

SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
2161 East Hamlin, Seattle, Wa. 98112

January 1981

Number 168



BANQUET NEWS

Margaret Dilly

Just a few quick words about the Survivors Banquet. Preparations are moving right along for this gala event, to be held at the South Seattle Community College, the evening of March 13, 1981. There will be a champagne reception at 6:30 pm at a charge of \$3.00 per person. Dinner costing \$12.50 will be served at 7:30 with an additional charge of \$1.50 for those who desire wine with their dinner. The tickets for these must be purchased in advance and will be available at both the January and February membership meetings.

The door prizes are being selected now, and as with last year the lovely table arrangements will be for sale on a first come first served basis. Dr. Melinda Denton, a Botany Professor at the University of Washington will be our guest speaker for the evening.

Donations of frozen Chanterelles, and dried Morels and Boletes are requested, and will be used in the dinner. Bring them to either the January or February membership meeting, or call me (782 - 8511) for other arrangements.

More details about the Banquet next month in Spore Prints.

MEAT TRAY RECYCLING

Margaret Dilly

I would like to thank all the people who have so faithfully brought meat trays to me. For the new members I might explain that these trays are used at major forays to display the mushroom specimens that have been collected and identified.

I would be very pleased to collect and care for any additional meat trays you bring, be they large or small, styrofoam or clear plastic. Be sure to wash and dry them well as they are often stored for months. (I do mine in the dishwasher without using the drying cycle.) You may bring them to any membership meeting. Again "THANKS" all you meat tray recyclers!

BITS AND PIECES

H.R.H.

Emory and Mildred Bronner will be missing the January membership meeting since they are cruising through the Panama Canal. Have a good time!

THE NEW ORLEANS MYCOLOGICAL SOCIETY is a newly formed organization which asked to exchange newsletters with PSMS. Here are some excerpts from a couple of newsletters: "In 1980 in June, the usual boletus related mushrooms and chanterelles did not make an appearance... this summer must be described as one of the worst collecting seasons in recent years.... October is normally a month too dry for forays here.... unlike the North, there does not appear to be spring season here. The morel does not occur along the Gulf Coast.

Certainly a different "routine" than here in the Northwest.

THE SAN FRANCISCO FUNGUS FAIR will be held on Sunday, January 11, 1981 (a month later than usual because of the lack of rain) in the Conference Center at the south end of Building A, Fort Mason Center.

WE ARE NOW COMPUTERIZED

Monte Hendrickson

All of our members are now listed on the computer, thanks to our new Vice President, John Kunz, who is donating his time and the use of his personal computer.

Did you notice the new address label on your envelope? For this month's mailing only, it contains your telephone number so that you may edit it for accuracy. Your home address and phone number as listed thereon will be printed in the 1981 roster - provided you have paid your renewal dues by the end of January, otherwise you are automatically dropped from the membership rolls. If there are errors on your label, please send the needed corrections by mail to David Kunz, 12552 - 19th Ave. N.E., Seattle, Wa., 98125. A postcard will do. These corrections will also be forwarded to the membership chairperson to enter on the master file.

WELCOME TO THE FOLLOWING NEW MEMBERS

The names and phone numbers of the following members are to be added to the insert to the membership roster which you received with the November mailing:

Correct the phone number for Ethel Dassow to 232 - 1408.


No other corrections to the insert were received.

Austin, Gilbert & Alice 1-888-2606; Brezina, Edythe 845 - 3377; Brown, Katherine 285-4596; Clifton, Carl & Kathleen 255-2522; Fisher, Charles & Margaret 243-6681; Grafer Marilyn, 641-9338; Grant, Sandra 455-5539; Harris, Marian 322-8781; Heinzelmann, Anna 1-582-0318; Hull, Bianne 284-5898; Jackson, Cheryl 783-9711; Johnson, Cinda & Kevin Schoenfelder, 783-3365; Johnson, Jan 527-0243; Joseph, JonLee 525-3777; Karl, Richard & Sang Mae 232-6769; Kim, John & Caroline 821-3375; Knobbs, John 486-7984; Martin, Jody 525-8552; Mellinger, John & Marcia 633-1917; Moffat, John & Shirley 824-1874; Moore, Candyce 779-9059; Mowrey, Ervin & Maria 531-3690; Obert, Douglas & Donna 453-1143; Pauli, Richard 282-3525; Schafer, Bob & Judy 1-334-2074; Schultz, Amelia 325-3165; Sorenson, Kathy 325-4193; Starnes, Gordon 779-9059; Studley, Shirley 545-6942; Sumeri, Alex & Susan 821-5767; Terry, Marian; Van Amburg, Nita 282-7485; Wakefield - Jennings, Carol 854-8656; Waligory, Nancy 284-0693; Winschell, Carroll & Donna Kibler 631-8867; Wissler, Wendell & Jeanne 746-3520; Zeien, Craig & Beverly 455-2238.

BEGINNERS' CLASS CONTINUED IN JANUARY M.H.

The second session of the Beginners' Class again will start at 6:45 on Monday, January 12th (that's the evening of the regular membership meeting, which will start at 8:00 pm) in the McCurdy Room of the Museum. The principal topics to be discussed will be: (1) Collecting - when; where; how; and (2) Cooking & Preservation - what to do with your find; how to prepare; cooking; freezing; drying; pickling; canning.

In the remaining sessions we plan to cover the Basics about Mushrooms and their Identification; a Learning Fieldtrip in March; and a Lecture on the Spring Mushrooms in April.



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PUGET SOUND MYCOLOGICAL SOCIETY
 % The Museum of History and Industry, 2161 E. Hamlin,
 Seattle, Wa., 98112. Mail all articles, art or photos to
 Hildegard Hendrickson, 2559 NE 96th, Seattle, 98115.

OFFICERS Carl Hermanson, President, 1982 (1)
 John Kunz, Vice-President, 1981 (A)
 Earl Harrison, Treasurer, 1982 (2)
 Margaret Holzbauer, Secretary, 1981 (1)

TRUSTEES - Term expires March 1981
 Margaret Dilly (1); Grace Jones (1); Dennis
 Krabbenhoft (1); Tom McKnight (1); Agnes
 Sieger (1).
 Term expires March 1982
 Margo Harrison (2); Rudy Karzmar (1);
 LomNee March (2); Stan March (1); Don
 Schultz (1). Jennie Schmitt (imm. past pres.)

ALTERNATES: Del Miller; Agnes Suit.

SCIENTIFIC ADVISER Dr. Daniel E. Stuntz

Calendar

- Jan. 12 Monday, Beginners' Class, 6:45 pm
 Membership Meeting, 8:00 pm
 - Jan. 19 Monday, Board Meeting, 8:00 pm
 - Jan. 23 Friday, Deadline for Spore Print Material. Send all
 articles, art work, photos, etc. to the
 Editor, %2559 NE 96th, Seattle, Wa., 98115
 - Feb. 9 Monday, Beginners' Class, 6:45 pm
 Membership Meeting, 8:00 pm
 - March 13 Friday, The 17th Annual Survivors Banquet
 - June 6 Saturday, Fieldtrip to the St. Michelle Winery
- LAST CALL FOR PAYING YOUR 1981 DUES** Grace Jones

The new membership rates for 1981 are \$12 for a family membership, \$8.50 for a single membership, and \$6 for a student membership. The payment is due now, and if your check reaches the membership chairman, Grace Jones, at her home address 12238 - 78th Ave. South, Seattle, Wa 98178 before January 31st you will be a member in good standing. If you are not paid up, this is the last issue of Spore Prints you will receive. You may also renew your membership at the January membership meeting.

New members, who have joined PSMS since September have their memberships paid up till December 1981.

Membership Meeting

Monday, January 12, 1981, 8:00 pm in the McCurdy Room of the Museum of History and Industry

Program: Joy Spurr, former photography chairperson of PSMS and a member of NAMA will present a slide-illustrated lecture of the 1980 North American Mushroom Association European Mushroom Foray which took them to Austria and Yugoslavia.

Also Milton Grout, who gives the Society's mushroom classes, will give a short presentation about his favorite mushroom genus.

BOARD NEWS H.R.H.

The Board meeting was held December 15th, a week earlier than the usual date, since it was getting too close to Christmas. President Hermanson reported that Vice President Rick White has resigned. (Rick got married and took on new responsibilities. Our best wishes to Rick and Deedee). John Kunz (an alternate trustee) was nominated, and accepted the vice presidency until March 1981, when Rick White's term will expire. The Board unanimously approved John. (He is a relatively new, but very dedicated member. John is presently computerizing PSMS' membership list and mailing labels for Spore Prints. The membership roster for 1981 also will be computer produced.)

The next order of business was the appointment of the 1981 election committee. It will be chaired by Ed Cantelon, and besides Ed, consists of the following members: Don Schultz, Bob Hanna, and Ella Cantelon. (Please read the article on the elections elsewhere in this issue)

PSMS now owns a semi-professional Kodak slide projector which will be used at membership meetings, and classes given under the auspices of the Society.

Our Society also owns the tablecloths used for the December membership meeting. Ella reported that not only did she receive calls for help from members who own mangles, but a member donated one to the Society.

ALPHA - AMANITIN TOXIN Mycena News

It has been known for some time that alpha-amanitin toxin, the poisonous compound found in Amanita phalloides, is present in small amounts in certain edibles. Last summer, the Swedish botanical journal Fauna och flora carried an article by Wickberg and Kesler (1980, 75 (3) : 130-40) that reported the findings of Swedish scientific research on amanita toxins. The following is a list of species with amounts of alpha-amanitin found in the fresh fruiting bodies. Quantities are in nanograms per gram of tissue:

| | |
|---------------------------------|------------------------|
| Amanita phalloides | 17.5 x 10 ⁴ |
| Amanita virosa | 27.7 x 10 ⁴ |
| Amanita rubescens | 7.5 |
| Amanita citrina | 0.6 |
| Amanita muscaria | 1.1 |
| Amanita pantherina | 16.3 |
| Agaricus silvaticus | 8.5 |
| Boletus edulis | 0.2 |
| Cantharellus cibarius | 5.5 |

Mushroom collectors, however, need not worry; it would require 67,000 lbs. of B. edulis or 27,000 lbs. of C. cibarius to get a potential lethal amount of alpha-amanitin.

(The following article appeared in the March/April 1978 issue of the Ohio Mushroom Society's Bulletin.)

Anyone who prepares or preserves mushrooms for eating as well as those who are interested in mushroom poisoning should be aware of some simple facts concerning another micro-organism invariably growing in association with mushrooms, the botulism bacillus. *Clostridium botulinum* is an extremely common bacterium indigenous to soil which should always be considered a contaminant on any mushroom. Since this bacterium grows well on low-acid substrates, it can easily reproduce on mushrooms and contribute to their spoilage. If this weren't bad enough, we need not point out that this bacterium also coincidentally produces one of the most toxic poisons known to man. Botulism is an intoxication to this poison, not an infection.

There have been incidents of so-called mushroom poisonings which no doubt have really been botulism due to spoiled mushrooms. People who pick mushrooms and do not refrigerate them properly or cook them carefully are asking for trouble. Once my father mailed some fresh morels to me. They were packaged in a tightly sealed can and took several days to reach me by parcel post. When I pried the lid off the can, it shot upwards with such violence that it hit the ceiling. The pressure from fermentation of the organisms caused the eruption. Had I been foolish enough to eat the morels, it would have been suicide! Sadly, I consigned them to the wastebasket.

C. botulinum is an anaerobic bacterium, i.e., it grows only in the absence of oxygen. When a mushroom is separated from its environment, the mycelia keep on respiring and enzymes begin to autodigest it. These processes use oxygen and result in the necessary anaerobic conditions so that the botulism bacillus spores germinate and begin to grow if at room temperature or above. In the growing process, the deadly poison is produced. Preserving mushrooms should take these facts into account and should be aimed at (1) not letting the spores germinate in the first place, and (2) thorough cooking to destroy any pre-formed toxin.

Neither spores nor living bacilli need be present to cause disease; the toxin is sufficient to cause fatality! Normal cooking will not destroy the spores which are exceedingly heat resistant, but boiling thoroughly for at least 10 minutes will kill the vegetative bacilli and pre-formed toxin. It is imperative that the food be cooked throughout and not just be surrounded by boiling water; the center of the food must reach boiling temperatures, since the toxin is considered to be somewhat heat stable. Drying mushrooms prevents multiplication of bacilli and spore germination, but it doesn't sterilize them. If the mushrooms aren't properly cared for after rehydration, you could still be in trouble.

Canning by modern pressure methods will destroy both toxins and spores and here we are talking about long canning times like 30 minutes for pints at 10 pounds and 45 minutes for quarts. The snap-top canning lid is further protection against botulism for if you find that your canned mushrooms jar lid has popped its seal, the entire contents should be considered lethal, even only a nibble. Do not attempt to remove the toxin of such a jar by cooking; throw it all away!

Pickling methods preserve mushrooms from spoiling by preventing spore germination and bacterial multiplication, but will not destroy pre-formed toxin. If mushrooms are mixed with other items like tomatoes or other high acid foods, the acidity will help destroy the toxins and spores upon subse-

quent canning, but the time and pressure of canning should still be dictated by the most difficult thing to preserve in the mixture, in this case mushrooms.

When picking for the table, it is imperative to discard any "over the hill" or autolyzed specimens since they could be serving as substrate for the botulism bacillus already. If immediate preparation is not feasible, the mushrooms should be cleaned and immediately refrigerated. Field trips far from home should be equipped with ice chests for this purpose. If drying or canning is not contemplated, the specimens should be cooked as soon as possible for one thing to capture the evanescent flavors, but more importantly, to safeguard against spoilage. If freezing is contemplated, I recommend blanching first, followed by ice water cooling, to destroy enzymes, otherwise you may be in for trouble from slow autodigestion (I have seen several species of mushrooms ruined by unblanched specimens). Cooking a fresh specimen should not be a cause for worry, but if you think some of your specimens might be a little "ripe", you are literally playing with fire if your cooking is not equivalent to thorough boiling for 10 minutes. Sautéing mushrooms is plenty adequate, but broiling over a charcoal fire may not be.

Knowing something about this other microbe that should always be considered to be present on all of your mushrooms and how to safely but sanely deal with it should always protect you from botulism. I prefer to dry morels and chanterelles, but freeze *A. campestris*, *P. frondosus*, boletes, and sulfur shelves. I usually don't can mushrooms because of the exorbitant amount of energy required, but I have tasted some fantastic Italian-preserved *P. frondosus* that had been canned. Bon appetit, but be careful!

DECEMBER MEETING

Ed & Ella Cantelon

Our December Photography Night and Christmas Party was very well attended. An estimated 200 members and guests filled the McCurdy Room at the Museum. White tablecloths with center pieces of holly with red berries added a festive touch. Four long tables were well filled with many varieties and colors of fancy cookies.

We were happy to see Connie Calvert again, who was editor of the "bulletin" before it was called Spore Prints. We feel that Connie contributed a great deal to our organization in its early years.

We appreciate the efforts of all those who contributed to our social evening. Mildred Bronner, Ruth Miller, Ann Levana-vich, Marian and Clark Farmer and boys, Eric and David, who set up the tables and made coffee. Charlie Volz started the program with a presentation about the origin of our Society. Joy Spurr, Jack Orth, Howard Melsen, Dennis Krabben-hoft, and Coleman Leuthy contributed slides. Tak Mochizuki contributed slides and also brought his own slide projector and operated it for us.

So many brought the delicious cookies that we cannot begin to list them all. It was a beautiful display, and they were all consumed, down to the last crumb.

BITS AND PIECES

H.R.H.

The P.I. reported on Nov. 2nd that tariffs on imported mushrooms were more than doubled to help the domestic industry. Imported mushrooms from China, Korea, Hongkong and Taiwan accounted for about 56 percent of the U.S. market last year, up from 27 percent 10 years ago.

NOMINATIONS FOR SOCIETY OFFICES

The nominating committee, chaired by Ed Cantelon (242 - 6115) including Bob Hanna (767-6381); Don Schultz (226 - 2217) and Ella Cantelon (242-6115) will accept nominations for the following officer positions: vice - president and secretary, as well as five trustees. Nominations will be accepted at the January and February membership meetings, or by phone. You may nominate any member, including yourself. But if you nominate a member other than yourself, you must get the member's permission to do so.

CALENDARS

Did you see the beautiful calendars depicting prints of various mushrooms painted in water colors that were available for sale at \$5.00 at the December membership meeting? They are painted by our longtime PSMS member Tatiana Roats. The calendars again will be available at the January membership meeting through our booksales chairpersons Kathy Ringo and Mike Westby. You can also call the artist, Tatiana Roats at 842 - 3750.

PUMPKIN CUSTARD SQUARES

Libby Barta

By popular request we share the following recipe which was so delicious at the December meeting.

1 pkg. (19 oz.) yellow cake mix
1/2 cup butter or margarine, softened
3 eggs
1 can (30 oz.) pumpkin pie mix
2/3 cup milk
1/4 cup brown sugar, firmly packed
1/4 cup butter or margarine, softened
1 cup chopped nuts
Spiced Whipped Cream (recipe follows)

Combine cake mix and 1/2 cup butter until mixture forms moist, even crumbs; reserve 1 cup for topping. To the remaining crumb mixture add 1 egg; stir until blended and spoon into the bottom of a greased 9 x 13" pan and press lightly to form an even layer. Bake in a 350° oven for 10 minutes, or until puffy. Set aside.

Beat remaining 2 eggs until foamy. Gradually beat in the pumpkin mix and milk, and pour on top of baked cake layer.

Combine the reserved 1 cup crumb mixture with 1/2 tsp. cinnamon and 1/4 c. brown sugar; and the 1/4 c. butter and stir until blended; add nuts and stir. Drop by spoonfuls to form an even layer of crumbs on top of the pumpkin batter. Bake in a 350° oven until custard is slightly "set" in the center, about 30 minutes; let cool completely and cut into 3" squares and top with spiced whipped cream. 12-15 servings.

Spiced Whipped Cream: Beat 1 cup heavy cream to form soft peaks. Add 1 tsp. vanilla, 1/2 tsp. ground cinnamon, 1 tsp. grated orange peel and 2 tsp. sugar. Mix well.

HELPFUL HINT. It is not recommended to try and dry mushrooms in an electric oven, since this tends to cook them and they become tough. However, some people say a gas oven using only the pilot light works fine.

When ready to use for cooking, wash in cold water, changing water 3 - 4 times. Let soak in cold water for 30 minutes or hot water for 15 minutes. Drain and use as fresh.

For reconstituting Chanterelles, the Tacoma Society recommends the above soaking, and then boiling for 30 minutes adding 1 teaspoon of soda per gallon of water. Rinse thoroughly again, drain and squeeze until fairly dry. This will take the bitter taste away.

MESSAGE TO ALL PSMS ARTISTS

PSMS is interested in exhibiting mushroom related arts and crafts at our annual show again. Since this was not allowed in the latter years we were at the Science Center we have gotten out of touch with our long-time artists, and don't even know about the talent of newer members. Therefore, we ask all artists interested in showing and selling their arts and crafts items to drop the Society a line, so that we can see if there is sufficient interest, appoint a committee, and be ready in October. We would also like to ask members who have exhibited before, to let us know the names of their fellow artists.

WHAT IS A MANGLE

Ed and Ella Cantelon

Under the heading, MANGLE NEEDED, in the December issue of Spore Prints we asked if anyone had a mangle that we might use to iron the tablecloths after the Christmas party. We felt at the time that we might be looking for an extinct species. We found it was not so -- perhaps it is only on the endangered list, since it was nearly wiped out by "drip dry" and "wash and wear" many years ago.

Mary Volz was the first to respond: she found hers which had been hibernating in her laundry room since 1955. It quickly came to life, and she invited us to bring our tablecloths to her house to iron them. We very quickly accepted.

Then came the rush: Harriet Tiedt, Katherin Sather, Judi Boa and Betty Hamilton called and offered the use of their mangles. The next day, Dave Garberich called and offered to donate one. We accepted in behalf of the Society, and went to his place to pick it up. We are now in good position to take care of our needs for next year's holiday party. In fact, if we don't make any money at the next Exhibit, perhaps we can take in laundry.

OF THIS AND THAT

The following quotes came from an insert that was included in a commercially sold mushroom growing kit. We do not vouch for the accuracy of the statements.

The ancient Pharaohs of Egypt are said to have dined regularly on mushrooms. Writings of that time suggest that they believed that mushrooms were planted by lightening because they grew so fast.

Until Louis XV's reign the supply of mushrooms depended upon the pickers being in the right place at the right time. Because Louis XV enjoyed mushrooms so much, he had his gardeners cultivate them in caves around Paris ... and a new industry was founded.

In the U.S. mushrooms were first grown commercially in 1890.

And in Boston, one-gallon cans of Boletus edulis were offered for sale for \$100.00. Nine cans were displayed in the shop window for the lucky shopper. In a recent issue of Gourmet magazine, Kaolin Mushroom Farms of Avondale, Ps., advertised for sale 350 cases of one-gallon cans of Pleurotus ostreatus. The price was \$77.50 per case in five case lots.

THANK YOU to all members and friends who sent cards to Reynaldine Sandahl of Olympia who was in a serious accident about three months ago. She is home now. We quote directly from her letter, dated December 10th: "the last of my three casts came off yesterday, and I am so glad to get out of a wheel chair and able to put some weight on both legs again." We all wish Reynaldine a continued, complete recovery so that she can go out again when the morel season comes around.