

SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
Number 390 March 2003



MUSHROOM OF THE MONTH: AURICULARIA

Rick Ges, *Spores & Stipes*, North Idaho Myco. Assoc.

Commonly known as Wood Ears or Tree Ears, *Auricularia* mushrooms are a centerpiece of Asian cooking. Asian mycophagists have used these mushrooms for centuries. They were traded extensively in the late 1800s from New Zealand to China and Hong Kong. They are not flavorful but rehydrate well and are used in soups and sauces for texture. *Auricularia polytricha* is the species prized in Asia. This mushroom is thought to be one of the first species cultivated according to records in China dating back to around 600 AD.

Auricularia species are Basidiomycetes and belong to the order of Tremellales, which are the jelly fungi. The name *Auricularia* comes from the Latin word for ear. *Auricularia auricula* - judae has been called the Jews Ear, as it grows on elder, the tree on which Judas Iscariot is said to have been hung.

There are several species, including *A. polytricha*, *A. auricular*, and *A. mesentica*. *A. polytricha* is common in the Americas through Mexico and on to Argentina. *A. auricula* is a northern temperate species. It is not cultivated like *A. polytricha* but is collected in the wild. It has hairs on the underside which are shorter than those on *A. polytricha*. *A. fuscusuccinea* is found in the southeastern U.S. on south to Argentina.

Often *A. auricular* and *A. polytricha* are mistaken for each other. Though they are quite similar to the eye, closer examination shows differences in spores and hairs, and they grow on different types of trees.

The *A. auricula* fruit body is 6–10 cm (1–6 in.) and ear shaped, lacking a stalk but having a short peduncle. The outer surface is sterile and pubescent. The inner surface is fertile, reddish brown, at first smooth and then venose. It is pruinous because of the spores. The flesh is gelatinous, slightly elastic, and translucent. It has no particular odor or taste.

The spores are white, cylindrical, and smooth, measuring 12–17 × 4–5 μm. The season is between May and June as well as September through December. Its habitat is broadleaf wood, and it is especially present during the rainy season.

It is edible, but its value is in its texture, not its flavor. Upon drying it tends to turn violet and circumvolute. It is fragile when dry but readily revives with hydration.

A. polytricha is grown commercially in the orient, where it is called Mu Ehr among other names. It is used in soups and vegetable dishes. Used as a folk medicine, it is touted for smoothing coughs and for generally improving the physical condition. In Paul Stamets' book *Growing Gourmet and Medicinal Mushrooms*, it is reported that this mushroom is 80% effective against Erlich carcinoma and 90% effective against sarcoma.

It was discovered to be an anticoagulant when the blood of a student who had eaten Chinese food the night before taking a blood clotting test wouldn't clot. This led to the development of a new anticoagulant. *A. polytricha* may contribute to the low incidence of coronary artery disease in China.

Nutritionally, the *A. polytricha* is 8–10% protein, 0.8–1.2% fat, 84–87% carbohydrate, 9–14% fiber, 4–7% ash, and approximately 90% moisture.

I found that the dried *A. auricula* is better than fresh in texture. It seems to improve when reconstituted. To reconstitute, soak in warm water about 20 minutes. Wash thoroughly and cook well as they have a gelatinous texture. I use them in stir fries or in soups. A sauce can be made of onion, garlic, basil, and finely sliced Wood Ear thickened with a little cream.

THANK YOU TO OUR GENEROUS MEMBERS

Karin Mendell

We have an amazing membership! Not only do they give of their time and energy, they also donate generously to our Society. Since last October (2002), fourteen members have made contributions to PSMS. Donations were earmarked for either the Ben Woo Scholarship Fund or the General Fund. We would like to express our gratitude to the following members: Wade & Osa Sommermeyer, Edward & Patrice Benson, Johnny & Sharma Oliver, Dennis Oliver, John Floberg & Lisa Bellefond, Gary & Sherry Lundgren, Janice Humeniuk, Bonnie Hayford, and Keith Reher.

We appreciate the continued support of our members' investments in our future.

INVITATION TO NEW OFFICERS AND BOARD MEMBERS

Karin Mendell

As a result of changes to our bylaws in 2002, newly elected officers and board members will be announced at the Survivor's Banquet on March 15, but do not assume office until the April board meeting. In the meantime, all new electees are invited to attend the March board meeting as observers on Monday, March 17.

I note again that PSMS board meetings are open to our general membership, though only elected board members have voting rights on decisions concerning the business of running the society. Our revised bylaws will soon be posted on our website (<http://www.psms.org>) for member review.

We are, again, grateful to our members who step forward to take leadership roles as officers and board members. Your willingness to serve this organization makes all of our terrific activities possible!

LAST NOTICE FOR DUES

If your address label has an asterisk on it, **this will be your last newsletter** unless you renew as soon as possible. To continue your membership, send your dues (\$25 full time, \$15 students) to Bernice Valetgui, 2929 - 76th Ave. SE #504, Mercer Island WA 98040.

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

- Mar. 15 Annual Meeting and Survivor's Banquet, 6:30 PM, CUH
- Mar. 17 Board Meeting, 7:30 PM, CUH Board Room, Isaacson Hall
- Mar. 18 *Spore Prints* Deadline
- Mar. 29 Field Trip, MacDonald County Park, Carnation
- Apr. 5 Field Trip, Flaming Geyser State Park, Black Diamond

BOARD NEWS

Brandon Matheny

The treasurer reports that accounts designated for the building fund are now placed under that heading. A budget has been proposed, and with some minor tweaking, future expenditures will be planned accordingly. The board authorized John Goldman to purchase a digital answering machine for the office. Fourteen members have made donations to PSMS since October 2002. Two-hundred and fifty four members have either joined or renewed for 2003. Patrice will conduct a postcard drive for membership renewals. A spring foray is planned for May 16-18 at Circle 8 Ranch just east of Snoqualmie Pass. Many people have registered for the Survivor's Banquet. Inquiries are being made about purchasing a digital projector.



MEMBERSHIP MEETING

This month is the **Annual Meeting and Survivor's Banquet**, Saturday, March 15, at the Center for Urban Horticulture.

Festivities begin at 6:30 PM. The theme is "Foods from Different Countries." Members whose last names begin with the letters A-H should bring a dessert, I-R should bring appetizers/veggies/salads, and S-Z should bring a main entree. Remember to list the ingredients in your dish, and to turn in a recipe for the door prize!

SPRING FIELD TRIPS

The spring field trips have all been scheduled, and we can look forward to collecting mushrooms, swapping tales over our usual creatively delicious potluck dishes, and benefitting from the expertise of our intrepid identifier(s). Enjoy the fresh air as you hike, the learning, and the convivial company of fellow fungi seekers! **Note:** *This year Washington State parks will start enforcing a new rule calling for all state park visitors to pay a \$5.00 fee for each car parked within the park.*

March 29

MacDonald County Park
(30 miles east of Seattle)

To start off the season, we will visit MacDonald Park, on the Tolt River about 1/2 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 5

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

From SR#405 take Highway #169 heading East(Black Diamond/Maple Valley Highway) drive thru Black Diamond. Drive 3 miles so. of Black Diamond and turn right on to Green Valley Rd.(should turn off before you reach Enumclaw.) Drive around 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.

May 10

Twenty-Nine Pines

May 31

Bridge Creek

June 7

Swauk Creek

June 14

TBA

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.

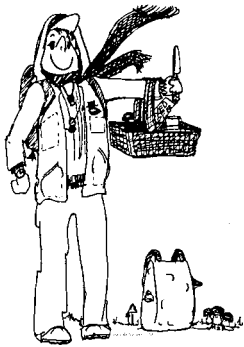


Mushrooming Gear: You will need a wide-bottomed container for your mushrooms. This can be a basket or bucket. Do not use plastic sacks; they tend to condense moisture and turn mushrooms into mush. You will need a sturdy knife suitable for cutting and prying and perhaps a soft brush to clean up the edibles; 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. It may be possible to come early on Friday and stay over to Sunday. 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.

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INSTRUCTIONS FOR FIELD TRIP HOSTS

For this year's spring field trips, we want to remind field trip hosts of the following details:

- Hosts are asked to supply coffee, hot water for tea, and some type of pastry.
- Members bring their own picnic supplies (plates, utensils, etc.).
- **IMPORTANT**—Marianne Sakamoto will be holding the box of field trip supplies at her home. Please call her at (425) 454-5396 to arrange pickup of the kit before your field trip.
- Plan to stay and host the potluck following the mushroom picking! (The first field trip is only a half day, so there will be no potluck.)
- Have fun meeting other new and longtime members!

If you have not done so in the past, please consider hosting a field trip this season. It's a great way to meet people and develop lasting PSMS relationships. E-mail Marianne Sakamoto, msakamoto@msn.com, or call the number given above to reserve your opportunity to host this spring!

SPRING FORAY

Karin Mendell & David Hunt

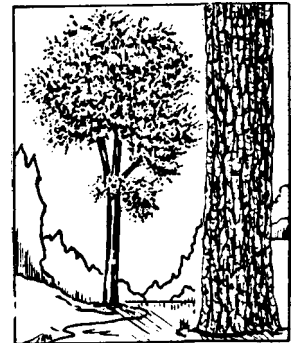
We are pleased to announce that there will be a spring foray this year on May 16–18. We will be trying a new location, Circle 8 Ranch, which some of you may remember fondly from last year's spring and fall field trips. Circle 8 Ranch is a beautiful, privately owned campground with several A-frame buildings and a huge square-dance hall. Located between Cle Elum and Easton off I-90, Circle 8 will provide a much closer facility, only 1.5 hours from Seattle. We will have much more information to share with you as the date draws closer (details are still developing). David Hunt and Karin Mendell will co-chair coordinating the foray.



VERPA BOHEMICA

Agnes Sieger

The first field trips this spring are dedicated to *Verpa (Ptychoverpa) bohemica*, the first edible mushrooms to lure the mycophagist after the winter doldrums. Often called the early morel because of its timing and superficial resemblance to the true morels, *Verpa bohemica* fruits from late February through April, depending on the season. In the Pacific Northwest, it is associated with cottonwoods, often fruiting right around the drip line of mature trees "when the cottonwood leaves are the size of a mouse's ear." Once you learn to recognize the cottonwood, a tall, dark, poplar-like tree with wrinkled bark that grows in damp river bottoms throughout western Washington, you can spot your hunting ground from afar. Finding your quarry amid the debris of the previous fall, however, isn't that easy.

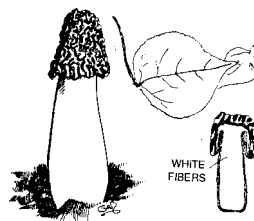


Verpa bohemica is a medium-sized (3–8 in. tall), tannish mushroom with a wrinkled, bell-shaped cap which is attached only at the top, forming a skirt over the stem. The stem is long, at first whitish to cream in color and becoming tan with age, and filled with cottony fibers.

In contrast, true morels have pitted, not wrinkled, caps that are attached to the stems at the bottom (or in some cases part way up); their stems, while hollow, are empty.

Unlike other verpas, and most large Ascomycetes, *Verpa bohemica* has only two spores per ascus instead of eight. For that reason, modern taxonomists have split it into its own genus, *Ptychoverpa*. What each ascus lacks in numbers, however, it makes up for in size; the spores are huge.

Although considered a good edible by many, this mushroom causes gastrointestinal upsets and loss of muscular coordination in some people and should be approached with caution. Many field guides recommend parboiling it and throwing away the water and eating only small amounts at a time. The effects may be cumulative, so don't pig out on it several days in a row, even if it is the only edible mushroom out at the time.



Notice to *Mushroom, the Journal* subscribers

Leon Shernoff, the new co-editor of *Mushroom, the Journal of Wild Mushrooming*, reports that the Winter issue, which normally comes out in December, should have been mailed February 21 and should have reached North American subscribers some time the following week.

Leon would appreciate having e-mail addresses of *Mushroom* subscribers who are not NAMA members. His e-mail address is leon@mushroomthejournal.com.

ROZITES CAPERATA CRIPPLES HERPES, OTHER VIRUSES

The Sporeprint, L.A. Myco. Soc.,
February 2003

Rain forests and other remote, undeveloped spots on the planet aren't the sole source of medically useful plants. Researchers at the University of Wisconsin Medical School have discovered that *Rozites caperata*, a mushroom that thrives among the jack pines in northern Wisconsin, can cripple certain viruses. The researchers reported their findings in the August [2002] issue of *Antiviral Research*.

Extracts from the mushroom prevented herpes simplex virus types 1 and 2 from growing in test tubes and reduced the severity of herpes-related eye disease in mice. They blocked influenza A, chicken pox, and a respiratory virus. What's more, the mushroom has unique characteristics that may help scientists unlock secrets about the way many viruses reproduce.

The active part of the mushroom, a compound they call RC-183, has been patented. "This is a novel compound, with a structure unlike anything that's ever been described," says Curtis Brandt, Medical School professor of ophthalmology and visual sciences and co-author of the article. "We're hoping our studies of will reveal new information about the way viruses replicate."

"It's also possible RC-183 may become a lead compound for a drug to treat influenza A," says Brandt's co-author Frank Piraino,

an associate scientist in the department of ophthalmology and visual sciences.

The Wisconsin scientists may be most excited about the lessons they hope *Rozites* can teach them about the inner workings of viruses. So far, they know that RC-183 contains ubiquitin, a substance that appears to play a central role in at least two cellular processes. Like a garbage/recycling truck that removes household trash, it removes proteins that have finished their jobs in cells. And it also helps the immune system recognize foreign antigens and mount a defense against them.

"Our challenge will be to learn exactly how RC-183 may block a ubiquitin-dependent step in virus replication," says Brandt. "To start with, this project has shown us very clearly that concern over the disappearance of natural habitats as a source of new drugs applies universally, including to the United States, to right here in Wisconsin."

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McGee, MS



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