

# SPORE PRINTS



BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY

Number 410

March 2005

## PRESIDENT'S MESSAGE

Ron Post

It's nearly spring! And we are all anticipating a fine 2005 mushrooming experience that includes a spring foray with Brian Luther as foray mycologist. Many thanks to Brian for his participation and to Vice-President Patrice Benson for her organization of the event.

Also, a good way to get a start on the season would be to attend the PSMS Survivor's Banquet and annual meeting on Saturday, March 12. (NOTE: THERE IS NO TUESDAY NIGHT MEETING THIS MONTH.) Socializing begins at 6:30 and the potluck starts about 7:00 PM. The entertainment is scheduled to begin after the meal. We have applied for a liquor permit, so you may bring whatever you want to drink. Several bottles of wine will be available for a toast to the memory of George Rafanelli, so if you were at last year's banquet and received a special wine glass, bring that too!

Beginning in April, the PSMS library will be open between 5 PM and 7:30 PM before every membership meeting (and possibly some hours during the summer). It's taken a while to arrange this re-opening. I know many of you want to make use of our valuable scientific, literary, microscope, and video resource (as I did the first few years of my membership). And you will be able to use the club's new laptop computer and printer for club business or exploring the uses of Ian Gibson's Matchmaker CD. At future membership meetings we'll distribute printed guidelines for using the library. My deep appreciation goes out to all PSMS members who have donated to our library collection and its upkeep.

And of course, my sincere thanks to the trustees who are ending their terms after this month. I've always aspired to being part of a collaborative effort such as PSMS, and being in the middle of the fray as your president has given me great pleasure.

I'm also excited about the new board members who will be inducted at the banquet. They will be introduced along with this year's recipient of the Golden Mushroom Award and will begin serving their two-year terms in April.

If you haven't heard, the annual wild mushroom exhibit will again be held at Sand Point/Magnuson Park. The date is now set for October 22-23. I will be chairing it this year, and if you are interested in working on it please contact me at (206) 527-2996 or ronp46@hotmail.com.

A few other things: I gave a summary of results from the membership survey to our education chair, Colin Meyer, and vice-president, Patrice Benson. Call either of them to give your views on our educational program or discuss the survey. And if you'd like to attend the PSMS picnic this summer (in late July at Seward Park), please do let me know. If there's too little interest, it may be canceled this year.

**Survivor's Banquet March 12**  
*Banchetto Italiano*



## BOOK REVIEW

Dick Sieger

Here's a little gem of a field guide: *101 Common Mosses, Liverworts & Lichens of the Olympic Peninsula*, by Martin Hutten, Karen Hutten, and Andrea Woodward (funded by Cannon USA, the National Park Foundation, US Geological Survey, Olympic National Park, and the Northwest Interpretive Association; \$6.95). Andrea Woodward is a USGS ecologist. Karen and Martin Hutten work, respectively, with bryophytes and lichens for Olympic National Park and teach these subjects at Peninsula College in Port Angeles.

This pocket size book is spiral bound and durable. Testing a heavy coated page for resistance to normal field conditions, I spilled Sancerre on it. The wine beaded up and wiped away without soaking in.

The book is too small to have useful keys, so species are arranged by the substrate on which they are found. The sections are marked with color-coded tabs. Included are a map of the peninsula showing elevations, an index, a glossary, and a brief introduction which tells about the ecology of bryophytes and lichens and how to look for them.

Each page is devoted to one species and includes a fine color photo, a description, the scientific and common names, the substrate, the size, the range in elevation, and the difference from look-alikes which are sometimes illustrated.

The best part is the language used in the descriptions. For example:

*Lepidozia reptans* is common in moist forest on well-decayed stumps and logs. This small, bright green leafy liverwort is easily recognized by the way the side branches come off at right angles from the main branch. The leaves are notched halfway to the leaf base, resembling little hands with three or four short fingers (hand lens). Leaves overlap each other like dominoes falling toward the tip (incubous). Tiny notched underleaves line the underside of the stem.

and

Affectionately called "fairy barf", this crustose lichen is visible as a smooth, light green coating on logs and moss at low to mid elevations. The color pales to off-white upon drying. Apothecia are light pink and help to differentiate *Icmadophila ericetorum* from similar looking crustose lichens. Unfortunately, the fairies are seldom seen, because they are embarrassed by their sensitive stomachs.



*Icmadophila ericetorum*,  
Fairy Barf

# Spore Prints

is published monthly, September through June by the  
**PUGET SOUND MYCOLOGICAL SOCIETY**

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Annual dues \$25; full-time students \$15

## CALENDAR

March 12 Survivor's Banquet and Annual Meeting,  
6:30 PM, CUH

March 14 Board Meeting, 7:30 PM, CUH

March 22 *Spore Prints* Deadline

March 26 MacDonald Park Field Trip

April 2 Flaming Geyser Field Trip

## BOARD NEWS

**Dennis Oliver**

The Valentine edition of the PSMS board meeting was short but well attended. The Survivor's Banquet March 12 will be a potluck with an Italian theme to honor George Rafanelli. All are encouraged to send in their reservations early. Patrice Benson gave a report on the Spring Foray, which will also honor George Rafanelli by bearing his name. The date has been set for May 13–15 at the Cispus Environmental Center. Brian Luther has graciously agreed to be the foray mycologist. A number of workshops have been planned: microscopy with Judy Rogers, lichens with Dr. Katie Glew, and dyeing with mushrooms with Alissa Allen. As with all things there is a season, and the board began discussing next year's mushroom show. The show will be at Sand Point/Magnuson Park, the same location as the past few years, over the weekend of October 23–24.

We are sad to report that **John Kunz** (1928–2005) died Friday, February 4, of a heart attack. John served as a PSMS Vice-President and wrote and kept the database for the first computerized PSMS membership list. Our sympathy to his wife, Aino, and children, David and Tina.

## MEMBERSHIP MEETING

This month is the **PSMS Annual Meeting and Survivor's Banquet**, Saturday, March 12, at the Center for Urban Horticulture. Festivities begin at 6:30 PM. New board members and officers will be announced, as well as the winner of the Golden Mushroom Award. This year's banquet is a potluck and the theme is Banchetto Italiano, so please bring a favorite Italian dish in one of the following four categories: appetizer, main dish, salad, or dessert.

**Dress:** The dress code is elegant to casual. This is a dress-up opportunity; a chance to wear your favorite mushroom accessories, come in costume—whatever you feel like.

**Price:** Please send **\$7.50** per person to Marian Maxwell, 14269 145th Place SE, Renton, WA 98059 and include the category of the dish you will be contributing. Please do not mail cash. Make checks payable to PSMS.

PSMS will supply wine for a memorial toast to George Rafanelli. There will also be a raffle basket with proceeds benefiting the Ben Woo Scholarship fund.

If you would like to help with decorations, setup, cleanup, or raffle ticket sales, call Marian Maxwell at (425) 235-8557 or e-mail [marianmaxwell@hotmail.com](mailto:marianmaxwell@hotmail.com).



*Think Italian!*

## UPCOMING FIELD TRIPS

Spring is almost here, and we have again scheduled two early field trips to introduce mycological eager beavers to the early morel, *Verpa bohemica*. Mark your calendars and look forward to collecting mushrooms, swapping tales over our usual creatively delicious potluck dishes, and benefiting from the expertise of our intrepid identifier(s) and the convivial company of fellow fungi seekers! **Note:** All Washington State parks require a \$5.00 fee for each car parked within the park.

### March 26

### MacDonald County Park (30 miles east of Seattle)

To start off the season, we will visit MacDonald Park, on the Tolt River about ½ mile south of the town of Carnation in King County. Enter the park on N.E. 40th Street from State Highway 203. Watch for PSMS signs on the corner and use the day-use parking lot. We will meet at the main shelter across the suspension bridge for a general introduction to mushroom hunting. Then we will break into small groups and go out to gather specimens. Identifiers should be available around 10:30 AM. There should be *Verpa bohemica* under the cottonwoods in the surrounding area. We'll meet rain or shine. You may want to bring lunch.

### April 2

### Flaming Geyser State Park (elev. 300 ft, 35 miles southeast of Seattle)

From I-405, take State Highway 169 heading east (Black Diamond/Maple Valley Highway) and drive through Black Diamond. Drive 3 miles south of Black Diamond and turn right onto Green Valley Rd. (You should turn off before you reach Enumclaw.) Drive about 3.5 miles and turn left onto Flaming Geyser Road. The park runs along the Green River. Look for the PSMS signs at a picnic shelter close to this entrance.

## FIELD TRIP TIPS

Agnes Sieger

For those who joined PSMS at the Annual Exhibit in October, I thought it might be nice to review some basic mushrooming tips regarding the upcoming spring field trips.

**Apparel:** The Pacific Northwest is wet. Wear warm clothing, preferably in layers, and waterproof shoes or boots and bring your rain gear. Pacific Northwest vegetation is usually thick, and the sky is frequently overcast. Bring a compass and whistle and a map of the area—and remember to use them.



**Mushrooming Gear:** You will need a wide-bottomed container for your mushrooms. This can be a basket or bucket. Do not use plastic sacks; they tend to condense moisture and turn mushrooms into mush. You will need a sturdy knife suitable for cutting and prying and perhaps a soft brush to clean up the edibles; some people even bring a small garden trowel for digging. To protect individual specimens for identification, take some wax paper sandwich bags or aluminum foil.

**Collecting:** If you know you have a good edible, cut off the stem cleanly and brush off as much soil and debris as possible. Store like species in a rigid container where they won't get crushed or pick up more dirt. Try to keep the mushrooms cool and dry, and process them as soon as possible.

**Field Trip Format:** Most PSMS field trips are planned for Saturdays, since this is the most convenient time for many people. Almost all field trips have hosts, who set up by 9:00 AM on Saturday with hot coffee and snacks. The hosts greet and sign in members, relay general tips on what is up and where to find it, and introduce newcomers to more experienced members. They also have a map of the area. After signing in, field trip participants gather their gear and head for their favorite hunting grounds. In the afternoon, they come back to the campsite to identify their finds, compare notes, and prepare for the potluck.

**Potluck:** The potluck starts at 4:00 PM (sometimes later when the days are longer in the summer). You need to bring your own eating utensils and beverage and a dish to contribute to the table. This can be an appetizer, a salad, a main dish, or a dessert. The food is usually delicious, and the potluck is a great time to swap tales, collect recipes, and share mushroom information with friends old and new.



Most of the commercially valuable truffle species in Europe occur in the south. The exception is *Tuber aestivum*, the Burgundy Truffle, sometimes termed the Summer Truffle. Despite its common names, *T. aestivum* occurs broadly in Europe, not just Burgundy, and fruits more abundantly in autumn and early winter than in summer. *T. aestivum* was thought to reach its northernmost distribution in Denmark. A few years ago, however, it was discovered some 300 miles northeast of Denmark in Gotland and Öland, the large Swedish islands in the Baltic Sea.

Christina had been studying the taxonomy, distribution, and ecology of *T. aestivum* in Gotland as part of her Ph.D. research under the supervision of Dr. Eric Danell at the University of Uppsala. With the aid of Biscuit, Christina and Eric discovered that *T. aestivum* is abundant in Gotland, although it has yet to be found on the Swedish mainland. (For her help, Biscuit also deserved an advanced degree. However, she was content to settle for tasty rewards for every truffle found and the heart-felt affection of Christina.)

I had come to Sweden as a member of Christina's Ph.D. committee to participate in her thesis defense at the University of Uppsala. Why was a professor from Oregon State University on the thesis committee of a Ph.D. student in Sweden? It all started a few years ago when I became acquainted with Dr. Danell when he spent a sabbatical at Oregon State University. He, in turn, had been the student of Dr. Torgny Unestam, who earlier had spent a sabbatical there as well.

After Christina successfully defended her thesis a few days before our visit to Gotland, a banquet was held in her honor. She had visited Gotland in advance and brought back enough *T. aestivum* to feed over 100 banqueters. This is not as huge a task as it may sound, because the truffle aroma is extremely intense—a little goes a long way.

Truffles are related to mushrooms, but they have evolved to fruit below ground. To disperse their spores, they produce strong aromas at maturity, signals to animals: "Find me and eat me!" The animal digests the truffle tissues, but the spores pass through the digestive tract as inoculum wherever the animal deposits them. They get washed into the soil by rain or melting snow or are carried down by dung beetles or other insects. There they await growth of tree roots, germinate, and then form mycorrhizae, the beneficial fungus-root symbiosis.

No one has succeeded in producing truffles without the mycorrhizal symbiosis with tree roots, so developing a commercial crop requires knowledge of their ecology and distribution and a means to find them. Christina has developed the knowledge of truffles already being put to use by the citizens of Gotland, and trained dogs such as Biscuit provide the way to find them. Now several Gotland farmers supplement their income by hunting *T. aestivum* and selling them to high-scale restaurants in Stockholm and other Swedish cities.

The Perigord truffle of southern Europe, *Tuber melanosporum*, and the Italian white truffle, *Tuber magnatum*, bring higher prices in the market, but the Swedes are well pleased that now they produce their own delectables.

I'll bet you readers didn't know, by the way, that the University of Uppsala is the world's oldest, continuously operating university, dating back at least to the 15th Century. Among its distinguished faculty of years gone by are Carl Linnaeus, known as the father of modern botany, Elias Fries, the father of modern mycology, and Anders Celsius, who developed the temperature scale that bears his name. Christina Wedén is a scientific descendent of that distinguished tradition.

## TRUFFLES UNDER SNOW

Prof. Jim Trappe

Department of Forest Science,  
Oregon State University

Biscuit ran briskly back and forth over the 4 inches of snow in the oak-hazel woods, her nose to the ground. Wagging her tail eagerly, she suddenly stopped and started digging at the edge of a hazel clump. A Springer Spaniel, Biscuit had been trained by her owner, Dr. Christina Wedén, to signal a truffle find by digging. And yes, Biscuit detected a fine specimen hidden by 4 inches of snow and 2 inches of soil! Having been on truffle hunts with trained dogs in France, Italy, and Spain, I knew their ability to find these treasures buried in several inches of soil, but snow? That had never occurred to me.



## MUSHROOM OF THE MONTH

Dick Sieger

AhaBlip is an active mushroomer. She walks the length of Sequim's main street in the Irrigation Festival Parade leading her Chihuahua, Ditto, who pulls a tiny cart. AhaBlip was reared by her pioneering white family on the Olympic Peninsula's remote Upper Hoh River early in the 20th Century. Her name was given to her by Indian neighbors who couldn't pronounce her English name, Elsa Schmidt.

AhaBlip is an artist. Her brush is a stylus and her canvas the Artist's Conk, *Ganoderma applanatum*. *G. applanatum* is a perennial shelving polypore with a property unique among Northwest polypores: Its pale underside stains brown readily when touched. Working with a fresh conk, AhaBlip etches exquisite drawings that become permanent when the conk dries. Four of them grace our office.

*G. applanatum* has a wide distribution extending to the tropics. It and *Fomitopsis pinicola* are the Northwest's most common perennial polypores. *G. applanatum* is an active slash recycler and grows on all manner of hardwoods and conifers, living and dead. It consumes lignin, causing a white rot. In our home hangs a Pokmis mask carved by the Makah artist Micah Vogel. Instead of painting it the traditional white, the artist relied on white mottling left by *G. applanatum* in Alder.

Perennial polypores like *G. applanatum* produce their spores in tubes, much like boletes. Each year, a new tube layer grows over the old one so one can readily determine the conk's age by counting the layers. The weakened wood on which the conk is growing may shift or fall to the forest floor. If the conk is more than a few degrees out of plumb, spores catch on the sides of its tubes instead of falling free. When that happens, the conk ceases spore production until it can grow a new fertile layer that is once again plumb. That's why you may see a fallen snag on which a conk seems to be bent 90°.

*G. applanatum* is a semicircular shelf recognized by its white or cream colored margin, white or creamy underside that stains brown quickly, and unpolished bumpy brown to blackish upper surface with annular ridges. The top appears to be covered by cocoa; some of the billions of spores that it releases daily are carried there by air currents. The usual width is 2 to 20 inches, but some well fed old-timers become much larger.

Avoid killing perennial polypores. When it's necessary to have a voucher specimen, a wedge should suffice. Left alone, these handsome fungi will beautify our forests for decades.



*Ganoderma applanatum*, Artist's Conk, adorned with a scene by artist AhaBlip, aka Elsa Schmidt

## INFESTED BY THE CATERPILLAR FUNGUS: A ONCE IN A LIFETIME EXPERIENCE Daniel Winkler

For three days we had been driving on this muddy track known as the Sichuan-Tibet "Highway." Peaks of freshly snowcapped mountains were enshrouded by thick clouds, and heavy loads of rain were regularly released by the monsoon clouds, causing the already bad roads to disintegrate even further. The old Beijing Jeep broke down frequently, one time stranding us in the middle of a flooded creek. Luckily we were able to locate a truck which pulled us out, although not without exacting a small fortune from the Tibetan foresters whom I accompanied.

At first I was annoyed when the car broke down or got stuck. Soon I discovered that it was a great chance to explore the surroundings. In Bachen County I observed a Tibetan man very slowly walking along a green hillside while staring at the ground, paying little attention to his herd of yaks. Suddenly the nomad started digging. Thinking he might be digging medicinal plants I got curious. I rushed up the slope, but had to slow down quickly. Although I had been in Tibet for a week, hiking uphill at 14,500 feet gave me good insight into how old age will feel. My rest gave me the chance to marvel at crimson *Incarvilleas*, purple *Pedicularis*, and bright yellow Himalayan Poppies.



Yartsa hunter

Seemingly, the nomad had dug up two roots. When he realized that I was interested in his find, he proudly showed them and started to clean them for me. As he carefully peeled off the black topsoil encapsulating the lower half, the body of a pinky-sized caterpillar became visible. I never had seen such a life form before and had no idea what it was. It definitely wasn't a type of plant. Yet out of its head, just above its eyes, grew a long brown stalk, which my Tibetan co-worker, Pema Gyatso, called "grass."

Pema explained that I had seen my first "Yartsa gunbu," which means "summer grass-winter worm" in Tibetan. It turned out he knew quite a bit about it, having collected them to help augment his family's meager income. "Bu" (worm), as he called it for short, start growing a "grass" above ground when spring comes to the grasslands and can be found for about a month. Tibetan herders collect them all over the grasslands and export them down to China, where they are known in traditional Chinese medicine as "Dong chong xia cao" ("chongcao" for short), which is a literal translation of the Tibetan.



Back home in July 1997, I learned that the caterpillar, the larva of a ghost moth, had been infested by the ascomycete *Cordyceps sinensis*, an entomophagous (insect-eating) or entomogenous (insect-originating) flask fungus in the Family Clavicipitaceae. The best known member of this family is *Claviceps purpurea*, wheat ergot, infamous for causing ergotism, aka St. Anthony's fire, with symptoms of vomiting,



Yartsa hunters' camp

diarrhea, hallucinations, and possibly lethal gangrene. And while consuming *Cordyceps sinensis* will not provide any of these symptoms, eating a caterpillar fungus specimen might well cause disgusted retching in some faint western souls, owing to a lack of culinary appreciation of insect delicacies.

However, it is not only innocent ghost moths who become infested by *Cordyceps*, for apparently I too suffered an infestation. I won't claim that it is only *Cordyceps* that forces me to return to Tibet again and again, as it forces the moribund caterpillar to move to the place of its last rest, but my curiosity got seriously stoked. There seems to be no end to discovery when looking into such an elusive and complex—bordering on esoteric—organism endemic to one of the world's most remote areas.



Yartsa market in Litang, Tibet

As it turns out, the sprout that grows out of the caterpillar is the ascomycete's stroma, the fruiting body that is covered with spore-producing cells (asci) on its upper end. Upping the ante, each spore divides itself into 60 fertile propagules, an adaptation to increase the odds of the fungal "spore" actually making contact with its host larva.

"Host" might be too innocuous a term to describe this abusive and fatal relationship. For once the "guest" has made itself comfortable, having entered through orifices or attached itself to the outside, it starts feeding on the host. At first the "guest" dines respectfully on nonvital organs. As a last rite of their union,

*Cordyceps sinensis* apparently makes the larva crawl into a position ideal for fungal spore dispersal—essentially taking the host on one last outing before immobilizing it for good. Infected larvae will wait out the harsh but arid Tibetan winter close to the surface, while the less fungally "accommodating" larvae will hibernate deep down in the roots of *Polygonum* knotweed, *Kobresia* sedges, or *Astragalus* milk-vetch, to mention a few of its favorite fodder plants.

Safely rooted, a healthy caterpillar might hibernate, daydreaming about metamorphosing into a beautiful moth fluttering for a mere few days above flower-studded meadows in hopes of scenting out a mate willing to engage in the eternal dance of genders, after three to five years spent mostly as a lowly larva.

However, by the time spring kicks in, a fungally compromised larva is not much of an insect anymore. Although its remaining exoskeleton gives the illusion of a continued caterpillar existence, by then it functions solely as a fungal fodder fridge, ready to be completely raided when warmer temperatures allow the fungus to complete its hostile takeover. Once the fungus has replaced the complete interior of the larvae with its hyphae, it will grow its sporocarp—what Tibetans call a blade of "grass"—right out of the caterpillar's fontanel.

The fruiting body will grow up to 12 cm above the ground in order to have its propagules dispersed by the wind to land on yet another larva of the 30 or so species of ghost moth (*Thitarodes*, formerly *Hepialus*) endemic to the Tibetan Plateau. The distribution of *Cordyceps sinensis* is thus completely dependent on the occurrence of the ghost moths. Both organisms are endemic to grassland ecosystems of the Tibetan Plateau and adjacent areas, between altitudes of 9,000 and 16,500 ft, usually within a range of 1,500 ft around the tree line.

After my first encounter, I kept running into *Cordyceps* while consulting for western nongovernmental organizations (NGOs) on reforestation, nontimber forest products, and rural income generation in Tibetan areas. Leaving my guesthouse one morning in Litang, in May 1999, I had to literally watch my steps. Sidewalks, and even some sections of side streets, were covered with patches of thousands of caterpillar fungi spread out for drying. You definitely wouldn't want to step on them, since they lose a lot of value if the sporocarp breaks off the caterpillar.

There was a lot of money lying on the ground. In 1999, one specimen fetched from 1 to 5 Yuan (¥8.2=\$1), the bigger the better. In 2004, a large specimen fetched up to ¥10, prices having been driven up by a widespread assumption that "chongcao" would help against SARS. Often there were several pounds of "bu" spread out on the ground, with one pound consisting of 200 to 2000 fungi. (Weight depends partly on size, but mostly on moisture content.)



During the Yartsa Gunbu season, the main street in Litang is hustling and bustling with deals, sellers mingling with buyers flashing their scales. Nomads and farmers arrive hourly from the hinterland, selling off their harvest, be it a handful from a day of searching or bagfuls from weeks of col-

cont. on page 6

Tray of Yartsa Gunbu in market



## ***Cordyceps*, cont. from page 5**

lecting with the entire family. The scene is male-dominated, but there are a few women, attracting mostly women sellers. Middlemen buy up the Yartsa and pass it on to big buyers, many of them representatives of phytopharma companies in Chinese coastal areas. Millions of Yuan are exchanged for Yartsa. These are substantial amounts when you take into account that the annual rural income is below ¥1000 (\$122). However, these deals are done in back rooms or homes.

One night I found myself in the home of a Litang party official. His house was selected since it was a beautiful traditional Tibetan house. His no less beautiful daughter and her friend had been hired by the county government as the official hostesses, a completely honorable function. After a welcome song (apparently a Tibetan melody recycled with Mandarin lyrics), I was served an opulent meal with all Tibetan specialties: deep-fried Tibetan bread, momos (noodle dumplings), dried yak meat (“please cut yourself a piece out of the hind leg”), and, for dessert, troma (tiny silverweed tubers with a sweet potato taste floating in only slightly rancid melted butter). All this was accompanied by plenty of drink, and it was there I ran unexpectedly into caterpillar fungus again.

I had yet to learn to resist the pressure to drink heavily at these functions. This particular evening turned out to culminate in imbibing barley schnapps enhanced by a floating caterpillar. I felt brave enough simply drinking the Yartsa-infused schnapps, but I really started sweating and squirming (a bit like a bu worm myself) as I was offered that thing to eat. All eyes were fixed on the guest of honor, while my eyes were fixed on that alcohol-marinated caterpillar. I tried to insist that this was too much of an honor and the generous host should enjoy this delicacy, but there was no way out. Finally I closed my eyes, invoked the benefits of all the schnapps that permeated my digestive system (as well as the worm) and put it in my mouth. Unfortunately the caterpillar fungus was too big to swallow and I had to chew it.

It turns out *Cordyceps sinensis* has a pleasant fungal flavor. But maybe that’s how larvae taste in the first place?

*Daniel Winkler, a PSMS member since 1996, lives in Kirkland, WA. Trained as a geographer and ecologist, he works as a researcher and NGO consultant on environmental issues of the Tibetan Plateau and Himalayas. He has published on forest ecology, forestry, traditional land-use practices, and medicinal plants and mushrooms. His photo essays and articles are also published on his web pages (www.danielwinkler.com).*

## **MUSHROOM-RELATED EVENTS**

**25th Anniversary Telluride Mushroom Festival:** Forays, workshops, chefs’ cook-off, and parade, Telluride, Colorado, August 18–21, 2005. Write Emanuel Salzman, P.O. Box 480503, Denver, Colorado, 80248-0503 or phone (303) 296-9359 or (303) 292-1524.

**Mushroom Forays in Mexico:** (1) *Copper Canyon Mushroom Foray*, July 24–31, in the Bolete-rich Tarahumara mountains of Chihuahua. (2) *Tlaxcala Mushroom Foray*, August 28–September 4, in the central highlands. See [www.mexmush.com](http://www.mexmush.com) for details.

**Regional NAMA Foray:** September 29–October 2, Wildacres, NC. Information: Allein Stanley, [wildacres@namyco.org](mailto:wildacres@namyco.org).

**Third International Medicinal Mushroom Conference:** October 12–17, Port Townsend, WA. For information and registration see [www.fungi.com/immc/index.html](http://www.fungi.com/immc/index.html).

**11th Annual Samuel Ristich Foray:** August 11–14, Penn State Mount Alto College, Mount Alto, PA. Visit [www.nemf.org/files/20204/2004](http://www.nemf.org/files/20204/2004), for complete information and registration.

**2005 Boyne City Morel Mushroom Festival:** May 12–15, Boyne City, Michigan. For information visit [www.morelfest.com](http://www.morelfest.com).

## **SAFETY OF CHINESE MUSHROOMS QUESTIONED**

**Chiu Yu-Tzu**

*Taipei Times*, Dec. 7, 2004, via *The Sporeprint*,  
L.A. Myco. Soc., February 2005

Nearly 300 tons of dry oak mushrooms (shiitake) grown in China have been imported into Taiwan from a third country in the last three years, and health authorities should tackle the health risk, a Taiwan legislator said.

Democratic Progressive Party Legislator Lai Ching-te yesterday released customs records of imported dried mushrooms from 2002 to this year, saying they were inconsistent with those of exporters. In the past three years, customs documents show that Taiwan has imported 252 tons of dry mushrooms from Japan, but records there indicate only 15 tons were exported. Similarly, during the same period, Taiwan imported 64 tons of the mushroom from South Korea, but export records there account for only 18 tons.

“We suspect that Chinese oak mushrooms make up the gaps,” Lai said. He went on to state that lax regulations in China made the quality of Chinese agricultural products inferior to those of other countries and asked that Taiwanese health authorities tackle the risk that the undocumented mushrooms might pose to consumers’ health.

China’s food safety regulations are far lower than those of its neighbors. Farmers there are permitted to use preservatives such as formaldehyde and sulfur dioxide to keep mushrooms pleasing to the eye, but these chemicals pose a threat to human health.

Lai noted that two years ago Japan detected residues of toxic dichlorvos at levels 28 times higher than what is acceptable on produce imported from China. He added that Singapore and Hong Kong also reported exceedingly high levels of heavy metals and pesticides in mushrooms imported from China.

Responding to Lai’s claims, officials at the Department of Health said regular examinations of imported items are carried out by the Bureau of Standards, Metrology and Inspection under the Ministry of Economic Affairs. According to Hsiao Tung-ming, deputy director of the Taiwanese Department of Health’s Bureau of Food Safety, in recent years, the government has not found levels of chemicals exceeding national standards in imported dry mushrooms, and that “Consumers should be confident of governmental practices in ensuring food safety.”

In related developments, local mushroom farmers who face competition from imported mushrooms urged the government to protect their livelihoods. “We are afraid that suspicious Chinese mushrooms coming into Taiwan can beat local products due to their unbelievably low prices,” said Chen Tsung-ming, director general of the Taiwan Mushroom Research and Development Association. According to Chen, the price of high quality Korean mushrooms declared at customs in Taiwan is only 13 percent of what it costs in South Korea.

[*L.A. Sporeprint* editor’s note. Imported shiitake from China are indeed different from those produced locally. Imported Chinese shiitake do not age—the gills do not develop brown spots or turn brown in age. They also do not have the typical shiitake aroma. Preservatives such as formaldehyde could be the reason.]

**PSMS INCOME AND EXPENSES 2004 COMPARISON REPORT**

<u>INCOME</u>	<u>2004</u>
Banquet	\$3,465.00
Books	\$13,775.38
Donations	\$50.00
Dues	\$11,987.86
Education	\$1,321.00
Exhibit	\$10,636.21
Foray	\$0.00
Misc. sales	\$86.00
Scholarship fund	\$0.00
T-shirts	\$50.00
Dividend Income	\$130.65
Interest Income	\$255.18
Long Term Capital Gain	\$344.41
<b>TOTAL INCOME</b>	<b>\$42,101.69</b>

<u>EXPENSES</u>	
Uncategorized	
Annual Exhibit	\$6,733.78
Bank Chrg	\$382.53
Banquet exp.	\$4,781.67
Ben Woo Scholarship Grant	
Book Sales exp.	\$4,264.03
Conservation	\$137.41
Education exp	\$595.00
Field trips	\$863.66
Flower Show exp	\$387.23
Foray exp	
Insurance	\$1,602.00
Library	\$1,983.73
Membership exp.	\$981.85
Misc	\$61.06
Monthly meeting	\$2,221.68
NAMA Dues	\$55.92
Office	\$261.98
President's Discretionary Fund	\$73.78
Roster exp.	\$1,479.50
Scholarship Fund-general	\$2,000.00
Spore prints postage	\$882.85
Spore prints printing	\$5,340.63
T-shirt expense	\$1,938.91
Tax&License	\$110.00
Telephone	\$392.36
WWW Account	\$179.40
<b>TOTAL EXPENSES</b>	<b>\$37,710.96</b>

<u>TRANSFERS</u>	
FROM Checking	\$3,600.00
FROM SAFECO Money Market	\$3,500.00
FROM Savings	\$7,000.00
TO Checking	-\$10,500.00
TO SAFECO Money Market	
TO Savings	-\$3,600.00
TO Petty Cash	\$0.00
TO Safeco Equity F	
<b>TOTAL TRANSFERS</b>	<b>\$0.00</b>

Balance Forward	
Checking	\$233.30
Petty Cash	<u>\$0.00</u>
<b>TOTAL Balance Forward</b>	<b>\$233.30</b>
<b>TOTAL ANNUAL NET GAIN</b>	<b>\$4,624.03</b>

**PSMS BALANCE SHEET 2004**

	<u>2004</u>
<b>ASSETS</b>	
<b>Cash and Bank Accounts</b>	
US Bank Checking Acct	\$19,408.86
Safeco Money Market	\$1,319.42
Petty Cash	<u>\$553.00</u>
<b>TOTAL Bank Accounts &amp; Cash</b>	<b>\$21,281.28</b>
<b>Other Assets (Building Fund)</b>	
US Bank Savings Acct	\$5,316.85
Safeco Equity Fund	\$14,808.46
CD Time Deposit	\$14,785.89
Treasury Note	<u>\$10,000.00</u>
<b>TOTAL Other Assets</b>	<b>\$44,911.20</b>
<b>TOTAL ASSETS</b>	<b>\$66,192.48</b>
<b>LIABILITIES</b>	<b>\$0.00</b>
<b>TOTAL ASSETS &amp; LIABILITIES</b>	<b>\$66,192.48</b>

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March 12



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Portobella mushrooms and red onions make a meaty fajita filling with satisfying, pungent flavors. If you can't find queso fresco, crumbled feta cheese is a good substitute.

- 1 tablespoon olive oil
- 4 cups (½-inch-thick) slices Portobella mushrooms (about 8 ounces)
- 1 cup vertically sliced red onion
- 1 cup (¼-inch-thick) green bell pepper strips
- 2 garlic cloves, minced
- 3 tablespoons chopped fresh cilantro
- 1 tablespoon fresh lime juice
- ¼ teaspoon salt
- ¼ teaspoon freshly ground black pepper
- 1 serrano chili, minced
- 12 (6-inch) flour tortillas
- 1 cup (4 ounces) crumbled queso fresco
- ¼ cup salsa verde



(1) Heat oil in a large nonstick skillet over medium-high heat. Add mushrooms and sauté 5 minutes or until almost tender. Add onion, bell pepper, and garlic. Reduce heat to medium, and cook for 4 minutes or until bell pepper is crisp-tender, stirring frequently. Remove from heat and stir in cilantro, lime juice, salt, black pepper, and chili.

(2) Warm tortillas according to package directions. Spoon about ¼ cup mushroom mixture down center of each tortilla and top each tortilla with 4 teaspoons cheese and 1 tablespoon salsa. Roll up.

Yield: 4 servings (serving size: 3 fajitas).

*Calories* 437 (26% from fat); *fat* 12.7 g (sat 3.66 g, mono. 6.8 g, poly 1.5 g); *protein* 13.8 g; *carb.* 65.9 g; *fiber* 4.9 g; *chol.* 9 mg; *iron* 3.9 mg; *sodium* 792 mg; *calc.* 219 mg.

**THE BEST THINGS IN LIFE ARE FREE**

**George Rafanelli**

Fungi belong to everyone,  
The best things in life are free.  
Blewits belong to everyone,  
They're put here for you and me.  
Morels in the spring,  
Boletes in the fall,  
Amanitas that sting,  
They're here for all!  
Agarics are for everyone,  
The best things in life are free.

*Sung by George at our club's 25th anniversary  
Survivors' Banquet*



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Unless you joined PSMS after October 1, 2004, your membership expires as of the end of this month.

To renew your annual membership, please send a check for \$15 (student) or \$25 (single or family) and a self-addressed, stamped envelope to membership chair Bernice Velategui, 2929 76th Ave. SE, #504, Mercer Island, WA 98040.

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**Puget Sound Mycological Society**  
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