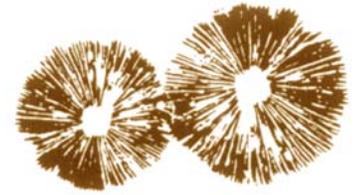


# SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY  
Number 472 May 2011



## WEBSITE UPGRADE

Marian Maxwell

In mid-April we upgraded the password-protected Members' Area of our website. Around April 15 you should have received a welcome e-mail which included an individual username and password to access this new Members' Area. *If you have not, please contact me* (president@psms.org or (425) 235-8557). Please note that the universal username and password (Russula brevipes) no longer function.

The new Members' Area allows you to

- renew and pay your membership online
- change your contact information
- access *Spore Prints* newsletters and field trip inserts
- sign up and pay for classes
- view the PSMS event calendar (field trips, meetings, ID clinics, classes, *Spore Prints* deadlines, etc.)
- access a list of members
- receive important notifications via e-mail regarding PSMS business, renewals, classes, etc.
- sign up for projects and committees
- access resources for the organization.

If you have not already done so, in order to verify that your contact information is correct,

1. Go to <http://www.psms.org> and click **Members' Page Log-in Here**.
2. Enter your individual username and password, and click on the log-in button.
3. Click on "Change Contact/Profile Info" (under My Membership).
4. Look over your info and make any necessary changes.

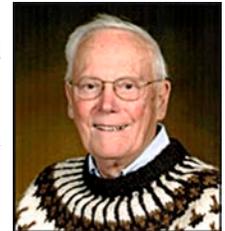
Please note that the PSMS Members Yahoo Groups e-mail discussion list will continue to exist and no changes are being made to it.



*I desired to know what Mushrooms they had in the Market. I found but few, at which I was surpris'd, for I have all my Life been very Curious and inquisitive about this kind of Plant, but I was absolutely astonish'd to find, that as for Champignons, and Moriglio's, they were as great strangers to 'em as if they had been bred in Japan.*

—William King's *Journey to London, 1699, demonstrating the continuing English suspicion of fungi.*

## Russ Kurtz 1921–2011



Charter member Russ Kurtz, 90, an avid conservationist and retired veterinarian, died suddenly April 1 in Seattle. Russ attended the 2011 Survivors' Banquet in March with his son Roger, and as recently as last fall was collecting mushrooms outside Sitka, Alaska.

Russ hosted dozens of weekend field trips for the society and volunteered in many capacities, taking over as exhibit collections chair from charter member George Rafanelli in the mid 1990s. They had met at the club's first organizational meeting nearly 50 years ago at the Pacific Science Center.

During his youth Russ worked selling magazine subscriptions, riding his bicycle door to door in Seattle neighborhoods, and during the Great Depression he worked as a library assistant at the downtown Carnegie Library. He later worked as an X-ray technician in Seattle and at dams such as the Shasta Dam in California. During a job in the Portland area he joined the Mazamas; he had already made numerous trips into the Cascade Mountains as a young boy and went on to summit Mt. Rainier on two occasions.

Russ was both a Husky and a Cougar, graduating from the UW with a B.S. in biology and from Washington State University with a degree in veterinary medicine. He began his veterinary practice in Seattle after marrying Shirley; they had five children. Russ became a Boy Scout leader, president of the Woodland Park Zoo Society, and a supporter of political causes that advocated conservation of wildlife and forest habitat. He was a local delegate for Barack Obama in the 2008 presidential election.

Russ volunteered hundreds of hours at the Washington Park Arboretum, Seattle Audubon, and Friends of Carkeek Park, among other organizations. He would annually certify the health of waterfowl at "Pilling's Pond," a spring-fed refuge on North 90<sup>th</sup> Street in Seattle where the late Charles Pilling became internationally known in the 1950s for successfully breeding several species of wild ducks in captivity. Russ enjoyed many cultural activities and traveled to places such as Norway, the Galapagos Islands, and Antarctica. Russ's wife, Shirley, died in 1989. His five children survive him along with many grandchildren.

## Spore Prints

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### PUGET SOUND MYCOLOGICAL SOCIETY

Center for Urban Horticulture, Box 354115  
University of Washington, Seattle, Washington 98195  
(206) 522-6031 <http://www.psms.org>

OFFICERS: Marian Maxwell, President<sup>2010-2012</sup>  
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SCI. ADVISOR: Dr. Joseph F. Ammirati

EDITOR: Agnes A. Sieger, 271 Harmony Lane,  
Port Angeles, WA 98362  
[sieger@att.net](mailto:sieger@att.net)

Annual dues **\$30**; full-time students **\$20**

## MEMBERSHIP MEETING

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

Our scientific advisor, Dr. Joseph Ammirati, will speak this month on "Fungi Porcini." We will learn about the history, biology, distribution, host trees, evolution, uses, and different species that are variously known as porcini, ceps, king boletes, or steinpilze depending on where in the world they are collected.



Joe is a professor in the Department of Biology at the University of Washington, where he teaches mycology and is a respected researcher in fungal toxicology, systematics, and forest ecology. His academic research focuses mainly on the classification and evolutionary relationships of the gilled fungi, particularly in the genus *Cortinarius*, but also includes mushroom biogeography and co-evolution, mushroom toxicity, and fungal diversity of arctic/alpine, boreal, and subalpine habitats. His revision of *The New Savory Wild Mushroom* earned him a certificate of achievement from the Society for Technical Communication. He is also the co-author, with Steve Trudell, of the popular reference book/field guide *Mushrooms of the Pacific Northwest*. He serves on the editorial board of *Mushroom: the Journal of Wild Mushrooming* and is co-author of *Poisonous Mushrooms of the Northern United States and Canada*. He is a keen supporter of mushroom hobbyists, and attends and/or speaks at numerous meetings, events, and forays, including our "Mushroom Maynia!" at the Burke Museum. He is also the scientific advisor to the Pacific Northwest Key Council.

Would persons with last names beginning with the letters L to Z please bring refreshments for the social hour?

## CALENDAR

May 7-8	Field Trip (see website for details)
May 10	Membership Meeting, 7:30 pm, CUH
May 14	Field Trip (see website for details)
May 15	Mushroom Maynia!, Burke Museum, UW
May 16	Board Meeting, 7:30 pm, CUH
May 21	Field Trip (see website for details)
May 24	<i>Spore Prints</i> deadline
May 27-29	Field Trip (see website for details)
June 4	Field Trip (see website for details)

## ELEVEN PEOPLE IN INDIA DIE AFTER EATING WILD MUSHROOMS

*Daily News and Analysis*, Apr. 13, 2011

At least 11 people have died after eating wild mushrooms during this month in Assam's Lakhimpur district, official sources said.

According to the attending doctor, Dr. Phul Konwar Deori of North Lakhmipur Civil Hospital, 14 persons were reported to have fallen ill after eating wild mushrooms in Bahgora Kathgor Deorigaon on April 1 and were admitted to the hospital. Six persons died on the day they were brought to the hospital while five others died subsequently in hospital. Three persons, however, have recovered with treatment, he added.

The deaths of the villagers were due to amatoxin poisoning, Dr. Deori said.

## BIRD WALK

Linda Haba

Linda Haba will lead a short, 1-mile bird walk through the Montlake fill before the May meeting. Meet at 6 pm at the gate between the Douglas classroom and CUH. Bring binoculars. All ages are welcome. If my co-leader can make it, we'll also point out mushrooms.

## BOARD NEWS

Denise Banaszewski

The "new" website has been launched! It will look the same overall, but with new functionality. People can join PSMS and pay dues online, and we have already had six members sign up this way. Each member who provided an e-mail address when they joined should receive a message regarding setting up an individual username and password. Members will be able to manage their contact information, sign up for events and classes, pay for membership and classes, access the membership roster, and more—all online.

In other news, Mushroom Maynia! will be held on May 15. We will be printing a few hundred paper versions of our roster to hand out at meetings for those who would find a paper version useful. Finally, the Board changed one of the Ben Woo Scholarship Grant Guidelines from "Members of the Puget Sound Mycological Society and educators shall be given preference for the grants" to "Members of the Puget Sound Mycological Society, educators, and research and projects conducted in the Pacific Northwest will be given preference for the grants."

## FIELD TRIP REPORT, MARCH 26

Adrian Lee

This was a great location for our first field trip, though we were a bit early for the mushrooms. About 100 people signed in.

Teddy Basladynski was our wonderful host. He brought goodies, coffee, and other drinks for everyone to have. Thank you, Teddy!

Danny Miller, Brian Luther, and Hildegard Hendrickson led trips for beginners to hunt for *Verpa bohemica* and learn about some of our March mushrooms.

We all came back to camp at about noon. A total of 31 species of fungi were collected and brought in for ID, with many interesting fungi found—it was a whole table's worth of fungi. Only two very young *Verpa bohemica* were found, thanks to Hildegard taking a group to an old Girl Scout Camp near Carnation. Three bright red *Sarcoscypha coccinea* (a cup fungus) were brought in. One of the most common fungi was the very long stemmed, brown cup fungus *Sclerotinia tuberosa*. The false morels *Gyromitra esculenta* and *G. infula* were the most toxic fungi brought in.

Thank you for this wonderful field trip!



## FORAY REPORT, APRIL 16

Danny Miller

Saturday, April 16, was the second spring field trip of the year. The weather didn't cooperate quite as well as it did for our first trip, with some intermittent rain showers all day and cooler temperatures. But the mushrooms sure liked that kind of weather, as we collected 54 species from places along the river, and the spirits of the 45 members who attended were not dampened either. Our goal, as it was last time, was to find *Verpa bohemica*, and while many *Verpa* were found, it was unfortunately only a lucky handful of people who found them.

Many interesting species came in, such as the beautiful troupe of purple-gilled *Baeospora myriadophylla*. There were also three kinds of jelly fungi. Spring is the time for cup fungi, and we saw four species of black cups, a bunch of the scarlet cups *Sarcoscypha coccinea*, the purple cups *Peziza praetervisa*, and a bright baby blue piece of wood colored by the blue cups of a *Chlorociboria* sp. Thanks to our hosts, Cathy and Don Lennebacker, for providing excellent goodies and hot coffee so we were all well fed. We really appreciate that they were willing to come out on such a dreary day to get involved. That's what this volunteer club is all about—helping where and when needed. Special thanks go to Rusty Straw and his friend Rory, who provided two excellent 10 × 10 ft canopies that were set up over a picnic table as a rain-break station all day. They were definitely welcome and needed. They also put plastic over the table, which helped a lot. Thanks also to Brian Luther for planning the trip and IDing all the fungi. Thanks also to his identification assistants Hildegard Hendrickson, Danny Miller, and Adrian Lee.

Potluck came early (before 3:00 pm). It was small but very appreciated, especially the huge delicious pot of hearty, piping hot soup that Don and Cathy made for us.



## OSTROM'S TOUR

Milton Tam

On Saturday, June 25, PSMS members are invited to tour Ostrom's mushroom growing facility at Mushroom Corner in Lacey, near Olympia. Ostrom's has operated in the Northwest since 1928 and now produces over 13 million pounds of mushrooms annually (see [www.ostromsmushrooms.com](http://www.ostromsmushrooms.com)). The operations we will see include composting, casing, spawn inoculation of trays, growing, and harvesting. Two tour times are scheduled: from 9–11 am and from 11 am–1 pm. We will take tour reservations on a "first-come, first-served" basis. Accompanying children must be 9 or older. Call or e-mail Milton Tam at 206-525-9556 or [miltontam@aol.com](mailto:miltontam@aol.com) with your reservation request before June 9. You can also sign up on the members' page on the new PSMS website. Please include your first and second-choice time and the number of people in your party. Details of the tour and directions to Ostrom's will be sent to you when your request is confirmed. Sign up early to prevent disappointment! We are limited to 20 persons for each tour time, and all children must be accompanied by an adult.



## PRESIDENT'S MESSAGE

Marian Maxwell

The Survivors' Banquet in March was a lot of fun! I would like to thank Sara Nelson and the Fremont Brewing Company for their donation of beer for the banquet; Jerry Mascio, President of San Gennaro Foods in Kent, for his generous donation of cases of polenta and canned mushrooms for door prizes; and Kristen and Jay Fisher from the Dog and Pony Alehouse in Renton for generously donating about 40 nice pint glasses for the beer lovers.

New board members Andrea Rose, Reba Tam, Linda Haba, and Teddy Basladynski were welcomed. We were happy to have Trustee Randy Richardson, Vice-President Milton Tam, and Secretary Denise Banaszewski serving for another 2 years! Our Golden Mushroom recipients were Irwin and Millie Kleinman. There was a nice article in last month's newsletter outlining their many contributions to our Society. A \$500 check was presented to Ron and Pat Pyeatt from PSMS in support of the newly formed Yakima Valley Mushroom Society. Ron is their first president.

Prizes for the banquet were donated by Reba and Milton Tam, Ed Sakai, Mary Lynch, Patrice Benson, Peter Gemma, John Goldman, and Andrea Rose. Special thanks to Brenda Fong and Luise Asif for orchestrating the set-up, ordering supplies, and taking care of us throughout the evening. Scott Maxwell, Randy Richardson, Doug U'Ren, Linda Haba, Debra Lehrberger, and Mary Jane Glasdick helped with set-up early, and most people pitched in as they arrived.

John Goldman and Andrea Rose greeted people as they appeared and handled the reservations and seating at the door, which was a big job! Lynn Phillips and Joanne Young handled the raffle tickets for the Ben Woo Scholarship Fund, which netted \$305.00. Debra Lehrberger attended to the basket contest! Our flower arrangements for the evening were donated by Lynn Phillips and Russ Kurtz as they have done for so many years. Those of us who attended were fortunate in having been able to visit with Charter Member Russ Kurtz, who passed away 2 weeks later. For many of us, this was our last time to see him. I will always remember him seated at the table smiling with his son at his side and his friends surrounding him. We will miss him.



## RESUPINATE FUNGUS OF THE MONTH:

### The Genus *Schizopora*

© Brian Luther



B. Luther

*Schizopora paradoxa*

The genus *Schizopora* is extremely common. *Schizopora paradoxa*, the fungus featured this month, is, without a doubt, the most frequently encountered resupinate polypore found on hardwood debris in Washington State. I find it everywhere there are broadleaf trees and shrubs, and it's often abundant. It can occur in small patches but usually forms large continuous resupinate growth on dead Alder (*Alnus* spp.), Maple (*Acer* spp.), Cottonwood (*Populus* spp.), Cherry (*Prunus* spp.), Hazelnut (*Corylus cornuta* var. *californica*), and many other native as well as introduced hardwoods. It is frequently on bark, less frequently on decorticated (barkless) wood.

The fruiting body can be growing completely around its substrate on both horizontal and vertical trunks or branches. It can be positively geotropic on the under surface or negatively geotropic on the upper surface. Sometimes, older specimens appear greenish from algae growing over the pores of the fruiting body.

The pores, depending on the orientation of the substrate, can be uniform and roundish or, more often, elongated, jagged, and denticulate (finely dentate). There are a couple of mycological terms that perfectly apply here: irpiciform (or irpicoid). These specifically refer to a hymenophore (the fertile, spore bearing structure on Hymenomycetes) that starts out poroid (pore-like), then become tattered, irregular, and hydroid (tooth-like) at maturity.

Generally, fruiting bodies formed in a positive geotropic orientation will have much more regular pores. Those growing on vertical surfaces will always have pronounced elongated pores. A continuous fruiting on an Alder log, for example, will have fairly regular pores when it is facing directly down or up, but the part growing along the sides will have a noticeably different configuration, even though they are just a few inches apart. This difference in appearance due to growth on horizontal versus vertical surfaces is noted by Christiansen (1960). Gravity clearly has a strong influence on this. The fruiting body can be on substrates lying directly on the ground, on substrates slightly above the ground, or on dead branches up high in trees.

The species in this genus can be monomitic, dimittic, or trimitic (have one, two, or three types of hyphae) and vary from resupinate to pileate (Suhirman & Nunez, 1998). Hallenberg (1983) did a detailed comparison of *S. paradoxa* and *S. radula*, including

cultural studies; his article has ten plates showing the variation in the poroid hymenophore. *S. paradoxa* has a very irregularly hydroid, lacerate-denticulate poroid hymenophore often with elongated pores; it has a dimittic hyphal system and infrequent capitate cystidioles (hyphae ending in a distinct compact head). *S. radula* has pores that are much more regular in appearance and a monomittic hyphal system with more abundant enlarged hyphal ends. Hallenberg (1983) found both *S. paradoxa* and *S. radula* in western North America. Lim & Jung (2001) compared the two Korean species, *Schizopora flavipora* and *S. paradoxa*. Gilbertson & Ryvarde (1987) have a key to three North American species, but their *S. apacheriensis* has now been put in the genus *Hypodontia*. *Schizopora flavipora*, *S. paradoxa*, and *S. radula* are known from our area in the Pacific Northwest.

The collection described here is the first resupinate I collected on the first day I went to Cypress Island (a protected island in the San Juan Archipelago in Skagit Co., Washington), where I'm doing a long-term study of resupinate *Aphylophorales*.

#### Description of Collection

*Schizopora paradoxa* (Schrad.: Fr.) Donk.

Brian S. Luther collection #2011-331-1.

On the bark of a small, fallen, well rotted Red Alder (*Alnus rubra*) trunk, on the edge of the main trail/logging road from Secret Harbor going west toward Reef Point, but before the Reef Pt. trailhead, Cypress Island, Skagit Co., WA. Elevation approx. 200 ft. March 31, 2011.

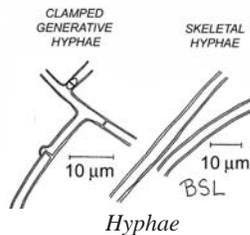
**Basidiocarp:** Resupinate, annual, poroid, creamy-whitish overall, but darkening and yellowing slightly on drying; also often with algal growth on mature fruiting bodies that have been standing for some time, giving it a greenish cast; covering several square inches of area, all the way around the narrow trunk of the substrate; pores at first shallow, 5–6 per millimeter and somewhat uniform, then expanding and elongating up to 1 mm in diameter and up to 2 mm long, irpicoid with the dissepiments (dividing walls or membranes) thin and maturing from a regular, pore-like outline to being coarsely irregular and uneven, the edges dentate to becoming greatly erose, split, and at full maturity only somewhat or remotely poroid, depending on overall orientation, and strongly lacerate or tattered hydroid; margin paler, rather abrupt; orientation relative to gravitational influence strongly affecting the appearance of the hymenophore. See habitat photograph and photomicrograph of the pores under the dissecting microscope.

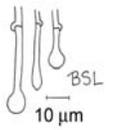


B. Luther

Photomicrograph of pores under dissecting microscope.

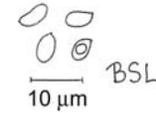
**Microstructures:** *Hyphal system* dimittic; generative hyphae 1.5–3.5  $\mu\text{m}$  wide, hyaline, smooth, often slightly thick-walled, with septa, branching, and clamps common, but not on all septa (some simple-septate); skeletal hyphae up to 4  $\mu\text{m}$  wide, hyaline, smooth, without septa or clamps, thick-walled up to 1  $\mu\text{m}$ ; crystalline material scattered throughout. *Cystidioles* 16–34  $\times$  4.5–8  $\mu\text{m}$ , infrequent, apex globose bulbous



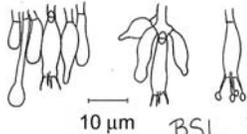


Cystidioles

(capitate), shaft hyphal like, up to 3.5  $\mu\text{m}$  wide, always clamped at the basal septa, sometimes lageniform (bottle shaped) or ventricose-mammiform (swollen-breast shaped) when very young, isolated or intermixed with basidia. *Basidia* 14–16  $\times$  3–5  $\mu\text{m}$ , short clavate, sometimes basally swollen and constricted toward the apex, hyaline,



Basidiospores



Hymenium with basidia and cystidioles

thin-walled, basally clamped, but this can be difficult to observe; sterigmata four. *Basidiospores* 4–6  $\times$  3–4  $\mu\text{m}$ , ellipsoid to oblong-ellipsoid, hyaline, thin-walled, smooth and inamyloid, often with one central guttule. Refer to line drawings.

## Classification History

This fungus was originally described by Elias Magnus Fries in 1821 as *Hydnum paradoxum*. It's treated by Christiansen (1960) as *Xylodon versiporus*, who noted the variability in basidiospore size, hyphae, and cystidioles in his Fig. 339, p. 343. Lowe (1946, 1963, 1966), Cunningham (1965), and Bakshi (1971) treat it under the genus *Poria*, as *P. versipora*, but this was before we knew we had more than one closely related, yet confused species. Other publications and monographs have excellent treatments of the genus *Schizopora* including Ryvarden (1978), Hallenberg (1983), Eriksson et al. (1984), Breitenbach & Kranzlin (1986), and Gilbertson & Ryvarden (1987). Langer (1994), Langer et al. (1996), and Hansen & Knudsen (1997) treat it under *Hyphodontia*, but it is not currently recognized in that genus.

## Classification Hierarchy

Kingdom Mycota (Fungi)  
 Division Basidiomycota  
 Subdivision Agaricomycotina  
 Class Agaricomycetes  
 Order Hymenochaetales  
 Family Schizoporaceae  
 Genus *Schizopora*  
 Species *paradoxa*

## Comments

The genus *Schizopora* causes a white rot. When I tested this collection fresh for the presence of polyphenol oxidase enzymes using tincture of Guaiac Resin, it was weakly positive (only slowly gave a very slight pale dull bluish gray color after an hour or so). Both Syringaldazine and L-tyrosine gave no color reaction.

This species can be easily confused with others in the genus, as well as superficially with *Irpex lacteus*, which possesses a similar highly irregular hymenophore but is often pileate on the margins, unlike *Schizopora*. *Irpex* also differs microscopically by its completely unclamped hyphae, by its very conspicuous and abundant cystidia that are thick-walled and heavily encrusted, and by its narrower spores. *Irpex* also occurs on hardwood debris, but is uncommon compared to *Schizopora*.

A detailed DNA study of five worldwide species (one undescribed) was done by Paulus et al. (2000), but they make no mention of *Schizopora trametoides*, a species described from Sumatra (Suhirman & Nunez, 1998). More recent DNA studies by Larsson (2007) place the genus *Schizopora* in the Family Schizoporaceae of the Order Hymenochaetales.

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## MUSHROOM-BASED PACKAGING PROVES POPULAR

Various sources  
 Apr. 2011

Ushering in a new generation of partially compostable cars, Ecovative Design, a startup in Green Island, NY, has teamed up with the Ford Motor Company to use Ecovative's mushroom-based foam as a key component in bumpers, side doors, and dashboards.

Fireproof, waterproof, and biodegradable, the mushroom-based product will replace around 30 pounds of petroleum-based foam per car. When you consider that Ford can produce up to 10,000 cars a day, that adds up to a lot of mushrooms.

cont. on page 6

## Mushroom-Based Packaging, cont. from page 5

The foam works equally well for packaging. On Apr. 5, 2011, Dell announced that they will begin shipping their servers in the eco-friendly fungi foam. The company already uses a Multipack packaging configuration that reduces the amount of packaging needed. “The combination of Multipack and mushroom cushioning make for a super green solution,” says Dell Procurement Director Oliver Campbell. “And best of all, the organic based mushroom cushions are easily composted after use.”

The foam is made by placing organic waste like cotton hulls or wood fiber in a mold, which is then inoculated with mushroom spores. The mushrooms digest the waste and take the shape of the mold. The carbohydrates in the waste provide all of the energy needed to make the material. The packaging for Dell grows in five to ten days.

By the end of next year, Dell plans to cut out 20 million pounds of packaging materials from its shipments. The company also plans to increase the sustainable content in cushioning and corrugated packaging to 40 percent, ensuring that at least 75 percent of all packaging components are curbside recyclable.

## SUMMARY OF 2010 NAMA TOXICOLOGY COMMITTEE REPORT

Michael Beug  
Toxicology Chair



During 2010, 76 incidents of mushroom poisoning involving 93 people were reported through the NAMA website and by our nationwide team of toxicology identifiers. One previously ill elderly person’s death was hastened by having consumed *Amanita phalloides*. Six other individuals survived poisoning by potentially deadly *Amanita* species (two cases involved *Amanita phalloides*, two cases involved *Amanita ocreata*, and one case involved *Amanita bisporigera* or a look-alike). One possible amatoxin case involved a *Psilocybe* seeker who apparently consumed *Galerina* by mistake and may have suffered some liver damage. Another amatoxin case involved a small *Lepiota* species that looked a lot like *L. rubrotincta*. This case plus the reported death of a dog from *Lepiota subincarnata* (syn. *Lepiota josserandii*) should remind people once again not to eat small species in the genus *Lepiota*.

Of the 84 people not involved in confirmed or suspected amatoxin cases, 58 consumed known poisonous mushrooms or mushrooms where the identification was unknown, and 26 consumed mushrooms that are edible for most people. The most serious of the non-amatoxin cases involved a woman who consumed an *Amanita smithiana* after having been told that it was a Matsutake. She suffered kidney problems but was successfully treated and did not require dialysis.

Consumption of raw mushrooms was the downfall of several people. Two consumed Morels raw, one consumed a raw *Leccinum*, another a raw *Russula*, and one a raw *Pleurotus*. Nearly all of the *Chlorophyllum* cases involved munching raw mushrooms. Even consuming raw *Chlorophyllum rachodes* or *C. brunneum* is likely to cause distress. *Chlorophyllum molybdites* poisoning is much worse if they are eaten raw—even though *C. molybdites* makes most people ill even if cooked. All mushrooms, even the sliced ones you see on salad bars, should be cooked before consumption. Mushroom cell walls are made of chitin which we cannot digest well without the aid of cooking. Many mushrooms also contain compounds that damage red blood cells (hemolysins) unless denatured by cooking. Because freezing only slows down but does not stop bacterial decay, mushrooms should be cooked prior to preserving in the freezer.

One person began to feel ill from drying Matsutake—it is important the mushroom dryers be operated in well ventilated areas because the spores given off in the process can cause problems for some people. There was also the first formal report I have received of someone having GI distress after eating Matsutake. For every edible mushroom, there appears to be some people who are sensitive and will get an upset stomach from eating it. Severe anaphylactic shock is rare, but there appears to be a case this past year involving *Laetiporus sulphureus* where the reaction was very severe. Several years ago there was a death from shock after consumption of *Laetiporus conifericola*.

Consumption of hallucinogenic mushrooms can present serious problems when the altered state produces violent behavior and the police are called. A young man had taken hallucinogenic mushrooms and then sat down to watch “Alice in Wonderland.” When pepper spray and control holds failed on the out-of-control subject, police repeatedly used a Taser. Even then it took seven Taser shots before the person collapsed and quit breathing. The young man died, with the death attributed to *Psilocybe* mushrooms even though Tasers have caused numerous deaths, unlike *Psilocybe* mushrooms which do not cause fatalities.

A tragic outcome in 2006 was presented in a poster session at the North American Congress of Clinical Toxicologists conference in Denver, October 10/7/2010 (French LK, Burton BT, “Liberty and Death,” Oregon Poison Center, Portland, OR, USA):

A healthy 20-year-old-male reportedly ingested as much as 4 g of hallucinogenic mushrooms one evening (typical single ingestion is 1/8 g) prior to entering a sleeping woman’s apartment. Upon awakening she demanded he leave and a struggle ensued. Police were summoned to the home, but the man became increasingly violent and failed to comply with their commands. He did not submit to multiple Taser discharges. Instead, he managed to pull out or break the wires, continued to struggle, and attempted to grab the officer’s pistol. Additional attempts to subdue the man after he fled outdoors included nine beanbag rounds and additional Taser applications, all without effect. After attempting to enter a police vehicle containing a loaded rifle, the man was shot and killed.

In another case a very young man suffered long-term depression and 3 months memory loss after consuming what was almost undoubtedly *Amanita pantherina*. He also became violent and exhibited strength beyond his years.

One frequent user of hallucinogenic mushrooms contacted Marilyn Shaw about loss of muscular control, inability to focus, balance, or stand followed by extreme fatigue lasting up to three days. This has happened to him on several occasions after consuming *Psilo-*

*cybe azurescens*. He reported that other individuals had observed a similar effect from *Psilocybe cyanescens* and other *Psilocybe* species that grow in association with wood chips and river estuaries. Marilyn contacted both Paul Stamets and Dr. Andrew Weil and confirmed that there appears to be a neurological problem associated with these wood-associated *Psilocybe* species.

A young man made a “medicinal” tea from the black knot fungus on cherry trees plus some *Daldinia concentrica* when he had been unable to find any Chaga. He suffered gastric distress for days. One of his ideas was that the GI distress was symptomatic of liver problems and milk thistle would protect his liver. However, milk thistle extracts are not absorbed in the GI tract (which is why injectable Silibinin is used the experimental protocol to treat patients who are suffering amatoxin poisoning from certain toxic *Amanita*, *Lepiota*, *Galerina*, and *Conocybe* species). Tim Geho pointed out to him that at some doses Chaga has caused muscle paralysis and that he should be careful.

In addition to the reports involving humans, there were reports from 13 dog owners about dogs becoming ill after they ate mushrooms or were suspected of having eaten mushrooms. Four of the cases involved the death of the dog. Three of the dog deaths were due to amatoxins; in one case the mushroom involved was uncertain and death was so rapid that it might not have been a mushroom at all. There was also an inquiry from the owner of a goat herd wondering if several deaths in her herd might be attributed to mushrooms. However, the symptoms fit neither known mushroom toxins nor known toxic weeds. The only mushrooms the owner reported in her field were lots of puffballs.



## MUSHROOM MAYNIA!

Joanne Young

Sunday, May 15, from 10:00 am to 4:00 pm is Mushroom Maynia!, a one-day family-oriented event presented by PSMS in collaboration with the Burke Museum and The Daniel E. Stuntz Memorial Foundation.

This year the speaker lineup includes Dr. Charles Lefevre, truffle expert and owner of New World Truffieres; Daniel Winkler our *Cordyceps* expert and international MushRoamer; Fletcher Street of Ostrom’s Mushroom Farm; Dr. Katherine Glew, who will tell about the curious lifestyles of lichens; Dr. Denis Benjamin, who will talk about poisonous mushrooms; and Patrice Benson, who will expound on the Marvelous Morel!

Displays and activities will include building your own mushroom cultivation kit, mushroom ID, mushroom hats and face painting for kids, drawing and painting with mushrooms, arts and photography, dyes made from mushrooms, books and field guides, exploring with microscopes, truffle ecology, tastings, and how and why to make a spore print.

Volunteers will be admitted to the Burke for no charge, but must be signed up in advance. Deadline for sign-up is May 12. Help is usually needed with cultivation, working with kids, and engaging with the public at the displays.

To volunteer, please contact Debra Lehrberger, our volunteer coordinator, at: [volunteer@psms.org](mailto:volunteer@psms.org) by May 12.

Admission to the Burke is \$9.50 for general, \$7.50 for seniors, \$6 for students (w/ID) and youth (5 & up) and free for Burke Members, children 4 and under, UW staff/faculty/students, and Mushroom Maynia volunteers.



The Burke Museum of Natural History and Culture is located on the University of Washington Campus.

<http://www.washington.edu/burkemuseum/event/maynia/>

Parking on campus is free on Sunday.

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- 10:15 Patrice Benson, “The Marvelous Morel”
- 11:00 Fletcher Street, “A Look Inside a Commercial Mushroom Growing Operation”
- 12:00 Dr. Katherine Glew, “Lichens: A Fungus Living in Sym(biosis)”
- 1:00 Dr. Denis Benjamin, “Mushrooms—delicious or deadly? Who gets poisoned and why”
- 2:00 Daniel Winkler, “Caterpillar Fungus: Creepy Killer Mushroom & Tibet’s Cash Cow”
- 3:00 Dr. Charles LeFevre, “Diamonds Under the Douglas Fir: Introduction to Truffles and Truffle Cultivation in the Pacific Northwest”

## EAST FUKUSHIMA SHIITAKE BANNED

Kanako Takahara

*The Japan Times*, Apr. 13, 2011



Prime Minister Naoto Kan on Wednesday banned the shipment of shiitake raised outdoors in eastern Fukushima Prefecture near the crippled nuclear power plant after radioactive substances exceeding the government standard were detected.

Subject to the ban are shiitake harvested outdoors on logs in the cities of Date, Soma, Minamisoma, Tamura, and Iwaki, and the towns of Shinchi, Kawamata, Namie, Futaba, Okuma, Tomioka, Naraha, and Hirono as well as the villages of Iitate, Katsurao, and Kawauchi.

“Shiitake mushrooms subject to the shipment ban this time are those raised outdoors and those produced indoors did not exceed the standard,” Chief Cabinet Secretary Yukio Edano said. “We will lift the ban when the (level of radioactive substances) stays below the standard in a stable manner.”

According to government regulations, a shipment ban will not be lifted unless contamination levels of produce near the Fukushima No. 1 nuclear plant remain below legal limits in three consecutive tests.

A test Sunday found 12,000 becquerels per kg of radioactive iodine and 13,000 becquerels per kilogram of cesium in shiitake harvested in Iitate. The figure is well above the legal limit of 2,000 becquerels for radioactive iodine and 500 becquerels for cesium.

Shiitake in Iwaki were found to have 3,100 becquerels of radioactive iodine and 890 becquerels of cesium.

*A Poem*

*It was a magic day in early May,  
when Grandpa did arrive to say,  
“It’s time to hunt for mushrooms.”*

*With special sticks and sacks in hand  
we hunted, searched, and scoured the land,  
all for the love of mushrooms.*

*We felt the prick of many a rose  
as we traversed the path he chose,  
in the quest for the mightiest mushrooms.*

*We learned of plants and birds and trees  
while we crawled around on hands and knees  
looking for the elusive mushrooms.*

*Oh, Grandpa dear, you are the one  
who taught us how to have such fun  
while harvesting those mushrooms.*

*So this year, remember, in early May,  
we will reserve a special day  
for us all to look and laugh and play.....  
and maybe even find  
some mushrooms.*

—Threw, <http://thegreatmorel.com/humor.html>

*Over 4,000 years ago the pharaohs of Egypt believed that mushrooms were the “food of the gods” and had magical powers. They believed eating mushrooms could bring about immortality, and decreed that only royalty could eat them.*



ay is morel month!

## **CROWN ROAST OF PORK WITH MOREL CORN-BREAD STUFFING**

**Jolene Ketzenberger**

*The Indianapolis Star, Apr. 18, 2011*

1 6- to 10-lb crown roast of pork  
Salt  
Pepper  
Granulated garlic  
Morel mushroom cornbread stuffing



Season meat with salt, pepper, and granulated garlic. Place crown roast, rib ends down, in roasting pan. Roast, uncovered, at 350 degrees for 1 hour.

Remove roast from oven and turn over so bone ends are up. Fill cavity with stuffing and continue roasting. Cover with foil if stuffing color reaches a nice golden brown and pork needs more time to come to temperature. Pork is done when a thermometer reads 160 degrees in the thickest part of the meat.

When pork is done, remove from oven and allow to rest (temperature of roast will rise an additional 5 to 10 degrees as it rests). Serves 8 to 10.

### **Morel Mushroom Cornbread Stuffing**

6 cups broken cornbread  
3 large shallots, finely chopped  
6 large cloves garlic, finely chopped  
4 TBs chopped fresh herbs (such as basil, rosemary and thyme)  
1½ cups fresh or reconstituted morel mushrooms, sliced  
8 whole eggs  
3 cups milk

In a large bowl, combine all ingredients except eggs and milk. Whip together eggs and milk separately. Pour into dry ingredients and mix gently. Allow to sit at room temperature long enough for cornbread to completely absorb liquid.

Season with salt and pepper to taste.

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**Puget Sound Mycological Society**  
Center for Urban Horticulture  
Box 354115, University of Washington  
Seattle, Washington 98195

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