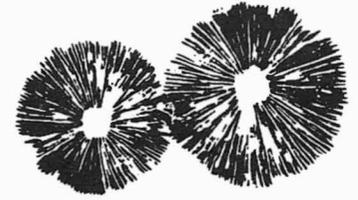


SPORE PRINTS

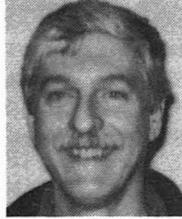


BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
Number 333 June 1997

PRESIDENT'S MESSAGE

Marshall Palmer

Collecting reports have been good from our Spring field trips. Thanks are due to Mike Lovelady, Field Trip Chair, who has been working hard to organize them. Thanks also to those of you who have volunteered as hosts, and to the identifiers who have put names on our finds and who have worked to educate us about our fungi.



Brian Luther continues to serve as head identifier and endeavors to ensure that we have a healthy number of members who are qualified to help as identifiers at meetings and field trips. We are always in search of members to help with identification—having a larger group makes it easier to provide coverage at our events. If you are interested in helping with this, please contact Brian Luther, Sara Clark, Brandon Matheny, or any of the other identifiers you see at our activities.

Preparing for our annual mushroom exhibit in October is Charles Pregaldin, Exhibit Chair. If you have suggestions or comments for the show and/or you would be willing to help with a committee, please let him know. Being involved in this fabulous fungi spectacle provides a great experience of camaraderie with your fellow members.

While many of us are thinking of the June membership meeting as the final opportunity to share friendship and mushroom stories before our summer hiatus, remember the PSMS picnic we have planned for July 13! Look for details in this issue. See you in the higher elevations in the coming weeks!

PSMS SUMMER PICNIC '97

Dave Cole

Time: 2:00 PM, Sunday, July 13

Place: Seward Park Shelter #4

Directions: Go to the west side of Mercer Island and swim across the lake or, from Seattle, take I-5 to I-90, get off at exit 3 (west side of Lake Washington), go south on Rainier Ave S. about 3 miles, and take a left onto S. Orcas St., heading east. South Orcas Street ends at Seward Park after intersecting Lake Washington Blvd. S. Once in the park, proceed up the hill to the first parking lot on the right. Shelter #4 is nearby. (PSMS signs will, I hope, lead the way once you are in the park.)

Facilities: Shelter, tables, grills, restrooms, kids' playground, tennis courts.

Food: Would people with last names beginning with A-L please bring a potluck salad to share and those beginning with M-Z please bring desserts? (Chips, anyone?) Bring your own meat to barbecue, buns, sauces, eating utensils, and sunscreen (hopefully). Drinks, plates, cups, and charcoal will be provided by PSMS.

Activities: Walks through or around Seward Park, swimming, Frisbee catching, kite flying, boating (a public boat ramp is nearby), bicycling, mushroom hunting (no guarantees).

MUSHROOM HUNT CD-ROM

Mycophile

North American Mycological Society, March/April 1997

A unique and fun CD is being developed at Utah State University—an interactive instructional simulation of a mushroom hunt. The computer program has been designed by Marko Mikulich, medical illustrator, instructional designer, and member of the Mushroom Society of Utah.

The purpose of this educational program is to teach people how to differentiate toxic from nontoxic look-a-like mushrooms in a fun way. A learner follows trails that branch many times. Since the program is interactive, choices are made by clicking the mouse button on the trail or mushrooms. Eventually, learners are presented with a choice of two mushrooms to pick that look similar. As many of you are aware, this choice can be fatal.

When learners choose a mushroom, they follow an instructionally designed pattern that includes immediate feedback, illustrations of anatomy, descriptions of the mushroom that include "hot words" that lead to other illustrations which, for example, show various stalk shapes. Then illustrations of the anatomy of the two mushrooms are shown side by side for comparison with descriptive text. Next a test is given to see if the information sank in by having the learner choose again. Every trail leads to pairs of mushrooms to pick.

To complete this project, Marko needs your help. He needs color slides that are correctly labeled as to species, so that he can scan them (and immediately return them to you); in return you will get credit for your slides and a free CD.

Also he needs to have expert review of the information that is presented, so no mistakes are made. You can reach him several ways:

tel.: (801) 755-8100 (days)
mail: PO Box 4561, Logan, UT 84323
e-mail: SL4L8@cc.usuumjmedu@n1.net
www: <http://www.n1.net/~mjmedu/>

HEALTH RISKS FROM KOMBUCHA TEA R. Sieger

Kombucha tea, a mix of yeasts and bacteria fermented in sweetened tea, has become a popular panacea worldwide. Claimed benefits include weight loss, cancer prevention, arthritis relief, immune system stimulation, diabetes control, hair regrowth, relief from constipation, and a general feeling of well being.

Following two reports in American medical journals of liver and blood disturbances linked to Kombucha tea is a report by the Australian federal government that two women who drank the tea developed liver dysfunction. One was stricken with severe hepatitis after consuming the tea for a long time. The other developed a rash, fever, and vomiting; she was found to have liver inflammation and abnormalities, which were treated with steroids. Less serious problems attributed to the tea include heartburn, nose bleeding, and increased menstrual bleeding.

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>

OFFICERS:	Marshall Palmer, President Joanne Young, Vice President Dan Tanabe, Treasurer Lorraine Dod, Secretary
TRUSTEES:	Sara Clark, Wayne Elston, Irwin Kleinman, Russ Kurtz, Henry Lingat, Mike Lovelady, Brandon Matheny, Charles Pregaldin Bernice Velategui, Doug Ward Patrice Benson (Immediate Past Pres.)
ALTERNATE:	Dan Corey
SCI. ADVISOR:	Dr. Joseph F. Ammirati
EDITOR:	Agnes A. Sieger, 15555 14th Ave. N.E. Seattle, WA 98155

Annual dues \$20; full-time students \$15

CALENDAR

June 9	Basic ID Class, 7:00–9:00 PM, CUH (for those with confirmed reservations)
June 10	Membership meeting, 7:30 PM, CUH (Joseph F. Ammirati)
June 16	Board meeting, 7:30 PM, CUH Board Room Basic ID Class, 7:00–9:00 PM, CUH (for those with confirmed reservations)
July 13	Annual Picnic, 2:00 PM, Seward Park, shelter #4
Aug. 14–17	NAMA Foray, Summit County, Colorado
Aug. 18	Board meeting, 7:30 PM, CUH Board Room
Aug. 22	<i>Spore Prints</i> deadline
Sept. 9	Membership meeting, 7:30 PM, CUH

ANT/FUNGUS SYMBIOSIS

Curt Suplee

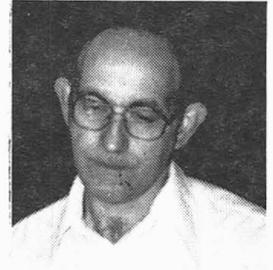
If you think your diet is boring, consider this: Some kinds of ants have been eating exactly the same kind of fungus for 23 million years. Two hundred species of an ant group called “attines” cultivate various fungi for food. The fungi, in turn, rely on the ants to provide vegetable matter in which to grow, protection from competing organisms, and propagation by cloning.

Using RNA and DNA analysis, researchers found that attine ants raise three major groups of fungi, one of which is genetically heterogenous (perhaps because some ant species lost the fungus type they were raising, and acquired a replacement from the wild). But they also found parallel patterns of genetic development between many ant species and their favorite fungi, providing “evidence of stable coevolution for millions of years.” As a result, it is unlikely that any of these ants would survive if their fungal partners were exterminated.

MEMBERSHIP MEETING

Tuesday, June 10, 1997, at 7:30 PM in the Center for Urban Horticulture, 3501 N.E. 41st Street, Seattle

The June program features Dr. Joseph Ammirati, PSMS scientific advisor and Professor and Chair of the UW Department of Botany. His lecture, entitled “Fungus Connections—The Pacific Northwest and Europe,” will focus on mycogeography, using ectomycorrhizal fungi as examples. He will emphasize Europe but will also talk about connections to other parts of the world and how many distributional patterns are related to species that occur in the Pacific Northwest. Find out what plant geography, soil, and plate tectonics mean to fungi!



Dr. Ammirati is a mushroom taxonomist, working primarily on *Cortinarius*, but has broad interests in Agaricology. He is respected for his work with *Cortinarius*, toxicology, and forest ecology. His revision of *The New Savory Wild Mushroom* earned him a certificate of achievement from the Society for Technical Communication, and he is co-author of *Poisonous Mushrooms of the Northern United States and Canada*. Dr. Ammirati is a constant supporter of mushroom hobbyists, speaking at numerous meetings, banquets, and forays.

Would members with last names beginning with the letters G–L please bring a plate of refreshments for the social hour.

BOARD NEWS

Agnes Sieger

The Building Fund Committee proposed purchasing a treasury bond that will mature in 10 years and putting \$200 a month in mutual funds or other investments.

The board voted to donate vols. I, III, and VI of David Largent’s *How to...* series to Joe Ammirati’s lab.

If Field Trip Chair Mike Lovelady receives no volunteers to host, field trips will go unhosted. Because of the continued closure of Chinook Pass, PSMS will place alternate directions to the American River field trip on our voice mail system.

Doug Ward reported no problems with the May bulk mailing of the *Spore Prints*. Patrice Benson reported that the roster is ready for mailing. Ron Post reported book sales in excess of \$500 at the May meeting. A Basic ID class will be scheduled for the fall. The 1997 Summer Picnic will be held at shelter #4 at Seward Park at 2:00 PM on July 13.

The book cabinet lock in the office has been repaired, and new bookshelves have been installed, thanks to Russ Kurtz. The old shelves have been removed for donation to a charitable organization.

Bulk Mailing Problems?

Call Doug Ward, (206) 523-0781.

FUNGI FOR FISH

Spores Afield

Colorado Mycological Society

Kim Patterson of the Delaware Mycological Association writes of a new use for fungi. One of the Association’s members uses *Amanita muscaria* as trout bait. He claims to have caught trout with them on several occasions. Local trout enthusiasts might want to try this bait if their dry flies should fail to bring a rise.



1960's

A founding member of PSMS, Ben Woo remembers the genesis of the society. In 1963 Dr. Dixie Lee Ray was Director of the Pacific Science Center. She wanted to build up public participation in the center by encouraging amateur science groups. She knew Dr. Daniel E. Stuntz, a noted mycologist at the University of Washington, who knew Ben Woo and others. In late the group sat down to talk about starting a society to study mushrooms. A notice in the paper brought in 85 interested persons, about two dozen of whom are still around. In 1964 the group formally incorporated, and Mr. Woo was elected its first president, serving till 1966. PSMS enjoyed guidance from the Oregon Mycological society, which had incorporated several years earlier. An annual exhibit, the survivor's banquet, field trips, speakers at the monthly meetings, and a newsletter called *Spore Prints* became part of the format for the organization.

How did Ben Woo get interested in fungi in the first place? *Life Magazine* ran a feature article on fungi complete with drawings and photographs, along with the warning "Do not go mushrooming without the help of an expert." Mr. Woo decided he could become his own expert and proceeded to learn from books. His interest still is mainly scientific, cookery on the side. He never took formal classes, although he was a long-time friend of Dr. Stuntz.

The genus *Russula* has been his object of study for 20–28 years. It is a challenge! There are many species, many incorrectly named or not named at all; mycologists stay away from the genus (it's too time consuming). There are 200 species in the Northwest alone. (A Ph.D. candidate working on russulas, collecting for 3 years, found 85 species, only 50 of which had a name attached.)

Processing a collection of russulas takes time. Ben Woo needs to clean the specimens, measure and photograph them, write a description, do a spore print, smell and taste the fungi, and conduct a chemical test. Then the *Russula* can be dried to be reconstituted later for microscopic work, preparing tiny pieces of stem, cap, and gills and making drawings of the various parts. For about a year, Ben Woo has been working on improving his home computer to eliminate the tedious step of drawing microscopic slides. He wants to come up with a computer capable of photographing microscopic parts. (Bill G. watch out!) Besides russulas, Mr. Woo enjoys studying and photographing boletes, *Lactarius*, and *Hygrophorus*. It is a wonderful activity which keeps him healthy and interested, along with downhill skiing.

Currently, Mr. Woo is president of the Pacific Northwest Key Council and is the North American Mycological Society's regional trustee for the Pacific Northwest. A retired architect with 30 years in the profession, he is serving, and has served, on many community-related boards: The Chinese Nursing Home Society (with a building recently completed); the Lighthouse for The Blind; the Chinatown Preservation and Development Authority; Facility and Construction for King County.

Thirty-three years after its inception, PSMS has many members. And Ben Woo is continuing his studies, still hoping that "people learn not to kick over russulas."

All at PSMS are happy to have a Founding Father in our midst. Thank you, Ben.



Ben Woo, 1996

As many predicted, Crystal Springs Camp Ground was still under several feet of snow when May 3 arrived. Under the expertise of our Foray Chair Mike Lovelady, the Stampede Pass exit was signed with the giant *Amanita* complete with directions for Bullfrog Flats. Upon arrival, the hardy members found the field trip set up complete with plastic shelter and camp fire. Thank you, Mike. Under the cottonwoods *Verpa bohemica* were coming up, and along the edges the morels were just getting started. A few members found more morels over by the Yakima River. We had a small and jovial group for the field trip. The variety of fungi was limited, as is often the case in the spring, and the desired fungi were pleasantly in evidence. We enjoyed a lovely day among the wildflowers enhanced by the welcome sun.

TWENTY-NINE PINES FIELD TRIP

Sara Clark

The snow was gone from Twenty-Nine Pines on May 10–11 except in the shade of a few trees. The weather was warm and sunny and the breeze pleasant. We had a good turnout, a good potluck, and several overnight campers. It was kind of reminiscent of the old days. *Verpa bohemica*, morels, and a limited variety of other Ascomycetes and Basidiomycetes were identified by Brandon Matheny, who enjoyed using the solar powered microscope. The members who camped over and enjoyed the campfire in the evening were treated to a new creation of the successful morel hunter, Mike Lovelady: "S'morels." You have to try it to believe it! Mmmmm!

S'MORELS

Mike Lovelady

Stuff morels with a mixture of grated Parmesan cheese and an equal quantity of chopped onion or roasted garlic. Impale on a stick and cook over an open fire. Sprinkle with a little brown sugar and salt and put between squares of toast. [Mike says a touch of brown sugar enhances the flavor of morel dishes.]

CLASSES, FORAYS, ETC.

Mushroom Cultivation Seminars: July 12 and 13; September 13 and 24; November 8 and 9. \$500 (10% discount for mycological society members). For information write Fungi Perfecti, PO Box 7634, Olympia, WA 98507 or call (800) 780-9126.

NAMA Foray: August 14–17, Copper Mountain Resort, Summit County, Colorado. \$30 late fee for registration after June 30. For information, write Robert Monks, 1160 Detroit Street, Denver, CO 80206 or call (303) 399-2070.

Fred Rhoades Seminars: "Life Before Flowers Backpack," Thunder Creek, North Cascades, August 15–17; "Mushroom Ecology," Olympic Park Institute, Rosemary Inn, Lake Crescent, September 26–28; "Mycological Mysteries: NW Mushroom Ecology," Chinook Learning Center, S. Whidby Island, October 11–12; For further information, call Fred Rhoades (206) 733-9149, OPI (360) 928-3720, NCI (360) 856-5700 ext. 209, or SJI (360) 378-3646.

We regret to announce the death of long-time member **Bob Hanna (89)**, whose funeral was on May 8.

MUSHROOMS ON MY PLATE Mariana Bornholdt
MushRumors, Oregon Myco. Soc., March-April 1997

Shijiazhuang, Hebei Province, where I am living now, is located in Northeast China on the alluvial plain of the Huang (Yellow) River. Here in the city I have yet to see a mushroom growing *in situ*, even on the college campus, which is landscaped. But there are plenty of mushrooms in the street markets and on the table.

Xiangguo (dried shiitake) turns up regularly in the market, so it must be grown here. However, it evidently does not have as much attraction for the Chinese as it does for the Japanese.

Kou mo (*Agaricus bisporus*, the Meadow Mushroom) is extensively cultivated and canned here. It is often served as a separate dish, small buttons with short stems, either cold in a very hot pickling sauce or heated, with typical bland flavor and appealing odor.

Jinjin mu (*Flammulina velutipes*, Enoki) is another cultivated mushroom, small-capped, slender long stems, grown in a jar or flask. It is served by itself cold in a soy sauce-vinegar mixture, laced with garlic, or warm, sautéed with strips of pork or beef.

Everyone in Oregon would recognize the purple-black *mu ehr* (*Auricularia auricula*, "Ear" Fungus). It appears on my plate regularly in a variety of combinations: with pork strips, chicken bits, tofu skins, thinly sliced green or white vegetables such as squash, green beans, lily stems, celery, cucumber, spinach, and radish, usually seasoned with garlic and fresh ginger. I also see it in soups in a chicken or fish broth with egg fragments and, occasionally, with cold pickled vegetables steeped in a hotly spicy sauce.

On and off in the market over the last few months I have seen absolutely gorgeous collections of *mo gu*, (*Pleurotus ostreatus*, the Oyster Mushroom). Everyone can name it, so it must be famous in Chinese cuisine.

Dong gu, Black Mushroom, is a large gilled mushroom with a velvety black cap and stem, white gills and flesh. I see it in stir-fry with both beef and pork or stewed with beef in a gravy. It is delicious by itself or when spooned over white rice, with a pleasant texture and mild flavor.

Yin ehr, a white edible fungus, looks like a small fruiticose lichen and, like *mu ehr*, is lignicolous. It is often served in the same dish with *mu ehr* for the color and texture contrast. Both are mild-flavored, *mu ehr* rubbery and crisp; *yin ehr* softly crisp.

Bal laio, a yellow-chambered fungus, is seen dried in jars in grocery stores. *Wanji* is similar in appearance, but white.

When in Chungdu, a major city south of here, I saw a dried bamboo fungus for sale in one of the markets but no one I was with could name it in Chinese or in English. It was tangled like bindweed and coarse in texture and had, I thought, a penetrating odor.

I have looked high and low for the famous Reishi (*Ganoderma lucidum*) in the markets, in restaurants, and in museums with no success. I've even checked out the traditional Chinese medicine shops. Reishi, as well as other fungi, may be there, chopped fine or powdered and blended into mysterious mixtures handed out in small papers and envelopes. It's hard for me to ask questions there, as the attendants there are in government service and their iron rice bowl does not require them to be helpful to customers.

By the way, Chinese cuisine is *guagua* (really great!)

FINGER-FOOD OYSTERS

Harley Barnhart

1/2 lb <i>Pleurotus ostreatus</i>	1/4 cup heavy cream
1 cup white flour	2 cups fresh bread crumbs
1 egg, beaten	Oil for deep frying

Sprinkle whole or large mushroom pieces with salt and pepper and roll in flour. Beat eggs with cream. Dip each mushroom in egg-cream mixture and roll in bread crumbs. Heat oil 2 in. deep until just short of smoking (375–390° for most oils) and fry 2–3 mushrooms at a time. Drain on paper towels, sprinkling with salt.

Mushroom Missionary: Patrice Benson gave four talks at Kenmore Jr. High on May 1, a talk to the Northwest Mushroom Assn on May 15, and five talks at Madrona Elementary on May 22.

page 4



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

RETURN POSTAGE GUARANTEED

Non-Profit Org.
U.S. POSTAGE
PAID
SEATTLE, WA
PERMIT NO. 6545

Rafanelli, George & Jennie Life
1776 S. Columbian Way
Seattle Wa 98108