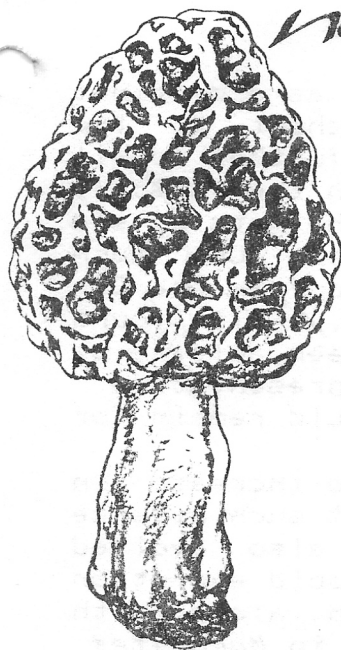


NJMA NEWS

new jersey mycological assoc.



W/86

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JAN FEB 1986 VOL. XVI NO. 1

CALENDAR OF EVENTS

FEBRUARY 2

MYCOPHAGY SESSION

MARCH 2

LECTURER: RAY FATTO

APRIL 6

LECTURER: CURRIE MARR

Winter membership meetings are held the first Sunday of the month from November to April, at 2:00 PM at the Somerset County Environmental Education Center (SCEEC), Basking Ridge, NJ. See previous issues for driving directions.

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ELECTION RESULTS

It was with regret that Selena Whitefeather announced at the December membership meeting that due to heavy demands on her time she was unable to continue her role as president of the NJMA.

Accordingly, a nominating committee selected the following members who graciously consented to serve, and who were elected by acclamation.

PRESIDENT

GEOFFREY KIBBY

VICE PRESIDENT

PAUL MEYER

SECRETARY

RHODA ROPER

TREASURER

GRETE TURCHICK

The club is fortunate to have such dedicated people who deserve our complete support. Thank You!

FUNGAL FAUNA OF PREHISTORIC TIMES

Part 2 The development of ascomycetes

By Charles Frede

It is uncertain as to how and when fungi emerged as a distinct order. Some authors prefer to place them as an offshoot to the protozoa, but largely the mystery remains, awaiting further fossil discoveries. However the fungi did emerge very early in the history of life on earth, probably serving as saprophytes on the mats of sea algae which were then the predominant form of life. One such fungus, *Eumycetopsis filiformis*, has been recovered from the 2 billion year old chert deposits bordering Lake Superior. All found specimens lack spore cases, and have therefore not been able to be categorized into any known class. *Eumycetopsis* is representative of the early fungi, being very small. And so they would remain for the next 1500 million years.

The beginning of the Paleozoic era marked a wide spread increase in the abundance and complexity of life, bringing about such diverse forms as trilobites, corals and shellfish. The fungi also evolved with the rapidly changing world around them, and such rapid evolution ultimately brought them to the barren and lifeless land along with the green plants. Such changes manifested themselves in *Mucorites cambrensis*, which was a primitive zygomycotinoid, a group shared by the familiar bread molds, whose presence indicates that the evolution of the higher fungi was already under way.

Fungi hypothetically left the seas early in the paleozoic era for land, where, excepting a few species, they have remained ever since. If one judges from their present low profile in our seas, one can assume that they were not overwhelmingly successful in the ancient seas, and it was only after they had made the transition to land that they began to find their proper environment. Perhaps, some arrived in the form of lichens, acting as pioneer plants for the later vascular plants, but the first tangible proof that is available of a fungus reaching land apparently occurred in the Devonian era, after the vascular plants had already established themselves along the coasts. These fungi, *Paleomyces asteroxyli*, found amid the amphibious plant *Asteroxylon mackei*, and *Paleomyces gordonii*, found with *Rhynia*, (a genus similar to asteroxylon) apparently engaged in myccorhizal relationships with their respective hosts, as determined by the interlocking conducting veins and myccorhizal strands. (myccorhizalism has been repeatedly documented in the fossil record).

Apparently the land environment suited the fungi enough so that by the late Devonian they had made the first of several adaptations, increasing the number and size of spores allowing increased survivorship in a now increasingly competitive environment. This size growth was accompanied by an increase in the size of the spore case, thus making an ascus. This adaptation materialized itself in *Hysterites ancinites*, the first known ascomycete. Yet other adaptations would bring about the evolution of the basidiomycete in the following Carboniferous era.

1985 NJMA PHOTO CONTEST

Judged By Gary Lincoff, President of the North American Mycological Association, who also provided an impromptu discussion of each of the mushrooms shown during the contest. Gary expressed his admiration for the quality and artistic talents of the 11 participants who entered the NJMA photo contest and expressed hope that more photographers would enter next year. The winners selected were:

PICTORIAL

1st prize Rudy Peterson
2nd prize Mitchel Goldman
3rd prize Rudy Peterson
Hon. Men. Mitchel Goldman

TECHNICAL

1st prize Al Northup
2nd prize Neal Hogenbirk
3rd prize Gene Yetter
Hon. Men. Al Northup


ACTIVITY

1st prize Neal Macdonald
2nd prize Neal Hogenbirk
3rd prize Geoff. Kibby
Hon. Men. Susan Kibby

Each of the first prize winners were given a small token by Selena Whitefeather, who expressed her appreciation for the time and efforts put in by Gary Lincoff who had to view 167 slides over and over again in order to make difficult decisions in each of the three categories.

LAST DUES NOTICE

This will be your last newsletter unless your dues have been paid. If you have an interest in the well being of this organization, please take the time to address your dues in the amount of \$15.00 (family) or 10.00 (individual) to:

Mrs. Grete Turchick


CONTRIBUTION

Sincere thanks to Bill Lawless and Lenny Frank for their generous donations of \$20.00, to be applied towards FUNGUS FEST '86.

MY SCOTTISH FIELD TRIP

a report by Lorraine A. Lerman

I recently (August/September 1985) finished a 7 day course at the Scottish Field Studies Centre, Kindrogan, Scotland, studying mushroom identification with Dr. Roy Watling, one of the world's leading mycologists. The centre consisted of a main house and cottages that served as dorms. The dorm were co-ed. At first I was a little surprised, but I soon got used to it. The English/Scottish were very adult and proper.

The course was fantastic. Every morning we went foraging in different areas of Scotland. We would then come back to the field center for lab work in the afternoon. The lab work went on until midnight. Of course, we broke for tea at 5pm, dinner at 8pm, but we hurried back to the lab to finish our key work.

Dr. Watling taught us how to identify mushrooms by family using the microscope. Then we learned to identify down to genera and species by using the keys - Kuhner & Romanesci, Rob Raynor, Meinherd Moser, etc., that Dr. Watling had brought with him from the British Mycological Center. The key books had beautiful drawings of the mushrooms, in addition to monographs, and keys.

We also learned how to use the chemicals described in the keys to help identify the different cell and spore characteristics of the mushrooms. For example: To identify the Russula family by cell shape, Meltzer's solution was used to show amyloid cells, dextroid cells are characteristic in Lepotaceae. Cotton Blue was heated and used to dye cells for clearer vision in microscope work.

We learned to identify the families of the fungi by their gill trauma and spore print color. After the family is identified it is very easy to use the keys to key down to genera and species, and even sub-species. We learned to make slides of gill trauma sections, spore prints and dye the cells and spores for easy microscope reading. In addition, we learned how to calibrate our microscopes and how to use different power and oil emersion lens. I now can do microscope identification!! (Limited, of course)

The highlight of the trip was a field trip to Eraemar--A winter ski resort, whose ski lift did not work in the summer. We climbed the "hills", as the Scots refer to their mountains (3,000-6,000 ft. high, 75-80 degree incline) to examine and find ARCTIC/SUB ARCTIC TUNDRA FUNGI.

On the top of this hill we found stunted trees 1-5 inches high, and fungi 1-5 cm high. We found growing on larch, pine, beech, and willow - Cortinaceae, plueraticaeae, Melaluca starasporum, (a very poisonous mushroom that only one nibble had caused Dr. Watling to become extremely sick), puff balls, galerinas, and mycenas. Of course, I found the puff ball - I lost it before I could have it identified. It fell out of my hand, as I was holding onto the mountain, so that I would not either get blown off by the 120 mph gale winds or slide down the wet slippery incline. The other people in the class were real mountaineers. They climbed the hill quickly. It took me an extra half hour to catch up. My hiking boots were soaked. I did not wear wellies (long waterproof boots, with rubber soles) since the terrain was very steep and rocky, and I preferred safety to dryness.

My hands were frozen, even with ski warm up gloves. My face was red from the ice rain. I wore a flannel jump suit, 2 sweaters, a mackintosh jacket, and pants, 2 pairs of wollen socks, a hooded jacket, and boots. I still got thoroughly wet!!

But it was worth it!!

The people in the class were mainly from Scotland and were friendly and helpful. They filled me in on the local history of the Scots. The Scots have their own language, and many of the signs were written in Scottish. I found it difficult at times to understand other members of the class due to the different usage of words and accents.

The class consisted of members who considered themselves to be "AMATEUR MYCOLOGISTS" (no one had a PHD. in Mycology). But none, except me, were Amateurish in their knowledge and study.

I met some of Geoffrey Kibbey's friends from England. Martin Gregory - draftsman, engineer-geologist, who helped me with my microscope calibration, and key work, and Alan Silverside - a Biology Professor at a nearby school. Alan was doing research on the plant *Euphasia Arctica* - a white arctic flower that grows at Braemar that is still in the stage of genetic mutation/growth. Alan is as much of a mushroom expert as Dr. Watling. Alan photographed all the rare and interesting species of mushrooms that we found, and put them in a photo-catalogue album.

I even found a rare discomycete, which is going to be on display at the Royal Botanical Gardens, as well as in Alan's book. One day he will have a beautiful picture key book of all the Scottish mushrooms.

Roy mentioned to me that the difference between the U.S. and the British/Scottish amateurs, is that U.S. botanists USES the amateurs as "go-fors" to collect for the professionals, and never really teaches the amateurs to identify the fungi on their own, whereas the British/Scottish system teaches the amateur to go out, collect and identify the fungi for himself.

We learned that rather than relying on macroscopic features, microscope work is the only real way to key fungi when you do not know what you have.

The group picked up any and all fungi; from the smallest mycenae, which we hate to study because of their size, to the most foregone specimens, because even with the rainiest summer in history, the selection was scant. Fungi are collected and placed in tin cans or plastic yogurt cups with all the flora that accompanies them, in order to study their mycorrhizal growth and substrata.

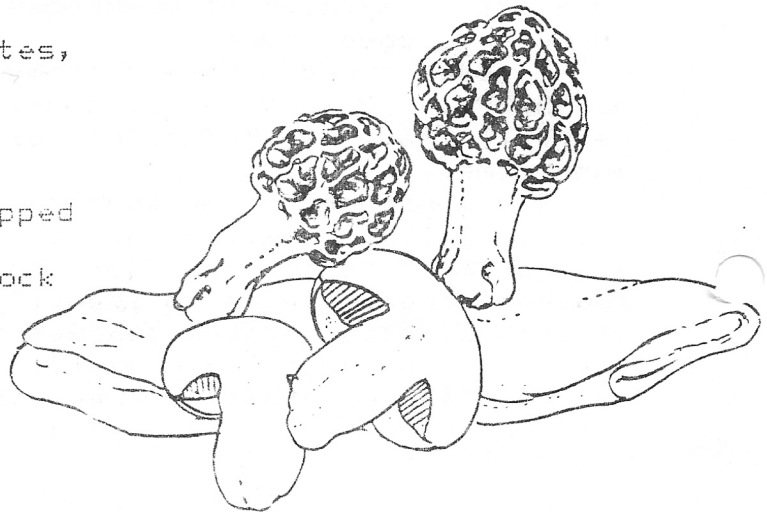
I felt like a dunce when Dr. Watling kept quizzing me on what I had found, and when other members of the class were able to rattle off the names of the species we had found in the field. I had no trouble with the family, though, by the end of the class, Roy expected us to remember the species names. I must have been suffering from jetlag, exhaustion and oversaturation for while I usually have a good memory, I couldn't remember everything he told me. I took notes, and the ones that I do remember are the ones I keyed out for myself!

I must comment that the British and Scots are mycophobes, they refer to fungi as toadstools, and will not eat mushrooms. They collect and identify mushrooms for the sake of collecting. The class ranged in age from the 20's to some in their 80's. Many had taken the course 5 times. I asked why they kept coming back, and they said that they go to different sites every year and there are different fungi every year. Most were surprised that I had come all the way from America to study with Roy, but I'm glad I did. He will not be teaching the course for several years, as he has been made president of the British Mycological Society. Also, the Royal Botanical Gardens and Field Centre will be closed because of budgetary cuts. So, instead of teaching, he will be devoting his time to raising funds to keep the Centre and Gardens open. It seems sad, that the Scottish Field Centre, which is the only one of its kind in the world, will be closed for lack of funds, which are going to the arms race. The ecology lessons taught at the Centre are important to the survival of the world.

BEGGAR'S MUSHROOMS

Reprinted from "Washington" magazine. This makes a first course as attractive as it is tasty.

2 lbs fresh morels or boletes,
sliced thickly.
8 tablespoons butter
4 shallots, minced
2 cloves garlic, minced
2 tablespoons parsley, chopped
1/2 cup white wine
1/2 cup chicken or meat stock
1/2 cup creme fraiche
1/2 cup Parmesan, grated
Melted butter
Salt and pepper
6 10" crepes



1. Saute shallots, garlic and parsley in butter for five minutes until garlic turns light brown. Add mushrooms, raise heat and cook, stirring until the mushrooms give up their liquid and it evaporates.

2. Add wine and let it evaporate. Add stock. Simmer five minutes as juices thicken. Add creme fraiche and salt and pepper. Set aside to cool.

3. Place about 1/4 cup mushroom mixture and a little sauce in the middle of each pancake, made from your favorite crepe recipe. Cut a 12-inch-long strip of aluminum foil about 1/2 inch wide and fold over to double thickness. Pull up edges of pancake to form a bag containing mushrooms and tie into bundle with foil strip. Place each bundle in a buttered baking dish. (Bundles at this point can be refrigerated for 8-10 hours.) Dribble melted butter and sprinkle Parmesan over each bundle. Bake at 375 degrees for 10-12 minutes and serve hot.

THE NEW YORK MYCOLOGICAL SOCIETY

1986 Program of Winter Meetings

Program Chairman: Mr. Emil Lang

Tuesday, January 21:

Mycorrhizal Mushrooms of the Northern Forest (Illustrated)
Dr. David Malloch, Professor of Botany
University of Toronto, Canada.

Tuesday, February 18:

The Fungi of the American Desert (Illustrated)
Dr. Orson K. Miller, Professor of Botany,
Virginia Polytechnic Institute and State
University, Blacksburg, Virginia.

Monday, March 31:

Recent Changes in Mushroom Names - the (Illustrated)
Whys and the Wherefores
Dr. Clark T. Rogerson, Senior Curator of
Cryptogamic Botany, the New York Botanical
Garden.

Monday, April 21:

The Genus Hygrophorus in the Northeast - the (Illustrated)
Edibles, the Non-Edibles and the Toxics
Dr. Richard Homola, Professor of Botany,
University of Maine, Orono, Maine.

All meetings are held at #2 East 63rd Street, New York,
New York at 7:30 P.M.

Note: The meetings in January and February will be held on
a Tuesday and the ones in March and April on a Monday.

Non-member admission: \$3.00 per lecture.

THE NEW YORK MYCOLOGICAL SOCIETY

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Vol. XI

NJMA NEWS
C/O Mrs. Sue Kiff



Our mycophagy Session
 will be on:
 February 2nd
 C'est Si Bon!