

# SPORE PRINTS



BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY  
Number 451 April 2009

## BEN WOO FORAY

You have at least a month left to register for the Ben Woo Memorial Foray at Cispus. But don't wait! You can register for just one day or the whole weekend! Here is a sample of the activities available:

- Mushroom collecting field trips
- Wine-making lecture class with tasting
- Beginner's mushroom identification
- Basic microscopy
- Identifying lichens, ferns, and mosses
- Beginner's drawing workshop for field and studio
- Dyeing with fungi workshop

And we'll have plenty of time to reminisce, socialize, eat, and hear from our foray mycologist, Dr. Steve Trudell of the University of Washington. A silent auction will benefit the Ben Woo Scholarship Fund and the Daniel Stuntz Memorial Foundation. Come and bid on a mushrooming weekend in the mountains! Come and enter the "bowl of spores" contest and win ... something else!

You can download a registration form at [www.psms.org](http://www.psms.org) and you may call me at (206) 370-4487 with any questions.



## Ron Post

## MUSHROOM MAYNIA!

## Joanne Young

The second annual Mushroom Maynia! will be presented at the Burke Museum on Sunday, May 3, from 10:00 am–4:00 pm. This is a joint project of The Burke and the Daniel E. Stuntz Memorial Foundation, with talented personnel provided by PSMS. Last year was really fun, with over 60 PSMS members staffing the event.

The committee chairs and I hope that you will want to join the fun again this year. We'll have a variety of speakers; activities for kids; microscopes; cultivation workshops; mushroom ID; experts on pathogens, fungi in the garden, and lichens; how to draw, paint, and dye with mushrooms; book sales; tastings; and art. Volunteers get into the Burke for free that day—as long as you have signed up well in advance!

Here are some of the planned activities and the people heading those committees. Please contact one of the committee leaders to sign up. Thank you!

- |  |  |
|--|--|
| Book Sales, <i>John Goldman</i>                          | <a href="mailto:rose.gold@comcast.net">rose.gold@comcast.net</a>     |
| Children's Activities, Mushroom Hats, and Stamps         |  |
| <i>Colleen Compton</i>                                   | <a href="mailto:colleen.compton@q.com">colleen.compton@q.com</a>     |
| Cultivation, <i>Milton Tam</i>                           | <a href="mailto:MiltonTam@aol.com">MiltonTam@aol.com</a>             |
| Hospitality (snack room for volunteers)                  |  |
| <i>Jean Zatochill</i>                                    | <a href="mailto:jeanzat@gmail.com">jeanzat@gmail.com</a>             |
| Microscopes, <i>Judy Roger</i>                           | <a href="mailto:jaroger@comcast.net">jaroger@comcast.net</a>         |
| Mushroom Art, <i>Marilyn Droege</i>                      | <a href="mailto:marilyn206@hotmail.com">marilyn206@hotmail.com</a>   |
| Mushroom Tasting, <i>Jamie Notman</i>                    | <a href="mailto:houseofdevo@comcast.net">houseofdevo@comcast.net</a> |
| Painting and Drawing with Crayons, <i>Patrice Benson</i> | <a href="mailto:benisonp@amgen.com">benisonp@amgen.com</a>           |

## PSMS Membership

Don't know where, but want to help? Contact Joanne Young, [jd2young@aol.com](mailto:jd2young@aol.com) or (206) 633-0752.

## MUSHROOM-ENGINEERED INSULATION

### Karl Burkart

<http://www.mnn.com/technology/research-innovations/blogs/>  
Mar. 4, 2009

Standard insulation products are great for conserving energy, but come with a high environmental price tag. Most are made from non-biodegradable materials, like Styrofoam, or require high temperatures to produce, like fiberglass. And they will never biodegrade.

Enter Greensulate, conceived by Eben Bayer and Gavin McIntyre while students at Rensselaer Polytechnic Institute. Its patented "mushroom technology" takes advantage of mushroom mycelia—thousands of tiny but tough threads which quickly grow through a substrate in search of nourishment. Greensulate coats perlite with agricultural waste high in cellulose (like ground buckwheat hulls) and adds in thousands of mushroom spores. As the mushroom digests the cellulose, it grows millions of mycelia which then bind with the perlite making a tough, rigid board that is water repellent, flame retardant, completely nontoxic, and biodegradable.

## SANTA BARBARA MAN DIES AFTER EATING WILD MUSHROOMS

### Amber Lee

KSBY-TV, Mar. 10, 2009

An 82-year-old Santa Barbara, California, man is dead after eating poisonous mushrooms he picked from the Douglas Family Preserve in the Santa Barbara area just above Arroyo Burro Beach.

After he picked the wild mushrooms, commonly known as the "destroying angel" [*Amanita ocreata*], the man's family said he sautéed them and ate them with a steak. He became ill about six hours later and passed away at Santa Barbara Cottage Hospital.

Santa Barbara County Public Health said even though mushrooms are prevalent this time of the year, folks should leave mushroom picking up to the professionals. Toxins in the mushroom cannot be cooked, frozen, or soaked away.



*Amanita ocreata*

## ELECTION RESULTS

Milton Tam will serve a second term as vice-president, and Denise Banaszewski will be our new secretary. Tim Traverse, Brenda Fong, and Jennifer Slack have been reelected as board members. Debra Lehrberger and Randy Richardson have been elected as new members, and Louise Asif and Jim Hughes as alternative members. Congratulations to all. A complete list of current officers and board members can be found in the block at the start of page 2.

## Spore Prints

is published monthly, September through June by the

### PUGET SOUND MYCOLOGICAL SOCIETY

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

User name: Password:

OFFICERS: Patrice Benson, President  
Milton Tam, Vice President  
John Goldman, Treasurer  
Denise Banaszewski, Secretary

TRUSTEES: Brenda Fong, Debra Lehrberger,  
Cathy Lennebacker, Don Lennebacker,  
Dennis Notman, Jamie Notman,  
Randy Richardson, Jennifer Slack,  
Kim Traverse, Jean Zatochill  
Ron Post (Immed. Past Pres.)

ALTERNATE: Louise Asif, Jim Hughes

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 \$25; full-time students \$15

## CALENDAR

- April 14 Membership Meeting, 7:30 pm, CUH
- April 20 Board Meeting, 7:30 pm, CUH  
Master Gardeners' ID Clinic, 4:00 pm, CUH atrium
- April 21 *Spore Prints* deadline
- April 27 Master Gardeners' ID Clinic, 4:00 pm, CUH atrium
- May 3 Mushroom Maynia!, 10 am–4 pm, Burke Museum
- May 4 Master Gardeners' ID Clinic, 4:00 pm, CUH atrium
- May 9 Field Trip, 29 Pines

## BOARD NEWS

Dennis Oliver

The elections results are in (see results on page 1). Doug Ward, Lynn Phillips, and your humble scribe will be leaving the board owing to term limits. All promise to “hang around.”

The board voted to bestow life memberships on our past two Golden Mushroom Award recipients, Colin Meyer and John Goldman. Our treasurer, John Goldman, sold our mutual funds and these will be put into certificates of deposit. The board is testing an online roster. Planning for Mushroom Maynia! (May 3) continues. The Ben Woo Foray at Cispus Environmental Center is set, and enrollment forms are on the website. This is a great opportunity to learn the spring mushrooms, take classes on mushroom ID, on lichens and mosses, and on other topics. It's the hot ticket in May. Monday mushroom identification with the Master Gardeners begins at the end of the month. Bring your mushrooms to get identified or just stop by to see what's popping up.



## MEMBERSHIP MEETING

Tuesday, April 14, 2009, at the Center for Urban Horticulture, 3501 NE 41st Street, Seattle.

We are privileged to have Paul Stamets as our guest speaker this month. His presentation is titled “Solutions from the Underground: How Mushrooms Can Help Save the World.” Paul will discuss how we can engage fungi to clean up the environment, fight disease, replace chemical pesticides, create renewable energy, and more.



Paul is an internationally recognized mycologist and environmentalist and has been called a visionary. He believes that a deeper knowledge of fungi can solve many of the world's pollution problems, has coined the term “mycoremediation” to describe the application of fungi to remove toxins and restore soil, and sees their potential for curing diseases, reviving ecosystems, and even seeding other planets for life. Paul is the founder of Fungi Perfecti, a company specialized in the cultivation and sale of edible, exotic, and medicinal fungi and related products, and works toward harnessing the power of fungi, fungal mycelium, and their products for human health and improving the environment. In his 30+ years in mycology, Paul has also discovered new species of mushrooms and pioneered techniques for cultivating edible and medicinal mushrooms. Two of his books, *Growing Gourmet and Medicinal Mushrooms* and *The Mushroom Cultivator*, have been recognized as definitive texts of mushroom cultivation. His other books include *Psilocybe Mushrooms and Their Allies*, *Psilocybin Mushrooms of the World*, *MycoMedicinals®: an Informational Treatise on Mushrooms*, and *Mycelium Running: How Mushrooms Can Help Save the World*. Paul is also the author of many articles and scholarly papers and has won many awards for his work.

Would members with last names beginning with L–Z please bring a plate of refreshments to share after the meeting.

## AMANITA PHALLOIDES POISONING IN BRITISH COLUMBIA

Anne Leathem

*Mycophile*, Vancouver Myco. Soc., Dec. 2008

Last autumn a 68-year-old Korean woman found some wild mushrooms growing in a grassy area of Langley. She cooked a handful and ate them for dinner. Twelve hours later she started to vomit and had diarrhea. This continued for two days before she went to the hospital. She was quite dehydrated by this time, so she was rehydrated with intravenous fluids and given an anti-nauseant to help reduce the persistent vomiting. Blood tests showed her liver enzymes were greatly increased, indicating damage to the liver cells with enzymes leaking into the blood stream. For the next 12 days she was given N-acetylcysteine intravenously. This enhances oxygen delivery to liver tissue and helps regeneration. Levels of liver enzymes and measures of blood clotting ability increased greatly over the next few days. She required an infusion of blood clotting factors to prevent her from bleeding internally. (The liver normally manufactures these important compounds that prevent bleeding.) She developed abdominal pain and was given low doses of morphine to help control this. She was treated in the Intensive Care Unit for four days and then moved to a ward where she recuperated for 10 more days. During that time mild abdominal pain and occasional vomiting continued. Her liver enzymes gradually began to decrease although she developed deep jaundice. She was discharged after two weeks in the hospital.



The main toxins in *Amanita phalloides* are amatoxins which interfere with protein synthesis, causing cells to die. Death has occurred from liver and kidney failure 6–16 days after eating this mushroom. With intensive supportive care the adult mortality rate is 10–15 % and in children 30–50%. *Amanita phalloides* was first identified in B.C. in 1997 in Mission. It was found in Victoria in 1998, in Chilliwack in 2002, and now in Langley in 2008. There has been one human poisoning in Victoria, B.C.; this present case is the first in the lower mainland. We should all make an effort to be able to identify this mushroom and only consume easily identified edibles.

**AMANITA PHALLOIDES: HOW DID THEY GET HERE?**

**Jan Lindgren**

*MushRumors*, Ore. Myco. Soc., Mar./Apr. 2009

Newspapers and TV stations often have stories about identifying and destroying invasive plants and animals, but have you heard anything about unwanted or invasive fleshy fungi? In fact, several of our largest conservation groups hardly recognize the importance of fungi in the ecosystem.

Times may be changing. Currently, several major universities have staff and graduate students working on projects to determine the spread of ectomycorrhizal fungi to novel sites around the world. Some ectomycorrhizal fungi, such as truffles and *Pisolithus tinctorius*, have been used as inoculants on roots of seedling trees to increase their rate of growth or to produce an important commercial crop. These intentional plantings of trees and fungi have rapidly increased the spread of exotic fungi to new locations. These sites are now the focus of research by ecologists trying to learn what impact introduced fungi have on the habitat, and to determine if the fungi will, or have, become invasive.



A young *Amanita phalloides* emerging from its universal veil.

One of the fungi being studied is *Amanita phalloides*, which is prevalent in Clark County, Washington, and found in scattered locations from Southern California to British Columbia. It was not intentionally inoculated onto roots of any trees, but it is thought to have arrived in this country as an ectomycorrhizal fungus on the roots of *Corylus* spp. and other nut trees. Hazelnuts (also known as filberts), chestnuts, and possibly oak were brought to the Pacific Coast in the 1800s and early 1900s to establish family and commercial orchards. Trees were also imported for landscaping homes, parks, and cemeteries. It is not known if some trees

were grown from seed (nuts, acorns), but it is known that plants, with soil on their roots, were transported from Europe by ships to the Pacific Coast. Records show that in 1836 the Hudson's Bay Company's fort at Vancouver had a large orchard including nut trees. Also, a botanist, Henry Biddle, settled here in 1887 on 300 acres east of Vancouver and imported many plants for his large estate. It is near these early settlements that *Amanita phalloides* has been collected in recent years.

Researchers have not found any references in the literature to document the occurrence of *Amanita phalloides* and its association with filbert and chestnut trees, but that is where I have always found them in Oregon and southwest Washington. David Arora, in *Mushrooms Demystified*, states that in California *Amanita phalloides* has taken a fancy to the native oaks and spread like the plague. It is now the most abundant *Amanita* of the live oak

woodlands. Arora has also observed *A. phalloides* with other species of oak in southern Oregon and with conifers and hardwoods in eastern North America.

Doesn't it seem prudent that we, in the Pacific Northwest, should be paying more attention to this *Amanita* and to other mushrooms that are not native? We need to survey Oregon white oak habitat, old orchard sites, parks, and vacant land for this distinctive and potentially deadly mushroom. I am willing to coordinate a study this fall if others will help with a survey to locate novel sites. In the past 20 years there have been seven poisonings in the Portland area by *A. phalloides*, with four of the victims needing a liver transplant.

If you are interested in helping to survey local sites, contact Jan at [jlindg@pacifier.com](mailto:jlindg@pacifier.com).

*Amanita phalloides*, commonly known as the death cap, is thought to have arrived in this country as an ectomycorrhizal fungus on the roots of *Corylus* spp. (hazels) and other nut trees.



Wikimedia

**YAHOO DISCUSSION GROUP**

Want to stay in touch? The PSMS e-mail discussion group maintained by Yahoo Groups is an easy way to keep in contact with other members, circulate information about PSMS events, and post general mushroom information. To join, follow the directions on the PSMS website (<http://psms.org/members/index.html>) or on page 40 of the PSMS roster.

**SURVIVORS BANQUET PIX**



courtesy of John Goldman

## SPRING FIELD TRIPS

**Brian Luther**

**May 9**

Teanaway River Road, Kittitas Co.

**29 Pines Campground**

Elev.: 2500 ft



This great campground has been one of our standard field trip locations for collecting morels for many years. The morel collecting can be excellent in the entire area, depending on conditions and, of course, timing. It's located approximately 13 miles up the beautiful Teanaway River Road right next to the river. Just driving there with the local scenery of rural farms, horse and cattle pastures, and spectacular mountain views is an added benefit. It has no shelter, and so we always hope for clear

conditions, but it has rained on us maybe half the times we've been there, so be prepared with warm clothes and good coats. PSMS does have a brand new portable canopy, which will be useful here. One of the finest views of Mount Stuart—9415 ft. (solid granite and second highest nonvolcanic peak in WA State)—will be encountered while driving along the road to this campground.

If you really feel adventuresome and have allowed sufficient time, you can also continue to the end of the road at the Esmeralda Basin parking area 10 miles past 29 Pines. From there you can go on several day hikes (while collecting), including to Long's Pass or to Ingall's Lake. In particular, Long's Pass, in my opinion, has the most stunning views of Mt. Stuart and the continuous ridge of peaks above the Ingall's Creek Valley to the east that I've ever encountered. But you have to leave really early and plan well ahead for these hikes (both timewise and with supplies) as they take a few hours each way.

*Getting there:* Take I-90 over Snoqualmie Pass and continue to Cle Elum. Either go through the town of Cle Elum connecting with Hwy 97 or continue on I-90 to the Hwy 97 (Blewett Pass) turnoff, going north toward Blewett Pass. Approximately 4 to 6 miles (depending on which route you took) out of Cle Elum on Hwy. 97 watch for and take the Teanaway River Road on your left. Follow the main Teanaway River Road for approximately 13½ miles, not taking any offshoots. You know you're getting close when you reach the Fish Hatchery. The 29 Pines Campground is just beyond this on the left.

*Identifier:* Brian Luther

*Hosts:* Hildegard Hendrickson and Young Doug

**May 16**

Hwy. 97 near Blewett Pass, Kittitas Co.

**Swauk Campground**

Elev.: 3200 ft.

This is another one of our standard favorite locations for morel collecting. Accessible and virtually unlimited Forest Service logging roads are everywhere for potential morel collecting. There's a really nice shelter by the creek and lots of parking for day use, but it's first come, first served for the use of the shelter and the 23 camp sites, so we have to get there early. It would be good to have a host willing to go over on Friday to hold a camp site and reserve the shelter for our use on Saturday.

Again, this site is first come, first served. There is a camping and day use fee; a NW Trailhead Pass covers day use.



*Getting there:* Same directions as for 29 Pines Campground, only continue approximately 27 miles past Cle Elum on Hwy. 97 going toward Blewett Pass. The campground will be on your right. It's about four miles before Blewett Pass.

*Identifier:* Brian Luther

*Host:* Kitty Loceff



**May 22–25**

Eagle Creek Road, NE of Leavenworth

**Eagle Creek**

Elev.: 1800 ft.

Chelan Co. Free camping, RV parking (no hookups), and day use. This is private property, compliments of Coleman Leuthy and Brian Luther.

This site is in the foothills of the Entiat Mountains, in the Arid Transition Zone. You are welcome to come as early as Friday, May 22, and stay through Monday, the Memorial Day holiday. There is abundant camping in the fields or woods. You can tent camp, park your RV, or stay in town at any number of excellent motels. Our two favorites, with outstanding breakfasts included, are the Best Western Icicle Inn and the Bavarian Lodge, but you would have to reserve early.

Eagle Creek will be running, and you're welcome to hike along Brian's deep woodland creek trail, go up further into the woods all around on the property, or explore the US Forest Service land that surrounds us. We'll have specimen tables set up to display mushroom collections and wildflowers found, and if you have any questions, just ask. I'll do a mushroom table tour before or after the potluck, discussing all the collections that were brought in.

There are two toilets and a sink in the barn (running cold water only) and good well water from hose bibs all around. A couple of refrigerators will be turned on and available for your use. Be sure to bring folding camp chairs and portable tables if you have them and camp cooking appliances. Cars and RVs will have specific assigned spots, so please check with Coleman, Chris Leuthy, or Brian before parking. If you're coming with a large RV, please let me know ahead. There is one large central fire pit for a campfire by Coleman's cabin which I will have going most the time. Please do not start your own fire.

You are on your own for meals, except for the large Saturday potluck. Please be prepared to bring or make hors d'oeuvres and a substantial potluck contribution and bring extra wine, beer, etc., to share. There are two regular grocery stores in town: Safeway and Dan's, both close to Chumstick Hwy; gasoline is normally cheapest at the Safeway, if you have a Safeway Club Card. There are several nice bakeries in the area. Just ask if you want a recommendation.

Traditionally, we've had anywhere from 60 to 100 people show up for the weekend and as many as 75 stay for the Saturday potluck, with lots of food and drinks. There will be labeled recycle bins and trash bags, so please pay attention to these. Also please volunteer to help clean up and take some of the trash and recyclables back with you. Friendly, well behaved dogs are welcome.

There are many places you can go to look for morels or other fungi. To be completely within the regulations, everyone collecting in the surrounding National Forest should get a USFS collecting permit. These are free at the Leavenworth Ranger Station in town, but because of budget cuts, the Ranger Station is not open on Saturdays.

I will lead a group out to someplace scenic on Saturday doing collecting, wild flower and plant ID, and discussing geology, but only if road conditions permit.

*Hazards:* There can be ticks and there are rattlesnakes up in the rocky cliffs and steep hillsides of the canyon; however, they rarely venture down and won't bother you unless you specifically go looking for them. If you're collecting through a lot of brushy areas during the day, then have a buddy check you for ticks at the end of the day. Last year I was aware of only one young lady getting a tick on her. Coleman and his pets have only rarely gotten ticks over the years and I've never gotten a tick yet and I've been going there since the 1970s.

*Getting there:* Take your favorite route to Leavenworth, WA, either (1) Hwy. 2 over Stevens Pass to Leavenworth or (2) I-90 to Cle Elum and Hwy. 97 over Blewett Pass to Hwy. 2, then west to Leavenworth. Coming from Hwy. 2, go through Leavenworth to the stoplight toward the east end of town at Chumstick Hwy. (also called Chumstick Road). If you've gone to the Safeway, then you've gone too far east and missed the turn. Turn left (north) onto Chumstick Hwy. and proceed for 2.2 miles to Eagle Creek Road on your right. As a marker, Eagle Creek Road will be just  $\frac{1}{8}$  mile beyond the old BNSF Railroad trestle. Coming from Blewett Pass going west into Leavenworth, go past the Safeway store on your right, turn right at the next traffic light onto Chumstick Hwy., then follow the above directions. Follow Eagle Creek Road for  $4\frac{1}{3}$  miles until you see a large old barn on your right and the PSMS signs.

*Travel tips from Brian:* From Seattle the field trip site is about 114–120 miles (depending on where in Seattle you're leaving from) via the Stevens Pass route; this route uses considerably less gas than the I-90/Hwy. 97 route, not only because it's shorter, but because you have to go more slowly through some of the towns en route on Hwy. 2. By comparison, the site is around 145 miles from Seattle via I-90 and Hwy. 97; because I-90 has a speed limit of 70, you're using much more fuel as well. (We save more than a quarter of a tank taking Hwy. 2, compared to I-90.) There is no difference in travel time. If you're coming from areas quite a bit south of Seattle,



however, it may be wiser for you to take Hwy. 18 east to North Bend, then proceed on I-90 over Snoqualmie Pass, then Blewett Pass. A word to the wise: avoid returning to Seattle on Hwy. 2 in the afternoon on a Sunday or holiday because you could get stuck in *very* slow traffic from Gold Bar to Monroe.

*Identifier:* Brian Luther

*Host:* Lisa Ramey

## **DONATION ACKNOWLEDGEMENT     John Goldman**

The following people included donations with their 2009 membership renewals: Gene Anderson, Anthony Bastian, Dick & Candy Barnes, Bob Beattie & Trucey Myers, Lilly Chabra, Brenda Fong, Janice Humeniuk, Phillip Hyatt, Gunter & Trudi Kaldschmidt, Maggie Rogers, Michael Ruffra & Tom Rose, Ben & Marianne Sakamoto, Ed & Susan Sakai, Pamela Silimperi, Jennifer Slack.

The donations totaled \$475 and ranged from \$5–\$100; \$110 was designated for the Ben Woo Scholarship Fund and the balance goes into the general donation fund. PSMS would like to acknowledge them for their generosity and support of the club's mission.

All donations to PSMS are tax deductible.

## **NON-TOXIC FUNGUS MAY HOLD KEY TO AFLATOXIN CONTAMINATION**

**Ron Smith**

*Southwest Farm Press*, Mar. 2, 2009

*Licensed from Southwest Farm Press for republication in Spore Prints, newsletter of the Puget Sound Mycological Society. © 2009 Penton Media. All rights reserved. Not licensed for the Web.*

Drought can deliver a double whammy to dryland corn farmers in parts of Texas....

*The complete article is on the Web at <http://southwestfarmpress.com/grains/aflatoxin-contamination-0302/index.html>.*

*[Refer also to aflatoxin articles in Feb. and May 2006 Spore Prints.]*

## **STUDY SHOWS MUSHROOMS AND GREEN TEA REDUCE BREAST CANCER RISK** Sophia Keenan

<http://www.eneews20.com/>, Mar. 15, 2009

New research appearing in the *International Journal of Cancer* suggests that a diet high in mushrooms and green tea may considerably lower the risk of developing breast cancer in women. The study was performed on more than 2,000 Chinese women and found that the more fresh and dried mushrooms the women consumed, the lower their [breast cancer risk](#) was. The same link was established between breast cancer and green tea.

Breast cancer risk among Chinese women is known to be four to five times lower than risk of the disease among women in Western nations. Chinese traditional diets, particularly those including plenty of mushrooms and green tea, may help explain China's lower breast cancer incidence, said Dr. Min Zhang of the University of Western Australia in Perth, the study's lead researcher.

The study conducted in southeast China involved 1,009 breast cancer patients aged 20 and 87 years old and an equal number of healthy women of the same age. The researchers interviewed them about how often they ate certain foods and found that women who ate the freshest mushrooms, 10 grams or more daily, were roughly two thirds less likely to develop breast cancer than those who consumed no mushrooms. Moreover, those who ate 4 grams or more of dried mushrooms daily halved their cancer risk compared with women who ate no mushrooms.

Finally, women who ate mushrooms and also drank green tea every day had only 11 to 18 percent of the breast cancer risk of women who consumed neither.

Lab tests performed on mushrooms showed they have anti-tumor properties that stimulate the immune system's cancer defenses, while green tea contains important antioxidant compounds.



## MACAO RECALLS TAINTED ALLOPURINOL PILLS

various sources  
Mar. 7, 2009

MACAO (Xinhua) - The Health Bureau (SSM) of Macao Special Administrative Region (SAR) Saturday announced it requires all local medicine importers and exporters to recall all batches of the drug Allopurinol made by a Hong Kong drug maker after five patients in Hong Kong's Queen Mary Hospital died after taking it.

Hong Kong SAR's Department of Health has urged patients not to take Allopurinol produced by Europharm Laboratories due to its "suspected fungal contamination which may cause mucormycosis infection," according to a press statement released Friday by the department.

Mucormycosis is caused by spores of several different species of fungi in the class Phycomycetes. Microbiologist Yuen Kwok-yung was quoted by local media as saying that samples showed the drug contained about 10,000 spores of the fungus *Rhizopus microsporus*, which is 100 times the allowed standard.

Allopurinol is used primarily to treat hyperuricemia, which is an excess of uric acid in blood plasma, known commonly as gout. Leukemia patients undergoing chemotherapy also use the drug.

The four batches of tainted Allopurinol were not permitted to be imported into Macao, but, for safety reasons, medicine importers and exporters in Macao were required to recall all batches of the drug. The SSM also asked that all pharmacies, medical institutions, and private clinics not provide the drug to their patients and that patients taking the drug consult their doctors about a replacement.

## NORTH DAKOTA MEDICAL MYSTERY TRACED TO FUNGUS

Mila Koumpilova  
<http://www.inforum.com/>, Mar. 13, 2009

FARGO, ND - When Cori Scott was rushed to Fargo's Innovis Health on a January night, she didn't recognize her mother and fought the staff. Caught in four-point restraints, she slipped into a comatose state.

The nightmarish admission followed half a dozen area hospital visits since a September trip to California's San Joaquin Valley. Each time, doctors failed to figure out why the 37-year-old Fargo native's health steadily deteriorated.

In the following days, Innovis infection disease specialist Roberto Patron raced to diagnose Scott's mysterious illness. Family members had flocked to the Innovis intensive care unit from both coasts, and their hope fueled his resolve, even as his team broached the prospect of pulling Scott off life support. "She was much closer to being dead than being alive," Patron said. "But the key here is that nobody wanted to give up."

Then, the lab technician working on Scott's spinal tap culture found traces of a fungus. The team was about to dismiss the rare find as contamination.

But Patron was suspicious, so he arranged to have Scott's spinal tap culture tested at the Mayo Clinic in Rochester, Minn. Days later, he got a call back: Scott had coccidioidomycosis, or valley fever.

Valley fever is caused by a fungus, *Coccidioides immitis*, that grows in the desert soils of California's San Joaquin Valley and

southern Arizona. When farming or wind disrupts the soil, its spores can be inhaled. Most of the roughly 100,000 people infected annually experience flu-like symptoms. In some cases, the infection can spread to the lungs or skin. In less than 1 percent of infections, it can travel to the brain.

The diagnosis was bad news, said Patron: "When you review the literature of fungus in the brain, everything you get back says, 'Dead. Dead. Dead.'"

Still, Patron decided to go all-out. Staff installed a port through which anti-fungal medication flowed directly to Scott's brain.

Scott's family kept constant vigil at the hospital. By mid-February, Scott's relatives swore they saw her move. One day, when a nurse entered, Scott said weakly, "What's up?"

Gradually, family and friends started seeing glimpses of the feisty, wry Scott they know. Last week, with the help of a walker and a couple of hospital staff members, Scott took her first steps.

After almost two months at Innovis, Scott moved to Fargo's Villa Maria, a long-term care facility, earlier this week. Patron thinks she might continue to improve.

"She still has a long row to hoe," said Dura, Scott's mom. "But she's a fighter. She'll pull through."

## FICTION FOR MUSHROOMERS Maggie Iadanza

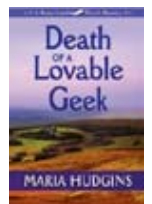
*MushRumors*, Ore. Myco. Soc., Mar./Apr. 2009

I did a lot of reading this winter. There was nothing like a "cuppa" tea, a glowing fire, and a good book when the weather was miserable. However, I have to admit that not all my selections were great literature. My choices included a number of light mysteries.

One particular book, *A Healthy Place to Die* by Peter King is part of a series dubbed the "Gourmet Detective Mysteries." In this book, when the "Gourmet Detective" investigates a series of murders at a luxurious health spa in Switzerland, the trail leads back to a murder at the Bell' Aurora restaurant in New York state. Hang in there, this does relate to mushrooms. The murder weapon a dish made with poisonous mushrooms.

Then I remembered... years ago I read another book, a Goldy Bear Culinary Mystery by Diane Mott Davidson, which included a potluck dish containing poisonous mushrooms. There seemed to be a pattern here—murder by mushrooms. Then I was on a mission, searching the Web for other works of fiction in which mushrooms played a key role.

I spotted another one, *Murder by Mushroom* by Virginia Smith. Then I found it, the ultimate fungal mystery: *Death of a Lovable Geek* by Maria Hudgins (A Dotsy Lamb Travel Mystery). It is more than just murder by an unidentified mushroom. Set at the site of an archeological dig at Dunlaggen Castle in the Scottish highlands, the murder victim, Dylan "Froggy" Quale, is a mushroom expert! OK, Hudgins may characterize him as a "lovable geek" but he is still a fungi person. Then John Sinclair, brother of the castle owner, also dies, the victim of mushroom poisoning. It gets better. The murders may be connected to the hallucinatory mushroom party at the camp site next to the dig?



*This is a book I have to read! Darn, it's brand new (2008) and only available as a pricey hardback. Check your local library. You could get lucky.*

## MORCHELLA ESCULENTA LESSENS GRAPEFRUIT/DRUG INTERACTION

ScienceDaily.com, Feb. 5, 2009

Scientists in Florida report that adding an edible fungus to grapefruit juice may help to reduce the serious side effects that can occur when people taking certain prescription drugs drink grapefruit juice

In the study, Kyung Myung and colleagues explain that furanocoumarins (FCs)—chemicals found in grapefruit and some other citrus—block a key enzyme critical for metabolizing, or breaking down, certain prescription medications. This “grapefruit/drug” interaction—sometimes called the “grapefruit effect”—can turn normal drug doses into toxic overdoses. Researchers have tried to remove FCs using chemical, physical, and microbiological methods. Myung and colleagues, for example, had previously discovered that an inedible fungus can be used to remove most of the FCs from grapefruit juice.

Now they report that the edible fungus *Morchella esculenta*, which is from the same major fungal group as the previously tested inedible fungus, removed most of the furanocoumarins from the grapefruit juice. It also reduced grapefruit juice’s inhibition of the enzyme by 60 percent.

Dried *M. esculenta* also worked, leading the researchers to suggest that it could be useful in removing the compound from grapefruit juice and identifying the specific components in the fungi that bind to furanocoumarins.

### THANK YOU

John Goldman

Upon receiving the Golden Mushroom award at the Survivor’s Banquet, I was so surprised that words failed me. I can’t remember the last time I was virtually speechless. All I remember saying was “thank you and I’m honored.”

What I would have like to have said is that I have gotten much more than I’ve given. The friendships and camaraderie are special and participating in club events has been extremely enjoyable. I’ve been motivated to participate and volunteer by the examples of others. In my specific role as Treasurer, I’ve gotten a lot of satisfaction paying attention to the club’s finances and influencing business decisions. It is an honor to be among the prior recipients. Thank you very much for the award.”

### FRIED PLEUROTUS IN BREAD CRUMBS

<http://fungi.co.za/recipes.html>

#### Ingredients

16 large oyster mushrooms, cleaned  
Plain flour, for coating  
2 medium eggs, beaten  
1 garlic clove, very finely chopped  
1 tbs finely chopped fresh parsley  
Olive oil, for frying  
Dried bread crumbs, for coating  
1 lemon, quartered  
Salt and pepper



#### Method:

Take the mushrooms and, one-by-one, dip them into the flour, shaking off any excess. Season the beaten egg and mix in the garlic and parsley. Pour 1 cm (½ in.) of olive oil into a large shallow pan over heat. Dip the mushrooms into the egg mixture first, then the bread crumbs; then fry in the hot oil until golden on both sides. Serve immediately with a lemon quarter.

*One-quarter teaspoon of healthy soil can contain: 50 nematodes, 62,000 algae, 72,000 amoebae, 111,000 fungi, 2,9200,000 actinomycetes, and 25,280,000 bacteria.*

– Brandon McCray, *The News Carrier*, Athens, Alabama



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

RETURN SERVICE REQUESTED