

SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
Number 509 February 2015



GOOD NEWS FOR BATS

editor

<http://www.northcountrypublicradio.org/>, Jan. 13, 2015

The bat disease known as white-nose syndrome has been spreading fast, killing millions of animals. But for the first time, scientists are seeing hopeful signs that some bat colonies are recovering, and new breakthroughs could help researchers develop better strategies for helping bats survive.

Back in 2009, it seemed dire. In Vermont, the floor of the Aeolus Cave in the Green Mountains was carpeted with tiny bat bodies and their delicate bones. Scientists like Scott Darling with Vermont's Fish and Wildlife Department were shaken by the carnage.

"This is just far more than I expected. It's way more, so many more dead bats here," Darling said then.

Scientists say a quarter-million animals have died here since white-nose syndrome was first identified in 2007, many of their tiny faces crusted with the white fungus that gives this disease its name. But on a recent trip to the cave, bats are still living here, though the population is much smaller.

Jonathan Reichard, national assistant coordinator for white-nose syndrome for the U.S. Fish and Wildlife Service, was part of a team that recently caught and inspected bats at Aeolus Cave. "It's a little bit of a curveball to be here today, six years after being here and seeing all the dead bats, to think that there are still bats in there," Reichard says.

He feared that this disease might exterminate the animals, sweeping them from large parts of North America. "The declines in that species have slowed down or even reversed in some cases. There's evidence that colonies may even be increasing at a slight tick," Reichard says.

There's other good news. While researchers study the tough little holdouts here in Vermont, a wildlife veterinarian at the University of Wisconsin has been cracking the code on how exactly white-nose syndrome kills these animals. The study's lead author, Michelle Verant, says the fungus causes bats' bodies to overheat, burning energy too quickly.

"The amount of fat energy that bats affected with white-nose syndrome used was twice as much as the healthy bats," she says.

Verant says hibernating bats begin to starve. Some flee into the deadly cold searching for more food.

She thinks her work, funded by the U.S. Geological Sur-



vey, could help point the way toward helping more bats survive. Scientists are scrambling to develop targeted fungicides that might kill white nose outright. In the meantime, Verant says wildlife managers need to make sure bats are healthy and plump before they go into the caves for the winter.

"The best thing that we can do right now is supporting bats with good habitat and reducing those additional stressors," she says.

As this disease spreads west, Verant's findings will play a big part in the debate over the federal government's response. The U.S. Fish and Wildlife Service is now deciding whether one type of bat called the northern long-eared should be added to the endangered species list. Last month, Canada's government did just that, adding three types of bats to its list of endangered animals.



PROTOTYPE ROBOT COULD AUTOMATE MUSHROOM SECTOR

<http://www.freshplaza.com/>, Jan. 12, 2015

At first glance, mushrooms and cars don't have a lot in common. But that could change down the road, bringing labor savings for farmers and more mushrooms to market for Canadians. Using concepts long found in automotive manufacturing, researchers at the Vineland Research and Innovation Centre (VRIC) have developed a robot to pick mushrooms.

It's still in the prototype stage, but John Van de Vegte, VRIC's Robotics and Automation Project manager, says it has the potential to change the entire mushroom growing industry.

Currently, mushroom farmers depend on a large workforce to harvest their crop by hand. The hours are long and the work is hard, making it difficult to attract and retain employees.

Mushrooms are grown in beds, stacked on top of each other, using spores and a compost-like medium called substrate.

Once seeded, the beds are moved into a growing room where farmers create the proper environmental conditions for mushrooms to grow—the right combination of humidity, temperature, and carbon dioxide levels.

The center's automation system allows the user to set specific rules about what type of mushrooms to pick and when, letting farmers optimize their production to get more pounds of mushrooms per square foot.

When it's time to harvest, the robot moves over the top of a bed of mushrooms and, using an image of the bed and the picking rules it has been given, it gently plucks each desired mushroom from the bed, de-stems it, and drops it into a store-ready container.

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MEMBERSHIP MEETING

Tuesday, February 10, 2015, at 7:30 pm at the Center for Urban Horticulture, 3501 NE 41st Street, Seattle

Our February meeting features a cooking demonstration by chef Becky Selengut. Fresh off her book tour for *Shroom: Mind-bendingly Good Recipes for Cultivated and Wild Mushrooms*—and just back from SOMA (Sonoma County Mycological Association) camp where she taught cooking classes—Becky returns home to demonstrate Black Trumpet Paté with Sage and Marsala. She will be answering your mushroom cooking questions and will debunk some common myths about mushroom cookery, such as that controversy: “To wash or not to wash.” Afterward, she will be on hand to sign and sell copies of her book.



Becky Selengut

When she's not squid jiggling, fishing, or cavorting through the woods picking wild things for her next meal, Becky Selengut is a private chef, an author, a humorist, and a cooking teacher. A regular instructor for PCC Natural Markets and The Pantry at Delancey, Selengut is the author of the award-winning book *Good Fish: Sustainable Seafood Recipes from the Pacific Coast*. Her wife, sommelier April Pogue, contributed the wine pairings. *Shroom: Mind-bendingly Good Recipes for Cultivated and Wild Mushrooms* is her third book. In the near future, Selengut hopes to clone herself so she can find the time to do more fun things that other people call “work.”

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

CALENDAR

Feb. 10 Membership Meeting, 7:30 pm, CUH
Feb. 16 Board Meeting, 7:30 pm, CUH
Feb. 17 *Spore Prints* deadline
Feb. 28 Election ballot deadline

BOARD NEWS

Denise Banaszewski

Happy New Year! The board had a lengthy discussion about safety, liability, and field trips. PSMS already carries liability insurance, and we decided that members and guests will need to agree to a liability waiver that releases PSMS from liability if something happens to them at a PSMS activity. Several other clubs already do this because mushrooming is an “at your own risk” activity. Also, we will continue to have a limited number of guides on field trips who will take out a limited number of people. To go out with a guide, you must sign up in advance and have a whistle with you that is at least 110 dB (a rescue whistle) for safety reasons. Each field trip guide and the field trip host will also have a radio. We may start a type of vouchers program again if there is interest among the membership. We had planned to hold Mushroom Maynia on May 17, but in order to do so, we will need volunteers to help. Please contact Kim Traverse if you can help. Please remember that the March membership meeting is our Survivors' Banquet and will be held on Saturday, March 7. Nominations for the new board members are closed, and we have two people running for President, one running for Secretary, and nine running for Trustee. Please remember to vote in February!

PRESIDENT'S MESSAGE

Marian Maxwell

Our Survivors' Banquet and Annual Business Meeting will be at 7:30 pm on Saturday, March 7, at the Center for Urban Horticulture. Doors will open at 6:30 pm. *Note:* This is earlier in the month than usual! The plans for the evening's program are in progress and will be posted online with the sign-ups mid-February. This will be a potluck. We will be presenting our five newly elected Trustees, two alternates, Secretary, and President who will be serving for the next two years. We will also announce our Golden Mushroom Recipient (no hints...!)

Our election for the PSMS Board of Trustees is online and open. Please read the candidate's bios and view their pictures in this issue. The election will close on February 28th at midnight. We have added “abstain” on all of the positions, at the request of some members last year who wanted to vote for those that they knew but abstain from voting for all others that they didn't know. The election will only allow you to submit your vote if you have all positions filled in with either a candidate or an abstention.

The 30 households with no emails will have received a printed copy of the ballot by post mail. For all others, the balloting will be done online. Single memberships get one vote. Family memberships get two votes. Please note that if only one person's email is listed on your PSMS family profile, you will only be able to vote once. In order for both adults to vote on a family membership, you must both have unique and separate emails. If you are both using the same email at this time, and want two votes you will need to change one of the emails. You can log in to the members' page on our home page at www.psms.org using your user name

and password. Go to “My Membership Information” and you can then change, add, or delete an email on your profile. If you have forgotten your user name please contact membership chair Ann Polin at membership@psms.org or me at president@psms.org. You will need to contact us if one of you has never listed an email, so we can assign you a user name and send you a welcome email with a secure computer-generated password (you may change these to whatever you like when you receive the welcome email). If you know your user name, but you have forgotten your password, please use the “forgot your password?” link on the sign-in page.

Spring Field trips will be announced in the April newsletter. The first field trip will be at the end of April. We have posted the dates of the weekends that we will be having field trips on the calendar already but the locations are still being worked out at this time. Please remember that field trips and their locations are a member privilege. We know of one case where someone is posting them to a community center as though they are open to the public... they are not.

There are several changes for field trips this year: We will require all persons attending field trips to sign liability waivers. We will also be having online sign-ups for each field trip for those who wish to have a guide take them out. We will be limiting the number of persons per guide to ensure a manageable group for the guides. All PSMS members attending field trips are asked to have a survival whistle (about 110 decibels), and also to wear an orange visibility vest. *Persons who wish to have guides take them out at field trips will be required to have whistles in order to join the group going out.* Those who don't have a whistle will not be able to join the group, no exceptions. All guides will have radios this year. PSMS will be selling whistles and orange vests at our monthly meetings.

NEW TO NATURE NO. 129: *Bordea denotata*
Quentin Wheeler
The Observer, August 9, 2014

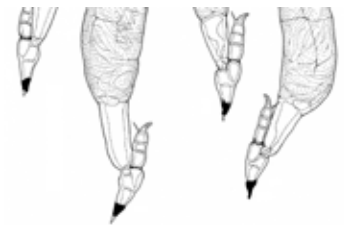
Dr. Danny Haelewaters of Harvard University, with co-authors in the Netherlands and Belgium, recently described a new species of Laboulbeniales [an order of fungi] from the Harener Wildernis in the Netherlands. Like related fungi, it is parasitic on insects, in this particular case growing on the surface of a pselaphine rove beetle collected from under the bark of a dead European alder. The new species, *Bordea denotata*, differs from related fungi in several microscopic details but I focus on the detail of the position of the fungus as reported. The illustration is of thalli observed on the left elytra or hardened forewing of the host beetle. Far from a useless detail, such precision in noting where on the body of the host a fungus is seen has fueled a debate among biologists for a century.

Another Harvard professor, Roland Thaxter, began his studies of Laboulbeniales in 1890 and over the course of ensuing decades named more than 1,200 species of the fungi. In the course of doing so, Thaxter observed the improbable: a given laboul was not only confined to a particular host but was consistently seen to grow on exactly the same places on the host. Some were found only on a tibia, others on a pronotum or abdomen. The story seemed incredible, yet repeated observations often reinforced Thaxter's claims.

A recent paper in *Mycologia* by two of my colleagues at the College of Environmental Science and Forestry gave new insights into this weird pattern, although their new explanation is no less shocking

than the rumors preceding it. Their conclusion? Laboulbeniales are sexually transmitted! Lauren Goldmann and Alex Weir studied 13 species of Chitonomyces, all ectoparasitic on the predaceous diving beetle *Laccophilus maculosus*. They were particularly interested in testing Thaxter's theory of “position specificity”. Using the nucSSU rRNA gene and 5.8S and partial ITS1 rRNA regions, all 13 species were sorted out into pairs of morphotypes and a revised total of six species. Each of the six species were indeed located at corresponding positions of both male and female beetles, vindicating the Thaxter rule. Video recordings of mating behavior of the host beetles confirmed that sexual transmission is the long-sought mechanism explaining this bizarre phenomenon.

Males and females of the beetle are more or less parallel while mating and as the fungus is passed from one to the other. They found that when the male position was skewed a bit to one side or the other during copulation, the fungi appeared later on the female in a similarly offset position. I must say that I am a little disappointed that the mystery of how the fungi could tell one part of the body from another has been debunked. The reality is that most Laboulbeniales can fruit on nearly any body part of either sex of a host. Because spore transmission involves physical contact between hosts and because many individuals come in such intimate contact when they are, well, intimate, the correlation of fungi on particular spots on the body is a lot less surprising. It turns out that routine beetle sexual behavior has more to do with position specificity than some unknown fungus attribute. Weary of justifying my own interest in slime-mold beetles, I used to be fond of reciting a story, perhaps apocryphal, about Roland Thaxter. He is said to have delivered a lecture on labouls at Harvard. After, a woman in the audience said something to the effect of “Professor Thaxter, all of this is quite fascinating, but of what value is it to mankind?” To which he replied, “None, thank God!” Goldmann and Weir have scored another one for the joy in pure curiosity.



The location of Bordea denotata fungus on the pselaphine rove beetle.

HOW TO DRAW MUSHROOMS ON AN OSCILLOSCOPE WITH SOUND Christopher Jobson

<http://www.thisiscolossal.com/2014/12/how-to-draw-pictures-with-sound-waves/>, Dec. 10, 2014

In a surprisingly interesting video from Jerobeam Fenderson, he explains how to draw images using the visualizations of sound waves on an old analog Tektronix oscilloscope. To be clear: the images you see on the Web page are not being animated through software; instead Fenderson creates waveforms (sounds) using his computer, and those sound waves look like mushrooms when fed into an oscilloscope. Suffice to say there's lots of math involved, and it's all a little bit over my head, but luckily he answers some questions over on his blog about how it all works. Make sure to watch through to the end.



ENORMOUS “IMMORTALITY” MUSHROOM FOUND IN CHINA

Rachel Reilly & Sarah Griffiths

DailyMail.com, January 17, 2015

An enormous, meter-wide *Ganoderma lucidum*, or Lingzhi, the “immortality” mushroom, has been discovered in China. At its widest point, the mushroom is 3 ft (107 cm) in diameter and weighs a staggering 16.4 lb (7.45 kg). There is no fixed price for the mushrooms, with price depending on quality, processing methods, and size; however, based on the price for a “basic” bag, the giant mushroom could be worth around US\$894 (£592).



Store owner Wei Fangning showing off the giant mushroom, also known as *Ganoderma lucidum*, at his shop in Hezhou city, in China's southwest Guangxi province.

Lingzhi has been used in traditional Chinese medicine for 2,000 years. Some health benefits of the fungus are described in the first book wholly devoted to medicinal herbs—*Shen Nong Ben Cao Jing* written in 25 to 220 AD. Studies claim it can prolong life, boost immunity, lower blood pressure, curb allergies, and even treat cancer.

It is very distinctive looking, as it is flat, with a conspicuous red-varnished, kidney-shaped cap that, depending on the cap's age, is white with brown pores underneath. It has no gills on its underside and releases its spores through fine pores. When fresh, it is described as “soft and corky.”

The mushroom was documented in ancient scripts, and its first known depictions in art, in 1,400 AD, are associated with Taoism. The images extended beyond religion to appear in paintings, furniture, and even women's accessories.

Wild Lingzhi is rare, and before it was cultivated, only the nobility could afford it. It was believed that the sacred fungus grew in the home of the immortals on the “three aisles of the blest” off the coast of China.

UNLOCKING THE SECRETS OF TRUFFLE AROMA

beforeitsnews.com/science-and-technology/2014/10/,
via *MushRumors*, Ore. Myco. Soc., Nov-Dec 2014

Truffles, along with caviar, are among the most expensive foods in the world. Because they grow underground, people use trained dogs or pigs to find them. But the distinctive smell of truffles is not only of interest to gourmets. A group of German and French scientists under the direction of the Goethe University Frankfurt have discovered that the smell of white truffles is largely produced by soil bacteria that are trapped inside truffle fruiting bodies.

White truffles from the Piedmont region in Italy can reach 5,000 Euro per kilogram, and black truffles from the Périgord region in Southern France as much as 2,000 Euro per kilogram. Particularly large specimens even fetch prices of up to 50,000 Euro per kilogram at auctions. Connoisseurs search for the precious delicacies near hazelnut trees, oaks and some species of pine. This is because

truffles grow in a symbiotic relationship with the trees. For scientists truffles are, therefore, a model organism to investigate how symbiosis evolved between plants and fungi.

Truffles are also useful to study fungal smell and flavor. Understanding how flavors are created is indeed very important to the food industry. Yeasts and bacteria that make cheese and wine have been researched in depth, but little is known about how the flavor of other organisms, including truffles, is created.

Over the past 10 years, researchers already suspected that micro-organisms trapped inside truffle fruiting bodies contributed to the flavor. “When the genome of the black Périgord truffle was mapped in 2010, we thought that the fungus had sufficient genes to create its flavor on its own,” junior professor Richard Splivallo from the Institute for Molecular Life Sciences at the Goethe University explained.

The team made up of German and French scientists studied the white truffle *Tuber borchii*. It is native to Europe but has been recently introduced in New Zealand and Argentina. The researchers were able to show that bacteria produce a specific class of volatile cyclic sulphur compounds, which make up part of the distinctive truffle smell. Dogs and pigs are able to find truffles underground thanks to the slightly sulphuric smell.

“However, our results cannot be transferred to other types of truffles,” Splivallo says, “because the compounds we investigated are only found in the white truffle *Tuber borchii*.” For this reason, in the future they plan to study compounds which are found in the Périgord and Piedmont truffles and are common to all types of truffles. “We don't just want to know which part of the truffle flavor is produced by bacteria. We are also interested in how the symbiosis between fungi and microorganisms has evolved and how this benefits both symbiotic partners.”



Ahh. The smell of sulfur compounds.



FUNGUS FOCUS

Mycelium, Myco. Soc. of Toronto, Jan.–Mar. 2015

Boletus frostii, or Frost's bolete, is an edible bolete that is mycorrhizal with hardwoods, and, in particular, oaks. It is characterized by having blood red pores, cap, and stipe, yellow flesh, heavy reticulation on the stipe, a sticky cap, and a rapid blue staining reaction (as on the pores of the depicted example). Specimens range in diameter from 5–15 cm, and have a height of 6–15 cm. The caps of fresh specimens frequently have an inrolled margin and very young specimens often secrete an amber colored exudate from the hymenium as they develop. The spore print is olive-brown, and spores are approximately 11–17 μm by 4–5 μm and are ellipsoid.



Although considered edible, *B. frostii* is generally not recommended as it can be confused with other red, blue-staining boletes that are poisonous. However, it is reportedly commonly eaten in some regions of Mexico, where the cap is peeled before cooking.

HAPPY NEW YEAR FROM SLOVENIA ON A STAMP
Brian S. Luther

Slovenia is one of the former Yugoslav Republics (getting independence in June 1991) and the most northerly, sharing a border with Italy, Austria, Hungary, and Croatia. It has only a minuscule section of coastline on the Adriatic Sea, sandwiched between Italy and Croatia.

Don't confuse Slovenia with Slovakia, aka the Slovak Republic, which is one of the two countries split from the old Czechoslovakia.

On November 28, 2014, Slovenia issued a really cute mushroom postage stamp commemorating the New Year for 2015. It shows two stylized *Amanita muscaria* mushrooms and is titled Srečno novo leto (Happy New Year in Slovenian). It was issued in a booklet of twelve die cut, self-stick stamps. The FDC* has two other good luck signs as well: ladybugs and a four-leaf clover.

Traditionally, *Amanita muscaria* has been a symbol of good luck in Europe, which seems odd when you consider it's a poisonous mushroom. Historically *A. muscaria* was used as bait for flies by crushing it up, mixing it in milk or putting sugar on it, and setting it out. When flies ate this mixture, they became stupefied and disoriented (hence the name Fly Amanita). Flies are normally not killed by eating *A. muscaria* or its juice, but rather disabled, making it simple to dispatch these normally elusive and pesky insects. According to Ramsbottom (1953) the German Albertus Magnus wrote of its use for controlling flies as early as the 13th century. There is also evidence that suggests it may have been used to control bed bugs in a similar fashion.

I believe these traditional uses of *A. muscaria* were well known and made Europeans look favorably on this species. This, in combination with its colorful and obviously cheerful appearance, has led over time to the endearment of this mushroom as one of many good luck signs, even though it would make you quite sick if you ate it.

Amanita muscaria became especially popular during Victorian times, when it adorned greeting postcards, children's toys, and the like, and of course it's still used as a decoration. Lewis Carroll may have encouraged this during the middle and late 1800s by showing Alice of *Alice in Wonderland* eating some of it. It's well known that *A. muscaria* has been intentionally consumed by various groups of humans for thousands of years in Europe, Asia, and the New World, especially for ritualistic and entheogenic purposes (Wasson, 1968).



Slovenia booklet of 12.

*FDC = first day cover; an envelope with the stamp or stamps cancelled on the first day of issue; usually the envelope has a colorful illustration, called a cachet.



Slovenia 2014 Happy New Year stamp.



Slovenia - Comic character Lakotnik, the wolf with MID. Scott 322, issued March 25, 1998.

I thought I might as well show you the other mushroom stamp issues from Slovenia now, too, since there are just a few. In 1998 the country issued a three-stamp set of cartoon characters by artist Miki Muster, one of which shows Lakotnik the wolf and has two mushrooms in the lower left hand corner. The 2011 Scott Catalogue incorrectly lists this character as a "Fox," but the fox is a separate comic character with a different name. This is what I call an MID, or a mushroom or fungus in the design of the illustration but not the main subject. I first noticed this stamp a few years ago, and it's not in any mycophilatelic catalogs.

There was also an earlier set of two mushroom stamps issued in 1996. In this set, one stamp each shows *Cantharellus cibarius* and *Boletus aestivalis*. Both are on an attractive souvenir sheet with a woodland scene, and several small mushrooms are visible on close inspection in the background as well. It also has *Amanita muscaria* in the right side border, as an MID off of the stamps.



Slovenia - Scott 258a-b souvenir sheet. Issued June 6, 1996

Several other countries besides Slovenia that were formerly part of Yugoslavia have issued beautiful mushroom-illustrated postage, including Bosnia-Herzegovina, Serbia, Croatia, Macedonia, and Montenegro. Yugoslavia itself issued mushroom stamps, before it was broken up into independent nations.

References

Ramsbottom, John. 1953. *Mushrooms & Toadstools. A study of the Activities of Fungi.* Collins, London. 306 pp.
 Wasson, R. Gordon. 1968. *Soma: Divine Mushroom of Immortality.* Harcourt Brace Jovanovich, Inc. 381 pp.

NATIVE FUNGUS SUGGESTED AS ANOTHER TOOL FOR RESTORING GHOSTLY WHITEBARK PINE FORESTS

<http://www.sciencedaily.com/>, Dec. 12, 2014

Cathy Cripps doesn't seem to worry about the grizzly bears and black bears that watch her work, but she is concerned about the ghosts and skeletons she encounters.

The ghosts are whitebark pine forests that have been devastated by mountain pine beetles and white pine blister rust, said the Montana State University scientist who studies fungi that grow in extreme environments. The skeletons are dead trees that no longer shade snow or produce pine cones. The round purple pine cones hold the seeds that feed bears, red squirrels, and Clark's nutcracker birds. Shade at the top of watersheds keeps snow from melting too fast in the spring, preventing trout streams from drying up too early in the summer.

Fortunately, she has found hope in a native fungus called the Siberian Slippery Jack, or *Suillus sibiricus*, said Cripps, a mycologist in MSU's Department of Plant Sciences and Plant Pathology.



Siberian Slippery Jack, Suillus sibiricus.

Cathy Cripps

Cripps conducted a three-year study in collaboration with Waterton Lakes National Park in Canada that showed a 10 to 15 percent increase in the survival rate of whitebark pine seedlings when Siberian Slippery Jack spores are injected into the soil around them. The injection takes place in nurseries before the seedlings are transplanted in the mountains.

That increase is significant and good news for those trying to reinstate whitebark pine trees to the north-central Rocky Mountains and Pacific Northwest, Cripps said. The whitebark pine is a keystone species that grows at high elevations where other trees cannot, but it has been declared an endangered species in Canada and awaits the designation in the United States.

"That (jump in survival rates) might not sound like a big difference, but a small amount is a big deal considering the labor-intensive process," Cripps said.

Cyndi Smith, scientist emeritus at Waterton, said "The positive results have encouraged Waterton Lakes National Park to continue inoculating both whitebark and limber pine seedlings, to give them the best opportunity we can to establish and survive to maturity."

Whitebark Pine, Pinus albicaulis.



Charles A. Blakeslee

Election

This year we will be **voting electronically online** for a President, a Secretary, and five Trustees.

Please read the following candidate profiles carefully. To vote electronically go to the PSMS website at www.psms.org and click on "membership page" under the heading "Membership." If you have forgotten your password, please fill out the section "Forgot your password?" at the bottom of the page and click on "Reset your password." If you cannot remember your user name, contact Ann at membership@psms.org or Marian at president@psms.org. When you successfully log in to the members' page you will see an icon named "Elections" at the bottom of the page under "My Membership Information." Click on the icon and follow the instructions to vote.

You may only vote once. There are two votes per family membership, but you will each have to use your individual user IDs to vote.

Election

Members who do not have computers or have not provided email addresses will receive their ballots by mail. Please return your ballots to Jon Hall, 5210 39th Ave NE, Seattle, WA 98105 by February 28. Votes received after that date will not be counted.

Election



Randy Richardson *President*

I am happy to be part of such a varied and vibrant organization. My years in PSMS and on the board have given me a good idea of what's involved in running the club. I am honored by and grateful to the people who have supported me. Thank you.

President **Kim Traverse**

I joined PSMS after attending the 2005 show and realizing how little I knew. I was first Librarian, then served on the board under two presidents. I've chaired many Annual Exhibits and helped with ID Clinics, Mushroom Maynia, and a few field trips. I look forward to working with the Board and other members to ensure we continue making people delighted that they joined PSMS.



Secretary **Luise Asif**



I have served on the PSMS board the past 4 years and would be honored to continue serving as Secretary. A PSMS member since the mid-90s, I have volunteered for the Annual Exhibit and various shows and events, and currently have the pleasure of doing the Hospitality for our monthly meetings.

Miltan Tam

PSMS Vice President for the past six years, Milton has chaired the Cultivation Committee, was co-chair of the 2013 and 2014 PSMS Annual Exhibits, and helped organize the 2014 NAMA foray. Milt believes that “fun” is an integral part of “fungi.” If elected he will advocate expanding the range of the club's activities, classes, and interest groups.



Paul Hill

Since joining PSMS I have enjoyed many field trips, helping out at meetings and the Annual Show, and even writing an article for the newsletter, all while learning about mushrooms. It has been particularly fun to organize the mushroom photo walks in local city parks. I feel I would make a good addition to the board, and I hope you'll vote for me.



Hans Drabicki

An aircraft engineer and part-time forager, I've been a PSMS member since 2008. While my initial interest lay in exploring the club as a social network for finding free food, it's since blossomed to include forging a network of friendships. I look forward to promoting those unique PSMS events that bring us together.



Brady Raymond

Volunteering for various PSMS events over the past few years has been a very rewarding endeavor for my wife, Erin, and myself. We've met lots of great people, learned a lot, and have an excuse to go to the woods virtually year round. It only seems natural to give something back to PSMS. I look forward to serving on the board if elected.



Janet Best

I am honored to be considered as a board member and look forward to doing more for PSMS. I have been a member of the board of similar groups that involve field trips, yearly shows, and member education, so I bring similar experience and a slightly different perspective to PSMS. My education is in medicinal chemistry, naturopathic medicine, and Oriental medicine.



Alyssa Panning

I joined PSMS this summer and went on three field trips this fall. I have attended monthly meetings, helped with the annual show, and realized how much I still have to learn about fungi. I want to become more involved in PSMS and to learn more about the organization and foraging for mushrooms. Thank you for your consideration.



Carlos Cruz

I believe the trustees of an organization hold a responsibility to safeguard the tenets of the organization and help fulfill its mission for each generation, much like the fruiting bodies of the organisms that we study and harvest with such relish. I will bring to PSMS enthusiasm, curiosity, and a will to contribute to the science and knowledge of mycology.



James Ardena

With PSMS, I have met so many wonderful and amazing people that I would like to give back where I can. I look forward to developing my skills leading members in search of their first chanterelles, promoting cultivation at the Annual Exhibit, and supporting a great community. Please vote for me and thank you for your support!



Erin Raymond

My husband, Brady, and I have been members of PSMS since 2011. We have met so many wonderful people through ID classes, monthly meetings, hosting field trips, and volunteering at the annual show. PSMS has become a huge part of our lives and I would love to contribute by serving on the board.



PILZ KOTELETTS (MUSHROOM CUTLETS)

Mycena News, Myco. Soc. San Francisco, Jan. 2015

Ingredients

- 1 ½ lb wild mushrooms
- 3 TBs butter
- 1 medium onion, diced
- ½ loaf sweet day-old French bread, crust removed
- ½ cup milk
- 3 eggs
- 1 TBs chopped flat parsley
- Salt and pepper
- 3 TBs fine breadcrumbs
- 2 TBs grapeseed oil (or other frying oil)

Cooking Instructions

Clean and slice the mushrooms. Melt two tablespoons of butter in a large skillet. Add the mushrooms and sauté over medium heat for 5 minutes. Set aside. Add the remaining tablespoon of butter to the skillet. Add the onions and sauté until translucent but not browned. Thinly slice the bread and soak in the milk for a few minutes, then squeeze out as much liquid as possible, leaving a soft bread pulp. Combine the bread pulp, sautéed mushrooms, and onions in a food processor. Add the eggs, parsley, and salt and pepper to taste. Process with on/off pulses just until coarsely



chopped. Do not overprocess. Taste for seasoning and adjust if necessary. Chill for 30 minutes. Shape the mixture into ½-inch thick patties. Dredge in breadcrumbs, place on a rack, and let coating set for a few minutes. Heat the oil in a heavy skillet, preferably non-stick. Add the patties and cook, turning once, until golden brown on both sides. Serves 4 as a main course, 6 as an appetizer.

MUSHROOM ASTROLOGY

Bob Lehman, LAMS



Aquarius (Jan. 20–Feb. 18): You enjoy hunting mushrooms if for no other reason than to bask in the beauty of nature, which you feel a kinship with. You enjoy club activities, at which you like to socialize and share your knowledge and ideas. You encourage the club to foray in new places and learn new things. You are concerned with the ecological role of mushrooms and about societal regulation of mushroom hunting. You are interested in edible mushrooms for their potential as a food source for others.

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