

CONTENTS

- 1) MESSAGE FROM THE PRESIDENT by Chuck Soden
- 2) UPCOMING WMS EVENTS
- 3) MAY IS FOR MORELS WORKSHOP
- 4) DUES REMINDER
- 5) ILLINOIS MOREL HUNTERS CHAMPIONSHIP
- 6) JANUARY SLIDE MIXER by Bill Blank
- 7) FEBRUARY MEETING by Peter Vachuska
- 8) MARCH LECTURE: BOLETES OF THE SMOKEYS by Alan Parker
- 9) MYCOBRIEFS by Colleen and Peter Vachuska
- 10) WISH LISTS by Peter Vachuska
- 11) BOOK REVIEW: MAGICAL MUSHROOMS, MISCHIEVOUS MOLDS by George Hudler,  
reviewed by Colleen Vachuska
- 12) SOME BOLETES HAVE GILLS by Steve Nelsen
- 13) ON BEING A RARE FUNGUS -- PART I by Alan Parker
- 14) RECIPE: MOREL STUFFED CHICKEN BREASTS by Greta Menke
- 15) RECIPE: ASPARAGUS WITH ALMONDS AND CLAVARIA by Greta Menke

MESSAGE FROM THE PRESIDENT

Many of you know me well, but some of you perhaps do not, so I thought I would tell you a little about my background. I'm a journeyman machinist with an engineering degree from MSOE and have worked in several different engineering fields. I've spent twenty-eight years working for Harnischfeger Corporation, which is a heavy industrial manufacturer. The last 12 years have been in management, working with people-type problems. I've been a member of NAMA and the Wisconsin Mycological Society continuously since 1988. I have two grown children who enjoy wild mushrooms and one wife that doesn't. This is a short history of the background of your president.

A vocation in industry and an avocation in mycology. How can these two very different fields hold interest for the same person? I think an analytic and curious mind is required for both fields. In both areas, one must be a good observer and make choices and decisions based on the available information. Nonetheless, people of all vocations can enjoy the challenges of mycology. Mycology stimulates and challenges one to keep trying to learn more, at the same time as it shows you how little you have learned. Like exercise, it forces the mind to use different sets of muscles and this can be very rewarding.

Happy mushrooming. This is the time of year to study up on your books and field guides before the rush of the mushroom season is upon us.

Chuck Soden

UPCOMING WMS EVENTS

April 26 (Monday) -- Annual Mushroom Dinner, Heaven City Restaurant, Mukwonago. Make reservations with John Steinke (414) 363-7407.

May 22 (Saturday) -- Annual Morel Foray, 9:30 am; meet at Mauthe Lake parking lot.

June 26 (Saturday) -- Annual Business Meeting and Picnic, 4:00 pm, Falk Park.

Members should already have received a packet with flyers announcing all of these events. Please note that the announcements are printed on both sides of the paper.

MAY IS FOR MORELS WORKSHOP

Dr. Alan Parker will be teaching an evening morel workshop for beginners at UW-Waukesha on Wednesday, 21 April 1999. The course is offered through UW-Extension with a registration fee of \$15, and will meet in the evening from 7-9:30 p.m. Included will be the following: an introduction to the most highly sought-after wild spring mushroom in the midwest; a slide lecture and display of Wisconsin morels with discussion on how to collect, identify, and cook these gourmet delicacies. Several other edible wild mushrooms that appear in Wisconsin from June through September will also be considered. For more information call Alan Parker (414) 542-7688 or Don Bracco at UW-Extension-Waukesha (414) 521-5460.

DUES REMINDER

If you have not paid your WMS dues (\$15) yet for 1999, please do so as soon as possible; otherwise you will be taken off the membership rolls and this will be the last newsletter you receive. Please send your check to the secretary/treasurer: John Fetzer, 1309 S. 73rd St., West Allis, WI 53214.

#### ILLINOIS MOREL HUNTING CHAMPIONSHIP

Looking for something to do on a spring weekend? The fourth annual Illinois State Morel Mushroom Hunting Championship and Spongy Fungi Festival will be held on Saturday, May 1, 1999 in the Putnam Village County of Magnolia, Illinois (approximately 2-3 hours from Chicago). Winners will receive trophies and cash prizes.

Last year the 2 hour mushroom hunt was held at Condit's Stables north of Magnolia. Competitors included 372 men and 226 women, and they ranged in age from 21 months to 77 years. The 1998 Grand Champion was Charles Osborn, 15, of Newark Ohio, who found a total of 55 morels (three sacks full). The largest morel found measured 18.75 inches combined height plus girth. The men's first and second place prizes were won for 54 and 52 morels, respectively, while the women's first and second place went for 25 and 16 morels, respectively. Evidently the sexes are not equal when it comes to hunting morels!

For registration information, write to Morel Mania, R. R. 1, Box 42, Magnolia, IL 61336, or email: [morel@ocslink.com](mailto:morel@ocslink.com) .

Besides the hunt itself there will be a mushroom auction, mushroom class, cooking demonstration, craft show, petting zoo and other activities.

Check the web site for the most current information:  
<http://www.ocslink.com/~morel> .

#### JANUARY SLIDE MIXER: January 20, 1999

Much to the delight of those who entered the Mitchell Park Pavilion that cold but not stormy January night, the tables were set with an array of wine, cheese, and 'viddles' to set the heart a fire and loosen the tongue to many a mushroom story. Which we commenced to do, until it was time to sit down and enjoy the slides from Steve Nelsen, David Fischer, Ray Llanas and Dave Menke. A slight delay occurred when the lights needed to be turned down and the park manager was out plowing. No problem: the refreshments were sampled until the lights finally dimmed. We were treated to slides of the Pacific Northwest, numerous flushes of mushrooms, and pictures of the previous year's slide mixer: the one that occurred during a snowstorm. Here's one person who's looking forward to next year's 'Into the Millennium' slide show. Special thanks to Chris Ciombor and Chuck Soden for a great feast of food and beverage. Thanks also to Alan Parker for helping run the slide show. To all members: Keep taking pictures or get started in mushroom photography. To bring in just a few slides entertains so many.

Bill Blank

#### FEBRUARY MEETING: February 17, 1999

Anyone who came to the February meeting expecting a lecture on gastronomic fungi would have been sorely disappointed. But the show entitled "Introduction to the Gasteromycetes" was a wonderful whirlwind tour of the fascinating world of the stomach fungi.

The slide show was presented by our two most knowledgeable members in this area: Dr. Alan Parker, who has written several papers in this area -- both survey and some specializing in Scleroderma, and John Steinke, who in the past 20 years has found more species new to Wisconsin than probably anyone else. Such diversity of talent made for an ideal introduction to the subject.

Dr. Parker started with an overview of what makes a Gasteromycete a Gasteromycete, touching on microscopic structures, growth forms and spore dispersal mechanisms. He then reviewed the history (mostly American) of the study of Gasteromycetes and some of the personalities involved. The total number of species in Wisconsin is on the order of 70 which makes them a nice group to study -- as does their persistence -- lasting into the fall -- and in many cases overwintering as well. However they are often overlooked -- or neglected -- and much about their distribution and lifestyle is unknown.

For people interested in Gasteromycetes, one of their most important qualities as well as what drives them evolutionally is their spore

dispersal methods. Here is a list taken from a Parker slide:

#### SPORE DISPERSAL METHODS

1. Water drops -- Lycoperdon, Geastrum
2. Fetid odor -- Stinkhorns -- Mutinus, Phallus, Dictyophora
3. Explosive -- Sphaerobolus
4. Rodents, larger mammals -- Hypogeous forms
5. Splash cups -- Cyathis, Crucibulum
6. "Tumbleweeds" -- Bovista
7. Wind and rain -- Peridium fragmentation -- Calvatia, Scleroderma

This list is oversimplified and incomplete as the mechanisms are intricate and there are theories of spore dispersal that are yet to be verified -- such as John Steinke's conjecture that Disciseda grow on human or deer paths in order to be overturned so that they may spread their spores.

After this introduction came the parade of genera. Alan Parker took us through Nidularia, some of the hypogeous genera, the stinkhorns -- Mutinus, Phallus, Dictyophora, the bird's nest fungi -- Crucibulum and Nidula, Scleroderma and Pisolithus. John Steinke continued with Tulostoma, Geastrum, Myriostoma, Astraeus, Disciseda, Abstroma, Lycoperdon, Bovista, and Arachnion. (My apologies to any genera which I may have missed.)

John spent much of his presentation on the earth stars Geastrum and the upside-down puffball Disciseda both of which he has been studying for many years and for which he has a good number of collections and can tell you the personalities of each type. John stressed the stoma or mouth of the puffball as a key in identifying the many species of Geastrum and Tulostoma, as well as Myriostoma, Astraeus, Abstroma. He showed on slides the greater variation in the stoma among the earthstars.

This was not a lecture on how to identify puffballs, nor on their edibility, but a glimpse into their myriad forms and behavior -- as well as the behavior of those who study them.

Peter Vachuska

#### MARCH LECTURE: BOLETES OF THE SMOKEYS

March 9, 1999

When planning the January and February meetings each year, we're always concerned with the weather and hope that meetings magically occur between storms. This year March should have been added to the worry list. Our speaker had to drive from Madison, and local travel around Milwaukee was at best marginal. Most people decided to stay home, but a small, enthusiastic audience was treated to an excellent program.

The program, presented by WMS Madison member Dr. Steve Nelsen, was a slide lecture covering the boletes of Great Smokey Mountains National Park. His approach was to survey the bolete family by the genera and species proposed by Smith and Thiers in their Boletes of Michigan book. The large number of species the Nelsens have collected and photographed in the Smokeys were discussed and beautifully illustrated. A number of species found in Wisconsin but not located in the Smokeys were also covered. As with past programs Steve has presented to WMS, the slides were of exceptional quality. Wonderful slides of beautiful fungi combined with a discussion of the bolete characters which may lead to either identification or varying degrees of frustration. Some may argue that Suillus sphaerosporus isn't beautiful, but it would at least qualify as handsome. All in all, this lecture proved to be a great way to spend a snowy March evening.

Alan Parker

#### MYCOBRIEFS

by Colleen and Peter Vachuska

Bigtime!: The web site of WMS honorary director Tom Volk was featured in Science magazine's Netwatch section (5 February 1999) and presented with a "Cool Images Site" award. It is a site that you can visit every month without getting bored as Tom presents the "Mushroom of the Month". This page always includes a beautiful photo and a well-written and informative discussion of the featured mushroom. It is an excellent page for novice mushroomers as many commonly encountered or otherwise basic fungi are showcased. However, don't hope to learn 12 new edible mushrooms each year. This is a site for people with a broader interest in fungi. Recently featured fungi have included Sarcoscypha coccinea, Ganoderma applanatum, and Candida albicans, and the chestnut blight fungus. From Tom's site you can also access the Wisconsin Mycological Society site.

While the WMS site is not as ever changing as Tom Volk's Fungal Pages, it does offer a schedule of WMS events, old newsletters and photos of past events. If you have an internet connection the URL address for Tom's web site is: [www.wisc.edu/botany/fungi/volkmyco.html](http://www.wisc.edu/botany/fungi/volkmyco.html) .

Moldy photos are rather neat: When Quebec photographer Pierre St. Jacques went through a box of his slides that had been water damaged in a flood, he was surprised to find that many of them had undergone an amazing transformation. While the slides were stored in a damp and dark basement, a fungus had colonized them, "creating an explosion of colors, forms, and textures." The fungus was later identified by a Dutch scientist as *Aspergillus*, and now, using an incubator, petri dish, and potato dextrose, St. Jacques cultivates the fungi himself and then introduces them to his slides. The fungus seems to give ordinary photographs a poignancy they would not otherwise have. To quote St. Jacques: "When people look at an original photograph of my son, for example, they usually see a cute boy with a sad look in his eyes. They don't experience the range of emotions that the same image provokes in me. Once contaminated, however the image takes on a new meaning, as if it touches a secret wound in the viewers' hearts." ("Moulding Reality", a photo essay by Pierre St. Jacques in *Equinox*, Dec. 98--Jan. 99)

Shiitake extract studied for its anti-cancer properties: In their first trial of a complementary (alternative) medicine, investigators at the University of California -- Davis Cancer Center are studying a nutritional supplement derived from shiitake mushrooms to see if it can reduce tumor activity in men with prostate cancer. The substance under consideration is activated hexose-containing compound, also known as 1,3-beta glucan. This extract from shiitake mushrooms has shown anti-cancer properties in some human, animal, and laboratory studies in Japan, but the UC-Davis 6-month pilot study is its first human trial outside of Japan. The compound is currently sold in the US, Japan, and Europe as a nutritional supplement and is widely used in Japan and Asia as a complementary therapy for different cancers. It should be noted however that activated hexose-containing compound doesn't come from the shiitake mushrooms that you buy in the grocery store. The company that manufactures it first cultivates spores of shiitake and other mushrooms at a high-tech factory in Sapporo until they sprout. Then, the partially mature mushroom spores are treated in liquid broth with an enzyme which breaks down the cell wall and releases activated hexose containing compound. The substance is then dried and harvested. (*Cancer Weekly Plus*, Jan. 11, 1999)

WISH LISTS  
by Peter Vachuska

What do you hope to find this year? On our way to any mushroom foray, Tula Erskine would inevitably ask "Well, what do you hope to find today?" And while trapped inside looking out at the subzero temperatures and piles of snow this winter, I found myself asking the same thing. So what I did was sit down and compile a list of mushrooms and other fungi that I hoped to find this year. I encourage you to do the same thing yet while the weather inhibits basidiocarp growth. Go through your favorite books or old lists of finds, think about what you'd like to find in the months ahead, and compile your wish list.

During the season, you can either carry your list with you when you go out in the woods or post it at home in a conspicuous place. Then each time you make a new find, check it off with the date and location. You can also add to the list as you find things not on it, so that in a way the list becomes a mushroom log of everything you have found.

Your list may be a lot like a child's Christmas wish list in that you may not get that pony and you may instead get some things you overlooked -- like socks and underwear. Mushrooms are notoriously undependable, but having a checklist will give you goals and a sense of purpose during the mushroom season. And making the list will give you a much-needed reason for paging through those well-worn field guides during the winter.

NEW BOOK: MAGICAL MUSHROOMS, MISCHIEVOUS MOLDS  
by George Hudler

More than 30 years ago as a student in the College of Forestry at the University of Minnesota, George Hudler enrolled in a Forest Pathology Course which was to forever change his life. The entertaining story of Hudler's first day in that class and how he immediately became captivated by fungi and determined to build a career around them begins this new book. Hudler's fascination with the fungi propelled him through two graduate degrees and into a position as professor of Plant Pathology at Cornell University. Throughout all of this, he has always wanted "to repay my debt to the fungi and to the professor who introduced me to

them." This book and his very popular course at Cornell of the same name are part of his payback effort.

The aim of the book is to convince the reader that fungi are interesting and have a hand to play in this world. This book is an excellent general overview of the ways that fungi impact our lives: as plant pathogens, as agents of human disease, as medicinal drugs, as helpful substances in brewing and baking, and of course as edible, poisonous, and hallucinogenic mushrooms, among other things. I found it to be both informative and entertaining and for the most part fairly light reading. Some of the parts and topics I enjoyed the most were: the story of the discovery of penicillin and the struggle to refine and make sufficient quantities of it; the discussion of the 'X-Files' type cases of the CIA experiments with LSD (derived from ergot) in the 1950's and the "yellow rain" made from fungal toxins that the Soviets supposedly deployed in Vietnam; helpful advice for observing and dealing with wounded trees and trees that may be infected with fungi; discussing how rainforest soil differs from other soils; and the charming images of tall mounds in Africa in which termites cultivate fungi.

With so many topics covered, though, any one of the chapters in Hudler's book could take up an entire book in itself. In particular, some of the ways that fungi have impacted history such as the Irish potato famine and the discovery of penicillin are the stuff of great human drama. And even though I knew much more about them after reading the 8-10 pages on each that were in this book, I felt I would have enjoyed reading more. But of course I can read the book over again.

Bibliographic Information: published by Princeton University Press (1998), 248 pages; black and white photos or illustrations with a small center section of color photos; price \$29.95, ISBN 0-691-02873-7.

Colleen Vachuska

SOME BOLETES HAVE GILLS  
by Steve Nelsen

Paxillus was used by Fries for some gilled fungi with easily removed gills. The choice of this name is totally obscure to me, supposedly being Latin for "small stake". The ones with lighter-colored spores were removed to *Clitocybe* (and eventually transferred to *Lepista*) long ago, and *Paxillus* is now used only for brown-spored mushrooms. Quelet erected a new genus *Phylloporus* in 1888 for the species *pelletieri* (Lev. apud Crouan) Quel., which he removed from *Paxillus*. It is now properly called *rhodoxanthus* (Schw.) Bres. Singer places *Phylloporus* in the same family as *Xerocomus* (which contains over half of what Smith and Thiers and many other Americans call *Boletus*). The cap and spores look like *Boletus* (*Xerocomus*) *subtomentosus*, but it has broad, yellow gills. I haven't seen a book mention that it gets the same mold disease as the boletes, which it seems to me is significant argument for grouping it with *Xerocomus*. Singer puts the remaining *Paxillus* species in family *Paxillaceae*, R. Maire in the suborder having the boletes, but Smith puts them with brown-spored agarics. Singer notes that *Paxillaceae* is most common in South America. Only about five species of what is now meant by *Paxillus* appear in the eastern US, and they are of three rather different types. *P. atrotomentosus* Fr. is in all the books. It is medium to large, with a brownish velvety to unpolished cap and is easily recognizable because it develops a dark brown fuzz on its stem (the black tomentum of the species name). It grows on or near conifers, sometimes in tufts, and is common in pine plantations in Wisconsin. It can be exceptionally attractive-looking, and is quite fleshy. Most books consider it poisonous, but McIlvaine ate it, saying it has the consistency of a marshmallow when cooked, and a "marked but pleasant" taste. I think I'll pass. *P. involutus* (Batsch) Fr. is also in most books. It has a slenderer stem, a gooey cap when young, and long retains the inrolled margin of the species name. It is recognizable because the cap margin has a greyish, ribbed, tomentum when young and inrolled. It grows in and around bogs, and is more common in northern Wisconsin than the south. It is eaten in central and eastern Europe, "boiled in several waters" first. Its poison causes haemolytic anemia, and eventually, kidney failure, and I wouldn't fool with eating any *Paxillus*, especially with McIlvaine's comment that the flesh is dry and coarse, does not cook tender, and is rather tasteless. A little-illustrated relative is *Paxillus vernalis* Watling, first described by Smith and Singer, 1962 (ined.). ['ined.' is an abbreviation of Latin for "unpublished". What it actually means is that their publication omitted a Latin diagnosis, so it was not "legally" published, and Watling could have made up his own name for it, instead of using the unpublished one.] *P. vernalis* rather resembles *involutus*, although it does not have a distinct tomentum on its cap margin. It occurs in "balsam-birch-aspen stands" according to Smith, and we have seen it at Baxter's Hollow and Governor Dodge and Natural Bridge State Parks, under aspen and birch.

Finally, there are two pleurotoid (bracket-shaped, like oyster mushrooms) species, both rather uncommon. Pilat put them in *Crepidotus*, but this was not accepted because they are not really related. A couple of new genus names have been suggested, but even Singer, who likes new genera as well as most, leaves them in *Paxillus*. *P. corrugatus* Atkinson, 1900  $\$=\$$  *curtisii* Berk. ap. Berk. & Curt. has especially wavy (corrugated) gills, and *P. panuoides* Fr. is rather similar, but illustrations I have seen have the gills wavy only in the lower portion. Both are yellow to brownish, but the spore size is larger for *panuoides*, and *corrugatus* is yellower. We found a fine imbricated cluster of pleurotoid *Paxillus* having gills corrugated only near their attachment on a pine stump during the WMS foray at Point Beach on October 10, 1998. From its color and spore size, it is *panuoides*.

ON BEING A RARE FUNGUS -- PART I  
by Alan Parker

Almost everyone, if not all, reading this article would agree that fungi are fascinating organisms. Depending on the observer, there are a wide variety of adjectives applied to fungi -- beautiful, ugly, delicious, poisonous, unusual, weird, and colorful to name a few. Then there are terms like common or rare. When the word rare is applied to plants, reptiles, birds, or mammals in Wisconsin, such species as monkshood, box turtle, goshawk, and badger come to mind. Some people are concerned with protecting these species in the State, and increasing their population sizes if possible. Many other species are the focus of local, state, national, and international conservation efforts. Directly correlated with saving various species is the need to preserve the places (habitats and ecosystems) where they live. Saving habitats/ecosystems is a very obvious aspect of conservation; the size of the places that need to be saved is a much more complex issue.

Back to the fungi. Can the same criteria and methods for determining the relative abundance and distributions of plants and animals be applied to fungi? What is a rare fungus species? To begin addressing such questions, one must understand some fundamentals of fungal biology. In higher fungi most of the organism's life is spent in the hidden, growing and feeding stage, with an occasional period of sexual reproduction thrown in to increase the probability of long-term survival over the course of evolution. Consider *Mycena* mushrooms appearing on a rotting log in September. The growing, feeding stage is a microscopic network of tubular filaments (mycelium) growing within the log (probably for years). Once a year, if moisture and temperature are favorable, the mycelium produces a crop of mushrooms on the surface of the food supply. Why on the surface and not within the log? Airborne dispersal of the results of sexual reproduction -- the spores are carried away by wind currents. Poor weather during fruiting season -- crop failure. How many times have we all bemoaned a fall drought and the scarcity of even the most common wild mushroom species? The fungi are there; they're just not sending up flags. Therein lies one significant problem with determining the occurrence of fungi -- how do you count species you cannot see 99 percent of the time? There are also several kinds of rare, which adds to the confusion. These will be considered in part II.

The last aspect of this note deals with an article entitled "Conservation of Fungi Associated with Endangered Plants in Kenya" by P. F. Cannon, R. K. Mibey, and K. W. Kipkore. The paper appeared in *Inoculum*, Vol 48, Aug. 1997, pgs. 6-7. Although the article focuses on Kenya, the following points have universal significance and would apply in Wisconsin. They are directly quoted as follows:

#### WHY ARE FUNGI DIFFICULT TO CONSERVE?

- \* The fact that fungal species are large in number but poorly studied makes their widespread conservation problematical.
- \* There are very large numbers of fungal species--latest estimates suggest around 1.5 million worldwide.
- \* In common with many other organism groups, diversity is probably greatest in tropical regions.
- \* They are poorly known--only around 5% have received even a rudimentary description.
- \* Classifications are currently unstable, and species concepts are poorly understood.
- \* Many species are very small, and thus difficult to detect and observe.
- \* Many are cryptic, with immersed vegetative tissue and fruiting structures

which appear occasionally and unreliably.

\* The number of experts in identification is small, and back-up facilities are poorly developed.

After reading the above excerpt from the Cannon, et. al. paper, it should be much easier to understand the common answer "I don't know" when asked about rare fungi. Even in Wisconsin the task of establishing relative abundance of most species needs extensive study. The good news is that anyone with good collecting skills can make a valuable contribution. Stay tuned for part II.

#### RECIPES FOR SPRING

##### MOREL STUFFED CHICKEN BREASTS

by Greta Menke

Morels  
Herbed butter, chilled  
Chicken breasts  
Batter  
French bread

Put chilled herb butter in parboiled morel halves. Place morels in split chicken breasts. Skewer breasts closed. Dip in any batter. Deep-fat fry at 375 degrees until golden brown and tests done. Place on buttered and broiled French bread. Enjoy.

##### ASPARAGUS WITH ALMONDS AND CLAVARIA (CORALS)

by Greta Menke

1 tsp. soy sauce  
1 Tbsp. corn starch  
1/2 tsp. sugar  
1/3 cup water  
Dash of Accent  
2 cups corals, sliced or use other mushrooms  
2 Tbsp. cooking oil  
2 1/2 cups asparagus, sliced diagonally 1/4 inch thick  
salt  
1/4 cup slivered almonds  
Cooked rice or buttered noodles

Combine soy sauce, cornstarch, sugar, water and Accent in measuring cup and reserve. Heat oil in skillet, add mushrooms and saute lightly. Remove from pan and reserve. In the same skillet, add asparagus and fry for 1 minute. Add the soy and cornstarch mix. Stir and cook until cornstarch mix is clear. Asparagus should be bright green and not over done. Add the mushrooms and almonds. Heat through and serve on buttered noodles or rice.

END