

Spore-Addict Times



The Newsletter of the Pikes Peak Mycological Society

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April 2011

MONTHLY MEETING:

WHEN? Monday, April 25, 2011 – The fourth Monday of the month.

WHAT TIME? 6:30 pm; The meeting will come to order at 7:00 pm.

WHERE? Pikes Peak National Bank, 2401 W. Colorado Ave. (across from Bancroft Park). Enter at the door on Colorado Ave., just west of the bank door. There you will find stairs and an elevator. You may use either. The room is on the second floor near the head of the stairs.

WEBSITE: www.pikespeakmushrooms.org

PROGRAM:

Patricia Gaffney will give a presentation about Amanitas and their look-alikes.

There will not be any refreshments after the meeting due to the new bank policy of no food allowed in the conference room.

PPMS Officer Nominations:

The nominating committee was hard at work over the winter months and was very successful in collecting willing volunteers to fill vacancies in certain critical positions. These will be up for a vote at the April meeting: (* - incumbent)

President:	Pending Nomination
Vice President:	Mike Essam
Secretary:	Patricia Gaffney
Treasurer:	Frieda Davis*
Hospitality:	N/A since food is not allowed at present venue.
Foray Coordinator:	Eva Mattedi*
Newsletter editor:	Ashley Anderson
Librarian:	Judith Willey*

PPMS Board of Directors

The PPMS BOD met on March 31, and decided to make a few changes to the way that the club functions:

The BOD concurred with the membership - that there will be no meeting (or newsletter) in October unless favorable weather extends the mushroom hunting season.

The PO Box will be eliminated as of November and Frieda Davis will have all mail forwarded to her home. This will close the "winter gap" for people who sign up on-line.

New members who want to receive snail-mail will be charged an additional five dollars to cover the costs of printing and mailing. Existing members that receive snail-mail will not see an increase unless dues rise for general membership.

Bit's & Pieces:

Lee Barzee Has Polypores On Her Mind

(Ed: This was written last fall for publication in the October newsletter. It did not make the deadline.)

Seems in Colorado the usual sought after mushrooms have now gone to nether regions. Some of us continue mountain trips, however. That Fall aspen-leaf-change journey between 9,500 and 10,500 feet was a landscape experience of awe. The Colorado Indian-summer atmosphere with bright sunshine on the aspens presented an absolutely luminous golden radiation aura. At the present price of gold at \$1420.00 an ounce, Ha! we were freely enriched; energized to the heart!

I'd like to suggest some PPMS trips though less spectacular than the above. Can we anticipate the joy of success as rewarded at earlier foray hunts? [ANSWER to be announced this spring.] Expected 'finds' from these trips will be different: POLYPORES. Do imagine the challenge, a polypore trip. One for fun.

While keeping the club goals of gaining knowledge plus socializing, such engaged curious members could play detective an easy way via twenty question games. Polypore trips? Who ever heard ... I mean polypores that grow on stumps, or sticks on the ground. The so-called "brackets" and "conks." Some are hard, woody. Some are leathery, or are hoof-like growths on living trees. Some can be woodier than the wood they feed on! (I've seen 'em.) Some are perennial and add a new growth layer onto the old one each year. Such as Ganoderma, Fomitopsis, Phellinus. (You non-beginners, remember them?) Some 40 years ago my own first proud polypore collection was revelatory. At that time I had brought a hefty hoof-like thing to a mycologist at Ft. Collins for an identification. He looked at it, in hand, steadily, seriously, for several long seconds. Then he looked at me and said, "This freshly cut specimen may be 100 years old!"



Fomitopsis officinalis

At NAMA 2010 I learned that mycology researchers found important new antibiotics derived from this same polypore species. The report on this has recently been published.

Arora said of polypores, "notice their diverse forms and appreciate 'their work' as the dominant decomposers." He also said that they are 'good guys. (Presuming that we'd be buried in the dead tree debris without them.) Now in this 21st Century there's a new generation of brilliant mycologists who have demonstrated through their current technical research more dramatic discoveries from polypores. Some polypores protect their host tree from other destructive types of fungi. And, potentially, they will also protect their host tree from other destructive types of fungi. And, potentially, they will also protect us from fatal diseases.

No, Arora, we'll not ignore the polypores. We'll notice their diverse forms and appreciate "their work" as "better & best guys".

On my proposed poly trips we'll get acquainted with the firm ones by just looking and using pictures for comparison. (Yes, Lee said, that!) No lens magnifiers, no metric rulers required. It's just not much fun, for example, to count the number of pore mouths per millimeter. Pore openings on these polys are often truly minute. Collecting not necessary. I'll certainly not collect any ungulate types. (Call it senior-shared professional courtesy) Photography welcome. If you think these polypores are mostly drab grays, think again. Look for the following decorator colors:

<i>Red</i> , cinnabar	(Pycnoprus)
<i>Violet</i> , pores	(Trichaptum)
<i>Green</i>	(Trametes or Albatrellis ellisii)
<i>Pink</i>	(Fomitopsis cajanderi)
<i>Yellow</i> as margin of	(Gloeophyllum sepiarium)

This last listed is common and frequently brought to our meetings. I Just learned at NAMA 2010 that this Gloeophyllum possesses a one and only, unique enzyme in the whole world.

Oh, oh! I see something white up there. Snow. Perhaps my poly trip plans need an "on hold" 'til warmer weather? Unless that is Congress's now shredded unread thousand pages of paper floating down.



Boletus chrysenteron



Boletus rubripes

Boletus chrysenteron and Boletus rubripes --- do they look alike to you? Once noticed or glanced in pictures, displaying the color red, for example, leaves an impression in the memory. But the fleeting memory becomes distorted in little time and doubts arise unless that notice or glance was truly attentive, say, beyond red. Learning to identify, is an opportunity to hone your observation skills to a sharpness that cuts out the doubts and eliminates "look alikes" that aren't there.

So, begin your studies with learning "how to look at a mushroom".

The Science Project You Can Eat

By ANNE MARIE CHAKER

Wall Street Journal, January 27, 2011

What do you get when you cross a science experiment with a love of home-grown food? A

mound of mushrooms growing out of a turkey pan by the microwave. That's the way it is at the Redmond, Wash., home of Paul Nghiem, a University of Washington cancer researcher who bought a \$26 mushroom-growing kit online around Christmastime. Now, his two sons, ages 5 and 11, are obsessed with it. "The five year old was going nuts," Dr. Nghiem says. "Every day asking, 'Can we cut them? Can we cook them?'" Following the instructions that came with the kit, Dr. Nghiem placed the block of sawdust in a pan and tented a plastic bag on top with chopsticks. Since then, with consistent watering, the Nghiems have grown several meals' worth of shiitakes. Dr. Nghiem says the boys can't get enough of the mushrooms. "I didn't get to eat any the other day," their dad complains. "They ate them all before I could get to the table." Locavore eating is moving indoors with mushroom-cultivation kits, a niche product whose sales are multiplying (not to say mushrooming), as foodies seek out ever-more-unusual ingredients (Hen of the Woods, anyone?). The kits also appeal to parents who, at this time of year, are looking for projects to occupy winter-bound kids. Paul Stamets, owner of Fungi Perfecti, an Olympia, Wash., retailer, says sales of his indoor mushroom kits have been growing at a steady 25% a year for the past three years. Kit varieties range from meaty maitake (my-TOCK-ay) to delicate pearl oyster mushrooms. More bang for the buck can be had growing mushrooms outdoors. Mr. Stamets's website, Fungi.com, and some other kit retailers sell "plugs" of mushroom spawn, which growers can inject into logs or even tree stumps, a process otherwise known as "inoculating." The outdoor method takes more work than indoor kits: The grower drills holes in a log, then uses a hammer to whack a dowel plug into each hole. It may take a year or even two before any actual mushrooms appear; but once it occurs, fruiting could potentially continue—on and off—for a period of several years. Fueling home-growers' enthusiasm is a favorable nutritional profile for the lowly fungus. Mushrooms are low in calories, rich in antioxidants—and they are a rare fresh fruit or vegetable naturally containing Vitamin D, according to the Mushroom Council, a San Jose, Calif., trade group of growers. Mushrooms are increasingly headliners in vegetarian and vegan dishes, where they

provide a "chewy, rich meatiness," says Connie Green, a professional mushroom forager in Napa, Calif., and distributor of wild mushrooms to restaurants across the country. Only in the past decade or so have mainstream grocers expanded their offerings beyond plain white button mushrooms. Now many supermarkets regularly stock shiitakes, creminis and portobellos, and oyster mushrooms are even starting to appear. Mushrooms are created when two spores mate and grow a network of long filaments similar to roots, called mycelium. In order to "fruit," or bear mushrooms, the mycelium must "feed" on a substrate—typically dead organic matter, such as fallen leaves or a tree stump. The medium, a substrate block provided in mushroom-growing kits, may include sawdust, straw, wood chips or even coffee grounds. Mycelium is already growing in it, representing a significant head start over outdoor cultivation. To get started, a few days of refrigeration may be necessary for the kit, followed by a soak in water. Then in as little as a week, mushrooms will start to form. Many growers will get multiple "flushes" or fruitings from one kit—which can mean six weeks to six months of mushroom mania. Mushrooms do well indoors because they like temperatures from 55 to 75 degrees Fahrenheit, "and most people keep their houses in that range anyway," says Donald Simoni, owner of Mushroom Adventures, a Marysville, Calif., maker of mushroom kits. Starting other kinds of plants from seed requires strong light. But kit-grown mushrooms can sprout with the ambient light found in the home, and some will even grow in the dark. It helps to maintain a constant humidity level. Mr. Simoni recommends sprinkling the mushroom patch with water at least once a day. Some kits come with a sprayer or a plastic tent, to be draped over the patch to hold in humidity. A mushroom kit, however, makes a major mess if it isn't harvested on time. Mature mushrooms produce spores resembling white powder; a single mushroom can produce millions of spores. The powder can start to appear around the mushroom patch and even coat countertops and cabinet surfaces. That happened to Trista Martin, a 26-year-old professional nanny in Olympia, Wash., who recently began growing mushrooms in her kitchen, including the big and toothy Lion's Mane, whose flavor she describes as "lobster-like." "The entire shelf turned white, and there was a pretty thick layer," she says. "It coats everything it lands

on. We had to wipe down cookbooks, the shelf and everything else." Mushroom spores can cause allergic reactions, such as eye or nose irritation, in some people, says Daniel J. Royse, who oversees a mushroom-research laboratory at Penn State University. Pennsylvania produces some 60% of the mushrooms grown in the U.S., according to the Mushroom Council. An experiment growing different types of mushrooms in coffee grounds led two undergrads at the University of California, Berkeley, to start their own mushroom-growing business in 2009; they moved into mushroom kits and began exclusively selling them starting last summer. Using Pearl Oyster mushrooms, the best-performing variety in their experiment, Nikhil Arora and Alex Velez formed BTTR Ventures LLC (also known as Back to the Roots), of Emeryville, Calif. Whole Foods began selling the kits out of a single store in Berkeley last spring. The kits sold out fast, and a month later, 30 Whole Foods stores across Northern California were selling them. Now, they are sold in more than 150 Whole Foods stores. "It is performing much better than we expected," says Randy Ducummon, regional produce coordinator for Whole Foods' Northern California region. "At Christmas we put it out as a potential gift item, and we couldn't get enough and sold out." While the benefits of growing your own food are many, in the case of mushroom kits, saving money may not be one of them. Mr. Simoni's Blue Oyster kit retails for \$37, plus shipping, and will yield up to four pounds of mushrooms. That compares with \$28 for four pounds of Blue Oyster mushrooms that he gets at farmer's markets. Mr. Simoni says the point of the kits isn't just the size of the yield. "Just as important is the fun of learning how the process works," Mr. Simoni says. "It's educational." The kits are "fun and interesting, and if it gets kids eating mushrooms, then that's great," says Laura Phelps, president of the American Mushroom Institute, in Washington, which lobbies for commercial mushroom growers. "But you'd be better off economically going to the grocery store."

From Soup to MS Drug: One Fungus's Journey

By Kanoko Matsuyama,
Business Week, March 12, 2011

Tetsuro Fujita's eureka moment about a Himalayan fungus came in 1985. As the scientist was driving over a bridge between Japan's Shikoku and Honshu islands on his way to conduct research on traditional herbal remedies, Fujita was contemplating ways to keep patients' immune systems from rejecting transplanted organs. He was particularly intrigued by the example of a parasitic fungus used in a Chinese medicinal soup. Known in Asia as "winter insect, summer plant," the Cordyceps fungus invades an insect larva during winter, feeds on it for months, and then grows out of the host by summer. Fujita suddenly realized that the fungus must be suppressing the immune system of the insect larvae on which it grew to maturity. His research on Cordyceps at Kyoto University eventually helped Japanese drugmaker Mitsubishi Tanabe Pharma produce Gilenya, a treatment for multiple sclerosis that Novartis (NVS) licensed and began selling in the U.S. in October. UBS (UBS) says annual sales of the medicine, the first pill to treat the autoimmune disease afflicting more than 2 million people worldwide, may exceed \$5 billion annually by 2018. That would rank it among the 10 best-selling drugs worldwide, based on data from researcher IMS Health. Mitsubishi Tanabe will likely book royalties equivalent to 10 percent of sales, based on the median of estimates by four analysts surveyed by Bloomberg News. "Little did I think that it would be a treatment for multiple sclerosis," says Fujita, 80. "I knew nothing about the disease back then." Multiple sclerosis causes the immune system to attack the myelin sheath, which protects nerve cells, leading to symptoms including numbness, difficulty in coordination, and memory loss. In its severest form, multiple sclerosis also can shorten life. Gilenya, approved to treat the relapsing-remitting form of multiple sclerosis, the most common, competes with injected drugs including Biogen Idec's (BIIB) Avonex and Teva Pharmaceutical Industries' (TEVA) Copaxone. The Novartis pill cut the number of relapses by more than half compared with Avonex, according to a study published last year in the New England Journal of Medicine. European regulators are expected to

make a decision on the drug by the end of April. Gilenya is also being reviewed by regulators in Japan. In the U.S. the drug is priced at \$4,000 for a monthly prescription. A month's supply of prefilled Avonex syringes costs \$2,414.99. Analysts expect Gilenya to be cheaper in Europe. Current medicines require patients to inject themselves every other day or once a week, says Kyoko Nakata, chairman of Japan's MS Cabin, a support group. "Gilenya would make it easier to treat the disease, as it saves time and brings patients closer to having a normal life," says Nakata. That's gratifying to Fujita, now a professor emeritus at Kyoto University. "Although it took a quarter of a century," he says, "I'm happy it's become a drug while I'm still alive." The bottom line: According to analysts' estimates, Mitsubishi Tanabe will likely book royalties equivalent to 10 percent of sales from its new pill to treat MS.

Poison Centers in Danger from Federal Cuts

The House of Representatives on Saturday, Feb. 19 voted to cut \$27.3 million from the federal poison control program – a move that would effectively lead to the closure of many U.S. poison centers... for more information contact AAPCC.org.

Mushrooms & New Technology

Technology is marching on in the form of new ways to obtain information related to mushrooms. I received a Kindle and an iPad2 recently. I thought that others might be interested in learning about ebooks and tablets as a means to improving your knowledge base and possibly have fun while doing it. These are not endorsements, as I have not tried them - Bud.

Mushroom Apps for the iPad/iPhone

The Apple iPad is creating a storm of interest among technophiles. Some of you may have one already – others might be considering getting one or perhaps wondering what all of the fuss is about. Well... here is a listing of apps that you might find interesting. The descriptions are from the Apple App Store.

Fungi Kingdom (\$4.99) by Simon de Bernard



'Fungi Kingdom' is the iPad adaptation of the 'Fungi' mushroom identification application.

Fungi Kingdom allows you to search among nearly 500 mushroom species using a dynamic description system based on hymenium type, cap shape, hymenium attachment type, stipe characters, spore print color and/or ecological type.

Selecting a mushroom from the list matching your criteria gives you access to its Wikipedia page, complete with available pictures, description, scientific classification.

The complete Fungi Kingdom database is included in the downloaded application providing full functionality where no network is available.

Mushrooms (\$0.99)
and **Mushroom Lite** (Free)



This application contains a list (with images) of mushrooms. It gives very good information when the network is not available e.g. in the woods!

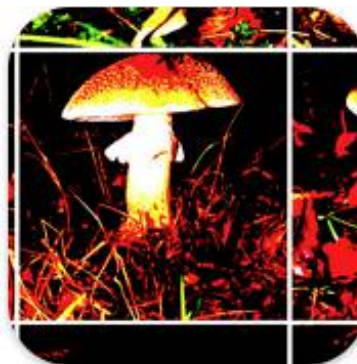
With respect to the lite version:

- new mushrooms has been added
- new listing with search option
- new classification with full information on scientific names
- new layout with all option available in a simple touch including the direct link to the wiki page

As a bonus a new button has been added with some recipes, of course related to mushrooms'

Mushrooms! (\$2.99)

By *Italic Labs*



Mushrooms! Is a collection of striking photographs. There is no information about the fungus in the photo, but if your into pretty pictures this app is for you. The app description claims that it has "hundreds of stunning images".



Photo from Mushrooms! app.

Mushroom eBooks for Kindle and Nook

There are 272 ebooks for Kindle that result from a search of “Mushrooms” at the [Amazon Kindle Store](#). As expected, there is a plethora of books about Psilocybin and Mushroom Cookbooks. There are even mushroom mysteries and I'm sure even a thriller or two! There are some possible gems to consider as well:

Mushrooms: how to grow them a practical treatise on mushroom culture for profit and pleasure by William Falconer. Copyright 1892. Is free and might be of some value if your interest runs in this direction. But it is an old book (sans images) and should be read with some caution.

Mycelium Running: How Mushrooms Can Help Save the World by Paul Stamets. Copyright 2005 \$27.99 Wild ideas about mycelial possibilities!

Growing Gourmet and Medicinal Mushrooms by Paul Stamets. \$35.99 (This item is not available until July 2011, but is available in paperback for \$20)

The Mushroom, Edible and Otherwise Its Habitat and its Time of Growth by Miron Elisha Hard. Copyright 1908. Free. Read this for its entertainment value and to ascertain the differences between mushrooms and toadstools.

Among the Mushrooms A Guide For Beginners by Caroline A. Burgin and Ellen M. Dallas. Free. Published in 1900, it is written in an archaic style, but offers some insight into the choices of latin names for various species. Mostly covers British fungi, but there is overlap with North America.

The Complete Mushroom Hunter : An Illustrated Guide to Finding, Harvesting, and Enjoying Wild Mushrooms - by Gary Lincoff. Copyright 2010. \$9.99. Aimed at the mycophagist – all about edibles. Appendix has info about poisoning symptoms and treatment.

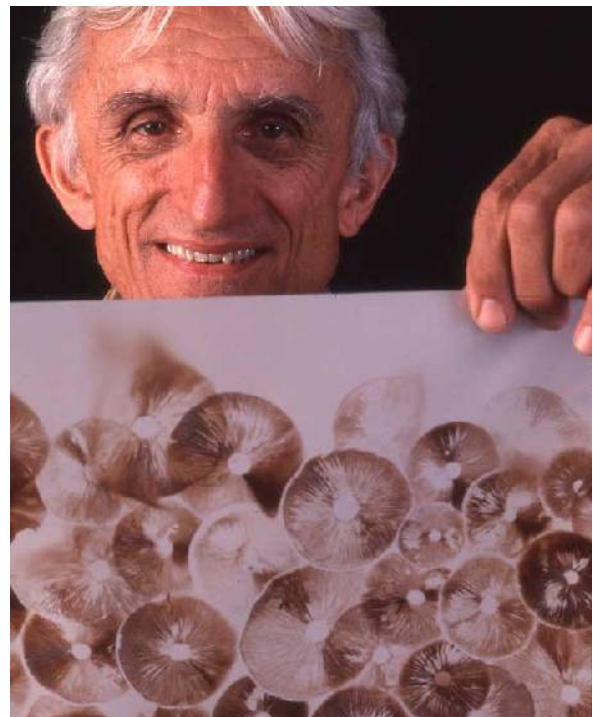
A similar search at the Barns & Noble site turned up over 126 ebooks. In fact, there were 100 books offered for free. But I would caution the beginner to beware of these books that are

so old that the copyright has expired (before 1923). All of the listed books found in the Kindle store were also available here as well. The Nook has an advantage over the Kindle in that it can display color images.

There are no ebook versions of the references that we usually recommend to PPMS members: “Mushrooms of Colorado” by Vera Evanson, and “Mushrooms Demystified” by David Arora. They are both available online as hardcopies.

An Archives Project: The Samuel Ristich Papers

Few educators have been as beloved as Dr. Sam Ristich, “the mushroom guru,” who was an inspiration for countless mycologists. Any of the legion of Sam’s students and admirers will attest to his unparalleled enthusiasm for the marvels of the world of fungi and his unique talent for encouraging interest in the study of mushrooms, and all of the natural world, in just about everybody he encountered.



The Ristich family has decided to preserve Sam’s scientific legacy by preserving his personal papers in an archival collection. For more information visit <http://SAMRISTICH.com>

The Pikes Peak Mycological Society, a nonprofit organization dedicated to the advancement of mycology, publishes Spore-Addict Times monthly from April-September. Membership is open to anyone wanting to study mycology. Annual dues are \$15 for individual and family memberships. **Submission of ideas, articles, reviews, letters, artwork and recipes are welcome.**

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September's Mystery Mushroom was Scleroderma areolatum, or Earth ball, as it is commonly known. Pat Gustavson won.

Mystery Mushroom

I am an edible mushroom found on the ground from August until October.....usually under Douglas Fir or Spruce as I have a mycorrhizal relationship. My gills are decurrent, white when young then turning grey and finally blackish as smokey grey spores ripen. If you like escargots, I "might" be a possible substitute as my cap when moist is slimy purplish-brown to purple-grey. My stalk is bright yellow below a partial veil.

Who am I ???

The Spore-Addict times is the official newsletter of the Pikes Peak Mycological Society (PPMS) and is published monthly April – September. All articles appearing in this newsletter may be freely reproduced, unless otherwise noted, for use in other newsletters provided the source and author are acknowledged. We consider this to be a reciprocal agreement for clubs that send their newsletter to us unless we are advised to the contrary.

Spore-Addict Times
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