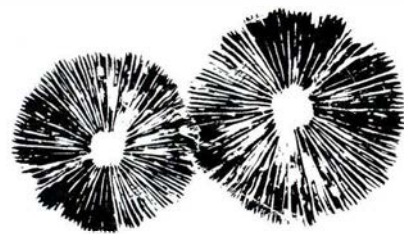


SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY

Number 289

February 1993



FOREST SERVICE TO CONDUCT 200-YEAR STUDY

Jeff Barnard (AP)

Agness, Ore. — Joyce Eberhart knelt on the forest floor, using a short-handled rake to probe the damp decomposing twigs, leaves, and needles for living hidden treasures — truffles and mushrooms. "Found one!" the Oregon State University research assistant said, holding it up for Forest Service soil scientist Mike Amaranthus to see. "*Rhizopogon parksii*."

Eberhart put it in a paper sample bag and logged its location, entering another piece of data in the start of a 200-year study to map the secrets of the forest that lie underground.

"I feel like the people who designed the cathedrals and never saw them actually built," Amaranthus said. "We want to have some good baseline data so someone else can make good evaluations in the future."

Mycologists have known for 100 years and foresters for perhaps 30 years that fungi that produce the mushrooms and truffles known as mycorrhizae have evolved a partnership with trees without which neither one can live. Meanwhile, high prices for wild mushrooms have drawn crowds of commercial pickers into the Northwest woods for a harvest reported at \$60 million last year in Oregon alone by the state Department of Agriculture. That leaves people like Amaranthus wondering whether the mushroom rush ultimately could threaten the entire forest, where mushrooms and truffles make it possible for trees to weather drought and draw nutrients from the soil. "There is no good information," Amaranthus said. "The only thing we have is the European experience, which is a severe decline in the population of wild edible mushrooms."

To find out, he has researchers mapping fungi in forest sites from Alaska to southern Oregon to see how they fare after logging and fire. It's part of an effort to gain a deeper understanding of how the forest as a whole works. "It seems like all this should have been done before, it's so fundamental," Amaranthus lamented.

What is known is that 95% of all plant life depends on mycorrhizal fungi to draw water and nutrients from the soil. The fungi attach to the roots of a Douglas fir, for example, and spread their long hairlike hyphae throughout the soil. There, they link up with other trees, rain-soaked logs and even rocks to pump water and nutrients to the host. In return, the fungi draw sugars from the tree. "The great evolutionary leap of plants was due to this," Amaranthus said. "It allowed them to colonize a great hostile environment."

The relationship is complex. Trees draw on different fungi in the various seasons of the year and at progressive stages of their lives. A single thimbleful of soil can contain miles of fungal filaments. After a forest is clearcut, the fungi die out within several months.

What isn't known is what happens after many years of pickers armed with rakes and leaf blowers scouring the woods for mushrooms, particularly the matsutake, or pine mushroom. A prime specimen can bring \$100 in

Japan, where they are revered. The Crescent Ranger District in the Deschutes National Forest reported \$15 million worth of matsutake exports in 1989.

The boom started about 10 years ago, corresponding with the decline in wild mushrooms in the forests of Europe. Members of the Oregon Mycological Society often talk of returning to a favorite hunting ground, only to find it picked clean. Prime spots are kept secret, like favorite fishing holes.

Is this just like plucking an apple off a tree, doing no harm to the tree? Or can intense raking and digging to discover the most valuable mushrooms, which haven't yet popped out of the ground, permanently damage the fungi, threatening the health of the trees as well? No one knows for sure.

Lorelei Norvell, a graduate student in mycology at the University of Washington, started studying the issue three years ago with plots of chanterelles. Two years of data seem to suggest that chanterelle production may actually benefit slightly from picking. Evidence from Europe seems to suggest that mycorrhizal mushrooms, those which attach to plants, also may benefit. But Norvell would like to know what happens after 25 or 30 years. She also wonders whether removing so many mushrooms, and not allowing them to drop their spores on the ground, may affect the survival of the fungi.

Trappe says most pickers would act responsibly if someone could tell them what was best for the mushrooms. "But all we can do is guess," he said.

BOARD NEWS

Agnes Sieger

PSMS sold \$215 worth of books at the January meeting; we have 243 books (worth \$1882.53) in the Book Sales inventory. In appreciation for his help to PSMS, the board bought the *Armillaria* watercolor by Elizabeth Halfacre for Dr. Ammirati; Patrice Benson and Lynn Phillips delivered it to him in a surprise visit Christmas Eve. The Cultivation Group has completed a laminar flow hood. Patrice Benson will be featured as PSMS representative on KCTS (Channel 9) on March 20, on the program "Cooking in the Beautiful Northwest."

PSMS has acquired 26 old (very old) microscopes being discarded as obsolete. Microscope Maven Lynn Phillips will chair a committee to cannibalize five or six for PSMS use; potential cannibals, call 524-2950. The Feds have finally decided it's safe to work in the UW Herbarium; a dozen people have signed up, but we could use some more (no experience needed; if interested, call Kathleen Cottrell, 789-2256). Mary Taylor will look into establishing a budget for PSMS.

Conservation Chair Ron Post passed around a mock-up of the four-page brochure he has been working on. Steve Taylor, new Conservation liaison to the Legislature, wanted PSMS to officially advocate a total ban on commercial picking. A long discussion followed, but no consensus could be reached that it was proper to commit the club to this (or any other) one tactic.

Spore Prints

is published monthly, September through June, by the
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CALENDAR

- Feb. 7 Conservation meeting, 7:00 p.m., call Ron Post, 525-9082, for location
- Feb. 9 Membership meeting, 7:30 p.m., CUH
- Feb. 14 Cultivation meeting, 1 p.m., Mike Hess's place, 1010 E. Republican St., Seattle
- Feb. 15 Board meeting, 7:30 p.m., CUH
- Feb. 19 *Spore Prints* deadline
- Mar. 13 Survivor's Banquet, 7:00 p.m., Glen Acres Country Club
- May 14-16 PSMS Spring Foray, Cispus Learning Center, Randle, Washington

B.C. CULTIVATION SEMINAR

Western Biological in Aldergrove, B.C., will hold a seminar on "The Cultivation of Specialty Mushrooms" Saturday and Sunday, April 24 and 25, 1992. The cost is \$200 + GST, less \$50 if you register before April 1st. Mike Hess attended this session and recommends it highly. For information, write Bill Chalmers, P.O. Box 283, Aldergrove, B.C. V0X 1A0 (Canada), or call (604) 856-3339.

Membership Meeting

Tuesday, February 9, 1992, at 7:30 p.m. at the Center for Urban Horticulture, 3501 N.E. 41st Street, Seattle

This month's program was arranged about a year ago, not just because the speaker is so popular that he needs to be tied down well in advance, but mainly because I wanted to have this final program under my vice presidency be just what I wanted. The speaker this month is one of the finest hunting companions I have ever known, not only because of his uncanny ability to feel the presence of the little rascals long before they're seen, but also because of his philosophy, opinions, and plain old good company. There are things that are shared between mushroomers that can be shared with no one else.



Come and listen as Denis Benjamin shares some of his finest stories with us. The topic is open, but after hearing about Denis's recent sojourn in Scotland, where he has been working on finishing a new book, it may be about where not to spend winters, where not to go to meet people, and where not to travel for good food. Whatever the topic, it will be both exciting and interesting—

Denis told me it would be.

Would members with last names beginning with A-D, please bring a dish of refreshments for the social hour?

Video cassettes of membership meeting programs are available from the library.

CONSERVATION COMMITTEE

Ron Post

At its January meeting, the Conservation Committee decided that commercial harvesting of edible mushrooms on public lands should, for several reasons, take priority over education as the most important issue for us to address. The committee appointed Steve Taylor to work on legislative issues in coordination with Ralph Hayford of the South Sound Club and other groups.



The PSMS Board of Directors heard the committee's views on the commercial harvest issue at its regular monthly meeting. The board decided not to take the position on a commercial ban.

At our February 7th meeting at 7:00 p.m., Lorelei Norvell will join us to further our discussion of the commercial harvesting issue. Call Ron Post at 525-9082 for directions to the meeting.

LOST: Folding aluminum tripod watercolor easel. Last seen at the December meeting. If found, call Beth Schnarre, 778-0854.

ELECTION

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The following candidates are up for election to PSMS offices in 1993. This year we are voting for vice president, secretary, and five trustees. Please read the following profiles carefully and mark your choices on the enclosed ballot. Don't forget to return your ballot to "Patrice Benson, 3818 Cascadia Ave. S., Seattle, WA 98118." A ballot box will also be available at the February meeting. Each family membership is entitled to two votes, and each individual membership to one vote.

Lynn Phillips Vice President

A PSMS member for 7 years, I am interested in cultivation, conservation, and pot-hunting. I have served as field trip chair and annual exhibit co-chair and am ending my second term as trustee. As Vice President, I look forward to finding interesting and informative programs for our meetings.



Lorraine Dod Secretary

I am very interested in being secretary of PSMS, and am looking forward to participating in other ways. I was the Stuntz Foundation secretary and am now secretary of the Pacific Northwest Key Council. I enjoy hunting, studying, and cooking mushrooms and would like to take the microscope class.



TRUSTEES

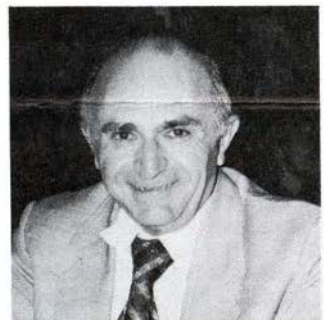
Pat Williams

I have enjoyed the beginner and intermediate classes so much, I am constantly foraging for fungi to identify. I would like to learn about cultivating as well. Because I enjoy PSMS and its members, I feel I should be a contributor.



Marsi Di Giovanni

Marsi has been a member of PSMS since 1987. He first became acquainted with mushrooms as a child in his native Italy. A familiar face to many in the Society (he and his wife, Magda, have hosted many field trips), Marsi felt it was time to get more involved with PSMS.



Mary Lynch

I had been interested in mushrooms for several years before joining the Society in 1986. Since then, I have been active in the annual exhibit and have served as Field Trip Chair. I am currently ending my first term on the board and look forward to serving PSMS for another two years.



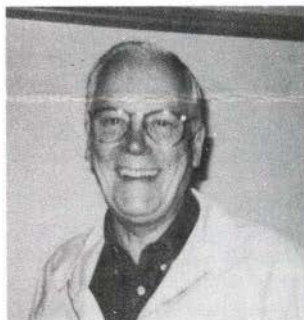
Scott Lieske

Scott Lieske has been a PSMS member since 1990, and was recently elected Chair of the Cultivation Committee. He has served as an alternate board member since 1991.



Russ Kurtz

A retired veterinarian and charter member of PSMS, I was a board member during the Society's formative years and Treasurer for a year and a half. I am currently interested in the Barlow Pass Study.



Mary Pelekis

I joined PSMS in 1989, have taken i.d. classes through the intermediate level, and have helped collect and receive mushrooms for the annual exhibit. I currently maintain the membership database and help mail *Spore Prints* with my husband, John. My favorite mushroom is *Cortinarius traganus*.



Beth Schnarre

I have been a member of PSMS for 10 years. My husband and I co-chair the book sales for the society. I am concluding my first term on the board and would like to be re-elected to help continue the direction that the society and board are taking in education, research, and conservation.



George Curtis

I joined PSMS 3 years ago to try to identify magic mushrooms. My attempt went unrewarded, but I've spent many wonderful days on field trips finding less esoteric varieties. I was construction chair at last year's show, and now find myself running for the board. I think I will do well and enjoy the job.



MEET GRAHAM COOPER

Inga Wilcox

Graham was born and educated in England. He got his master's degree in chemistry from Balliol College at Oxford, the prestigious college founded in 1294 and named for a Scottish king. Graham came to California to expand his horizons. He lived in the Bay Area for 10 years before moving to Seattle.



While in the Bay Area, he noticed a tiny item in the personal columns of a newspaper—a place he hardly ever looks at—asking persons interested in learning to identify mushrooms to call a certain number. He did so and found himself talking to David Arora.

Graham took a course with David in Santa Cruz and also participated in a foray to Alaska. They had just left Anchorage airport for their first stop when, just outside the city, their vans passed an area of earthen banks blooming with giant Golden Pholiotas. The excited group immediately stopped to examine them.

When moving to Seattle in 1990, Graham simply located PSMS in the phone book and joined. So, we have an Englishman in our midst who doesn't know that he is supposed to be "fungophobic."

Graham is interested in expanding his knowledge of all fungi. He is especially intrigued by uses of plants in the rites and ceremonies of indigenous peoples, such as the "Chaga" mushroom of Siberia (*Inonotus obliquus*), a medicinal mushroom mentioned in David Arora's *All That the Rain Promises and More*.

Graham is an independent businessman engaged in network marketing and financial services. One of his enterprises lies in the newly emerging field of neuro-technology. He is Vice President of BBTC, a mountain bicycling group. This does take him to remote areas and to fungi. Fly fishing for steelhead, sailing, and downhill skiing are his other hobbies.

CULTIVATION GROUP

Lynn Phillips

We are a little late in reporting our activities; it's been a busy winter. Our December meeting was a field trip to Ostrom's Mushroom Farm in Olympia. It was well attended by more than 30 PSMS members. We had a very interesting and detailed tour by experienced Ostrom employee Pat Greenlee. Since our spring plans include growing several species on composted substrates, many of us were taking notes and trying to figure out how to scale down Ostrom's operation to a level we can deal with. In January, Bill Feetham hosted a workshop to build a laminar flow hood. Bill had pre-measured, cut, and labeled all the wood pieces. All it took was a bit of nailing and gluing, or, as one participant put it, "male bonding," to put it together. Bill was the only one who was surprised when it all fitted together so well. Meanwhile, Sondra Shira provided herb tea to warm us all up.

So now, thanks to money allotted by the board and the work of our members, the Cultivation Group has its own sterile hood for tissue culture work. This will be brought to meetings as needed and will also be available to check out by members for use between meetings.

Mike Hess will host the February meeting, which will be on Valentine's Day from 1 to 4 p.m. In keeping with the spirit of the day, it will be a pink *Pleurotus* party. Light refreshments for potluck are welcome, pink is preferred. We will make straw bags of *Pleurotus fabelatus*, the "strawberry" oyster mushroom, to take home. Mike is providing spawn and substrate, so just come prepared to work outside. If anyone wants spawn of this species, bring sterile agar slants for tissue culture transfers. If none of this makes sense but you are interested in cultivation, this is a good meeting to attend. You will be able to see a lot of the cultivation process and get some hands-on experience. Cultivation Group activities are open to all PSMS members. For more information, call Cultivation Chair Scott Lieske. For questions about the February meeting, call Mike Hess, 328-5531.

