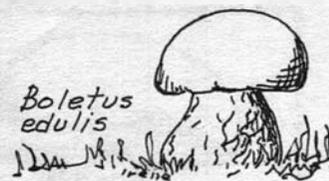


SPORE PRINTS

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

October 1986

Number 225



MT. ST. HELENS UPDATE

David Hosford

[from a talk to PSMS on September 8, 1986]

Mt. St. Helens is recovering very fast. It became apparent after about two years that many of the outlying areas, about about 5 miles away from the crater, were rapidly changing back toward normal. The crater and the area below it in the so-called Plains of Jordan, where no soil was left, are still much the same - devastated. But out around the lake itself, quite a bit of vegetation is coming back.

The reason for the more rapid recovery in those areas is that the explosion occurred in May, when a lot of snow was still on the ground. Many small trees and shrubs were completely covered by thick layers of snow, which is excellent insulation. When the blast occurred, massive layers of ash laid over that snow and protected it so that it didn't melt away until the fallout overhead had cooled.

Within one year, some of these plants began to poke up through the ash, creating islands of plants and trees, the more so the farther away from the lake area toward the periphery of the blast area.

The polypores there prior to the explosion weren't hurt because their mycelia were inside the trees. The first summer produced a lot of ganodermas, *Lae-tiporus sulphureus*, and similar things. Later on that first summer, pholiotas began popping up on the logs, lots of pholiotas.

The fire-loving fungi came in quickly. The first two seasons, there were a lot of little cup fungi like pyrrodermas. On the ground in the charred areas, *Pholiota carbonaria*-type things came up, as would be expected in a burned area.

When we began to explore around the trees, we found lots of mycorrhizal fungi as well. *Cortinari*, some *Russula*, some gastromycetes like *Rhizopogon*, a whole variety of things.

Now the islands of growth around the shrubs that were saved are spreading outward, like mycelia. The area has really filled in very rapidly.

MUSHROOM CULTIVATION GROUP

Agnes Sieger

Bill Guinn is interested in forming a mushroom cultivation group. If you are trying to grow mushrooms on your own, or would be interested in learning about mushroom cultivation and what is available, call Bill at 285-1999 or Dennis Bowman at 525-8399.

Mushroom cultivation can be as hard or easy as you like. *Stropharia rugosoannulata*, for instance, just needs to become established and then comes back year after year. The yield can be tremendous, and planted around the outside of the garden, it has the added advantage of distracting the slugs, which can't make a dent in it, and they never get to the vegetables.

WATLING MAY SPEAK AT UW

Dick Sieger

Dr. Roy Watling, eminent mycologist of the Royal Botanic Gardens, Edinburgh, will visit Seattle early in November. Dr. Ammirati has invited him to speak at the University of Washington on November 4th. However, Dr. Watling's schedule is tight, and we have not been able to confirm his appearance at the UW as we go to press. If we receive word before the mailing, we will try to enclose a slip with this *Spore Prints* giving details. If not, please check with the PSMS answering machine, (206) 783-4942.

Dr. Watling is the author or co-author of three books prized by serious amateurs: *How to identify Mushrooms to Genus III: Microscopic Features*, *How to Identify Mushrooms to Genus V: Cultural and Developmental Features*, and *Identification of the Larger Fungi*. He has spoken to other societies in the west to unanimous acclaim. Dave and Jennie Schmitt were his students at a workshop in Colorado and spoke highly of his course. We are fortunate to have him in our area again. Don't miss the opportunity to hear him if you can.

GROWING TIPS

Mush Rumors

Oregon Mycological Society

Paul Stamets, co-author with Jeff Chilton of *The Mushroom Cultivator*, offers an answer to a mystery which has puzzled mushroomers for years. Many throw their favorite mushrooms onto their property in hopes of someday sprouting a tame morel, chanterelle, or bolete. But it appears that fleshy specimens decay rapidly, with mold spores developing far more rapidly and successfully than the desired mushroom spores. If you really want to try to see whether you could grow a wild mushroom, Paul suggests you first soak the mushroom in water to separate the spores from the fungus and then throw the spore-laden water into your garden or woods. Who knows, you might get lucky!

EUROPEAN NOTES

American Type Culture Collection

Europeans take their mushrooms seriously. In 1978 in West Germany, 400 different kinds of fungi were topographically registered in a publication. The information was supplied by 2,200 contributors in the "mapping of mushrooms" as it is called. A similar program has been started in East Germany.

The forests of Europe are too few for the number of people that descend upon them in search of mushrooms. To ameliorate the situation the Czechoslovak forestry plans to ensure repopulation of over-picked forests by an ingenious system of maintaining mycological nurseries. In four small protected forest areas, wild mushrooms would be given an opportunity to propagate undisturbed, and later transplanted elsewhere in the forest.



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PUGET SOUND MYCOLOGICAL SOCIETY
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(206) 783-4942

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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

Membership Meeting

Monday, October 13, 1986, at 7:30 p.m. in the Monroe Center auditorium, 1810 N.W. 65th Street, Seattle

Dr. Walter J. Sundberg, Associate Professor of Biology at Southern Illinois University at Carbondale, will talk on "Hunting *Lepiota* -- Marketbasket and Hand-Lens Biology." Samples of *Lepiota* species will be woven into a discussion of how one can use a hand-lens and knowledge of a few physical principles to study the anatomy of mushroom caps. Dr. Sundberg is in Seattle to work with Dr. Ammirati on a revision of *Mycology Guidebook*.

Beginning this month, the general meetings will have a new format. The program will start promptly at 7:30, so be on time. Dr. Sundberg's lecture will be followed by a short period for business and announcements. Following the meeting will be a social time for refreshments (donations requested), viewing the mini-display, book sales, membership sign-up, etc. Book sales and membership will also be open from 7:00 to 7:30 p.m.

Calendar

- Oct. 1 Intermediate class, 7:00 p.m.,
Room 104, Monroe Center
- Oct. 7 Beginners class, 7:15 p.m., Monroe
Center auditorium
- Oct. 8 Intermediate class, 7:00 p.m.,
Room 104, Monroe Center
- Oct. 11,12 Field trip to Coleman Leuthy's cabin
- Oct. 13 **Membership meeting, 7:30 p.m., Monroe
Center auditorium**
- Oct. 14 Beginners class, 7:15 p.m., Monroe
Center auditorium
- Oct. 15 Intermediate class, 7:00 p.m.,
Room 104, Monroe Center
- Oct. 18,19 **Annual exhibit, Monroe Center
auditorium**
- Oct. 21 Beginners class, 7:15 p.m., Monroe
Center auditorium
- Oct. 22 Intermediate class, 7:00 p.m.,
Room 104, Monroe Center
- Oct. 24 *Spore Prints* deadline
- Oct. 25,26 Field trip to 29 Pines, Teanaway
- Oct. 27 Board meeting, 7:30 p.m.
- Oct. 28 Beginners class, 7:15 p.m.
(place to be posted)
- Nov. 1,2 Field trip to Rockport or coast
- Nov. 4 Beginners class, 7:15, Monroe
Center auditorium
- Nov. 5 Intermediate class, 7:00 p.m.,
Room 104, Monroe Center
- Nov. 8,9 Field trip to Deception Pass

EDUCATION CLASSES

Coleman Leuthy

Orientation Class: A general orientation class will be held from 6:30-7:20 p.m., before the membership meeting on November 10th. This time only, the membership meeting will start at 7:40 p.m. Members who have joined within the last year are encouraged to attend.

Beginners Class: The beginners class is under way. There is still time to join by attending the September 20th or October 7th meeting. These classes stress recognition of common genera and edible and poisonous species. The classes cost \$8.00 plus \$2.50 for materials. Monroe Center Auditorium, 7:15 p.m., Tuesdays.

Intermediate Class: If you can recognize most common genera and are prepared to use keys for identification, these sessions may be for you. You can purchase a full set of keys for \$45 or buy individual keys as we study different mushrooms. A fee of \$1.00 per session will be collected to defray rental costs. PSMS library/office, Monroe Center, 7:00 p.m., Wednesdays.

Welcome to the following new members:

- | | |
|-----------------------------------|-----------------|
| Jim and Maylie Donaldson | 524-8325 |
| Gary Gilbert and Michelle Baillet | 547-9881 |
| Mae C. Green | 367-0223 |
| Hiroko Hayashi | 643-6367 |
| Portia Kreidler | 641-7546 |
| Mary Lou Lutz | 527-6246 |
| Erin Moore and Bruce Kochis | 543-0508 |
| Craig and Pam Nevil | (bus.) 451-0063 |
| Nicholas and Grace Popoff | 784-5653 |

FIELD TRIPS

Andy Green

October 11, 12**Coleman Leuthy's Cabin**

There are two possible routes. (1) Follow I-90 east over Snoqualmie Pass, take exit #85 just east of Cle Elum, and follow Route 970 to Route 97. Take Route 97 to Leavenworth, go 2 miles north on Highway 209, and then 4 miles up Eagle Creek Road to barn and cabin on the right. (2) Follow U.S. Route 2 over Stevens Pass, turn left at Coles Corner onto Highway 207 approximately 17 miles east of the summit, turn right after 3 miles onto 209 to Plain and proceed on toward Leavenworth. Watch for Eagle Creek Road on the left. People with large RVs or trailers should notify Coleman between October 6th and 9th - call 322-2554 (day times) - and try to arrive by noon on Saturday. For places to hunt on the way up, see "President's Message."

October 25, 26**Twenty-Nine Pines, Teanaway**

Take I-90 over Snoqualmie Pass to exit #85. Follow Route 10 east of Cle Elum for 2-1/2 miles; turn left on Route 970, go 4-1/2 miles, and turn left onto Teanaway River Road. Continue about 6 miles to the Bible Rock Children's Camp. Bear right on the Teanaway North Fork Road and continue on to Twenty-Nine Pines, on the left just past the Jack Creek Road.

November 1, 2**Rockport or Coast**

The exact location of this field trip is still undecided. For place and directions, call PSMS - (206) 783-4952 - during the week before the field trip.

November 8, 9**Deception Pass**

From I-5, take exit #226 and go west on Route 536, which becomes Route 20. Turn south, away from Anacortes and toward Whidbey Island. Cross Deception Pass to the park and follow PSMS signs. Alternatively, take I-5 exit #189, continue west on Route 526, cross to Whidbey Island on the Mukilteo ferry, and go 50 miles north on Route 526 (becomes 20).

BOARD NEWS

Margaret Holzbauer

For her devotion and hard work, the Board voted to award past president Margaret Dilly a life-time membership. Never one to rest on her laurels, Margaret reported that she will be giving a conservation workshop at the NAMA foray along with Maggie Rogers. She emphasized the need for continuing education on conservation and that plotting studies are a must.

Coleman reported that volunteers are still needed for the mailing committee and the office/library. Dennis Bowman stressed the need for more volunteers to help with the exhibit.

Coleman suggested that the Program Committee have a budget out of which guest speakers can be paid. In fact, he would like each committee to have a budget.

Dennis Bowman reported that the Survivors' Banquet will feature a ten-course Chinese dinner; he is hoping Ben Woo can be persuaded to comment on each course. Margaret feels strongly that invited guests at the banquet should include media people.

It was the consensus of the Board that the format of the general meetings be changed to shorten the time spent on business, to start the meeting exactly on time, and to follow it with an opportunity to socialize. Several people offered to bring cookies to the next meeting.

PRESIDENT'S MESSAGE

Coleman Leuthy

I would like to welcome everyone to my cabin near Leavenworth for the field trip on October 11th and 12th. Your best collecting will be in moist areas before you get to Leavenworth, so start with a breakfast, lunch, and Thermos full of coffee for a day of collecting en route. Some good places to collect on the Stevens Pass route are as follows: the Index - Jack Pass loop off Route 2 (if you have the time); the Money Creek Campground (closed) between Grotto and Skykomish; Deception Falls above or below the highway; the old highway (USFS 2706) loop which comes back to U.S. 2; the old highway from Scenic to the summit (turn left off Route 2 before the Burlington Northern overpass); to the right up Troublesome Creek after crossing the double bridges; the Stevens Pass summit area; anywhere on the east side; the Lake Wenatchee area; and either side of the road at Beaver Hill on Highway 209 (caution, blind curve). If you're coming over Snoqualmie Pass, there are many fine locations to choose from on the Blewit Pass road.

ANNUAL EXHIBIT

Dennis Bowman

Opportunities knocking: Involvement in the annual exhibit provides a wonderful opportunity to learn more about the varied aspects of fungi as well as to get better acquainted with other club members. The commitment is small - just an hour or two of time - and the experience rewarding. Come and get involved. Sign-up sheets will be available at the October meeting or call me at 525-8399.

Video: For the club archives and for future public relations work, I'm looking for a person willing to video tape various phases of the exhibit. Please call me at 525-8399.

Mushroom collecting: All members are reminded to collect mushrooms for the exhibit. Don't overlook your own backyard or that damp basement corner. Collectors are reminded to place their fungi in sturdy containers for protection, to collect the entire mushroom including a bit of the duff at the base, and to label each container with their name and phone number. Good hunting.

Sign painter needed: Call 525-8399.

WANTED: BOOK DONATIONS

Joy Spurr

Donations of mycological books are needed for two projects. The first is the PSMS library. The second is the library at the Center for Urban Horticulture, University of Washington, to start a collection of mycological books to be available for public use. You may leave your donations at PSMS during office hours or at the monthly meeting, or phone Joy Spurr, 723-2759, Coleman Leuthy, 322-2554, or Margaret Dilly, 782-8511, to arrange for delivery or pickup.

The library at the Center for Urban Horticulture has an extensive collection of books on all aspects of horticulture and gardening, accumulated over many years, mainly through donations. It is a comfortable place to browse, and the librarians cheerfully assist you in finding books you want. Away from the hustle and bustle of the University campus, it is easily accessible at 3501 N.E. 41st Street, with plenty of free parking. Hours are 9-12 and 1-5 weekdays.

MATSUTAKE STUDY

David Hosford

[from a talk to PSMS on September 8, 1986]

The Japanese use a lot of their mushrooms. Shiitake, for example, is grown on logs and hedge rows all over Japan. But the king of all, the one that is held up as the noblest of all the Japanese edible mushrooms, is *Tricholoma (Armillaria) matsutake*.

It is also one we probably know least about and one of the most difficult to grow. In fact, it is not grown in a commercial sense; it is simply enhanced in natural settings.

T. matsutake is a very, very sought after mushroom, not only in Japan but throughout the world, where a heavy commerce is developing for this fungus. Unfortunately, Japanese production of matsutake has declined enormously. In some areas, they're in desperate straits to keep their production going at all. One of the reasons for this decline is that Japanese peasants now use petroleum for fuel, as costly as it is, and no longer go out and scour the forests for wood. Consequently, the forests have gotten brushy, a condition detrimental to the growth of matsutake. The other problem is that the pine trees that matsutake is associated with in Japan are dying. Rapidly. They have a root nematode problem, and in some areas most of the pines are being lost.

What are the Japanese doing about this? One of the things is marking studies. Every year in a study area, researchers mark each fruiting body with a wire flag, a different color for each year. These markers tie together in a ring which shows the edge of the mycelium. Each year, another ring of flags is added to build an understanding of how the mushroom grows. This is the kind of work that I'm doing now in the Cascades with our similar species.

It is also important to know what is growing with the matsutake. Perhaps they're competitors; perhaps they're necessary for the the mushroom's growth. What is the fungal community? This is the kind of thing we want to look at more here, too.

Cut-aways are also taken through the soil to study mycorrhizal associations. Matsutake are mycorrhizal fungi and require tree roots. The roots utilize the fungus for increasing their absorbing surface. The fungus, it has been well shown, picks up sugars from the cells in the roots. That's important, obviously, in the nutrition of the mushroom, but it also might somehow be related to triggering the formation of fruiting bodies.

The flagging studies in Japan have documented five zones of mycelia growth. The mushroom always occurs in zone 3. Zone 4 is the beginning breakdown of the last year's mycorrhizae. Bacterial studies have shown distinct differences in the kinds of bacteria found in these zones. This definite zonation is important to understanding the basic parameters of mushroom growth.

Back in the U.S., Dr. Hiroyuki Ohara, a couple of other Japanese colleagues, and I are doing similar studies at 22 sites in the Wenatchee National Forest and hope to make some comparisons with the Japanese studies. That is, if we can maintain our sites over the 10 or 15-year period that's necessary. If you're of Japanese-American heritage, you know very well that the best hunting grounds on the east side, the ones closest to Seattle, are already gone. For example, consider the freeway extension at Stampede Pass.

The American form of matsutake, *Armillaria ponderosa* (or *Tricholoma ponderosum*, according to Singer), is closely related to the Japanese matsutake in terms of odor, flavor, and so on, but is probably a distinct species. It is not as dark brown as the one in Japan, and the ecological factors associated with it are different.

Our matsutake may also be divided into distinct strains. For instance, matsutake grow on Mt. Rainier and in the Cascades and down on the peninsula by Shelton but don't seem to occur in between. In the Cascades, they are associated with conifers; in Shelton, with shrubs like rhododendrons. We haven't done any studies at Shelton, but the matsutake that occur under lodgepole pine seem to be distinct from the ones I'm studying at my sites, all of which are grand fir - Douglas fir associations.

Besides the studies already mentioned, we're doing culture studies, using a special glucose-yeast medium devised by my colleague and his colleagues. We're hurrying as fast as we can because, as I said, our sites are rapidly being developed for forestry, etc., and we only have so long to understand this thing. Eventually we're going to lose most of our prime sites and we'll be back in the laboratory. Obviously, we'd like to be able to grow matsutake from somatic cultures. But they grow slowly, if at all, and that goal is a long way off.

MONSTER MUSHROOM FOUND

The Spare Point

Los Angeles Mycological Society

According to a report on radio station KFVB last October 30, two Italians found a mushroom weighing 99 lb south of Naples. They tried to put it in their car trunk, but it wouldn't fit. Somehow they managed to haul it into town, but then their problem was that they didn't know whether it was edible.

NOTICE

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Olympic Mountain Mycological Society Wild Mushroom Show: October 4 & 5, 9 a.m. - 5 p.m., Sportsmen's Club, Forks, WA. Guided forays, pot luck, spaghetti with wild mushrooms, blackberry pie. Nettie Laycock & Brian Luther are identifiers. For details, call Shelia at 374-9699 or 374-6328.

Amazon Foray: Gerry Miller, past president of the Connecticut Valley Mycological Society and collector of mushrooms in the Brazilian Amazon with Rolf Singer, will lead a foray to the Amazon Basin January 24 - February 7, 1987, \$2999+. Extra week in the Andes Mountains and coastal Peru, \$950. For information, call or write Gerry Miller, Box 126, East Haddam, CT 06423 - (203) 873-8286.

Morel Catalog: For those who like to collect anything with even the slightest mushroom connection, the New Jersey Mycological Association reports a catalog in which everything is based on a mushroom motif. Some of the items mentioned are 1-in. high enameled pins for \$3.00, a 14 x 15 in. totebag of heavy natural canvas with a brown morel and green foliage for \$14.50, and a tan T-shirt with a brown morel and green foliage for \$12.50. A copy of the catalog can be obtained from Malfred Ferndock, Box 86, Dennison, MN 55018.