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MESSAGE FROM THE PRESIDENT

The summer has flown by and it's mushroom time again. This fall we have more forays than ever before. The schedule includes two Sunday forays. This should allow for a wider choice, especially if you can't come on a Saturday. You shouldn't feel obligated to come to every mushroom foray, but come to as many as you can. The season for the majority of mushrooms is quite short and if you miss it, you must wait an entire year. It's a very demanding time -- with a year's worth of learning and collecting packed into a few weeks.

One good way to learn about mushrooms and to see a lot of them without also seeing a lot of mosquitoes and ticks is to come to the annual mushroom fair at the Milwaukee Public Museum. Come and look at the mushrooms on display. Be sure to ask a lot of questions. Don't just ask if a mushroom is edible, ask how common it is, where and when it's found, and what are the key features in its identification. You want to leave knowing a little more than when you came. Also, go collecting the day before the fair and bring your collection in. You can have someone go through it and help identify and talk about each mushroom. If you really want to experience the fair, volunteer to help. Call Kevin Lyman at (414) 278-6142 to volunteer.

Best Wishes
Peter Vachuska

WMS FALL FORAY SCHEDULE

September 4: South Kettle Moraine
September 11: Mauthe Lake
September 19: Pike Lake State Park
September 25: Brightondale County Park
October 2: Point Beach State Forest
October 3: Indian Lake County Park
October 9: Monches West

Members should already have received notices for the earlier forays. Notices for each of the later forays are attached to this newsletter.

OTHER FUTURE EVENTS OF INTEREST

Sept. 26 Tenth Annual Mushroom Fair: 10 a.m. - 4 p.m., Milwaukee Public Museum. Please see notice on the back page of this newsletter.

Oct. 14-17 Daniel E. Stuntz NAMA Foray, Fort Worden State Park, near Olympic National Park and historic Port Townsend, Washington. For more information, contact Denny Bowman, 520 NE 83rd, Seattle, WA 98115 or call him at (206) 525-8399. You must be a NAMA member to attend.

MEMBER NEEDS RIDES

Beatrice Messner would appreciate it very much if someone could give her rides to WMS forays and meetings. She resides at 3334 W. Highland Boulevard in Milwaukee and can be reached at 344-9132.

If anyone else needs a ride or can provide a ride, you can contact Colleen Vachuska at (414) 626-4347 and it can be mentioned in the newsletter.

FUNGAL BRIEFS

* One of the last stands of American chestnut trees, lying outside West

Salem, Wisconsin, is under attack by the deadly chestnut blight fungus, which has nearly wiped out this tree species. The stand went uninfected for a long time because of its distance from other chestnuts, but infected trees have been found in it since 1987. The DNR has tried various methods of handling infected trees, including covering them with fire-fighting foam, then cutting them down and burying them, and covering their stumps with soil and manure, but more infected trees have kept cropping up. Their latest strategy is to inoculate all infected trees with a less virulent, non-lethal form of the fungus, obtained from chestnut trees in Michigan. Though implementing the project has not been easy and newly infected trees continue to turn up, the initial response to the inoculations has been good, with signs of bark starting to form around the edges of cankers. (Milwaukee Journal, August 16, 1993)

* For 5 weeks this spring, Mexican workers went on strike against Kaolin Mushroom Farms in Kennett Square, Pennsylvania, to protest a new wage scale imposed by Kaolin and to try to gain recognition as a union. The laborers have typically worked year-around for 10 or more hours a day, 6 or 7 days a week, while rarely earning more than \$300 a week. The strike ended with the union organizers asking Kaolin to let the workers return. Kaolin is in Chester County, Penn., where growers produce a quarter of the nation's annual mushroom crop of 350 million pounds and employ 3,000 to 4,000 Mexican mushroom workers. Commercial mushroom growing in the region goes back a century to the time when Quaker and Pennsylvania Dutch settlers developed the indoor darkrooms that allowed mass cultivation of mushrooms. However, in recent years many growers have gone out of business because of declining profits. (New York Times, May 23, 1993)

* Wild mushroom gathering has traditionally been a fairly bucolic pastime, but in recent years, it has become big business in the Pacific Northwest because of growing demand from overseas. Some mushrooms, such as matsutakes, fetch nearly \$100 a pound, so that on a very good day, a mushroom picker can make over \$1,000. It has also become a highly competitive, sometimes dangerous business with too many pickers working too few spots. In 1992, a picker was killed in the Winema National Forest in Oregon, and many mushroom buyers have been robbed at gunpoint. Also, recreational mycologists complain that commercial pickers have trashed many of the best mushroom sites and possibly endangered future harvests. (Wall Street Journal, "Some Fungus Pickers Would Simply Kill for a Nice Morel," sometime this past spring)

POSTERS

For a number of years, visitors at the mushroom fair have been asking where they can obtain the attractive mushroom posters that are on display at the poison booth. The posters show detailed paintings of familiar fungi of the U.S. and the British Isles, set against a pale cream background. They were produced by Natural History Museum Publications of London, but there is a source in the U.S. The posters "Some Poisonous Fungi" (No. EWB04) and "Some Edible Fungi" (No. EWB03) each display over 2 dozen species and measure 31-1/2 x 22-1/2 inches. They are available for \$8.95 each from: Parkwest Publications, Inc., Order Department, Customer Service and Warehouse, 451 Communipaw Avenue, Jersey City, NJ 07304. Phone (201) 432-3257. Mushroom magazine, summer '93

ANNUAL MEETING

The annual picnic and business meeting of the Wisconsin Mycological Society was held at Falk Park on June 26. Once again, the membership enjoyed a wonderful feast provided by their own contributions and the help of Kris and LeRoy Ciombor and Bill Blank in grilling the brats, organizing the tables, and cleaning up. We did get some rain, but fortunately it didn't fall until it was time to go inside the shelter and eat, anyway. A few members ventured out into the woods, but not a great deal was found.

President Peter Vachuska conducted the annual business meeting. The minutes of the last annual meeting were distributed and approved. Treasurer John Steinke presented a financial statement comparing the expenses of 1991-92 with 1992-93. The expenses from June 1992 to June 1993 were \$1980.83 and the receipts were \$1949.50, leaving the society with a balance of \$1069.41. Tom Fifield announced that the nominating committee was nominating all current board members to serve for another year. This slate was unanimously approved, and the Directors continue to be:

Bill Blank
Tom Fifield
Sunny Rupnow
Kris Ciombor
Dave Menke

Sami Saad
Martyn Dibben
Alan Parker
John Steinke
Tula Erskine
Rich Miller
Peter Vachuska

Rich Miller pointed out that the pamphlet committee had completed a pamphlet for advertising the WMS and 1,000 copies had been printed. Members were encouraged to pick up copies of the pamphlet and distribute them in locations that may yield new members, such as parks, nature centers, etc. Martyn Dibben also gave a report on the upcoming mushroom fair. After the annual meeting was adjourned, the Board of Directors met and elected all the incumbent officers to serve another year. The officers are as follows:

President: Peter Vachuska
Vice-President: Tula Erskine
Secretary/Treasurer: John Steinke
Assistant Secretary/Treasurer & Recorder: Rich Miller

At this time there was also a lot of interest in and discussion of the possibility of getting T-shirts for the club.

NAME THAT NEWSLETTER

The votes are all in and the decision's made. We received almost three dozen suggested names for the newsletter from members. Among the contenders was Fungazette. This was the name of the old WMS newsletter during the 60's and early 70's. Mycological Musings also was a popular name choice. Some people preferred a more scientific slant and voted for Clamp Connections. How about W.A.R.T.S. (Wisconsin Area Round Table of 'Shroomers) or in honour of C. H. Peck, The Pecker? (This was wisely voted down.) Names of mushrooms were quite popular: The Earth Star, Inky-Cap Courier, The Stinkhorn and Hel Vel a Newsletter were examples. The board of directors voted on the contenders listing their top three choices in order. Fungazette came in a close second. But the no. 1 choice is the name you see on the cover of this newsletter. Yes, that's right. When the votes were counted, the status quo won out. There is something sensible about calling something by what it is.

MIDSUMMER FORAY

The first ever WMS midsummer foray was held on Saturday, July 24, and it was a quite successful outing. Fifteen eager mushroomers turned out at John Steinke's farm, and from there we caravanned to Scuppernong Springs Nature Trail in South Kettle Moraine. This is a wonderful habitat with a lot of oak trees, so the picking was good. Also, we were fortunate to have Tom Volk with us to help identify specimens. Fungi collected include: Amanita brunnescens, Amanita citrina, Amanita muscaria, Amanita pantherina, Amanita rubescens, Amanita vaginata, Boletellus russellii, Boletus edulis/variipes, Boletus subglabripes, Calocera cornea, Cantherellus cibarius, Clavicornia pyxidata, Craterellus cornucopoides, Gyroporus castaneus, Gyroporus purpureus, Hapalopilus nidulans, Hydnum earlianum, Hydnum spongiosipes, Hydnum repandum, Hypomyces chrysospermus, Hypomyces hyalinus, Laccaria laccata, Lactarius atroviridus, Lactarius corrugis, Lactarius deliciosus, Lactarius subcerifluus, Laetiporus sulphureus, Leccinum aurantiacum/insigne, Mycena haematopsis, Patella albida, Paxillus atrotomentosus, Phellinus gilvus, Polyporus schweintzii, Russula fragilis, Russula nigricans, Sarcodon imbricatum, Stereum hirsutum, Strobilomyces floccopus, Suillus americanus, Suillus granulatus, Thelephora terrestris, Tremella reticulata, Tremellodendron pallidum, Tricholoma sulphureum, Tylopilus plumbeoviolaceus, and many Russulas (Unofficial list). How many of these species can you picture?

by Colleen Vachuska

MUSHROOM HILL

by Raymond Helminiak

We called it Mushroom Hill, but it was really a succession of kettles and eskers, bare-branched woods, and a cow pasture. It was a Waukesha County, Wisconsin dairy farm that my family visited during the autumn months, in the spring of my life.

It was the mushrooms that drew us there, especially the chunky-shanked Boletus aurantiacus, its russet caps crowded together like miniature umbrellae burghers; and graceful Boletus mirabilis, with elongated teardrop stems, fragile to the touch. The high point of the autumn

months was a day at Mushroom Hill. Autumn was mushroom-hunting time, and the hunt was rich with rewards.

It began with an hour-long drive along tire-thumping dirt roads that etched the countryside. It depended on a bachelor farmer in bib overalls, who enjoyed an earnest conversation with my parents concerning crops and cattle. It continued with a childhood fear of grazing cows in a pasture that had to be crossed, and the rough reassurance of a father's embrace.

And then there was the smell of picnic coffee. Picnic coffee was coffee ordinaire until it was drunk in an open field on a brittle sunlit November noon, which immediately made it a magical brew. I remember the sinful practice of prying shards of bark from the shagbark hickory tree, the sight of plum-purple storm clouds roiling the north sky, sere leaves deep enough to cover my boot tops, the musky smell of earth, the sting of a wind-whipped face and an endless exultation known as boyhood.

Once, I scrambled into the drooping arms of an old crab-apple tree, dangled my feet, and teased the wind-tossed leaves to leap up and dislodge me. And though they swirled and darted and clung to my brown fuzzy scarf with their serrated edges, they could not. Then it was a downward leap out of the tree, a scramble on hands and feet, a headlong rush over the next hill in an open-mouthed race against myself. Gaining the top, I stopped, suddenly immobile at the sight of my father kneeling.

I watched in silence. From the host roots of a corrugated hickory stump he delicately excised a cluster of tiny mushrooms. I could not decide whether his concentration dwelt on the mysterious microcosm of the spore or on a gourmet anticipation of the mushrooms simmering in sauces, bathing in soups. But there was a solemnity to the scene that made me sidle away, sensing I had intruded on a personal ritual.

For me, there were more hills to conquer, more acorns and hickory nuts with which to bulge my pockets. There were chipmunks to be harassed, a stone fence whose length had to be walked, a neighboring cornfield needing investigation. Then I returned to the rolling stone-dotted hills, back into the outstretched branches of the woods. I ran and I ran and I ran. And the elders knelt.

The mushroom hunt continued throughout the afternoon, and at day's end it always stormed. The wind took on an icy push and hurried us off the land. It hastened us out of the hills and into the farmyard, flayed the farewells from our mouths and merged them with the rush of its own voice. It forced us to the car, where, gasping from the cold and a nervous fear of the motor not starting, we sat and noisily exhaled white vapor. During the drive home, I covered myself with the car robe, dozed and asked repeatedly if we would return the following weekend.

The Waukesha County farm still exists, having thus far escaped the subdivider's transit. The farmer has long since departed. The mushrooms are still there, I'm sure, but the hills appear to brood, as though yearning for the harmonies of an Old World understanding of the land.

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LECCINUM: A BEWILDERING NUMBER OF SPECIES/FORMS/VARIETIES
by Steve Nelsen

Smith and Thiers in *Boletes of Michigan* define *Leccinum* (pronounced as if it had double s instead of double c, and with a long i) primarily in terms of stem ornamentation; "... lines, points, dots, or squamules which may be variously colored at first but by maturity being darker, usually very dark brown or black, or in some species these colors are present from the first." They also point out that the cap in buttons is white to pallid or rarely yellow. At maturity, cap colors vary from pallid to dull browns and darker, and to reddish oranges. Others point out that the stem is usually nearly cylindrical to slightly spindle-shaped, and less stocky than in many boletes. Spore color is more variable in *Leccinum* than for any other bolete segregate genus. Older books follow Fries's 1821 lumping of almost all boletes into one huge *Boletus* genus, in which species now in *Leccinum* do not even rate their own Tribe, but appear in *Versipelles* (pores first pallid and nearly free) along with species now in *Tylopilus* and *Boletus*. Now S. F. Gray's division of *Boletus* into several genera including *Leccinum* (also dating from 1821) is essentially universally used. However, Singer employed *Krombholzia* to replace the name *Leccinum* in the 1930's and 1940's, and Bon currently uses *Krombholziella* (J. V. E. von Krombholz [1782-1843] was a German M.D., pioneer mycologist and truffle enthusiast).

Leccinum is a rather homogeneous group, and Smith and Thiers point out that it was assumed for decades that there were under a dozen species in the world. Current European books still list 14 species in Britain, and 20 in Northern Europe (including two beautiful but rare impressively green ones, *L. thalassinum* and *L. percandidum*, which are entirely unknown in America).

Despite obviously breaking a basic rule of mycophagy, that you should know what a species is before you eat it, *Leccinum aurantiacum* in the broadest sense is usually listed as both safe, even for beginners, and rather good eating. It is not hard at all to tell a *Leccinum* from other boletes, although Smith and Thiers do comment that it is frequently hard to find examples not insect-infested.

However, using hyphal characters and color changes both upon exposure of the flesh to air and to solutions of ferrous ion and hydroxide, mycologists (principally Smith, Thiers, Watling, Snell, and Dick) have picked *Leccinum* apart into an absolutely dismaying number of taxa. An amateur like me, hoping to identify a *Leccinum* found in the woods, becomes totally hornswoggled.

Assuring us that they are only including "the more readily recognized species", Smith and Thiers describe a benumbing 57 species from Michigan. To find anything, one has to first determine the Section. Section *Leccinum* has a sterile membrane extending beyond the tubes which breaks into sections as the cap expands, which even I can understand. Unfortunately, distinguishing the Sections lacking the membrane, *Scabra* and *Luteoscabra*, requires microscopic examination of the cap cuticle. As an unusually simple example of what is involved in distinguishing the newer species from what they were called from 1821 till the 1960's, *L. insigne* (which is treated in all reasonably detailed current manuals) was segregated by Smith, Thiers & Watling in 1966 from *L. aurantiacum* (Bull. ex. St. Amans) S.F. Gray 1821. In fact, they appear in different "Stirps" (groupings of species for convenience which do not require certain formal apparatus of nomenclature to define) because the flesh of *L. insigne* (and its several relatives in Stirp *insigne*) buttons when sliced open do not go through a reddish-to-cinnamon color stage as they discolor towards grayish-blackish upon exposure to air, while *L. aurantiacum* (and its many relatives in Stirp *Aurantiacum*) do. Furthermore, in *L. aurantiacum* it is not uncommon to find the stem ornamentation becoming orange-tan or more reddish before blackening, while *L. insigne* goes black directly, at a younger stage, and the cuticular hyphae of *L. aurantiacum* are distinctly smoother than those of *L. insigne*. *L. insigne* also fruits earlier. Cap color, the primary character which might be conveyed by a good color photograph or painting in a book is no help at all; instead, it is quite misleading. Seven "forms" of *L. insigne* of a variety of hues are described, and there are also close *L. aurantiacum* relatives of all these colors.

So, if you wish to actually name a *Leccinum* correctly now, come prepared with microscope, chemistry set, extensive identification literature, and enough patience to make the sorts of distinctions which will separate 'your' species from perhaps a dozen similar-looking ones. Don't bother at all unless your collection exhibits all stages of growth. Sigh.

Smith and Thiers point out that many more species might also be found in other regions as well, using similar microscopic and color test criteria for their separation. They also state that even allowing for different species concepts, there are at least three times as many *Leccinum* species in the Great Lakes region than in all of Europe. They identify the Great Lakes region as the center of *Leccinum* speciation, both on the basis of number of endemic species and number of unusual ones. They suggest that perhaps American logging practices are responsible for this. Forests in the Great Lakes area were clear-cut and repeatedly burned before growing up to a first growth of "weed trees," the aspen and birch that *Leccinum* favors. They speculate that isolated varieties which survived in swamps and along stream banks and escaped the fires successfully invaded the new woods, favoring the survival of ones which would not have made it in competition with well established species. Mycelium from these expansions may still be alive and fruiting, but not spreading to generate species which are stable for long periods of time or over large areas. I get rather confused about what a "species" is supposed to mean when defined in this way. I surely am unable to convince even myself that I can tell whether one *Leccinum* I find is or is not supposed to be the same species as similar but not absolutely identical looking ones.

RECIPE:
LESS GREASE PUFFBALLS
contributed by Joanne Pasek

We peel the puffball, cut it into pieces (like carrot sticks) 1/2 inch by

1/2 inch by (3 to 4) inches. We freeze some "PuffSticks" in a plastic freezer box; some are saved for frying, and the rest go on the dehydrator to dry and be stored in jars for winter. The dried ones are soaked in water for two or three hours with a weight to hold them down. Then they can be used as fresh.

To prepare the mushroom for frying, I coat a few sticks with flour, shaking off excess. I first dip them in a mixture of one beaten egg and 1/4 cup skim milk, and then in plain bread crumbs. I coat them all this way. The coating seals the fat out. The puff sticks should sit on the counter or in the refrigerator for at least 1/2 hour, and an hour is better.

Heat deep fat to 375 degrees. Fry puff sticks without crowding, turning once. Allow to brown on all sides. Take out and drain on paper towels. Fry puff sticks in small batches. Hold fried sticks on paper towels on platter in warm oven (175 - 200 degrees). They are best if eaten within the first half-hour after being cooked. The sticks do not absorb much grease when fried this way.

THE END