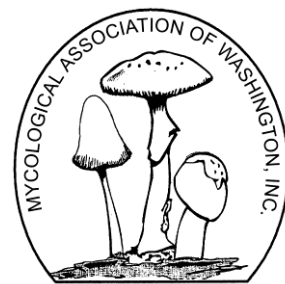


Potomac Sporophore



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2011 Scheduled Events

Monthly Meeting Location:

Kensington Public Library

Located at 4201 Knowles Avenue.
phone number 240 773-9515

Monthly meetings are normally held
on the first Tuesday of the month.

**NOTE: The January meeting is on
the first Thursday due to library
scheduling conflicts.**

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.

There will be no forays scheduled
until late April or early May when the
morels will first appear as the
harbingers of spring

December 7 - Election for MAW
Board for 2011.

NOTE: Thursday meeting

January 6, 2011 - A showing of a
Russian movie about the fairy tale
character Baba Yaga featuring the
cultural relevance of mushrooms

February 1 - Program TBD

March 1 - Program TBD

April 5 - Program TBD

May 3 - Spring Wild Foods Tasting
meeting; hopefully some morels and
purchased mushrooms in addition to
other wild foods.

August 4 - 7 NAMA foray hosted by
Western PA Mushroom Club in
Clarion, Pennsylvania.

August 11-14 NEMF foray weekend
at Paul Smith's College, New York.
Registration begins in January on
web site <http://nemf.org>.

September 23 - 25 Annual weekend
at Camp Sequanota in Pennsylvania.

From the MAW President

As the end of the year approaches,
there is still unfinished business for
MAW. We normally elect the Board
of Directors for the coming year at
the December monthly meeting.
However, we failed to muster a
quorum at the December meeting
this year and therefore could not hold
an election. We hope to correct this
situation at the January meeting.

In the meantime, I'd like to tell you
about the slate of candidates

identified by the Nominating Committee. While being nominated is not the same as being elected, the generally membership usually follows the recommendations of the Nominating Committee.

The Committee has asked me to stay on another year as President, and I'm willing to continue in that position. Plus, no one else has indicated any interest in serving as President.

Jon Ellifritz has been nominated to serve a Vice President. I've known Jon for over twenty years, and I can't think of a better person to back me up than Jon. If you don't know him, which is unlikely, he is currently our Program Chair and the person who sends out the monthly email meeting notice.

John Harper has been nominated to serve as Treasurer. John was our Culinary Chair this year and did a great job running our Tasting Meetings. He has strong computer and Internet skills, which will be a real asset for the Treasurer. He is spearheading our investigation of Meetup.com as a means of communication and hopes to establish PayPal as a means of paying dues and event fees. It's also appropriate to take this opportunity to thank Bill Drehmann for the excellent job he's done as Treasurer for the past few years/

Barbara Karpas has been nominated to continue to serve as MAW's Secretary, a position she assumed earlier this year.

Bruce Eberle has been nominated to serve as Program Chair. Bruce also serves as Executive Secretary of the North American Mycological Association (NAMA), which gives

him excellent access to the kind of speakers we like to get for our monthly meetings.

Mitch Fournet has been nominated to continue to serve as Foray Chair. Mitch has done a great job in scheduling forays throughout the fruiting year, and I expect he will continue to do so next year.

Danny Barizo has been our Vice President for the past few years, but he's now been nominated to serve as Culinary Chair for the coming year. Danny has helped organize or Mushroom Fair for the past several years.

Connie Durnan has been our Membership Chair for the past several years, and she's been nominated to continue in that capacity.

William Needham has been the editor of our quarterly newsletter, the Potomac Sporophore. He's been nominated to continue in that capacity.

Bruce Boyer has served as our NAMA representative for quite a long time, and he's been nominated to continue in that capacity.

I hope that you take an interest in how our club is run and that you'll express your opinion by voting at the January meeting. I'm looking forward to seeing you there.

- Ray LaSala

Annual MAW Mushroom Fair

The annual MAW mushroom fair was held at the inimitable Brookside Gardens in Wheaton, Maryland on

October 3. The resounding success of outreach and communication of mycology was evident in the interest and enthusiasm of the more than 900 visitors and 8 new MAW members.



Fair organizers Connie Durnan (Membership Chair) and Danny Barizo (Vice President)



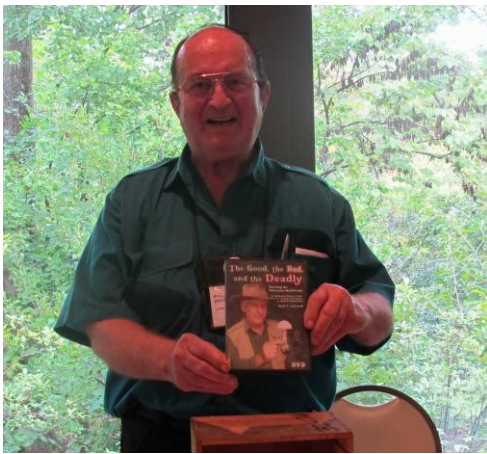
Welcoming Committee Karin Adams (Hospitality) and Jim Sherry (MAW editorial writer and cartoonist)



Gourmand Chef Ray LaSala (President)



Bruce Boyer (NAMA representative) in mushrooms identified here.



Fred Seymour (Librarian) - the good books of MAW.

Annual MAW Sequanota Weekend retreat

On Friday, October 8, the annual road trip to Camp Sequanota was undertaken by a cadre of 31 MAW members where they joined 11 members of the Western Pennsylvania Mushroom Club (WPMC) and one North American Mycological Association (NAMA) member from Canada. Two guest mycologists John Plischke III of WPMC and Noah Siegel of Royalston, Massachusetts assisted in the identification of 149 different fungi species.



Noah Siegel (left center) identifying mushrooms at the collection table as Danny Barizo and Bruce Boyer look on

Tax deduction for you MAW membership contributions.

MAW is a tax-exempt public charity under section 501(c)(3). This means that contributions (including annual membership dues) to MAW are deductible as charitable contributions (as an itemized deduction) in computing your federal income tax liability. For small contributions of less than \$250, the required documentation requirement is not very burdensome - you simply need to maintain for your records either a copy of your cancelled check, a receipt from the charity showing the date and amount of the contribution, or other "reliable written records" of the contribution. Accordingly, MAW does not routinely send out an acknowledgement of your dues (since you will have your cancelled check). But if you need a written confirmation, you can request a receipt for your MAW membership dues by sending an email to memberships@MAWDC.org.

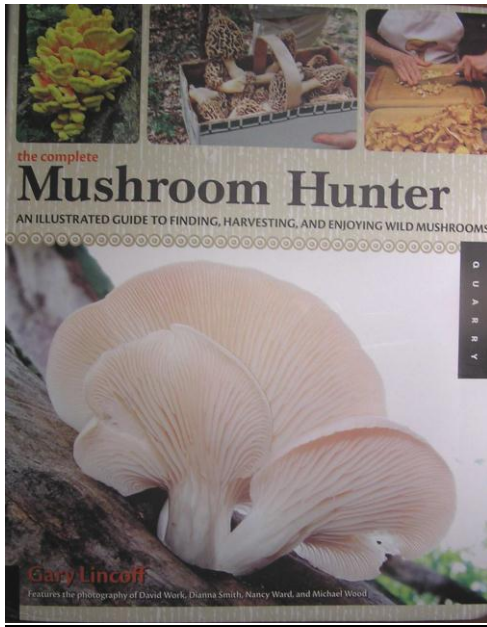
One area of possible confusion is a rule that reduces the allowable charitable contribution deduction by the value of any benefit received for the contribution. You may ask, how can you possibly get a charitable deduction when the benefits of being a member of MAW are worth way more than the \$20 or \$30

membership contribution? But wait, there is even more good news (in addition to the bargain you are getting): the benefits of being a MAW member won't reduce your charitable contribution deduction. The reason for this is that for membership contributions of up to \$75 the IRS disregards the value of certain membership benefits and they do not reduce the allowable charitable deduction. Disregarded benefits include free or discounted admission to the organization's events (such as forays), preferred access to and discounts on purchase of goods or services, subscription to a non-commercial publication like MAW's newsletter, and admission to events that are limited to MAW-members but which have a cost to MAW of less than \$9.50 per person (for 2009). Accordingly, all of the MAW member benefits should be excludible for purposes of computing a charitable deduction for your annual membership contribution. [Note however, that because MAW's practice has been to cover costs of the spring and fall wild foods tastings by collecting a \$10 admission from members who don't cook, this added charge probably would not be treated as a deductible contribution because it is not part of the membership dues.]

- John Harper



Book Review: The Complete Mushroom Hunter by Gary Lincoff



Like the iconic Compleat Angler, Isaak Walton's 17th Century encomium to the art and lore of fishing, Gary Lincoff's newly published The Complete Mushroom Hunter celebrates his lifetime passion for hunting wild mushrooms. The objective, as stated in the introduction is to inculcate the mycological neophytes with the visual and factual knowledge necessary to "recognize some to the best edible mushrooms and reliably distinguish them from their poisonous look-alikes." To this end, the book succeeds as an introductory guide to edible mushrooms and is a welcome counterpoint to the myriad field guides that are of little use in the field unless you already know what you are looking for. It is not, however, complete.

The book is divided into five chapters that mirror its intended use. Chapter 1, entitled 'Mushrooms, the What and the Who' is basically a survey of the

various cultures of the world with some commentary on the mycophilic cultures of Asia and Europe. This is presumably to offset the inherent mycophobia of North America, an inheritance of our predominantly Anglo-Saxon early cultural ancestry, and the likely mindset of most if not all likely readers. There follows in Chapter 2 a synopsis of the mushroom hunt with some guidance on where to look and what to bring with you, complete with a checklist of caveats such as the need for insect repellent and a compass.

Chapter 3, 'Mushroom Identification' is the essence of the book just as it is the object of the hunt; it comprises well over half of the text by page count. After relegating the kingdom of fungi and the nature of the mycelium to a single page, the chapter opens with a listing of the ten most familiar groups of non-gilled mushrooms. These are then cross referenced more or less to in a table according to their presence in the nine major regions of the world (presumably from the mushroom hunters experience) that range from the obvious North America (yes, all of it) to the more esoteric "ANZ" for Australia/New Zealand. This is more an attempt to give the book a global appeal than to achieve any real practicality - 8 of the 14 listed forms are N/A in Africa.

There follows a 5 - 10 page summary of each of the major non-gilled mushroom groups that starts with Morels (what else) and ends with Wood Ears (*Auricularia auricula*). Each group is handled independently with a leitmotif side-bar listing of the common name(s), the scientific name, a field description, and common look-alikes. The chapter closes with a cautious listing of the

edible gilled mushrooms, with great care to differentiate them from the poisonous gilled mushrooms. Chapter 4 is a brief overview of medicinal mushrooms, which, though interesting, does not fit in with the theme of the rest of the book. Chapter 5 is the predictable cookbook - after you find the wild mushroom you have to eat it - with a fairly good list of simple recipes.

The book is not "complete" because it purports to offer a singular resource that will convince the aspiring mushroom hunter to venture into the woods to find and eat wild mushrooms. While it may achieve this for the non-gilled mushrooms (who could mistake a Chicken-of-the-Woods aka Sulfur Shelf?), I doubt that it will for gilled mushrooms. Too often, the distinction among the good, the bad and the ugly is clouded with non-descript differentiation. For example, a poisonous *Agaricus* (*A. xanthodermus*) puts the kibosh on any *Agaricus* with the comment: "These poisonous species of *Agaricus* occur everywhere, and they are much more abundant than the edible species." Then there is the *Boletus huronensis* that looks just like the revered *Cep* (*B. edulis*), except that one bite results in "a day or two of cramps, vomiting and prostration."

The inherent reluctance of the tyro mycophagist is best described by Michael Pollan in The Omnivore's Dilemma as he ponders his first encounter with a wild chanterelle. On inspection of the mushroom with field guide in hand, he notes its consistency with the description contained therein: color, apricot smell, trumpet shape, and 'false gills.' Reading on, he notes reference to a 'false chanterelle' with 'thinner gills'

which plants the seed of doubt and amplifies the mycophobia of his past (maternal) experience. The end result is the predictable discard of the mushroom and the realization that he had made manifest the essence of his now iconic tome: "I didn't realize it at the time, but I had impaled myself that afternoon on the horn's of the omnivore's dilemma" which is that eating can be dangerous and that "when it comes to figuring out which of those things are safe to eat, he's pretty much on his own."

The Mushroom Hunter is an eminently readable book, providing a non-technical introduction to the esoteric world of the wild mushroom. The inimitable Lincoff is at his insouciant best, embellishing the dry descriptions of fungi with anecdotes from his seemingly inexhaustible supply of foray stories that range from a French restaurant owner who could not tell the difference between a chanterelle and a hedgehog to the seven deadly sins of mushroom hunting (lust being number one). It is also in sense a photographic allegory of his life experience: he appears in hat and vest as a young man when you open the table of contents, and in a different hat and vest as the wry, savvy, mushroom-hunting sage that he has become on the last page.

- William Needham

Editorial Mushrooms with Sherry

Fungi Facts

Fungi: Yeast, Molds, Rusts, Smuts and Mushrooms. What?

Of the 70,000 fungi named, only ten per cent can be seen with the naked eye.

Sixty to eighty per cent of fungi

found east of the Rockies are not found west of the Rockies.

A dried fungus can last for centuries.

Chanterelles are the most widely consumed mushroom, worldwide.

Shiitake mushrooms could not be imported into the U.S. until 1972-the government thought they attacked railroad ties.

Fungi provide to trees and other plants: nutrients (phosphorus, potassium and nitrogen), water, and protection from pathogens but not all fungi provide all of these.

Fungi must fight for survival in the forests and in doing so they develop chemicals which are potential medicines. Fungi don't develop these chemicals if raised in a lab.

In a square meter of forest ground one may find over 100 mycelia representing different mushroom species, but only a few will show a fruiting body.

Nature does not produce a species, but man can identify many.

The honey mushroom sends out rhizomes which grow up the inside of a tree's bark and takes the tree's water and nutrients, leading to the death of the tree.

When a mushroom appears overnight, it has previously formed an unseen primordium which can pop up as a mushroom with rain.

In a forest, white rot occurs on logs much more often than brown rot but brown rot is more easily identified.

Most forest floors are too acidic for bacteria to grow well, so saprobic fungi are left to be the main agents of plant decay.

As a kid I ignited firecrackers with punk not knowing that the punk was made from a fungus (*Fomes fomentarius*).

Many fungi don't lazily drop their spores, they punch them out with a strong force which is provided by water pressure.

Chicken and hen fungi can grow under the same scatlet oak in the same month (October) of the same year.

Finding the fabulous five;

Morels-Maw "Morays"
Chanterelles-inherit a patch
Chicken-drive through parks and neighbors
Oyster-two years after a knock-down wind
Hen-look for scarlet oaks

- Jim Sherry

Life and Death of a Hen **(*Grifola Frondosa* aka** **Maitake)**

Under a Scarlet Oak in October

Jim Sherry



Day 3 - Birth



Day 14 - Maturity



Day 21 - Harvest

Fungus Notebook



Common Name: Fly Agaric, Fly Amanita - The toxic properties of the mushroom were reportedly used to ward off flies, though there is some question as to the veracity of this assertion (discussed below).

Scientific Name: *Amanita muscaria* - The generic name is taken directly from the Greek word *amanitai*, which may refer to Mount Amanus in northern Syria; the use of *Amanita* is attributed to Claudius Galenus (better known as Galen), the noted Greek physician, who, according to Charles McIlvane in *1,000 American Fungi*, used the

term to describe 'esculent fungi.' The Latin word for fly is *musca* whereas the derivative *muscaria* means related to flies, reference to the aforementioned use of the mushroom to kill flies.

Amanita muscaria is surely the most recognizable mushroom in the Kingdom Fungi. It is the epitome of the genre, the bright red cap with contrasting white dots like a beacon against the backdrop of ochre and verdant hues of the forest floor. Its use as the quintessential toad stool, frequently depicted with the eponymous amphibian squatting in apparent total disregard for predators on the vermilion, aerial perch, has made it the subject of countless worthless tchotchkes and colorful nursery decorations. Facile identification coupled with a wide geographic dispersion - it is found on every continent except Antarctica - have both contributed to the global notoriety of the mushroom. The so-called fly agaric has figured prominently in the cultures of many regions and is accordingly a matter of some ethnological interest.

The designation of the *Amanita muscaria* as a fly-killer is steeped in historical traditions that date to the early Renaissance. Saint Albert Magnus, the noted Dominican bishop, prolific Aristotelian author, and defender of Thomas Aquinas, wrote in his 13th Century book "*De vegetabilibus* (Of the Plants)" that the well known red and white mushroom was used by northern, Germanic tribes, for killing flies by crushing it in a bowl of milk. As this apparent article of faith preceded the classification scheme of Carolus Linnaeus, the dipteran lethality of the mushroom was etymologically institutionalized in its first scientific listing as *Agaricus muscarius* (later to be changed to the genus *Amanita*) in the taxonomic tome "*Species Plantarum*" in the 18th Century.

With the Renaissance came the use of the scientific method to validate hypotheses through experimentation. In the 18th Century, the noted French botanist Jean Baptiste Francois Pierre Bulliard, who did some of the earliest work in mushroom identification, conducted experiments with fly agaric to see if it did, in fact, kill flies. In finding that it did not, he proposed that the scientific name be changed to *Agaricus pseudo-aurantiacus* (sham gold-colored agaric) to dissociate with the fly-killing implication of the original name. The status quo prevailed, however, and the *A. muscaria* as fly-killer myth persisted to the extent that

even the "Audobon Field Guide to North American Mushrooms" by Gary Lincoff asserts that "it has been used, mixed in milk, to stupefy houseflies." No one seems to have ever questioned why milk is a part of the purported insecticidal potion.

Experimental investigations taking advantage of advance chemical analysis began in the 1960's to identify the purported insecticides of the fly agaric. Chemical constituents which were identified first as ibotenic acid in 1964 and later as pantherine in 1965 were qualitatively attributed the necessary toxicity. However, follow-on quantitative experiments in 1970 and confirmed in 2000 found that the fly agaric did not kill flies, but rather caused them to buzz around as if intoxicated. The only experiments that have proven any coherent effect on flies is that the growth of the larvae of *Drosophila melanogaster* (the well known fruit flies of early genetic experimentation) was inhibited when they were fed powdered mushroom. There is accordingly no real compelling evidence for asserting that fly agarics kill flies but only that it may stupefy them so that they are easier to kill by the traditional methods.

The ecumenical association of *A. muscaria* with fly extermination across Europe and Asia in spite of dubious evidence that it has any measurable effect suggests that there must be some other explanation; The fly agaric is called *amanite tue-mouche* in French, *fliegenpilz* in German and *мухомор* in Russian, all of which basically mean 'kill fly.' One explanation that has been proffered is that the 'fly' in fly agaric does not refer to the insect, but to a cultural association between flies and the mental state of an individual. It is not hard to imagine in the Dark Ages of ignorance and superstition that the seeming clairvoyance of flies in escaping a well placed swat could only be anthropomorphic and that they must therefore be invested with chthonic powers. It may not be coincidental that Beelzebub, another name for Satan, means 'Lord of the Flies' and that flies are agents of the devil. As madness was seen as being possessed by the devil, a logical explanation would be that flies had penetrated the brain and possessed it with their demonic proclivities. The syllogism is obvious: if the strange looking red and white mushroom causes behavior characteristic of madness similar to the effect attributed to flies, then the mushroom must be related to flies and it is therefore

appropriate to call it the fly agaric - that is the mushroom that causes madness. But does it? That depends on the geography, the chemistry of species, and on other factors not yet well understood.

There are three chemicals associated with *A. muscaria* that are related to its toxic and psychoactive effects: muscarine, ibotenic acid and muscimol. Muscarine was first isolated from it in 1869 and was originally thought to be the cause the observed neurological effects of ingestion. Later research determined that muscarine was a minor constituent of the *A. muscaria* (~ 0.0002 weight percent) but was a major constituent in several mushrooms in the *Inocybe* and *Clitocybe* genera (~ 0.1 - 0.4 weight percent). Muscarine consumption results in excessive salivation and lactation followed by vomiting and diarrhea that can, in severe cases, lead to respiratory failure and death. Ibotenic acid and muscimol are currently thought to be the primary compounds responsible for the mushroom-induced human behaviors of the fly agaric. They are closely related, since muscimol (C₄H₆N₂O₂) is derived from ibotenic acid (C₅H₆N₂O₄) by dehydration induced decarboxylation. However, many other compounds have been isolated ranging from adenosine to xanthin that may contribute to a combined effect.

The symptoms of *A. muscaria* ingestion range from mild hallucinations to gastrointestinal distress. The most prevalent description is of psychotropic effects that result from eating one mushroom that become manifest from thirty minutes to one hour after ingestion. A confused state accompanied by lightheadedness succeeds to distortions of space, heightened visual and aural sensitivity and an unawareness of time - similar it would seem to the standard cannabis effect. After two hours, tiredness and drowsiness are followed by a deep sleep with vivid dreams that lasts about eight hours. David Aurora in "Mushrooms Demystified" reports that nausea and vomiting are common and that "an inordinate number of trippers seem to think they are Jesus Christ," but that "most people, including myself do not wish to repeat the experience." On the other hand, Charles McIlvaine in "One Thousand American Fungi" finds that *A. muscaria* is "undoubtedly poisonous to a high degree," since, when its juices were injected into an etherized cat, it resulted in death in less than a

minute (it is only implied that he personally conducted this experiment). In spite of this indictment, he apparently tried it, reporting that a small piece of a cap had a noticeable effect if taken on an empty stomach but that the nicotine from a pipe led to an abatement of the symptoms in about two hours, leaving only a "torturing, dull, skull-pervading headache." The New York Times reported in 1897 that a certain Count Achilles de Vecchi and a colleague, both members of the Mushroom Club of Washington (State), believed that *A. muscaria* was wrongfully maligned as poisonous and accordingly ate what was reported as copious quantities with the result that "both men were taken violently ill and Count Vecchi succumbed."

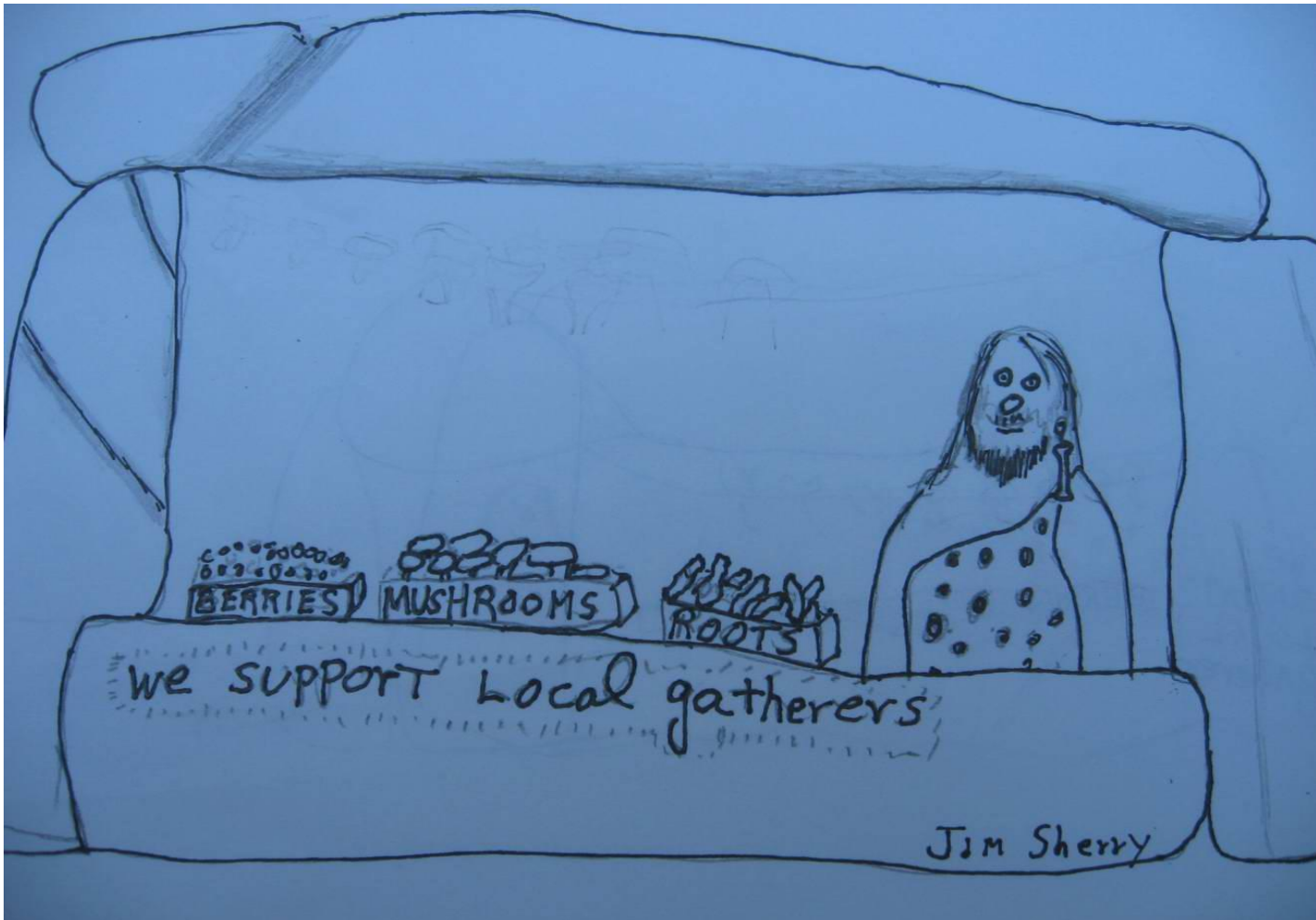
The *Amanita muscaria* has a long history of human cultural association and the resultant ethnomycology ranges from its well established use as an hallucinogen to some imaginative theories about its use in early religious practices. The various tribes inhabiting the northern regions of Eurasia known as Siberia have long used the mushroom primarily as a part of religious ceremonies, their holy men known as shamans obtaining a trance-like state that was thought to provide them with god-like perspicacity. Among certain tribes, it was the custom for the inebriated shamans to urinate into a vessel that was consumed by their celebrants who became similarly, though less intensely, manic. This is consistent with the chemical interactions of gastric fluids with the ibotenic acid and muscimol that are thought to be the cause of hallucinations - some of these compounds will pass through the body unaffected. This has been confirmed with samples of human urine taken one hour after mushroom consumption and validated by the conduct of experiments with mice. The use of *A. muscaria* in shamanistic rituals is still practiced by the Ostyak, Vogul, Kamchadal, Koryak and Chukchi tribes of Siberia. One of the more fanciful theories is that the shamans would dress up in red and white costumes to mimic the mysterious magic mushroom from which their power derived - this serving as the basis for the legend of Santa Claus complete with the flying reindeer.

The various theories connecting *Amanita muscaria* with early religious practices is based on a syllogistic association. Its crimson hue made it easy for a Stone Age forager to find and identify in a time when the paucity of food precipitated

experimentation. It is therefore likely that the mushroom was discovered early in human history when animism was the prevalent spiritual belief and that its hallucinogenic, heightened perception effects were attributed to deistic influence. Thus, the mystical experiences of the Ancient Greeks at Eleusis, the eponymous Eleusian Mysteries, have been attributed to it. Plato and Aristotle, among many others, are known to have participated in the ceremonies, where the congregants entered the Telesterion (Great Hall of Mysteries), there to be administered the Kykeon, a potion of mystical powers, that they swore on pain of death never to reveal. One biblical scholar at Manchester University has offered the theory that Jesus of Nazareth attained his spirituality by consuming mushrooms and that his disciples comprised a veritable mushroom cult. Others have sought to assert mushroom consumption by just about every biblical personage from Adam to Ezekiel. It is more plausible though not likely that the ritualistic "Soma" spiritual beverage of the Aryan conquerors of India in about 1500 BCE was made from powdered *Amanita muscaria*.

The substantive differences in the effects that result from eating *Amanita muscaria* ranging from mild discomfort to death in physical terms and from mildly narcotic to transcendental in spiritual terms are due to the variability of the mushroom chemistry according to geographic and local environmental conditions. There are three distinct clades of the species that are described as Eurasian, Eurasian sub-alpine and North American. All three clades are found in Alaska, contributing to the thesis that the species originated there and spread via the Beringian Isthmus in the Tertiary Period. In eastern North America, the primary variant is the yellow-orange subspecies *A. muscaria var formosa*, which tends to be more toxic and less hallucinogenic than its crimson cousin, which is found in the West.

- William Needham



BERRIES

MUSHROOMS

ROOTS

we support local gatherers

Jim Sherry