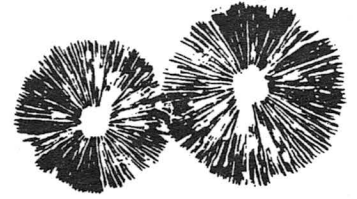


SPORE PRINTS



BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
Number 356 November 1999

MATSUTAKE RESEARCH PROJECT CONTINUES

Northwest Institute for Bioregional Research, Vol. 2, Issue 2, 1999, via Mycofile, the Newsletter of the Vancouver Myco. Soc.

Last year the Northwest Institute undertook an overview of the pine mushrooms in the Bulkley-Skeena region. Mycologist Sharmin Gamiet did a literature review and talked with researchers in the area to compile a comprehensive list of research that has relevance for the northwest. The report includes a discussion of human impacts on the pine mushroom from timber harvesting to management as well as from mushroom harvesting. Community issues and concerns are identified, including conflicts over forest resource use, environmental damage, safety issues, and economics of the harvest. Finally the report concludes with recommendations about priorities for research in the Bulkley-Skeena and the strategies to maintain the pine mushroom.

The second phase of the mushroom project began with a workshop in June bringing together people from around the northwest with an interest in mushrooms, including pickers, buyers, members of First Nations, representatives of municipalities, resource managers, researchers, etc., to discuss priorities for the next phase of work. Following that workshop, a work plan was drawn up involving three components—field work to describe mushroom sites, a computer model analysis of pine mushroom and timber production in the Cranberry timber supply area, and mapping of potential mushroom sites based on the site series descriptions from the field work.

In the fall, field work was undertaken by researchers Rick Trowbridge and Anne Macadam, assisted by our technical advisor Mary Kranabetter from the research section of the Ministry of Forests. Twenty one sites known to be highly productive pine mushroom habitat were ecologically described and classified. Sites—mainly in the Hazelton, Kispiox, Terrace, and Cranberry-Meziadin areas—were located with the assistance of experienced mushroom pickers, and information on the site and stand characteristics, vegetation, and soils was collected at each.

The sites were found to have much in common with pine mushroom habitat described in previous studies elsewhere in B.C. Soil moisture regimes were drier than average, and soil nutrient regimes in most cases were poorer than average for the biogeoclimatic subzone and variant because of a combination of soil and site features. Soils were well to rapidly drained, and generally had a coarse fragment content. Forest floors tended to be relatively thin and classified as hemimors. Plant communities typically featured sparse herb and shrub layers, which often included the following species: black huckleberry, falsebox, false azalea, prince's-pine, twinflower, bunchflower, and rattlesnake plantain. Western hemlock was consistently the dominant tree species, and lodgepole pine was frequently, though not always, present in the tree layer. In most, but not all plots, there was a high coverage of mosses, usually dominated by stepmoss and red-stemmed feathermoss. The ecosystems are described and classified in their report.

Later in the winter, Gerald Olivotto used a computer model to investigate the synergies and trade-offs between forest manage-

ment predominantly for timber compared with forest management for both pine mushrooms and timber. He found that significant rates of timber harvest are necessary to maximize pine mushroom production.

Mushrooms thrive in younger mature forest, and harvesting the older forest creates a stream of young maturing stands. An economic assessment found that the total economic yield from the forest is maximized at a rotation age of approximately 145 years. This rotation age extends the period of mushroom productivity and the development of valuable timber piece sizes. Shorter rotations lose more in mushroom value than the gain in wood fiber. Longer rotations lose more timber increments than the gain in mushroom yield. The report identifies further information requirements for mushroom and timber management, and concludes with a comprehensive list of activities that would improve understanding of the subject.

The final component of the project is identification of potential mushroom sites in the Kispiox and parts of the West Nass small business tenure. Using air photos of the areas, researchers are indicating which portions of the landscape have site characteristics similar to those identified in the field work of known mushroom sites. As well as identifying sites, the intention is to quantify that portion of the forest that is potential mushroom habitat.

The final phase of the project will be a workshop bringing together the interested parties who met initially in June in order that they can report on the findings from the various studies and get input on priorities for further mushroom research.

Copies of the report from both Phase I and Phase II of the mushroom project are available upon request from the Northwest Institute.

NOMINATION COMMITTEE

Doug Ward

In accordance with the Bylaws, a nomination committee has been formed to find candidates for next year's election. Members of the committee are Steven Bell, Patrice Benson, and Russ Kurtz. Positions to be filled are President, Treasurer, and five members of the Board of Directors. If you have an interest in serving in any of these positions, please contact one of the committee members. If you are asked to consider running for one of the positions, please consider a positive response.

CALLING ALL ARTISTS

Joanne Young

Artists of all kinds! This is a chance to show your talent, skill, and/or quirky sense of humor. The December 14 meeting and annual "Cookie Bash" will include an Art Show and Contest. Bring a work of mushroom-related art in any medium: food, ceramics, glass, photography, painting, Jello, drawing, sculpture, etc. Prize winners will be decided by popular election. Contest categories are yet to be determined, but mirth shall be highly prized. More details to come in the December *Spore Prints*.

Spore Prints

is published monthly, September through June by the

PUGET SOUND MYCOLOGICAL SOCIETY

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Annual dues \$20; full-time students \$10

CALENDAR

Nov. 9 Membership Meeting, 7:30 PM, CUH
Nov. 10 Intermediate ID class
Nov. 13 Microscopy workshop
Nov. 14 Microscopy workshop
Nov. 15 Board meeting, 7:30 PM, CUH Board Room
Nov. 17 Intermediate ID class
Nov. 26 *Spore Prints* deadline
Dec. 14 Membership Meeting and "cookie bash," 7:30 PM, CUH

BOARD NEWS

Agnes Sieger

Fifty-one new members signed on at the annual exhibit, down somewhat from last year. Attendance was also down, but the show appears to have at least broken even. Because of a mishap in scheduling, the Lake Quinault foray had to be cancelled. Steven Bell requested that people continue sending interesting and useful items to include in the PSMS website. Steven has set March 11 as the date for next year's banquet. Patrice Benson, Steven Bell, and Russ Kurtz volunteered to be on the nominating committee for next year's election. Possible candidates were discussed. Joanne Young will organize the December "cookie bash." Candidates were discussed for the Golden Mushroom Award.

Question: What tasty edible fungus has damaged expensive gathering equipment by exploding?

Answer: Smut fungi (genus *Ustilago*) sporulating on crops have occasionally, during harvesting, formed clouds of spores that have been triggered by sparks and exploded, ruining expensive harvesting machinery.

MEMBERSHIP MEETING

Tuesday, November 9, at 7:30 PM at the Center for Urban Horticulture, 3501 NE 41st Street, Seattle.

This month's program features Gregg Shiosaki, Northwest chef, food consultant, and chef instructor. Chef Shiosaki's program and cooking demonstration, "Contemporary Gourmet Uses of Mushrooms," will present recent trends in mushroom cooking. Find out how chefs are using mushrooms, including oils and powders, as seasoning.

Now a chef instructor at North Seattle Community College Culinary Arts Program, Gregg has been working with mushrooms most of his life. His parents, Pauline and Floyd Shiosaki, were early active PSMS members. In the mid-1960s, his mother, Pauline Shiosaki, edited the first PSMS cookbook. After all the recipes were tested on the family, Gregg said he didn't eat another mushroom for many, many years. He has clearly come full circle!

Would persons with last names beginning with the letters U-Z please bring refreshments for the social hour?

MEET JOSHUA BIRKEBAK

Ron Post



Joshua was born on September 11, 1989, in Seattle, one month after his parents, Tambra and Doug Birkebak, moved here from the Midwest. Of the four Birkebak children, "Joshua is the zealot. He is so eager to learn," said his mother, Tambra. Joshua has a keen interest in science, and he likes to spend time watching his two sisters play soccer or taking care of a menagerie that includes fish, lizards, walking sticks, and a freshwater crab. Joshua and his three siblings are being home-schooled, and he is a fine example of how a home curriculum can succeed.

Joshua was introduced to mushrooms by Marian Maxwell, another "zealot. This year, Joshua organized the first children's table ever at a PSMS exhibit. It was such a hit that several new members said he was their incentive to join PSMS.

Welcome to the club, Josh.

AND JUST BY COINCIDENCE

Dick Sieger

Lepiota clypeolaria frequently appears on Northwest foray tables. A look-alike, *Lepiota ventriospora*, is rarely reported here, perhaps because identifiers don't look for it. Macroscopically alike, the two species can be separated only by the shape of their spores. Spores from *L. ventriospora* have a unique profile which looks like the outline of a fat Egyptian mummy.

We almost always display *L. clypeolaria* at our exhibits, but this year none were brought in. That was disappointing for Dr. Else Vellinga, a mycologist from The Netherlands who is currently working with west coast *Lepiota* species and is especially interested in the occurrence of *L. clypeolaria* and *L. ventriospora*. By chance, she passed Brian McNett's microscopy display at the exhibit just as he was showing a specimen he saved from last year's exhibit. There, clearly displayed on the monitor, were the spores of *L. ventriospora*.

MOLD MAY YET TOPPLE BUILDING

Barbara McLintock, Vancouver Province, July 23, 1999
via Mycofile, Newsletter of the Vancouver Myco. Soc.

VICTORIA - A hole no bigger than a pinhead appears to have led to an outbreak of toxic mold that may lead to a whole wing of a hospital being demolished.

Capital Health Region program manager Bob Myers says the *Stachybotrys* mold started to grow in a crawl space when a hot-water pipe sprang a leak. As a "pinhole" leak, it caused no problem to the Gorge Hospital's water supply and it went undetected, he said. But the leak was on top of a pipe, which allowed water to spill into the asbestos insulation around it, letting the whole crawl space grow wetter and warmer.

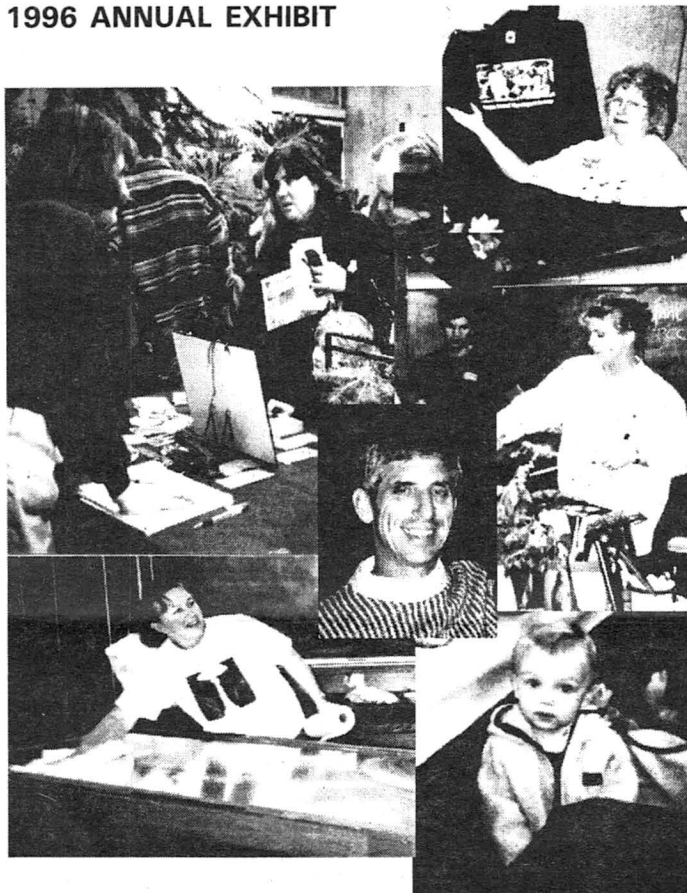
"It created the absolutely perfect environment for *Stachybotrys* to grow," said Myers. Officials aren't quite sure when the leak started, but suspect it may have been about March.

Myers said staff complained of a pungent smell in May, but hospital officials thought it came from a leak in the radiator, which was then fixed. The smell went away for a while, but returned stronger than ever this month. More detailed investigation revealed the leak in the crawl space, and the black slimy mold.

Only one room in the Gorge's rehabilitation wing has been found to be contaminated, Myers said, but the whole wing has been sealed off for testing. Dr. Richard Stanwick said all patients in the wing since March will be contacted to make sure they haven't ended up with any bad reactions from the mold's toxins or spores.

For most adults, the symptoms would mimic allergies or the flu, he said, and as long as the patients have completely recovered, there's no need to worry. More serious problems are likely to arise only in those who have allergies or asthma, or whose immune systems are weak.

1996 ANNUAL EXHIBIT



RENEW YOUR DUES NOW, FOR PASSAGE TO THE AGE OF *AGARICUS*

DV Corey

My fellow Society members, I come to you with a joyful heart, for we stand not at the threshold of a new year, nor a new century, nay, not even of a new millennium. You and I are privileged to see the dawning of a new age. Yes, as the clock ticks down the final moments of December we will witness the dawning of—"the Age of *Agaricus*, the Age of *Agaricus*. Where happiness and understanding, morels and *edulis* abounding, no more falsehoods or derisions, golden living dreams of visions, cibarius and subalbidus and fungi's true liberation, *Agaricus...Agaricus.*"

Now you may well wonder where ground zero for these momentous events will be. Let the kettle drum resound to the trumpets and the trumpets speak to the skies, for the epicenter of the Age of *Agaricus* is no other than the Puget Sound Mycological Society. Yes, you have read correctly—this is no typographical error, no mad man's dream. The Age of *Agaricus* begins in our members meetings, on our field trips, in the sage pages of this very newsletter. Yet, I perceive a cloud darkening the fair brow of yon reader, the worry of your place in these events? Don't worry, be happy.

To guarantee your place in the front row of the Age of *Agaricus* requires no Italian mushrooming pilgrimage, nor joining the endless foray of Master Taylor Lockwood—only renew. Yes, renew your membership now, right now, the Post Office is standing by. Not next week, not after the holidays. Place the enclosed renewal form in an envelope with a measly, a paltry, a pitifully meager pecuniary remuneration of 20 dollars US (family membership) or 10 dollars (student membership), affix one 33-cent Certificate of Postal Enablement, pop it in the box, and await with baited breath by return mail your PSMS 2000 Admission to Enlightenment. If only the new age also brought me some hair.

THANKS FOR THE MUSHROOMS! Jim Berlstein

This was not a great year for edible mushrooms, and this could have been a problem for the cooking section of the mushroom show. However, Paul Stamets of Fungi Perfecti and Kristina Taber of Zen-Noh Unico America Corp. generously donated large quantities of edible mushrooms to the show. This allowed the cooks to churn out one spectacular dish after another, without any fear of running out of mushrooms. PSMS is very grateful for these gifts. On behalf of the members, and all who sampled the food at the show, thanks!

PASSWORD CHANGE Colin Meyer

I have changed the userid/password to access the PSMS members-only section of the PSMS website, <http://www.psms>.

User name: morel

Password: spring

The old password will remain in effect until mid-November, when members will have received the *Spore Prints* with the new access information.

The userid/password will be good for several months. It may well be changed again when we cut off the nonrenewals in February or March and then again later in the year. **The userid/password will be listed under the PSMS website address in the issue block on page 2.**

THE CASE OF THE WANDERING MUSHROOM

Agnes Sieger

Dr. Else Vellinga, a Dutch mycologist now working on the molecular biology of fungi at Berkeley, California, had requested a piece of a very rare fungus, *Macrolepiota subsquarrosa*, from Italy for study. She was extremely disappointed when the postman delivered only a mangled package.

On the other side of the continent, a Japanese student at the University of Tennessee at Chattanooga was also unhappy. Instead of the package of books he was expecting from home, he received one of those US Postal Service bags saying, in effect, "We are sorry we completely destroyed the contents of your package, but inside this bag you will find the shredded remains." Inside was a small Zip-Loc bag containing a plastic box like slides come in. In the box was a dried mushroom, along with the following cryptic information:

nr. 83/056

23.09.1983

Loc.: Cantello (VA)

Leg.: F Mancuse

Det.: F. Bellu

Hab.: margine campi coltivati e boschetti latifoglie

Puzzled, the student asked a friend what to do with it. The friend, a biology student, suggested taking it to her professor, Dr. James Hill Craddock of the Department of Biological and Environmental Sciences at UTC. Dr. Craddock posted a query to the mycology listservers on the Web asking, "Does anybody know Mancuso or Bellu? If you do, please let them know I've got their mushroom (and it's still in perfect condition)." Several people replied; one included the e-mail address of Dr. Francesco Bellu in Bolzano, Italy.

Dr. Bellu was delighted that his missing mushroom had been located, and suggested that Dr. Craddock e-mail Dr. Vellinga with the good news. And thus, finally, no thanks to the US Post Office, Else received her wandering specimen. The student's missing box of books remains missing.

THE OLDEST FOSSIL ASCOMYCETES

H. Hass, and H. Kerp

T.N. Taylor,

Nature, Vol. 399, p. 648 (1999)

via *Mycofile*, newsletter of the Vancouver Myco. Soc.

Ascomycetes are the largest group of true fungi, and characteristically produce their sexual spores in a sac-like structure called the ascus. They include medicinal agents (such as ergot), plant pathogens (Dutch elm disease is caused by an ascomycete), and yeasts used in fermentation. We have found the oldest ascomycetous fungi with flask-shaped ascocarps in thin-section preparations of the Lower Devonian (400 million years old) Rhynie chert of Aberdeenshire, Scotland. This discovery has implications for dating the origin of this group of fungi, and underscores the diversity of fungal-plant interactions early in the colonization of the land.

MEMBERSHIP NEWS

Congratulations to Brian Luther, for his excellent article "The Phenomenal and Fantastic Fungi: A Brief Introduction to Mushrooms," which was published in the fall 1999 issue of the *Methow Naturalist*. **Sara Clark** did the mushroom illustrations.

Charlotte Turner-Zila had a heart pacemaker installed on October 12, the day of the October membership meeting. In an ultimate tribute to Taylor Lockwood, she insisted on coming to the meeting anyway to see Taylor's mushroom portrait show.

Charter Member Elsie Burkman has moved. Her new address is

Ballard Shilshole Adult Family Home

3524 NW 67th, Seattle, WA 98117

Phone: (206) 227-5276

Because of ill health, Elsie was unable to show her *Coprinus* ink drawings at the annual exhibit this year. Elsie would enjoy hearing from her old friends at PSMS. Give her a call!

A surprise visitor to the 1999 annual exhibit was lifetime PSMS member **Denny Bowman**, who now lives in Thailand. A last-minute business trip to the U.S. provided the perfect timing.

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Center for Urban Horticulture

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