

Next Meeting April 11th, 2005

SPORES Afield

The newsletter of the Colorado Mycological Society

April 2005

Presidents Column and Lecture for the April Meeting.

By President William Windsor

Greetings Mycophiles,

Are you ready to Foray? If you are new to mushrooming, or want to learn more about being a well prepared mushroom hunter, then be sure to attend the next CMS meeting. We will have a panel of experienced foray leaders show their favorite tools, clothing, accessories and equipment for collecting mushrooms and 'surviving' the foray. Being prepared for changing weather, staying oriented to the location of your vehicle and dealing with animals will be discussed. The use of GPS will be demonstrated, however, we will most likely not be able to get a satellite reading inside of the main building. This will be a 'show and tell' demonstration so bring your favorite, basket, hiking stick, mushroom knife, foray hat, etc. to the meeting and be prepared to chat with you fellow members about equipment and technique that works for you.

Songwriter/singer Bob Dylan once crooned something about not needing to be a weatherman to know which way the wind is blowing and when snowfall and 68 degree temperatures occur just hours apart, you do not need a weatherman to know it MUST be Spring in Colorado. February was dry along the front range and March did not 'come in like a lion'. The recent snowfall was much needed and I hope to see either more snow or rain during the next few weeks. Without it, it may be poor year for Yellow Morels. During the next four weeks watch the cottonwood trees.

When they first start to leaf-out its time to start hunting for Oyster Mushrooms. A bountiful fruiting of Oyster mushrooms would be an excellent indicator for Morels and Oyster Mushrooms are excellent eating as well.

About two to three weeks following your first finds of Oyster Mushrooms, it will be time to start searching for Yellow Morels. Search along creeks that have narrow-leaf cottonwood growing on the banks and when you do find some, be sure to tell me EXACTLY where they are located. It will be fine for you to do this because I have a very poor memory and will most likely forget the location by the following spring. Pay no attention to the Global Positioning Satellite receiver in my pocket.

In early June, I will lead a foray for Black Morels at a 'yet to be disclosed' location in the mountains. This foray will include an overnight camp-out and cooking demonstration for you adventurous types. Watch this newsletter for more details in May.

I will end this article with another plea for volunteers. We still do not have a Program Chair to help set up speakers and activities at the meetings. If someone does not come forward to help very soon, we may have some meetings this year without any speakers and/or presentations. We have members who can work with the Program Chair and provide contact information for potential speakers, including some commitments to speak this year. We need someone who can follow-up with these speakers to arrange their logistics to join us at specific meetings. Please email me at wnwindsor@comcast.net (Or call me at 303-544-6069) to help make the meetings an exciting and educational experience.

Upcoming Events

- April 11th** "Mushroom Foray Survival Skills"
President William Windsor
- May 9th** To be announced
- June 13th** To be announced
- July 11th** To be announced
- Aug. 13th** Fair Setup
- Aug. 14th** Annual **CMS Mushroom Fair** at
Denver Botanic Gardens, The Fair
identifier this year is Else Vellinga,
PhD
- Aug. 15th** "Introduction to Mushrooms"
Else Vellinga, PhD of the Plant
and Microbial Biology Department
at the University of California,
Berkeley.
- Aug. 18-21st** Telluride Mushroom Festival
- Sept. 12th** Cook & Taste, **Chairperson
needed** Contact CMS President
William Windsor.
- Oct. 10th** Chef Smailer of the Boulder Cork.
His restaurant hosts our "End of
the Season Fungi Feast"

Bring mushrooms for identification and display to any meeting.

All meeting are held at the Denver Botanic Gardens in Mitchell Hall at 7:30 pm unless otherwise announced.

Pleurotus Hot Salad

For years, the late Tomi Taggart contributed wonderful recipes to *Spores Afield*. One of the best was this recipe using *Pleurotus ostreatus*, a lovely spring mushroom that grows on cottonwood or elm stumps. Tomi suggests dousing the freshly collected mushrooms in water to check for small beetles between the gills, then storing them in a plastic bag in the freezer.

1 lb *Pleurotus ostreatus* caps
1/3 c olive oil
1 Tbsp Dijon or Pommery mustard
1/3 c rice vinegar
1/4 c sugar
3/4 lb washed salad mix
Salt, pepper to taste

1. Slice the pleurotus caps into 1/4-in strips.
2. Heat 2 tbsp olive oil over medium heat. Add Pleurotus and cook until the mushrooms are well browned and the liquid evaporates.
3. Add remaining oil, rice vinegar, mustard and sugar. Stir until mixture boils.
4. Place salad greens in a large bowl. Spoon the mushroom mixture onto the salad and mix well. Add salt and pepper to taste.

Spores Afield

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CMS is an affiliated member of the North American Mycological Association.

CMS website: <http://www.cmsweb.org>

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**This year our Foray Chair is Tom Ruzicka.
Please contact Tom if you would like to lead a
foray.**

**This is your last issue of
SporesAfield if you have not paid
your membership for 2005.**

If you have any questions as to the accuracy of the expiration date on the label or change of address, please contact:

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Authors, Artists, and Poets

The editor of *SporesAfield* needs your help. Please consider submitting an article, line drawing, digital photographs, a poem, editorial, comic, report on mushroom sightings, news items, announcements of upcoming events, or any other contributions to your newsletter. This is your chance to share with your fellow members. Send items by the 15th of each month to:

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Editor's Note: On Sunday March 27th my wife Karen found 1/2" buttons of *Pleurotus ostreatus* on one of the stumps we watch. In two or three days we will be eating the first mushrooms of our season. By the time you receive your newsletter the oyster mushrooms should be in full swing.

Mushrooms As Medicines?

By Peter Werner

Reprinted from the Newsletter of the Humboldt Bay Mycological Society, February 2005.

Mushrooms have long been used in traditional medicines in many parts of the world and are particularly well represented in pharmacopeias of Asian traditional medicines. Until recently, the importance of mushrooms and their extracts were dismissed out of hand by medical researchers, who saw few medicinal compounds of interest in basidiomycetes and no empirical basis for the claimed *efficacy* of mushrooms used in the traditional herbal medicine. This began to change some 30 years ago as Japanese researchers began to examine the use of mushrooms extracts, especially those of polypores, in the treatment of cancer.

Research has focused on a group of fungal cell wall polysaccharides known as B-(1-3)/(1-6)-glucans. Well known examples include lentinin from *Lentinula edodes* (shiitake) and grifolan from *Grifola frondosa* (maitake), but compounds of this type are found almost universally among fungi. While it was previously believed that long-chain polysaccharides like this would be physiologically *inert* because the digestive system would simply break them down into simple sugars, recent studies have found that these compounds are highly active, even (in fact, especially) those in which the component molecules are quite large.

Many of these compounds have been found to be strongly immunopotentiating, that is, they stimulate the production and activity of immune cells such as T-cells, macrophages, natural killer cells, and the like. There reasons for this are unclear, but several types of B-glucan receptors are found in immune-type cells. It is thought that the receptors aid the immune systems in recognizing invasion by something that is not self, and hence help marshal an immune response. Stimulation of B-glucan receptors may be particularly useful in the treatment of cancer, as cancer cells are simply

mutations of the body's normal cells and aren't always recognized as not self by the immune system.

So much for theory -- how do these mushroom extracts work in practice? Immunopotentiating B-glucans have shown significant anti-tumor activity *in vitro* and some mushroom extracts have been demonstrated to significantly lower the rate of mutagen-induced cancer in mice when compared to an untreated control. However, as with such promising anticancer compounds, success in actual clinical trails was limited. The use of lentinin or crude extracts of shiitake in combination with traditional chemotherapy demonstrated increased length of survival in patients with certain types of cancer (although these studies were not always well controlled), however, with many other types of cancer it was completely ineffective.

A recent literature review by Andrea Borchers and others from UC Davis suggests several ways in which research on mushroom extracts might be improved. Different compounds have been studied in many different tumor types; what if the more effective compounds were then screened against a wide range of tumors types?

Also, it needs to be more clear what is actually being administered. In many studies and reviews, crude mushroom extracts and purified compounds were treated as equivalent, though this may not be the case. Mushrooms contain a host of compounds that count on the immune system in different ways. The synergistic or inhibitory action of these compounds in combination is a real possibility. Crude extracts and purified compounds should both be tested against the same tumor models to establish which is more effective. Additionally, *in vitro* studies of *Agaricus brasiliensis* have shown that mushroom strain type, fruiting body age, and extraction from fruiting bodies vs extraction from mycelium significantly affected the immunoregulating effect of these extracts.

What about regular consumption of certain mushrooms or mushroom extracts as a dietary supplement to prevent cancer?

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A number of mushrooms are increasingly being used as "nutriceuticals", notably *Lentinula edodes*, *Ganoderma lucidum* and *G. oregonense*, and *Agaricus brasiliensis* (sold as *Agaricus blazei* though the latter name properly refers to a species found in the eastern US and not the cultivated species that originated in Brazil). There are some intriguing studies hinting that there might be something to this, notably a study demonstrating that a group of enoki farmers showed significantly lower cancer rates than the general population of the same area, and a study from Korea (an area with a high rate of gastric cancer) showing an inverse correlation between gastric cancer rate and mushroom consumption. However, these studies did not control for factors such as sex, socioeconomic status, family history, etc and were too general to demonstrate a cause-and-effect relationship.

There are, of course, many other useful compounds that one can get from mushrooms. Mushrooms live in a constant battle with bacteria and other fungi and have developed a host of antibiotics to defend themselves from attack from other organisms. Modern antibiotic treatment was first ushered in with the discovery of penicillin from the imperfect fungus *Penicillium*. However, basidiomycetes represent a great untapped reservoir of such compounds - when a group of researchers screened extracts of 204 species of basidiomycetes collected in Spain, 109 were found to have antimicrobial activity. Considering that many strains of pathogenic bacteria are becoming increasingly resistant to our present arsenal of antibiotics, the importance of developing novel antibiotics is clear.

After a hiatus of several decades, research into the therapeutic effects of hallucinogenic compounds is once again active. This includes research into uses of psilocybin, a promising use of which is the treatment of obsessive-compulsive disorder (OCD). There have been a number of anecdotal reports of individuals with severe OCD (such as hand washing 200+ times per day) being relieved of obsessive thoughts during the psilocybin ex-

perience, more importantly, this effect has been lasting, with reports of individuals going for two years after the experience without OCD symptoms before relapsing. Controlled study of OCD treatment with psilocybin is now being carried out at the University of Arizona. Another active study of the therapeutic use of psilocybin includes a study at UCLA investigating whether psilocybin can provide relief of death anxiety in terminal cancer patients. There is also quite a bit of anecdotal information that psilocybin use has a therapeutic effect for chronic sufferers of cluster headaches (an extremely severe recurring type of headache said to be more painful than migraine headaches). Psilocybin is said to break the cycle of headache recurrence, with effects lasting anywhere from two weeks to a year. At present, however, there is no active study looking at this effect.

Understanding of the medicinal properties of mushrooms is another area where amateur mycologists can make some contribution. Is the cancer rate among people who regularly consume wild mushrooms higher or lower than the rest of the population? Such an epidemiological study would be well worth learning about. Do we observe that certain mushrooms are consistently avoided by certain other organisms or are slower to decay than others? There may be more to that than meets the eye.

Editor's Note: Our toxicology chair Marilyn Shaw points out that it should be remembered that, as far as the general public is concerned, psilocybin is an illegal drug.

NAMA Foray, July 21-24, 2005

Reprinted from the "Mushroomer" the newsletter of the Snohomish County Mycological Society.

Their Editors Note: Planning a vacation in the Midwest this summer? Why not include a NAMA Foray. Planning is in progress and more information will be forthcoming at www.namyco.org. The following are excerpts from www.botit.botany.wisc.edu/toms_fungi/.

The North American Mycological Association (NAMA) national foray will be held at the University of Wisconsin-La Crosse, July 21-24, 2005. The foray is hosted by Dr. Tom Volk. La Crosse is located on the Mississippi River in western Wisconsin in the famous "driftless" area of Wisconsin. You may recall that glaciers flattened most of Wisconsin, Minnesota and parts of Illinois. However, this glacier split near Red Wing MN (north of La Crosse) and left the land intact. However, these mile deep glaciers retreated and eventually melted. The enormous runoff of water carved many "coulees," our fancy name for small valleys with many rivulets and creases. Eventually the water from these coulees joined together, and the trillions of gallons of water carved out the Mississippi River. Several of our forays will be up these coulees and on the bluffs.

A highlight of the 2005 NAMA foray will be the chance to see a forest of American chestnut trees (*Castanea dentata*). You probably know that almost all the chestnuts in Appalachia and other parts of eastern North America were wiped out (or reduced to understory plants) by *Cryphonectria parasitica*, cause of chestnut blight. However while all this was happening, circa 1900 a farmer from Pennsylvania planted 11 chestnut trees along the edge of his field. These 11 trees grew and multiplied to about 6000 trees larger than 5 inches diameter. These trees were free from chestnut blight until about 1988, when the blight appeared on a single tree. Despite control attempts by researchers the blight has continued to spread, and now about 1500 of these trees have died, although some parts of the forest remain largely uninfected.

Inoculations of the trees with hypovirulent strains of the fungus have slowed it down, but trees are still dying. This may be your last chance to see a mature chestnut forest.

In addition to the forays, there will be many lectures and workshops by mycologists from all over North America and Europe. All levels of expertise will be accommodated, from beginners to intermediate to advanced.

We will have *very* reasonably priced housing in one of the residence halls on campus. Dining will be reasonably priced on the campus, with breakfast and lunch at the student cafeteria; actually they are very good. Catered dinners will be held in a banquet hall, followed by the programs for that evening. We'll have some special surprise activities that you will like a lot.

Mushroom Mystery

Submitted by Joe Christian from Yahoo News, from Brazzaville (Reuters), n.d.

Reprinted for the "Mushroom Log" Official Newsletter of the Ohio Mushroom Society, May/June 2004.

A giant three tiered mushroom which measures a meter (yard) across and was found in the tropical forests of the Republic of Congo has left experts in the capital Brazzaville scratching their heads. "It's the first time we've ever seen a mushroom like this so it's difficult for us to classify. But we are going to determine what it is scientifically", Pierre Botaba, head of the Congo's veterinary and zoology center, told reporters on Thursday. The bottom cap measures one meter across, the second one 60cm and the top one 24cm wide, Botaba said. The bizarre-looking mushroom was found in the village of Mvoula about 38 miles from Brazzaville and transported carefully to the capital by the local chief.

Editors note: I searched the web to no avail to see if anyone identified the mushroom.

Three Exotic Mexican Forays in 2005

Tlaxcala, January 2005 – For its 6th year of organizing mushrooming adventures “south of the border,” Mexican Mushroom Tours announces three special week-long forays in verdant Mexico. The excursions are run by NAMA member Gundi Jeffrey and her husband Erik Purre, both fungi-enthusiasts from Canada but resident in Mexico since 1997.

The tours have a group limit of 18, are all-inclusive and offer good accommodations, fine food and beverages and a wealth of opportunity to collect, study and learn about the local fungi. Leading bilingual Mexican mycologists will be our field leaders and give presentations in their areas of expertise. But the sights, sounds and excitement of friendly, fascinating Mexico are also an enriching part of these fungi-oriented travel experiences. Choose from three distinctly diverse regions, each featuring places that are off the beaten tourism path. Below are some brief highlights; find the full details on www.mexmush.com.

The Copper Canyon Mushroom Expedition: July 24-31

Experience the Bolete-rich Tarahumara mountains of Chihuahua. Fascinating local color and culture, awe-inspiring scenery and a journey on the world-renowned Chepe train along the canyon rim just to reach another foray location. Tour fee: US\$1,575.00 p/p d.o.

The Tlaxcala Mushroom Foray: August 28 to September 4

In the central highlands, foray locations include the pine-covered slopes of long-dormant La Malinche volcano and the mixed forests of Tlaxcala's misty northern regions. Visits to indigenous villages and haciendas and delicious dinners developed especially for the tour. Tour fee: US\$1,475.00 p/p d.o.

The Veracruz Fungi Exploration: October 16-23

Exploring seaside jungle, coffee and citrus plantations and mountain habitats in a region where more than 2,000 mushroom species have been described. An action-filled week experiencing the colorful ambience, archeology, indigenous culture and fabulous seafood cuisine of vibrant Veracruz. Tour fee: US\$1,495.00 p/p d.o.

For more information contact the tour organizers, Erik and Gundi, at gundi@mexmush.com or visit www.mexmush.com.