the year and to different locations within each preserve. The mycoflora of every location includes a mixture of fungi that are common across many locations as well as those unique to that location. On any one visit, only a relatively small proportion of the many fungi living there will be fruiting. Even if fungi are fruiting, they may not be observed or collected. Making many visits to the location over the year increases the chance of observing fungi that fruit infrequently, only at certain seasons, only under certain weather conditions, or that are inconspicuous and so likely to be overlooked on any particular single visit. At Ted Stiles, we identified 210 taxa (including 8 new species) and at Franklin Parker, 219 taxa (including 17 new species). Moreover, 143 species were collected only at Ted Stiles (67) or only at FPP (76) so these two surveys greatly expand the mycoflora that we are able to document.

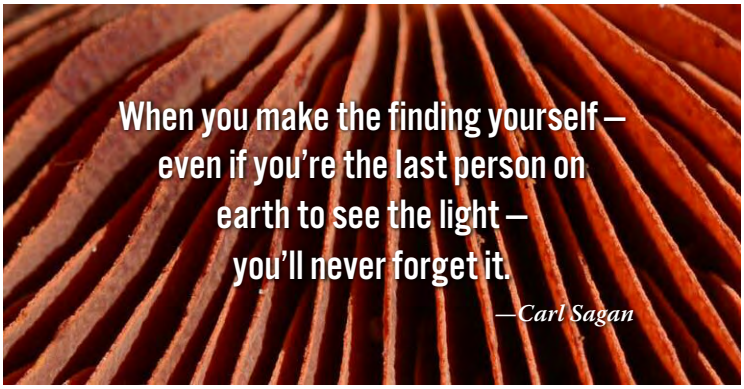
Thanks to the leaders and participants at our forays and ongoing surveys of macrofungi. We look forward to seeing you in 2017.

The Species List for 2016 Forays begins on page 16.

WELCOME TO ALL OF OUR NEW NJMA MEMBERS!

We'd like to extend a warm welcome to the following members who joined us between October 26, 2016 and December 18, 2016. We look forward to seeing you at lectures, forays, and other NJMA events. Happy 'shrooming!

Sophia Courtney	Philadelphia, PA
Bruce Dalziel	Morristown, NJ
Susan Dannenberg	Philadelphia, PA
Erin Fulton	Whitehouse Station, NJ
Patrick Gilliam	Neptune City, NJ
Waldemar & Agness Gozdek	Lyndhurst, NJ
Frank Liberi	Medford, NJ
Christina Mayer	Ambler, PA
Michael McGurk	Williamstown, NJ
Nikia Reali	Hackettstown, NJ
Logan Schobel	Waretown, NJ
Edward Zeme	Atco, NJ



CALENDAR OF UPCOMING EVENTS

Sunday, January 8 **1:30pm**	**NJMA MEETING & LECTURE** **at the Frelinghuysen Arboretum, Morristown** ***with* James F. White*, Professor of Plant Pathology at Rutgers University*** He will present a talk entitled "An Introduction to the Secret World of Endophytes, a fascinating group of fungal and bacterial organisms".
Sunday, February 12 **1:30pm**	**ANNUAL MYCOPHAGY MEETING AND MYCO-AUCTION** **at the Unitarian Society in East Brunswick** *Guest chef to be determined - See article on page 3.* *Members only --- Registration is required. No fee to attend.* *Contact Igor Safonov (njmycomember@gmail.com) to register.*
Sunday, March 12 **1:30pm**	**NJMA MEETING & LECTURE** **at the Frelinghuysen Arboretum, Morristown** *Program to be determined.*
Sunday, April 2 **1:30pm**	**NJMA MEETING & LECTURE** **at the Frelinghuysen Arboretum, Morristown** ***with* Dr. Denis R. Benjamin*. His topic will be "Mushroom Toxins: Common Myths and Misconceptions" (see article on page 3)***
July 27-30	**NEMF FORAY** **Stratton Mountain Resort, Stratton Mountain, VT**
September 7-10	**NAMA NORTHWOODS FORAY** **Lakewood Resorts** **Lake NAMAkagon, Wisconsin**

Reprinted from the newsletter of the Long Island Mycological Club, Autumn 2015

ARE YOU DRAWN TO DRAWING MUSHROOMS?

We are always interested in receiving accurate hand drawings, sketches, or artwork in any variety of media to grace our pages. While we cannot guarantee that your work will be published, we do file each submission and consider it for use either in conjunction with specific articles or for use as backgrounds or supplemental art when needed. You retain your copyrights and you'll be credited in all cases.

Contact our Art Director Jim Barg at **jimbarg@bssmedia.com** for more information or to submit your work.

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Annual subscription price is included in NJMA membership annual dues.

WHO'S IN A NAME?
Henningsomyces candidus

by John Dawson (fifty-eighth in a series)

Henningsomyces candidus (Pers.) Kuntze is a tiny cyphelloid fungus (a cup fungus that is a basidiomycete), often overlooked, that grows in clusters on the underside of logs. Viewed through a hand lens or dissecting scope, the individual fruiting bodies are revealed to be fuzzy white cylinders that resemble the "soda-straw" tubes in the hymenium of *Fistulina hepatica*, to which *Henningsomyces candidus* is in fact closely related.

The generic name *Henningsomyces* honors Paul Christoph Hennings, a self-taught German mycologist who rose to become curator of the Berlin Botanical Museum. Hennings was born 11 November 1841, in the town of Heide in Holstein, to master tanner Hans Christian Hennings and his wife Charlotte Catharina. After receiving his primary education in the provincial schools, he enrolled at the *Gymnasium* in the nearby town of Meldorf, but in 1860, during his third year there, he was forced by unspecified external circumstances to withdraw from school before receiving his diploma. Despite that setback, however, he retained his desire to pursue a career in science and volunteered the next year to work as an assistant at the botanical garden of the Christian-Albrechts University at Kiel.

Paul Cristoph Hennings

Three years later, with the support of Ernst Ferdinand Nollte, the director of the botanical garden, and on the advice of his friend, the poet Klaus Groth, Hennings matriculated at that same university; but once again his plans were thwarted because of the outbreak in 1864 of the Second Schleswig War between Prussia and Denmark.

During that war, Hennings worked for the German postal service — a job that he detested and that forced him to move several times. In 1867, he was transferred to Hohenwestedt and married Mathilde Wendel, who later bore him two sons. There too, in addition to performing his postal duties, he found time to make numerous botanical excursions with his mentor Nollte, to issue exsiccatae and seed collections, and to teach at the local agricultural school. Then, in 1874, he was invited by Nollte's successor, A.W. Eichler, to return to the botanical garden in Kiel.

Back at Kiel, Hennings organized the garden's large herbarium, expanded its collections, and published two regional floras, one for the region around Hohenwestedt and the other for the vicinity of Kiel. It was also there that he began to specialize in studying cryptogams. Among other projects, he amassed a complete collection of the larger algae from the bight of Kiel.

In 1878, Eichler moved to the herbarium in Berlin, and two years later invited Hennings to join him. Eichler had established public exhibition spaces at the herbarium, and he put Hennings in charge both of setting up the displays and of constructing a separate cryptogamic herbarium. From then on, Henning's interest turned increasingly to the fungi: First to the pileate fungi, then to smuts, rusts and parasitic ascomycetes. He rapidly gained recognition as an authority in fungal taxonomy and began receiving inquiries and fungal specimens from German colonies around the world. He described many new species, especially from northern Germany and the tropics.

In 1891, Hennings was promoted to curator of the Berlin museum, and in 1902, despite his lack of formal academic credentials, he was named "royal professor" in recognition of his scientific accomplishments and expertise. (His botanical publications numbered in the hundreds, mostly in the journal Hedwigia, of which he served as editor from 1893 to 1905.)

The death in 1907 of one of Hennings's sons caused him to abruptly cease his writing and other activities, and he died less than a year later, on 14 October 1908.

SOURCES: The primary source for this profile was the entry on Hennings by Klaus Müller in *Neue Deutsche Biographie*, vol. 8 (1969), pp. 548 ff. Other sources consulted were the *Wikipedia* entry on Hennings, from which the accompanying portrait of Hennings was extracted, and the obituary memoir of Hennings by Gustav Lindau, translated into English by J. Perkins, published in the *Botanical Gazette*, vol. 47 (1909), pp. 239–241.

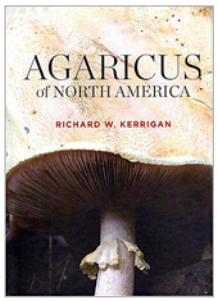
[1] Excellent photomicrographs of *Henningsomyces candidus* accompany the article "Small wonders", by Larry Millman, on pp. 32–34 of *Fungi*, vol. 9, no. 3 (Fall 2016).

[2] The division of plants into those that flowered (phanerogams) and those that did not (cryptogams) was a concept introduced by Eichler himself , as was the division of the phanerogams into gymnosperms and angiosperms and the latter into the monocotyledons and dicotyledons.

BOOK REVIEW

AGARICUS OF NORTH AMERICA

a book review by David Wasilewski



Agaricus of North America
(Memoirs of The New York Botanical Garden Volume 114)
by Richard W. Kerrigan

Published by NY Botanical Garden Press, 2016.
608 pages
ISBN 13: 978-0-89327-536-5

For me, Agaricus has always been somewhat of an enigma. Identifying a given mushroom to this genus is generally not difficult, given the invariably free gill attachment, rich brown spore prints, and whitish caps. Naming those "pink bottoms" growing each year in different areas of my lawn may seem as easy as saying *Agaricus campestris*, but this actually amounts to little more than calling them all meadow mushrooms. The comments on Mushroom Expert's online page for this "species" mention mysterious names such as *Agaricus porphyrocephalus*. But the account of *A. porphyrocephalus* reveals doubt that this species may be reliably differentiated from *A. campestris*. Then there's the robust horse mushrooms with their variably almond odors. The confusing array of woodland Agaricus species, with their different odors and variably ornamented cap surfaces, represents yet another challenge. There's also the squat firm-fleshed "torqs," a group of species often found in urban settings and typically lumped under either *Agaricus bitorquis* or *A. rodmanii*.

The arrival of a definitive source of information regarding the genus Agaricus has been keenly anticipated by mushroom enthusiasts and mycologists; both professional and amateur. *Agaricus of North America*, by Richard W. Kerrigan, represents 40 years of mycological research. This 570-plus page volume includes a detailed overview of the genus from both the macroscopic and microscopic perspectives, as well as interpretations of molecular data.

Of particular note is the detailed description of the variable structures associated with universal and partial veils; essential to utilizing the many species descriptions. I read the section several times before beginning to feel comfortable with the ideas. The author is to be commended for undertaking this challenging aspect of Agaricus identification.

The section on microscopic traits includes suggestions for collecting spores to be examined, as well as reasons why spore size and shape may vary, even for an individual specimen. Descriptions and drawings representing variability of cystidia shape are excellent. I found comments regarding the frustrations associated with locating cystidia and differentiating them from basidia potentially helpful and refreshingly honest.

Perhaps honesty is the most admirable quality of the writing. The typical mushroom field guide inevitably creates the impression that mushroom species fit rather neatly into categories that strongly correlate with one-page descriptions. Early in the introductory material, Professor Kerrigan very clearly states that this is a false expectation, at least when it comes to genus Agaricus. "If … your temperament is such that you prefer checklists, I suggest that you either give up mushrooms for the life-listing of birds, or else look into cryopreservation – you can instruct that you should be thawed when the Agaricus list is completed."

Thus, the stage is set for descriptions that reflect the current scientifically verified understanding of the various species. This can be occasionally frustrating for the reader, especially when aspects such as geographic range and season reflect only those collections that have been vetted by experts. For instance, there are many examples in which the range includes "Midwestern North America extending into western Pennsylvania," but areas east of that are rarely mentioned. Also, I suspect that some species for which the listed season includes only one or two months may commonly occur at other times of year. Photographs are mainly voucher specimens and perhaps not the most aesthetically pleasing examples.

This book is more a statement of the current scientific understanding of genus Agaricus than a field guide. This is not to say the species accounts are not useful. Much to the contrary, the descriptions are highly detailed, and each one begins with a short paragraph titled Notable Features. The casual mushroom hobbyist who hopes to learn to identify a handful of edible or toxic types of Agaricus is likely better served by a typical field guide in which groups of species are lumped into a single standard description. But for the discerning mushroom identifier, this book is a revelation. For example, the aforementioned *A. porphyrocephalus* is documented in two different varieties, var. *porphyrocephalus* and var. *pallidus.*

Given the amount of information contained in this book, the price I found online, $128, is quite reasonable. Perhaps this type of book is not for every mushroom enthusiast. But I think that any mushroom club, university, or herbarium should have a copy on their shelf.

[*Editor's note:* All books reviewed in *NJMA News* are available for members to borrow from our library. Contact Igor Safonov (***njmycomember@gmail.com***).]

ARE MUSHROOMS THE ANSWER TO AMERICA'S SUGAR EPIDEMIC?

MycoTechnology believes gourmet fungi is the solution for reducing added sugars found in food

*by Jenna Broughlon. Reprinted from **Spore Print**, newsletter of the Los Angeles Mycological Society, January 2016. From Inc.com, December 2015.*

Love at first bite. We have all experienced the rush from a forkful of cake, a fresh baked cookie or a bowl full of ice cream. The gratification we feel is the result of dopamine being released and activating the reward system in our brain, much in the same way that sex and drugs do. When you think about it like that, it is no wonder that we are a nation addicted to sugar. But much of the sugar we are consuming isn't the result of eating cake for three meals a day, rather because it is virtually inescapable. Out of 600,000 items found in grocery stores, 80 percent contained added sugar.

For Denver-based MycoTechnology, it believes the key to reducing added sugars in food can be found in gourmet fungi. Founded in 2013, the company has created an all-natural fermentation process called *MycoSmooth,* whereby mushroom roots (mycelium) are trained to consume bitterness found in foods and in turn infuse the source with immune boosting beta glucans. While the process might sound foreign to us, it is a role that mushrooms know well from nature where they act as the cleanup crew of the forest, pulling toxins out of the soil and giving back nutrients to the roots of trees.

Initially, MycoTechnology is targeting coffee and chocolate, which are two huge markets that rely on sugar to cover up inherent bitterness. The company said it is already in testing phases with several global food companies. For those looking to utilize MycoTechnology's process, they will be able to do so through licensing, managed services with onsite support, or finished products through private labeling. And with consumers keeping a more watchful eye on their food, Hahn believes big food companies will have no choice but to take notice. "The anti-sugar movement is growing rapidly, and people want options."

Darren Seifer, executive director and food and beverage industry analyst, The NPD Group, echoed those sentiments, "In 2014, sugar became the number one item adults say they are trying to avoid in their diets due to falling concerns around fat."

While grassroots efforts among consumers will have a hand in change, there are also bigger forces at work - like the Food and Drug Administration. The FDA came down with new recommendations stating that Americans over the age of three should consume no more than 12.5 teaspoons or 50 grams of added sugars per day. This is compared to the 22-30 teaspoons that most Americans ingest daily.

As food companies grapple with the changing market, many are turning to sugar substitutes like Stevia to sweeten products. But plant-based replacements often produce a metallic aftertaste that many consumers find unappealing. To deal with that issue, MycoTechnology developed a separate process called *MycoZyme* which uses enzymes from mushrooms that act as a natural bitter blocker. In July, the Chinese company and producer of Sucralose and Aspartame, Niutang, announced the launch of NiuVia Stevia, which utilizes the *MycoZyme* process.

While Hahn sees MycoTechnology's potential to tap into the $600 billion food market, reducing the amount of sugar found in food is an issue that is also personal to him, "We are just trying to make people healthier. I ate myself to Type 2 diabetes over five years ago, and I started learning about food, and it really motivated me for this company and to have options for people."

Mushroom House
reprinted from the newsletter of the Minnesota Mycological Society

A NEW WAY TO COOK MUSHROOM?

reprinted from MushRumors, newsletter of the Oregon Mycological Society, issue #55-1

According to an article on *aboutfood.com*, everything you thought you knew about cooking mushrooms is wrong.

Dave Arnold and Nils Noren of the International Culinary Center suggest trying the wet, crowded method. They suggest crowding mushrooms in a small pan and boiling them in enough water to barely cover. For eight ounces of mushrooms, add about a tablespoon of butter and a teaspoon of kosher salt. Turn the burner to high and bring the water to a boil. If you cook them long enough, the water evaporates, at which point they'll brown beautifully without absorbing the butter you're using to brown them. Dry mushrooms, on the other hand, are very porous. When you heat up a pan with oil or butter and add dry mushrooms, they soak up the fat and never let go of it. You end up with browned but greasy mushrooms. Check out the full instructions at ***http://tinyurl.com/jgpfos8***.

TOXIC MUSHROOMS COULD HELP CURE DEADLY DISEASES, NEW RESEARCH REVEALS

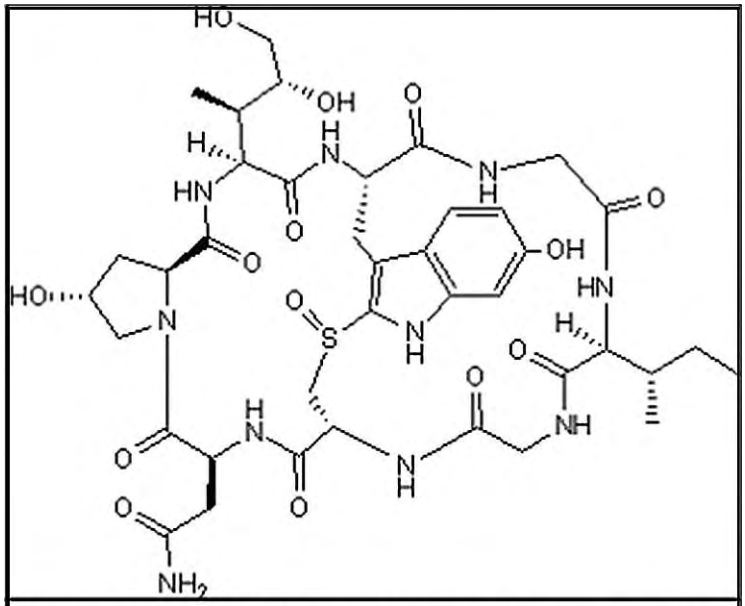
*From a study published in the journal **Chemistry and Biology**. December, 2015. (Indiatimes.com) Reprinted from **Spore Print**, the newsletter of the Los Angeles Mycological Society.*

A team of Michigan State University scientists has discovered an enzyme that is the key to the lethal potency of poisonous mushrooms.

The results show the enzyme's ability to create the mushroom's molecules that harbor missile-like proficiency in attacking and annihilating a single vulnerable target in the human liver. The team unveiled how the enzyme contributes to the manufacture of chemical compounds known as cyclic peptides, a favorite type of molecule that pharmaceutical companies use to create new drugs.

These findings could lead to single-minded medicines with zero side effects, said Jonathan Walton, professor of plant biology and co-lead author.

"Mushrooms are prolific chemical factories, yet only a few of their peptides are poisonous," he said.



α-amanitin, $C_{39}H_{54}N_{10}O_{14}S$, one of the many cyclic peptides of the genus *Amanita*.

"These toxins survive the high temperatures of cooking and the acids of digestion, and yet they are readily absorbed by the bloodstream and go directly to their intended target. These are the exact qualities needed for an effective medicine," said Walton.

Working with the mushroom species *[sic]* Amanita, Walton and his teammates disassembled one of its poisonous peptides, which can be compared to a laser-guided missile with a nuclear warhead.

By removing the molecular equivalent of the deadly warhead, they now have a sturdy, precise delivery system that can supply medicine – rather than poison – to a single target.

By taking a laser, rather than a shotgun approach, scientists could develop medicines capable of curing disease without the patient suffering any side effects.

The enzyme the team discovered is called POPB, and it converts toxins from their initial linear shape into cyclic peptides, fortress-like molecular circles comprising eight amino acids.

Harnessing the distinct properties of POPB will allow scientists to create billions of variant molecules, which can be tested against many different medical targets such as pathogenic bacteria and cancer.

SPEND A COZY EVENING WITH "THE CREEPING GARDEN"

Our friends at the Oregon Mycological Society called our attention to a relatively-new feature-length documentary named *The Creeping Garden*. Here is some info on the film condensed from their newsletter *MushRumors:*

"The Creeping Garden is a feature length creative documentary exploring the work of fringe scientists, mycologists and artists, and their relationship with the extraordinary plasmodial slime mould.

The slime mould is being used to explore biological-inspired design, emergence theory, unconventional computing and robot controllers, much of which borders on the world of science fiction.

But as well as exploring the slime mould in the lab, the film also travels out into the wild, hunting for the organisms in their natural habitat."

Steve Dollar of *Indiewire* writes:

> "An essential reminder of how smart docs about peculiar subjects can be as entertaining as any psycho thriller... Who knew fungal gunk could be so rapturous to behold?"

And here is James Marsh's (of *Twitchfilm)* opinion:

> "Imagine if Stanley Kubrick and Douglas Trumbull were tasked with making a 1970s educational science film about the pods from Don Siegel's I*nvasion of the Body Snatchers* and you're some way to understanding *The Creeping Garden*."

The Creeping Garden is available on DVD, BluRay, and iTunes. It's perfect for cozying up to on a cold winter's night! View the trailer at ***https://vimeo.com/58295282.***

Source: ***www.cstpdx.com/show/creeping-garden***

SPECIES FOUND ON NJMA FORAYS IN 2016

(**Bold** indicates species new to list)

For yearly lists organized by foray locations, go to *www.njmyco.org/njmushrooms.html*

BASIDIOMYCOTA

Abortiporus biennis
Agaricus arvensis
Agaricus campestris
Agaricus placomyces
Agaricus silvaticus
Agaricus silvicola
Agaricus sp.
Agaricus subrufescens
Agrocybe acericola
Agrocybe firma
Albatrellus ellisii
Albatrellus sp.
Aleurodiscus oakesii
Amanita abrupta
Amanita amerifulva
Amanita amerirubescens
Amanita banningiana
Amanita bisporigera
Amanita brunnescens v brunnescens
Amanita canescens
Amanita citrina v citrina
Amanita cokeri
Amanita crenulata
Amanita flavoconia
Amanita flavorubens
Amanita lavendula
Amanita longipes
Amanita morrisii
Amanita muscaria v guessowii
Amanita mutabilis
Amanita onusta
Amanita persicina
Amanita phalloides
Amanita polypyramis
Amanita pseudovolvata (*nom. prov.*)
Amanita rhacopus
Amanita sagittarria
Amanita sinicoflava
Amanita sp.
Amanita sp. V03
Amanita sp-57 (Tulloss)
Amanita subcokeri
Amanita subsolitaria
Amanita vaginata v vaginata
Amanita velatipes
Amanita vulpecula (Tulloss *nom. prov.*)
Amanita whetstoneae
Armillaria mellea
Armillaria ostoyae
Armillaria tabescens
Arrhenia epichysium
Artomyces pyxidata
Astraeus hygrometricus
Aureoboletus projectellus
Auricularia auricula
Auricularia nigricans
Bankera fuligineoalba
Bankera violascens
Bjerkandera adusta
Bogbodia udum
Boletinellus merulioides
Boletus auripes
Boletus badius
Boletus bicolor v bicolor
Boletus campestris
Boletus illudens
Boletus luridiformis
Boletus nobilis
Boletus pallidoroseus
Boletus pallidus
Boletus purpureorubellus
Boletus rubellus
Boletus rubropunctus
Boletus sensibilis
Boletus separans
Boletus subvelutipes
Boletus vermiculosoides
Boletus vermiculosus
Bondarzewia berkeleyi
Bothia castanellus
Bovista pila
Butyriboletus peckii
Byssomerulius incarnatus
Caloboletus inedulis
Calocera cornea
Calocera viscosa
Calostoma cinnabarinum
Calostoma lutescens
Calvatia craniiformis
Cantharellula umbonata
Cantharellus cibarius
Cantharellus cinnabarinus
Cantharellus ignicolor
Cantharellus lateritius
Cantharellus minor
Cerioporus leptocephalus
Cerioporus squamosus
Cerrena unicolor
Cheimonophyllum candidissimum
Chondrostereum purpureum
Chroogomphus vinicolor
Clavaria cristata
Clavaria vermicularis
Clavaria zollingeri
Clavulina cinerea
Clavulinopsis fusiformis
Climacodon septentrionale
Clitocybe odora
Clitocybe rivulosa
Clitocybe sp.
Clitopilus prunulus
Collybia cirrhata
Coltricia cinnamomea
Coltricia perennis
Coltriciella dependens
Coniophora puteana
Conocybe lactea
Conocybe siennophylla
Coprinellus micaceus
Coprinopsis atramentarius
Coprinus lagopus
Coprinus sp.
Cortinarius alboviolaceus
Cortinarius armillatus
Cortinarius aureifolius
Cortinarius bolaris
Cortinarius caperatus
Cortinarius corrugatus
Cortinarius croceus
Cortinarius decipiens
Cortinarius distans
Cortinarius hesleri
Cortinarius iodes
Cortinarius malachius
Cortinarius malicorius
Cortinarius mucosus
Cortinarius sanguineus
Cortinarius semisanguineus
Cortinarius sp.
Cortinarius subargentatus
Cortinarius torvus
Cortinarius violaceus
Craterellus cornucopioides
Craterellus fallax
Crepidotus applanatus
Crepidotus crocophyllus
Crepidotus mollis
Crepidotus sp.
Crinipellis zonata
Crucibulum laeve
Cuphophyllus pratensis
Cuphophyllus virgineus
Cyathus stercoreus
Cyathus striatus
Cyclocybe erebia
Cyptotrama asprata
Cystoderma amianthinum
Cystodermella cinnabarina
Cystodermella granulosa

SPECIES FOUND ON NJMA FORAYS IN 2016

(**Bold** indicates species new to list)

BASIDIOMYCOTA

Dacryopinax spathularia
Daedalea quercina
Daedaleopsis confragosa
Dendrothele candida
Dichostereum effuscatum
Diplomitoporus crustulinus
Entoloma lucidum
Entoloma luridum
Entoloma luteum
Entoloma rhodocylicioides
Entoloma rhodopolium
Entoloma sericellum
Entoloma sinuatum
Entoloma sp.
Entoloma striatum
Entoloma strictipes
Entoloma strictius
Entoloma subserrulatum
Entolma unicolor
Exidia glandulosa
Exsudoporus frostii
Fistulina hepatica
Fomes fomentarius
Fomitiporia punctata
Fomitopsis ochracea
Fomitopsis spraguei
Galerina marginata
Galerina paludosa
Galerina tibiicystis
Ganoderma applanatum
Ganoderma lucidum
Ganoderma tsugae
Gerronema strombodes
Gliophorus laetus
Globifomes graveolens
Gloeophyllum sepiarium
Gloeoporus dichrous
Gloeoporus taxicola
Gloeotromera alba
Gloioxanthomyces vitellinus
Gomphus clavatus
Gomphus floccosus
Grifola frondosa
Guepiniopsis buccina
Gymnopilus fulvosquamulosus
Gymnopilus junonius
Gymnopilus liquiritiae
Gymnopilus luteus
Gymnopilus penetrans
Gymnopilus sapineus
Gymnopus confluens
Gymnopus dryophilus
Gymnopus earleae
Gymnopus sp.
Gymnopus spongiosus
Gymnopus subnudus
Gyroporus castaneus
Gyroporus subalbellus
Hapalopilus nidulans
Harrya chromapes
Hebeloma crustuliniforme
Hemileccinum subglabripes
Hericium erinaceus
Heterobasidion annosum
Hohenbuehelia angustata
Hohenbuehelia mastrucata
Hohenbuehelia petaloides
Homophron spadiceum
Hortiboletus harrisonii
Hortiboletus sp.
Hydnellum concrescens
Hydnellum pineticola
Hydnellum spongiosipes
Hydnum repandum v albidum
Hydnum repandum v repandum
Hydnum umbilicatum
Hygrocybe acuticonicus
Hygrocybe cantharellus
Hygrocybe chlorophana
Hygrocybe coccinea
Hygrocybe conica
Hygrocybe flavescens
Hygrocybe miniata
Hygrocybe mucronella
Hygrocybe phaeococcinea
Hygrophoropsis aurantiaca
Hygrophorus agathosmus
Hygrophorus hypothejus
Hygrophorus marginatus v. concolor
Hygrophorus marginatus v. marginatus
Hygrophorus ponderatus
Hygrophorus russula
Hygrophorus sp.
Hygrophorus speciosus
Hygrophorus squamulosus
Hygrophorus subsordidus
Hymenochaete badio-ferruginea
Hymenochaete tabacina
Hymenopellis furfuracea
Hypholoma capnoides
Hypholoma fasciculare
Hypholoma sublateritium
Inocybe asterospora
Inocybe praetervisa
Inocybe sp.
Inonotus dryadeus
Inonotus hispidus
Inonotus tomentosus
Irpex lacteus
Ischnoderma resinosum
Laccaria amethystina
Laccaria bicolor
Laccaria laccata v pallidifolia
Laccaria longipes
Laccaria nobilis
Laccaria ochropurpurea
Laccaria ohiensis
Laccaria proxima
Laccaria striatula
Laccaria trullisata
Lacrymaria lacrymabunda
Lactarius agglutinatus
Lactarius aquifluus
Lactarius camphoratus
Lactarius chelidonium
Lactarius chrysorheus
Lactarius corrugis
Lactarius croceus
Lactarius deceptivus
Lactarius fumosus
Lactarius hibbardae
Lactarius hygrophoroides
Lactarius indigo v indigo
Lactarius mutabilis
Lactarius paradoxus
Lactarius piperatus
Lactarius proximellus
Lactarius psammicola
Lactarius sp.
Lactarius subpurpureus
Lactarius subvellereus v subvellereus
Lactarius subvernalis v cokeri
Lactarius thyinos
Lactarius vinaceorufescens
Lactarius volemus v. flavus
Lactarius volemus v. volemus
Laetiporus cincinnatus
Laetiporus sulphureus
Lanmaoa pseudosensibilis
Laxitextum bicolor
Leccinellum albellum
Leccinellum crocipodium
Leccinum piceinum (= aurantiacum)
Leccinum scabrum
Leccinum snellii
Leccinum sp.
Lentinellus cochleatus
Lentinellus ursinus
Lentinus tigrinus
Lenzites betulina
Lenzites elegans
Lepiota asperula

SPECIES FOUND ON NJMA FORAYS IN 2016

(**Bold** indicates species new to list)

BASIDIOMYCOTA

Lepiota cristata
Lepista nuda
Lepista subconnexa
Leucoagaricus americanus
Leucoagaricus rubrotinctus
Leucoagaricus sp.
Lycoperdon echinatum
Lycoperdon marginatum
Lycoperdon mauryanum
Lycoperdon perlatum
Lycoperdon pyriforme
Lycoperdon sp.
Macrolepiota procera
Marasmiellus candidus
Marasmiellus ramealis
Marasmius capillaris
Marasmius delectans
Marasmius epiphyllus
Marasmius pulcherripes
Marasmius rotula
Marasmius scorodonius
Marasmius sp.
Marasmius strictipes
Marasmius sullivantii
Megacollybia rodmanii
Melanoleuca alboflavida
Melanoleuca niveipes
Meripilus giganteus
Meripilus sumstinei
Merulius tremellosus
Morganella subincarnatum
Multiclavula mucida
Mutinus elegans
Mycena alcalina
Mycena alnicola
Mycena corticola
Mycena epipterygia
Mycena galericulata
Mycena galopus
Mycena haematopus
Mycena inclinata
Mycena leaiana
Mycena luteopallens
Mycena niveipes
Mycena pura
Mycena rutilantiformis
Mycena sanguinolenta
Mycena sp.
Mycena subcaerulea
Mycena subincarnata
Mycetinus opacus
Neofavolus alveolaris
Neolentinus lepideus
Nolanea murrayi
Nolanea quadrata
Nyctalis asterophera
Omphalina sp.
Omphalotus illudens
Ossicaulis lignatilis
Oxyporus populinus
Panellus stipticus
Parasola conopilus
Peniophora albobadia
Peniophora cinerea
Perenniporia subacida
Phaeolus schweinitzii
Phellinus everhartii
Phellinus gilvus
Phellinus igniarius
Phellinus sp.
Phellodon melaleucus
Phellodon tomentosus
Phlebia radiata
Phlebia rufa
Phlebia sp.
Phloeomana clavata
Pholiota aurivella
Pholiota flavida
Pholiota granulosa
Pholiota limonella
Pholiota mixta
Pholiota squarrosa
Pholiota squarrosoides
Pholiota veris
Phylloporus boletinoides
Phylloporus leucomycelinus
Phylloporus rhodoxanthus
Phyllotopsis nidulans
Piptoporus betulinus
Pisolithus tinctorius
Pleurocybella porrigens
Pleurotus ostreatus
Pleurotus populinus
Pluteus admirabilis
Pluteus cervinus
Pluteus longistriatus
Pluteus petasatus
Polyporus arcularius
Polyporus craterellus
Polyporus varius
Porodaedalea pini
Poronidulus conchifer
Postia caesia
Psathyrella candolleana
Psathyrella delineata
Psathyrella fusca
Psathyrella sp.
Pseudoarmillariella ectypoides
Pseudoboletus parasiticus
Pseudochaete olivacea
Pseudocolus fusiformis
Pseudocolus schellenbergiae
Pulveroboletus ravenelii
Punctularia strigosozonata
Pycnoporus cinnabarinus
Radulodon copelandii
Ramaria concolor
Ramaria cystidiophora
Ramaria sp.
Ramariopsis kunzei
Resupinatus applicatus
Retiboletus griseus
Retiboletus ornatipes
Rhizopogon rubescens
Rhizopogon sp.
Rhodocollybia butyracea
Rhodocollybia maculata v maculata
Rhodocollybia maculata v scorzonerea
Rhopalogaster transversarium
Rickenella fibula
Roridomyces roridus
Russula albonigra
Russula anomala
Russula aquosa
Russula betulina
Russula brevipes v brevipes
Russula brunneola
Russula brunneoviolacea
Russula claroflava
Russula compacta
Russula crustosa
Russula cyanoxantha
Russula dissimulans
Russula earlei
Russula fragrantissima
Russula fucosa
Russula heterophylla
Russula humidicola
Russula incarnaticeps
Russula inedulis
Russula laurocerasi
Russula luteobasis
Russula mariae
Russula melliolens
Russula modesta
Russula nigricans
Russula ochroleucoides
Russula ornaticeps
Russula paludosa
Russula parvovirescens
Russula perlactea
Russula pseudolepida
Russula pulchra
Russula pusilliformis
Russula redolens

SPECIES FOUND ON NJMA FORAYS IN 2016

BASIDIOMYCOTA

Russula rubescens
Russula rugulosa
Russula sericeonitens
Russula silvicola
Russula sp.
Russula stricta
Russula subpunctata
Russula subsericeonitens
Russula subvelutina
Russula sulcatipes
Russula uncialis
Russula variata
Russula ventricosipes
Russula vesicatoria
Russula vinacea
Russula virescens
Russula xerampelina
Sarcodon fuligineoviolaceus
Sarcodon imbricatus
Sarcodon scabrosus
Sarcodon underwoodii
Schizophyllum commune
Schizopora paradoxa
Scleroderma areolatum
Scleroderma cepa
Scleroderma citrinum
Scleroderma geaster
Scleroderma sp.
Sebacina incrustans
Sebacina pululahuana
Simocybe centunculus
Simocybe haustellaris
Sparassis crispa
Sphaerobolus stellatus
Spongipellis pachyodon
Spongipellis unicolor
Steccherinum ochraceum
Steccherinum sp.
Stereum complicatum
Stereum hirsutum
Stereum ostrea
Stereum striatum
Strobilomyces confusus
Strobilomyces sp.
Strobilomyces strobilaceus
Stropharia hardii
Suillus brevipes
Suillus decipiens
Suillus granulatus
Suillus hirtellus
Suillus pictus
Suillus salmonicolor
Suillus spraguei
Sutorius eximius
Tapinella atrotomentose
Tephrocybe palustris
Tetrapyrgos nigripes
Thelephora palmata
Thelephora sp.
Thelephora terrestris
Thelephora vialis
Trametes gibbosa
Trametes hirsuta
Trametes ochracea
Trametes pubescens
Trametes suaveolens
Trametes versicolor
Tremella concrescens
Tremella foliacea
Tremella mesenterica
Tremellodendron pallidum
Tremellodendropsis tuberosa
Trichaptum abietinum
Trichaptum biforme
Tricholoma aestuans
Tricholoma caligatum
Tricholoma colossus
Tricholoma equestre
Tricholoma imbricatum
Tricholoma magnivelare
Tricholoma myomyces
Tricholoma odorum
Tricholoma pessundatum
Tricholoma portentosum
Tricholoma saponaceum
Tricholoma sejunctum
Tricholoma sp.
Tricholomopsis decora
Tricholomopsis formosa
Tylopilus alboater
Tylopilus badiceps
Tylopilus ballouii
Tylopilus felleus
Tylopilus ferrugineus
Tylopilus griseocarneus
Tylopilus intermedius
Tylopilus plumbeoviolaceus
Tylopilus rubrobrunneus
Tylopilus sp.
Tylopilus violatinctus
Tyromyces chioneus
Tyromyces fumidiceps
Xanthoconium affine
Xanthoconium affine
Xanthoconium purpureum
Xercomellus chrysenteron
Xerocomellus intermedius
Xerocomus hortonii
Xeromphalina campanella
Xeromphalina kauffmanii
Xerula sp.
Xylobolus frustulatus
Xylobolus subpileatus
Xylodon radula

ASCOMYCOTA

Annulohypoxylon multiforme
Apiosporina morbosa
Biscogniauxia atropunctata
Bisporella citrina
Bulgaria inquinans
Capitotricha bicolor
Chlorociboria aeruginascens
Daldinia concentrica
Dasyscyphus virgineus
Diatrype stigma
Elaphocordyceps ophioglossoides
Galiella rufa
Helvella crispa
Helvella macropus
Hypocrea gelatinosa
Hypomyces chrysospermus
Hypomyces hyalinus
Hypomyces ochraceus
Hypomyces sp.
Hypoxylon fragiforme
Hypoxylon sp.
Kretzschmaria deusta
Leotia viscosa
Microstoma floccosa
Mitrula elegans
Mitrula lunulatospora
Morchella diminutiva
Ophiocordyceps variabilis
Peziza sp.
Phaeocalicium polyporaeum
Puccinia podophylli
Ruzenia spermoides
Sarcoscypha occidentalis
Scorias spongiosa
Scutellinia scutellata
Spadicioides clavariae
Tatraea macrospora
Tolypocladium capitatum
Xylaria longiana
Xylaria longipes
Xylaria polymorpha

ZYGOMYCOTA

Syzygites megalocarpus

SPECIES FOUND ON NJMA FORAYS IN 2016

MYXOMYCOTA

Arcyria cinerea
Arcyria denudata
Arcyria insignis
Ceratiomyxa fruticulosa
Fuligo septica
Lycogala epidendrum
Reticularia lycoperdon
Stemonitis axifera
Stemonitis sp.
Symphytocarpus confluens
Tubifera ferruginosa

BYTES, BITS, & BITES

TASTY LITTLE TIDBITS FROM OUR MEMBERS

*from **Grub Street**:*

The world's most expensive chips?
http://tinyurl.com/jod5wgq

*from **The New York Times**:*

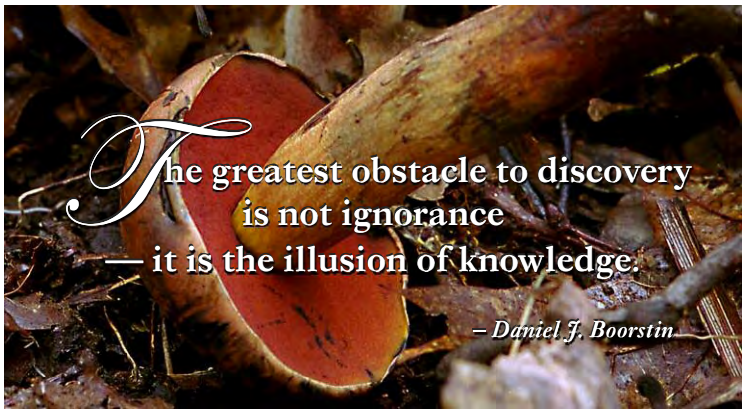
Can mushrooms help depression in cancer patients?
http://tinyurl.com/hjj5e2r

from Judy Glattstein (an email that she received from PBS):

"All, I recently came across a book that would probably appeal to most PBS members although the topic is geophytic only by a stretch of imagination, *Field Guide to North American Truffles.* I was surprised that there were north American truffles as they had not appeared in my mushroom hunting guides of yore. I was also surprised that, unlike mushrooms, the (raw) spores are indigestible and they are designed to be eaten (especially by voles). The introductory pages says they are mostly basidiomycetes and ascomycetes that evolved from the above-ground mushrooms with wind-born spores. Hence, the appealing aromas that increase as the spores mature so animals can find them better. Happy Truffle Hunting!
– Tim Eck"

*from the **Gothamist** blog:*

Lots of 'shrooms!!
http://tinyurl.com/jhz8voz



Mushroom Poetry

by Bill Dill

SPRING ARRIVALS I

Ganoderma curtsii

Knuckles rupture fine-raked mulch beneath
a boast of bayberry bush – bulge as fingers,
flower to a pan of rounded cubes, toasty crust with
white insides, like muffins from the oven.
Not welcome shapes for a neighbor's garden plan.

Stay the hoe a few more weeks!
…until cube tops shelve out with scalloped rims and add a chestnut glaze. Then I'll take them home to grind and steep for teas that sages say will let me live a thousand years if a wizard still alive can tell me why I should.

SPRING ARRIVALS II

Stropharia rugoso-annulata

Merlot splashed on whiskey tan, domes rise by in
jungled grass, rafters underneath with surprising
bluish tint shade stems, stolid with crinkled collars,
like an Easter choir. Caps flatten, bleach the blush
on top to unpolished bronze, while earth-sweet flesh
stays firm. Yes, I wish I'd found morels,
but I shall feast for days.

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