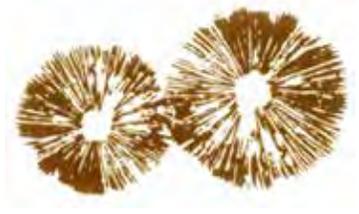


SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
Number 506 November 2014



PSMS/NAMA FORAY

Teddy Basladynski

On a sunny October 9, against a spectacular backdrop of Mt. Rainier, members of the North American Mycological Society descended upon Camp Arnold in Eatonville, Washington. They were here to attend the Patrice Benson Memorial NAMA Foray hosted by PSMS. Over 300 people from 28 states, 4 Canadian provinces, Belgium, Finland, Estonia, and Italy gathered for this event which sold out in 19 days back in May.

Attendees were offered a wide range of lectures and workshops from top-notch mycologists during the day to keynote speakers Jim Trappe and Paul Stamets presenting in the evenings. Some arrived a day early to study watercolor painting with Sasha Viazmensky or create mushroom-dyed textile art with Alissa Allen and Liann Finnerty.

The mushrooms turned out in large numbers, which was a great relief since the season leading up to the foray had been pretty dry. Attendees were taken on field trips to the Gifford Pinchot National Forest, Elbe Hills State Forest, and Pack Forest and were given special access to Nisqually Land Trust land. Others hunted on their own in the Mt. Rainier National Park and neighboring areas. The latest count from the vouchering committee is 465 species found during the 4-day foray, with more waiting to be identified. This is one of the highest numbers recorded at a NAMA event.

There were so many edibles brought in that Reba Tam created an hours-long impromptu mycophagy event and cooking demo to feed the excited crowd.

Overall, the verdict from the attendees and presenters is that the event was a great success and a fitting tribute to Patrice. NAMA President David Rust writes, "I had a lot of attendees come up to me to say what a great time they were having (and others who thanked me, to which I replied that PSMS had done it all). People who had never been to a NAMA foray, people who have been coming for years, and several mycologists spoke about how wonderful it was and had a worthwhile experience."

On top of all that, Joshua Birkebak, who joined PSMS 15 years ago at the age of 10, officially announced the naming of a mushroom after Patrice. Joshua, who studies the family Clavariaceae as a graduate student at the University of Tennessee, revealed *Ramariopsis bensoniae* during the graduate students' research forum.

The dedication and hard work of our PSMS volunteers, of course, led to the foray's success. Please congratulate them the next time you see them: Luise Asif, Denise Banaszewski, Brenda Fong, John Goldman, Kern Hendricks, Don and Cathy Lennebacker, Marian and Scott Maxwell, James "Animal" Nowak, Lynn Phillips, Pacita Roberts, Andrea Rose, Milton and Reba Tam, Kim Traverse, Steve Trudell, and Joanne Young.



photos by T. Basladynski

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MEMBERSHIP MEETING

Tuesday, November 11, 2014, at 7:30 pm at the Center for Urban Horticulture, 3501 NE 41st Street, Seattle

This month, professional forager and former chef Jeremy Faber will present a talk on “Wild edibles: From forest to plate.” Jeremy will provide a unique perspective on edible mushrooms of the Pacific Northwest, discussing habitat, food pairings, and tips on how best to prepare Washington’s wide array of fungal favorites.



Jeremy Faber discovered his love for the woods at an early age. After studying forestry at the University of Vermont, Faber attended the Culinary Institute of America to pursue another passion: cooking. Faber later moved to the West Coast and worked his way up through Seattle’s dining scene, finally becoming sous chef at the distinguished Herbfarm. While there, Faber returned to the woods to supply the restaurant with his own foraged goods. In 2001, Faber founded Foraged and Found Edibles with fellow chef Christina Choi. In addition to selling at local farmers’ markets, the business supplies hundreds of restaurants in Seattle, New York, and Boston with fresh wild edibles from Washington State. A native New Yorker, Faber spends his free time skiing and swooning over his cats, Acadia and Parker.

Would people with last names beginning with the letters L-Z please bring a snack or treat to share after the meeting.

CALENDAR

- Nov. 11 Membership Meeting, 7:30 pm, CUH
- Nov. 17 Board Meeting, 7:30 pm, North Seattle Community College
- Nov. 18 *Spore Prints* deadline
- Dec. 9 Holiday “cookie bash,” 7:30 pm, CUH

BOARD NEWS

Denise Banaszewski

The 2014 NAMA Foray went very well and we received many compliments, including how professionally everything was handled. Almost 500 species of mushrooms were brought in. A big thank you to the NAMA Committee for all their hard work. We will have a debriefing meeting in the coming weeks.

The Annual Mushroom Show is at the Mountaineers this weekend. PSMS access will be later than usual because of a large group using the facility on Friday night. The same group signed up for the same night next year, so if this does not go well, we will need to find a new space for the 2015 show.

The October 18 field trip had 117 people and cost PSMS \$284 as there was a fee per person. We may limit the number of people who can attend this trip next year.

Finally, because students pay a reduced price for membership, and because the expense of printing *Spore Prints* is the biggest cost to PSMS per member, the Board decided to restrict student memberships to digital copies of the newsletter only.

FIELD TRIP REPORT, October 4

Brian S. Luther

We were very fortunate that PSMS member Bob Walker came up to me last spring and offered to let us use his private beach club facility for future field trips. I had two field trip locations cancelled on me by the US Forest Service, just after my field trip insert went to print, forcing me to scramble for replacements, so I was lucky to have this card up my sleeve. The setting could not have been nicer, with a fantastic view on the banks of, and overlooking, Lake Cle Elum. This general region is an area we have not really had field trips to for a long time, so it gave us the opportunity to have a little different exposure. Special thanks to Bob and his family for giving us this great location for a Saturday.

Jeff Stallman and Jamie Ardena worked as a team to provide all of us with a great selection of morning munchies, hot coffee, and juices. Thanks, guys, for your work, which was super appreciated!

Seventy members signed in for a remarkable day of mushroom hunting with good weather. Thanks to the five field trip guides who took groups out to collect, everybody seemed to find mushrooms. Matsutake (*Tricholoma magnivelare*) was found in abundance and for the most part in prime condition. The rarer, but identically smelling (but bitter tasting) *T. caligatum* was also found. Some Chanterelles were found (both yellow and white), Gypsy Mushrooms, and other miscellaneous edibles. Approximately 100 different species were found, including a large selection of *Russula* species. Other interesting finds included *Gymnopilus punctifolius*, *Cortinarius mutabilis*, *Hygrophorus camarophyllus*, *H. hypothecus*, and *H. saxatilis*. The award for the stinkiest mushrooms goes equally to *Tricholoma inamoenum* and *T. odorum*, both having a strong objectionable odor of “coal tar gas.”

A delightful potluck at 5:00 pm topped off the day. Everybody who stayed pitched in to get tables put away, things straightened up, and everything put back as it was before we arrived. I thought you'd like to know that our beach club host felt we did an "awesome" job and I'm pleased to inform you we've been invited back next year.

Brian S. Luther



Basketful of Matsutake found on Oct. 4 field trip.

FIELD TRIP REPORT, October 10–12

Brian S. Luther

This location worked out very well, even though my wife and I had to scout for it and make a decision to reserve it for the weekend with little notice after my original field trip site had been cancelled by the US Forest Service because of forest-fire-related problems.

We dropped by on Friday evening, October 10, to check on the group camp and put up some signs ahead of time. It's a good thing I had it reserved because much of the rest of the campground was already filled up with deer hunters who had set up camps for a week or more.

Returning to the field trip location early Saturday morning from Eagle Creek, we found that our hosts, Rowena Erhard along with her partner Chas Rudolph, had set the huge, oversized picnic table with delicious bagels, cream cheeses, breads, fresh fruits, and plenty of hot coffee. What a breakfast feast! Thank you, Rowena & Chas, for all your work hosting.

Twenty-two members signed in. Saturday Erin O'Dell led the whole group back up as far as she could go toward the original field trip site, and lots of mushrooms were found. Pam and I had a very pleasant, sunny, and warm morning until early afternoon, when the clouds began to move in and light sprinkles changed to rain for about an hour and a half. About an hour before the potluck at 4:00 pm, it started clearing up again, and we all huddled close to the large campfire, which I kept going all day, to dry off. We were lucky that the US Forest Service had just lifted the burn ban earlier that week, or we'd all still be wet.



Brian S. Luther

October 11, a good day for a campfire.

Over 63 species of fungi were brought in and displayed. White Chanterelles and a few Matsutake were found. Interesting species included *Climacocystis borealis*, *Lentinellus ursinus*, and some unusually bright green *Panellus serotinus*.

The potluck food Saturday night was hardy and satisfying and included delicious stews heated on the campfire and several meat entrées, but not a single dessert. Most members were again camping on Saturday night, and some were planning on going out collecting one last time on Sunday morning before leaving. Pam and I bumped into some members about mid-day Sunday at a local fruit stand on Hwy. 97 near Leavenworth, and they said they had found a lot more Chanterelles that morning. The consensus was that the location was beautiful and everybody had a great time.

CHEERIOS-FED FUNGI YIELD BIOFILM BLOCKERS

Louisa Dalton

Chemical & Engineering News, October 16, 2014

Convincing fungi to trot out their whole gamut of metabolites is a persistent challenge of natural product chemists. These researchers hunt for novel compounds with possible therapeutic value within the chemical soup that the fungi produce. Now, one team has hit upon a curiously effective and consistent way to prod the organisms to start synthesizing: Cheerios inside bags. Scientists grew a soil fungus for four weeks in a bag full of Cheerios and discovered a new compound that can block biofilm formation by an infectious yeast.



Jianlan You

In a lab, fungi flourish on Cheerios, allowing the organisms to synthesize consistent mixtures of metabolites. The cereal pieces are about 12 mm wide.

A yeast infection brought on by *Candida albicans* will vex, at one time or another, about 75% of healthy women.

In immunocompromised patients, the ubiquitous fungus can be intractable. Once it gets a foothold, *C. albicans* often puts up a biofilm, a shield of polymeric slime that repels immune system attacks and antifungal drugs. A drug that could block biofilm formation would prevent recalcitrant infections and make antifungal treatments more effective, says Robert H. Cichewicz, a natural products chemist at the University of Oklahoma.

His lab has been searching through fungi metabolites for novel compounds with antibiofilm properties. But cultivating fungi using standard laboratory protocols—Erlenmeyer flasks filled with broth—often leads to the same common mycotoxins.

Cichewicz was convinced the fungi could make different, novel compounds if he could find the proper growing conditions. So in 2007, Cichewicz started hunting Walmart aisles and his kitchen cabinets for alternative fungus fodder. The chemist hit the jackpot with a box of stale Cheerios.

"Pretty soon we were getting rich, luxuriant lawns on top of the Cheerios," Cichewicz says. The fungi grew in all the crevices, leaving behind "fuzzy doughnut shells where the Cheerio used to be." The lawns were colorful, indicating large numbers of fungal metabolites. Also, Cheerios overcame a common problem in growing fungi. Standard growth media varies in composition from batch to batch. These small variations can alter fungi growth, meaning researchers can't consistently produce the same set of

cont. on page 5

ICELANDIC MUSHROOM STAMPS Brian S. Luther

Iceland is geologically peculiar because it's half North American (western half) and half European owing to the mid-Atlantic fault running directly through the country. This fault is the reason for its abundant volcanic and geo-thermal activity. All of the mushroom species illustrated on the following stamps are widespread in the Northern Hemisphere and commonly found here in the Pacific Northwest.

All catalog numbers used are from the Scott Postage Stamp Catalogues. M = mushrooms or fungi as the main illustration.

Icelandic Postal Items with Fungi

| Cat. No. | Issue Date | Value | Type | Species |
|-------------------|------------|-------------|------|--------------------------------|
| 881 | 5/20/1999 | 35kr | M | <i>Suillus grevillei</i> |
| 882 | " | 75kr | " | <i>Agaricus campestris</i> |
| 898 | 2/4/2000 | 40kr | M | <i>Cantharellus cibarius</i> |
| 899 | " | 50kr | " | <i>Coprinus comatus</i> |
| 898a (booklet) | " | | | |
| 957 | 1/17/2002 | Bref 20g | M | <i>Leccinum scabrum</i> |
| 958 | " | 85kr | M | <i>Hydnum repandum</i> |
| 957a (booklet) | | | | |
| 1021 | 9/2/2004 | 50kr | M | <i>Amanita vaginata</i> |
| 1022 | " | 60k | " | <i>Camarophyllus pratensis</i> |
| 1087 | 11/2/2006 | 70k | M | <i>Xerocomus subtomentosus</i> |
| 1088 | " | 95kr | " | <i>Kuehneromyces mutabilis</i> |
| 1279 | 7/2/2012 | B50g | M | <i>Russula xerampelina</i> |
| 1285 | 11/1/2012 | " | " | <i>Boletus edulis</i> |

Comments

In the Icelandic language the country is spelled like we spell the word island. So far, Iceland has issued 12 mushroom stamps in six different years, as shown in the table above. Only the stamps issued in 2000 and 2002 have booklets, each with ten stamps. The 2000 booklet (Scott 898a) has ten of the same stamps (*Cantharellus cibarius*) in one pane (= a panel of stamps together), and the booklet cover is also illustrated with colorful chanterelles. However, the other mushroom stamp issued this year (*Coprinus comatus*) doesn't have a booklet. Oddly, the 2011 Scott Catalogue lists the 2002 booklet only as #957, although it should read 957a. This second booklet contains only *Leccinum scabrum* stamps, with the ten stamps in two panes (one with four stamps and the other with six). The booklet cover is also illustrated with the same species on the outside. The second mushroom stamp for 2002 (*Hydnum repandum*) was not issued in a booklet. These stamps were also issued as sheetlets of 10 (all the same), with a complete selvage all around; all are perforated with gum.

Most of the fungi shown on these stamps are mycorrhizal, with just a few exceptions: *Agaricus campestris* and *Coprinus comatus* are saprophytic on the ground and *Kuehneromyces mutabilis* is lignicolous. This shows you how important the mycorrhizal relationship is, even in sub-arctic habitats, just as I've mentioned for Greenland (Luther, 2013).



Scott 881 & 882.



Scott 898 & 899.



Scott 898a, booklet cover.



Scott 957a, booklet cover.



Scott 957 & 958.



Scott 1021 & 1022.



Scott 1087 & 1088.



Scott 1279 & 1285.

The value indicated on most of these stamps is in Icelandic krona (kr), but Scott 957 has a value of Bref 20g. The 2011 Scott Catalogue for this stamp also gives a value of “(40k),” but this is not shown on the stamp. Scott 1279 and 1285 have values of B50g. These indicate domestic non-priority mail.

References

Luther, Brian S. 2013. Fungus-illustrated stamps from Greenland. *Spore Prints* 494 (Sept.), pp. 4–5. Online and in color at www.psms.org.

SUPERSONIC DUNG CANNONS:

Pilobolus lentiger

Jan Thornhill

<http://weirdandwonderfulwildmushrooms.blogspot.com/>,
October 10, 2014

My friend Ulli handed me a large Tupperware container. “A present,” she said.

A peak under the lid revealed a large pile of horse manure—always a nice gift for an organic gardener. But this wasn’t just any horse manure, this was *special* horse manure: it had sprouted a massive colony of a dung-loving fungus called *Pilobolus*, also known as the Dung Cannon or Hat Thrower.

Pilobolus species, which belong to the order Mucorales, are impressive little coprophiles that, despite their smelly choice of substrate, are not only well studied but have even managed to hit the news as the “Fastest Living Thing on the Planet.”

Coprophilous fungi evolved to produce fruiting bodies in animal waste, and the way the spores that produce these fruiting bodies get into that waste is usually via the gut, which means the spores first need to be ingested. There’s a problem with this scenario, though: herbivores shun their own and others’ excrement when they’re grazing. Each animal, in fact, has its own well-defined “zone of repugnance.”

So how to get the spores far enough away from the dung to be eaten? Build a squirt gun, that’s how—at least that’s how *Pilobolus* species do it. And impressive squirt guns they are. Some are capable of expelling spores more than 6 feet (2 m) away, which, in human terms, would be like having a kid’s water pistol that could hit a target 500 ft (150 m) away.

Using only the normal, osmosis-generated pressure levels of fungi cells, *Pilobolus* spores are launched so fast that, until recent advancements in high-speed photography, the action was invisible to the human eye. Though the spore packets reach maximum speeds of only 25 meters per second, which isn’t exactly shabby for something less than a millimeter in diameter, their acceleration is stupendous—up to 180,000 G! I witnessed this spectacular feat,



Pilobolus lentiger. *Pilobolus* species are usually the first coprophilous fungi to fruit on herbivore dung.

or more accurately was its target, while trying to take closeups of these tiny fungi. I felt a distinct *ping!* on my cheek, then another on my forehead, then another on my lip. It felt strange to be under attack by tiny missiles, stranger still to know that these missiles were probably being *aimed* at sunlight reflecting off my face.

Structurally, a single *Pilobolus* consists of a long, thin sporangiophore that is expanded at the end into the subsporangial vesicle. The fluid-filled vesicle is capped by a black sporangium, or spore packet, with resistant walls. Orange pigments inside the sporangiophore act as light sensors which, in conjunction with the subsporangial vesicle that functions as a lens, allow the fungus to track light and angle toward it. In essence, *Pilobolus* have “eyes,” eyes that aim for the brightest light around, the sun. Their aim is pretty amazing, too. You can place them in a dark box with a single pinhole of light and after a few hours you will find their spore capsules glued in a tight cluster around the pinhole.

Some *Pilobolus* species, like my *P. lentiger*, also have rhythm. Not that they’re dancers, (though maybe with time-lapse photography and a moving light source it might appear as if they’re dancing—anybody?), but there’s rhythm to their sporulation. When researchers placed them in either continuous light or continuous dark, sporangia were discharged almost continuously. But in a half-day-of-light/half-day-of-dark cycle, they consistently discharged sporangia most vigorously 6 hours after the light period began.

Cheerios-fed Fungi, cont. from page 3

fungus metabolites. Also, Cheerios overcame a common problem in growing fungi. Standard growth media varies in composition from batch to batch. These small variations can alter fungi growth, meaning researchers can’t consistently produce the same set of metabolites with each experiment. However, one Cheerio is the same as another, box to box, batch to batch, today or years from now.

The idea to put the Cheerios in a bag instead of a flask came in 2011, when Cichewicz stumbled upon a how-to blog for growing psychedelic mushrooms. Those growers use big, breathable plastic bags called mushroom bags. One 50-cent bag, Cichewicz calculated, would provide the same growing surface area as 18 Erlenmeyer flasks. That would cut back on graduate student hours spent washing glassware, he thought. When his team took one promising fungus, *Bionectria ochroleuca*, and compared its growth on Cheerios in flasks versus in mushroom bags, they found that the species produced a similar metabolite profile under both conditions.

The fungus made three new bioactive compounds the scientists call bionectriols. The compounds were potent in preventing both growth and biofilm formation of *C. albicans*. Also, the bionectriols enhanced the potency of amphotericin B, one of physicians’ last lines of defense for treating fungal infections.

Nicholas H. Oberlies of the University of North Carolina, Greensboro, agrees that the antibiofilm properties of the bionectriols are intriguing. But he also is impressed with Cichewicz’s Cheerios-based cultivation method. “The clever thing is that he got General Mills to take the variability out for him,” Oberlies says.

Cichewicz continues to extol the benefits of Cheerios for growing fungi. “There is no other cereal that even comes close,” he says. “And believe me, I’ve tested the whole cereal aisle now.”

WHEN MUSHROOMS GROW HAIR: *Spinellus* and *Syzygites megalocarpus*

Jan Thornhill

<http://weirdandwonderfulwildmushrooms.blogspot.com/>
Sept. 5, 2014

Spinellus fusiger

Though it's hot as stink outside right now, and dry, to boot, most of this summer has been unseasonably cool and moist—perfect growing conditions for all kinds of interesting fungal fruitings, including one I've wanted to see for years, *Spinellus fusiger*. The weather has, in fact, been so accommodating that I've found this spectacular bread-mold-related growth four separate times. It's hard to care about how crummy the weather is for swimming when hair-raising characters like this keep appearing in the woods.

Spinellus species are parasites that attack your basic mushroom-looking mushroom, and are, in my humble opinion, wonderfully photogenic. The most common in these parts, *S. fusiger*, prefers *Mycena* species as its victims, often *M. haematopus*, which, even when its cap is sprouting a crazy new fungal hair-do, can still be identified by snapping its stem to look for its characteristic “blood.”

Mucorales

Spinellus species belong to the order Mucorales, or “pin molds,” in the phylum Zygomycota. The hyphae of these fungi, unlike those of ascomycetes or basidiomycetes, are rarely septate, which means they have no barriers to slow the movement of cytoplasm, allowing them to grow extremely quickly. If you've ever had a loaf of bread that's been colonized by the less spectacular, but much more common, mucorale *Rhizopus stolonifer*, or black bread mold, you will understand how quickly these fungi can grow.

All mucorales produce spores in tiny globose sporangia held at the tips of sometimes very long specialized hyphae called sporangiophores. Though mucorales are capable of reproducing both sexually and asexually, the vast majority of spores are anamorphic, or asexual.

Syzygites megalocarpus

Another woodland mycoparasitic mucorale is *Syzygites megalocarpus*. The only species in its genus, *S. megalocarpus* is nowhere near as choosy about its victims as *S. fusiger* and has, so far, been found on 65 different genera. It's easily recognized by its multi-branched sporangiophores that make the fungi they parasitize look as if they've not only grown hair, but hair that desperately needs frizz-control. When they first start growing, these sporangiophores are deep yellow due to the carotenoid pigments they produce, but become paler as they stretch out, and eventually turn a more traditional mold color—bluish gray.

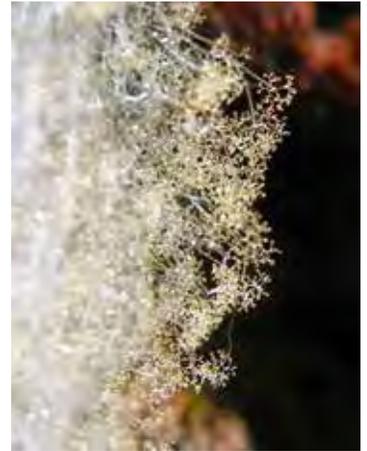


Though I've found *S. megalocarpus* a number of times, they've always either been past their prime or I've been

Syzygites megalocarpus growing on a small *Pluteus* species.

without camera, so I had no usable in situ photographs for this post. Ever the optimist, though, I went out in search of one a few days ago, before this heat wave hit, and—lucky me!—I found a beauty in full glory that had infested a *Pluteus* growing picturesquely on a log.

Closeup of *Syzygites megalocarpus* on small *Pluteus* species.



PRESIDENT'S MESSAGE

Marian Maxwell

NAMA Foray

The Patrice Benson Memorial NAMA Foray in early October was amazing! We had a great time, and 490 species were vouchered.

I would like to thank NAMA Foray Co-Chairs Pacita Roberts and Teddy Basladynski for spearheading this effort and taking it to fruition. You two did a fantastic job!

A big Thank You also to all the members of PSMS and the South Sound Club who were instrumental in organizing that wonderful week in Eatonville, to wit: Dr. Steve Trudell (Foray Mycologist), Sally Graupman, Milton Tam, Reba Tam, John Goldman, Andrea Rose, Denise Banaszewski, Kern Hendricks, Kim Traverse, Doug U'Ren, Joanne Young, Lynn Phillips, Brenda Fong, Luise Asif, James Nowak, Don Lennebacker, Cathy Lennebacker, Chris Gales, Alissa Allen, Noah Siegel, Jeff Stallman, Josh Birkebak, Kira Taylor, Sasha Viazmsky, Chong Merz, Jennifer Slack, Paul Hill, Danny Miller, Daniel Winkler, Pamela Cook, Kimberly Roberts, Denis Benjamin, Erica Cline, Katie Glew, and Chris Hererra from PSMS and Melodie Gates and Steve Bichler from the South Sound Club!

Thank you to everyone who made this foray a success including the presenters and lecturers, all the grad students who spent hours vouchering and identifying, and for inputs from the NAMA executive committee. A special thank you to PSMS member Paul Stamets and to Dr. James Trappe for being our keynote speakers and to Britt Bunyard for helping sponsor the goodie bags!

Field Trips

As I write this the fall field trips are almost over. Brian Luther, Jon Hall, Wren Hudgins, Josh Powell, and all the hosts did a great job of organizing the various elements of our field trips. I had many people express that they have enjoyed themselves on the trips and that they really appreciated the hard work from everyone. Thank you!

Monday ID Clinics

The Monday ID clinics are popular as usual. Brian Luther, Danny Miller, Wren Hudgins, Josh Powell, Marilyn Droege, and Stuart Wechsler are identifying mushrooms for the public, and in some cases saving them from disaster. This is an important public outreach that helps to keep the public safe. Thank you all.

Nominations

It's November. This means we need to recruit a Nominating Committee. This year we will be electing five members of the Board of Trustees, a new Secretary, and a new President.

Please help us in finding people for these positions. If you are interested, I would encourage you to run for the board. It has been a rewarding time for me each time I have served. It is also a great way to learn the business end of PSMS.

We are asking for someone from the membership to serve on the Nominating Committee along with some board members. If you are interested, please email me at president@psms.org.

NAMA AWARD

We are pleased to announce that Dr. Steve Trudell, PSMS Scientific Advisor, received the 2014 NAMA Award for Contributions to Amateur Mycology. Congratulations, Steve!

FIELD TRIP REPORT, October 18 Brian S. Luther

Wren Hudgins discovered this potential field trip site late last winter and brought it to my attention in the spring as a possible fall field trip venue. During the summer he and I got together and made arrangements with the authorities overseeing this property to take a closer look.

The 2014 fall field trip season has presented many challenges for me, with two of my reservations being cancelled by the US Forest Service at the last minute. But the good news is that we've gone to three brand new locations, places we've never previously had field trips to, so it's actually worked out very well.

Wren, Marian Maxwell, and I had worked out a system for checking arrivals for membership and having them sign in at the gate, and it worked well, considering it was our trial run to this location and there were a lot of logistics to work out.

When I got up to the shelter it was still dark, yet our host Jean Clough, assisted by Anne Kelly, had already set up a fabulous array of breakfast goodies, fresh fruit, juice, and coffee. Thank you, Jean and Anne, for all you did to start the day off right for our members.

The weather all day was favorable. Approximately 120 members showed up, including a large number of new members. We were fortunate to have several field trip guides who volunteered to lead groups out during the day. Good communication was maintained all day between the group leaders and the main shelter via Motorola two-way radios. This was quite helpful, especially for groups not doing well who learned where other groups were finding mushrooms.

Lots of good edible fungi were found, including Yellow and White Chanterelles, *Boletus edulis*, Oyster Mushrooms, and others. The most abundant bolete found during the day was *B. pinophilus*, a beautiful and distinctive species closely related to *B. edulis* and also a choice edible. It was nice to see so many first-time members who were rewarded with excellent "beginner's luck." One hundred and thirteen species were collected, covering several ID tables. Unusual or interesting species in-

cluded *Lepiota atrodisca*, *Pleurotopsis longinqua*, *Oligoporus caesius*, and *Pycnoporellus fulgens*.

The potluck was great, and inside the shelter bales of hay put end to end provided a continuous row of comfortable seating for everybody. At the end of the day we had many happy members, and everybody I spoke with really liked the location. Even though this was our first time there, everything went pretty smoothly. We do, however, have some improvements to make in the future, which we're already discussing.

ONE LICHEN IS ACTUALLY 126 SPECIES AND COUNTING

Susan Milius

Science News, July 2014

A kind of lichen that biologists thought they knew well has turned out to consist of at least 126 distinct species—and maybe more than 400—lumped under a single name.



Robert Lücking

Dictyonema glabratum isn't some obscure, tiny organism, says Manuela Dal-Forno of George Mason University in Fairfax, Virginia. The South American lichen species often grows in curly masses about the size of a fist. It can vary in color as well as in other traits, but other single species vary naturally, so biologists didn't suspect its extreme underlying variation. Dal-Forno and her colleagues analyzed DNA in a highly variable region of the lichen's fungal component. (Lichens combine a fungus and at least one kind of photosynthetic pal from another kingdom, but traditionally the fungus gets the name.)

At first the researchers detected 16 hidden species, a number "already considered spectacular," says coauthor Robert Lücking of the Field Museum in Chicago. When more DNA analysis revealed over 100 species, "we were totally stunned," he says.

A computer simulation Lücking developed estimates the total could top 400 unrecognized species, he reports with Dal-Forno and colleagues June 30 in *Proceedings of the National Academy of Sciences*.

The lichen that biologists long knew as *Dictyonema glabratum* will be named as a separate *Cora* species.

GREEKS WARNED NOT TO EAT WILD MUSHROOMS

ekathimerini.com, October 15, 2014

More than 40 people have been poisoned by wild mushrooms in Greece over the last month, one of whom has died, health authorities said on Wednesday.

The General Secretariat for Public Health warned Greeks not to consume wild mushrooms. It said 42 people have fallen ill since the beginning of September, including a toddler who remains in intensive care. A 44-year-old woman died after eating wild mushrooms, officials said. The others received hospital treatment.

There are some 2,000 types of mushroom in Greece but *Amanita muscaria* and *Amanita phalloides* are the most common.

WINKLER SWEEPS NAMA PHOTO CONTEST

Nineteen photographers entered 249 images in the annual NAMA photo contest for 2014. We are pleased to announce that PSMS Vice President Daniel Winkler swept all three categories:

Documentary category

First place: *Cordyceps* on *Blattaria* cockroach
Third place: *Lepiota rubrotincta*
Honorable mention: *Xerocomellus zelleri*

Pictorial category

First place: *Xeramphalinoid* with ghost primordia
Second place: *Phallus indusiata*
Honorable mention: *Favolaschia*

Judges' Option category

First place: Chanties, Hydnum, and Chanty vodka



Cordyceps on *Blattaria* cockroach.



Xeramphalinoid with ghost primordia.

FUTURISTIC LAMPS GROWN FROM FUNGI

Adriana Krasniansky

<http://www.psfk.com/>, Oct.14, 2014

Danish industrial designer Jonas Edvard Neilsen has grown a collection of lamps from mushroom mycelium and plant fibers.



Neilsen's lamps begin as Oyster mushroom refuse from a commercial mushroom farm. Neilsen adds the refuse to a loose lampshade "skeleton," fashioned from hemp fiber and other plant filaments, leftover from the textile industry.

During a three-week growth period, the mushroom mycelium grows around the lampshade skeleton and weaves the plant fibers together. After three weeks, the lampshade can be "harvested" and placed in a kiln to dry. Once the moisture is removed from the mycelium, it will no longer grow and the shape is set.

MATSUTAKE RECIPE

Mike Beug

Slice Matsutake about 3/16" thick and sear both sides in a medium hot skillet (with a little olive oil or avocado oil). Pour in enough dry Riesling (or other good wine) or sake to cover the mushrooms. Continue heating on medium high until the wine is reduced to just a trace. Remove from heat, shake with soy sauce or tamari, and serve.

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