

SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY

200 Second Avenue North, Seattle, Washington, 98109

January 1979

Number 148



THE 1978 STUNTZ FORAY

Ben Woo

The rains came late to Mendocino this year. Although much of our trip south consisted of slogging through a continuous downpour, our arrival at this year's Stuntz Foray the afternoon of December 1, was greeted by the patented cool sunshine of the California coast. Beautiful for sightseeing along the picturesque headlands, but not promising for mushrooming.

Foray headquarters was Mendocino Woodlands, a rustic camp with rough-it facilities, some 12 miles by a corkscrew dirt road outside of town. A rude and noisy diesel generator provided lights and warmth for the combined meeting-dining building, wherein all was conviviality. Our host was Dr. Harry Thiers, S.F. State University mycologist, whose wife Ellen did most of the work. The Foray was a spectacular success in hospitality and good spirits. Meals were tasty, abundant and copiously accompanied by samplings of the wine country's finest. The evening slide-talks on *Amanitas* and *Discomycetes* were presented by two of Dr. Thiers' students.

Although collecting was meager, chanterelles were reasonably abundant. *Collybia umbonata*, *Pholiota terrestris* and a sweet-smelling clitocybe were the most conspicuous of the agaric flora. *Russulas* fruited grudgingly, but we were gratified to meet up with *R. cremicolor*, previously known to us only on paper. There were enough ramarias to keep Kit Scates and Herb Saylor busy with their microscopes and chemicals.

Delegations representing colleges and universities from Washington, Oregon, Utah, and California gathered for this annual mycological meeting of teaching professionals and their students. A few amateurs like ourselves, Dave and Jennie Schmitt of PSMS and Judy Roger were privileged to be invited. Gary Lincoff from New York stayed over from the NAMA Foray, and Walter Sundberg, on leave from Southern Illinois University came in his continuing pursuit of *Lepiotas*.

Remembering from a previous visit those chilly midnight searches for the facilities in the pitch-black of the campground, we elected to deny ourselves the camaraderie of the unlighted and unheated cabins and stayed in town. Late each evening, we would gently detach the good Doctor Stuntz from his admirers and, reeling with good feelings, convey him down the wild road to the Mendocino Hotel, an 1870's wooden edifice, lovingly restored, warm with wood, shining with brass, glowing with stained glass and glittering elegantly with faceted crystal. There to close the bar, OD on myco talk, hot shower and bed in crisp linen. This was mushrooming at its best --- the 1978 Daniel E. Stuntz Foray.

THE 1978 NAMA - ELIZABETH MORSE FORAY

Margaret Dilly

The Thanksgiving weekend found a couple of hundred amateurs and a few professional mycologists assembled deep in the beautiful forested area about 3-1/2 hours north of San Francisco, just a narrow, twisty 30 minute drive from the Pacific Ocean. The Gualala YMCA Camp, where this marvelous event took place, is located on a rather steep hillside, great for exercise, with part of its cabin housing across the

lovely Gualala River. Access to this area of the camp with its stately, centuries old, giant redwoods, is via a swinging bridge. The lack of fungi was almost overlooked because of the overwhelming splendor of the forest of mixed conifers, Tanbark Oak, and Madrona.

Upon registration each person was issued a lovely shopping bag from Finland, adorned with bright color photos of 37 different species of mushrooms. These bags were not only very attractive, but handy for hauling things up and down the hill, as Scott Chilton observed. Among the crowd of this well attended outing were 13-1/2 (including Michael Beug's son) PSMS members, who mingled with amateur mycologists from as far away as New York, Maine, Florida, and Texas. Lots of mushroom tales were exchanged, and it was a re-union and rehash for those NAMA members who had attended the European Foray during the summer.

In spite of the heavy rains of the previous weekend, mushrooms were very scarce. Somewhat anticipating this, our host club, the Mycological Society of San Francisco (and chaired by Larry Stickney) planned some unusual forays which included sightseeing along the coast. Especially interesting were the Pygmy Forests and the Monterey Cypress. The weather was cooperative and everyone was friendly and in the holiday spirit.

The program was expansive and well done. Among the many lectures and workshops, one could attend Kit Scates' lecture on ramarias, or Paul Stamets presentation of electron microscope slides. There was something for everyone who wanted to learn.

Dr. Harry Thiers of S.F. State University was the official foray mycologist, assisted by Dr. Walter Sundberg of Southern Illinois University. The unofficial tally of species collected (by Saturday) was 170. The evening recording ended with yours truly identifying *Agaricus bisporus* (wild variety). Our president, Jennie Schmitt and her hubby were busy around the I.D. display area. The varieties of fungi displayed resembled those found in our area early in the fall season. Among the species not common to our area were *Agaricus californicus*, *Lenzites betulina*, *Collybia umbonata* with a 10-12 inch root-like base; *Fistulina hepatica* (beefsteak fungi) which the Siegers assure me, does not taste like the name implies; and an adorable, little, white hygrophorus, that smelled strongly of cedar, even after it was dried; and *H. rus-sacoriaceus*, which means Russian leather. All of these mushrooms were photographed by Joy & Roger Spurr, and I hope we will be able to see the slides at a later date.

The meals were superb: abundant portions, gourmet, and delightfully accompanied with wine. Fascinating was the outdoor spit arrangement where the 16 large turkeys were roasted which were served Thanksgiving. Our final dinner was exquisitely prepared truffle chicken. If anyone went away hungry, it certainly was not the fault of the chef.

In conclusion, let me say it was a marvelous experience, and is a real challenge to the next club that will host this great NAMA group.



P. S. M. S. Spore Prints

is published monthly except July and August by the
PUGET SOUND MYCOLOGICAL SOCIETY
c/o The Pacific Science Center, 200 - 2nd Avenue No.
Seattle, WA 98109. Mail all articles, art or photos to
Hildegard Hendrickson, 2559 NE 96th, Seattle, 98115.

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SCIENTIFIC ADVISER Dr. Daniel E. Stuntz

Calendar

- January 8, Monday, Membership Meeting, 8:00 pm
January 22, Monday, Board Meeting, 8:00 pm
January 26, Friday, Deadline for Spore Print Material. Send
all articles, art work, photographs to the
Editor, 2559 NE 96th, Seattle, WA 98115
February 12, Monday, Membership Meeting, 8:00 pm
March 17, Saturday, The 15th Annual Survivors' Banquet

LAST REMINDER - PAY YOUR DUES FOR 1979

Our membership chairman, Joy McKnight, phone 772-5567
address: 5610 South 121st, Seattle, WA 98178 is preparing
the membership roster for 1979, and if you are not paid up,
you will not be included. Wrong addresses, wrong spellings,
wrong phone numbers, wrong etc. also should be reported to
Joy, so that she can correct them.

THINK ELECTIONS

It is not too early to call Lyle McKnight (772-5567), Sally
Ann Hansen (1-297-3626) or Dick Sieger (362-6860) and vo-
lunteer to be a candidate for one of the following positions :
vice president, secretary, 5 board members and 3 alternates,
which are up for elections in March. Get more involved in
YOUR Society! You can also nominate a fellow member for
a position, but you must obtain the member's permission.

Membership Meeting

Monday, January 8, 1979, 8:00 pm Eames Theater
The Pacific Science Center

Program: A very special treat is in store for us :

Dr. Daniel E. Stuntz will talk on "Opening the Curtain
on Cortinarius". If you read Ben Woo's report on the
Priest Lake Foray (November 1978 issue of Spore Prints) you
remember that Ben said that this talk was ... the most lucid
and enlightening discussion of the genus Cortinarius we have
ever had the pleasure of hearing. That alone was worth the
whole trip.....

BOARD NEWS

H.R.H.

The Board meeting started with a vote of acceptance of the
minutes of the November meeting.

President Jennie Schmitt read a letter from the Director of
the Pacific Science Center, Helmuth Naumer, in which he
indicated surprise that the Board had considered an alternate
location for the Show, and that he believes that the Science
Center and PSMS can continue a professional and worthwhile
association.

October 6th and 7th, 1979 have been confirmed as the dates
for the 16th Annual Exhibit.

The Seattle Public Library has requested PSMS to regularly
provide information about our activities for the Library's
Bulletin Board.

PSMS received a letter from the manager of Oakpatch thank-
ing for the contributions from the members and the Society.
Dick Sieger, field trip chairman, is planning a field trip to
the Ostrom Mushroom Farm which has just completed an ex-
pansion program (see November 1978 Spore Prints), as well
as an educational field trip early in the Spring.

Carl Hermanson, Co-Chairman of the Library Committee, has
asked the education committee members and others to make
recommendations for additions to the PSMS library holdings.
Bob Hanna, Chairman - Publications, reported that the re-
typing of the amended By-Laws of the Society is completed
and that he is getting bids from printers.

Lyle McKnight, Chairman of the 1979 Election Committee
(the other members are Sally Ann Hansen and Dick Sieger)
is actively seeking candidates for the following positions:
Vice President, Secretary, 5 Trustees and 3 Alternates which
are up for election by the membership in March.
The meeting was adjourned at 9:30 pm.

PICKLING BRINE

The following pickling brine is suitable for Boletes, Chanter-
elles, etc.

In an enameled or stainless steel saucepan, mix:
3 cups of white vinegar, 1 cup of water, 1 tbsp. sugar, 2or
more tsp. salt, and the following spices in cheesecloth:
1/2 bayleaf, 1/2 tsp. mustard seed, 1/2 tsp. dill seed or
blossoms, 1/4 tsp. crushed hot pepper, 6 peppercorns, bruised
1 small onion. Simmer for 15 minutes. Taste and add whatever
is needed. Strain, or remove cheesecloth bag.

Wash young and firm mushrooms, slice if necessary, and sim-
mer in pickling brine for 10 - 15 minutes. Taste again for
more salt or vinegar. Fill the mushrooms into hot, sterilized
jars that have screw-top lids. Immediately seal the jars.
Cool; tighten lids. Refrigerate. Keeps for at least 2 years
if sufficiently acid and salty. If in doubt, simmer again for
15 minutes before serving.

This is the conclusion of the article, which was presented in the October 1978 and December 1978 issues of Spore Prints.

E. Scale Insects and Fungi

Most scale insects are "active" (free-moving) only when young, and later they settle in their permanent abodes where they insert their sucking tube into the host plant and then secrete a hard, chitinous shell.

Other scale insects may depend on fungi for prefabricated, individual or communal dwellings. These are abundant in most tropical or subtropical regions and also occur in Southern and Southeastern parts of the U.S. They live beneath patches of fungi on a great variety of shrubs and trees. When a young scale insect leaves its mother's permanently-placed shell, it picks up fungal spores and when it settles in its own niche repeats the life cycle; the fungus germinates, sends threads into the host scale, grows and multiplies. Soon a mycelium covering is produced on the outer part of the scale, and this fungus (*Septobasidium*) derives all its food from the scale host. Thus the scale serves merely as a "pumping station" to transfer sap food from the host plant to the fungus. The mycelial covering also serves to protect the scale from parasitic wasps if it is thick enough; wasps can penetrate a thin layer and lay their eggs in the body of the scale.

II. MISCELLANEOUS INVERTEBRATES & FUNGI

Besides the insect groups mentioned in Part One, a number of other arthropods and invertebrates may at times infest and possibly damage fungi.

Nematodes (eelworms) are capable of rapid growth and propagation. They puncture mycelium and feed on contents of the hyphae, destroying them. In commercial mushroom beds this makes the compost sodden and the bed ceases to produce carpophores. Eelworms may also carry bacterial diseases of mushrooms (e.g., bacterial pit).

Mites of many genera infest fungi, mostly doing no harm, but all can distribute diseased spores, devour spawn, and nibble small holes in mushrooms; thus sometimes becoming serious pests in commercial beds.

Springtails, mostly about 1 mm long, feed on mycelium or sometimes mushroom caps and stems. They seldom cause much damage unless present in unusually large numbers.

Sowbugs (pillbugs) are frequently found in litter and around ground-inhabiting fungi, but they are said to cause damage only in heavy infestations. However, I have found them climbing to a height of 15 feet on Bethel Island to feed on young oyster mushrooms (*Pleurotus ostreatus*).

Slugs and snails are well-known to appreciate a tasty bite of a variety of fungi, but they are seldom present in sufficient numbers to do much damage.

III. FUNGUS PARASITES OF INSECTS

It is claimed that virtually no animal is free from the possibility of invasion by a parasitic fungus. Such diseases vary from those causing only a slight superficial irritation to some that are quickly lethal to the host.

Large numbers of fungi are parasitic on insects or other small

arthropods including spiders and mites. The parasites include some chytrids (members of the Entomophthorales); a few yeasts; numerous Ascomycetes and Fungi Imperfecti; and the Basidiomycetes (*Uridinella*).

The common housefly is often seen on window panes surrounded by a halo of conidia discharged from conidiophores which emerge from the abdominal parts of the host. After a fly is infected, it becomes restless and the females become sterile as the internal organs are "eaten" and destroyed. This finally results in death, and the conidiophores then emerge from the body segments.

Massaspora is somewhat similar to *Entomophthora*, and one species attacks the Seventeen Year Locust. Infection apparently occurs underground and as it progresses and the adult emerges from the soil, posterior portions of the abdomen drop away successively! Locusts may even be able to fly when half the rear part of the body is missing, but they eventually die of course.

The largest single group of insect parasites is the genus *Cordyceps*, which has about 200 species. It chiefly infects insects: the true bugs (e.g., squash bugs and leafhoppers), flies, butterflies, moths, bees, wasps, and beetles. The larval stage of the insects is most commonly affected. A few species attack spiders.

These fungi may be recognized mainly by the often huge, brightly-colored, clublike stroma which arise from the body of the host. In China caterpillars infected with *Cordyceps* are considered a delicacy and a tonic. An infected insect always dies before completing its life cycle.

In France "Muscardin" means a bonbon. The term "Muscardine," as adapted by French biologists, is quite descriptive of a number of fungus diseases which transform the host insect into a mummy, looking almost like a frosted almond. One common muscardine fungus (*Beauveria*) infects the silkworm, the European corn borer, the codling moth larvae, and others. In some cases it may help to control economic insect pests such as the corn borer, but it may also attack beneficial silkworms. Infestation usually occurs through direct penetration of the host integument.

The citrus mealybug is not a serious pest in Florida because it is held in check by a species of *Entomophthora* which is nurtured by the warm, rainy season. In contrast, this same insect is a menace in California because there in any season coincides with the cooler months which do not favor the growth of *Entomophthora*. Economic entomologists continue to experiment with certain fungus parasites, and some findings look promising.

Crickets and grasshoppers are subject to attacks by various species of *Empusa*, and this is thought to help at times in reducing the grasshopper plagues. The latter are addicted to cannibalism, and a dying or infected insect may be eaten by several of his fellow insects who then also become infected and die.

Fungi in the order Laboulbeniales are of no apparent importance to man, yet they are of considerable biological interest. They are distributed throughout the world on various insects, mostly beetles. One that infests a water beetle is so specialized that it is found only on a single joint of the left hind leg! This tests the credulity, yet several reputable authors have so attested. The fungus seems to use the beetle more as an anchorage and a place to grow, and it does not

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INSECTS AND FUNGI (continued from page 3)

penetrate the exoskeleton where it would find a rich source of food.

Other fungi prey on nematode worms that live in the soil, stable litter, and humus. Mycelia of such fungi are armed with specialized traps, which catch the worms which are then killed and used by the fungus for food. Predaceous fungi constitute the entire order of the Zoopagales, and are also numerous in the family Moniliaceae of the Hyphomycetes. (to be concluded)

BITS AND PIECES

When she renewed her PSMS membership, Marjorie Asano of Vancouver, B.C., included a clipping of the front page of the October 17, 1978 issue of The Vancouver Sun which showed a picture of her, holding a Matsutake which measured 11-3/4" across, was 12" high, and weighed pretty close to three pounds.

She also added, that her husband Kouichi's medical practice which has a lot of Japanese patients was not very busy on many days this fall, when the patients had taken off to hunt mushrooms and made tax-free thousands during this time.

In spite of the frosty weather we have had on and off since the end of November, Jennie Schmitt recently found in her yard, protected under a hemlock bush, about 30 specimen of Cortinarius croceofolius. She gave them to Ella Cantelon, who used them to dye some yarn, which came out a warm, soft and pleasing pink.

SIMANEWS reported the following: Giuseppe Vivalda, the "Wizard of Truffles" has done it again. He found a 21 ounce truffle, the biggest found this season by Alba, Italy, and shipped it to the new pope.

The newsletter of the Tacoma Mushroom Society has a new name: It is called INKY CAPTIONS.

THE 1979 NAMA NATIONAL FORAY TO BE IN OHIO

September 27 - 29, 1979 will be the dates for the national foray of the North American Mycological Association to be held at Leesville Lake, ten miles southwest of Carrollton, Ohio. It will be named the Hard Foray in honor of M. E. Hard, Ohio's outstanding amateur mycologist.

HUNGARIAN MUSHROOM PAPRIKA

(This recipe comes from the Connecticut Mycolog. Assn.)

1 medium size onion, chopped very fine; oil, butter or bacon fat; 1 tsp. imported Hungarian paprika; 1 spoonful of sour cream (optional); about 1-1/2 pounds chopped mushrooms, practically any kind, including some stems for chewiness.

1. Heat the oil, drop in onions and stir till yellowish in color. 2. Take off heat and mix in the paprika, stir well, about one minute (it is very important to not burn the paprika) 3. Add mushrooms into pan, stir lightly but thoroughly, place on burner again. Bring to a boil. Add salt. 4. Lower heat and simmer till 80% of the liquid evaporates, stirring occasionally. Bottom of pan should still be covered with 1/4 - 1/2" of liquid. 5. Cook till mushrooms are done; they should stay somewhat rubbery, not sloppy. 6. Take off burner, mix in sour cream; serve with rice, spaghetti, other noodles. 7. Variation: a teaspoonful of fresh chopped parsley at the last minute will add more zip.

BANQUET NEWS

Margo Harrison

"Mushrooms are marvelous and that's no blarney!" Little leprechauns know that; little PSMS members know that too! You and I together can clue St. Patrick in on the details at our Annual Survivors' Banquet, on March 17, 1979 at the Moose Lodge in the Seattle Center. Good food, good music for dancing, and good company will be available as in the past. The Moose Lodge building has been purchased by the Seattle Police Guild, and final details are right around the Christmas corner; however, prime rib dinner and an evening of dancing for approximately \$10 per person sounds very reasonable in these inflationary times.

Additional information will be given at the January membership meeting, and in the February issue of Spore Prints. Tickets will be available at the February membership meeting or by sending your order, accompanied by a check and a self-addressed, stamped envelope to Margaret Holzbauer, 703 South Cloverdale Street, Seattle, WA 98108.

Now you have some information --- most importantly the date: Saturday, March 17, 1979. The banquet will be more fun if YOU (and your guests) come.

Watch the February Spore Prints for those additional details you need.

THANK YOU

Martin Hansen

I want to thank the Society and all the members who contributed to the memorial fund in memory of Estella, which will be used to furnish a room at the PCF facility at Group Health where relatives of patients can stay overnight. My special thanks go to Fay Melsen who expertly handled all the details.

WANTED : PAST ISSUES OF SPORE PRINTS Jennie Schmitt

If you own the following issues of Spore Prints and are willing to part with them, call Jennie (255-5286).

No.23 (April 1966); #55 (September 1969); #65 (October 1970) #69 (February 1971); #70 (March 1971); #73 (June 1971); #74 (September 1971); #75 (October 1971); #78 (Jan. 1972)

IN MEMORIAM - JOSEPH P. LEVANAVICH

On Thursday, December 14, 1978 our charter member (#167) Joseph P. Levanavich died unexpectedly of a heart attack. Our sympathy goes to his wife Ann.

WELCOME TO THE FOLLOWING NEW MEMBERS

Eleanor Anderson: 524-3822; Scott Barber: 363-2366; Seth & Margaret Ellner: 633-4168; Johann Enderlein: 633-1199; Adele Hagan: 883-3901; Barbara Hall: 248-2482; Ernest & Elaine Henley: 524-0081; Douglas & Ilma Hoffman: 725-2019 Joe Hunter: 922-5269; David & Kathy Kirkland: 784-4446; James Koger: 822-5760; Martin Kushner: 325-1572; Jane Mahlik: 285-1522; Russell & Edith Martin: 822-7062; Edna Natkin: 329-5568; Okura: 723-7466; Frank & Cheeri Rinaldo: 779-9217; Shroomer Publications: 779-9150; Herb Saylor: 881-1059; Martin Schutt: 932-5653; Chet & Dorothy Sprinkle: 365-1411; Theresa Trebon: 527-1061.

The following members have new phone numbers: Robert & Hazel Boehm: 486-5536; Jo & Bob Leslie: 598-4976; Ruth D. Rona: 524-0340; Dorothy Tarr: 522-2207; Lawrence Byman: 423-8358; Keith Simons: 937-3572; Jack & Nettie Laycock: 475-0963; Helen Karlsson: 789-1582.