

Winter 2006

THE NEWSLETTER OF THE WISCONSIN MYCOLOGICAL SOCIETY

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- 1 MESSAGE FROM THE PRESIDENT by Chuck Fonaas
- 2 UPCOMING WMS EVENTS
- 3 DUES REMINDER
- 4 MEMBER'S SLIDE SHOW AND POTLUCK DINNER January 18, 2006 by Bob Kaplan
- 5 STEVE SHAPSON'S MUSHROOMS OF THE NORTHWEST February 28, 2006 by Colleen Vachuska
- 6 STEVE NELSEN'S MUSHROOMS OF NORTHERN WISCONSIN March 21, 2006 by Peter Vachuska
- 7 MYCOBRIEFS by Colleen Vachuska
- 8 LOST IN THE WOODS by Steve Shapson
- 9 PHOLIOTA SUBGENUS FLAMMULA ss Smith and Hesler (1968) by Steve Nelsen
- 10 RECIPE: Shiitake Mushroom Crostini Submitted by Adrienne Nelsen (from Bon Appetit, Dec. 2004, Chef Annie Roberts, Robert Mondavi Winery)

MESSAGE FROM THE PRESIDENT

Well, it's about that time again. There's just a hint of spring in the air even though the snow hasn't even thawed yet. So, this seems like a good time to look back in review of the winter we've been having as WMS. We started off, as usual, with our Wine and Cheese Social/Members' Slide Show and the results were incredible. For the first time we accepted digital work and not only was the event a success, it was almost too much so! We had many, many contributions which served to make for an outstanding show. In light of the huge turnout, I think perhaps next year we will have to return to our policy of limiting contributions to five to ten shots. I really hate to do that since we had so many great shots but we almost didn't have enough time for our social! Martin Sendera faced a few challenges as it was the first time we did digital. As our helmsman for the evening, he did an excellent job.

We also had an interesting and humorous presentation by first time presenter Steve Shapson on the fungi of the Pacific Northwest. Steve's event faced some new challenges since it was the first time we used the new facilities at the West Allis Public Library. With the exception of a slight glitch the event went off without a hitch. My thanks to both Steve Shapson and Martin Sendera without whose skills we would have been dead in the water so to speak.

As of this writing our mild winter continues. This gives me reason to look forward to spring. Another reason to look forward is for the next two meetings. WMS's "Honorary Dean of Presenters", Steve Nelsen, will be giving a presentation on the fungi of Vilas County at the March meeting and NAMA's Editor of the Mycophile, Britt Bunyard, will be presenting on mycophagous insects in April.

Well, that's about it for this time... oh, about that Honorary Dean thing. Steve Nelsen has given so many excellent programs for the WMS that I thought it only appropriate. So, that's it till next time. Hope to see you at the meetings!

by Chuck Fonaas 3-10-2006

UPCOMING WMS EVENTS

April 4 (Tuesday) Discover the Mushrooms of the Great Pacific Northwest, Steve Shapson, 7 pm, Middleton Library, 7425 Hubbard Avenue, Marion Fuller Archer Room. This free talk is sponsored by the Wisconsin Mycological Society-Madison Interest Group. For more information contact Betsy True at BTrue@wisc.edu or (608) 821-0048.

April 25 (Tuesday) What's Eating You --- A Lighthearted Look at Mycophagous Insects, Britt Bunyard. West Allis Public Library, Constitution Rm., 7421 W. National Ave., 7:00 pm.

May 13 (Saturday) Morel Hunt, Walking Iron County Park, with Hal Burdsall leading. Meet at 10:00 in the North Parking Lot. Mazomanie.

May 20 (Saturday) Morel Hunt, Mauthe Lake Recreational Area. Be there and ready to caravan by 9:30.

DUES REMINDER

If you haven't yet paid your 2006 dues (check your mailing label), please send your \$15 to: Fred Kluhsman, Secretary/Treasurer; 5315 S. Sunnyslope Road; New Berlin, WI 53151. Note that WMS dues are \$15 and that NAMA (North American Mycological Association) dues are an additional \$32.

MEMBER'S SLIDE SHOW AND POTLUCK DINNER January 18, 2006 by Bob Kaplan

This year's dinner was an enormous success. The slide show turned out to be digital photos on CD's shown with a projector which gave more members the opportunity to show their work.

Martin Sendera ran the slide show. Many interesting pictures were shown by the following persons: Steve Nelsen, Dave Menke, Bob and Judy Kaplan, Dave Fisher, Kevin Cook, Peter Vachuska, Chuck Fonaas, Fred Kluhsman and Martin Sendera. [Dann Wilke had technical difficulties; So we'll have to wait until next year... --ed.]

Not all of the photos were identifiable but certainly educational, artistic, humorous, and some were just trying out their camera for the first time. Photos were from California, Wisconsin, Illinois and Kentucky.

This was of course followed by the annual feast with dishes brought by members. There was a selection of many fine wines and some were homemade. Appetizers included mushroom dip, marinated mushrooms, scallions wrapped with prosciutto and numerous other inviting selections. For the main courses there was a delicious mushroom quiche, a very spicy chili, barbequed smoked salmon, a tasty mushroom pasta and many other creative dishes. And then of course there were many choice desserts including all kinds of cookies, pies and brownies and candies. This was definitely not a Jenny Craig occasion.

As always, it was also a great opportunity to renew friendships and spend time with people we may not have seen for a few months.

This was an upbeat beginning for the great mushroom season to come. Everyone had a wonderful time and many stayed till 10 p.m.

STEVE SHAPSON'S MUSHROOMS OF THE NORTHWEST February 28, 2006 by Colleen Vachuska

Our February slide show was held at a new venue: the Constitution Room at the West Allis Public Library. The new location seemed to work well; it's much cozier than our usual locale. Even though the conference room we were in supposedly has a capacity of 100, the 30 or so WMS members that attended that night did a pretty good job of filling up the room.

Our presenter, Steve Shapson, presented slides of his trip last fall to the Pacific Northwest. Prior to the trip, Steve wrote to representatives of some of the mycological clubs in that area. He was hoping to get information about where to look for mushrooms and so on, so the time spent out west would not be wasted. Steve received 3 responses. During Steve and MJ's time in the PNW, they were able to hook up with the people who responded and join in some of their mycological activities.

One of the people who replied to Steve was Igor Malcevski, a member of the Snohomish County Mycological Society and the editor of that group's newsletter. Steve went out hunting with Igor in Douglas fir forests on the east side of the Cascade Mountains. As it was a dry year, there were no matsutake to be found, but they did find chanterelles and other mushrooms. Out in the PNW, one of the most common chanterelles would be unfamiliar to Wisconsinites - it is the white, large and meaty *Cantharellus subalbidus*. Igor is very knowledgeable of the mushrooms of the region and was looking in specific areas to find specific mushrooms for the upcoming SCMS mushroom show. Steve attended the show and we were able to see slides of the labeled mushroom displays at the show.

Another person who responded was Lowell Dietz, who is with the Kitsap Peninsula Mycological Society. Lowell is very involved with mushroom cultivation, including a beautiful pink oyster mushroom (*Pleurotus flabellatus*), shiitake, and *Pholiota nameko*. Steve was able to learn more about mushroom cultivation, and also give Lowell samples of sulphur shelf and

Grifola frondosa from Wisconsin to try to culture. Steve was also able to sit in on one of the meetings of the Kitsap group. He also went out foraging on the Olympic Peninsula with members of the group, where he found about 30 pounds of chanterelles in about 10 minutes!

The third person who responded to Steve's inquiries was Coleman Leuthy. Coleman Leuthy is a university professor, member of the Pacific Northwest Key Council, and former president of the Puget Sound Mycological Society. Coleman gave Steve and MJ information/directions on where to hunt for mushrooms. This was also the time of year to catch the PSMS mushroom show. Steve had many slides of this impressive show, which included an excellent book display, lifelike displays of mushrooms in moss beds, and a "smell and feel" children's area.

Even though it had been dry in the PNW last year, the scenes that Steve presented still looked pretty lush and verdant to Midwestern eyes. Of course, Steve was his usual inimitable self. Good for you, Steve and MJ, for taking the initiative to explore an area unfamiliar to most Wisconsinites, and thanks for sharing your experiences with us. Also thanks to all of the folks from the PNW who responded to Steve's inquiries and made the trip possible.

STEVE NELSEN'S MUSHROOMS OF NORTHERN WISCONSIN March 21, 2006 by Peter Vachuska

On March 21, Steve Nelsen entertained about 30 WMS members with how he spent his summer vacation -- or at least how he spent seven days of this past summer. Steve and Adrienne spent a week in Northern Wisconsin this past summer hunting and photographing mushrooms and other fungi. However, Steve started his presentation with some photos of spring mushrooms from the Porcupine Mountains in the UP. This accentuated everyone's desire for the arrival of spring.

The week spent in fungal pursuits was centered in St. Germaine which they used as their home base. From there they visited ten surrounding sites. Unfortunately, the weather was dry and there were not many mushrooms. But fortunately for us, this was not their first visit to the area and Steve supplemented his talk with photos from past years. The locations were:

Bearskin State Park Trail near Hazelhurst. Steve said the trail had nothing this year, but in past years the highlight was the discovery of a *Limacella illinita*.

Fern Trail just north of St. Germaine off Hwy 55.

Fallison Lake. One year Steve discovered a log covered with *Paxillus corrugatus*. That was the high point that year.

Long Lake near Rhinelander is one of Steve's favorite places. Very little was seen there this year.

Franklin Lake in the Nicolet National Forest.

Raven Nature Trail.

Catherine Wolter Wilderness Area was a very beautiful area.

Escanaba Trail.
Shannon Lake had a nice trail that went around the lake.
Almon Recreational Area.

Steve showed us slides of many many fungi with the biggest showing being Hygrocybe and the many genera of boletes, but the talk really covered the gambit. From big to tiny and from edible to not so. Steve has given many talks for the WMS and is always very, very good. Always educational and entertaining.

MYCOBRIEFS
by Colleen Vachuska

* Mushrooms High in Antioxidant: Antioxidants are chemicals which help protect the body from the harmful byproducts of metabolism. Fruits and vegetables are generally considered good sources of antioxidants. Recently, it has been determined that mushrooms are an excellent source of a specific antioxidant, ergothioneine. Previously, chicken liver and wheat germ were considered the best food sources of this particular antioxidant. However, researchers at Penn State University have found that white button mushrooms have about 4 times as much ergothioneine as chicken liver and 12 times as much as wheat germ. Among the most commonly consumed mushrooms, portabellas and criminis have the most ergothioneine, followed closely by white buttons. Exotic mushrooms contain even more of the antioxidant, with oysters, king boletes, hen of the woods, and shiitake containing up to 40 times as much as wheat germ. The study was conducted by Joy Dubost, a doctoral candidate in food science, at Penn. State. Dubost says: "Ergothioneine, a unique metabolite produced by fungi, has been shown to have strong antioxidant properties and to provide cellular protection within the human body." Dubost also notes that levels of ergothioneine do not decrease when mushrooms are cooked. (from Penn State news release, Aug. 31, 2005) [Thank you, Kris Ciombor, for the pointing this brief out.]

* Surveying Alaskan Mushrooms: Scientists and students from the University of Alaska--Fairbanks are working on the ambitious project of obtaining genomic sequence data for all of the fungi in the interior of Alaska. The NSF-funded study, which began in 2003, is expected to produce a storehouse of the most comprehensive data ever collected on a region's fungi.

Other goals of the study include: comparing the diversity of above ground and below ground fungal life, finding new species, and better understanding the role of fungi in the boreal ecosystem, in carbon cycling and in climate change.

For one of the researchers, terrestrial ecologist Roger Ruess, "the most impressive result to me so far is just the magnitude of contribution of mycorrhizae to the richness of the soil fungal pool." Previous studies have shown that mycorrhizal hyphae that form beneficial relationships with trees make up the largest part of the temperate and boreal forest soil microbial

biomass. The current Alaskan research suggests that about 60% of the fungal biomass is associated with trees. As another of the researchers, Gary Laursen, curator of UAF Mycological Herbarium, related, "There wouldn't be a single tree in Alaska if fungi weren't associated with the roots of trees".

Climate change seems to be affecting Alaska more than many other places. One of the ways in which this is showing up is that fungi which have rarely or never been seen before are starting to appear. For example, matsutake were recently found for the first time in SE Alaska. Scientists think that these rarely appearing fungi were already present in the soil as mycelia and recent warming trends have encouraged them to fruit.

Recent climate change studies have also shown that Alaskan winters are warming more than other seasons. One of the graduate student researchers in the project, Ian Herriott, is hoping to find out whether fungi, through their role in underground nutrient cycling, are responsible.

An interesting species-specific finding to come out of the study is that *Amanita muscaria* in Alaska occurs in 3 clades (or groups) not previously seen together. This suggests that the mushroom originated during the Tertiary period in Beringia (an area including Alaska and NE Siberia) and migrated south on both sides of the Pacific.

The legacy of the study will be a searchable database of fungal genetic information, the Fungal Metagenomics Project website. The site will be intended primarily to help researchers, but will also be available to the general public. (adapted from "Unearthing the Secret Lives of Alaskan Mushrooms," Sonya Senkowsky, Bioscience, Feb. 2006)

* New Test for Magic Mushrooms: An Australian researcher has developed a new test for identifying hallucinogenic mushrooms. The test detects psilocybin and its metabolite, psilocin, which are psychoactive ingredients in some mushrooms. Nicole Anastos developed the technique as part of the research for her doctoral dissertation at Deakin University. The technique is based on the fascinating phenomenon of chemoluminescence, a light reaction that occurs when certain chemicals react with each other. The chemoluminescence is elicited when psilocin reacts with acidic potassium permanganate and when psilocybin reacts with ruthenium to produce a glowing light. Mushrooms tested included *Psilocybe subaeuriginosa*, *Hypholoma aurantiaca*, and *Panaeolina foenicisecii*. Anastos says her test represents the first time chemoluminescence has been applied to magic mushrooms. She also says that the test is very sensitive and can detect extremely low levels of psilocybin. Anastos hopes that her research will be adapted for use by the police and perhaps also lead to a home test kit. (Judy Skatsoon, ABC Science Online, Feb. 1, 2006)

LOST IN THE WOODS
by Steve Shapson

Today, Sunday August 28th (2005) I decided to check a favorite spot for hens and chickens. Having checked this same area about a week ago, I thought it might be a good idea to recheck today, since there are some older oaks which have given up their hens in the past.

I've traveled through this woods a few times now with no problems. The woods is a private conservancy, but open to the public. There are no signs, but it is known among the locals that one can walk into these woods.

Located in the township of Cedarburg, these woods almost stretch an entire 'section' of land. The woods are bordered by four county roads, each side is one mile in length.

Today, I make my usual entry, using the same spot as in previous forays. I quickly find the oaks and no hens are seen. Too early. I then walk a bit to the south, and stumble upon a large chicken growing on a partially fallen oak. The chicken is a bit too far gone, but I put it in my large paper sack to show the wife (MJ). This chicken weighs in at about 9 pounds.

I then begin to travel west, hoping to find any other hens or chickens. While in these woods, I always try to maintain a bearing on how to get back to my original position. I realize that getting lost in these woods can be a bit frustrating. No one wants to waste time trying to get out of any woods.

I head back to the northeast, since this was where I started in. Taking note of a deer platform, high up a tree, I think this platform is the same one I have seen in the past. This platform was my beacon, letting me know I am close to my entrance point.

Wrong. Wrong deer platform. Wrong assumption. By assuming this deer platform is my beacon, I make the wrong decision and end up walking out of the woods, nowhere near my entrance point. And, what makes matters worst is I do not recognize anything in the area as being familiar.

I have no idea how far in any direction I have travelled. I am lost.

For the next three hours, I grid out the woods, walking 1/2 mile in various directions, hoping to find some familiar trees. No such luck.

I walk to one side of the thick woods, making my way through patches of Stinging Nettle. Thank God I was wearing shorts. Stinging Nettle really does a wonder on bare legs. Ouch. Ouch.

All the while I take bearings off the sun. I know I need to head northeast to find my entrance point, but I have no idea I am already east of my starting point.

I walk in one direction hoping to get to the edge of the woods. I get to that edge and then wade through 6-8 feet high grasses and reeds, only to find

myself inside another smaller wooded area, not where I should be at all. I still have no idea where I am. I know I could have just walked in one direction and found one of the four roads which outline this section, but being the stubborn mule that I am, I continue to criss-cross the woods, thinking I have to find the correct area to exit.

Finally, after trying to exit too many times into these high grasses and reeds, which I think shouldn't be there, I come upon a long gravel drive. I head south on the drive and find myself on an east-west county road. I know what road, and can't believe I have ended up there.

I now realize I must travel east down the road, and then north and then west again to get back to my car. I also know this is going to be another four mile walk.

I am not a happy camper. If only I had my GPS. I left it at the house, thinking of course I wouldn't need it. After all, I'm just walking into a local woods. A large local woods.

Swallowing my pride, I call MJ, my wife who happens to have her cell phone with her. Usually, this is not the case.

She picks me up on the road and gives me a good spanking. I deserved it.

PHOLIOTA SUBGENUS FLAMMULA
ss Smith and Hesler (1968) by Steve Nelsen

PHOLIOTA SUBGENUS FLAMMULA ss Smith and Hesler (1968) by Steve Nelsen

Flammula used to be a large genus, which was erected by P. Kummer in 1871. It included adnate or subdecurrent-gilled, ochre-brown to rusty-brown-spored species that had no annulus, but did have a partial veil in the form of a fibrillose or subarachnoid cortina. Both viscid and dry species were included, and there are well over three hundred entries in Index Fungorum (IF) under this genus, many of which are not listed as having been transferred elsewhere. (Note: Unfortunately, IF has not included taxonomic information from Smith and Hesler which has to be the standard work in this area. I seriously doubt that Flammula is really in current use by anybody.) (Note: Smith, A. H. and Hesler, L. R., *The North American Species of Pholiota*, Lubrech and Cramer: Monticello, N.Y., (reprint, 1968 original).) Kauffman (Note: Kauffman, C. H., *The Gilled Mushrooms of Michigan and the Great Lakes Region*, Dover: NY, 1971 (reprint, 1918 edition)) says that Peck described about 25 species "but most of these are poorly known". (Note: In his 50th report, for 1896, Peck described only 12 species in New York (three of which he thought could be mere varieties), of which Peck suggested might be varieties, including two never redescribed species, and current *Pholiota highlandensis*.) As usual, he covered only the species that he knew; there were nine, eight of which are now in *Pholiota* and one in *Gymnopilus*. Four additional Peck species appear in McIlvaine, (Note: McIlvaine, C.; Macadam, R. K., *One Thousand American Fungi*

Dover, NY, 1973 (reprint, 1902 ed.)) with nomenclatural changes by R. L. Schaffer (one now a *Gymnopilus*, one an *Agrocybe*, and two apparently not transferred), three more species in Hard, M. E., *Mushrooms, Edible and Otherwise*, Dover: NY, 1976 (reprint, 1908 ed.), with nomenclatural changes by Gilliam. (one Peck species now in *Pholiota*, and two European ones considered doubtful assignments by Gilliam, one Gilliam thought to be a *Gymnopilus*, another now transferred to *Agrocybe* by Europeans).

Smith and Hesler drastically reduced the modern concept of *Pholiota* subgenus *Flammula* that Singer had introduced in 1951 by paring off what they call *Pholiota* subgenus *Flammuloides* (it includes dozens of species in Sections *Flammuloides*, *Carbonicola*, *Spumosae*, and *Lubrica* that Singer (Note: Singer, R., *The Agaricales in Modern Taxonomy*, Koeltz, Koenigstein, 4th ed. 1986. However, with regards to the limits of the genus, the conclusions of Smith and Hesler have been unacceptable for "me", p. 577. Of course. Singer was a notorious splitter, and Smith the consummate lumper. Nevertheless, all branches of modern subgenus *Flammula* lie in *Pholiota* for both.) keeps in his subgenus *Flammula*). I think that the S&H concept (which they call Subgenus *Flammula* (Fr.) Singer 1951 Emended) is a most suitable one for amateurs, because it cleanly isolates a few obviously closely related species: *alnicola* (Fries), *flavida* (Fries), and *malicola* (Kauffman 1926, originally described twice by Peck, as a variety of *alnicola*, and as a new species, *sulphurea*, unfortunately an invalid name). The latter two species are each divided into two varieties. Also included are *oregonensis* (Murrill) and two new S&H species, *abietina* and *subvelutina*. They were collectively characterized as "young pilei usually a bright yellow and the lower part of the stipe strongly fulvescent" (which Smith describes elsewhere (Note: Smith, A. H.; Smith, H. V.; Weber, N. S., *How to Know the Gilled Mushrooms*, Brown: Dubuque IA, 1979.) as turning "the color of a red fox, presumably the back"), "the spores may have a stronger reddish tone than is typical for the genus as a whole", and "the lack of a persistent membranous annulus", as well as technical stuff including dextrinoid, non-truncate spores, and absence of both lepto- and chrysocystidea in the hymenium. Smith of course had very narrow species concepts, and amateurs are ill-equipped to separate species in what I restrict myself to trying to identify as the *flammula* complex. It (they?) are relatively common in the fall woods in Wisconsin, and well worth knowing.

RECIPE:

Shiitake Mushroom Crostini Submitted by Adrienne Nelsen (from Bon Appetit, Dec. 2004, Chef Annie Roberts, Robert Mondavi Winery)

We tried it and liked it!

1 baguette, thinly sliced, brushed with olive oil and baked in a 375° oven for 0 min. (till golden and crispy)
1/2 lb. shiitake mushrooms
1/4 cup olive oil
1/4 cup balsamic vinegar
1/2 tsp. rosemary, chopped

4 cloves garlic, chopped
2 Tbs. Italian parsley, chopped
1/2 tsp. salt
Freshly ground black pepper

Directions: Preheat oven to 375 degreeF. Wipe mushrooms clean with damp towel, cut off stems. Toss mushrooms with 3 Tbs. olive oil, 3 Tbs. vinegar, rosemary, and garlic. Place them on a baking sheet in the preheated oven. Roast for 10 minutes. Remove from oven and let cool. Slice mushrooms thinly and toss with the remaining vinegar and olive oil. Add chopped parsley and season with salt and pepper. Serve on toasted baguette slices.

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