

SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
2559 NE 96th, Seattle, Washington, 98115

June 1985

Number 213



ARRIVEDerci Monte & Hildegard Hendrickson

It has been an enjoyable eleven years for your editors. We feel that this job in the Society gives a person the best overview of what is happening in amateur mycology in the U.S. It also has brought us many friends from PSMS. We have tried to cover as many subjects as space will provide to inform the novice as well as the advanced within our Society. We have successfully met all deadlines. However, a few times it was touch and go, and it took either persuasion or coercion to get the necessary information. Our printer, North Seattle Printing, a few times, held the presses till we got the copy there. Only one time did an issue reach our members later than normal, and that time we could actually trace the fault to the post office.

But all good things do have to come to an end, and we feel a fresh approach will be healthy for Spore Prints. The benefits Monte and I have received from being your editors, have far outweighed the time and effort we have put into it.

Our thanks go to all who contributed in many and various ways. Our special gratitude belongs to Caroline and Dan Brotherton, our printers, who many times went out of their way to accommodate PSMS, not only in regards to Spore Prints, but also in regards to Show material.

We wish the new editors, Agnes and Dick Sieger great success. They will start with the September 1985 issue. We hope all of our members will give the new editors the same cooperation they have given us.

FIELD TRIPS Andy Green

June 8 Soda Springs Camp Ground. Elevation 3,100'
Travel east on State Route #410 over Chinook Pass.
About 17 miles past the summit, turn right onto
Bumping Lake Road, #174 and continue for about
5 miles. The camp is on your left.

We still need hosts. Volunteer for this or for the coming fall trips by calling 523-5975 (eves.)

WELCOME TO THE FOLLOWING NEW MEMBERS

Susan Casey: 282-3583; Dr. Lester & Mary Mittelstaedt:392-1131; Sharon Smith: 1-592-2258.

OF THIS AND THAT

The April 1985 issue of Organic Gardening reports that a fungus strain imported from Japan (Entomophaga aulicae) is being used successfully as a biological control for gypsy moths. Experiments at Cornell University have produced 90% kill rates and it will be tested outdoors in New York state this spring. The fungus destroys the gypsy moth by parasitizing the caterpillar. The article does not say whether or not the fungus is host specific.

Mushroom growers may be interested in writing for the free Mycotechnology Newsletter from JEMCO Enterprises, Box 633, College Park, MD 20740. Vol. 1, No. 1 issue is published. JEMCO will also furnish basic instructions for Shiitake growing.

SAVE OUR WILD MUSHROOMS M.&H.Hendrickson

The thought of commercial picking of chanterelles in the past years, and the new onslaught on our forest resource by a German company which plans to can them here in Seattle, raises the blood pressure of any recreational mushroomer. But we cannot stop there. Matsutake also are harvested commercially, and some firms have leased forest land from timber companies and prohibit recreational collectors from entering these areas. Early arrivers at our field trip site, Clear Lake Forest Camp, reported that during the week of May 20 -25, commercial pickers were out in force collecting morels. Which wild mushroom will be commercially harvested in the future? Actually, Anthony Walters, in his article, "A Million Pounds of Wild Mushrooms," (Mcllvania, Vol. 6, 1983) lists some 25 species of wild mushrooms that were picked and sold commercially in the Pacific Northwest and that in 1982 an estimated one million pounds were collected, so that the commercialization of wild mushrooms is well under way.

PSMS is probably not able to stop the new German company from coming in, when many smaller operations are already under way. PSMS' efforts should be focusing on EDUCATING the public, the government, and the businesses involved that wild mushrooms, this forest resource, needs MANAGEMENT. We quote from Mr. Walter's article: "Preservation does not have to be accomplished at the expense of economic development. All that grows in a forest needs management for the proper blend of preservation and utilization. Mycological Societies need to take an active stand on these issues, and should become involved in educational efforts for land managers, mushroom harvesters and buyers, and consumers. Clearing out an entire species from an area should be strongly discouraged. If all fails, embargos can be placed on the sale and shipment of mushrooms..... until field studies have generated data for the development of management guidelines and regulatory controls."

PSMS is stepping up its involvement in educating as many groups as possible: the public in general, environmentally concerned groups, such as the Mountaineers, Sierra Club, Audubon Society, governmental agencies such as the National Forest Service, the National Park Service, the Department of Natural Resources, etc. Here in the State of Washington we must alert the Governor, legislators, and the Department of Economic Development.

PSMS is setting up a Speakers Bureau. Knowledgeable members will present the problem and possible solutions to civic groups, clubs, governmental bodies, and the businesses involved. We are assembling the facts and figures to back up our opinions concerning the preservation of wild mushrooms, the exotic resource of our Pacific Northwest.

BOOKS Judi Boa

This is the last call to order books which you want to have. Please either call Judi (725-1235) or come to the June membership meeting and place your orders for books which are not in stock, and/or check over the selection of books available and get the one you need to study the fall mushrooms.



P. S. M. S. Spore Prints

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ALTERNATES Morley McCall; Brian Read.

SCIENTIFIC ADVISER: Dr. Joseph Ammirati

LIBRARY in Room 104 of the Monroe Center.

Hours: Tuesdays 6 - 9 pm; Thursdays 10 am - 2 pm

Calendar

June 8 Field Trip to Soda Springs Camp Ground

June 10 Monday, Beginners Class, 6:45 pm
Membership Meeting, 8:00 pm

NO MEETINGS IN JULY & AUGUST

Aug. 19 Board Meeting, 7:30 pm

Aug. 23 Deadline for Spore Prints Material. Send to the
Editor, 15555 - 14th Ave N.E., Seattle, 98155

Sept. 9 Membership Meeting, 8:00 pm.

October 12 & 13, 1985 The 22nd Annual Exhibit

BEGINNERS ORIENTATION CLASS FOR JUNE

The topic for the Beginners Orientation Class for June will be a slide-illustrated discussion of the edible mushrooms that can be found in the summer months. Many of these edibles fruit in your or your neighbors' well-watered lawns or in city parks.

THE UNCLAIMED 1985 MEMBERSHIP ROSTERS

The 1985 membership rosters which have not been picked up at either membership meetings or field trips are mailed this month. The June issue of Spore Prints for those members who did not pick up their rosters is included inside the roster. Members who already have their 1985 membership rosters receive the June issue in the usual manner.

Membership Meeting

Monday, June 9, 1985, 8:00 pm in the auditorium of the
MONROE CENTER located at 1810 N.W. 65th, Seattle.

Program: Paul Stamets, Director of Research at TEMRI --
The Exotic Mushroom Research Institute at Kamilche, and
Adjunct Professor at Evergreen State College, will speak on
"Basic Approaches to Mushroom Cultivation". He is the au-
thor of two books: The Psilocybe Mushrooms and Their Allies
and The Mushroom Cultivator, and has a third title awaiting
publication. His current research is on the cultivation of
Matsutake, Morels, Truffles, and other complex symbiots.
(Bring your copies of Paul's books and have them autographed
by the author!)

BOARD NEWS

H.R.H.

The freeze drying project for the spring mushrooms is under way. George Rafanelli was able to fix one of the apparatus needed, and new morels, etc. were prepared in this way. We could still use cup fungi and other unusual spring fruiting varieties. A few mushrooms were prepared in the silica gel method.

Dan Schwenk is taking over the sale of the PSMS wall posters and Pacita Roberts is switching to Publicity for the Annual Exhibit.

The Curling Club has returned the check for letting us use their tables for the Show. PSMS will put "feet" on the tables this year.

Coleman Leuthy, Education Chairman, has set up class schedules for the fall. There will be sign-up sheets at the next meeting. In addition to a class on Monday evenings, a day-time class is planned.

Ed Bush, PSMS Librarian, has computerized the catalog cards for the Library.

PSMS will purchase a podium light, and two pointers for use by our speakers and teachers.

The Lobbying Group, chaired by Lori Knox had a recent meeting and is hard at work developing strategy. One attempt is to form an "umbrella" group made up of PSMS, other environmental associations (Sierra Club, Mountaineers, Audubon Society, etc.) to pool resources and get a larger exposure, working towards the management of our exotic resource of the Pacific Northwest, fungi.

The hard working Trustees adjourned at 9:30 pm.

PRESIDENT'S MESSAGE

Margaret Dilly

This has been a strange year weather wise, and it certainly has affected the fruiting of mushrooms. Aside from being late, it has also been very sketchy. From the reports that I have received, it seems most hunters have found something for the pot. While hunting through the woods, enjoying this wonderful part of the world, I hope you were also thinking about the future of our hobby. The immediate issue of course, is the overharvest of the Chanterelle, and the possibility of its extinction. Let us be mindful that this is just the tip of the iceberg. Boletus and morels are equally cherished, though more difficult to find. Given the incentive of income, the unemployed and eager would feel justified scavenging the forests in quest of them.

Our concern should be some type of management to deal with long-term, sustainable regulations of mushroom picking. We should also be concerned about many of our native plants,

some of them are already on the endangered species list. Hundreds of persons trampling through the woods without care could have a real impact on them too. Many of our edible mushrooms are mycorrhizal and we need to consider what effect their massive removal will have on our forests. This is a very complex and perplexing problem, and our Society is trying to get a handle on it before it is too late. We are fortunate to have someone concerned and brave enough to spearhead a movement addressing this problem. Lori Knox, our chairperson, cannot, and should not be expected to tackle this alone. She has been successful in enlisting the assistance of several influential interested parties, but they need your support.

I realize that most of you may not want to be involved in planning processes, but I do request that you respond in some way: Letter writing, telephoning, speaking to groups, and just plain helping with tasks such as mailing. Each item is important, and instructions will be available for the timid. The May issue of Spore Prints carried some excellent suggestions from the editor, and more precise instructions will be issued as the campaign progresses. Respond promptly, as timing will be important. This issue affects all of us, and how we handle it will decide the future of mushrooming in the Pacific Northwest. Call Lori (364-7216) or myself (782-8511) NOW and offer your assistance in some way.

Before we disperse for the summer, I would like to remind everyone again, of our pleasant PSMS Library and invite you to visit it. In addition to the times listed in the newsletter, the Library is open at 6:30 pm prior to regular meetings and until 9:45 after the meetings. There are many interesting things besides the excellent selection of books and the PSMS Scrap Books, which have been constructed over the years. You will also find the newsletters of the 33 mushroom clubs with whom we exchange. It is interesting to find out what fellow mushroom hunters do. It is also helpful to find out about their meetings and field trips, if you intend to do any traveling. Mushroom seasons vary in different parts of the US. A new fun thing is our viewer and huge volume of slides assembled by our club photographer, Joy Spurr. The slides are "people oriented," and were taken on field trips, annual exhibits, banquets, over the last twenty-one years. You may even find yourself among them. Come and see!

The Library also houses a microscope and a typewriter for those who may need their use. These items belong to PSMS and are intended for your use.

As I wind this up, I wish you all a super, great summer, but just don't forget your responsibility on the mushroom management issue!

FIELD TRIP REPORTS

H.R.H.

One always looks forward to the spring field trips "across" the mountains. One is full of anticipation, because we really cannot gauge the weather on the "other side". Saturday, May 11, was no different. As we approached Skykomish, we found a blizzard dumping several inches of snow on the road. Further up Stevens Pass, some cars were putting on chains. We looked at each other, and wondered, whether we will find any mushrooms, or whether we will have a snowball fight. But as the day progressed, the sun appeared, and we did find morels, Gyromitra gigas, Calbovista subsculpta, C. formosa, Sarcosoma mexicana (looking like a black goey mass), Clitocybe albirhiza, Tricholoma saponaceum, and Betty Hamilton found a beautiful Boletus edulis button. Howard Melsen and Netty Laycock identified 25 species.

Some 40 members and guests signed the register, and 28 enjoyed a delicious potluck dinner. Don and Bessie Ross were the hosts on this outing to the Lake Wenatchee State Park. During the windy day, they kept the fire going in the old small shelter. But the constant wind coming off the lake let us use only one side of the shelter. Late in the afternoon we moved to the new, bigger shelter. There was no wind there, but there is no fireplace installed at this time.

The trip to Crystal Springs on May 18th was blessed with better weather, but equally sparse fruiting of spring mushrooms. The newspapers keep writing that the Pacific Northwest is 10 inches below normal in rainfall, so what do we expect? However, by the river a good quantity of Gyromitra gigas were collected, and Cabin Creek produced Verpa bohemica for all who wanted some. There, a couple of slash burns produced a few morels. The Boas and Hendricksons also found Boletus edulis and puffballs. On the table were prime Hygrophorus subalpinus. George Rafanelli identified a total of 30 species before he left. A few additional specimens came in later. Some 60 members and guests signed the register, and 40 stayed for the potluck, which included a smoked turkey provided by the Kleinmanns. Bill & Charlotte Turner Zila, Irwin and Ludmilla Kleinmann, and Francis & Ingeborg McGuire were hosting. Please note that the latter two families have been members only since February. We wished that all members would get actively involved in Society activities.

We could only go to the field trip at Clear Lake on Saturday, May 25 (and had to return to write our last issue of Spore Prints, since deadlines cannot be shifted). In Seattle it rained but across the pass it was nice and sunny. Again, everybody who did go hunting, found something, but not great quantities. Some went back to the areas which in 1984 produced record quantities of morels, only to return disappointed and frustrated with the small bounty of this spring. Monte and I had not really hunted this area since Mt. Saint Helen's big burst in 1980, but going back to known areas, we found both morels and Boletus edulis.

Dave and Jennie Schmitt hosted this trip. They had arrived a few days early, and reported that early in the week the commercial pickers were combing through the area, and reports told of morels being sold at the store in Rimrock. Nettie Laycock, Jennie Schmitt and Dick Sieger identified some 25 species. Maybe more were found on Sunday and Monday. Fifty persons had signed the log, and 40 stayed for the Saturday potluck.

SIMA'S ANNUAL SPRING FORAY JUNE 14-16, 1985.

The Southern Idaho Mycological Assn. sends an invitation to the Annual Spring Foray at the Christian Youth Camp on the West Side of Cascade Lake, in Donelly, Idaho. Dr. Orson K. Miller will be the foray mycologist. No pre-registration is necessary. On grounds camping facilities and/or dormitory accommodations available for minimum fee with your sleeping bag. For more details phone Boise: 362-4789; Nampa: 466-4239; Pollock: 628-3371.

MUSHROOMS AND PEOPLE ARE ALIKE

"Mushrooms are like people, in some ways. Now and then, they get confused and show up when they aren't supposed to. Or, they're late, or early -- or may not show up at all! Some common species are survivors though, they take most anything in stride, except a complete lack of water." (Edith Nelson, Arkansas Fungi).

FUNGAL STATISTICS Mycofile (Vancouver Mycol. Society)

How many species of fungi are there? Nobody knows for sure. About 50,000 are known and a thousand more are discovered each year. It is speculated that there are 250,000 species, about the same as the species count in the plant kingdom.

Then there are lots of fungi around? Yes, there are quite a few. In one teaspoon of fertile garden soil are between 500,000 and 2,000,000 individual fungi either growing in the soil or existing in a dormant condition.

There must be a lot of spores floating around? Quite a few. Counts of over 150,000 per cubic meter of air have been recorded. (This is why it is better not to be allergic to such things, and why a pure fungal culture is no mean feat).

Obviously most fungi are microscopic? How large are they? If you are talking of the plant rather than the fruiting body, the individual hyphae are microscopic; the largest are 100 micrometers in diameter. Hyphal strands over a millimeter in diameter and quite long are visible. The hyphal mass or mycelium can be rather large as in the case of a fairy ring growing for 800 years.

But what about the fruiting body? What's the biggest mushroom? An Oxyporus (*Fomes nobilissimus*), a bracket fungus was found in Washington (1946) 142 cm long, 94 cm wide, and weighing 136 kg. A giant puffball found on Whidbey Island in 1968 weighed in at 8.425 kg. (Last year a slightly larger one was entered in the Guinness Book of Records. But we also have documented evidence of an even larger puffball (Calvatia gigantea) from the Skagit Valley. Near Kitwe, Zambia, a Termitomyces titanicus measured 63 cm cap diameter, but only weighed 2.5 kg. Largest edible fungus was Polyporus frondosus (chicken of the woods) found in Ohio in 1976. It weighed 32.6 kg.

What is the largest table mushroom to be grown? The record belongs to Paris, France, where a mushroom (presumably Agaricus bisporus) reached 35 cm in diameter and weighed 2.4 kg.

Big ones are nice, but it must take a large area to produce such monsters? On the contrary, fungi are very productive. A hectare of ideal pine forest in England has produced 500,000 fruiting bodies or up to 460 kgs per hectare. Although mushrooms have a low protein content (equivalent to carrots or broccoli) the dry yield of protein per hectare for cultivated mushrooms greatly exceeds beef cattle, or even intensively reared pond fish.

Where are the most mushrooms in the world? Probably the biggest mushroom farm in the world is the Butler County Mushroom Farm, in West Winfield, Pennsylvania. One thousand employees produce 21,770 tons per year in 177 km of tunnels and galleries that used to be an old limestone mine.

If mushrooms are so big and grow so prolifically, why am I not finding more? Well.....

MUSHROOM RESEARCH

The Mycological Society of Toronto reports that the Campbell Soup Company, Ltd. awarded a \$20,000 grant to a group of Toronto scientists to support their search for a new, better-tasting strain of Agaricus bisporus (the supermarket mushrooms). The eight member team is from the University of Toronto at Erindale College in Mississauga, and is headed by professors James Anderson and Paul Morgan. It is the only lab in Canada working on mushroom genetics and improvement of mush-

room strains. They are trying to do with mushrooms what has been done with wheat and cattle. However, a fungus is not an easy organism to handle in laboratories. It has few genetic differences and its very nature makes it impossible to use traditional breeding methods. The scientists have been working since 1981 to develop mushrooms that grow at varying temperatures, have longer shelf life, improved flavor and nutritional value, and provide greater yields. Part of its work will be studying the characteristics of wild mushrooms and transferring them into the cultivated variety. Cultivating new edible strains is long and painstaking work, and it will be a long-term project, considering it takes about 10 years to cultivate a new strain of wheat.

MUSHROOM ODORS

L.A. Mycol. Society

Be sure to make smelling a mushroom a part of your identification routine. There are many distinct odors and these often can be very helpful in deciding what mushroom you are trying to identify. Of course, you do run into the problem that everyone does not "smell" the same. Also, women seem to have a better sense of smell than men, and dark skinned people "smell" better than light skinned ones. If you are a smoker, it is likely that your sense of smell will be impaired. Like all skills, your "smelling" ability will improve with training. It has been said that the untutored nose can distinguish about 2000 odors, and you can train your nose to distinguish about 4000. Some people have "smell-blindness" just as "color-blindness", and are unable to smell certain odors.....

Some of the common odors are: Cantharellus cibarius - apricot; Russula xerampelina - fish; Lyophyllum decastes - cucumber, radish, green bean; most Inocybes - "spermatric", (Inocybe sororia smells like green corn); Armillaria ponderosa - spicy; Agaricus - the edible ones - sweet-mushroomy, the poisonous - phenol, ether, antiseptic; Clitocybe odora - anise; Marasmius scorodoni - garlic....

These are just a few of the many odors that you will encounter as you smell your way through the mushroom flora. Do train yourself to be a "smeller".

NEW COLOR BOOK

Mycol. Assn. of Washington

The project for a replacement of the 1912 Color Standards & Color Nomenclature by Robert Ridgeway is still alive. All those who have used and continue to use Ridgeway are aware of its limitations and know that modern technology could compile something much better. Ridgeway spent 20 years on his color book. The colors were mixed in batches by a man named Joseph Portugal, and when he ran out of a color, he mixed more. That's all he could do; but anyone who has attempted to mix two batches of paint to match, knows how difficult it is. There was a variation in color when the books were published, and time and usage has changed them further. It has always been recommended that Ridgeway be protected from light and moisture..... Any new work will be designed for use by all the natural sciences and the arts and industry..

The cost of the project is the hang-up now: \$250,000 for 10,000 copies. They are trying to find the funds. There is one sad note to all this: the price will be from \$100 - \$200 per copy. At least we should be able to put one in the library.

Th-th-th-thats all folks!