NJMA NEWS

THE OFFICIAL NEWSLETTER OF THE NEW JERSEY MYCOLOGICAL ASSOCIATION

VOLUME 43-4 JULY - AUGUST 2013

CALENDAR OF UPCOMING EVENTS

Saturday, July 6 **10:00 am**	**FORAY - Wawayanda State Park** *Leader: A.J. Bozenmayer*
Saturday, July 13 **10:00 am**	**FORAY - Holmdel County Park, Hill Top section** *Leader: Bob Hosh*
Sunday, July 14 **1:00 pm**	**WORKSHOP - Scientists in the Kitchen** *Instructors: Patricia McNaught and Igor Safonov* *Registration required.* ***Register on our website.***
Sunday, July 21 **10:00 am**	**FORAY - Meadow Wood Park** *Leader: Dorothy Smullen*
Saturday, July 27 **10:00 am**	**FORAY - Wells Mills County Park** *Leader: Nina Burghardt*
Saturday, July 27 **6:00 pm**	**CULINARY GROUP DINNER – FAVORITES** *Registration required. See article and details on page 9*
Sunday, July 28 **1:00 pm**	**WORKSHOP - RUSSULA IDENTIFICATION** *Instructor: Glenn Boyd* *Registration required.* ***Register on our website.***
Sunday, August 4 **10:00 am**	**FORAY - Stephens State Park** *Leader: Jim Richards*
August 6 [7] - 10	**NEMF 2013 SAMUEL RISTICH FORAY**
Saturday, August 10 **10:00 am**	**FORAY - Jakes Branch County Park** *Leader: Bob Hosh* **MINI-WORKSHOP (after the foray) - Boletes** *Instructor: Igor Safonov* *Registration required.* ***Register on our website.***
Saturday, August 17 **10:00 am**	**FORAY - Schiff Nature Preserve** *Leader: Dorothy Smullen* **MINI-WORKSHOP (after the foray) - Polypores** *Instructor: Terri Layton* *Registration required.* ***Register on our website.***
Sunday, August 25 **10:00 am**	**FORAY - Manaquan Reservoir Environmental Center** *Leader: Patricia McNaught*
August 30 - **September 2**	**COMA CLARK ROGERSON FORAY** *See registration form on page 27*
Saturday, August 31 **10:00 am**	**FORAY - Hoffman County Park** *Leader: Bob Hosh*
Sunday, September 8 **10:00 am**	**FORAY - Washington Crossing State Park** *Leader: Mike Rubin*
Sunday, September 29	**FUNGUS FEST - Frelinghuysen Arboretum**

PRESIDENT'S MESSAGE

Well, to be honest, there has not been a lot of newsletter-worthy activity in the presidential area since the last message. All four of the officers met and we talked about things that could be done better. The status of the new by-laws was discussed with the focus being on the division of responsibilities among the officers. Time was spent on a way to write the new by-laws that is firm enough to be useful and flexible enough not to be unnecessarily restrictive.

I attended the Wild Foods Foray yesterday. I don't want to give a foray report which I believe will be published elsewhere in this newsletter, but I do want to comment on the number of new faces that were there. There was at least a two-to-one ratio between the folks that I didn't know and those that I did. After talking with several of the new ones, I was impressed with how much they knew about wild foods and how many were active foragers. As always, the menu for the picnic was varied and the food was delicious. It was suggested that we collect the recipes from this and previous wild foods picnics and compile them into a booklet which we could then make available to those who are interested. Ellen Hess is willing to be the focal point for this project and will collect and assemble the recipes. Her contact information is ***ellieweave@hotmail.com***. Who knows? We might even get the recipe for "Squirrel Nuts".

(Editor's note: I believe Patricia's recipe was for Squirrel Balls)

– Phil Layton

"Nature alone is antique
and the oldest art a mushroom."
– Thomas Carlyle

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 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 us an instant email. Just look for the "click finger" when you hover your mouse over these items.

No more clumsy "writing it down" or copying and pasting!

NAMA 2013 FORAY IN THE OZARKS

The 2013 NAMA Foray will be held in the beautiful Ozark Mountain Range of Arkansas, October 24-27, hosted by the Arkansas Mycological Society. It promises to be a spectacular event with a stellar faculty that includes chief mycologist Dr. Clark Ovrebo, Dr. Alan Bessette and Arlene Bessette, Dr. Andy Methven, Dr. Michael Kuo, Dr. Jean Lodge, Dr. Tom Volk, Dr. Britt Bunyard and the "Magnificent Mycologist of Texas", David Lewis. Come spend time with these knowledgeable mycologists, attend lectures, explore the unique habitat of this region, and meet some new friends.

The Ozark Mountain region is characterized by a diversity of terrestrial, aquatic, and karst habitats, ranging from extensive glades and tall grass prairies to both coniferous and deciduous woodlands as well as cypress swamps, fens, sinkholes, sloughs, and a plethora of clear-flowing streams and rivers fed by an abundance of springs, including some of the largest freshwater springs in North America.

For more information and registration:
http://tinyurl.com/nu6qvgc

NAMA lowers dues: Now is a great time to join NAMA!
(Note: Membership in NAMA is required to attend NAMA forays)

$24 members of affiliated clubs *(electronic)*
$30 members of affiliated clubs *(hard copy)*
$29 individual/family membership *(electronic)*
$35 individual/family membership *(hard copy)*
$35 individual/household membership *outside North America (electronic)*

To join NAMA, visit their website
http://www.namyco.org/join/index.html

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Annual subscription price is included in NJMA membership dues.

2013 WILD FOODS FORAY REPORT

submitted by Dorothy Smullen

Tama Matsuoka Wong delighted club members with her love and excitement of foraging. She actually supplies collected plants to the NYC restaurant "Daniel". New recipes are created to highlight the flavors of the plants.

She has three categories of plants in her book *Foraged Flavor,* keyed by color. Green represents naturalized and invasive plants – those which are safe to forage without limits such as Dandelion, Chickweed, Japanese Knotweed and Garlic Mustard. Yellow would be generalist native plants for which she recommends limited picking only. Red are specialist natives and should only be harvested if they are in your backyard. Also, she suggests that you leave the Milkweed buds to go to seed for the Monarch butterflies.

There were 27 plants that Tama covered in her walk, and, of course, Poison Ivy was pointed out as well.

I can't wait to try a recipe from her book: Honeysuckle Granita, made from four cups of Asian Honeysuckle flowers.

The potluck picnic fare was fantastic as usual, and many members were delighted by a surprise visit from past NJMA President Susan Hopkins, who now lives in Saranac Lake, NY.

Thanks to Bob Peabody and Bob Hosh for their work in organizing this event.

Editor's note: For additional coverage of the Wild Foods Foray, you might want to check out Judy Glattstein's blog: "NJMA Goes Foraging at Deer Run Park" which is at ***http://tinyurl.com/pn5ez6l****.*

Tama Matsuoka Wong, Jane Bourquin, and Ursula Pohl displaying Tama's book, ***Foraged Flavor*** *at Wild Foods 2013*

ARTISTS AND CRAFTERS WANTED FOR FUNGUS FEST

September 29th, 2013

Once again, we will have a display and sale of mushroom-themed arts and crafts at Fungus Fest. All NJMA artists, photographers and crafters are invited to exhibit and sell their work at our annual event.

Please contact Jim Richards (jimrich211@gmail.com) to let him know that you will you are planning to bring your work to Fungus Fest.

20% of the selling price of your work is donated to NJMA
(This is the same commission that Frelinghuysen Arboretum charges artists and crafters who exhibit at their events)

Help is also needed to man the Arts and Crafts display area on Sunday.

WELCOME TO ALL OF OUR NEW NJMA MEMBERS!

We'd like to extend a warm welcome to the following members who joined us between April 29 and June 16. We look forward to seeing you at lectures, forays, and other NJMA events. Happy 'shrooming!

Kelley & Francis Boero	New Brunswick, NJ
Eliza & Jacek Buchalczyk	Kendall Park, NJ
David G. Dikun	Linden, NJ
Sachiko Goodyear	Hillsdale, NJ
Jan Hartley	New York, NY
Tomasz Jasiak	East Brunswick, NJ
Alen Kalati	Springfield, NJ
Carol Levine	Milltown, NJ
Mei-yu (May) Loo	Randolph, NJ
Hank Missenheim, Jr.	Washington, NJ
Kevin Novick	New York, NY
John C. Ormsby	Williamstown, NJ
Bernard Perrier	Moorestown, NJ
Eugene Pirog	Neshanic Station, NJ
Bernard G. Reichert	Stockton, NJ
Bonnie Stanics	Tuckerton, NJ
Athena Wu	Princeton, NJ

EDITOR'S NOTES

There is so much to discuss that it is hard to know where to begin. The rains that New Jersey has been getting a steady diet of should provide for a great collecting year – more like 2011 than 2012 – which means that the restart of the Taxonomy Committee under the leadership of its new chair, Nina Burghardt, could not come at a better time. For the newer members who may be scared off by the thought of a deep dark secret scientific regimen, I can assure you that nothing could be farther from the truth. Taxonomy is simply a closer look at the mushrooms we find, albeit with the use of microscopes and keys and chemicals. There are any number of genera that are pretty easy to field identify macroscopically, but determination of the species may depend on more detailed examination.

I can remember when I first joined NJMA back in The Dark Ages, the first taxonomy sessions that I went to were held in Dorothy Smullen's kitchen. A half dozen or so of us gathered around a couple of microscopes to try to put names on the mysterious specimens which we had collected on the previous Sunday's foray. Eventually, the group outgrew Dorothy's kitchen table and sessions were held at the Somerset County Environmental Education Center in Basking Ridge. Those sessions led to the acquisition of some herbarium cabinets and the collection of New Jersey mushrooms began to grow in earnest. The NJMA Herbarium is now housed at Rutgers University and contains hundreds of preserved specimens that are available for study by professional mycologists.

Taxonomy sessions are not only a great way to really get to know fungi, but are also a great opportunity to get to know your fellow club members. You may just discover that you belong to a great group of amazingly talented people with a broad range of expertise in almost every nature-oriented subject that you can think of. If you are interested in participating in these sessions, please contact Nina at ***jnburghardt@verizon.com***.

If you have thumbed through this issue of *NJMA News* before reading this column, you have undoubtedly noticed an unusually large number of book reviews. We have been very successful in getting publishers to send us review copies of their new books. In most cases, we have requested the books after seeing a listing in one place or another online. In some cases, the publishers have just sent us copies of new books without our asking (after we have reviewed previous books of theirs). In addition to books on fungi in general, we have also been getting books on wild food foraging and even one on the use of plants in alcoholic beverages. (We must admit that we requested that one because the publisher's advance release indicated that mushrooms were included. It turned out that it was the negative effects of molds that were mentioned.) After the books are reviewed, they will be placed in the NJMA library where they will be available to members. The reason that there are so many reviews in this issue is that we expected some of them to be reviewed for the last newsletter, but for varying reasons, that did not happen. I could have held some of the reviews back for future issues, but I am hoping that we will be getting lots and lots of foray reports and reports from taxonomy to fill our pages. It is also important for us to send the reviews to the publishers so they will continue to send us review copies. If you come across information about new books that you think we should know about, please let us know at ***njmaeditor@gmail.com***.

We would like to welcome a couple of first-time reviewers to *NJMA News*: Mike Rubin and Marc Grobman. They join Patricia, Judy, and Igor who have all reviewed books for us in the past as well as in this issue. Thanks all! If you are interested in joining this group of reviewers please let us know. Again, the email address is ***njmaeditor@gmail.com***.

While the vast majority of articles in the newsletters is written by NJMA members, we do use articles of interest (generally technical, recipes, or "human interest") from newsletters of other clubs. We have added a few "new" (to us) clubs that we will be exchanging newsletters with: the Long Island Mycological Club *(LI Spore Print)*, the Connecticut-Westchester Mycological Association [COMA] *(Spores Illustrated)*, the Mycological Society of San Francisco *(Mycena News)*, and the North American Truffling Society *(The North American Truffler)*. Look for articles from these clubs in future issues of *NJMA News*.

Have a wonderful, fruitful, fungi-filled summer. Collect lots of interesting fungi. Join the taxonomy group. And, above all, send your articles, photographs, poems, drawings, etc. to ***njmaeditor@gmail.com***.

– Jim Richards

NJMA'S TAXONOMY WORKSHOPS TO RESUME THIS SEASON

Nina Burghardt, NJMA's new Taxonomy Committee Chair, has announced that taxonomy sessions will be held after a number of this season's forays. Some will take place immediately following the foray in locations where space is available to set up microscopes and computers. Others will take place at varying locations on the day after the foray.

If you are interested in participating in these sessions, please contact Nina at ***jnburghardt@verizon.net***. She will contact you when details are finalized for the various forays.

THE TYROMYCOLOGIST

MUSHROOM DESCRIPTIONS

by Patricia McNaught

There are about two dozen species (mostly non-gilled) that most people could learn to identify from a field guide. If you want to go beyond that level of expertise (and not everyone wants to), your best bet is to come to NJMA forays and stay for the ID sessions.

Beginners sometimes think the challenge in identifying mushrooms comes from the technical vocabulary of some field guides: words like floccose, appendiculate or sulcate. But since many of guides have glossaries, it's not a big deal to look up unfamiliar words. Admittedly it's not always clear how to apply them: At what point does pruinose shade into granulose? More experienced mushroomers know the real challenge comes from more familiar words; the ones you think you know the meaning of, words like "pink" or "waxy". It turns out that a lot of the descriptive adjectives for mushrooms either don't mean what you think they do, or it's not clear how to apply them. The post-foray ID session is a great place to compare the actual mushroom with their field guide description.

Take color, for example: What could be less ambiguous than a descriptor of "pink spore print"? There are several genera that have pink spore prints – Entoloma, Nolanea, Pluteus, etc. Just don't expect a pink like you find in the crayon box. "Pink" as a mushroom's descriptor usually means "beige with subtle pink tones"; or as Nina says, the color that was labeled "flesh" in the crayon boxes of yesteryear. This Memorial Day I was delighted to find some Wine Caps (*Stropharia rugoso-annulata*) in some wood chips in my front yard. The Stropharia genus is characterized by "purplish" gills. "Purplish" as a mushroom descriptor often means a dark nondescript color that in good light has subtle purple tones. "Green" can mean grayish with subtle green overtones or sometimes a khaki greenish-brown color. The key word in all this is "subtle".

Now let's take texture – the Hygrocybe and Hygophorus genera are characterized by "waxy" gills. The field guides take the position that "waxy" is obvious. Not to Todd (my husband) and me. He and I had many a "discussion" about whether a specimen we had collected had waxy gills. Our marriage was saved when I learned the following test from Dorothy Smullen at an ID session: First rub the gills with your fingers, and then rub your fingers together. Your fingers will slide if the gills are waxy. Beginners can get confused by small differences in texture, such as the difference between a cap that is "glabrous" and one that has "appressed fibrils". The side-by-side comparison at an ID session makes it easy to learn the difference.

And now, let's take odor, which is the most difficult characteristic to pin down in a written description. Yet odor is absolutely essential to identifying some species – like *Mycena pura*, which has a cap that can be white, lilac, pink, yellow, or purplish-brown, but always has a strong radish odor. *Russula laurocerasi* can be separated from similar species because it smells of "cherry bark". You may feel confident about your ability to identify radish odor, but what about "mealy", "green corn", "potato", "alkaline" or "spermatic"? People smell things differently; you might characterize the "cherry bark" odor of *R. laurocerasi* as smelling of amaretto. When I smell mushrooms that are supposed to have a "mealy" odor, I characterize the odor as smelling of old whole wheat flour. I characterize mushrooms with "spermatic" odor as smelling like chlorinated pool water with an

What *not* to smell:

Chronic sinusitis is most often from bacterial infection, but can be due to fungal infection, even with people with normal immune systems. The usual culprit is Aspergillus, a genus of molds that are very common in the environment. But there have been rare cases where the Common Split Gill *(Schizophyllum commune)* caused sinusitis. It is a very distinctive white to gray mushroom, shelflike and quite hairy. It has what looks like pairs of hairy gills, which are actually folds in the spore-bearing surface. Oyster mushrooms *(Pleurotus ostreatus)* have a wonderful anise odor, useful for identification, but if you find a little white shelf mushroom you hope is oyster, look at it first. Don't be smellin' that nasty Split Gill!

Hygrophoropsis aurantiaca *– waxy, perhaps?*

undertone of locker room. But my characterizations are irrelevant; what matters is how they smell to you.

Take taste – because chewing and then spitting out a small piece of the mushroom is a valuable technique for field ID, especially for Lactarius. *(CAUTION: Taste only if you have already identified the specimen to a relatively safe genus, such as Lactarius.)* Typical descriptors are "mild", "hot", "bitter", "astringent" and "acrid". There's disagreement even among various field guides on the meaning of some of these terms: *Lactarius piperatus* is described as "very hot and acrid" in one field guide and merely as "acrid" in several others. Only if you taste an identified specimen, can you learn how that mushroom tastes to you.

I could have included many more examples, but I think you get the idea. The post-foray ID session is the place to "pick the brains" of the experienced identifiers and ask questions: "I thought this was *Daedalea quercina*. How can you tell it is *Daedaleopsis confragosa*?" The table with identified mushrooms gives you the opportunity to see how the idealized descriptions in the field guide apply to real life specimens. If you're relatively new to mushrooming, it's not realistic to try to learn the 50 to 100 species that you will find on the ID table after a typical foray. Instead, focus on comparing a few of the species with their descriptions in your field guide. Could you identify them from their descriptions? Which descriptors would have tripped you up?

There are many reasons to come to NJMA forays – it's fun to walk in the woods, collecting mushrooms, meeting new people and seeing old friends. Foraying helps "train your eye", so you learn the small terrain differences that favor mushrooms. And lastly, the post-foray ID session is a great place to increase your skill at identifying mushrooms, by learning how the field guide descriptions apply to actual specimens.

NOTEWORTHY TIPS relating to this article

- The meanings of the words used in mushroom field guides are not always apparent. The ID sessions after NJMA forays are the places to learn how the descriptors apply to actual mushrooms. You learn this both by talking to experienced identifiers and by comparing identified specimens with their descriptions in your field guide.

– Patricia McNaught, Associate Editor

"I confess, that nothing frightens me more than the appearance of mushrooms on the table, especially in a small provincial town."

– Alexandre Dumas, early 19th century

There's a small minority who will call 999 (911 in US) at the drop of a hat. A Liverpool man phoned to complain that a takeaway company had put mushrooms on his pizza, even though he hated them. He wanted the police to demand that the pizza restaurant remove the offending vegetable and give the owners a caution.

– Express.co.uk, 2/21/2013

*(reprinted from **Spore Prints**, newsletter of the Puget Sound Mycological Society, March 2013)*

UNION COUNTY BIOBLITZ RESULTS

submitted by Dorothy Smullen

Thanks to MIke Rubin, Melanie Spock, Hadas Parag and leaders Marc Grobman and Dorothy Smullen, Fungi were well represented at the 9th annual event in Union County. The parks covered were Lenape, Echo Lake and Nomahegan.

There were a total of 40 species collected and identified which include seven lichens. This year we added five new species and one lichen to the spreadsheet list of 156 different species for eight years. Dorothy led a walk at 10:00 on Saturday for 16 participants.

Dorothy Smullen and Melanie Spock at the Union County BioBlitz

FORAY REPORT

MAY 5 - MOREL MADNESS IN PRINCETON

report and photos by Steve Sterling

As a rule, I have found mushroom lovers to be generous, caring/sharing people…except when it comes to morels. Morels seem to bring out the dark side of mycologists.

This was the first year I participated in the Princeton Institute Woods (Waterworks) Foray. Which, in and of itself, is somewhat of a closely guarded secret event/location.

Probably because Bob Hosh is a greedy bastard…in spite of his winsome demeanor and amiable charm. But he suffers from a disease that all mycophiles seem to be afflicted with: *The "MORE MORELS FOR ME Syndrome."* I'm kidding, of course.

If that were true, he wouldn't lead a bunch of strangers around one of his favorite hunting grounds.

I didn't do so well this year. I found the remains of a single morel that had apparently been eaten by a deer. My wife turned out to be one of the big winners that day…collecting all of about four ounces.

This year's Morel Madness at Princeton's Institute Woods turned out to be a bit of a dud…but I'm not discouraged.

It inspired me to "like" MorelHunters.com on Facebook, where I've been able to further magnify my failure as a morel hunter by viewing the astounding harvests of greedy morel lovers in other parts of the country. The pictures they post of their bounty have made me feel like a total loser. So…if you are on Facebook, I encourage you to "friend" them too.

And while you are at it…friend me…Steve Sterling.
I'd love to commiserate with you.

Editor's note: More of Steve's photos of the Princeton Foray can be seen at ***http://tinyurl.com/o56ppn4***

Coprinellus micaceus

BYTES, BITS, & BITES
TASTY LITTLE TIDBITS FROM OUR MEMBERS

from Judy Glattstein:

An interview of Tama Matsuoka Wong by Tricia Vanderhoof in *The Daily Record* – on ephemerals:

http://tinyurl.com/powxt8q

An article on the Shiitake Growing Workshop is on Judy's website: ***http://tinyurl.com/kkatxmb***

Judy had sent me a copy of "A Passion for Mushrooms" an excellent article from the Fall 2012 issue of *Garden Design* magazine with stunning photographs. I received permission from the author, Eugenia Bone, and the photographer, Lynn Karlin to reproduce the article in *NJMA News*. But my request to *Garden Design* for permission was denied. It may have something to do with the fact that the magazine ceased publishing in April 2013.

To see the article online, go to ***http://tinyurl.com/qxgv5ek***.

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from Greg Fatto:

For the less-lucky collectors, go to ***www.gmushrooms.com***. Morel growing kits, etc.

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from Pat Bogue:

Subject: Michiganders warned of dangerous hogweed

Some of you may already know about this (introduced!) invasive plant. Regardless, check this out and beware of this bad boy! It really is very, very nasty. I liken its toxin to being slapped by a jellyfish, only worse.

http://tinyurl.com/mhtwps7

– Pat

Editor's note: I forwarded this email to a number of NJMA members and asked if they were aware of this invader. I got this reply from Judy Glattstein:

There have been warnings about this plant for close to 10 years. And yes, it is here in New Jersey. Difficult to eradicate (cut back, re-sprouts from the roots etc.) Mostly found in wet places, not that widespread in NJ. Handsome, and illegal to cultivate.

Here's a link to an informative PDF:

http://tinyurl.com/lmzcaq

and a New Jersey-specific article from 2008:

http://tinyurl.com/oc7dnkd

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from Jim Occi:

Greetings Jim –

Way back in the 90's, I gave a lecture to the NJMS on ticks and Lyme disease. It was called the Natural History of Lyme Disease. I guess you guys liked it so

(continues on page 13)

OYSTER MUSHROOM CULTIVATION WORKSHOP

by Yasemin Esmek

Under the motto "If nature does not provide mushrooms, you can grow your own," a handful of mushroom lovers attended A.J. Bozenmayer's workshop on cultivating oyster mushrooms at Pleasant Valley Park in Bernards Township on a beautiful June morning.

Patricia provided us with coffee, tea, juice, cake, and fruit. After a short introduction, we learned that oyster mushrooms usually grow on dead wood in nature, but can grow on almost any material when cultivated, for example: coffee grounds, paper shreds, and straw. The spawn we used was cloned by A.J. from a wild specimen and under complete sterile conditions in his lab. The spawn was mixed with hydrated millet or rye grain and put into mason jars with lids perforated to provide oxygen. We learned that the spawn feeds off the grain and starts growing inside and, if you let too much time pass, outside of the jars.

Each student was given a mason jar full of oyster mushroom spawn. All we had to do was to open the jars and put the spawn between layers of pasteurized, hydrated straw and into big clear plastic bags. Next we tied a knot to seal it up and poked holes into the bags with a knife. The bags are then stored in a place with ambient light and temperatures not exceeding 110 degrees and not falling below 65 degrees. I hope that time will do the work and that in a few weeks my fellow mushroom lovers and I can harvest oyster mushrooms by the pound growing out of the holes in the bags.

PHOTO BY YASEMIN ESMEK

PHOTO BY YASEMIN ESMEK

NJMA CULINARY GROUP PLANNING "OLD FAVORITES" DINNER

Saturday, July 27th, Unitarian Center, East Brunswick

Simmered Shiitake, California Roll with Crab, Country Terrine, Bread Pudding with Brown Sugar Walnut Sauce, Chicken and Mushroom Pot Pie, Green Tea Ice Cream...do any of these sound like they belong on one menu? We might just find out on July 27th! *(These are completely random selections from all the past Culinary group dinners and are most likely not what the real menu will look like, however. But come join us and find out.)*

The Culinary Group is planning a switch from their usual format of selecting a particular cuisine as the basis for the upcoming dinner. Instead, we will be planning the menu based on the recommendations of the participants. When you sign up for the dinner, you will be sent a set of nine menus from past dinners (all those held at the Unitarian Center except for the last four). You will be asked to choose a selection of dishes you would like to enjoy a second time. If you have never been to the dinners, you can just select the dishes that look the most appealing and that you would like to try. From the most popular choices, a menu will be created and the recipes assigned. We expect a very varied and very interesting pairing of dishes. The themes of the dinners that the recipes will be selected from are: Hungarian, Soup and Bread 2009, Locavore Garden Party, A Taste of Luzianna, A New England Supper, Argentinian Grill, Japanese, Russia Plus, and Fall Harvest 2011.

As usual, Culinary Group dinners are planned events, are *not* potluck. Costs for the dinner are shared equally among the participants. The normal cost for a meal ranges between $15 and $18 per person. Everyone brings his or her own tableware and beverages. Coffee and tea are provided.

These meals are a great way to get to know your fellow NJMAers in a relaxed setting and to enjoy great food. As you probably already know, we have a lot of very talented cooks in our club, and, not surprisingly, many of them attend the Culinary Group events.

To register, or for additional information, please contact Bob Hosh (***gombasz@comcast.net***) tel. 908-892-6962 or Jim Richards (***jimrich17@me.com***) tel. 908-619-1438.

Fifty thousand dollars' worth of cabinets isn't going to make you a better cook; cooking is going to make you a better cook. At the end of the day, you can slice a mushroom in about three inches of space, and you can carve a chicken in a foot and a half. So it doesn't matter how big the kitchen is.

– Tyler Florence

HUITLACOCHE: CORN SMUT

by Judy Glattstein

Several years ago, my neighbors John and Carol came back from a vacation to find a weird ear of corn in their garden. Weird – as in aliens from outer space. Carol told me she asked John to throw it into the burn barrel to dispose of it. "Stop!" I exclaimed. There was something tickling my memory…a little research, and I was certain it was too good to burn. That peculiar ear of corn had been infected with a fungal disease, and was not just edible, it was delicious. Corn smut, *Ustilago maydis*, grossly swells and blackens the kernels, which have an unusual silver color. Here's a link to a very complete article on corn smut, its etiology, and biology, and even mention of *huitlacoche*: ***http://tinyurl.com/nwdpgbo***.

Its Mexican name is *huitlacoche*, (pronounced something like "wheat la coach hay") and it is considered a delicacy. We happened to find it at a prime stage. Any later and the silvery kernels would have ruptured, releasing the spores and losing its flavorsome edibility. That night we had a *huitlacoche* feast: Corn Soup with *Huitlacoche*, a chicken dish with *huitlacoche* that Carol found in a Mexican cookbook, and a recipe I developed for mako shark steak, using tomato (another food gift from Central America), red onion, and *huitlacoche*. Look at the size of those kernels, nearly as big as the tomato, and the black center of the sliced pieces. Raw, it had a slightly bitter taste. Interestingly, each dish had its own unique flavor.

A few days later, I went to a nearby corn stand. Feeling

Huitlacoche with tomatoes, etc.

somewhat intimidated (*psst*, do you have any diseased corn?) I asked if they ever had corn smut show up in their fields. "Occasionally" was the answer, depending on the weather and the variety of corn that is being grown. The teenagers who pick the corn, I was told, usually just bash each other with the infected ears, to watch the black spores pour out like smoke. It is the older, open-pollinated varieties of corn that are most susceptible. Heavy rain, accompanied by humid weather, increases the likelihood of an infection, as spores are splashed up onto the corn plants.

There is also an edible rice smut, *Ustilago esculenta*, which grows on the plant stalk at the base, and not on the seed itself. Special disease-susceptible strains of rice are cultivated in China, where the rice smut vegetable is highly prized. Importation into the United States is forbidden.

Huitlacoche is sometimes available canned, but my cookbooks suggest that it isn't very good. You'll have to grow your own open-pollinated corn and hope that the fungus infects it. Certainly the weather this year is cooperating – wet and humid!

FRANKLIN PARKER PRESERVE

article and photos by Steve Sterling

Mr. & Mrs. Burghardt are unusual people (to put it politely)…"strange" is probably more accurate.

They dedicate countless hours of their lives to studying the fungi of South Jersey at a place called Franklin Parker Preserve. I mean…seriously…who cares?

What are the probabilities that a married couple would share a common interest in such an unusual endeavor? Fortunately for me they do. I really enjoy going there with them.

I feel like I'm participating in some great scientific experiment…that I don't really understand at all. I did that once before…when I took anti-depressants for a few months. That experiment didn't turn out so well. I'm hoping this one turns out better.

Roaming around the Pine Barrens reminds me of my misspent youth. I used to hide in these woods smoking pot and drinking beer. Now I hike around looking for mushrooms…which is a totally different kind of high.

I've met lots of interesting people, and even managed to learn a little about mushrooms.

I'm not nearly as dedicated to the project as John and Nina Burghardt are…but at least I show up.

And as I'm sitting here thinking about it, I really appreciate that they still let me come. I ask lots of ignorant questions and make people uncomfortable by taking their pictures.

My wife and I look forward to our times at Franklin Parker Preserve, and I think you would enjoy it, too. Don't forget to pack a lunch and bring water, bug spray, and sun screen.

Contact Nina if you are interested in going, ***jnburghardt@verizon.net***.

Editor's note: More of Steve's photo of Franklin Parker Preserve can be seen at ***http://tinyurl.com/o3auzgb***

WHO'S IN A NAME?
Hypomyces banningii

by John Dawson (thirty-seventh of a series)

Few mycologists are likely to recognize the name Mary Elizabeth Banning. Yet she who bore that name is among those commemorated in the Maryland Women's Hall of Fame, where she is described as Maryland's first mycologist; and forty-eight of her remarkably vivid folk-art paintings of mushrooms are reproduced on the web page ***Treasures of the New York State Museum***.

Mary was the younger of two children of Robert Banning and his second wife, Mary Macky. She was born in 1822 in Talbot County, Maryland, on the "Isthmus" plantation at Hopkins Neck, about midway between St. Michael's and Easton. Her older sister Matilda died at a young age, but Mary also had a number of half-siblings from her father's first marriage, the youngest of whom, Catherine, nine years older than Mary, "bec[a]me her life-long companion". Mary's father was a prominent citizen of Maryland, "a military Captain, Collector of the Port of Oxford, and a Member of [Maryland's] House of Delegates". Her grandfather had been a Talbot County representative "at the meeting in which Maryland ratified the federal constitution," and her ancestors in Maryland date back to 1650.

Little information is available concerning Mary's childhood, but it seems that "she grew up in a happy and privileged environment." After her father's death in 1845, however, "her fortune faded throughout the [rest] of her life." In 1855, economic circumstances forced her to move to Baltimore with her invalid mother and surviving sisters. A few years thereafter, her eldest sister's health also began to fail, and Mary became burdened with the care of her mother and sister for the rest of their lives.

It was apparently to find respite from her care-taking duties that Mary began to observe, collect and paint mushrooms whenever she was able to do so. Although she could not be away from her mother and sister for long, she somehow managed to travel extensively throughout Maryland, collecting fungi, amassing a scientific library, recording all that she found, and maintaining a private herbarium; she even purchased a microscope. Travel was not easy then, and she had to rely on public conveyances or hired carriages. In one amusing instance she returned by streetcar from Druid Hill with a specimen of *Dictyophora duplicata* wrapped in her collecting basket, causing her fellow passengers to wonder aloud where the stench was coming from. She told the story in an undated letter to Charles Peck of the New York State Museum in Albany, with whom she corresponded on taxonomic questions from 1879 to 1897.

At that time, women were largely excluded from participation in academic societies and scientific study at universities, and were even denied admittance to some museums. The pursuit of nature study by women was regarded instead as an informal activity that advanced the aims of 'natural theology', according to which "one became closer to God by studying his creations." Mary herself apparently subscribed to that belief, as she wrote that "the study of Natural History in any of its departments has a refining influence — … it is the Divinely apportioned means of teaching faith as well as cultivating the minds and morals" of young people. She has consequently been described as "the quintessential American woman-as-naturalist", who "impart[ed] natural knowledge to younger generations and nurture[ed] an appreciation of nature" while fulfilling "the traditional role of women's domesticity."

Though surely frustrated by the lack of attention given to her mycological studies, she persevered despite all obstacles, and during the period 1877–1882 published five articles in semi-popular periodicals (one each in *Field and Forest* and the *Bulletin of the Torrey Botanical Club* and three in the *Botanical Gazette*). Already in 1868, however, she had begun work on a much more audacious project: the compilation of a book manuscript entitled *The Fungi of Maryland*, which in its final form described and illustrated 175 species of mushrooms, 23 of which were new to science. She devoted twenty years to that endeavor, until arthritis and failing eyesight forced her to stop. Then, concerned for the manuscript's preservation and aware that the expense of reproducing her illustrations would likely preclude its ever being published, in 1890 she sent it to Peck (to whom she dedicated the work) for safekeeping.

Banning never married, and she spent her last years at a boarding house in Winchester, Virginia. At her death, what little remained of her estate was donated to St. John's Orphanage for Boys.

Though Banning and Peck never met, he served as her mycological mentor. In an 1879 letter to him she wrote,

"You are my only friend in the debatable land of fungi and your kind instruction is valued above all measure by this enthusiastic worshipper." She sent many specimens that she had collected to him, and in the 1891 *Annual Report of the New York State Museum* of Natural History he published a list of them.

Peck placed Banning's manuscript in a drawer along with some of her letters, where it languished until 1969! It came to light when the then-curator of fungi at the New York State Museum, Stanley J. Smith, briefly showed it to John Haines, who had come to the Museum for a job interview. Haines later became curator himself, and it was he who urged that Banning's illustrations be placed on public view. Fifty-one of them were placed on exhibition at the State Museum in 1981, and later at the Talbot County Historical Association in Easton, Maryland. Some of them were also shown briefly at the Buffalo Museum of Science in 1986, and they were exhibited again in Albany from June 24, 1994 until January 8, 1995.

Despite Haines's efforts, Banning's text and illustrations have remained unpublished. Nevertheless, according to two recent sources consulted for this article, "a bright orange-red fungus", *Hypomyces banningii*" , was named in her honor, presumably by Peck. I have found no mention of that species, however, either under that name or a synonym, in any of the well-known online taxonomic indices of fungi (*Index Fungorum, Discover Life,* or *Catalog of Life*). So it seems that even today, as during her life, taxonomists have continued to ignore Mary Banning's contributions to science.

A TALE ON THE CAESAR'S MUSHROOM AND OTHER AMANITAS

by Santiago Sanchez-Ramirez
reprinted from ***Mycelium****, the newsletter of the Mycological Society of Toronto*

Very few fungi have the privilege of being part of human history. Although many play a secondary role as important components of our diet or as disease causing agents to us or to our fellow animal and plant companions, some have provided medical breakthroughs. Examples of this include the famous *Penicillium notatum*, an asexual mould which was found by Sir Alexander Fleming in 1928 to produce a miraculous compound penicillin that inhibits bacterial growth. Before penicillin, the bacterial diseases such as scarlet fever, pneumonia, meningitis, diphtheria, and gonorrhea were epidemic and during the World War I, soldiers died from infected wounds. Penicillin was capable of controlling bacterial infections and World War II soldiers were able to recover from infected wounds.

Equally interesting, although of less historical impor-

(continues on page 18)

BUTTERFLIES AND AGROCYBES

article and photos by Paul Funk

While visiting a garden in New Egypt on a cool blustery spring morning, as May was turning into June, I spotted a half dozen or so butterflies swarming over some fallen Agrocybe mushrooms. I knew these were dark-spored Agrocybes without having to disturb the butterflies because I had just seen several excellent upright specimens in the garden proper *(see second photo)*. What could be a better photo than butterflies alighting on mushrooms…says I to myself. Maybe butterflies, mushrooms, zebras, and fairy tales – but, I digress. The mushrooms had not fallen because they were old, but because their woodchip mulch substrate had been disturbed recently for garden maintenance. The mulch pile excavation faced the sun and was deep enough to produce sun-drenched streams of much sought-after spa-like steam to warm these beautiful cold-blooded fauna. The butterflies seemed to be benefiting two-fold from these fallen mushrooms: warming themselves and puddling or drinking either dew or fluid directly from the fungi. I filmed them with a Nikon DSLR camera and a 60mm macro lens. Close scrutiny of the photos reveals their proboscises extending toward the fungi.

BYTES, BITS, & BITES *(continued from page 8)*

much, you made me an honorary member of the NJMS. I still receive your newsletter to this day and read it every time it arrives in my mailbox.

Anyway, I went to the woods behind my house and found this saprophyte. Can you tell me what it is?

Jim Richards' reply:

The fungus is *Clavicorona pyxidata* (the Crown-tip Coral). I believe there may be a newer name for it. *(Editor's note: It is now* ***Artomyces pyxidatus****)* It is listed as an edible, but I don't know of any collectors who regularly eat it.

May we use the photos in the next issue of *NJMA News*?

Jim Occi's reply:

Thanks for the ID!

Sure you can use it. Here are the hi-res versions.

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from David Rust, NAMA President

As you know, NAMA lowered dues this year. Members of affiliated clubs like yours can now join for only $24 for an electronic membership, which includes an email version of *The Mycophile* (six issues per year). Please talk about NAMA at your monthly meetings, in your newsletter, and on your website.

I also want to share a new educational resource, put together by an enthusiastic writer, researcher and artist who lives in Edmonton, Alberta, Canada. This second edition of The Fungus Files, perfect for K-6 education and mycophiles of all ages, was edited by Bryce Kendrick who wrote *The Fifth Kingdom*. I have attached the document, or you can alert your members to this page:

http://www.namyco.org/education/fungus_files.html

which explains in detail how it can be used with separate PDF files for each chapter. NAMA is proud to host this remarkable work on our website. *(See page 24, too!)*

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from Lorna Wooldridge:

Tim Adams saw this story on the BBC News website and thought you should see it.

http://tinyurl.com/pcmtj9s

Researchers show that plants can communicate the need to protect themselves from attack by aphids by making use of an underground network of fungi.

http://tinyurl.com/obzyr9m

From Steve Sterling:

Can I eat it?

It appears to be *Coprinus quadrifidus* according to the photo and description in Lincoff. He says that it is "Edible with caution". That is enough for me to stay away from it – but then I tend to be super-cautious.

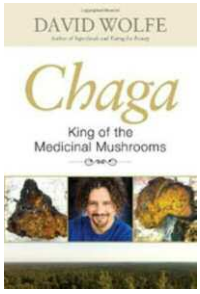
– Jim

(continues on page 23)

BOOK REVIEW

CHAGA: KING OF THE MEDICINAL MUSHROOMS

a book review by Igor Safonov



CHAGA: King of the Medicinal Mushrooms
by David Wolfe

Published by North Atlantic Books, Berkeley, CA. (2012) 203 pages. Retail price: $15.95

Humans are perhaps the most complex and fastidious heterotrophs nature has created. The human body needs a large, sustainable and balanced source of energy consisting of the three essential building blocks – carbohydrates, fat and protein – to grow and properly maintain its homeostasis. However, notwithstanding these demanding nutritional requirements, any person subjected to a "meat and potatoes" dietary regimen will pretty soon find out that not all is well with his/her body. As we all know (however superficially), in addition to our minimal daily intake of caloric nutrients, the human body needs, on regular basis, an impressive array of essential vitamins, minerals and other, lesser known and not as well-studied biologically active chemicals, whose role in supporting our overall health is not yet fully understood and proven. However, it is generally accepted in the contemporary scientific and medical circles that these minerals and natural products quietly and diligently catalyze and fine-tune our complex biochemical machinery day after day, thereby protecting us from ailments, medical disorders and premature ageing, all of which are manifestations of entropy – the most feared and inexorable force in the universe…

Since time immemorial, humans have always turned to a variety of nature's flora and other "lower life forms", such as mushrooms, to fight or prevent diseases, energize the body and just make them feel well. Even nowadays, despite our continuing and ever-increasing reliance on prescription medications for all sorts of medical conditions, the old tradition of herbalism is still alive and well (it has become a billion-dollar industry of its own). It has perhaps more followers than ever. thanks to the more-than-adequate coverage in the media, ready availability of herbs and/or their therapeutic extracts in health stores. A growing part of the public believes that there is a viable alternative to the "unnatural poisons" that the "evil" Big Pharma is foisting on unsuspecting consumers… In *Chaga*, David "Avocado" Wolfe promulgates the aforementioned view point by arguing and explaining why a not very photogenic wood-dwelling mushroom with a strong penchant for birch and cold temperatures, is "the single most powerful healing herb in the world".

The story of chaga, *Inonotus obliquus*, is laid out in three main chapters (the fourth one is a compilation of further reading materials and references). In the beginning, the author introduces the concept of "tonic" herbs that can be consumed daily to help "restore, tone, and enliven body systems". Continuing with this theme, the author boldly states that in his experience medicinal mushrooms fall into the category of "superherbs", of which chaga rises above all, followed closely by reishi (*Ganoderma lucidum*). If there is a sentence that sums the key message of the book, it can be readily found in the opening paragraph of the introductory section titled "Hail to the King! An Introduction to Chaga". Allow me to quote it in entirety, such that you get the right perspective from the get go:

> "As a food-herb and nutriment, chaga is a premier herbal adaptogen (a metabolic regulator that increases an organism's ability to adapt to environmental factors and resist stress), cancer fighter, immune-system modulator, antitumor agent, gastrointestinal (digestive) tonifier, longevity tonic, and a genoprotective (DNA-shielding) agent".

The author's message is clear: believers must accept this assertive statement unconditionally; non-believers should read on, open their minds and gradually let go of their skepticism.

If you embrace the above-quoted notion as an indisputable axiom, you may as well close the book, as its remaining content doesn't really matter in the grand scheme of things, and embark on your first trip to find, collect, and then enjoy chaga to the full extent. End of story… Well, before you take one for the road, may I suggest that perhaps you would like to get the author's few tips on where and how to collect the highly prized fungus and what to do with it. The second part of the book is full of detailed recipes instructing the reader on how to get the most out of the chaga mycelium (no, it's not an ephemeral fruit-body you probably expect to find, as it is the case with most other fungi, but a sclerotium – a compact, hardened and nutrient-rich mass of mycelium) for the benefit of your stressed-out and worn-out organism. You will then be surprised to find out that wild chaga is a pretty rare entity, as only five in twenty thousand birch trees will be infected with it. Although the author prefers to hide the inconvenient truth, this makes it a perfect poster child of a non-renewable natural resource that can provide only an infinitesimal fraction of humanity with a lifetime supply for daily consumption. Furthermore, for most of us in the continental USA, finding chaga will require a long, exhausting and expensive trip to the northern states or even Canada, because that is where one can lose their bearings in large boreal stands of birch trees and hopefully stumble upon a mature chaga specimen one fine day.

Perhaps these sobering facts will make believers postpone their chaga hunting trips indefinitely and might instead awaken a certain degree of curiosity in them to

continue with the book. If so, they should not fail to notice that the purported therapeutic properties of chaga (mostly the ones stressing broad anti-cancer and robust immunological effects delivered by a rich bevy of natural products, such as a poly-saccharides, triterpinoids, betulinic acid, superoxide dismutase and melanin, just to name a few) get drummed into their brains time and again throughout the book almost ad nauseam, as if Mr. Wolfe is fearful of not delivering enough evidence to the reader. The therapeutic properties are further summarized in a voluminous A-to-Z list on page 48. One could either be relieved (or disappointed) to observe that chaga doesn't cure erectile dysfunction or alopecia; a more perspicacious reader might even be disturbed by the author's frivolous use of terms "anti-cancer", "anti-mutagenic" and "anti-tumor" as being non-synonymous in this generalized context or bewildered by the author's definition of apoptosis as "spontaneous breakdown of cancer cells". To compound the problem of such a cloying use of dogmatically rigid assertions extolling the multi-faceted health benefits of chaga is the fact that they are rarely supported by references – which, in my opinion as a scientist, is a must. They are annoyingly intermixed with what appear to be borrowed and hastily rephrased excerpts from referenced scientific articles and other authoritative sources on the subject.

Aside from the questionable credibility of said therapeutic claims to actually work *in vivo* (nowhere in the book did I see a hint of a discussion on pharmacokinetic properties of any of the mentioned natural products, such as oral bioavailability, first pass clearance, volume of distribution, half-life, or hepatic metabolism – all of which taken collectively have been the true holy grail of medicinal chemistry and conventional drug development for decades) – some of which might actually be true to a certain extent, while others are dubious at best, and few (if any at all) are supported by the rigorous FDA-approved clinical trials. The biggest problem that transfixes this book is the author's style of juxtaposing believable *in vitro* data from published scientific literature and his own pseudo-scientific, alchemical beliefs and ideas that are almost medieval in their nature and have no place in modern science. Some of them make little or no sense at all and smack of charlatanism, while others are plain silly or funny or even inappropriate. Together, they are distracting and highly questionable to an educated mind. Here are a few notable "pearls of wisdom" from the book (in italics), followed by my own comments (regular text), and I let the reader be the judge:

1. *"Plant-based approaches to health challenges are increasing in popularity at an astonishing rate, probably because they work"* – A perfect example of how one strategically placed word can instantly render an entire sentence meaningless.

2. *"In the temperate forests of Canada where I hunt chaga, wild Amanita pantherina grows, and it seems to provide a more positive experience when dried upside down in direct sunlight and taken with chaga tea"* – Consumption of Amanita species is a taboo subject for mycologists in the USA. For safety reasons, the prevailing view is that all Amanita species are poisonous and must not be ingested raw or cooked.

3. *"My review of the information on spores indicate that the outer material of the mushroom spore appears to be metallic in nature, and just beneath this metal shielding are layers of light monoatomic (Ormus) elements that shield the genetic material from radiation and possesses levitative properties, such as attraction to the Sun"* – You won't find this in Wikipedia for sure!

4. *"If chaga hunting becomes enjoyable for you, then you will use chaga daily"* – Frankly, there is no logical connection can be seen between the two.

5. *"I disagree with the entire concept of boiling, because it damages water"* – That one is my favorite. As a bench-top organic chemist, I am more than familiar with decomposition when it comes to low molecular weight entities. I never had any doubts that water, one of the most simple and stable three-atom molecules in the world, is totally indestructible at any temperatures and pressures.

The biggest problem that transfixes this book is the author's style of juxtaposing believable in-vitro data…and his own pseudo-scientific, alchemical beliefs and ideas that are almost medieval.

In order to break the monotony of dry science (originally introduced in the first part of the book) that can inevitably have an overwhelmingly soporific effect on most people, even those who have enough patience and attention span to read through, let alone understand it, the author quickly changes gears in the second chapter. As I briefly mentioned above, it focuses on the practical side of herbalism associated with consumption of chaga. Since the natural products and other purportedly therapeutic chemical entities found in "the king of medicinal mushrooms" have unique physical properties, they also have different solubility profiles in water and other commonly-used solvents. Thus, to take advantage of the entire spectrum of the wholesome biological activity of chaga, the mycelium should be extracted with water (to make a variety of teas, coffees, and other beverages bearing exotic names), alcohol (to make tinctures of various strengths) and even oil. According to the author, chaga flour can also be consumed directly because it's entirely bioavailable and safe (the Unites States FDA classifies chaga as "food").

The third section of the book is all science again. It elaborates on the material of the first chapter and focuses specifically on a few chemical entities found in chaga and their biological activity, with particular emphasis on preventing and treating cancer. Once again, many questions arise with regard to the utility of betulinic acid and melanin as stand-alone therapeutic agents from the standpoint of their pharmacokinetic profiles, *in vitro* and *in vivo* activity, and what is known about these molecules from readily accessible Internet resources, such as Wikipedia. The same can be said of cesium and germanium ions that are present in significant amounts in chaga. Contrary to what the author states, both have no current application in treatment or management of medical disorders due to lack of efficacy and/or known safety concerns (Wikipedia).

In summary, I find David Wolfe's enthusiasm and optimism about the chaga mushroom's role as a natural multipurpose therapeutic agent somewhat admirable, inspiring and refreshing, but unfortunately as a professionally-trained scientist, I have no choice but to take most of what that he presents with a large grain of salt and plenty of skepticism. As most of his scientific arguments and evidence lack punch and suffer from insufficient credibility, I simply cannot take his writing very seriously. As the author's scientific house of cards falls apart, the book is quickly reduced to a mere collection of historical facts, recipes, pretty pictures and flawed beliefs and ideas that have some residual entertainment value.

BOOK REVIEW

BACKYARD FORAGING: 65 FAMILIAR PLANTS YOU DIDN'T KNOW YOU COULD EAT

a book review by Mike Rubin

BACKYARD FORAGING: 65 Familiar Plants You Didn't Know You Could Eat
by Ellen Zachos

Published by Storey Publishing (2013)

Many people know you can eat nasturtium flowers, but did you know you could eat hosta flowers? Or how about the young tips of spruce branches? I didn't know that. After reading this book, I now look at my backyard as more of a salad bowl than the hodgepodge of ornamental and native plants that came with the house.

This book isn't a field guide. It won't help you identify plants, but what it does do is tell you which parts of the plants that you may already be familiar with are edible. It tells us how to harvest the edible portions and how to prepare them. The author cautions us about over-harvesting. We must leave enough for our furry and feathered friends to feast on as well. Also, we don't want to damage the plants or make next year's crops weak or sparse. We are, after all, the stewards of this planet; everything in moderation. Except Japanese Knotweed: Ms. Zachos encourages us to eat this invasive plant out of our habitat.

I found the recipe section particularly interesting with titles like Milkweed Flower Syrup, Mountain Ash Jelly, Acorn and Mushroom Soup and (of course) Dandelion Wine, just to name a few. Now I have to admit, when people talk about edible wild foods it usually makes my palate shrink in rebellion. They tend to be bitter, full of tannins, and twigs. This book makes it all very sumptuous; a feast for the eyes as well as the taste buds.

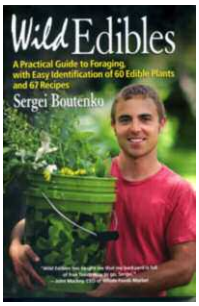
There is a short chapter on mushrooms covering Hydnum, Laetiporus, Grifola, and Pleurotus. Again, she tells us how to harvest and prepare these foods but not how to identify them.

Overall, I like the approach Ms. Zachos takes to the subject of this book. It's different than the usual field guide approach that we are oh-so-familiar with. I would recommend this book for anyone interested in wild foods.

BOOK REVIEW

WILD EDIBLES

a book review by Judy Glattstein



WILD EDIBLES
by Sergei Boutenko

Published by North Atlantic Books, Berkeley, CA. (2013) ISBN 978-1-58394-602-2 279 pages, includes Introduction, Basics of Wild Plant Foraging, Field Guide to (60) Edible Plants. (67 Vegan) Recipes, Glossary, Recommended Readings, References, Index.

I forage. Many of my friends forage. In advance of my scheduled backyard foraging class at Rutgers Gardens, I sent a survey around asking why people forage, with some interesting replies. Foraging even turns up in novels that I read – in Louis L'Amour's *Jubal Sackett,* our hero with a broken leg and on his own, makes a soupy stew from jerky, pieces of cattail cut from where the sprout emerges from the root, some watercress, and some of the inner bark of a poplar. In Ursula K. LeGuin's *Lavina*, even though planning to eat sparingly of a little cheese and spelt bread, the appeal of shepherds' lettuce and watercress growing in a spring attracts the girl so that she eats them too.

Sergei Boutenko comes from a family that appreciates wild food. He, his sister, and their parents (his mother is often mentioned as a raw-food guru) believe in eating locally for health. This mindset shows up repeatedly in this book. So much so, that, at times, he repeats himself.

Each plant's description has one or a few sentences for Caution, Edible, Flavor, Description, Uses, Nutritional Highlight, Helpful Tips, ID Tricks, and "Sergei Says". Aspen and Birch have identical "Sergei Says", changing only the name.

Many books that focus on foraging for wild foods have a very narrow point of view. Sergei takes a somewhat broader view. *Aloe vera* (unlikely to be found growing wild in New Jersey, but does thrive on many windowsills) has a myriad of uses. You might eat young leaves and gel raw, or add to smoothies, use the gel to treat burns and other skin ailments. He notes that it is said to have antispasmodic properties, so is useful for people with colds, asthma, and congestion, helps tighten skin and reverse wrinkles. Since it can be extremely bitter and unpalatable, Sergei likes to add a small piece to his smoothies to boost their nutrition. Just how much is a small piece is left up to the reader/forager/cook. Plants are organized alphabetically by common name, which means that a tree, Cedar, for example, may be followed by a perennial (chickweed in this instance). Note that the cedar Sergei is referring to is Incense Cedar, *Calocedrus*, and not our familiar Old Field Cedar, *Juniperus virginiana*. Sergei mentions that the plants he discusses in this book are available "not just in North America, but in other parts of the world." Quite right. Though other edible plant books tend not to mention this, many edible wild plants are naturalized – brought from abroad by European settlers. Whether intentionally or by accident, familiar plants (weeds, if you will) such as clover, garlic mustard, and plantain are not indigenous to North America.

Many books that focus on foraging for wild foods have a very narrow point of view. Sergei takes a somewhat broader view.

A table of nutrient data from a USDA website is provided for a selection of the plants, listing not only water, energy (as kcal), protein, fat, etc., but also minerals, vitamins, and lipids. Each plant has two or more pictures, however the quality is uneven. Some are crisp and sharp, a few somewhat out of focus, or the specific plant is intermingled with its neighbors making it difficult to see the necessary details.

I like smoothies myself. As well as the usual frozen banana-with-blueberries-and-yogurt, I've made avocado and spinach. OK, so that's foraging in the produce aisle. Sergei's smoothie recipes range from simple with few ingredients (2 cups freshly-harvested mallow leaves, ½ honeydew melon (peeled, seeded, and chopped), and 1 cup frozen raspberries) to the complex Costa Rica Night which incorporates a diverse array of ingredients, calling as it does for a bottom layer of sheep sorrel, kale, blueberries, cantaloupe, psyllium husk, chia seed, and a top layer of coconut milk and meat from a fresh coconut, pitted dates, and lemon juice with more psyllium husk and chia seed. Just as *aloe vera* is recommended for herbal/medicinal uses, there are two smoothies for facial or other skin applications. A recipe for a light main course has "your favorite wild edible greens (optional)" as the foraged ingredient. Clearly, his mother's child, several of Sergei's recipes that I would cook are served raw. The Ever-Changing Dried Soup with Weeds includes (quantities specified) carrots, celery, bell peppers, mushrooms, onion, tomatoes, parsley, sheep sorrel, chickweed, and dandelion flowers (chopped and then dried in a dehydrator until bone dry). Reconstitute in warm or hot water, add your choice of (amounts not mentioned) oil, salt, onion powder, and/or lemon juice for flavor. Let sit for 10 minutes before serving. A familiar Melon Mint Summer Salad (a pint each of honeydew, cantaloupe, and watermelon with a pint of blueberries and one cup of mint leaves – that does sound like an excessive amount of mint, especially if thinly sliced) has the suggestion to "Decorate with edible flowers." I could not find a separate listing for "flowers" or "edible flowers" in the other-wise excellent index.

I find his suggestions that "there is no cut-and-dry distinction be-tween what is toxic and what is edible", and that the label "poisonous" can be misleading, and that how much of what you eat is the real issue to be rather scary approaches, especially since his book would seem to be for the novice forager.

The introductory chapter on The Basics of Wild Plant Foraging offers some very sound and practical advice. Be sure of what you are gathering. Identify unknown plants with a field guide, and then check its edibility with a wild foods book. Introduce new plants to your diet one at a time. That way, if you should develop hives or some other reaction, you can identify which plant you are reacting to. Be a responsible forager, taking only what you need for a couple of meals and not stocking up for a month. Focus on plants and the environment in which they are growing, learning to be "in the moment". Learn a new plant each week and, in a year, you'll have learned to recognize more than 50 plants once new to you. Take children outdoors and away from TV and computer games and familiarize them with the natural world. Forage with friends and family as a bonding experience.

Foraging is "hot" at the moment, and books appear almost as quickly as mushrooms after a rain. Like mushrooms, many are interesting, some are edible, and a few are delicious – and that makes them worthwhile additions to your library. This book – not so much.

BOOK REVIEW

TEXAS MUSHROOMS, A FIELD GUIDE

a book review by Patricia McNaught

TEXAS MUSHROOMS, A Field Guide
by Susan Metzler and Van Metzler

Published by University of Texas Publishing, Austin, TX. (1992, preface 2013)

I'm a believer in regional field guides. I go to Cape Cod several times a year to visit a family member who is in a nursing home. I have limited time to mushroom and less to ID. The Cape Cod field guide I use (Bessette) has proven invaluable in jumpstarting identification. While it's true that mushrooms don't respect state lines, they do respect ecosystems, and it's helpful to have a field guide that shows the most common species of a particular area.

So it's easy to recommend *Texas Mushrooms* to any NJMAer who travels to Texas, especially since it's the *only* field guide to Texas mushrooms. The book definitely has some Texas swagger: from the assertion that mushroom-hunting in Texas is a year-round activity to pride in the diversity of mushrooms in East Texas (including species from Malaysia!) to the recipe for Texas-hot Pickled Mushrooms. The tone of the book is informal; this is the friendliest mushroom field guide I've encountered. The words "cap, stalk and gills" replace "pileus, stipe and lamellae". "Powdery" replaces "pruinose", "net-like pattern" replaces "reticulate". Where technical terms are unavoidable, they are defined in the text, there's no flipping to a glossary.

The first 50 pages contain a remarkably complete introduction to mushrooms and mushroom hunting, identification, toxins and recipes. It includes several tables and charts – For example: An illustrated guide to fungi to identify the order or class, which is useful for non-gilled fungi. For gilled fungi, the challenging step is identification to genus. Unless it's an easy genus like Russula or Lactarius, it's often not clear where to go. *Texas Mushrooms* sends you to a table with a page or more devoted to each family, and the characteristics of each genus in that family are listed in table form. Orson Miller was the scientific advisor for *Texas Mushrooms*, so I compared these tables to the dichotomous key to families in Miller's *North American Mushrooms*. My "test case" was a little yellow-tan mushroom that showed up in my wood chip pile. I found the *Texas Mushroom* table *much* easier to use than the dichotomous key and was able to identify the family as Bolbitiaceae. (I eventually did go to *North American Mushrooms* to find the species, *Bolbitius vitellinus*.)

The entries in the field guide section are ordered by family, and each family has a one or two page discussion of the general characteristics of species within that family, including ecology. There is a one page entry for each species, which includes a half-page color photo. Most specimens were photographed in their habitat. A few species had photos taken from above, *without* showing the gills.

One of the best features is the table on the genera of the Boletes, which includes chemical test results and habitat among the genus characteristics. As with gilled mushrooms, the step of identifying to genus can be difficult. A table has advantages over a dichotomous key, where one wrong choice sends you down the wrong road.

Another nice feature is the appendix on spore data, listing the spore size, shape and reaction to Meltzer's reagent for close to 300 species. (Technical vocabulary does show up in the description of spore shape.) A couple of other guides include spore data, but not in tabular form.

Having never mushroomed in Texas, I can't comment on the selection of species. So I selected five species that were unfamiliar to me, and looked for them in field guides for North America from Miller, Aurora, Phillips, Bessette, Kibby and Lincoff (Audubon). Since I didn't find them, I conclude that *Texas Mushrooms* covers at least some species that are found more often in Texas than elsewhere.

The one drawback to be noted is that the book is somewhat dated; the only change from the 1992 edition is the addition of a one-page preface. This shows up in the species names, and also in the advice to apply insect repellent to the skin *before* getting dressed, as well as after. These days, most NJMAers going into chigger territory instead treat their clothes with Permethrin as a less toxic and more effective strategy.

But if you're headed to Texas, don't let the copyright date hold you back. *Texas Mushrooms* delivers a solid field guide that is definitely "user-friendly". And all with a Texas twang.

CAESAR'S MUSHROOM *(continued from page 12)*

tance, is the case of *Claviceps purpurea* and the ergot fungi from the family Clavicipitaceae. Saint Anthony's Fire is more of an intoxication than a disease, and is caused by ergot substances in the sclerotia of this fungus.

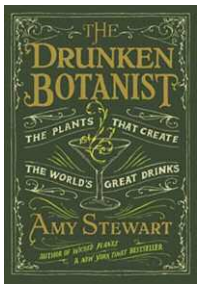
At one time, it was fairly common that contaminated rye and barley ended up in bread and other cereal products, causing collective intoxications, of even whole towns. In the middle ages, many people that manifested symptoms similar to those of ergot poisoning were accused ol bewitchment and witchcraft and thus burned or cruelly tortured. In modern times, ergotamine and LSD are chemical compounds that can be synthesized from the

(continues on page 25)

BOOK REVIEW

THE DRUNKEN BOTANIST – THE PLANTS THAT CREATE THE WORLD'S GREAT DRINKS

a book review by Mike Rubin



THE DRUNKEN BOTANIST: The Plants That Create the World's Great Drinks
by Amy Stewart

Published by Algonquin Books (2013)

Take one part botany, add two parts mixology, shake (don't stir), garnish with some entomology and you'll be having a refreshing summer read. This little tome is all about the plants that are used to make booze. It encompasses everything from the plants that are fermented to the herbs that are used for flavoring. Additionally, there are some interesting side notes about the insects that are involved in the process, *e.g.* lambic beer. She even tells us how to infuse vodka with various botanicals (chanterelle vodka anyone?).

If you ever had an interest in learning the differences among whiskey, whisky, bourbon, and scotch; or the distinction between tequila and mezcal (mescal) then this is the book for you. The author's approach to this subject is distinctive, as it based upon botany. For those of you that don't have a strong plant taxonomy background don't be intimidated. This is a very readable book that gives just enough taxonomy to allow the reader to distinguish between different plant taxa but not so heavy that you'll have dreams of Linnaeus hunched over his desk trying to decide if he should split or lump.

The best part is that it will whet your appetite for all things alcoholic. Ms. Stewart includes a nice smattering of drink recipes that apparently she has thoroughly enjoyed studying.

Don't forget to read the introduction as it sets the tone for the whole book.

BOOK REVIEW

MUSHROOMS AND MACROFUNGI OF OHIO AND THE MIDWESTERN STATES: A RESOURCE HANDBOOK

a book review by Marc Grobman

MUSHROOMS AND MACROFUNGI OF OHIO AND THE MIDWESTERN STATES: A RESOURCE HANDBOOK
by Landon H. Rhodes, Britt A. Bunyard, Walter E. Sturgeon, Sarah D. Ellis Williams, Introduction by C. Wayne Ellet.

Bulletin 942, Published by Ohio State University (2013). 164 pages, illustrated.

Wise and good people suggest we live longer, are happier, and better serve our fellow human beings and Earth if we think and "act positive" (*i.e.,* act positively). I attempted to follow that advice for this review, but it was a challenge.

Mushrooms and Macrofungi of Ohio (which I'll shorten to "*Ohio*" for the rest of this review) begins with a pretty picture of *Amanita muscaria var. formosa* (a.k.a. "Yellow-orange Fly Agaric") on the cover, unidentified there, but with an ID and description leading off the photo/text section on page 8. The beautiful pics continue on page 9, with *A. bisporigera* (Destroying Angel), and on just about every page thereafter! I noticed only a few photos that were slightly out of focus, and, fortunately, most of these happened to be ones where sharp details are not essential for identification, such as *Scleroderma polyrhizum*, or Earthstar Scleroderma, and *Geastrum saccatum*, Rounded Earthstar. Well, the photo of *Collybia cookei*, Parasitic Collybia, could also have been better, but let's get back to the positive.

That's easy when we view the creatively-composed picture showing the distinctive long "root" of a Xerula. The photographer has either positioned it against a wall of dirt, or very carefully excavated a hole on the side of the fungus without extracting it. The resulting effect is similar to what you see in a glass-enclosed display of ant tunnels. Through that clever setup, within one picture you get an idea of what the mushroom looks like from above ground, while also seeing the submerged stunning length of its "root." (Mysteriously, the heading lists three species of the "Rooted Xerula Group," but identifies the pictured mushroom only as "Xerula.") The pictures of pretty purple *Cortinarius violaceus* and *C. iodes* are small, but sharply-focused, and the photos of the similar-looking *Trametes versicolor* (Turkey Tail) and *Stereum ostrea* (False Turkey Tail) are big, sharp, and helpfully placed on opposing pages for easy comparison. However, inset photos of their distinctively different undersides (Trametes has pores, while the

underside of Stereum is smooth) would have greatly improved the two pages' utility as identification guides. Other photos serve well both for identification purposes and as entertaining art objects. We see what appears to be the result from a truck hitting a bump and spilling a hundred round Asian pears onto the verdant roadside. But those "pears" are actually an amazing horde of *Lycoperdon pyriforme* (Pear-shaped Puffball). A creepy photo of *Xylaria hypoxylon* (Carbon Antlers) with dramatically set lights and shading recalls a Salvador Dali work. The disgusting photo of *Mutinus elegans*, the Elegant, and, in this case, quite erect, Stinkhorn, will draw either smirks or shocked gasps from teenage boys, who will compare the grotesque object to *(please complete this sentence on your own)*.

Hemitrichia clavata, Yellow-fuzz Cone Slime, shows what look like small, upside-down volcanoes spewing orange confetti lava. The photo quality is impressive, considering that the little cones grow to an average of only 1 to 2 millimeters in height, according to George Barron's *Mushrooms of Northeast North America*, and are here blown up to 16 cm while still remaining in sharp focus. But that impressiveness is not matched in the text, which fails to inform readers that in real life, these sizeable-appearing fungi are actually minute structures. In another size-reporting omission, the text tells us that *Phallus ravenelii* and *Phallus impudicus* (Ravenel's Stinkhorn and Common Stinkhorn) are "large" stinkhorns. Does that mean they can grow up to a full two feet, or a full two inches in length, compared to other, smaller stinkhorns? We don't know, as the book fails to report the size of any stinkhorn.

The photos of *Lycogala epidendrum* (Wolf's milk Slime) are dramatic marvels. The top one shows a finger pressing down on an M&M-sized button of a mushroom. The middle photo, apparently using high-speed photography, shows the finger further depressing the subject, causing a hole to erupt in its side and a caramel-like substance to squirt out. The final photo shows the wrinkled, squashed, skin of the mushroom, with the inner goo puddled by its side, showing why the mushroom is also called "toothpaste slime." But immediately, your attention will be drawn to the facing page, where *Stemonitis splendens* (Chocolate Tube Slime) shown in its "immature" stage, with a group of mushrooms growing together so perfectly that they resemble a military formation, with the elegant glass-like bottoms of their caps propped up by impossibly thin black stipes. Helpfully for identification, an inset photo shows the "mature" stage of the mushroom, which differs greatly from the larger photo. (Unfortunately, the text fails to explain the difference between a "mature" and an "immature" mushroom.)

…that impressiveness is not matched in the text, which fails to inform readers that in real life, these sizeable-appearing fungi are actually minute structures.

With such fine photos for both identification and entertainment, *Ohio*'s picture of *Hericium erinaceus* (Bearded Tooth) is a disappointing exception. Taking up almost three-quarters of a page, it shows a young girl holding a cultivated specimen of *H. erinaceus*. It's a nice photo of the young girl; her head and shoulders shot occupies almost the entire 11 x 11 centimeter photo. But as a result, that cultivated *H. erinaceus* in the photo is only about 3 x 3 cm, limiting its utility as an identification aid. But that's the cultivated variety. What about the picture of *H. erinaceus* as it occurs in the wild? It appears only in an inset, measuring a mere 2 x 2 cm. To "think positive," we could say the page sports a great photo to help us identify the young girl, except that she is not identified in the photo caption.

We find more size problems in comparison photos of *Tyromyces caesius* and *Postia caesia* (possibly Cheese Polypore and Blue Cheese Polypore, respectively; the labeling is inconsistent and unclear). The text advises us to compare them, but that's difficult. The photo of the Tyromyces specimen is a good 3 inches long, but Postia appears in a tiny inset photo, where the larger of two specimens is a miniscule half-inch long. The text does not offer any help, as it fails to describe whatever differences exist between the two species.

Sometimes the text does not match the photos. Of *Phellinus rimosus*, the Cracked-cap Polypore, the authors say the upper surface is "dark brown to black." The accompanying photo shows it with a top half of medium gray, and below it a bright green zone and a very light brown margin.

Let's return to the positive: The book's size makes it wonderfully practical for a field guide. It measures (roughly) only 5 x 7 inches, and a quarter-inch in thickness. Unfortunately, it's bound with a comparatively massive spiral that adds another quarter-inch to its thickness. That diminishes its practicality for packing in a pocket or inserting among your other guides on a bookshelf. It also makes it hard to identify the guide itself on your bookshelf – there's no title on the spine, so once you've shelved it, you just see a series of black rings.

Ohio's authors appear to have encountered difficulty in identifying the audience for their book, and to have skimped on using editing assistance. Consider this directive: "Only after identifying a mushroom as edible should it be picked and/or eaten." Hmmmm. So if you find a mushroom and can't identify it, you should not pick it to take it back to identify it? Sorry, taxonomists, you're out of luck! On page 131, the authors assure

readers that "all true puffballs are safe edibles if pure white throughout." But they never explain what a puffball is, much less, what constitutes a "true" puffball. And woe to the neophyte who reads the preceding assurance and acts on that information without proceeding to page 133. That page contains a description of *Scleroderma citrinum*, the Pigskin Poison Puffball. According to *Ohio,* when this "puffball" is immature, its "interior is usually white…Do not confuse the Pigskin Poison Puffball with edible puffballs, as it is poisonous!" Is *S. citrinum* not a "true" puffball? You'll have to look elsewhere for that answer.

At least there's some humor, if unintentional, about the grim aspects of poisonous mushrooms. About earthballs and earthstars, the authors provide this warning: "many are inedible or toxic." Then, in case that assertion was too subtle for readers, they conclude the sentence with, "and, therefore, should be avoided." And I adored the following two sentences, which perhaps resulted from a compromise developed between two of the authors with opposing views: *Amanita rubescens* "is a good edible but must be cooked first. It is strongly recommended that no one eat any species of Amanita… due to the chance of confusion with dangerous species…" These two sentences really do appear as presented here.

For a book that often addresses its readers as if they are newcomers to mushrooming, the sloppy editing and variation in reader accessibility is heartbreaking. A "Parts of a Typical Mushroom" section begins, "The cap is usually the first thing to be studied when trying to identify a mushroom fruit body." But I'm going to make an astonishingly bold assertion. I'll bet that most experts do not study the cap to identify a bird's nest fungus, a coral, or slime mold fungus. And no, I'm not being unfair. The authors do not explain in this section that many mushrooms do not have caps.

I'll bet that most experts do not study the cap to identify a bird's nest fungus, a coral, or slime mold fungus.

Why do the authors pepper their text with these unexplained terms: "the spores are dextrinoid"; "is noted by yellow sclerotia"…"the stalk is eccentric?" (Does that mean the stalk is crazy?)

Novice readers of *Ohio* are informed that *Amanita rubescens* is "gregarious," but not that the term they know as a synonym for "friendly" actually means "growing closely together" when applied to mushrooms. Likewise, the authors do not explain what they mean when they say that one identifying feature of *Tricholoma caligatum* (Fragrant Armillaria) is that its gills are "crowded." And it's a disservice to readers to have a box advising them that "Amanita, Lepiota, and Leucoagaricus…have a white spore print, whereas Agaricus…have a chocolate-brown spore print," but not to explain anywhere what a spore print is or how to obtain one. Or to even tell readers what a "spore" is.

Why not use a picture to show an example of what a mushroom's gills are, instead of afflicting readers with this inscrutable description: "Gills appear as long openings from the edge of the cap to the stalk and are separated by a thin tissue." Why do the authors pepper their text with these unexplained terms (italics added): "the spores are *dextrinoid*"; "is noted by yellow *sclerotia*"; "the gills are strongly *decurrent*"; "it's one of the most common *bracket* fungi"; and "the stalk is *eccentric*." (Does that mean the stalk is crazy?)

For beginners, the unfamiliar terminology gets worse: Cortinarius are all "presumed to be *ectomycorrhizal*." *Ascocoryne sarcoides*, or Purple Jelly Drops, we're told, is a "nearly black, stalkless apothecium." *Boletinellus merulioides*, the Ash Tree Bolete, "is *saprobic* on the secretions of an aphid." There are numerous references to fungi with conks. And speaking of conks, Ohio tells us that the Artist's Conk (*Ganoderma applanatum*) is so-named because the "fresh pore surface can be easily engraved with a knife, sharp stick, or fingernail." True enough, but you can easily engrave the fresh surface of any species with pores. What *Ohio* doesn't tell you is that the Artist's Conk's surface is a smooth, brilliant white, and that the place where you scratch it will turn dark brown against that white surface.

Let's get back to "thinking positive" by looking at how the authors could have done better. Cross-references would have helped. Page 24 advises that the Platterful Mushroom, *Megacollybia (Tricholomopsis) rodmani* could be confused with the Fawn Mushroom. To compare it to a Fawn Mushroom, you have to turn to the index to find that fawns are described on page 68. Page 24 also advises that Megacollybia can be confused with some species of Entoloma. But Entoloma does not appear in the index (it's pictured on page 30.) And oddly, it appears as though the mistake of confusing the Platterful Mushroom with the Fawn Mushroom is only a one-way problem, because the Fawn Mushroom description doesn't warn about confusing it with Megacollybia.

Excited newbies who find a specimen of *Omphalotus illudens* (Jack O'Lantern) will be disappointed if they rely on *Ohio*'s declaration that its "gills and other parts glow in the dark." William C. Roody *(Mushrooms of West Virginia and the Central Appalachians)* provides important details *Ohio* omits: "To observe this phenomenon, take the mushrooms into a completely

dark room. After one's eyes have adjusted to the dark, an eerie glow can be seen…intensity…depends on the condition of the specimen."

Even worse for novices, consider the page for *Clitocybe nuda*, or Blewit. The authors never state that Blewits are edible, which they are. Instead, they imply its edibility by advancing this caution: "Be careful not to confuse it with the potentially poisonous and similarly colored Cortinarius, Inocybe, or Entoloma species, some of which also have lilac-colored caps." As a result of that treatment, a novice reader may figure, well, I guess that's the authors' style. If they don't say a certain mushroom is poisonous, it probably is edible.

An incomplete index concludes the book, which aside from not including Entoloma, does not list Gyromitra, which is mentioned on at least four pages, or the mysterious "sponge mushrooms," which I could find only in an ambiguous sentence stating that "the season of collecting…begins…when the first morels or sponge mushrooms are found. (Does that mean morels are also known as sponge mushrooms, or that early mushrooms include morels and another kind of mushroom that are called sponge mushrooms?) Nor does the index list Matsutake, although the *Tricholoma caligatum* (Fragrant Armillaria) description says Tricholoma is "often mistaken for the Matsutake mushroom, which has a more pleasant smell." The index does reference "stinkhorn," listing it as appearing on page 138. Indeed, a stinkhorn species, the Stinky Squid (*Pseudoclus schellenbergiae)* does appear on that page. But the index's entry fails to include references to pages 136 and 137, which carry descriptions and pictures of three more stinkhorn species.

I really would like to think and "act positive" about *Ohio.* I tried. But its mostly excellent pictures are severely compromised by a substantial amount of sloppy work. It's deeply disappointing that *Ohio* is graced with the imprint of a major state university as publisher. The university imprint implies a level of quality that Ohio does not possess, while *Ohio*'s actual quality diminishes the university's reputation.

Synopsis: If you do not already own at least three reliable field guides, please do not buy or rely on this book, However, if you already do possess reliable guides, it can serve as a useful addition to your reference library.

IOWA MUSHROOM CERTIFICATION

***Oskaloosa News**, February 20, 2013, via **Spore Prints**, newsletter of the Puget Sound Mycological Society, March 2013*

To legally sell morels in Iowa, mushroom hunters need to complete a morel mushroom certification workshop being offered by the Iowa State University Extension and Outreach at several Iowa locations in March and April.

"The aim of the workshop is to help assure that misidentified mushrooms are not sold as morels," said plant pathology profes-sor Mark Gleason. "To meet the need for this training, we are offering a three-hour certification workshop on identifying morels and false morels."

ON THE EDIBILITY OF BIRCH POLYPORES

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

For a long time, I have known that birch polypores *(Piptoporus betulinus)* were edible. In 1887, Mcllvaine classifed *Piptoporus betulinus* on his list of edible mushrooms (in the company of other strange fellows like *Gyromitra*).

I had only previously fo be tried. But on a walk in Forest Park, Queens with Dennis Aita and Tom Bigelow, we found perfect ones – so soft and young that we could not see the pores. They smelled good. Time to taste them.

I should have tasted them raw first. I cooked three different batches: one just fried with salt and pepper; the second one marinated with oil, sage, paprika, salt and pepper; and the third batch, boiled.

The first bite was quiet sweet, for few seconds… followed by a bitterness that I had never tasted before in a mushroom. Ouf, Ouf, Ouf! Boiling the third batch didn't change anything. Only a good shot of vodka dissipated the incredible bitter taste.

I took my samples to the identification last Monday for everybody to taste – and mint candies for afterward. It was a good experience for everyone; nobody will forget the taste!

Mcllvaine may be the only one to say that *Piptorus betulinus* is edible. It may well be – but it is unpalatable nonetheless. Roger Philips says its not edible. Audubon makes no comment about edibility. Aurora refers us to Mcllvaine.

But it did not kill us! And we now know the truth!

FUNGI FELL BAGPIPER

by Donald G. McNeil, Jr.
*reprinted from **The New York Times**, March 18, 2013, via **Spore Prints**, newsletter of the Puget Sound Mycological Society, April 2013*

A prominent Scottish bagpiping school has warned pipers around to world to clean their instruments regularly after one of its long-time members nearly died of a lung infection caused by fungi growing inside his bag.

John Shone, 77, a Glaswegian, spent a month in the hospital with pneumonia and lost 21 pounds. After antibacterial treatment failed, a doctor told him he was dying, and then asked about his hobbies. When his son brought in his bagpipes, two types of fungi – *Rhodotorula* and *Fusarium* species – were cultured.

Clean your pipes!

Shone acknowledged in a telephone interview that he had not cleaned his bag since being invited 18 months ago to play for a master piper, Donald MacPherson. "It was very remiss of me," he said. "But pipes have a habit of going badly or going well, and mine were going very well."

BYTES, BITS, & BITES *(continued from page 13)*

from Jim Richards:

TRUFFLES-The Hidden Treasure of Pecan Orchards

Georgia's pecan growers are growing a highly valuable second crop in their orchards, according to the article in the Western Farm Press:

http://tinyurl.com/qf5fop2

The University of Georgia has been working with farmers to help them develop and promote this local product.

http://tinyurl.com/24xmltl

FUNGAL FOLK REMEDIES

from the Virtual Museum of Canada
via ***Mycolog****, Humboldt Bay Mycological Society, April 2013*

Throughout history, folk healers have employed many medicinal qualities of the fungus kingdom – some real and others imagined.

The antibiotic properties of molds have been known for countless generations. In the twelfth and thirteenth centuries, the Knights Templar used mold extracts to treat infected wounds. Fungi have also been used in Europe as remedies for boils and abscesses, in gargles to treat throat infections, as laxatives, as contraceptives, and to remove skin blemishes.

The Stinkhorn *(Phallus impudicus)* has been used in Europe to treat rheumatism, epilepsy, gout, and skin cancer – but it was also blamed for outbreaks of cholera and madness! Puffballs have many uses. Their dried spores were used to staunch the flow of blood from wounds or nosebleeds; smoldering puffballs were once used to transfer fire from place to place; and beekeepers in some places still blow the spores of the giant puffball into hives to narcotize the bees.

Oriental herbalists have been using Reishi mushrooms (Ling Chi or Ling Zhi: *Ganoderma lucidum*) for some 4,000 years. These mushrooms are claimed to be effective against many ailments, including arthritis, several cancers, heart disease, and hepatitis. In western Africa, fungi have been used to treat venereal diseases.

Less likely remedies include the wearing of a Cramp Ball *(Daldinia concentrica)* in the armpit to protect oneself from cramps. Other fungi have been claimed as aphrodisiacs – the recipe for one such potion calls for boiling a toad with some mushrooms in spring water. Young men in Lapland would carry a fungus *(Trametes suaveolens)* hanging from their waists when courting. Trametes has an anise-like odor that may work as an attractant, a deodorant, or not at all!

FAIRY RINGS AND FUNGAL SUPERSTITIONS

from the Virtual Museum of Canada
via ***Mycolog****, Humboldt Bay Mycological Society, April 2013*

For centuries, the sudden and rapid eruption of circles of mushrooms from the soil led people to believe that dark or terrible forces were at work. Lightning strikes, meteorites, shooting stars, earthly vapors, and witches have all been proposed as agents of their origin.

In France, fairy rings were called sorcerers' rings and in Austria, witches' rings. A Tyrolean legend claims that the rings were burned into the ground by the fiery tail of a dragon. In Holland they were said to be the marks where the Devil rested his milk churn. In Europe, the belief that fungi were the work of evil spirits or witches persisted well into the 19th century.

In England, as their name suggests, they were places where fairies come to dance. The mushrooms around the perimeter were seats where the sprites could rest after their exertions. People in rural England claimed to have seen fairies dancing at fairy rings as recently as the start of the twentieth century.

One common theme in all these traditions is the belief that dire consequences await anyone foolhardy enough to enter a fairy ring. Trespassers would be struck blind or lame, or even disappear to become slaves in the fairies' underground realm. In Wales, the rings were associated with fertility and doom, and anyone foolish enough to plow one up would incur the wrath of the fairies. It was also widely believed that if animals grazed within a fairy ring their milk would putrefy.

On the positive side, fairy rings were said to bring good luck to houses built in fields where they occur. In another tradition, the rings were sites of buried treasure, but there was a catch – the treasure could only be retrieved with the help of fairies or witches.

Many cultures had other weird and wonderful explana-

tions for the fantastical origins of fungi. In parts of Africa, mushrooms were sometimes regarded as souls of the dead, or as symbols of the human soul. In Silesia, morel mushrooms were once believed to be the work of the Devil.

In parts of Central America, a children's tale relates that mushrooms are little umbrellas carried by woodland spirits to shelter them from the rain. The spirits leave the mushrooms behind at dawn when it is time to return to their underground world.

Fungi have been the focus of many other superstitious beliefs and traditions. In New England folklore, a fungus called the "death baby" growing in the yard is a harbinger of imminent death in the family. In the district of Norrland in Sweden, there is a tradition of throwing toadstools into bonfires on midsummer's eve (June 23) to ward off evil spirits. Look into the folklore of any culture and you're almost sure to find other examples.

A REVIEW FROM NAMA

THE FUNGUS FILES
An Educator's Guide to Fungi K-6

written by terraBrie Stewart
designed & illustrated by Rost Koval
from ***The Mycophile****, NAMA, March-April 2013*

In September 2012, Martin Osis introduced us to a marvelous document, developed in Canada for basic science instruction on fungi. To say that the NAMA Education Committee embraced this new educational tool would be an understatement. While designed as a teacher's instructional guide, the scope of information about fungi is comprehensive.

The Fungus Files: An Educator's Guide to Fungi K-6 covers biology and classification, reproduction, and non-fleshy fungi (yeasts and molds) and introduces the concepts of mycorrhiza and the role of fungi in nutrient recycling and soil creation. When Bryce Kendrick, author of *The Fifth Kingdom*, read the document, he contacted author, terraBrie Stewart, and suggested some minor changes. A collaboration developed; a new version of *The Fungus Files* will be available on April 1, 2013, in the Education section of the NAMA website, ***www.namyco.org***. Kendrick recently said this about the document:

> Through her dedicated efforts, Stewart has achieved something extraordinary: a well-illustrated introduction to the fungi that covers many aspects of this numerous and unique group of organisms, while making the information accessible to children in several different grades. Many of the graphics are extremely graceful, and they are in turn enhanced by several different kinds of word puzzle. In many places she has also inserted aids for teachers, and she leads the students on in graduated steps, so that they can be instructed to whatever level they are capable of absorbing. Both teachers and children will learn many new and fasci-nating things, and this is all the more exciting because the fungi, despite their tremendous importance and ubiquity, are usually almost ignored in the school curriculum. I hope that versions of this presentation can be made available to children far and wide, in addition to those fortunate enough to live in Alberta.

terraBrie Stewart is a freelance writer, researcher, and conceptual artist. She holds a BS with Distinction in Biology and English literature from the University of Saskatchewan, and has worked as an environmental educator, college instructor, and field herpetologist. Her two K-6 teachers guides, *The Frog Files* (2002) and *The Fungus Files* (originally published in 2007), are both available as e-books in PDF format.

BRIEF ENCOUNTER
BY DICK SIEGER

Agnes and Dick slip through
the campground hunting morels.
Oh oh, they've been spotted.

A middle-aged camper and
preteen girls approach Dick.

He tips his hat.

The camper asks him,
"Did you lose something?"

"No."

"You have a brush.
Are you painting something?"

"No."

"Then what are you doing?!"

Dick's expression becomes very solemn.
"Looking for snakes. There are a lot of them
here because of all the rats."

"Don't tell us that!"

"I've had a snake chase a rat up my pants leg."

The camper and girls flee.
Agnes and Dick continue to slip
through the campground hunting morels.

(reprinted from ***Spore Prints****, newsletter of the*
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ergoline produced by Claviceps. Although both of these examples have a definitive place and role in human history, their involvement somehow lacks direct and active participation, since only their compounds are the main contribution to the historical setting. Their stories are not as dramatic as the one that is to follow.

I would like now to shift to the first century A.D. in the epoch of the Roman empire. At that time, Roman emperors and their courtiers only feasted upon two mushrooms, which occur commonly in Mediterranean forests, They were then known as "porcinus" and "boletus," which might seem confusing as the current scientific name of porcinus is *Boletus edulis* (Bull.: Fr.) In any case, my story will focus on the later one.

On the 13th of October of the year 54 A.D, Emperor Claudius, the fourth Julio-Claudian Roman ruler, died under obscure circumstances. His death has long been attributed to mushroom poisoning. Pliny the Elder and later Pliny the Juvenal recount tales full of family drama, struggle for power, and mushrooms. As the story goes, the emperor fell sick, after a family dinner at which mushrooms were served with a rather dramatic air of surprise. Later on, the emperor fell sick, and as time passed the situation became more serious culminating with his death. The human culprit is thought to be his fourth wife, Agrippina. She allegedly desired to ensure the succession and legacy of her own son, Nero. The non-human culprit is a relatively large agaric with either a bulbous base or a volva and an annulus hanging from the stem. With these few characteristics, I'm probably describing the general features of most species from the genus Amanita. The culprit was probably the mushroom known as *Amanita phalloides* (Vaill.: Fr.) Link, the Death Cap, a common but deadly mushroom found in Italy and other places around Europe at that time. Certainly, *A. phalloides* resembles the edible and highly prized species, that a while ago I was referring to as "boletus", *Amanita caesarea* (Scop.: Fr.) Pers. commonly known in English as the Caesar's mushroom.

When most people hear "Amanita," the first thing that comes to their mind is "toxic". Many Amanita species are toxic, but only few are deadly poisonous. These species produce cyclic peptides known as amatoxin and phallotoxin. After ingestion, these compounds travel through the digestive system first causing only indigestion, vomiting and diarrhea, later they enter the blood stream failing to be eliminated by the kidneys through urine, this way they are kept recirculating until they accumulate in the liver causing fatal liver failure in a matter of weeks. These compounds inhibit the function of the RNA polymerase, which is responsible for mRNA synthesis and the ultimate production of proteins. Cells cease to function as the building blocks of metabolism and regulation (*e.g.* enzymes, hormones, etc.) are no longer produced. *Amanita phalloides* is responsible for almost 90 percent of deaths caused by mushroom poisoning. In spite of the terrible and infamous reputation that toxic Amanitas have, the Caesar's mushrooms are the other side of the coin. Caesar's mushrooms are widely recognized as good, even excellent, edibles.

There is great cultural diversity surrounding the Caesar's mushroom complex of species. Evidence of this is the striking number of common names applied to *A. caesarea*. In Europe, there are 21 common names for 22 European countries. The Central American species have more than 30 common names in Spanish and more than 60 native names in regional ethnic dialects.

The Caesar's mushroom is usually collected in dry and temperate Mediterranean forests where it is associated with species of oak (Quercus), sweet chestnut (Castanea), and conifers. It is commonly sold in local markets and its price can range from 10 to 100 Euros per kilogram. Although it is highly valuable in Europe, it is not exclusive to this region. Several species related to *A. caesarea* have been described and collected round the world, including temperate and tropical regions in Southeast Asia, Australia, Central Africa, and North and Central America. In some of these regions Caesar's mushrooms are also regarded as valuable resources, and have been traditionally harvested and sold locally.

In Africa, where many Amanita species are edible, one of the most popular is the Christmas mushroom, known as *Amanita zambiana* (Pegler & Pearce) in scientific terms, its name comes from the time of the year when it is available. In local Zambian languages it is known as *tente* and *iiliedzi*. In Tanzania, it is called +, and in Zaire it is known as *ntelia*. Throughout Asia, another relative known as *Amanita hemibapha sensu-lato*, is also greatly valued.

North America is not empty handed. Here we can find another relative of the Caesar's mushroom known as Jackson's mushroom or *Amanita jacksonii* (Pomerl). This species has a more slender form than the European species, and has more morphological resemblance to Asian taxa. Although this species is edible, it is seldom viewed as being a culinary asset. This beautiful mushroom usually has reddish-orangish-yellowish colors on the cap, and less noticeable on the stem and annulus. Striations on the margin of the cap are usually sulcated. The stipe ends in a white saccate volva. A characteristic umbo on the center of the pileus gave rise to its earlier name *A. umbonata*. This fungus can be found from Canada all the way to Honduras, mainly on eastern side forests.

Although I know of no recent "big" historical events involving mushrooms, they are still part of our lives as we often go to the forest and become amazed by these marvelous creatures, that can, on occasion, be terrifying.

2013 NAMA Digital Photo Contest

The contest is open to all mushroomers and a NAMA membership is not required to enter the photo contest. If you're not a NAMA member there is a $4.00 entry fee by check or money order made out to NAMA. Images that have previously won (including honorable mention) are not eligible. Closing date: All entries must be received by the Contest Director on or before **August 4, 2013**. Allow at least one week for mailing. Up to 15 images may be entered per person. With A maximum of 6 in the Pictorial, 6 in the Documentary and 3 in the Judges Option to make a total of up to 15 images.

There are 3 Entry categories

Pictorial- This division is for single photos that illustrate the beauty and variety of fungi in form and color. Mushrooms should not be cut and look natural. Judging criteria include consideration of both technical (focus, depth of field, exposure, lighting, color, absence of distracting elements) and artistic (composition, color, background, lighting) aspects.

Documentary – For single photographs especially suited as illustrations in a field guide of monograph, or for use in a lecture. Emphasis is placed on portrayal of key morphological characteristics such that the usefulness of the image as an identification aid is maximized. Subjects may be shot in the field, laboratory or studio and the photographer has complete freedom to cut, process, manipulate, or orient the specimen in any desired manner to achieve the goal. Close-ups of single features and photomicrographs are acceptable. Judging criteria will be the same as in the Pictorial category but they will be of secondary importance to the overall mycological utility of the photo. Accurate identification of the subject will be a consideration.

Judge's Option- For single photos or series which do not fit into the Pictorial and Documentary divisions. Examples include time-lapse series, ecological relationships of fungi (e.g. fairy rings), fungi with animals, people enjoying fungi, humor, etc.

Awards- First 2nd and 3rd place prizes will be awarded in Pictorial, Documentary and Judges Option. Honorable Mentions will also be noted for some Pictorial and Documentary photos. Prize(s) such as mushroom books will be given to first through 3rd place winners

Marking, Listing and Submitting Digitals- The digital photos file name should include 3 things, D (for Documentary) JO (for Judges Option) or P (for Pictorial), and you the photographer initials, followed by the Genus and species of the fungi or the title for the Judges Option photo. Digital images may be emailed or mailed on a CD or DVD and will not be returned. Mail images, the entry form is optional from http://www.namyco.org/photography/contest_rules.html and entry fee (check payable to "NAMA") to John Plischke III, 411 Center Avenue, Greensburg, PA 15601 724-832-0271 Fungi01@aol.com
If emailing in images please include your name, address and phone number. Images can also be submitted using free file mailing programs such as http://www.mailbigfile.com or Dropbox etc.

Reproduction- Entry in the contest constitutes the consent of the photographer to allow NAMA to reproduce copies of each winning image (including Honorable mention etc.) for circulation or use by the Education Committee among the membership and affiliated societies. NAMA also reserves the right to post images of the winning images on the NAMA web pages and in the Mycophile and to be used by the marketing committee. All copyrights remain with the photographer.

COMA's 35th Clark Rogerson Foray

Friday to Monday, August 30 – September 2 (Labor Day weekend)
Camp Hemlocks, Hebron, Connecticut

Photo by dohduhdah from Wikimedia

COMA is pleased to announce the 35th Clark Rogerson Foray, to be held at Camp Hemlocks in Hebron, CT. Our track record in this region has been great with over 300 species of mushroom collected in 2011 and 2012. This year's foray features:

- **Chief Mycologist Gary Lincoff**: author of Audubon Guide to North American Mushrooms and many other mushroom books.
- Additional mycologists are:
  - **Dr. Roz Lowen**: ascomycete expert and professor of mycology
  - **Bill Yule**: naturalist and Bolete expert
  - **Leon Shernoff**: editor of Mushrooom the Journal
  - **John Plischke III**: author of Good Mushroom, Bad Mushroom
- Guided mushroom and botanical walks, including walks for newcomers
- Amazing appetizers and entrees at the outdoor mycophagy event
- Entertainment including lectures by the mycologists, the mushroom music of Joshua Hutchins, mushroom trivia, auctions, swimming pool and more.
- Early-bird registration discounts and affordable day visitor rates.
- Additional details www.comafungi.org or www.comaforay.tumblr.com

The 4-day fee includes 3 nights' lodging and 8 meals, from dinner on Friday to breakfast on Monday (bring your lunch on your day of arrival). If you have any questions, contact Don Shernoff at donshernoff@yahoo.com or call (914) 761-0332. Please complete the following form and mail it with your check to:

Don Shernoff, Apt 4H
10 Franklin Ave.
White Plains, N.Y. 10601

Make checks payable to: **COMA**
We can accommodate 75 people.
Priority for double-occupancy units is given to couples.

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No. of adults____ Name(s)_____
(Please Print)

No. of children____ Name(s) and age_____

Address_____

Tel._____ e-mail_____

	(Fri – Mon)	No. of people	(Fri – Sun)	No. of people	**Early Bird Discount**
Adult.....	$290/person	_____	$220/person	_____	Deduct $10 per person
Child 3 – 12...	$220/person	_____	$150/person	_____	if mailed by July 1

Day Visitors (lunch, dinner and all activities included. Arrive by 8:30 A.M. to participate in excursions.)
$50/adult per day..... Saturday _____ Sunday _____
$35/children (3-12)..... Saturday _____ Sunday _____

Room-mate preference? _____ Do you have room in your car for an extra person?_____
Vegetarian? _____ Vegan?_____ Gluten-free?_____

Each adult registrant must print his/her name and sign on the lines below.

_____hereby release(s) COMA and any officer or member thereof from any and all liability arising out of or relating to any injury, accident or illness of any nature occurring during, or as a result of, this foray.

If I am not now a member of COMA, I understand that by signing this form I agree to become a provisional COMA member beginning 8/29/13. Annual dues are $25. I understand that if I do not pay these dues by September 6, my provisional membership will lapse and I will have no indebtedness to COMA.

Signature Date Signature Date

NJMA NEWS

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

FIRST CLASS MAIL

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

In this issue:

Mother Nature's Guard Dog

Pleurotus ostreatus surrounded by Poison Ivy!

PHOTO BY JIM RICHARDS