Fall 2003

THE NEWSLETTER OF THE WISCONSIN MYCOLOGICAL SOCIETY
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## MESSAGE FROM THE PRESIDENT

In my opening, I need to personally, and as the President of the Wisconsin Mycological Society, express my sympathy to Tom Fifield on the loss of his wife Marilyn. Without these two and a few others, the WMS would not be active today. Without these two, I would have taken a different path in life, not knowing the joy of Mycology or the wonderful people that are drawn to it. I thank you Tom, we thank you Tom; know that you have made a difference and that we mourn with you.

I did have a few other thoughts that I wanted to share with the membership, but they would only detract from the sincerity of this letter, so I will leave them for another day.

by John Steinke WMS President

## WMS FALL EVENTS

September 6 (Saturday) -- Tom Volk Foray -- La Crosse Area
September 7 (Sunday) -- South Kettle Moraine Foray
September 13 (Saturday) -- Sami Saad Memorial Foray -- Mauthe Lake Recreational Area - North Kettle Moraine
September 14 (Sunday) -- Sandy Knoll County Park Foray
September 20 (Saturday) -- Bristol Woods County Park Foray
September 21(Sunday) -- Walking Iron County Park Foray (Madison Area Interest Group)
September 27 (Saturday) -- UW-Madison Campus Natural Areas Foray and Mushroom ID Clinic (Madison Area Interest Group)
September 28 (Sunday) -- North Kettle Moraine/Greenbush Foray
October 1 (Wednesday) -- Fall Mushroom Dinner and Talk at Morels Restaurant in Middleton (Madison Area Interest Group)
October 4 (Saturday) -- Hainer/Erskine Memorial Foray at Point Beach State Forest

October 4 (Saturday) -- Mushrooms and Lichens of Devil's Lake (Madison Area Interest Group)
October 11 (Saturday) -- Coral Woods Conservation Area Foray in northern Illinois

Members should have received announcements with more details and directions.

MARILYN FIFIELD 1924-2003

Marilyn Fifield passed away at her home in River Hills on 11 August 2003. Marilyn and husband Tom were the driving force in reactivating the Wisconsin Mycological Society in 1982. They hosted the first organizational meeting in May of that year, and became charter members of the new version of the Society in August. Marilyn served as the group's first Secretary for a number of years. Both Tom and Marilyn were exceptionally active in the WMS until their health began to decline in the late 1990's.

A full memorial for Marilyn will appear in the December Newsletter. WMS members who have a favorite memory of her are encouraged to contribute. Please send material to Colleen Vachuska, WMS Editor, 440 North Street, West Bend, WI 53090 or email at: cvachusk@uwc.edu.

THE ANNUAL PICNIC AND BUSINESS MEETING
by Colleen Vachuska

The WMS enjoyed its annual picnic and business meeting on June 21, 2003, at President John Steinke's farm. This was the second year for us to gather at this location. As usual, the food and friendship were great, and as a bonus, the weather was great, too. Additionally, many attendees enjoyed the opportunity to browse at Papa Steinke's Greenhouse and find some plants to purchase before the planting season came to an end. During the business meeting, all of the current officers and directors of the club were retained for another year. You can find them all listed on the last page of this newsletter. The main item discussed during the meeting was the possibility of the club providing an annual scholarship for a worthy college or graduate student who is doing research in mycology. Over the last few years, our club's treasury balance has increased annually, and we felt this might be a way to spend some of our income. Nothing was formally decided at this point, though, but the idea of such a scholarship was generally supported, and the WMS board will look at it more closely.

THE SUMMER FORAY
12 July 2003
by John Steinke

I was of the belief that this was to be just another one of those dry summer forays. I had done a brief scouting of the area we were going to forage and found a few chanterelles, so I knew we would not get skunked. The better part of twenty hardy souls were turned loose on the site and within a very short

period of time we had some very nice finds. One very gracious member found a nice sulfur shelf, of the Ohio type, and removed only a small amount to go with his eggs in the morning, leaving the remainder to be discovered again. Some chanterelles were found by five or six members, but the ones I had scouted out were still there when I arrived. This was most likely the last foray for the society at this site. The site has been turned into a subdivision with many trees being removed and hills relocated. On a positive note, the remaining woods will be preserved as greenspace for all members of the subdivision and hopefully neighbors. In the afternoon, the remaining members checked out another site for fungi, but it was much dryer there and it turned into a nice walk in the prairie. For those that missed the foray, we missed you and for those that made it, thanks for coming.

THEY LIKE 'EM TOO!
by John Komosa

Being not only a 'shroomer from the old country, but also an amateur "mycologist" and an avid mycophagist, I have always had a difficult time with the notion that most of the wild mushrooms in the world, age, rot or dry and become part of the earth's "floor" again -- a good recycle.

Many a times, as I hunt the woods, pass by a forest, or see a jungle on TV, my thoughts often return back to that same old lamenting sentence: "so little time and so much waste"!

The amount of mushrooms that we humans pick and consume is probably a very small percentage world-wide. I know that in Europe they probably eat half of what grows there. But in North America and other continents, very little!

But lately, I have become more and more convinced that maybe the majority that "rots" is not really that BIG of a majority.

And why you ask? Because I see more and more convincing evidence which shows that besides us, the two legged animals and the worms, a lot of mushrooms are being consumed by the four legged creatures!

Let me give you some examples.

Every one of us has seen individual mushrooms with small teeth marks; nibbled at by some small rodent, who became satiated and left the rest for us. That makes up for a small amount, I agree.

But then there were those numerous situations where I would come upon a bunch of Armillarias, for instance, (and they almost always were in the button stages -- another confirmation that animals are not dumb!) and found some, half or almost all of which were snipped off, chewed off, and eaten. In those situations, judging by the bite (mouth) size and by the droppings, I suspect that deer were the culprits.

It is worth noticing that nowadays in this mid-west area, where the deer population is overwhelming in our forest preserves, I find the majority of the "Honeys" and "Hens" under old oaks which are surrounded (guarded) by some raspberries, wild roses or other bush type growth. My logic here says, that since they have so much easy accessible edible fungi, why get their noses scratched!

As to the "hens", I run into a lot of older ones, late in the season, devastated by deer. My thinking here goes like this. Earlier in the fall season, they had all the young ones to choose from, and now that there are no young ones, older and bigger ones will do. So, are the unprotected "bare" oaks, which usually would produce hens, barren because the animals ate the young ones clean off the floor with no trace left?

To support this theory of younger ones disappearing completely off the face of the earth before humans can see them, let me give you this example. I live on a 1.25 acre "farmette" in a Chicago suburb. In addition to my chickens, pigeons, rabbits, dogs & cats, I also have two gardens, an orchard, numerous flower beds, a wilderness corner where wild birds live and hide and are visited by an occasional fox or a coyote, (we don't mention raccoons, possums and skunks for they are too numerous to consider as wildlife!).

I also started my own "forest" by bringing saplings of aspens, birch, and all kinds of coniferous trees from up north, like Wisc., Mich., & Canada. I know, I know, some of that activity is illegal, but.... But anyway, those young trees, in combination with my neighbor's older pines and ashes and the moss, have already started to produce. I have more then enough ash boletes every year. I've harvested "velvet foots" (or is it "feet") and Dryad's saddles. I also have some old dead and dying elms, under which I've been seeding morels for a few years now and soon am expecting to find my very own morel on my own property!

But the example that I wanted to stress is this. Last year I was so overjoyed to find my first Leccinum under the aspens! I kissed it, the ground and the nearest aspen. I also left it for a day or two to grow bigger! Guess what? To my total (unpleasant) surprise, when I came to check up on him to see how much he had grown, (here was my perfect and easy occasion to see how fast mushrooms grow)...

... HE WAS GONE!

I searched every inch of the ground on my knees, looking for the spot where I saw him the day before, hoping to find a fresh knife cut on the remains of the stem, so I could then blame my neighbor?! NADA!

My convincing conclusion was that a wild animal had a nice night time snack -- thank you! And it was not a deer. My "farmette" is totally fenced in, and there were never any signs of deer on my property.

But the most recent and the most convincing case of wild animals eating a lot of mushrooms happened a few weeks ago. My wife and I were on a ten day, ten north-western states nature and mushroom hunting trip. Not to mention the beauty and wonder that we saw in the Badlands, Black Hills, Yellowstone, the Tetons and Western Colorado; or the experience of competing with half-a-million Harley-Davidson bikers (around the Sturgis, S.D. area) for a hotel room; or the horrific crossing of the Independence Pass in a storm; or running into a six foot snake with zigzags or diamonds on its back; we did find fourteen beautiful Boletus edulis -- and danced with joy!

Note that only one group of six B. edulis were found in an open area. The rest, and also the biggest ones, we found growing individually under some overhanging coniferous branches or inside a bush where it was hard to get to it without getting scratched.

We also found the remains of five very large B. edulis in one group in an open space. At first we were "cussing" the lucky stiffs who preceded us a few hours or a day earlier and picked them. But upon a closer examination, I noticed that those large mushrooms were not cut with a knife, leaving a clean smooth trace. They were "ripped off", at the ground (moss) level, with a sizeable portion still in the ground.

Now that started me thinking. A human with a knife, worth his beans, would not do that. He would either cut it clean with a knife as close to the ground as he could to harvest the most meat, or he would pull the whole mushroom out of the ground, for as some of us know, most of a B. edulis grows in the ground, some all the way up to and partially including the cap.

Also these mushrooms were not "twisted" off the ground by a human hand. One can twist or pinch off a mushroom at its base with a thumb and the index finder -- that's if the stem is either brittle, soft or thin. These babies had very, very thick stems. So in order to twist off the cap with some of the stem, one would have to hold the bottom (underground) stem part with one hand and the cap and the top of the stem with another. And that was not the case, because the ground was not disturbed.

So what conclusion did I come to here? Those five big fat beauties were eaten by an animal. Since the total volume was quite substantial, it would have fed a group of smaller animals.... but that was not the case for the group would make a big mess while feasting, with lots of small crumbs laying around, and small teeth marks left behind.

It could have been a deer, but a deer with her flattened browsing, grass cutting front teeth would have left much smoother cut marks.

It was probably a bear, for the bear's front teeth are designed more for stripping berries off the bushes and tearing off the flesh of animals and of B. edulis:)) And in answer to your argument as to why didn't he dig up the rest of the stem (for we know that bears are good diggers) I'd say that

through trial and error he has learned that by digging for stems, his mushrooms get contaminated and the sand does not taste good! There.

So in conclusion, me thinks now, that mother nature did not create all those thousands of different species of fungi only so that we humans (mycophiles) had something to do on weekends (picking, photographing, microscoping, classifying, preserving, eating, etc...) but also in a very big part, so that they could serve as a food base for numerous species of bugs and animals.

And if such, then I don't feel bad now that we don't pick them all. For not all go to waste and rot, animals get their share of them!

As an afterthought, and related to this topic of eating mushrooms...

I always wondered why there is no, or so very little, mention in literature, or trace in the arts, of our native Indian's involvement with wild mushrooms either in medicinal use or consumption?!

Any thought on that by anyone out there?!

THE DOG VOMIT SLIME MOLD
by Dr. Alan Parker

The use of mulch has greatly increased in both residential and commercial landscaping over the past 10--15 years. A rather common phenomenon correlated with much more mulching is the appearance of big yellow "blobs" in landscape beds. When these blobs initially appear they have a soft texture, are about an inch thick, and can be anywhere from several inches to over two feet in diameter. This bright yellow blob stage often comes close to resembling dog vomit, thus the rather odd common name. There are other names, but this is the really good one. These blobs soon mature into a dry, yellow-tan crust with a blackish, powdery interior. The organism creating this fascinating display is a very common species, Fuligo septica, classified in a group known as plasmodial slime molds or Myxomycetes. Fuligo septica has created a great deal of confusion among those trying to describe and classify these organisms. The myxomycete bible (Martin, G.W., and C.J. Alexopoulos, 1969, The Myxomycetes) notes the following: "Its extraordinary variability in size, shape, and color is reflected in the numerous names which it has received." From 1763 to 1899, F. septica was named and described as a new species at least 36 different times. Not bad for one species! Where this organism fits into the "big picture" of life on earth and how it spends its life are noteworthy.

The dog vomit slime mold and all the other plasmodial slime molds are not really fungi; they represent a rather small group of organisms (roughly 700 species) that have both fascinated and frustrated mycologists and other biologists for many years. The reason for all the problems and confusion in classifying them in relation to other groups lies in their life cycle. The feeding stage is animal-like and resembles a giant amoeba, while the

reproductive stage involves fungus-like spore structures. Details of the life cycle will be considered further on. Into the 1900's, slime molds were often placed in a taxon called the Mycetozoa, with the "mycet" indicating fungus and the "zoa" referring to animals. There is a wonderful article entitled "Marvels of the Mycetozoa" in the April 1926 issue of The National Geographic Magazine; the artwork is accurate and beautiful. Putting the plasmodial slime molds together and calling the group Myxomycetes (myxa = slime, mycete = fungus) or Myxomycota is rather straightforward.

Placing the Myxos into a much broader system of classification that shows evolutionary relationships is where problems occur. There are somewhere between 15-30 million different species of life on earth. Some taxonomists like to ponder the "grand scheme of things" units to place all organisms into the broadest possible groups. Over the past 30 years, very sophisticated biochemical analyses have produced a system involving three domains of life forms. The broadest categories in this system are bacteria, really weird bacteria, and everything else (my terribly gross oversimplification!). Here we have the slime molds lumped with plants, animals, fungi, and most other life forms. A more traditional but still valid system recognizes five or six Kingdoms. Using this method of classification, the Myxos are placed in the Kingdom Protista and evolutionarily separated from the plant, animal, and fungi kingdoms. The Protista is, however, sort of a dumping ground for a tremendously heterogeneous bunch of organisms. And that would be a good argument for why this isn't a satisfactory system either. Contrary to the human classification dilemma, slime molds know exactly who they are and where they have been for many millions of years.

The life cycle mentioned above consists of two distinctly different parts. Slime molds produce an amoeboid, animal-like feeding stage that crawls around engulfing microscopic bacteria, organic particles, and anything else small and tasty. Increase the size a million times and you have the "killer blob" of science fiction. This flattened mass of protoplasm is called a plasmodium. Depending on the Myxo species, the plasmodium may be one of several colors and has a fan-like appearance when it surfaces from a more protected, moist habitat. They grow and feed within plant debris, under logs and bark, and in mulch beds and compost piles. When they crawl out of hiding to fruit, they use any nearby material to support the spore-producing structures. Since many Myxos feed around dead logs, this explains why they are often found on the surface of dead tree bark. The dog vomit slime mold produces an exceptionally large plasmodium, and it is this huge mass of protoplasm that catches people by surprise when it crawls up and out of their mulch.

As the plasmodium reaches a surface, it rapidly begins transforming into the fungus-like reproductive stage. There are three general kinds of fruiting bodies associated with Myxos--sporangium, plasmodiocarp, and aethalium. The most obvious species form the third type; an aethalium is actually a large compound mass of fused, much smaller sporangia. Here we find the massive aethalium of the dog vomit slime mold; remember the dry, blackish powder that's found inside as the "blob" dries out? This powder is billions of spores

and represents both the end of one cycle and the beginning of the next. Off go the spores to start new plasmodia. Another very common aethalial slime mold that is collected on many forays is the wolf's milk slime (Lycogala epidendrum); it is often mistaken for a very small puffball fruiting on dead logs. References to pictures of other slime molds are given below.

Mycologists are normally a compassionate lot, and seem to have adopted the Myxomycetes to save them from taxonomic abandonment. The spore stage is certainly fungus-like, and the pesky giant amoeba usually remains hidden while crawling around. Myxo fruiting bodies are the critical stage for making identifications. They are easy to collect and they preserve especially well by simple drying and mounting with glue in small boxes. I have boxed Myxos dating back to 1967, and they look as nice as the day I collected them. When viewed with a little magnification and light, many are surprisingly beautiful. The Audubon mushroom guide by Lincoff illustrates about 14 species. Probably the best coverage (28 species) is found in Mushrooms of Northeast North America by George Barron. This field guide is fairly new (1999), an excellent new popular reference, and a bargain through Amazon.com. There is one popular/technical crossover publication available: Farr, M.L. 1981. How to Know the True Slime Molds. Like most books of its kind, it is most effectively used with a compound microscope.

If you are really interested in local slime molds, I will gladly email the lists of species recorded from WI and published in 1914 and 1932. There are around 100 species found in the state. I have a particular fondness for slime molds because through them I met and worked with one of the five people most influential in shaping my life's path. But that is another story!

ANOTHER UNUSUAL BOLETE FROM MAUTHE LAKE
by Steve Nelsen

Adrienne and I are always on the lookout for boletes. After finding a single specimen of what I believe is Boletus vinaceobasis (described in an earlier WMS newsletter), an apparently rare orange-pored species with red reticulations on the stem, on June 20th, 1999, we have been back to the same area near Mauthe Lake several times, trying to find it again. This area is the hillside on the right that leads down towards the creek (near where a snowmobile trail at the bottom crosses it on a wooden bridge), after the Ice Age hiking trail crosses the creek, turns left, and parallels the creek for a few hundred yards. There are usually very nice mushrooms on these grassy slopes, but this year on July 28th was the first time since then that we managed to find another interesting bolete. It had a deep pink cap, very pale yellow context that shows rapid but weak bluing, bright yellow pores, and a stem that is yellow and reticulate at the top, and red and pruinose below. I believe this to be Boletus rubissimus Sm., which as far as I know, has never had a photograph published in a popular book. B. rubissimus is mentioned in Bessette, Roody and Bessette's recent monograph as occurring only in Michigan (and therefore not illustrated, because they do east and west coasts,

but have rather poor coverage of species that occur only in the Great Lakes). Smith found it in southern Michigan in 1972 and published it in 1973. Luckily Smith's description is repeated in E.  E. Both's valuable compendium, The Boletes of North America -- A Compendium (contact the Buffalo Museum of Science if you want a copy, because it is so cheap that no bookstore I have seen stocks it), where he allows as how the "lower figure" in Snell and Dick's fig. 39 (presumably fig. 39a) "may be this taxon".Its coloring is indeed much like what we found, and convinced me that this is "our" species. For our material the flesh turned orange with KOH and gray-green with FeSO4, but chemical reactions for B. rubissimus are not mentioned anywhere that I have seen. There was only one mature specimen and a couple of buttons. Now we have two boletes to search for in this area in future years.

RECIPE: MUSHROOMS STEWED IN WINE
From a recipe collection of Sami Saad

2  pounds mushrooms, thinly sliced
1/3 cup olive oil
2  tablespoons chopped chives or tablespoon minced onion
2  tablespoons fennel seeds
1/3 cup chopped parsley
1  teaspoon salt
1/4 teaspoon white pepper
3/4 cup dry white wine

Saute mushrooms in hot olive oil with chives, fennel seeds, and parsley for 5 minutes. Season with salt and pepper. Add wine. Cook, covered, over low heat for 5 minutes. Makes 4 to 6 servings.

THE END