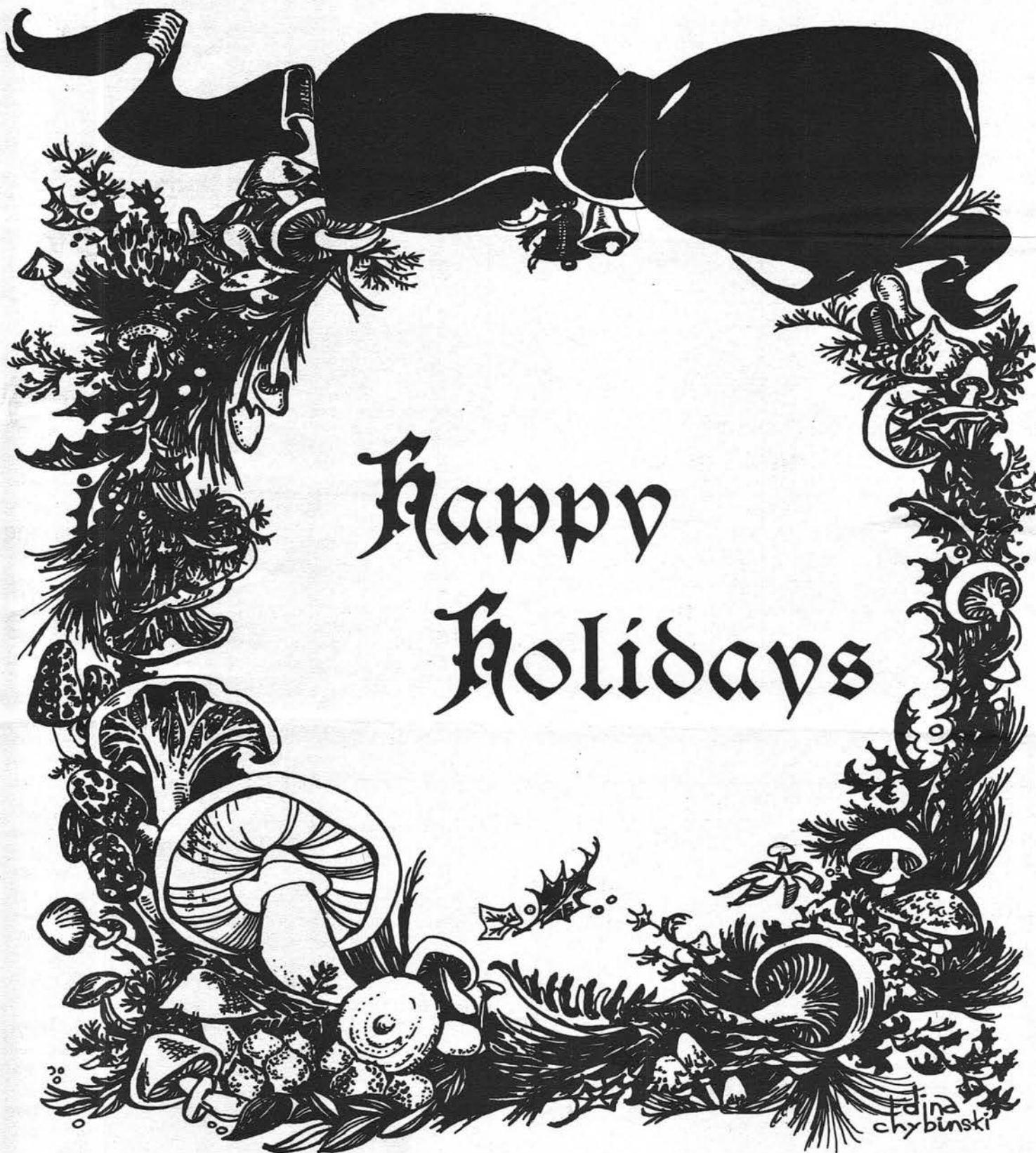
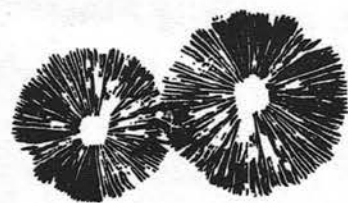


SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
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Spore Prints

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PUGET SOUND MYCOLOGICAL SOCIETY

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CALENDAR

Dec. 12	Membership meeting, 7:30 PM, CUH
Dec. 15	<i>Spore Prints</i> deadline (a week early)
Dec. 18	Board meeting, 7:30 PM, CUH

NOMINATIONS

The nominating committee will present its slate at the December and January meetings and will accept nominations from the floor. We will be electing a president, a treasurer, five board members, and three alternates.

BOARD NEWS

Dick Sieger

Alan Jayson of Culinary Consultants presented PSMS with boxes of beautifully freeze-dried mushrooms for the exhibit and other displays. Charles Pregaldin and John Kunz will help the board pick a computer to buy. Marshall Palmer volunteered to chair the 1996 Banquet Committee. Bernice Velategui volunteered to do the December membership meeting. Exhibit Chair Joanne Young and Treasurer Mary Taylor gave a preliminary report on the exhibit. Income was about \$18,300 (led by \$7,600 ticket sales and \$8,600 book sales); expenses were about \$7,800 with a few more bills yet to be paid.

MUSHROOM MISSIONARIES

Ben Woo gave a talk on *Russula* to members of the Snohomish Country Mycological Society on November 8. Patrice Benson gave two classes at The Herbfarm and a class for the Bush School Evening Program.

MEMBERSHIP MEETING

Tuesday, December 12, 1995, at 7:30 PM in the Center for Urban Horticulture, 3501 N.E. 4 1st Street, Seattle



Join us for our annual Holiday Gathering. There's no program, just eating and socializing. Bring your favorite holiday treat to share—cookies, finger foods, cheese, or fruits. Please either use a disposable plate or mark your name clearly on your dish. The table decorations and beverages will be provided by PSMS board members led by Bernice Velategui. Bernice can use extra help, so come a little early if you can. Bring a few slides to show so we can see what fun times you and your family have been enjoying.. (Give them to Marshall Palmer before the meeting starts.) If you only have prints, bring them in something we can pass around. Come eat, have fun, enjoy old friends, and make some new ones.



MEET ELLEN FRIIS-MIKKELSEN

Inga Wilcox



Born and raised in Denmark, Ellen went mushrooming early on. The family enjoyed picking King Boletes and chanterelles for their table. Her father owned an old windmill in the Elsinor area which attracted many foreign visitors. No wonder Ellen enjoys visiting other countries. In 1938 she went to Columbia, South America, to visit a brother, but with the outbreak of the war in Europe she did not return to Denmark.

She stayed in Panama until 1942 where she worked in a private hospital as a physical therapist. Then she came to the U.S. and worked at the prestigious Mayo Clinic. Having married a Danish gentleman, she lived on the East Coast and came to Seattle just ten years ago when they retired. A friend here told her about PSMS, and Ellen promptly became a member. Her husband does not share her enthusiasm for fungi but will partake of chanterelles, cautiously, she said.

Membership in PSMS allowed Ellen to get to know the surroundings of Seattle by attending forays. She drives alone, and comes to all meetings. Her son, who is a fisherman spending summers in Alaska, enjoys fungi, as does her 11-year-old grandson. Like many youngsters, he is very enthusiastic and can spot mushrooms with "eagle eyes."

At the Squire Creek foray, Ellen met some young girls who were not yet members and introduced them to hunting. While in the woods, they met a young couple who turned out to be neighbors of the girls. Ellen, 84 years young, got a little tired and was delighted when that couple drove behind her all the way to Seattle making sure she got back OK.

Ellen is very enthusiastic about the annual exhibit and finds it a great tool for introducing new persons to the world of fungi. Children especially learn respect for nature. Ellen tells newcomers: "Don't pick a mushroom until you identified it." Happy hunting, Ellen Friis-Mikkelsen.

Christmas gifts—give books! Book sales will be ongoing during the December meeting. The ID books will be in, along with new titles. Come shop for those last-minute stocking stuffers.

Twanoh State Park, October 28

My daughter and I got up early, swept out the shelter, and then watched for awhile as a large spawning chum salmon thrashed its way up the creek. How we managed to avoid the rain on this outing (and all of the prior trips this year) remains a mystery, but we certainly were not complaining.

Twanoh State Park on Hood Canal offers a wonderful setting for a field trip, with extensive trails through different kinds of forest and vegetation as well close proximity to the Olympic Peninsula (14 miles away) and other great collecting areas. We had a lot of new members coming to their first field trip. Many members pitched right in. They got wood from the ranger and split it, helped arrange the picnic tables and set up the specimen display, and stayed late to help discard collections and clean up the mess. I sent people in all directions to collect. I told everyone that the Tahuya Peninsula was especially good but that they had to be careful not to get lost on the logging roads. Some people still got lost, and a certain party managed to drag themselves back to the shelter just in time to miss potluck by a whole hour.

Fungi were everywhere, with all kinds of interesting species brought in. Most everyone found some chanterelles, but they were pretty much past their prime. Bill Bridges, Sara Clark, Brandon Matheny, and Brian McNett identified 106 different species of fungi. The potluck was small, but everything tasted great and there were even a few scraps left for the stragglers. A delightful location and a fun day.

Deception Pass State Park, November 3-5

It was an exciting trip, with lots of enthusiastic members showing up early. The state park was technically closed, but owing to the efforts of Patrice Benson, a group-camping area with a shelter was reserved for the weekend. Thanks to hosts John Floberg and Lisa Belleford there was coffee, hot water for tea, and a nice assortment of goodies to munch on. The woods were just loaded with *Boletus zelleri*, and everybody who collected in the park found plenty. Our luck ran out on this weekend, and we got a few rain showers, but it didn't seem to dampen (pun intended) anyone's enthusiasm. One-hundred and fifteen different fungi were identified with the help of Sara Clark, Buck McAdoo and Larry Evans. This field trip was just a couple miles from where the Pacific Northwest Key Council was having their foray, and a few people from their group did come over for a while. Mid-afternoon during the cold and drizzle, Irene and Henry Lingat surprised us all and warmed us up with a huge pot of delicious homemade chicken-noodle soup. Irene and Henry, your timing was perfect! I brought wood from home, and Patrice also went out and purchased wood, allowing us to keep the campfire going all day long and well into the evening. The potluck was very good, and afterward we all sat around the fire and roasted smelt and *Lepista nuda* on sticks.



More than 40 PSMS members completed basic and intermediate mushroom ID classes in November. Congratulations! These classes would not have been possible without the generous contributions of several instructors who spent countless hours collecting specimens and preparing lectures. Many thanks to

Larry Baxter	Margaret Dilly	Ben Woo
Denis Benjamin	Coleman Leuthy	
Patrice Benson	Dick Sieger	

(Only the inconvenience of heart bypass surgery was able to prevent Irwin Kleinman from assisting this time around.) Thanks to Sheila Parr for ensuring the availability of course texts and ID keys. And finally, special recognition should go to Sara Clark, who served as lead instructor for all six sessions of the basic ID class! Another basic ID class is being planned for April.

MICROSCOPY CLASS

Marshall Palmer

On November 18th and 19th, 21 of our members completed a six-hour course in microscopic skills for mushroom identification. Judy Roger introduced us to procedures for preparing slides and the use of various stains to highlight important features. We appreciated both her enthusiasm and patience. Thanks, Judy! Judy commented repeatedly that she was impressed with the motivation and curiosity shown by the students. PSMS members, pat yourselves on the back!

MICROSCOPY STUDY GROUP

Marshall Palmer

Several students in the recent microscopy classes have expressed interest in forming a study group. Such a group could meet regularly at CUH. PSMS would assist in providing meeting space, equipment, and a mentor. *What is needed is a person willing to do the initial organizational work*—make phone calls and set up a meeting at which prospective members could discuss the goals and logistics of the group. If you are interested in assuming this role, please call me at 527-6207 so that I can forward the list of interested people and assist you in organizing the group. Also, if there are PSMS members who did not attend the recent classes but who are interested in the study group, please call me and leave your name and telephone number. Bear in mind, though, it is necessary for someone to volunteer to get things rolling in order for this proposal to reach fruition.

OLD MOLD SOLD

condensed from the *Oregonian*
via Mt. Mazama Mush. Assoc. *Mycographia*, November 1995

Two Petri dishes in the estate of Marlene Dietrich, purportedly part of the world's first batch of penicillin, were sold at auction for \$19,800. On the back of one Petri dish is written, "A tribute to the one-and-only Marlene, the mold that first brought penicillin to light," and Fleming's signature. Dietrich, who took penicillin to cure pneumonia in 1943, placed the Petri dishes in a frame with a signed photograph of Fleming and hung the ensemble in her Manhattan apartment. Dietrich was determined to meet Fleming. Her chance came when they were both in London in the early '50s. The two supped on goulash and wine, and at that time Fleming reportedly gave Marlene the mold, saying "That's the only thing I thought I could give you."

ANCIENT MUSHROOM FOUND IN AMBER

condensed from *Nature*, 377(6549): 487, 1995



The nearly complete remains of an ancient gilled mushroom, encased in amber, were discovered in New Jersey. Although the mushroom is some 90 million years old, it looks very much like modern *Marasmius* and *Marasmiellus* species. It has a round cap $\frac{1}{8}$ in. across, widely spaced gills, and a central stalk. It appears to have been growing on litter from one of the Cupressaceae (cedar family). Scanning electron micrographs show smooth, elliptical spores without germ pores measuring about $5 \times 7 \mu\text{m}$. The spores are like those found in modern mushrooms.



Mushroom fossils are extremely rare. Until now, the oldest known gilled mushroom was a *Coprinus*-like specimen, *Coprinites dominicana*, also preserved in amber. It grew 25–30 million years ago and came from the Dominican Republic.

The earliest known basidiocarp is a polypore fossil, *Phellinites digiustoi*, from Argentina that grew in the Jurassic period. The earliest known mushroom mycelia are from the Pennsylvanian period more than 300 million years ago, long before the dinosaurs. The hyphae had clamp connections—a strong indication that Basidiomycetes were growing even then.

The real significance of the New Jersey fossils may lie in their impact on our conception of the morphological evolution of mushroom-forming fungi. If the New Jersey fossils are, in fact, closely related to *Marasmius* and *Marasmiellus*, it appears that this form may have been conserved for many millions of years. In contrast, recent studies based on molecular systematics show that the evolution of holobasidiomycetes has been marked by abrupt morphological transformations between, for example, mushrooms and false truffles, agaricoid fungi (gilled mushrooms) and secotioid fungi (mushrooms with contorted gills that don't forcibly discharge spores), and polypores and gilled mushrooms. Despite many profound evolutionary changes in fruiting-body form, including repeated evolution of gilled mushrooms, the discovery of these new fossils suggests that certain extant morphologies may be of very ancient origin.

TRICHOLOMA MAGNIVELARE

Gordon Larum

Mt. Mazama Mycographia, Nov. 1995

Little is known of the ontogeny of the matsutake (*Tricholoma magnivelare*). Ongoing studies hope to determine the biotic and abiotic factors that influence its fruiting. The matsutake's mycorrhizal host varies greatly, depending on geographic location. Matsutake sporocarps are clustered and associated with specific trees and substrates. These factors combine to make definitive studies difficult. Some observations follow.

The host tree has a great influence on fruiting periodicity. White fir, for example, will produce sporocarps while pines from the same location will not produce sporocarps until days or weeks later. This phenomenon appears to be coincidental with the dormancy temperature of specific tree species; pines, for example, are dormant at a lower temperature than are firs. Temperature dormancy is key to the initiation of primordia fructification. However, tree dormancy is signaled by a combination of photo-periodicity and lowering of temperature. Because the matsutake is mycorrhizal, there is less dependency on moisture to trigger primordia. Just how tree dormancy signals the matsutake mycelium to produce primordia is not known. Once fruiting has begun, the growth of the basidiocarp is greatly dependent on climate. A daytime temperature of 5–10°C and soil moisture of $\pm 30\%$ are minimal requirements for carpophore growth. When these conditions are not met, no, or much smaller, fruiting bodies result. Under minimal-or-better climate conditions, fruiting bodies reach maturity in 3 to 7 days.

MUSHROOM EQUIVALENTS

NIMAnews

November-December 1995

About 5 medium mushrooms equals 1 cup sliced
About 6 medium mushrooms equals 1 cup chopped
1 lb medium mushrooms equals $5\frac{1}{2}$ cups sliced
1 lb medium mushrooms equals 5 cups chopped
1 oz. dried mushrooms equals 8 oz. fresh mushrooms

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