SPORE PRINTS

BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
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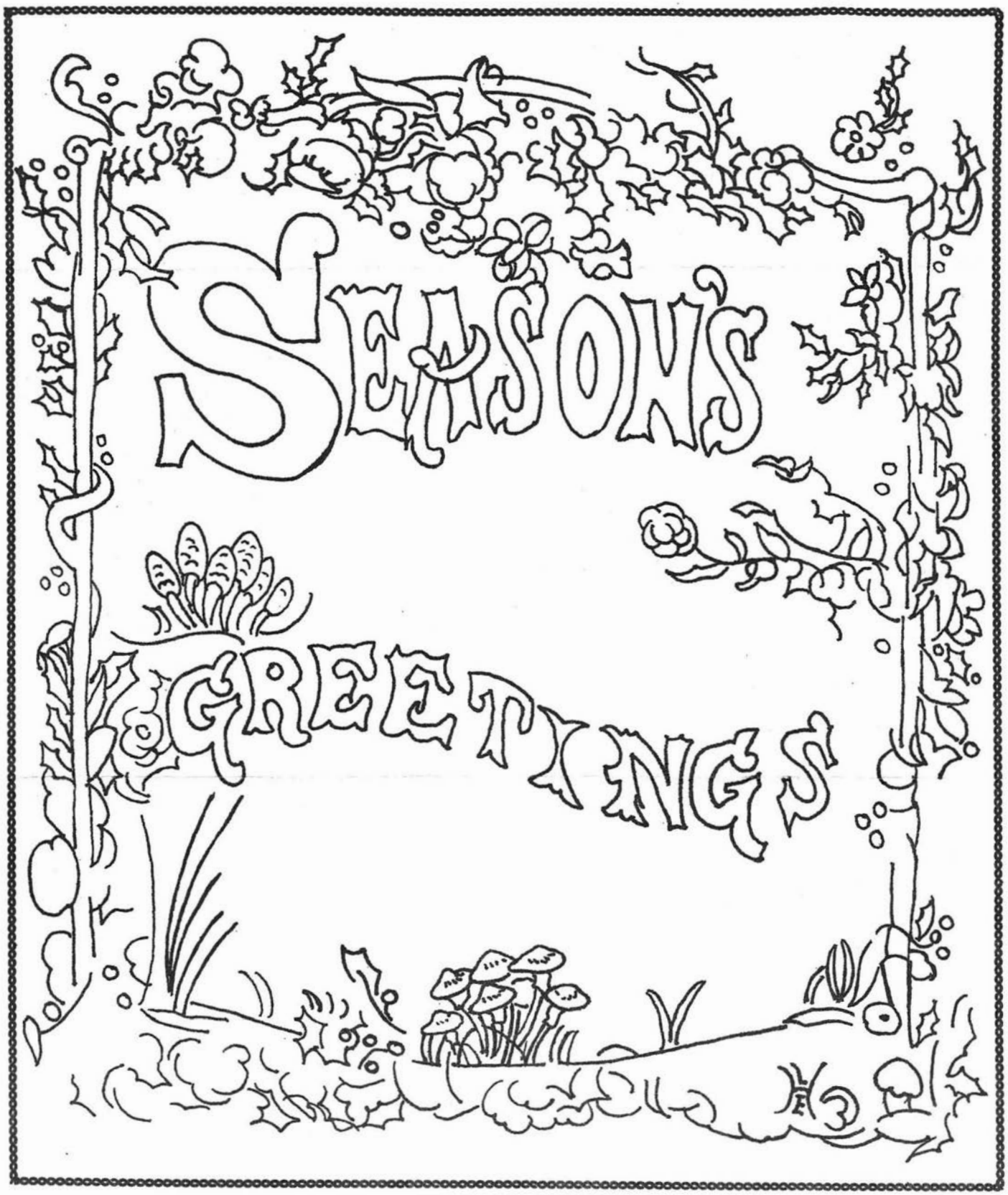

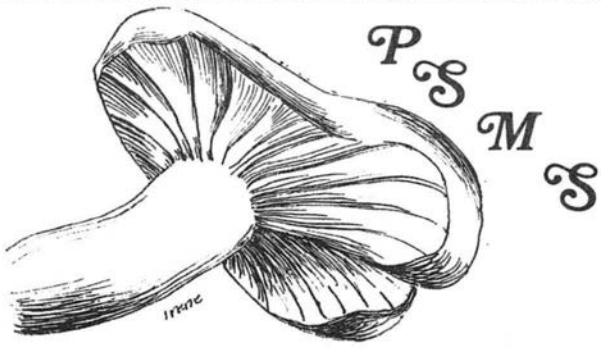

Spore Prints

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CALENDAR

Dec. 13 Monday, Membership Meeting, 8:00 pm

Dec. 24 Actual Deadline for Spore Print Material. Send all articles, art work, and especially recent photos to the editor, %4029 E.Madison, Seattle, Wa.,98102

Jan. 10 Monday, Membership Meeting, 8:00 pm

March 19 Saturday, The 13th Annual Survivors' Banquet

WELCOME TO THE FOLLOWING NEW MEMBERS

Glen & Barbara Bates, 454 - 6203; Dr. & Mrs. Theodore F. Berthelote, 885 - 1443; F. William Burley, 265 - 8319; Beth S. Davis, 523 - 6461; Walter & Lillias Colistra, 827 - 9165; Roy & Violet Dormer, 362 - 9178; David Forsberg, 631 - 0673; Marie B. Hilton, 722 - 1462; Joe Hinnebusch, 323 - 9085; Ruth Johnston, 745 - 0698; Grace K. Jones, 822 - 5722; Kearney K. Kozai, 632 - 5145; Linda Lee,243-0823; Christa Lewis, 784 - 1152; Tabitha Loftus, 782 - 2288 M. A. Manson, Brian E. & Janice E. Martin, 776 - 9850; Eve Burton & Roger Metcalf, 324 - 4417; Stephanie Metzger & Jan Sabin, 789 - 0160; Jeanne & Harlan Moss, 588 - 1139 Leonard & Marjorie Schaller, 723 - 9047; Eleanor L. Seaman 454 - 5365; John & Roberta Sniedze, 243 - 6097; Robert E. Walker, 485 - 2746; John R. Ward.

Monte and I want to take this opportunity to wish all of our PSMS members and friends a MERRY CHRISTMAS and a HAPPY MUSHROOM YEAR in 1977.

Membership Meeting

Monday, December 13, 1976, 8:00 pm Eames Theater, The Pacific Science Center.

Program: Photography Night - Followed by a Social Hour.
Again this year, Joy Spurr has arranged a special treat for us. The favorite mushroom- and/or people pictures taken by our PSMS members have been selected and will be presented with narration by the photographers.

After viewing the photographs and slides, a Social Hour with coffee and cookies prepared by our members is scheduled so that we can get better acquainted with our PSMS members.

NOTE: Anyone who wants to show slides and has not contacted Joy Spurr yet, should do so immediately (phone: 723 - 2759). And EVERYBODY should bring a few of their favorite cookies.

Also, Helen Wasson will have books for sale, BEFORE the meeting. They make good Christmas presents!
The Board of Trustees has voted to offer books to members at reduced prices. How can you pass up this opportunity?

DUES FOR 1977 ARE DUE — Ronna Randall-Brown

Your membership dues for 1977 should be sent to Ronna as soon as possible (that means immediately) or this will be the last issue of Spore Prints that you receive, as well as the many other PSMS privileges. Ronna will be at the December membership meeting, or send you checks to her address: 4201 - 78th Southeast, Mercer Island, Wa., 98040. Dues are $10. for family memberships; $7. for single memberships, and $5. for students. This year, Ronna wants to publish the 1977 roster early and this is the reason for urging YOU to renew promptly. Note to our NEW members. If you have joined PSMS during the last months of 1976 your dues are paid up through 1977. The above reminder does not apply to you.

BANQUET 1977 — Louise Rautenberg

The 13th Annual Banquet will be held Saturday, March 19, 1977 at the Naval Supply Depot on Pier 91. The price per ticket again (like the past two years) will be $7.50. Since only 350 persons can be accommodated, we urge you to get your tickets early next month (first come - first served). Ticket information will be announced in the January issue of Spore Prints.

BEWARE OF HALLUCINOGENIC MUSHROOMS — H.R.H.

Several PSMS members (from Olympia, Seattle, Woodinville, etc.) have sent me clippings reporting the picking of Psilocybe mushrooms by young people. After eating these mushrooms some persons have had experiences different than those anticipated, and even needed emergency medical care.
I urge all PSMS members, if you are asked, or have the opportunity, to caution people about using hallucinogenic mushrooms since their long-run effect is not fully known.

BITS AND PIECES

Many thanks to Lolly Hibbs who contributed the beautiful drawing for the cover page.

Did you know that the U.S. population consumes 230 million pounds of Agaricus bisporus per year? No statistics are available about the consumption of wild mushrooms.

We hope that Peggy Fay (PSMS member living in Easton) has recovered from the automobile accident in which her car was totalled.

REPORT FROM MILLERSYLVANIA — Scott Chilton

The First Psychotropic Mushroom Foray took place Halloween weekend at the group camp at Millersylvania State Park. About 120 people attended. While most were from California, Oregon, Washington and British Columbia, other states that I noted represented included Idaho, Colorado, Texas, Florida and Arizona.

Excellent scanning electron microscope (SEM) slides of spores of Strophariaceae were shown by Evergreen State student Paul Stamets Friday evening. SEM provides much greater magnification and depth of field than is possible with conventional microscopes. Saturday morning forays turned up five or six species of Psilocybe which were identified by foray mycologist and specialist in the genus Psilocybe, Dr. Gaston Guzman of the Polytechnical Institute, Mexico City.

In the afternoon Jonathan Ott gave a resume of man's use of psychotropic fungi and introduced the renowned ethnomycologist, R. Gordon Wasson. Mr. Wasson recounted the early period of the rediscovery of the Mexican mushroom cults. He illustrated his talk with slides and sound track of an authentic Mazatec mushroom divination rite. Professor Guzman concluded the afternoon session with a lecture on the ecology of Psilocybe. The evening program was devoted to scientific aspects of psychotropic fungi. David Repke and Dale Leslie of San Francisco reported on several years study on the analysis of Psilocybe spp. which employed some of the latest techniques of gas-liquid chromatography and mass spectrometry. They gave quantitative data on variability of psilocybin levels in fresh and stored mushrooms. Scott Chilton spoke on the biosynthetic relationship of Amanita muscaria pigment to the intoxicant, and Dr. Lynn Brady, U.W. School of Pharmacy, reviewed the ergot story and unresolved problems in Gymnopilus spp. The foray closed Sunday with a talk on cultivation of Psilocybe by Dale Leslie and a panel discussion on recreational use of psychotropic fungi.

NORTH AMERICAN MYCOLOGICAL ASSOCIATION

NAMA is an association of amateur mycologists in the USA Membership information can be obtained from the president, Harry Knighton, 4245 Redinger Road, Portsmouth, Ohio, 45662. Current dues are $6.00 for Active Memberships (includes family at one address); $15 for Sustaining Memberships $10 for Foreign Memberships; $2 for Student Memberships and $125 for Life Memberships.

This information is provided since Mrs. Trueblood, our speaker at the November membership meeting, mentioned this organization. I like NAMA's slogan: "Discover Mushrooms, A World of Wonder At Your Feet"

TRI-CITIES MYCOLOGICAL SOCIETY FORAY — Joy Spurr

The highlight of the Tri-Cities Foray, at Wooten State Park, October 23 and 24, was the Saturday evening talk by Dr. David Hosford. Dr. Hosford's style and clarity held his audience spellbound as he discussed the classic differences of the Basidiomycetes and explored the evolutionary relationship between the species. His examples included that upstart Boletus, Phylloporus rhodoxanthus, that not only displays gills instead of the traditional Bolete pores, but further startles its finders sometimes showing part gills and part pores, or all pores, beneath its brown cap. Dr. Hosford teaches at Central Washington State College and is a former student of Dr. Daniel Stuntz.

Like other parts of the Pacific Northwest, the Tucannon Canyon of the Blue Mountains had received no rain for several months and the ground was powder dry. Mushrooms were absent in the immediate area of Camp Wooten. Stream banks and seep areas in the higher reaches of the canyon were more productive. No one gathered great quantities of any one species, but the number of species that found their way to the identification tables totaled over 135.

The success of the foray was due to the efforts of Herold Treibs, President of Tri-Cities Mycological Society, Donna Andersen, foray chairperson, Helen Yoshikawa, registration, Larry Brackenbush, graphics, and many other Tri-Cities members who worked hard to make the foray an enjoyable and educational weekend. There was plenty of good food. The scenery was decked out in glorious fall colors. Dr. Hosford, Foray Mycologist, made the foray truly a learning experience by helping everyone identify the mushrooms they found. Seventy-three persons registered, most of them from eastern Washington and Idaho. Although Camp Wooten is at least a three-day trip from Western Washington localities, I urge PSMS members to attend future forays in this region of silver fir, ponderosa pine and yew forest with its smaller dominant plants of alder, willow, serviceberry, ocean spray, elderberry and snowberry.

AMANITA : THE MUCH-MALIGNED GENUS — Greg Wright

-(conclusion of article from November Spore Prints)-

For many years, Volvariella gloiocephala (now a variety of V. speciosa) was considered deadly because Volvariellas have a sack-like volva and were confused with phalloides-group Amanitas. But now it is known that the Volvariellas are edible (V. speciosa occurs on the West Coast in gardens and other cultivated ground), and anyone who observes their pink spores can distinguish them from Amanitas. Within the genus Amanita, there are many distinct groups which are sometimes little closer related to one another than some of them are to the genus Volvariella. Groups of Amanita which are conspicuous on the West Coast can be characterized as follows:

1. phalloides group -- also includes verna, virosa, ocreata, bisporigera, ovoidea. Universal veil breaks into large pieces, volva sack-like and thin, cap margin not sulcate-striate, ring present, spores amyloid.
2. muscaria group -- also includes pantherina, gemmata (junquillea), frostiana, cothurnata. Universal veil breaks into small pieces on cap, volva cup-like and sometimes with circular zones of patches above, cap margin sulcate-striate, ring usually present, spores nonamyloid.
3. caesarea group -- also includes calyptroderma, calyptrata, velosa. Universal veil breaks into large pieces, volva sack-like and thick, cap margin sulcate-striate, ring present or absent, spores nonamyloid.
4. vaginata group -- also includes fulva, inaurata (strangulata), pachycolea, umbrinolutea. Universal veil breaks into large or small pieces on cap, volva sack-like and thin, cap margin sulcate-striate, ring absent, spores nonamyloid.
5. farinosa group. Universal veil breaks into powdery fragments on cap and stipe, cap margin sulcate-striate, ring absent, spores nonamyloid.
6. porphyria group -- also includes brunnescens, citrina (mappa). Universal veil breaks into small pieces on cap, stipe bulb rimmed (marginate) and sometimes cleft into wedge-shaped pieces, volva cup-like or else collar-like along the bulb rim or else mostly fallen off, cap margin not sulcate-striate, ring present, spores amyloid.
7. aspera group -- also includes rubescens, flavoconia, flavorubescens, excelsa (spissa). Universal veil breaks into

-(continued on last page)-

AMANITA : THE MUCH-MALIGNED GENUS

(continued from page 3)

small pieces on cap, volva mostly broken into fine pieces (smaller pieces than in the muscaria group, which this group resembles), cap margin not sulcate-striate, ring present, spores amyloid.

8. solitaria group -- also includes silvicola, smithiana, cokeri, chlorinosma, californica, strobiliformis. Mushroom white, universal veil breaks into small and often cottony or powdery pieces, stipe sometimes with a tapered underground portion (rooting), cap margin not sulcate-striate, ring present (sometimes fragmentary and hard to discern), spores amyloid.

I have cooked and eaten mushrooms from all the Amanita groups except phalloides and farinosa, and so far I have found them edible and usually well-flavored. The edibility of species in the caesarea and vaginata groups is well-known. Amanitas caesarea, calyptroderma, calyptrata, velosa, and inaurata are among the finest edible mushrooms. Amanitas vaginata and fulva have excellent but mild flavor. One summer day in Shenandoah National Park, Virginia, a friend and I collected large numbers of caps from vaginata and fulva and then were shocked to discover after eating part of this collection that a bitter taste was developing -- contrary to the mild flavor always ascribed to these mushrooms. I thought what a fool I was for pulling off caps rather than examining the whole mushrooms, and having no idea what mistake had been made, we waited to see what disaster was going to befall us. Fortunately, as I later determined, the culprit was simply a bitter variant of A. fulva. The vaginata group contains a complex of species which has yet to be sorted out, and while none of these has been found poisonous, many will someday be appreciated as excellent edibles.

The porphyria group has long been an object of fear, largely because A. brunnescens of the eastern U.S. used to be taken for A. phalloides, though in features the two are miles apart. A. citrina and its variety mappa also used to be considered poisonous; again, confusion with phalloides was probably to blame -- this time more understandable because of cap-color and volva similarity. But the fact is that neither brunnescens, citrina, nor porphyria are known to be poisonous. A. citrina has been found edible in Europe, though it is said to have a disgusting flavor. During my stay in Seattle I have been testing the edibility of porphyria: the first day one-fifth of a cap, another day four-fifths of a cap, and most recently two caps. Nothing adverse happened, so I will continue my test whenever next I can obtain four caps. Actually, I felt slightly nauseous the day following my eating four-fifths of a cap. Had I not persisted in the experiment by increasing the dose, I never would have known that I felt bad that day for reason other than the mushroom. Even had I repeated the second dose and again felt ill the next day, I wouldn't know whether my malaise was psychosomatic, which it may well have been the first time. Anyway, A. porphyria is well worth eating, with a soft texture and raphanoid (radish-like) flavor, like Volvariella speciosa and Pluteus cervinus.

The aspera group has at least one highly regarded edible -- A. rubescens -- and my experience with aspera suggests that it has at least one more. A. aspera looks so much like A. muscaria that it has scared people away from eating it, but its relationship is to the edible rubescens and not to the muscaria group. I have eaten about two caps' worth of aspera, and found it to be flavorful and raphanoid in the manner of A. porphyria. I should add at this point that eating two caps of a mushroom does not establish its edibility, but rather establishes the edibility of two caps. Maybe I will be poisoned when I eat four caps, should the mushroom contain poison too weak to make its effect felt with two caps. This is the kind of situation that has been found to apply with A. gemmata in Europe (it also applies with many everyday foods, such as potatoes and tomatoes which contain the lethal poison solanine, apples and peaches which contain cyanide, and rhubarb, spinach, and broccoli which contain oxalic acid). Further, there is the consideration of differences in individual susceptibility, and variation among different mushrooms of the same species. Getting back to the aspera group, the eastern U.S. species flavoconia and flavorubescens look like muscaria and have long been under suspicion, but, in fact, nothing is known about their edibility. A. excelsa occurs in Europe and at least one variety of it is known to be edible.

The large, white mushrooms of the solitaria group are suggestive enough of the white phalloides-group mushrooms that people have assumed the former must also be poisonous. Some of the solitaria-group species even have menacing warts, a nasty-looking rooting stipe, and the odor of the deadly gas chlorine. Hence you might be shocked when I tell you that I ate one of these monsters and am none the worse for it. I am referring to the mushroom which has been called A. solitaria, but is probably A. smithiana according to a recent technical treatise. A different mushroom is called A. solitaria in the eastern U.S. and this is actually A. cokeri, which also has been tested and found edible. The true A. solitaria occurs in Europe, and at least one variety is known to be edible, though the cap cuticle flavor is disagreeable. The flavor of A. smithiana again is raphanoid, but this time with an accompanying acidic-bitter component, sometimes strong enough to detract from this otherwise fine mushroom. (I probably should have removed the cuticle.) The other common Northwest mushroom in the solitaria group is A. silvicola, which, with its fluffy white universal veil and non-rooting stipe, looks much more wholesome than A. smithiana (silvicola reminds me of angel-food cake with trimmings). Both the universal and partial veils are fragile and readily fall off, so that A. silvicola has probably been mistaken for other genera (perhaps Agaricus, Lepiota, or Tricholoma) and eaten as such -- apparently without harm or we would have heard by now. I have eaten about one cap's worth which I greatly enjoyed, which had a flavor of -- well, perhaps you can guess.

As I said before, eating a cap or two of a mushroom doesn't establish its edibility. But with a group of mushrooms as feared as Amanita, even eating one bite and feeling fine afterwards is an important step, because it makes you much more at ease with the mushroom. You then realize that even an Amanita is normally not going to do terrible things to you if you eat it, and you can be pretty certain that if you increase the portions you eat by small increments, with at least a day's time between testings, nothing serious will befall you (the known exception to this rule is with long-delayed or cumulative protoplasmic liver and kidney poisons in a few Lepiotas, Cortinarii, and False Morels). Of course, if you are testing A. silvicola, and when you get to the point of eating six mushrooms you accidently substitute A. verna, then however gradual your increments were, you're now in big trouble.

If you or someone you know tests one of the lesser-known Amanitas -- intentionally or otherwise -- please let me know what is learned by writing to me at 4517 Live Oak Drive, Claremont, Cal., 91711. I would also like to receive information on the edibility of other of the less-well-known mushrooms, and in turn I will be glad to supply information on the edibility of mushrooms you are interested in trying.