

SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
Monroe Center, 1810 N.W. 65th St., Seattle, WA 98117

April 1986

Number 221



PRESIDENT'S MESSAGE

Coleman Leuthy

I sincerely appreciate the confidence expressed by your votes in selecting me as your fourteenth president. We welcome Edith Godar as our new treasurer. You have also selected a fine group of new board members and alternates to help me, along with the continuing officers and trustees, pursue the goals and purposes of our club.

I will miss you at the April and May membership meetings as I will furthering my understanding of mushrooms on a tour sponsored by Fungophile, Inc., of Denver which is being led by Gary Lincoff, president of the North American Mycological Association. May you enjoy a fine spring mushroom season and excellent field trips.

Committee Chairpersons:

Many of you have graciously consented to continue in positions you've been handling. Some positions have not yet been filled. If any one wishes not to continue serving, notify Betty Hamilton, but please help out until we can appoint a replacement. We also have some new chairpersons. I wish to thank all for their hard work and willingness to serve.

Library/Office - Expansion of hours:

By September I would like to have the library open at least three afternoons and one evening and perhaps part of Saturday. We need volunteers to spend 2-4 hours most weeks. Please think about this and write a note or call me after May 15 - 322-2554.

Printing of Educational Materials, Etc.:

Help! We are in need of ongoing printing at reasonable rates, especially this summer in preparation for fall classes. A gentleman spoke to me about a year ago with some good ideas. Would he, or anyone else who could provide or secure good rates, please contact me after May 15 - 322-2554

Color Slides:

We are upgrading our slide library for use in presenting lectures and programs. Joy Spurr needs two people to help label and arrange the collection. (It would be nice if they could also later help maintain it in our library.) Call Joy at 723-2759.

Anyone wishing to make announcements, etc., at our membership meetings please notify me before the meeting starts so you can be listed on the agenda. Please make your comments succinct. Thank you.

WE HAVE A PHONE!

After 22 years of relying on the generosity of our members, PSMS finally has a phone of its own. Installed in the library at the Monroe Center, it is attached to an answering machine programmed with the latest meeting and field trip information, telephone numbers of PSMS officials, and room for messages. The number is 783-4942.

CHINA NOTES

Qian Shaochang

[Beijing *China Daily*, May 8, 1985]

The following article was picked up by Carl and Betty Hermanson when they were in China last May.

"On the Tibetan plateau grows a curious variety of herbal medicine bearing the name of "winter caterpillar, summer herb." The herb is in fact a fungus which grows out of the body of a hibernating caterpillar. It is traditionally used to increase the body's resistance to disease.

"The tiny brown inch-high mushrooms are regarded as precious not only because of their effects but also because of their extreme rarity. However, scientists in Shanghai have recently succeeded in growing the fungus under artificial conditions.

"Dr. Sun Yunhan, of the Chinese Institute of Naval Medicine in Shanghai has visited the Tibetan plateau twice to collect specimens of the fungus which has been identified as *Cordyceps sinensis* by mycologists -- experts in the study of fungi-- at Nanjing University. In the Tibetan winter, the caterpillar's body is taken over by the mycelia, of which the mushroom, in summer, is the fruiting body. In his laboratory in Shanghai, Dr. Sun first isolated the mycelium before he could artificially culture the fungus. Then he and his colleagues, Dr. Huang Yinmei and Dr. Chen Daoming, conducted a series of experiments to determine the effectiveness of his cultured mushrooms. One of these experiments took the form of a swimming contest between mice who had received treatment and those who had not, resulting in a landslide victory for the fungus-fed contestants.

"It was also discovered that both natural and cultured forms of the fungus enhanced the power of the body's own disease-fighting system in the white blood cells to resist invasion by bacteria or other microorganisms.

"A further experiment showed that both forms of the fungus could help inhibit the growth of a certain type of lung cancer -- in mice.

"Now chemists at the Shanghai Number 3 Chinese Drugs Factory have identified the chemical structures of the various components of the cultured fungi, and have also successfully produced an extract in capsule form. According to their own tests on fifteen volunteers, subjects were able to perform for longer hours and with heavier workloads.

"Dr. Sun told *China Daily* that industrial production of the mushroom has opened up new possibilities for the use of this once sought-after medicine. Its applications include treatment for a number of specific diseases, the inhibition of tumor growth, a general tonic for the weak, and perhaps most important, a possible routine remedy for workers in highly strained occupations, such as divers, jet pilots, tank drivers, mountaineers, athletes, jungle fighters, Antarctic explorers and astronauts."



P. S. M. S.
Spore Prints

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PUGET SOUND MYCOLOGICAL SOCIETY
Monroe Center, 1810 N.W. 65th St., Seattle, WA 98117
(206) 783-4942

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Ludmilla H. Kleinman

SCI. ADVISOR: Dr. Joseph F. Ammirati

LIBRARY: Room 104 of the Monroe Center.
Hours: Wed. 6 p.m. - 9 p.m.
Thur. 10 a.m. - 2 p.m.

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

Calendar

April 14 Beginners' class, 6:30 p.m., Monroe
Center auditorium
Membership meeting, 7:30 p.m.,
Monroe Center auditorium

April 21 Board meeting, 7:30 p.m., PSMS
library

April 25 *Spore Prints* deadline

May 3, 4 Field trip to Lake Wenatchee Park

May 10, 11 Field trip to Swauk Creek

May 17, 18 Field trip to Stafford Creek

May 24, 25, 26 Field trip to Clear Lake

May 31, June 1 Field trip to Soda Springs

Welcome to the following new members:

Christopher Dewey	343-9755
Linda Frank	392-7996
John Fulghum and Leora Parker	283-0478
Ora McKinnon	392-7996
Ludmilla Pieczatkowska	784-3869
Judith Visty	632-3587

Membership Meeting

Monday, April 14, 1986, at 7:30 p.m. in the Monroe Center auditorium, 1810 N.W. 65th Street, Seattle

Our speaker is a lady known to many PSMS members and with special fondness by most all Society members for her continuing contribution to the specialty of mushroom cookery. Pauline (Mrs. Floyd) Shiosaki edited the PSMS volume *Wild Mushroom Recipes*. She and husband Floyd were charter members of the Society and continue as dedicated hunters. Mrs. Shiosaki teaches cooking at Highline Community College and is a consulting dietitian in the Seattle area. Her talk will be slide illustrated.

BEGINNERS' ORIENTATION CLASS M. Hendrickson

The Beginners' Orientation Class for April will feature a slide-illustrated presentation of the edible mushrooms we can expect to find during the spring mushroom season. The Beginners' Class has reached the point where they are ready and eager to go out for their first spring season, and we want to help them learn to recognize the choice edibles they will find so they will know what to collect for the "pot" and what to collect for the identification table at field trips.

BOARD NEWS, FEBRUARY MEETING Dick Sieger

Treasurer Ferris Anderson presented the annual financial report. PSMS has \$23,000 in assets. 1985 expenses included a \$5,000 donation to the Stuntz Memorial Foundation.

Scholarship awards of \$2000 were approved, the recipients to be selected by Prof. Ammirati. \$100 was donated to the Arboretum Society.

Lyle Morgan of Morgan Shaw Design gave ideas for another exhibit poster and discussed marketing of posters. She reported that the Society for Technical Communication gave her firm an award for PSMS's 1985 poster. Competition for the award included Boeing and Paccar. No decision was made on commissioning a third poster.

Exhibit Chairman Dennis Bowman introduced his enthusiastic new assistant, Caroline Irvin.

No information was received on the March board meeting by the *Spore Prints* deadline.

1986 EXHIBIT Denny Bowman

With plans for the 1986 exhibit well under way, it is time for each of you to give thought to lending a hand. Several several committee chair positions need to be filled and we have an immediate need for two or more people willing to work at public relations and publicity. I am looking for an exhibit assistant, as Caroline Irvin has had to step down due to another commitment. So, any of you members willing to share or discover a talent of yours, please give me a call at 525-8399.

New membership booklets will be at the April meeting. Please pick up yours from the membership table.

CONSERVATION & ECOLOGY COMMITTEE M. Dilly

I have been asked to chair the Conservation and Ecology Committee, formerly called the Legislative Committee, started and headed by Lori Knox.

Lori is solely responsible for rallying support for the preservation of the chanterelle. Her efforts eventually this led to the formation of CEPS (Citizens for Environmental Planning). She initiated negotiations with the Department of Natural Resources that resulted in the present DNR Mushroom Task Force. Through her efforts, the first ever public hearing on mushrooms was held, leading to more hearings, two bills before the legislature, the cooperation and unification of all Pacific Northwest mushroom organizations, and the support of many outdoor-oriented clubs. Thank you, Lori!

At present both bills are dead. Bill 2029, which would have allowed the DNR to institute and enforce a program to protect wild mushrooms on public lands, never made it out of committee. Bill 2034, which would have added mushrooms to the Specialized Forests Products Act -- limiting the amounts that could be gathered on ALL State lands without a permit -- made it into Rules, but time ran out before it could be acted on. A special thanks to all of you who took the time and effort to contact your legislators. Your contacts have made them aware of us and our concerns for the future.

CEPS continues to meet. To become involved in this worthwhile endeavor, please contact me or Lori. Verpas and morels are showing, and soon we shall see the dreaded signs appear advertising the buying of wild mushrooms. If you observe any, please write down or photograph the information and report it to Ken Hendricks at 322-7476. It is important.

One final note as we all gear up for the mushroom seasons ahead. We, too, need to use judgement as we enjoy our hobby. The environmental balance is fragile, we need to respect all phases of it.

THE 22nd SURVIVORS' BANQUET Dick Sieger

While the band picked out blue grass music, a hundred and thirty-four curious people picked through mushroom sauce. Ours may be the only banquet in the country at which people try to identify their dinner. There were plenty of mushrooms to identify. The dinner was good, and the music lively.

After dinner, Charlotte Turner-Zila introduced our new officers, board members, and their alternates. Joe Ammirati presented PSMS scholarships to two deserving University of Washington students, George Mueller and Steve Rehner, who are working on doctorates in mycology. Margaret Dilly was presented with a beautiful gavel fashioned by Edith Godar, which will forever be called The Margaret Dilly Gavel. In her final act as PSMS president, she struck a blow for freedom and passed it on to Coleman Leuthy.

As master of ceremonies, Andy Green really kept things moving, especially the floral table decorations. Some of us big winners in the primrose lottery will have to fill in line 19 on our 1040's.

We were all winners from the time we came to the time we left, courtesy of our banquet committee, chairman Brian Read, and everyone who came. Thanks folks.

FIELD TRIPS

Andy Green

Whoopie! The snows are melting and the lowland *Verpa bohemica* are popping up! I have a feeling that this will be a great morel season, so I want everyone to join in on some bounteous picking. And of course let's not forget the bounteous eating at the oh-so-popular Saturday evening pot-luck dinners.

May I request that you volunteer to co-host a field trip this spring. You may do so by calling me at 523-5975, Bill & Charlotte (Turner)-Zila at 325-1519, or Irwin & Millie Kleinman at 323-2903. Being helpful is so satisfying.

May 3, 4 Lake Wenatchee State Park
Go east on Route 2 over Stevens Pass. Twenty miles east of the summit, turn left on Route 207. Go to the shelter in the park's day use area.

May 10, 11 Swauk Creek Camp
Follow I-90 over Snoqualmie Pass and take exit #85, just east of Cle Elum. Follow Route 970 to the Route 97 intersection. Turn left (north) and continue on Route 97 for about 16 miles. The campground is on the right. Swauk Pass is about 4 miles past the campground.

For last minute field trip information, you can call the new PSMS phone-recorder at 783-4942 or, if you're really in the dark, call me or Irwin Kleinman.

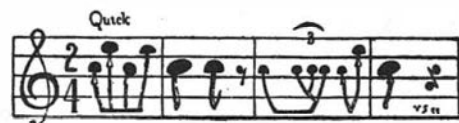
STRADIVARI AND HYPHOMYCETAE Agnes Sieger

Many of you may have read in *The Seattle P.I.* or seen on TV that Dr. Joseph Nagyvary, a professor of biophysics and biochemistry at Texas A&M, believes a fungus that grows on wood soaked in water may be the secret ingredient that gave the pure tone to Antonio Stradivari's violins.

Dr. Nagyvary examined four wood samples, two from Stradivari's violins and two from violins by another 17th-century violin maker, Giuseppi Antonio Guarneri, over 10 years. He found a dramatic difference between them and the woods used in modern violins: The 17th century wood showed microscopic traces where fungi -- which could have grown only through water immersion -- had separated and loosed the cells, making the wood lighter and drier than dry-seasoned wood. Dr. Nagyvary speculated that the fungi infected the wood when the logs were floated down-river from the Tyrolean Alps, where most of the wood was cut, to the Italian towns where the instruments were made.

When queried by *Spore Prints*, Dr. Nagyvary reported that, not being a mycologist, he could not identify the fungus. "There are 200 aquatic hyphomycetae in N. Italian rivers!" He enclosed a photograph and wondered if we could identify it.

Dr. Nagyvary's data will be soon submitted to *Science* if you care to keep an eye out for the full details.



MESS CALL

FUNGUS DEGRADES TOXIC CHEMICALS

J. Dusheck

Science News (6/22/85)

A fungus that rots fallen trees will reduce to carbon dioxide such persistent environmental poisons as DDT, lindane, PCBs, benzo[a]prene, and dioxins, say biochemists at Michigan State University (MSU) in East Lansing.

Their report, published in the June 22 *Science* describes the experimental growth of *Phanerochaete chrysosporium*, a white rot fungus, in glucose solutions containing different organohalides -- carbon-containing compounds with attached chlorine or bromine atoms. These chemicals, which include many environmental pollutants, resist degradation. Some, like DDT, tend to accumulate in the bodies of animals high on the food chain.

Phanerochaete chrysosporium is a crust-like polypore that normally lives off cellulose in wood. The cell walls of wood are protected by lignin, a highly complex ring polysaccharide. Most organisms are incapable of breaking down lignin, but not the white rot fungi, so called because they digest the dark-colored lignin.

The enzyme produced by *Phanerochaete chrysosporium* to break down lignin is thought to work by a free-radical mechanism, says John A. Bumpus, one of the paper's authors and a visiting assistant professor at MSU. Free radicals are atoms with an unpaired electron. They are typically very reactive and non-specific, attacking a variety of structures. It was the enzyme system's lack of specificity that suggested to Steven D. Aust, professor of biochemistry at MSU, that the fungus might well degrade organohalides as well as lignin.

Aust, Bumpus, and two students, Ming Tien and David Wright, labeled the carbon rings of the organohalides with carbon-14, which is mildly radioactive. They then estimated the rates at which these compounds degraded in fungus-infected glucose solutions by measuring the rate at which carbon-14-labeled carbon dioxide was produced. After 30 days, 1 to 15% of the organohalides had degraded to carbon dioxide. Larger amounts were partially degraded. After 18 more days and the addition of more glucose, only 10% of the original DDT remained, although not all of the other 90% had been reduced to carbon dioxide.

The Environmental Protection Agency, which funded the study, says it is guardedly optimistic about the results. The MSU researchers and the EPA hope the fungus can one day be used to help clean up soils contaminated with toxic chemicals.

TROLLS IN OLIVE DRAB

Dick Sieger

A radio report said the National Park Service plans to charge \$10.00 for admission to some National Parks, including Mt. Rainier. Congress was told that users will be glad to pay the fee. The *Seattle Post-Intelligencer* reported on March 1st that Mt. Rainier National Park wants to collect fees from people travelling between eastern and western Washington. It plans to put three toll gates on state highways 410 and 123 and charge for access to Chinook and Cayuse passes. If both proposals are adopted, PSMS mushroom hunters would have to pay \$10.00 to go through the park on their way to the Clear Lake or Soda Springs field trips in 1987.

FROM THE VANCOUVER MYCOLOGICAL SOCIETY

As you are probably well aware by now, in 1986 there is a World's Fair located in our fair city, EXPO '86. We are expecting an influx of visitors for this event. No doubt some members of your society will be coming too.

We would like to extend an open invitation to your members to attend our meetings or join in our field trips if they are visiting this area. Come out and meet us! And that applies anytime, not just during Expo.

Here are some phone numbers to call:

Tom Tatum (president) - [604] 943-4753

Paul Kroeger - [604] 688-7037

David and Eileen Tamblin - [604] 521-4318

Yours mycologically,

David Tamblin

David Tamblin

[Editor, *Mycophile*]

FORAYS, TOURS, CLASSES

Summer Field Course. A 5-day course, "Higher Fungi of the Sierra Nevada," will be taught by Harry D. Thiers, Professor of Biology, San Francisco State University. It starts on June 9th. For information, contact James Steele, Sierra Nevada Field Camp Manager, Department of Biology, San Francisco State University, 1600 Holloway Ave., San Francisco, CA 94132. Steve Rehner and Greg Mueller attended last year and speak highly of Dr. Thiers and his class.

Telluride Mushroom Conference. The sixth annual Telluride Mushroom Conference will be held August 21-24, 1986, at Telluride, Colorado. For further information, write Dr. Emanuel Salzman, c/o Fungophile, P.O. Box 5503, Denver, CO 80217.

Costa Rica Study Tour. A two-week natural history and mushroom study tour of Costa Rica will be conducted by David Arora, author of *Mushrooms Demystified*, Gary Lincoff, President of the North American Mushroom Association, and Dr. Emanuel Salzman, founder of the Telluride Mushroom Conference, from July 19 to August 2, 1986. For further information, contact Dr. Emanuel Salzman, c/o Fungophile, P.O. Box 5503, Denver, CO 80217, telephone (303) 296-9359.

North American Mycological Association Foray (for NAMA members). Priest Lake, Idaho, September 25-28, 1985. Dr. Joseph Ammirati is the foray mycologist. For information, contact Vee Nealey of the Spokane Mushroom Club, telephone (509) 325-5459.

MYCOLOGIST RETIRES

Dick Sieger

A. Grant Waystead retired April 1st. Grateful colleagues said it was an appropriate day on which to honor him. Professor of Tentative Mycology at Gualiac College, he wrote the screen play for *Taxonomy of Wrecking Yard Fungi*. He scorned conservatives, placing *Coprinus* and *Peziza* in one family. "They both float on wine," he said, "and both fruit on the seat covers of three-hole Buicks." Dr. Waystead filled a much needed void in mycology.