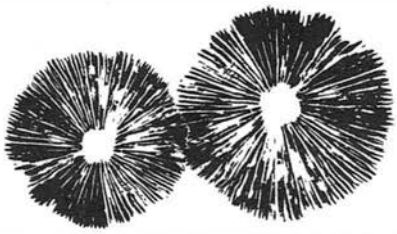
SPORE PRINTS



BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY

Number 238 January 1988

CHARLES MCILVAINE

Alan Parker
Wisconsin Mycological Society Newsletter

Charles McIlvaine was born in Pennsylvania (1840); abandoned formal education at age 13 because of illness; worked briefly as a railroad engineer; served as captain of a company of Union volunteers at the beginning of the Civil War; worked for several years as a consulting civil engineer in West Virginia, North Carolina, and New Jersey; went abroad in 1873 and began writing art criticism and humorous sketches; returned to the United States to do survey work.

Railroad surveying trips into the West Virginia wilderness (1881-1885) apparently stimulated McIlvaine's initial curiosity about mushrooms. He began eating various species without attempting identifications. When he finally did consult European manuals, he discovered that he should have been fatally poisoned several times over by his mushroom feasts. The fact that he was still among the living prompted a lengthy obsession with the personal testing of numerous species of unknown edibility. As McIlvaine stated in the introduction of his book:

> Scores of species of fungi were found in the forests, ravines and clearings of the West Virginia mountains from 1881 to 1885 inclusive, and eaten by the writer years before he had the opportunity to learn their names from books or to obtain the friendly assistance of experts in identifying them. He knew the individuals without knowing their names, as one knows the bird song and plumage before formal introduction to the pretty creatures that charm him.
>
> After he was able to get European publications upon the subject, and by their aid trace the species he had eaten to their names, descriptions and qualities, he was surprised to read that many of them were warned against as deadly. As informed by these books, he properly ought to have died several times. It soon became evident that authors had followed one another in condemning species, some because they bore brilliant hues, others because they were unpleasant when raw (just as in a potato), rather than investigating their qualities by testing them. Here was a realm of food-giving plants almost entirely unexplored. The writer was determined to explore it. Instead of the one hundred and eleven species then recorded by the late Doctor Curtis as edible, my number of edible species now exceeds his by over six hundred.

In 1897 McIlvaine founded the Philadelphia Mycological Center to serve as a mycology club for interested amateurs. Volunteers from its ranks were recruited for edibility experiments -- these brave souls were referred to as "undertasters." There is apparently no record of any undertasters ending up at the undertakers.

As McIlvaine's reputation spread, he was invited to lecture on edible fungi at the summer Chautauqua series in Pennsylvania and New York. His interest in strong drink and his involvements without proper marriage arrangements shortened his Chautauqua career -- the clergy expelled him.

McIlvaine's manual (with assistance by R.K. Macadam) was entitled *One Thousand American Fungi*, with a descriptive subtitle. The first edition appeared in 1900; revised editions were published in 1902 and 1912. The book was the most ambitious undertaking of the period, describing approximately 800 species, and stood as a standard reference for the amateur for many years. McIlvaine relied heavily on the professional expertise of Peck; their correspondence was extensive. Although one should approach McIlvaine's data on edibility with great caution, the work as a whole is reliable, thorough, and still usable. That McIlvaine was the most vocal, ambitious mycophagist of the late nineteenth-early twentieth century is without dispute.

LIGHTNING STIMULATES MUSHROOM GROWTH *Mycena News*

Since ancient times, the Japanese have relished mushrooms and used them in many dishes. Wild mushrooms accounted for the lion's share used in cooking until the Meiji Era (1868-1912), when pure cultures of mushrooms were developed and artificial cultivation became popular.

Since the age of gathering mushrooms in the wild, the belief has been handed down in mushroom-producing regions of Japan that mushrooms grow well in mountains struck by lightning. This folk belief aroused the curiosity of scientists at the General Research Center in the Tohoku Electric Power Company, Inc., in Sendai, Miyagi Prefecture, and they set out to verify its truthfulness.

To simulate a thunderbolt, they set an electrode on the ground and around it placed bottles of the fungi of champignons [*Marasmius oreades?*, *Agaricus bisporus?*, ?]. From a steel tower between 6 and 7 meters tall, a voltage as high as 1.1 million volts was discharged toward the electrode. Electricity was similarly discharged when the fungi in the bottles began to germinate. There was a 20% increase in the yield of champignons, and a reduction of 4 to 5 days in the time required for their cultivation, which is usually 45 days.

In addition, the Tokyo Electric Power Company, Inc., succeeded in increasing the yield of shiitake mushrooms by 100% to 200% through discharge of a high voltage to the hoda, the tree on which the mushrooms are cultivated. It is now certain that lightning favorably affects the growth of mushrooms, but little is known about how it stimulates their growth. Much remains to be learned.

Demand for shiitake mushrooms is growing because they prevent arterial sclerosis, a geriatric disease, and reduce cholesterol. Shiitake farmers are expecting the "thunderbolt" to improve production.

Spore Prints

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PUGET SOUND MYCOLOGICAL SOCIETY
Center for Urban Horticulture, Mail Stop GF-15
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(206) 522-6031

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Calendar

Jan 12	Membership meeting, 7:30 p.m., CUH
Jan 18	Board meeting, 7:00 p.m., CUH
Jan 22	*Spore Prints* deadline
Feb 1	*Spore Prints* mailing, 10:00 a.m., CUH
Mar 11	Survivors' Banquet

MAILING COMMITTEE — Millie Kleinman

Thanks to Mae Green, Ralph Burbridge, Bob Judd, Bob Hamilton, Amelia Schultz, Jessie Rouleau, Bill Zila, and Charlette Turner-Zila for their help with the *Spore Prints* mailing.

Our next mailing will be 10:00 a.m. February 2, 1987, at CUH. Everyone is welcome to come and help.

NOMINATING COMMITTEE — Dennis Bowman

The Nominating Committee is pleased to list the following names of members willing to run for positions as officers and trustees of PSMS:

Treasurer: Edith Godar; Trustees: Chris Fulsaas, Kern Hendricks, Mark Jarand, Kearney Kozai, Ingeborg Mcguire, Amelia Schultz, Gary Smith, and Michele Willis.

Any member knowing of someone who would like to run for office can either nominate that person (with his/her permission) at the next membership meeting or by contacting one of the members of the Nominating Committee (Dennis Bowman, Margaret Dilly, or Russ Kurtz).

Membership Meeting

Tuesday, January 12, at 7:30 p.m. in the Center for Urban Horticulture, 3501 N.E. 41st Street, Seattle

Some people study mushrooms, some people eat them, and some just stomp on them in the woods, but others are inspired by them. PSMS includes all kinds (otherwise sane people have been known to stomp a Russula now and then), but the artists usually get short shift. Not tonight. Our January meeting features "Mushroom Art" and is presented by PSMS artist Elizabeth Halfacre-Burke, who has contributed a number of illustrations to *Spore Prints*, including these silhouettes. She will illustrate her talk with slides, bring some of her own original works, and introduce us to the art of PSMS members **Tatiana Roats** and **Elsie Burkman.**

PRESIDENT'S MESSAGE — Coleman Leuthy

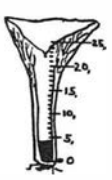
The past year has involved many changes, starting with moving from the Monroe Center to the Center for Urban Horticulture last January and now in December moving our storage to an outbuilding so that they can finish the basement of Isaacson Hall. The numerous field trips in the spring were enjoyed by all who attended, as was the first annual PSMS summer picnic in July. Although collecting this fall was meager, we experienced a fine exhibit of exceptional quality under the chairmanship of Dennis Bowman.

I would like to thank the many committee chairs and members for their outstanding support and work, which have made this year enjoyable and successful for our club. The membership and mailing committees have done excellent jobs, and the efforts of Conservation and Ecology Committee were superb. A special thanks to the Siegers for their perseverance in producing an outstanding newsletter (and deciphering my hen-scratching).

I wish to extend to all of you my very best regards for a happy and enjoyable year in 1988.

BUILDING FUND — Coleman Leuthy/Edith Godar

The building fund is well on its way. If we project our monthly donations through June 1989 and consider actual contributions as of now, we are just more than half way to reaching or goal of $25,000. In the next year and a half, we do need the concerted help of our membership.



Additional people who have donated $50 or more to the building fund include

Mr. & Mrs. Melvin Kirkwood
Mr. & Mrs. Fred Pittenger
Mr. & Mrs. Henry Cato
Irene O'Connor
Mr. & Mrs. Ralph Burbridge
Adele Elledge
Mr. & Mrs. Harvey Stivers
Kate and Bill Kogan
Roger and Joy Spurr
Dennis Krabbenhoft
Xie and Babo Olanie
Mark Hamilton
John and Ruth Hadley
Violet McNamee
Harold Douglas
Anonymous (5)

To start off the new year, there will be a question and answer period about the building fund at the January membership meeting.

GEOPORA COOPERI — Dick Sieger

When a morel is cut, the stump that is left in the ground may continue growing. It becomes larger, rounded, and convoluted. That is what I thought I found in Sequim Bay State Park the first week in April. It turned out to be a curious truffle-like fungus, *Geopora cooperi*.

Geopora cooperi starts growing under duff. As it gets larger, it may push up the surface. At this stage, it is an inch wide and round, and the outside is covered with short, coarse, tangled brown fibers that are best seen with a hand lens. As growth continues, the hairy covering opens to expose a convoluted interior. The inside is pale with fertile yellow-brown streaks. It has a mild odor of strong tea and dry boletes. Rodents must like it, because two weeks later, among scores of holes, only a few scraps of fungi remained to show what had grown there.

Fungi that grow underground normally disperse their spores passively: With maturity comes an odor that attracts animals; the fungi are eaten, and viable spores are left here and there in the animal's droppings. Fungi that grow above ground usually spread their spores by shooting them into turbulent air. *G. cooperi* is a curious combination. Perhaps it is an epigeous fungus that is evolving into a hypogeous one. It discharges its spores forcibly, but they have nowhere to go. Often the fungus never breaks ground. Even when it does, the spores are trapped by fungal tissue. Its survival depends on the animals that eat it and distribute its spores.

I mounted fresh pieces of *G. cooperi* in water and peered at them through a low-power microscope lens. Every once in a while I could see spores exploding out of their tube-like ascus. Under higher magnification, I could see the tiny trap doors, operculi, at the ends of empty asci. Most operculate discomycetes have eight ascospores lined up in each ascus. In my specimen, every ascus had four. According to Tylutki's book on discomycetes (*Mushrooms of Idaho and the Pacific Northwest -- Discomycetes*), there should have been eight. Was this really *Geopora cooperi*? Burdsall's monograph on the genus said "usually 8-spored," however, so the identification was OK. I looked at asci from more fruiting bodies, adding stain to color the sap in the asci. If the sap was still there, I could be sure that the ascus hadn't been damaged and still held its original complement of ascospores. One specimen had eight-spored asci. One had mostly asci with eight spores but some with six. Another had a combination of four, five, six, and eight.

Geopora cooperi was an altogether interesting fungus to collect and examine. It's exciting to see discharging ascospores, variations in individuals, and evolution frozen in the middle of a step.

I have a second-hand report that *G. cooperi* has been eaten. Its odor is certainly pleasant enough.

Overheard from a "drug-along" wife basking on the beach at the Oregon Mycological Society's fall foray on the drought-stricken Oregon coast:

You know, forays can be kind of fun -- if the sun is shining and you don't have to hunt mushrooms.

ERRATA — per Nancy Smith Weber

[Southern Idaho Mycological Assn. *simanews*]

Following are major corrections for *How to know the gilled mushrooms*, 1979.

- p. 73: lead 10a, change "mm" to "μm"
- p. 84: lead 11b, in place of "13" insert "15"
- p. 134: for *Pleurotus dryinus* expand distribution to "on hardwoods, widely distributed
- p. 147: in description if *Tricholomopsis* change "pseudoamyloid" to "inamyloid"
- p. 148: *Tricholomopsis platyphylla*, change "Edible" to "Poisonous"
- p. 151: leads 14a and 14b, delete information on cheilocystidia
- p. 156: lead 1a and 1b, figure reference should be to "13" (not 12); lead 1b, in place of "8" insert "18"
- p. 199: lead 16b, in place of "00" insert "31"
- p. 309: discussion of Paxillaceae, delete 4th line from bottom in right column

Following are major corrections for *How to know the non-gilled mushrooms*, 1981.

- p. 321: below *Martellia*, add "*vesiculosa*, 287"
- p. 324: below *Suillus*, add "*proximus*, 206"
- p. 324: below *Tyromyces*, add "*caesius*, 139"

SWEETBREAD AND MUSHROOM PÂTÉS — Mrs. R. R.

[*Housekeeping in Old Virginia*, 1879]

Ten sweetbreads, parboiled, skinned and all the fat removed; cut into small pieces. Add one even teaspoonful salt, one can of French mushrooms. Slice thin, add to juice one teaspoonful salt, one teaspoonful pepper, one saltspoonful powdered mace, lump of butter size of guinea egg.

Simmer slowly twenty minutes. Add sweetbreads dredged with one heaping spoonful corn starch, well mixed in the sweetbread. Let it boil up once, stirring to prevent sticking. Serve in puff paste shapes, hot. A little chopped parsley may be added.

SURVIVORS' BANQUET — Ingeborg McGuire

It's 1988, and that means it's not too soon to begin thinking ahead to the 1988 annual survivors' banquet coming up in March.

This year the banquet will be held March 11 at the Sand Point Officers' Club. Tickets are $14.00 each, and you have your choice of three menus: Cornish hen, baked salmon, and vegetarian. Start making your plans now. Tickets will be on sale at the January meeting.

HOW DO YOU FANCY A QUORN PIE? *The Sunday Post*
Glasgow, Scotland, June 21, 1987
[*Mycolog*, Humboldt Bay Mycological Society]

What's Quorn, you may well ask. Well, Quorn is the trade name of a microscopic plant called mycoprotein.

It's related to mushrooms and truffles -- and it's been developed as a new, protein-rich food.

Already it's reached the Savacentre supermarket shelves at Cameron Toll, Edinburgh, as the filling for savoury pies.

Sold by Marlow Foods, of High Wycombe, Quorn is a joint venture by ICI and Rank Hovis McDougall.

Its origins go back to the mid-1960s when Rank Hovis scientists accidentally discovered organisms which convert starch into protein.

ICI grow the plants in their laboratories. They're ready to harvest in days, then they go into a fermenter until they emerge as yellow two-meter sheets that look like uncooked pastry. They're collected by the food company daily and placed in cold storage. Finally the sheets go through a mechanical process, which folds and presses them out many times until they're the same fibrous structure as the food they're simulating -- ham, chicken, beef, or other kinds of protein. After it's been flavored, the Quorn is sliced, shredded or diced into pieces.

With the finished result high in protein, rich in fiber, and containing no animal fat, it's already proving popular in this health-conscious age.

In Savacentre, Quorn pies sell at 96p (about $1.50) for a large beef flavor, 59p ($1.15) for the individual beef and chicken flavor, 44p (70 cents) for a savoury pie, and 39p (60 cents) for a pasty.

A *Sunday Post* man tried the chicken pie. His verdict? Delicious! With sliced leeks in a white sauce the chicken taste wasn't overpowering, and the texture of Quorn was just like lean meat.

CHEESY MUSHROOM STICKS **Hope Miller**
[*simanews*, Southern Idaho Mycological Association]

Saute together in 1/2 C butter
1 lb sliced morels, shiitake, or *Agaricus*
1 chopped onion
2 chopped garlic cloves
Add 1 chopped green pepper (optional). Set aside.
In a bowl, mix together
10 eggs, beaten
2 C cottage cheese
1 lb jack cheese, shredded
1/2 C all-purpose flour
1 tsp baking powder
3/4 tsp each nutmeg, basil and salt
Combine with mushroom-onion mixture and put into a 17-1/4 by 11-1/2 in. cookie sheet with sides. Bake at 350° F for 35 minutes or until set. Cool for 15 to 20 minutes before cutting into small sticks approx. 3/4 x 2 in. May be rewarmed. Will keep in refrigerator for 2 days. Makes 6 dozen.

Welcome to the following new members:

Peter and Lois Albee, 7109 South Taft, Seattle, WA 98178 (Tele: 772-2074)

Sandra Bound, 1118 Fifth Ave., #529, Seattle, WA 98101 (Tele: 447-4888)

Wayne Froats, 170 Cirque Drive, Brinnon, WA 98320

Andrew and Irene Iwata, 3531 N.E. 94th St., Seattle, WA 98115 (Tele: 524-8328)

Dale Swenson, 7204 Timberlake Drive S.E., Olympia, WA 98503

.....and just in time for Christmas:

Louise Antoinette Green, 7 lb, born 10:17 a.m., Monday, November 30, to Michelle and Andy Green

Puget Sound Mycological Society
Center for Urban Horticulture
GF-15, University of Washington
Seattle, Washington 98195

SIEGER, Dick & Agnes
15555 14th Ave NE
Seattle WA 98155

Remember your building fund pledge!