Potomac Sporophore

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Website: **http://mawdc.org**

Voicemail: **301-907-3053**

BOARD OF DIRECTORS

In Memoriam

Waldemar Poppe was one of our most cherished members. He passed away on March 15th. Although it goes without saying, his family wishes to let all of us know how important MAW was to Waldemar and how much they appreciate what we have done with and for him. I know I will never forget his generosity and boundless enthusiasm for foraging, cooking, and sharing wild mushrooms with us. He will be missed.

From the MAW President

Ray LaSala

I hope everyone had a fruitful morel season and maybe even followed that up with some chicken of the woods, meadow mushrooms, or wine caps, all of which are possible in the latter part of May. As usual, I did come across a nice fruiting of umbrella mushroom (*Dendropolyporus umbellatus*) in early May, but that's a rare and unusual find that most people are not likely to encounter. Luckily, I happen to know where one resides (on the ground underneath a maple tree) and collect it there quite regularly.

If you're like me, you're now looking ahead to the appearance of chanterelles. I usually find my first smooth chanterelles and even a few blacks in early June—not enough to justify hunting for the table, but it makes me feel good to see them reappear. If you're so inclined, I suggest that you record the dates of your first finds and bring that information to the July monthly meeting.

With the passing of our dear friend Waldemar Poppe, I wonder if there's anyone in the club with a strong interest in mushroom cultivation. Waldemar was great at bringing in some of the fruits of his labors, and it would be nice if someone else could continue that tradition. If you have an interest in learning more about

cultivation, we've added a substantial body of information on that subject to the MAW library. Check with Fred Seymour, our librarian, for details, and feel free to bring in your successes for all to admire.

Actually, I'd like to encourage everyone to bring mushrooms (both wild and home-cultivated) to the monthly meetings for identification and "show and tell." Seeing a mushroom first-hand is a great way for novices to get to know it, and knowing what other people have been finding is very helpful for deciding what you yourself should be looking for. With a bit of organization, such as some volunteers to handle the task, we could even keep record of what mushrooms were identified at each meeting and use that information in the future to issue mycological "BOLO's" (Be on the lookout for…) in the newsletter or at monthly meetings in advance of the predicted appearance of mushrooms. See you at the display table at the next meeting….

2009 Scheduled Events

Note: Meetings from July through December will be at the Chevy Chase Public Library instead of the Davis Public Library

Meeting Site Directions - Chevy Chase Public Library

The Chevy Chase Public Library is located at 8005 Connecticut Avenue which is about 2 miles south taking exit 33 on the Capital Beltway (Route 495). If coming from the District of Columbia, it is about 2 miles north of Chevy Chase Village just past the intersection of East-West Highway (Route 410) . The phone number of the library is (240) 773 9590.

All monthly meetings start at 7PM and include a brief review by each of the MAW board members and a summary of monthly events and mushroom finds by the President. The program starts at about 8PM. Light refreshments are available as well as an occasionally mushroom dish prepared by a member

Events:

June 28 Foray: Chanterelle Lookout, Scott's Run Nature Preserve, , VA

July 7 - Monthly Program Sean Westmoreland, a graduate student working with Tom Volk at the University of Wisconsin will give presentation on toothed fungi.

July 18 Foray: Lake Fairfax Park, Reston VA

July 26 Foray: Greenbelt Park, Greenbelt, MD

August 4 - Monthly Program - Britt Bunyard, the editor of Fungi Magazine will be the principle speaker.

August 8 Foray: Cosca Regional Park, Clinton, MD

August 30 Foray: Rockburn Branch Park, Elkridge, MD

September 8- Monthly Program TBD **NOTE 2nd Tuesday**

TBD - Annual West Virginia foray weekend at Lost River, West Virginia

September 5 Foray: Seneca Creek State Park, Gaithersburg, MD

September 12 -14 - Annual MAW Foray at **Camp Sequanota** in Jennerstown, PA. A weekend stay at the Lutheran Camp including all meals and daily forays.

September 19 Foray: Cabin John Regional Park, Rockville, MD

September 24 - 27 Regional Foray Wildacres, North Carolina. Contact Bruce Boyer for details.

September 27 Foray: Prince William Forest Park, Dumfries, VA

October 3 Multiple forays for the Mushroom Fair at Brookside Gardens

October 4 - The Annual MAW **Mushroom Fair** will be held at the Brookside Gardens Visitors' Center

October 6 - Annual MAW's Wild Mushroom Culinary Event. 15 - 20 wild mushroom dishes prepared by MAW members. You must be or become a member to attend

October 17 Local Foray Greenbelt Park, Greenbelt , MD

October 15 - 18 - NEMF (Northeast Mycological Federation) Foray, Cape Cod, Massachusetts

November 3 - Nominations for MAW Board for 2010. Program TBD
November 26 - 29 - NAMA (North American Mycological Association) Foray, Lafayette, Louisiana.

December 1 - Election for MAW Board for 2010. Panel discussion the fungal year in review.

Spring Tasting Meeting

On April 7, MAW held its annual spring food tasting, a tradition steeped in the lore of the vernal awakening of the mind, body and spirit. The fact that mushrooms possess a unique gastronomic quality in the minds of the typical fanatical mycophagist should come as no great surprise since they do. That quality is umami. According to David Work writing in the Summer 2008 edition of Fungi Magazine "Umami is the complex and subtle taste sensation described loosely as the qualities of deliciousness, heartiness, richness, robustness, meatiness, savoriness, or a 'fullness of the mouth.' " It is often called savory in the West and is noted more for its absence than its presence - foods lacking umami being characterized as bland. The umami taste that imparted a "flavor enhancing" quality to foods was identified as glutamic acid by Kikunae Ikeda of Tokyo, Japan in 1908. It is interesting to note that the Japanese used glutamic acid rich seaweed to enhance the flavor of food. This discovery ultimately led to the production of monosodium glutamate or MSG, which was first brought to the United States after World War II when it was noted in the rations of Japanese soldiers. By the 1960's, Accent became the primary brand associated with MSG as a flavor enhancer. In spite of some evidence of toxicity, MSG is still a widely used food additive in the United States.

There are only four recognized tastes according to the U.S. Food and Drug Administration: sweet, salty, sour and bitter. A taste is defined as a singular sensation that has an identifiable chemoreceptor on the so-called taste buds. A flavor is the brain's translation of the taste in combination with the olfactory input from the nasal smell receptors. However, it has recently been demonstrated that umami has its own taste bud receptors and is, in fact, a taste. In most of the rest of the world it is, but not in the United States.

Mushrooms contain high levels of the compounds that contribute to umami, which include not only glutamates (which are the prevalent of free amino acids and comprise a significant proportion of plant and animal protein), but also inosinate and guanylate. Thus mushrooms are natural flavor enhancers, even more so when used in combination with other foods high in umami such as seaweeds, tomatoes, fatty fish and pork.

The spring food tasting, a celebration of umami, was organized and led by the new culinary chair, Alan Remchuk. It was a resounding success with a total of 46 people attending including 4 were new members and 9 membership renewals.

Alan Remchuk explaining the rules of engagement for the tasting. (He is leading with his right)

A total of 13 MAW members prepared dishes that included everything from the relatively simple broccoli and morels prepared by Mitch Fournet and the relatively exotic morel, nettles and ramp cream soup prepared by Jon Ellifritz to the more extreme rabbit and squirrel (confirmed not to be road kill) shitake by John Harper. The winning recipe, however, was a unique combination of classic Italian American Cuisine in the form of pizza with a mycological twist prepared by a Chinese American and a Polish American. In the zeitgeist of these multicultural times, it was highly appropriate.

Winning Recipe of the April MAW Spring Food Tasting Meeting

Beth Dernynick and Bruce Ng, First Place recipe at Spring Food Tasting Meeting

Fungi Pizza (aka Beech and Oyster Mushroom Pesto Pizza)

2 tbsp. butter
1 tsp. diced garlic
1/2 tsp. marjoram
2 c. sliced oyster mushrooms
1 c. separated beech mushrooms
1 package of 10 mini Sun of Italy pizza crusts (purchased at Shoppers)
1 jar Roland's Pesto (purchased at Rodman's)
3 1/3 c. shredded mozzarella

Melt butter in sauté pan and add garlic. Sauté garlic for about 2 min then
add mushrooms and sprinkle on marjoram. Sauté for about 10 minutes. In the
mean time, spoon ~1 1/2 tbsp. pesto onto each pizza crust and spread it thin. Place 1/3 c. mozzarella onto each crust. When mushrooms are finished, divide them up onto each pizza. Bake for ~8 min at 450 degrees F.

If I had all day to do this, I would definitely make my own pizza crust. Here is a good recipe if you want to try it (it makes 2 ~16 inch thin-crust pizzas):

1 1/2 c. white flour
1 1/2 c. whole wheat flour
1 tbsp. yeast
1 c. warm water
1 tbsp. sugar
2 tbsp. olive oil
1/4 c. coarse cornmeal

Mix yeast, water (85 degrees F), and cornmeal and let sit for 10 minutes. After that time, mix in the rest of the ingredients and knead. Divide dough into two balls and knead. Let sit in covered bowl ~3 hrs (until doubled in size- very dependent on the temperature and humidity of your kitchen).

When risen, pre-heat oven to 500 degrees F, preferably with a pizza stone
already inside. If you don't have a stone, you can use a pizza screen, pizza pan, or cookie sheet- it is best to have holes in the bottom of any pan you use in order to get crispy crust.

Roll out or "throw" the first pizza crust. Then start putting pesto, cheese, and mushrooms on the crust (if you're using a pizza stone, make sure
it is well-floured and do it on a peel- if not, just make it on the pan).
It should take ~10 minutes in the oven.

makes 10 mini pizzas

Other notable tasting meeting entrees included:

Connie Durnan with Hen of the Woods and Chicken of the Woods fingers (there was no debate concerning the anatomical accuracy of this recipe)

Fred Seymour proffering Beech Mushroom Watercress Stir Fry

Mushrooms as Wool Dyes

The May MAW program consisted of a discussion and demonstration of the use of mushrooms for dyeing wool by Susan Hopkins. The chromatic range achievable using fungi that would in almost anyone's context be characterized as drab extended from the infrared to the "ultra" violet. The prevalent tans and browns were reminiscent of the tweedy colors of the Scottish highlands.

The process of imparting fungal hues to the wool of sheep begins with a process known as mordanting using a bath of alum (potassium aluminum sulfate), tin (stannous chloride), copper (copper sulfate) or iron (ferrous sulfate). The bath is prepared by mixing the chosen mordanting agent in several cups of water and cooking the wool at about 170 degrees F for an hour. According to Susan Hopkins, the mordanting process causes the wool fibers to thicken and spread out so as to provide more surface area for fungal dye staining.

Once the wool is mordanted with the metallic salt, a dye bath is prepared. The dried mushroom selected for the desired hue (see list below) is cut up and mixed on a one-to-one weight ratio to the wool (1 ounce mushroom to 1 ounce wool). The diced mushroom is then collected in a cheesecloth or nylon bag and soaked in water for at least an hour and then cooked at 170 degrees F for an hour. The resultant tinted dye solution is then cooled and can be stored for up to a week while retaining its coloration.

The final step in the process is dying the wool. The mordanted wool is placed in the dye bath and then cooked at the same 170 degree F temperature for one hour and then dried, the finished product ready to be woven into uniquely colorful garments and other wool products.

Susan Hopkins with mushroom dyeing equipment (the mushrooms were already dead).

The following list constitutes some of the mushrooms that have been found to produce the best wool dyes:

Phaeolus scheintzii - the "dye polypore" - yellow, brown and moss green

Inonotus obliquus - the "clinker polypore" or "chaga" - deep gold to dark brown (PH needs to be adjusted to slightly basic 8-9)

Hypomyces lactifluorum - the "lobster mushroom" - orange to pink-orange.

Paxillus atrotomentosus - "velvet-footed pax" - forest green if mordanted with iron, gray if mordanted with alum

Hydnellum aurantiacum - "orange rough cap tooth" - green, gay teal and blue.

Editorial

Mushrooms with Sherry

Morels are nice, but they only flush once- not counting the half-frees and the blacks. If you want more yellow morels, after the first flush, you have to either elevate or go north. But the mushroom that keeps on giving is the chanterelle: it has multiple flushes over a span of twelve weeks and those who have harvested it know that they can revisit its grounds on a regular basis during the season and expect to find more. Not only that, but the chanterelle does not quit its woods easily-it comes back on the same patch year after year.

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Some years the chanterelle's appearance may be weak but given the right rain and steamy air, chanterelles will make their dazzling appearance at a fairly predictable time, and if you are lucky enough to stumble upon a patch of these golden delights or are told by a little birdie where they are growing, you will see them asserting themselves in a cluster here and then there-some in full golden display and others hidden shyly under the grass. And sometimes you will find them growing on a path, or in a gully or on a bank or in moss and sometimes you will find them spread out like a host of daffodils in a wood sponsored by oak and other companionable trees.

My first knock-out encounter with

the chanterelle came some years back when a lady from England rented a 1,000 acre farm in West Virginia. She didn't know which mushrooms on the farm were safe to eat so she invited MAW to have a foray on her land, to teach her.

The MAW group was on its way to mushrooms that she thought were chanterelles when it got diverted- someone had described a rare mushroom that was growing in another area and the group went off to find it. I continued alone, down the tractor-rutted road we were on and suddenly came upon an open field, about half the size of a football field, dotted in that casual way in which nature displays her bounty, with large, mature, sun-drenched, honey-colored chanterelles At first I waited for the group and then I decided to pick my share, and then I picked Maria's share, and then the group arrived and one member, after filling his basket, opened up a pillow case and began to fill it.

We were all satisfied. The lady from England was satisfied. She never invited us back.

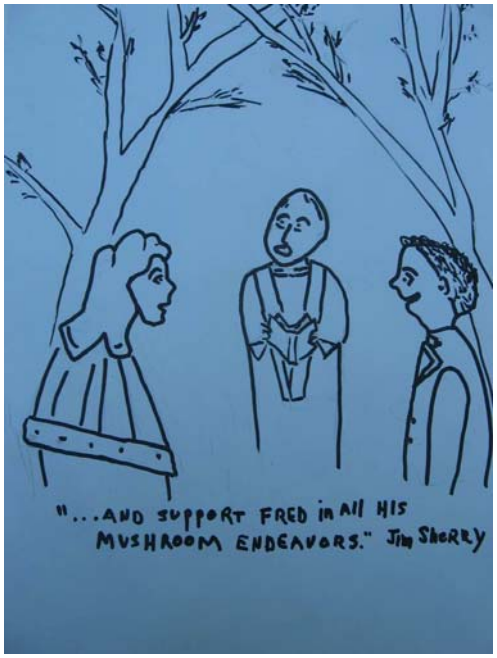
But Which Chanterelle Did We Find? I assume that it was *Cantharellus lateritius*- the smooth one. I don't recall that we discussed it at that time; we just made off with our harvest. *Cantharellus lateritius*, which is found in the eastern America, is said to be the equal to its more illustrious cousin: the *Cantharellus cibarius*, but you wouldn't know that from guide books. Roody's Appalachian guide book gives *C. lateritius* a passing line and Russell's book, which focuses on a more northerly Appalachian area, doesn't mention *C. lateritius.* Both books heap praise on *C. cibarius.*

But, now there's considerable doubt that we find *C. cibarius* in the Appalachian area- at least there's doubt that we find the same *C. cibarius* that is celebrated throughout Europe and on most habitable continents.

The word "chanterelle" refers to a group of mushrooms that have a cup-like cap, with ridges instead of gills running down the cap's outside, from which the mushroom's spores are expelled. Using this broad definition, there are four distinct genera that are described as chanterelles: *Cantharellus, Craterellus, Gomphus* and *Polyozellus*.These four genera are said to produce forty species of chanterelle in North America and seventy world-wide. Few chanterelles make one sick and many are quite tasty. There's lots of renaming going on with chanterelles by the folks with the microscopes. For a long time mycologists thought that *C. cibarius* was growing in the winter under conifers in our northwest (seven states and parts of Canada) but that mushroom has been renamed *C. Formosus* or Pacific Golden Chanterelle. At one time, *C. lateritius* was called *Craterellus* and more recently both *C. tubaeformis* and C. *ignicolor* have been reclassified from *Cantharellus* to *Craterellus.* And it may be that someday the mushroom which we find in America and which we call *C. cibarius* will have a new name.

At this point I am not sure where we find *C. cibarius* in North America- we don't find it in our mountains and it is not found in the our northwest- but we are quite satisfied with what we do find here: the smooth chanterelle.
Jim Sherry

As a second feature from the drawing board of our esteemed editorial cartoonist Jim Sherry



One may only hope that this represents a marriage between one man, one woman, and one mushroom

Fungus Notebook

Common Name: Yellow Morel, Common Morel, Molly Moocher, Sponge Mushroom, Honeycomb Morel, Haystack, Blond Morel, Dryland Fish, Thick-Footed Morel

Scientific Name: *Morchella esculenta* (An esculent is something fit for food, especially a vegetable, from the Latin *esculentus*)

Morels are probably the most celebrated of edible mushrooms in North America. They were among the first to be classified as belonging to a genetic group, owing to their unique taxonomy. The etymology of the genus name *Morchella* is accordingly of uncertain origin, as it first appeared in the scientific literature in 1719 and is of Swedish origin (Carolus Linnaeus 1707-1178, the father of binomial classification, was Swedish). Theories as to the derivation of *Morchella* include an old German name for morel and the genus of the mulberry tree *Morus* due to the resemblance of the morel to the mulberry fruit. Many European languages share similar names for the English morel such as the Bulgarian *morchella*, the Danish *morkel*, the French *morille* and the German *morchel*.

As morels are choice edibles, they are sought out by mushroom foragers throughout the world. Though they are toxic when raw, when cooked they impart an epicurean flavor reminiscent of hazelnuts to a host of gourmet dishes. They contain more protein than most vegetables, are rich in vitamins E, D, K and the B group, and their fiber is conducive to proper intestinal function. However, finding morels is quite challenging, as the habitat that is likely to favor their growth is imprecise and inconsistent. They may be found under tulip poplars, white and green ash, hickory, elm, striped maple, sycamore, in abandoned apple orchards, and, most significantly, in burned areas after a fire. In some parts of Europe, laws were passed to prevent the burning of forests that had previously been set to promote morel growth the following year. The lack of consistency in morel fruiting has been a deterrent to commercial cultivation.

The reason for the seemingly arbitrary growth of morels is the sclerotium. When morel spores germinate, they form the underground fungal body called the mycelium, as do other fungi. The difference is that the morel mycelium subsequently forms the sclerotium, a mass of large cells several inches in diameter resembling a slippery walnut. It is this structure that allows the fungus to survive adverse conditions for decades. Although there have been scattered reports of successful morel production since 1883, it was not until 1982 that Ronald Ower of San Francisco succeeded in demonstrating a consistent process. U.S. Patent number 4,594,809 was issued in 1986 specifying the series of operations necessary and sufficient for morel cultivation.

The unusual appearance of the morel is due to the nature of its spore production. Most mushrooms have an umbrella-like canopy to protect the spores from moisture so that they are dry enough to be carried away by the wind to propagate. These capped mushrooms are called basidiomycetes because the spores are attached to structures called basidia that project outward from the gills. The morel is an ascomycete, its spores are contained is sac-like sausage shaped containers called asci that project outward from the outward surface of the cap. The morel has ridges and pits that create the characteristic spongy appearance in order to provide maximum surface area for asci attachment and spore dispersal. Even with the extensive structure for spreading spores, the morel is far from efficient. The cap does not protect the spores from getting washed away by rain and the aerodynamics of the ridge structure does not contribute appreciably to wind dispersal.

The complexity and variation of the shape of the ridged and furrowed cap of the morel is due to the process by which the spores are propelled out of the asci. The force that acts to expel the spores is generated by the shrinkage of the tissues when they dry. If the tissue dries too fast, there will not be enough time for the spores to develop. If the tissue dries too slowly, the morel will deliquesce (melt away) and destroy the flesh before any spores can be emitted. Accordingly, a morel cap may be composed of thick ridges for dry climates and thin ridges for wet climates, adapting to the environment as needed to promote spore dispersal.

One theory for the singular nature of the morel is that it is a recent evolutionary mutation of a yeast fungus that will ultimately devolve into a cup fungus. Yeasts evolved some 50 million years ago in consonance with the production of sugary substances by flowering plants. In the competition against mold and bacteria for the sugar, yeasts mutated to achieve rapid growth at the expense of complexity, achieving mass doubling in about 90 minutes at standard temperature as compared to 45 minutes for bacteria. As a second competitive adaptation, yeasts break down the sugar into carbon compounds, with excreted byproducts of acid and alcohol. These products inhibit the growth of the mold and bacteria competition. There is some experimental evidence that morels excrete acids which attack the bacteria in the soil, which the morel then feeds on for nutrition.