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MESSAGE FROM THE PRESIDENT

We are in the winter doldrums. There is no earthy smell of mushrooms in my basket. Maybe a few small pieces of a self-dried mushroom that I was going to study and ran out of time. Our only hope is to look forward 2 months until the first morels will be coming forth.

I checked with some of our members to see what they have been doing to make it through this "mushroom withdrawal" period. John Steinke spent 3 days at the University of Michigan herbarium. He studied geastrums, looked at voucher specimens and read old reference books with beautiful illustrations; many of the descriptions were in Latin. Peter Vachuska was curled up in an easy chair reading the next mushroom book that will show up in the book review section of our newsletter. As for myself, I have spent some time looking at catalogues that sell mushroom growing kits. They recommend the end of March for best results. A little studying of mushroom books during quiet times helps pass the time too.

What are you doing to make it through the mycological withdrawal period? Nancy Korslin could be working on Artist Conks. Chuck Fonaas could be organizing last year's pictures. You could take out the last jar of preserved mushrooms and make your favorite dish. Take time to read that study guide you were going to read last year. Visit a mycological buddy to discuss that mushroom that confused you last fall. These are ideas to help you through the cabin fever. Don't forget our winter programs. We still have our March and April evening lectures coming up, plus our mushroom meal at Heaven City. I hope that will get your mind off winter and on to mushrooms where it belongs.

by Chuck Soden

UPCOMING EVENTS

- March 14 (Tuesday) -- Dr. Steve Nelsen will present a slide show on Chanterelles and Coral Fungi at 7pm at the Mitchell Park Pavilion.
- April 12 (Wednesday) -- Joe Krawczyk will lecture on Growing Shiitake at 7pm at the Mitchell Park Pavilion.
- April 24 (Monday) -- Annual Mushroom Dinner at Heaven City Restaurant near Mukwonago
- May 13 (Saturday) -- Morel Foray with Chuck Soden and Peter Vachuska
- June 17 (Saturday) -- Annual WMS Picnic at Falk Park

All members should have received flyers with directions for the above events.

DUES REMINDER

The new year is upon us. So if you have not renewed your WMS membership for 2000, please do so. Checks for \$15 should be mailed to John Fetzer at 1309 S. 73rd St., West Allis, WI 53214.

SWEATSHIRT CLEARANCE

The WMS white and green on gray fairy ring sweatshirts are available for purchase at our winter meetings. Originally priced at \$25, they are now on sale at a very attractive price -- only \$10. So, pick one up. Who knows -- someday it might be a collectable.

JANUARY MEETING
12 January 2000
by John Steinke

The January slide show has to be one of my favorite WMS activities if not the favorite. The weather was great, which allowed for a very good turn out of the most interesting and enjoyable people I have had the pleasure to meet.

In the days following this gathering, I reflected on these people as a group, an uncommon lot, in a relaxed almost utopic gathering. What allowed this to happen, people with not so distant roots to almost every country in the "Old World", coming together as one? It would be simple to say it was the food or the wine or maybe it was the slides and a chance to learn a new and interesting fungus (more than likely, I should have said "edible fungus"). These are all good reasons but I believe the big picture points to our common languages. Two good decisions were made in the 1700's, uniting ideas to a common language and thus making these ideas great. The first of these decisions was revealed to the world in 1753 with the publishing of "Species Plantarum" by a man from Sweden named Carl von Linne. This work was published in Latin and thus Carl was dragged into history as Carolus Linnaeus. Most likely he had no grand plan for the next millennium and only adapted the widely used language of the church, for which he had been groomed. This sounded the starting gun for individuals to name and describe every living organism, in Latin. As confusing as Latin may seem, for the world this was a huge step toward clarity. The second decision was made a few years later when this, most often, great country of ours chose a common language for a new country. I am not going to say English was the best choice but the idea of a single language is one of the important reasons this country is still great. I wonder how much simpler it would have been if the United States would have chosen Latin as its official language, but this would have been very difficult, due to another great idea, "separation of church and state".

For all you members that missed this fine gathering, I hope my ramblings do not scare you away in the future. For those that were in attendance, I bet you did not know what a historic event you were participating in.

MYCOPEOPLE
by Peter and Colleen Vachuska

Chuck Fonaas

WMS member and foray leader Chuck Fonaas won several awards for his fungal photography at the 1999 North American Mycological Association (NAMA) Photo Contest. Chuck was one of 24 contestants in this year's contest. He took second place for his photograph of *Asterophora lycoperdoides* in the limited documentary division and both 3rd and honorable mention in the limited pictorial division for *Coprinus disseminatus* (entitled 'Standing Room Only') and *Dadaeleopsis confragosa* respectively. Chuck's photos and drawings have often graced the cover of our newsletter and have been featured several times on the cover of NAMA's newsletter, *The Mycophile*, including, most recently, their November/December issue. Chuck Fonaas always leads (often with Ray Llanas or Steve Nelsen) the Photo Foray in August. This foray is a rare opportunity to get photography tips from our own experts.

Tula Erskine

Longtime member, vice president, founder, and foray leader Tula Erskine slipped and fractured her hip in January. She is slowly recovering, but has recently been set back by an accidental dislocation of the hip. She is staying at The Waters of Seven Oaks in Milwaukee at 6263 Green Bay Avenue between Bender and Mill Road. Our best wishes go out to Tula for a speedy recovery. We all hope to see her familiar form again in the woods soon.

Martyn Dibben

The September '99 newsletter featured a blurb on how the gypsy mushroom, *Rozites caperata*, has been found to have significant antiviral properties. On and off over the past nearly 30 years, mushroom hobbyist Frank Piraino has worked with testing mushrooms for antiviral properties, first while working as a virologist at hospital labs in Milwaukee and then on his own after retirement. The work really took off though when he began to work with ophthalmologist Curtis Brandt at the University of Wisconsin Medical School and the two have recently published a paper in a medical journal reporting that a protein in *Rozites caperata* is active against a number of viruses.

It turns out that the WMS has some connection to all of this. At one point, Piraino had difficulty finding enough of the mushrooms to test. But one of our board members, Martyn Dibben, then a botanist at the Milwaukee Public Museum, came to the rescue. "He knocked on the door and gave me a whole bag of mushrooms" obtained from a field trip to Michigan, Piraino said in an article

in the Milwaukee Journal-Sentinel. (In the late 1980's, the WMS made a number of field trips to the Upper Peninsula of Michigan.) It may have been hard to part with those mushrooms - gypsies are good eating and we don't find them very often. Good job, Martyn!

Sami Saad Scholarship Fund

Donations to create a Professor Sami Saad Scholarship for botany students are being sought jointly by UW-Washington County and the Washington County Campus Foundation.

As most of you know, Sami Saad, who had been vital to the WMS for many years, passed away last July. This scholarship is being established to continue his long-standing efforts to help students. For more information or to contribute to the Professor Sami Saad Scholarship Fund, call (262)335-5203 or (262)335-5233.

BOOK NEWS

by Peter Vachuska

The new book on boletes, North American Boletes, a color guide to the fleshy pored mushrooms by Bessette, Roody and Bessette is due out soon - sometime in April. And more good news is that its price has come down in places. The list price at Barnes & Noble, Borders and Harry W. Schwartz is \$95. Amazon was listing it at \$75, but recently has lowered that price to \$66.50. (Of course, you should try to support your local bookstore - but for a \$30 price difference, it is difficult.)

Bargain hunters may find Steven Wheeler's Complete Mushroom Cookbook on sale at Border's Books for \$4.95. (I've only checked their Brown Deer location.) This is a large colorful wild mushroom cookbook. It is 9x11 3/4 inches, 128 pages, softbound, with more than 400 beautiful illustrations of step-by-step instructions. In my opinion, it is worth the five bucks even if you already have too many cookbooks.

One final note: You may still be able to pick up The Encyclopaedia of Fungi mentioned in the last newsletter. Half-Price Books still had a half-dozen copies when I checked last.

MOLECULAR GENETICS, HUMANS, AND FUNGI

Humor by Alan Parker

A group of molecular biologists working far outside the human genome project have made a remarkable discovery. The data have not yet been published, but the news is traveling like wildfire through highly secret internet websites. These researchers are certain they have identified the nitrogenous base sequence for a gene that is only found in humans that love to study fungi. Even more amazing, it's only found in those people obsessed with non-edible fungi. For those unfamiliar with DNA, the four nitrogenous bases in the molecule are adenine(A), thymine (T), cytosine (C), and guanine (G). In addition to typical base sequences, this bizarre gene has a repeating three letter base sequence of uracil (U) (normally found in RNA but not in DNA), thymine (T), and a third, previously unknown, nitrogenous base. The newly discovered base is now being abbreviated with a dash (_). The entire gene is about 4,300 bases long, but right in the middle is a repeating 18 base sequence that reads _UT_UT_UT_UT_UT_UT. The researchers are planning to name the new nitrogenous base nutrosine, and it would have the formal single letter abbreviation (N). This discovery is scheduled to be published in a major journal on 1 April 2000.

HOW ALDO LEOPOLD TAUGHT HIS CHILDREN ABOUT NATURE

Aldo Leopold is one of Wisconsin's heroes. This former Forest Service employee and professor of game management at UW-Madison was one of the first proponents of the concepts of conservation, a land ethic, and wilderness preservation. His collection of essays on the outdoors, A Sand County Almanac, has become an environmental classic. Many of the observations and philosophical insights in A Sand County Almanac drew their inspiration from Leopold's experiences at an abandoned farm north of Baraboo that he bought in the 1930's. Here Leopold and his wife, Estella, and their five children spent their weekends. It became a family project to restore the place. While living in a former chicken coop dubbed the "shack", the Leopolds camped, built birdhouses, planted thousands of trees and native plants and watched the seasons change.

Their experiences at the shack evidently had a profound impact on the Leopold children. Each of them went on to pursue an environmentally related career. Daughter Nina Leopold Bradley, who became a botanist, lives down the road from the shack and continues to observe and record the changing seasons as her father once did. "Father gave us a sense of wonder which has been with us for a lifetime," said Leopold Bradley, now 82, in a recent interview. She also

told a story of how her famous father taught his children about nature and helped give them that sense of wonder.

"We were startled when Father awakened us in the dark of the night and asked us to come with him into the woods. He had something to show us. Single file, rubbing sleep from our eyes, we walked behind our parents," Leopold Bradley recalled.

Barefoot and clad in pajamas, they sauntered into the dark until finally coming upon a rotting log aglow with fox fire - a luminescence caused by various fungi.

"We stared with the thrill of adventure at this amazing sight, a log alive with glistening light," she said. "We looked with rapture and with wonder. We touched the strange, crumbling wood. We even collected small pieces."

The daughter does not remember any factual explanation from her father about how this iridescent fungus was working to break down wood fibers. But she does recall the fascination which was imprinted upon her. (quoted from "Leopold's daughter recalls learning about the environment from her father" from the Milwaukee Journal-Sentinel Online)

TAXONOMY OF LITTLE BLACK CLUB FUNGI

by Alan Parker

Many people casually dismiss all small, black, club-like fungi as some sort of "Dead Man's Fingers." Growing on the ground or on dead wood, they aren't very pretty, cannot be eaten, and therefore don't get most collectors excited. For those that have gotten past the "if I can't eat it, forget it" stage, these black clubs certainly warrant a closer look. They may belong to any of at least three different Ascomycete groups.

Those that are hard (crusty) and carbon-like with the external texture of a charcoal briquette are very likely real Dead Man's Fingers in the genus *Xylaria*. Large 2-3 inch clubs that tend to fruit individually or in small clusters may be *Xylaria polymorpha*, but there are other species that could be confused with this common fungus. Another common species in Wisconsin that is quite slender and has characteristic branching is called Carbon Antlers (*Xylaria hypoxylon*). In early development the upper portion of Carbon Antlers may be covered with white colored asexual spores. *Xylaria polymorpha* and *X. hypoxylon* can both be found in several field guides. The other species of *Xylaria* that may occur in Wisconsin are poorly known. Anyone wishing to pursue the very interesting challenge of finding and identifying all the Wisconsin *Xylarias* should consult a 1986 paper (Provisional Keys to *Xylaria* species in Continental United States) by Dr. Jack Rogers in *Mycotaxon* 26: 85-97. The following quote from the paper's introduction might serve as a "taxonomic warning" and give one either second thoughts or greater excitement about the challenge:

" *Xylaria* Hill ex Schrank is a difficult genus for several reasons. First, stromata of a given species often vary greatly in color, size, and, sometimes, in general shape. These variations are associated with stages of development (immature, mature, senescent), locality, and probably inherent variability. Second, many species of *Xylaria* have cosmopolitan distributions. Most of them have been described more than once from different localities and, often, in different stages of maturity. It is thus often difficult to determine the correct name for a given taxon. Many taxa collected in USA were originally sent to Europe for identification or foreign literature was employed to make identifications. In several instances, what appear to be exclusively North American species have been equated with European species. In other instances, taxa that now seem identical with European species have been considered as unique. Likewise, there are problems with comparing USA taxa with tropical taxa."

The above quote is an eloquent explanation of problems inherent in working with the genus *Xylaria*, and could be applied with modifications to a multitude of other fungi. People that generally don't read technical literature should occasionally indulge, if possible, to get a feel for the world of taxonomic research mycology. Such reading serves as a reminder of the complex struggle faced by those intensely trying to clarify species concepts in higher fungi.

Back to the other black clubs, or at least one that's black in old age! If you find a yellowish-brown (young) to black (old) club that is rubbery rather than hard, don't pick it without a closer look. There's the possibility that it may be a species of *Cordyceps* parasitic on a below-ground false truffle (*Elaphomyces*). If one is not familiar with this association, it requires a little experience to distinguish this parasite from the so-called Earth Tongues (*Geoglossum*, *Trichoglossum*). If there's any doubt about the identification, it would be best to do a little digging at the base of the club. A color change to yellow at or just below ground level is one indication that the specimen in question is indeed a *Cordyceps* (*C. ophioglossoides*).

Careful excavation to a depth of 2-4 inches will usually reveal the false truffle host. Another Cordyceps that parasitizes false truffles is *C. capitata*, but this species produces a yellowish tan fruiting body that is 2-4 inches tall with a ball-like top; it somewhat resembles a little mushroom whose cap hasn't opened. Both of these Cordyceps are found under tree species with which the *Elaphomyces* host is mycorrhizal; they are also found in various field guides.

The third group of black, club-like species belong to the Ascomycete genera *Geoglossum* and *Trichoglossum*. They are usually 1-3 inches tall, pure black, and with a rubbery texture. A common habitat is moss-covered woodland soils. Between the two genera there are at least 20 species in North America, and a microscope is required for certain identifications. *Trichoglossum* has minute spines on the upper surface, which are lacking in *Geoglossum*; these spines are supposedly visible with a good hand lens. At least one or two species of these genera are pictured in most popular mushroom books.

The next time you see little black clubs on the forest floor, think positive. They're beautiful little Ascomycetes that can at least be assigned to a genus with minimal effort. Finding a *Cordyceps ophioglossoides* and excavating the false truffle can be particularly gratifying.

"FALSE WITCH'S HAT" REAPPEARS
by Steve Nelsen

Five years ago I discussed *Caulorhiza hygrophoroides* as a species that was segregated from *Collybia* (December 1995 newsletter). Adrienne and I had only seen it once, at Haskell-Noyes Woods (a State Scientific Area in the Northern Kettle region) on May 30, 1992. This year it turned up again (May 16, 1999) well over a hundred miles to the west, at Wildcat Mountain State Park, almost at the summit of Mount Pisgah, the highest hill in the area. As with the earlier find, it occurred during a very dry period (perhaps when one looks harder for something besides the non-existent morels?). This time there were a couple of young specimens that really do resemble "witch's hat", *Hygrocybe conica*, as emphasized by Peck in his original description, which he made from material found in May 1878 at Knowersville, NY. Peck noted that *C. hygrophoroides* is "very rare" in his *Collybia* review in State Report 49 (for 1895); it had not been reported by anyone in the 17 years since the original finding. Finding this tidbit made me even happier to see it again. I could not resist making up a common name now that I have seen it twice. I have always suspected the term "uncommon" means "I saw it once", and "rare" means "I never saw it" to mushroom book writers, but as readers of this Newsletter will know, Alan Parker expanded much more thoughtfully on these terms in March and June 1999. Its new genus *Caulorhiza* is still rather obscure in manuals. Lennox erected the genus in 1979 for *Collybia umbonata* Peck (described in 1904, but not put in the State Reports, so presumably it is indeed a west coast species, as it appears in manuals). Singer, however, synonymized *Caulorhiza* with his genus *Hydropus*, although *Collybia hygrophoroides* Peck was not transferred to it (or mentioned elsewhere in the 1986 edition of his world-wide compendium of mushrooms). Halling transferred *hygrophoroides* to *Caulorhiza* in 1983, so the correct name is now *Caulorhiza hygrophoroides* (Peck) Halling. Halling should be especially praised for putting his *Collybia* monograph on the web (www.nybg.org/bsci/res/col), making this very technical and difficult-to-find material available free, presumably seriously cutting sales of hard copies. Halling's monograph was the source of the new name, appearing in the excluded species section.

RECIPE: MUSHROOM SOUFFLE -- CHEATING KIND!!!
by Greta Menke

Bread slices, trimmed and buttered
2 Tbsp. butter
1 small onion chopped
2-4 cups morels or other mushrooms
1 small jar pimiento, drained and chopped
1/4 cup toasted slivered almonds
salt and pepper to taste
4 eggs, beaten
3 cups milk
1 can cream of mushroom soup
paprika
parsley

Butter a flat glass baking dish. Line the bottom of the dish with the buttered bread slices. In a fry pan, melt butter, add onions and mushrooms, and slowly saute. Add pimientos, almonds, salt, pepper, and stir gently. Place this mix over the bread slices. Cover with another layer of bread slices. Beat eggs and milk together. Pour over and let stand several hours or overnight. Take mushroom soup, stir and spread over the top. Bake in a 350 degree oven for 1 hour. Sprinkle with paprika and parsley before serving.

