

MESSAGE FROM THE PRESIDENT

Hello from your new president. Hopefully this newsletter will arrive before the national election. I'm not sure if the country's next president will be named Bob or Bill, but my name is Bill. I've been collecting mushrooms with WMS for about 12 years. It all started with a university course called "Fungi and Man" taught by Dr. John Baxter who now lives in Wyoming. He is someone who wanted to try a new edible mushroom, one that he had never eaten before, for every consecutive year after meeting Fred Hainer [For myself, I probably have eaten roughly one kind of mushroom for every year I've been picking wild mushrooms. Of course, I always thought honey mushrooms counted double and morels, depending on the quantity, were a triple. — B.B.]. Quite a feat and he was still trying something new each year when I took his class. I have no idea whether he kept it up or became satisfied with the number he had already tried. "There are poisonous mushrooms and look-alikes that can fool you", he used to say. I suppose this fact alone makes our society worthwhile. We must learn about mushrooms new to us. We have become more than a nature society or hiking club in that we must learn from each other and test each other's knowledge, whether that knowledge came from our growing up in a family that collected and ate wild mushrooms or if we became interested in mushrooms all by ourselves. The forays this fall provide opportunities to share our knowledge and the Mushroom Fair is a good time to introduce others to wild mushrooming. Hope to see you there.

Bill Blank

UPCOMING WMS EVENTS

Sept. 7 – Monches Woods Foray

Sept. 14 – Mauthe Lake Foray

Sept. 22 – (Sunday) Fred Hainer Memorial Foray, Point Beach State Forest

Sept. 28 – Pike Lake State Park Foray

Oct. 5 – South Kettle Moraine Foray

Oct. 6 – WMS-MPM Mushroom Fair, Milwaukee Public Museum

Members should have received separate announcements for each of the forays. All of the above forays start at 10 a.m.

Also of interest: Sept. 21, Fungal Display at AppleFest, Retzer Nature Center (Waukesha).

MUSHROOM FAIR

The thirteenth annual Mushroom Fair, cosponsored by the Milwaukee Public Museum and the Wisconsin Mycological Society, will be held Sunday, Oct. 6 from 10 a.m. to 4 p.m. at the museum. There will be the usual display and information booths — fungal specimens, mushroom identification, poison center, mushroom books, arts and crafts, growing mushrooms, cooking demonstrations, fungal photography, as well as face painting and more family-oriented activities than in past fairs. The deadline for submitting entries to the photo contest is Sept. 20 and the winning entries will be displayed at the fair.

The Mushroom Fair is an important event for WMS in that it promotes our club in the wider community. Many of the new members we get each year join by signing up at the WMS booth during the fair. Why not share your interest and knowledge concerning fungi with others by helping out at the fair? Generally one or two people are needed at each booth to answer questions or just talk with fair visitors. Even if you do not want to volunteer to work, please bring in fresh specimens of mushrooms or other fungi. It's always nice to have more specimens for the display table, as they are

the main item of interest. For more details on the fair or if you would like to help out with the fair in any way, please call Kevin Lyman of the museum's botany department at 278-6142.

SWEATSHIRTS STILL AVAILABLE

Once again, WMS seatshirts will be available for purchase at most of the upcoming fall forays and the mushroom fair. They were designed by artist and club member Tula Erskine and show white mushrooms on green grass in a fairy ring. The design is printed on a good-quality heavy grey sweatshirt. Keep yourself warm on cold fall days and help support your club at the same time by buying a sweatshirt. If you will not be attending many forays or the mushroom fair, you can also call Tula at (414) 964-0818 and arrange to pick up a sweatshirt at her house.

MARCH MEETING

On March 13, WMS members were treated to an excellent lecture on polypore classification by a researcher working in that field. Tom Volk of the Center for Forest Mycology Research at the Forest Products Lab in Madison gave a talk on "Naming the Polypores: Why Polyporus has been split into more than 100 genera". For many years *Polyporus* was a catch-all genus for "non-mushroom-shaped" wood-dwelling fungi with pores. Polypores are also distinguished from the other basic large group of pored fungi, the "mushroom-shaped" Boletes, in that the pore layer of the boletes can usually be peeled off easily from the cap flesh.

Now however, *Polyporus* is a much more restricted genus as many other "polypore" genera have been created. The poroid fungi are separated into genera based on such characters as whether they produce "white rot", where the fungus eats brown lignin and leaves the white cellulose beyond or "brown rot", where they eat the white cellulose and leave the lignin behind; how many different types of hyphae they have such as monomitic (having only generative hyphae), dimitic (having generative and either skeletal or binding hyphae) and trimitic (having generative, binding, and skeletal hyphae); as well as such usual macroscopic identification features such as fruiting body shape and attachment, colorings of different parts, and the microscopic features of the spores and cystidia.

Tom presented a number of examples to show how these characters have been used to separate polypore genera. For example, *Fomitopsis* was split off from the original genus *Fomes* because among other things it produces brown rot rather than the white rot of *Fomes*. The genus *Phellinus* was split off from *Fomes* because among other things *Phellinus* has a dimitic hyphal system rather than a trimitic one, as *Fomes* has. In fact, the only species left in *Fomes* is *Fomes fomentarius*.

In recent years, Tom has been working on breaking up the very familiar species, *Laetiporus sulphureus*, into several different species. So far, there is evidence for at least six distinguishable species, including one with yellow pores that grows on trunks, one that is white and grows at the bases of trees, a salmon-colored one, one associated with conifers in the west, and one that grows on weeping willows.

After having spent a number of years at the Forest Products Lab in Madison, Tom Volk has now acquired a faculty position at UW-La Crosse. We wish him well in his new position, but regret that we probably will see less of him from now on. Over the past few years, Tom has made a very valuable contribution to the club by giving lectures, hosting forays and providing expert identification and information at fairs and forays.

Colleen Vachuska

ANNUAL MEETING AND PICNIC

A small but lively group of about 30 turned out for our annual picnic and business meeting on Saturday, June 15, at Falk Park in South Milwaukee. As usual, members enjoyed brats and beer accompanied by excellent potluck dishes. After the picnic, Sami Saad took off his chef's hat and conducted the business meeting. Peter Vachuska gave the report of the nominating committee concerning the selection of officers and board members. The following slate of officers was approved by the membership: President, Bill Blank; Vice-President, Tula Erskine; Secretary-Treasurer, Chuck Soden; and Assistant Secretary Treasurer, John Steinke. Our new president Bill has been a dedicated member of the WMS since 1983, almost since the beginning of its reincarnation, and has been on the board of directors since 1988. For many

years, he has helped at the mushroom fair, has contributed fungal cartoons to the newsletter, has led forays, has worked on the members' information packet committee, has provided the libations for the annual picnic, and has made numerous other contributions to the club. In the selection of the WMS board of directors, a new member, Ray Llanas, was approved to fill the vacancy created by the resignation of Rich Miller. Rich has been a WMS member since 1986 and has served on the board since 1990. We thank him for his contributions to the WMS, among them being Treasurer and then Assistant Secretary-Treasurer and Recorder for several years, and also working on the pamphlet committee, preparing a flyer to advertise the WMS. Ray has been a member of the WMS since 1991. He is a mushroom photographer, and has worked at the photography booth of the annual mushroom fair for a number of years. The other board members have remained the same. Besides Ray and the officers mentioned above, they are: Kris Ciombor, Martyn Dibben, Harald Korslin, Dave Menke, Alan Parker, Sunny Rupnow, Sami Saad, and Peter Vachuska.

Colleen Vachuska

PHOTO FORAY

The second annual photo foray was held on Sunday, August 18th, at the Scuppernong Trail in South Kettle Moraine. The weather was great and the turnout was considerably better than last year with roughly 15 people on hand. Unfortunately, it was the ninth straight day without precipitation and things were a little dry.

The most interesting find of the day was a patch of *Cortinarius* found by Ray Llanas who was probably the most daring "bushwacker" of the group. About halfway through the trail some of us started getting a little lazy and pretty much stuck to the trail since we weren't having much luck anyway. Every now and again Ray would go crashing through the brush and on one occasion found the corts which proved to be the day's high point.

Even though we didn't find much, the weather and conversation were very enjoyable. Perhaps we'll have better luck next year. Special thanks to Steve Nelsen for his "on the spot" identifications.

Chuck Fonaas

MUSHROOM MANIA IN WAUSHARA COUNTY

by Carol Czarnecki

Approximately 10 years ago, my husband Henry and I bought a 7.5 acre parcel of land in Waushara County. We loved it so much that on the the day of the closing, after all was said and done, we bought a bottle of champagne and some crackers and cheese — then we went out to our newly acquired property, spread a blanket out under a tree and celebrated our good fortune. We even dropped some crumbs around for our resident ants, along with a few drops of champagne.

The celebration over, we spent some time exploring our piece of Waushara County more closely. We found that the front half of our property consisted of groups of trees — Norway pines, white pines, oaks, hickories, and hazelnut bushes, with areas of meadow in between. The back half is a fairly steep hill, totally wooded with the same types of trees plus some maples and chokecherries. The ground under the trees is covered with ferns, wild gooseberry bushes, wild blackberries, Solomon's seal, violets — just a large variety of plant life, unfortunately including some poison ivy. In early June, the meadows are blaze orange with hawkweed; and other wildflowers take over as the season goes on. We see flowering spurge, thimbleweed, goatsbeard, milkweed, blazing star, black-eyed Susan, ground cherries, and many others too numerous to mention. It is a never-ending source of amazement and delight for us to see the changes that take place as the weeks and months go by.

To get to the point, however! Along with the trees, wildflowers, and birds, we were surprised to see at various times, especially after a rain, a profusion of mushrooms of different sizes, shapes, and colors. Being curious by nature, we found it increasingly frustrating to see all these specimens and have no earthly notion of what they were. So we bought a couple of mushroom books and soon were able to identify the little puffballs and a very few others. Most of them, though, were beyond our ability to identify, and after a couple of years of this frustration, we came to our senses and joined the Wisconsin Mycological Society. After having been members for several years and having taken a couple of courses, we are now sure enough of ourselves that we are able to pick and eat over a dozen different kinds of

mushrooms, including puffballs, sulfur mushrooms, Hen of the Woods, honey mushrooms, *Boletus edulis* (yes, we sometimes find these in our woods), morels, chanterelles, parasol mushrooms, *Dentinum repandum*, and so on. When we get really desperate we even eat *Laccaria trullisata*, being very careful of course to wash all the sand out first. I might add that every time we add a new mushroom to our cuisine, Henry will politely pass on it at suppertime, and if I am still in good health 24 hours later, he will consent to try some. So far we have had no mishaps.

Of course, besides the delicious edible mushrooms, we also find specimens like the Death Angel, *Amanita muscaria*, many *Russulas* (which we have a hard time telling apart), *Entoloma lividum* — even a stinkhorn, which popped up one day at the bottom of the steps descending from our deck. The name is truly appropriate, by the way! Altogether, we have found and identified (or think we have identified) over 50 species.

Of course, we don't limit our forays solely to our own property — we keep our eyes peeled as we drive along the little country roads. One day last fall we spotted two stumps along the roadside, both loaded with huge clumps of honey mushrooms. So, Henry came to a screeching halt as I shouted, "Mushroom Alert!" I jumped out of the car with my handy little knife and bag (things we always carry with us) and we loaded up the trunk. That night I was up till all hours, cooking and freezing honey mushrooms.

Sometimes we have some fairly bizarre adventures connected with our mushrooming, of which the story of the Sulfur Mushroom Tree is one — also the Climacodon Septentrionale Tree across from the church — but as this is getting way too long, these tales, like the Thousand and One Nights, will have to wait for another time!

Editor's Note to all members: Please consider writing up your personal collecting experiences, be it on your own property or elsewhere, and submitting it to the newsletter to share with other members. Carol reports, "I had a lot of fun doing it!" about writing her article.

NEW MEMBER FROM SWITZERLAND

by Steve Nelsen

Edwin Haselbach, a new WMS member this year who lives far from Milwaukee (He is a Professor at the University of Fribourg, Switzerland, a city on the border between the French and German-speaking areas of the country.) wrote that he has developed an interest in fungi over the last three years. Edwin sent a list of the seven kinds he was taught by a friend (Felix Burdel, whom he has also signed up as a WMS member for 1996) to collect for eating without having to have an expert check them. The following are "now always in my freezer", he says (lucky man!): *Boletus edulis*, *Morchella* spp., *Cantherellus cibarius*, *Craterellus cornucopioides*, *Rozites caperata*, *Bovista plumbea*, *Ramaria flavescens*. Only *Ramaria flavescens* does not occur in Wisconsin (or anywhere in the US, as far as I have seen). Other orange/yellow *Ramaria* species do occur, but they are not usually rated especially highly for the table, probably because the *R. aurea* complex is hard to distinguish species within, and because another one, *Ramaria formosa*, is listed as (mildly) poisonous. The first five are on most lists of the most desirable mushrooms in the U.S., too.

MYCO-BRIEFS

- In recent years, large numbers of trees in the northern hemisphere have sickened and died because of acid rain. However, the precise mechanism by which acid precipitation does its damage has been unknown, in spite of years of study. Recently, though, researchers at Yale University School of Forestry and Environmental Studies have been investigating how acid rain affects the relationship between tree roots and fungi living on the roots, known as mycorrhizae. This relationship is symbiotic — beneficial to both parties — in that the fungi help funnel soil nutrients to the tree, while the tree provides sugars for the fungi. The fungi also protect the tree from soil pathogens and poisoning by heavy metals. It appears that acid rain may upset the balance between the trees and the fungi by producing short-term increases in the availability of nitrogen in the soil and thereby fooling the trees into thinking that they no longer need their fungal partners. This can eventually lead to fewer mushrooms and sick trees. (New York Myco. Soc. Newsletter Spring 1996, where it was reprinted from the magazine of Yale

University)

- In our fall foraging, most of us have collected the white, lumpy, distorted fruiting bodies usually labelled *Entoloma abortivum* that has been parasitized by *Armillaria*. However, field and lab work by Dan Lindner, Tom Volk, and Hal Burdsall at the Center for Forest Mycology Research (Forest Products Lab, Madison, WI) suggests that things may be the other way around and that these malformed fruiting bodies actually are *Armillaria* specimens permeated by *E. abortivum* hyphae. In lab experiments, where fruiting cultures of *Armillaria tabescens* were inoculated with *E. abortivum*, the *Entoloma* grew well on the *Armillaria* and in one case, a structure similar to an immature fruiting body was formed. This suggests that fruiting bodies can form when fruiting *Armillaria* mycelium and vegetative *E. abortivum* interact. If further research suggests that *E. abortivum* is a parasite of *Armillaria*, this could be an important step toward developing a biological control of *Armillaria* and its destructive effects. (Abstracts of the July '96 Mycological Society of America meeting, Inoculum, newsletter of the MSA, June '96)
- The July/August issue of Sierra, the magazine of the Sierra Club, contained a nice article on “mini-organisms” which gave particular attention to fungi. The article emphasized how most of our species conservation attention goes towards charismatic organisms such as bears and otters and very little goes towards the less appealing “little things that run the world” such as insects and fungi. In fact, such mini-organisms constitute 90-95 of the mass of all ‘animal’ life on earth, yet they are poorly known. For instance, some 69,000 species of fungi have been recorded, but it’s estimated that probably more than a million exist, most of which are probably microscopic. Not only do the mini-organisms vastly outnumber the macro, but they have very important ecological roles to play. In the case of fungi, some of the services they perform include: enhancing plant growth by exuding substances which help the soil bind together into stable aggregates, channeling food, water and nutrients to plants through mycorrhizal attachments with their roots, as well as their obvious role of decomposing organic matter and returning it to the soil. Even fungal pathogens which kill trees serve a purpose in creating natural openings in the forest which varies the habitat and in making the wood soft enough for the beaks of cavity nesting birds. The author of the article, Robert Devine, spent some time raking for truffles with mycologist Jim Trappe of Oregon State University and his graduate student, Wes Colgan. Trappe feels that the image of fungi has improved in the last 10 years. The author listed three factors which may have helped improve the status of forest fungi: (1) the increasing value of the mushroom harvest; (2) science’s increasing appreciation of the interrelatedness of all living things, as exemplified by the significant amount of attention given to fungi in the Clinton administration’s Northwest Forest Plan; and (3) legal considerations, such as how the courts’ interpretation of the Endangered Species Act has forced forest managers to pay attention to particular fungi. For instance, the endangered spotted owl in the Northwest feeds on northern flying squirrels which in turn feed on truffles.

Colleen Vachuska

BOOK REVIEW

by Steve Nelsen

Review of J. Britenbach, F. Kranzlin Fungi of Switzerland, Vol. 4, Agarics 2nd part, Mykologia: Luzern, 1995. (158 SF + 21 overseas shipping) [may be ordered from Edition Mykologia, P. O. Box 165, CH-6000 Lucern 9, Switzerland; MasterCard and Visa accepted].

This incomparable series is continued with 465 species of “Dark Spored” mushrooms, in the families Entolomataceae (91 *Entoloma*, 6 *Rhodocybe*, 5 *Clitopilus*); Pluteaceae (25 *Pluteus*, 7 *Volvariella*); Amanitaceae (10 *Amanita* (*Amanitopsis*), 16 *Amanita*, 5 *Limacella*); Agaricaceae (34 *Agaricus*, 1 *Chamemyces*, 4 *Cystolepiota*, 24 *Lepiota*, 7 *Leucocoprinus*, 4 *Leucoagaricus*, 10 *Macrolepiota*, 1 *Melanophyllum*, 1 *Phaeolepiota*, 1 *Sericiomyces*; [8 *Cystoderma*, 3 *Squamanita* which between Vols. 3 and 4 have been switched by some authors from Agaricaceae back to Tricholomataceae]); Coprinaceae (44 *Coprinus*, 1 *Lacrymaria*, 10 *Panaeolus*, 42 *Psathyrella*); Bolbitiaceae (11 *Agrocybe*, 2 *Bolbitius*, 21 *Conocybe*, 10 *Conocybe* (*Pholiotina*)); Strophariaceae (10 *Hypholoma*, 11 *Psilocybe*, 9 *Stropharia*, 22 *Pholiota*, 4 *Tubaria*; 3 *Flammulaster*, 1 *Pachylepyrium*, 1 *Melanotus*). As in previous volumes, three

species are shown per facing double page, each species with an extensive technical description, 10.5 x 8.2 cm. color photograph, and line drawings of microscopic features. There is no better source of such complete information on a wide range of species than this series.

The innovation for this volume is the inclusion of a color patch representing the spore color of each species. A Cyan-Magenta-Yellow subtractive scheme is used which describes the densities of these three primary colors which when mixed give the observed color, each on a 12-point scale [0-9 for 0 to 90, (-) for 5 and x for 100], providing 1728 color possibilities described by a three digit number, from 000 for white to xxx for black. Spore prints were scanned and analyzed by computer. Because color varies with thickness of the spore print, each chip shown varies from 100 of the measured color to 60. Despite some problems (the 001 colors printed for species 202, 205, 206, and 214 look faint pink to me but should be faint yellow), these color chips seem to me to be of real use, as they highlight the difficulties with conventional descriptions of spore color (I've always wondered which brand was intended by "cigar brown"). None of the Entolomataceae or Pluteaceae prints are "pink" (they are lighter and pinker when fresh, but dried spore prints were used throughout), *Tubaria* does not have "yellow" spores (three are 48x and one 68x), but two of the three species of *Flammulaster* do have spores which might be described as "dark yellow" (-3x), although none of these species occurs in North America.

The only draw-back of this series in my opinion is the refusal of the authors to group species below the level of genus [except for *Amanita* (*Amanitopsis*) and *Conocybe* (*Pholiotina*), for which I am grateful]. Although there is significant disagreement among mycologists about how to best do this for any large genus, such groupings do occur in all systematic manuals I have seen which include as many species as this work. It is clear that an alphabetical list of 91 "Entoloma" species (Largent divided it into 13 genera having 24 sections in his 1994 monograph) is guaranteed to widely separate species which everyone agrees are very close to each other, and which ought to appear next to each other so that one can compare them easily. This is especially true for *Entoloma*, where many of the species have several different names, so one cannot find them easily even if one knows a name. Not including some sort of sub-generic groupings for genera with more than about a dozen species appears to me to be very unfortunate.

Volume 5 on Cortinariaceae and Crepidotaceae is planned next, and another volume on **Russulales** would complete the set, hopefully before the millenium.

RECIPE:
MUSHROOM-BARLEY STEW
Joanne Pasek

- 1/4 cup (1/2 oz.) dried mushrooms reconstituted in 1/2 cup boiling water or 1 cup fresh wild mushrooms
- 2 cups water
- 2 tsp vegetable oil
- 4 chicken breast halves (2 lbs.) with skin and fat removed
- 2 cups chopped onions
- 1 lb. white mushrooms, quartered
- 1/4 tsp. thyme
- 5 cans chicken broth (13-3/4 or 14-1/2 oz. each), defatted (to defat chicken broth: Freeze broth 30 min. until fat solidifies on surface. Remove fat with slotted spoon.)
- 1-1/2 cups pearl barley
- 2 cups chopped celery
- 2 cups chopped carrots
- 1 tsp. grated lemon peel
- 1/4 tsp. fresh ground pepper
- generous pinch of nutmeg

1 box (10 oz.) frozen peas, thawed

1. Simmer the mushrooms and water till tender. Set aside.
2. Heat oil over medium high heat in a Dutch oven. Add chicken and cook till browned, 3 to 4 minutes per side; transfer to plate. Add onions to Dutch oven and cook till tender, 3 minutes. Add white mushrooms and thyme; cook 5 minutes more. Add chicken broth and chicken; bring to a boil. Reduce heat and simmer 15 minutes. Return to plate.
3. Remove wild mushrooms from liquid; strain liquid through a paper towel lined sieve into dutch oven. Chop mushrooms, add to dutch oven. Add barley, celery, carrots, lemon peel, pepper, nutmeg. Bring to boil, simmer, covered about 30 minutes, till tender.
4. Bone chicken and cut into 1-inch cubes. Add to stew with peas, simmer 5 minutes till heated through. Serves about 8.