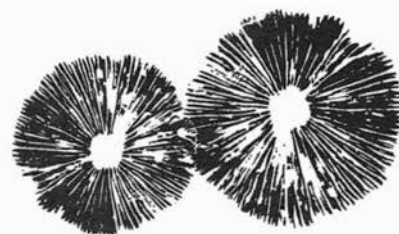


SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY

Number 273

June 1991



PRESIDENT'S MESSAGE

Kern Hendricks

This is the last issue of *Spore Prints* until September. While we become inactive as an organization during the summer months, the work of the society still goes on, performed by too few individuals for the benefit of the many. My hope, as always, is to see more of our newer members become involved in the workings of our volunteer organization. This year some have, but most have not. PSMS has always been an organization where the rewards of membership are directly proportional to the effort put into being a member. Give a little, get a lot; give nothing, get nothing.



Shortly after we resume in September we'll be frantically working to prepare for the October annual exhibit. If your ledger is a little unbalanced on the side of taking, you will have a chance to even things up. Right now, mark your calendar to keep the weekend of October 19-20 free. That way, when someone calls to ask you to help, you'll be able to say "yes."

FROM WOODS TO TABLE

Elizabeth Hendricks

A commonly asked question from hunters is: "Now that I've found them, how do I fix them?" This is assuming that first the mushrooms in question have been properly identified.

The cookbook I most highly recommend is *Wild About Mushrooms: A Cookbook for Feasters and Foragers* by Louise Freedman and The Mycological Society of San Francisco (\$11.65). The front of the book is brimming with basic mushroom cookery—like how to prepare soups, sauces, and stuffed mushrooms—and the remainder is laid out in a "dial a mushroom" manner. When returning from a bountiful foray, all you need to do is flip to the "Boletes" section to learn the basics on cleaning, cooking, and preserving, then peruse a few pages of recipes to decide how best to prepare them. And, the pages have lots of white space to jot in your variations. The mushrooms most commonly found in the Northwest each have their sections.

If you're fortunate enough to wander home with a basket full of morels, *The Morel Mushroom: a Guide for Rooms* by John Ratzloff (\$11.25) has some creative recipes, like "Morchella Eggsculenta" and "Wood Nymph Gravy."

For the more serious chef we have *The Edible Mushroom: A Gourmet Cook's Guide* by Margaret Leibenstein (\$6.90) and *Joe's Book of Mushroom Cookery* by none other than Joe (\$12.75). The first is organized by season. Denis Benjamin particularly likes these recipes. I had success with the "Asparagus with Black Morels" on page 23. Joe's book has grown out of his restaurant experience. You might want to try the Christopher Soup.

And, lastly, we recommend *Food for All Seasons* by PSMS member David Pisegna (\$16.40). It is a feast for both the eyes and palate. Try the "Wild Mushroom and Fig Brochettes with Watercress and Cranberries"; it's an imaginative side dish. Or the "Lamb Medallions with Morels and Anise Hyssop." Delicious mushroom recipes are sprinkled liberally through the seasons.

These five books will all be available at the next meeting. Prices include a PSMS member discount and sales tax. And, yes, all profits from book sales go to the PSMS general fund. So, happy hunting and may your kitchen be merry.

MORELS AND BUTTERMILK

Harry Knighton

Wild About Mushrooms, San Francisco Myco. Soc.

1/2 tsp salt	1/8 tsp onion powder
1/8 tsp ground white pepper	1/2 C flour
1/4 tsp paprika	20 to 25 large morels, halved lengthwise
1/4 tsp sugar	1/2 C buttermilk
1/8 tsp dry mustard	4 Tbs butter
Pinch ground turmeric	2 Tbs mild vegetable oil
1/4 tsp garlic powder	

Combine the salt, pepper, paprika, sugar, mustard, turmeric, garlic powder, and onion powder with the flour. Dip the morels in the buttermilk and roll in the flour mixture. Melt the butter with the oil in a saute pan or skillet and saute the morels until crisp and brown on all sides. Serves 10 as an appetizer.

1991 ANNUAL EXHIBIT

Lynn Phillips

The spring mushrooming season is winding down, to be followed by those warm, dry, boring months of few mushrooms called summer. But soon we'll be able to once again don our rain gear and go out into the chilly, soggy woods with baskets and knives in hand. And when the fall mushrooming season starts, can the Annual Exhibit be far behind? No indeed!

This year's Exhibit will be Saturday, October 19, noon to 8 p.m. and Sunday, October 20, 10 a.m. to 6 p.m. Come to the September meeting prepared to help. We will be happy to sign you up for any and all commitments. Just call Bill Bridges at 838-6378 or Lynn Phillips at 524-2950.

Notice to last year's committee chairs: We want you to continue to head your committees for this year's exhibit. If that is impossible, please find a replacement from among your helpers and let us know as soon as you do.

Foreign Press: A recent issue (30 March/5 April 1991) of the British journal *The Economist* carried a one-page article promoting an unusual spring holiday: *Morel hunting in Michigan*. (Was that Nancy Weber they saw wrapping her arms around a clump of morels and shrieking, "They're mine!?!")

Spore Prints

is published monthly, September through June, by the
PUGET SOUND MYCOLOGICAL SOCIETY
Center for Urban Horticulture, Mail Stop GF-15,
University of Washington, Seattle, Washington 98195
(206) 522-6031

OFFICERS: Kern Hendricks, President
Dennis Bowman, Vice President
Harold Schnarre, Treasurer
Elizabeth Hendricks, Secretary

TRUSTEES: Denis Benjamin, Patrice Benson
Bill Bridges, Irwin Kleinman,
Mary Lynch, Lynn Phillips,
Ron Post, Sal Mineo,
Beth Schnarre, Agnes Sieger

ALTERNATES:

**IMMED. PAST
PRESIDENT** Gilbert Austin

SCI. ADVISOR: Dr. Joseph F. Ammirati

EDITOR: Agnes A. Sieger, 15555 14th N.E.,
Seattle, WA 98155

CALENDAR

- June 11 Membership meeting, 7:30 p.m., CUH
June 23 Cultivation meeting, Walter Knox's house
Aug. 19 Board meeting, 7:30 p.m., CUH
Aug. 23 *Spore Prints* deadline
Sept. 10 Membership meeting, 7:30 p.m., CUH
Sept. 16 Board meeting, 7:30 p.m., CUH

BOARD NEWS

Agnes Sieger

The 1991 Annual Exhibit had been scheduled early (for October 5 and 6) to avoid conflict with UW Husky games. The Husky football schedule has changed, and so have the Exhibit dates; they are now October 19 and 20. Elizabeth Hendricks and Bill Bridges have completed their inventory of the books belonging to the Book Sales Committee. The board voted to solicit proposals from a professional librarian to help set up and catalog the PSMS library. There will be no PSMS exhibit at the Enumclaw Fair this year; the deadline came and passed while the Fair was waiting for Ron Post to respond to a phone call he never got. Next year, we won't rely on them to notify us. Our legal advisor has suggested amending the by-laws to limit our liability to the assets of the Society in the event of a law suit. Denny Bowman showed off the new PSMS video equipment; Kern was so impressed, he bought an identical unit for his business. The camera is available for checkout—after receiving instructions. Edith Godar is working on the new membership roster. Dennis Bowman will head a committee to look into long-range financial planning. Dennis Bowman and Denis Benjamin will get together a proposal to North American Mycological Association to host the NAMA foray here in 1993 or 1994.

*On behalf of PSMS
Have a nice summer!*

Membership Meeting

Tuesday, June 11, 1991, at 7:30 p.m., in the Center for Urban Horticulture, 3501 N.E. 41st Street, Seattle

Members having a curiosity about the mystique of the morel will have the opportunity to find answers to questions, and questions to answers. The program will consist of presentations by several members of our society known for their skills in locating this elusive mushroom. You will hear first-hand stories of how, when, and where to hunt the morel, and with a little luck there will even be a few morels cooked up for us to taste. You will also learn some of the secrets to growing your own, and a few tips on preservation.



We are asking members to contribute some of their fresh morels for use in the cooking demonstration this evening. If you have a few morels to donate, please give Dennis Bowman a call at 525-8399.

Members with last names beginning with Q-Z are asked to bring a plate of refreshments for the social hour. The punch will be provided by Kathy Cottrell.

MEET A PSMS LIFETIME MEMBER

Inga Wilcox



There is one person in this Society who can drive her car at regular speed, carry on a conversation, stop the car abruptly, reverse, and drive back to where a single mushroom stands by the side of the road. She is Hildegard Hendrickson—I was there!

Hildegard came to Seattle from her native Austria in 1956 and has lived here ever since with husband Monte and two sons. A neighbor took them along on an outing to look for chanterelles; this led to their attending the 1972 Annual Exhibit and to joining PSMS. Mushrooming became a hobby when Monte retired, but with taking classes offered by PSMS and actively participating in the identification of fungi at forays, this no longer was a mere hobby. Monte devoted some time to the study of trees in relation to fungi and shared this knowledge via a slide presentation. Hildegard taught the 1989 fall identification class, taught the beginners' orientation class for many years, and led the first spring field trip to Carnation for new members.

Hildegard feels that to fully enjoy an activity one has to be willing to study the subject and to become proficient. Such dedicated, hard-working, and nice people form the nucleus of our Society. The Annual Exhibit not only is a showcase for PSMS but attracts new members who, in turn, could become dedicated members. Despite a full academic calendar, Hildegard also served as editor of *Spore Prints* for 11 years.

Seattle University, where Hildegard has held a Professorship in Finance for 24 years, honored her with their 1990 Distinguished Teaching Award.

In addition to finding, freezing, drying, and pickling fungi, Hildegard and Monte enjoy growing vegetables and fruit, including such exotic delicacies as kiwi, figs, and lemons.

There must be many mushroomers in our group who had their first foray under her guidance. We are happy to have you as a member, Hildegard. Danke schoen!

TANEUM CREEK FIELD TRIP

Bill Bridges
Elizabeth Hendricks

For most, this was a new area, and the 45 members who attended were rewarded with fine weather, large mosquitoes, and fair mushroom hunting. The terrain was beautiful, with lots of lava outcroppings and steep canyons. Mary Lynch and Harold and Beth Schnarre led forays and shared their knowledge of tracking morels. Brian Luther identified 27 species, including a beautiful *Verpa conica*, *Peziza violacea*, *Coprinus plicatilis*, *Agrocybe praecox*, *Pleurotus ostreatus*, *Naematoloma capnoides*, and numerous *Gyromitra esculenta*. Ralph Burbridge found a selectively logged area where he vacuumed up a fantastic find of morels.

Seven people stayed for a fine potluck. Hosts were Bill Bridges and Harold and Beth Schnarre.

TWENTY-NINE PINES FIELD TRIP

Milly Myers

The day started out a little cool, but was soon warmed by a good fire, the morning sun, and 120 mushroom hunters hoping this would be the day they would bring in baskets of morels. For the most part, this was not to be. Even with the help of foray leaders Doug Ward, Mary Lynch, Kern and Elizabeth Hendricks, and Sal and Evelyn Mineo, the morels were spotty and hard to see, lying in low spots and even partially buried. The area was very dry. The consensus was that we were a little early for this area and possibly after the next rain it could be productive.

Twenty-one species were found, including lots of *Gyromitra esculenta* and *Agrocybe praecox* complex, some interesting bark beetle fungi, and one *Ganoderma oregonense*. Also some nice puffballs were found and fried up for the potluck. Nettie Laycock identified our mushrooms for us and shared her knowledge of interesting facts on several of the species and also on the local wild flowers that were in bloom, all of which was much appreciated.

Forty-eight stayed to enjoy a delicious potluck on a beautiful day. On behalf of the hosts, we thank the weather gods for our good weather, the members for the good company, and those who stayed in camp during the day and helped us keep the fire going and the coffee pots full.



Happy hunters at 29 Pines. For some new members it was their first experience stalking the wild morel. (photo courtesy of Allen Yen)

CRYSTAL SPRINGS FIELD TRIP

Elizabeth Hendricks

Mary Lynch and friends arrived early and cleaned the campground, which had been closed over the winter. It was raining when we arrived, and the warm fire in the shelter was greatly appreciated. Rumors were out that the boletes were up and that we were at the perfect elevation for morels. Consequently, everyone arrived bursting to get out into the woods. Harold Schnarre took out a group of newcomers, and the more experienced members scattered in all directions. Their efforts were rewarded by the widest selection of spring mushrooms of any of the field trips to date. There were lots of *Gyromitra esculenta*, some *Gyromitra gigas*, loads of morels, and a few boletes. There were also some beautiful amanitas. The find of the day was six perfect boletes by Graham Cooper. Almost all the morels were in prime condition. Kern and I spent the whole day hunting for boletes, but kept stumbling into morels instead. When I finally found our only bolete, I almost didn't recognize it.

CULTIVATION GROUP

Walter Knox

The June Cultivation Group meeting will be June 23rd, not June 9th, at Walter and Lori Knox's house. We will focus on growing shiitake on sawdust. This is the last meeting scheduled for the summer. The next meeting will be September 15th. Check the September *Spore Prints* for location.



NEW VIDEO CAMERA

Dennis Bowman

Our new video camera is on line, and copies of programs are available for checkout through our library.

We need a small portable television set for use as a monitor screen as an aid for filming. If you have one that you would be willing to donate to the society, please call Dennis Bowman at 525-8399.

HERBICIDE SPRAYING

Buck McAdoo

[*Mush Rumors*, Northwest Mushroomers Assn.]

The Trillium Company is planning to spray herbicides by helicopter over an area east of Glacier, WA. The idea, of course, is to destroy all the alder and other hardwoods that compete with the planted Douglas fir. The herbicide route has been around for years. One of the drawbacks that not everyone knows about is that eliminating the hardwoods ultimately weakens the conifers. They need the early competition to become strong enough to withstand various diseases. In parts of Canada, conifers raised without competition from hardwoods have succumbed inordinately to *Phellinus weirii*, a western polypore that attacks the heart of western redcedar and the roots of second-growth Douglas fir. We may eventually be thanking Trillium for introducing a new species into the county.

Trillium claims there is no danger from the 2,4-D but then is quoted as saying "it is more dangerous if applied by hand" (as opposed to helicopter). Nearby water sources will be monitored after the spraying. But it appears that only Trillium has so far applied for the job.

As one woman suggested to the *Bellingham Herald*, why not hire needy people to thin out the trees by hand?

NATURAL CARCINOGENS

M. Landowne

Boston Mycological Club *Bulletin*

In 1960, a research chemist at the University of Michigan isolated and identified a component in commercial *Agaricus bisporus*. He also found it to be a constituent of 10 of 15 other species of *Agaricus* including *A. campestris*, *edulis* (*bitorquis*), *micromegathus*, and *Xanthoderma*. The five species not yielding this substance all belonged to the *A. silvaticus* subgroup, and it was not found in any of 45 other genera of Basidiomycetes. He gave it the trivial name "agaritine."

Agaritine is a hydrazide, a chemical combination of the amino acid glutamic acid and phenylhydrazine. The agaritine content of *A. bisporus* diminishes with storage, cooking, or processing. The presence of smaller amounts of other hydrazine compounds and an enzyme system for their metabolism establishes that agaritine is an intrinsic constituent of these mushrooms. Hydrazine is a highly reactive compound, one form of which (monomethylhydrazine) is responsible for the acute toxicity of the Ascomycete *Gyromitra esculenta* and is used as a rocket fuel (most recently credited with enabling the spectacularly precise maneuvering of the *Voyager* space probe in its transit of planet Neptune). Few other natural products have been found to contain organic derivatives of hydrazine; its disparate presence in only two mushroom genera, and these from differing classes, invited explanation. Hydrazine compounds are toxic. Chronic administration of some hydrazine compounds has produced tumors in test animals, although the evidence for carcinogenicity of agaritine is equivocal.

Primitive humans, in necessary quest for food, came to understand the numerous ways by which partaking of a single meal could be acutely dangerous to their health. In the history of mankind, it is only relatively recently that chronic or accumulative perils of repeated food ingestion are being recognized. In our contemporary highly industrialized and technologically developed society, considerable public concern has developed regarding hazards of chronic chemical exposures. Much attention has been directed to the large number of additives that have appeared in the marketplace either directly, i.e., intentionally, largely in processed or manufactured food

and drugs (e.g., saccharin, colorants, preservatives, DES, "crack" cocaine) or indirectly as inadvertent constituents, residues from treatment or packaging, or as environmental contaminants (e.g., vinyl chloride, PCBs, pesticides). None the less important has been the realization that continued use of natural substances, either intrinsic (e.g., saturated fats, tobacco, and alcohol) or contaminants (e.g., metals, mycotoxins, ergot, radon) may contribute to the risk of illness.

To provide some perspective as to the relative rank of possible carcinogenic hazards, Ames et al. (*Science*, Vol. 236, p. 271, 1987) offered a comparative scale of risk based on estimates of adult human daily exposure as a percent of lifetime tumor rodent potency for a number of substances, both "additive" and "natural." Several examples are:

PCBs in the daily diet	0.0002%
Ethylene dibromide from grain products	0.0004%
Tap water, with 83 µg/l chloroform	0.001%
Aflatoxin in a peanut butter sandwich	0.03%
Saccharin in a 1987 diet cola	0.06%
Hydrazines in one raw <i>A. bisporus</i>	0.1%
Estragole in a grain of dried basil leaf	0.1%
Safrole in a pre-1987 natural root beer	0.2%
Formaldehyde in 14 hrs exposure to home air	0.6%
Ethyl alcohol in 250 ml of wine	4.7%

In a 1982 report, the National Research Council determined from its review of hydrazines in the diet that there were no epidemiological studies on the carcinogenicity of *A. bisporus* or *G. esculenta* in humans and that no conclusions could be drawn concerning the risk.

Alar, or diaminozide, is a plant growth regulator that has been widely used to ripen apples. After a vigorous, sometimes public, debate, alar is being withdrawn from use because it breaks down to a carcinogenic hydrazine, which contributes appreciable potentially toxic residuals to an apple a day and other apple products of a school age diet. On the other hand it is said that "organic" apple juice may contain patulin, a suspected carcinogen produced by *Penicillium expansum* and other molds on apples. Was it an apple or an agaric that tempted Adam in the Garden of Eden?

page 4



Puget Sound Mycological Society
Center for Urban Horticulture
GF-15, University of Washington
Seattle, Washington 98195



SIEMER, Dick & Agnes
15555 14th Ave NE
Seattle WA 98155