



MycoDigest:

William Bridge Cooke:

an avid collector and much more

Else Vellinga

Chances are that you have never heard of William Bridge Cooke – an Ohio-born mycologist who lived from 1908 till 1991. Yet he played a big role in the history of California mycology.

I came across his name over and over again while working on the digitization of the herbarium collections at UC Berkeley. He contributed over 2100 mushroom collections to the herbarium, more than any other collector. Cooke spent the summers of 1936–1941 and again 1946–1947 as custodian of the Shasta Alpine Lodge at the Horse Camp halfway along the route to the peak of Mount Shasta. That meant providing hikers with food, warmth and a shelter, but also ample time to investigate the plants, mushrooms, and other fungi of the area.

And that he did. He made a set of collections of Mount Shasta fungi, which he offered to the University of California, Berkeley. Even more importantly, Cooke discovered that in spring and early summer, certain mushrooms fruited beside the melting snow, coining the term “snowbank fungi” to describe this phenomenon. Melting snow provides the fungi with the dearly

October 21
General Meeting Speaker



Katrina Blair

*“Foraging on the Wild Side:
Edible Plants, Mushrooms, and Medicine*

Katrina Blair began studying wild plants in her teens when she camped out alone for a summer with the intention of eating primarily wild foods. She later wrote “The Wild Edible and Medicinal Plants of the San Juan Mountains” for her senior project at Colorado College. In 1997 she completed a MA at John F Kennedy University in Orinda, CA in Holistic Health Education. The following year, she founded the non-profit Turtle Lake Refuge, whose mission is to celebrate the connection between personal health and wild lands. She teaches sustainable living practices and wild edible and medicinal plant classes regionally and internationally. In 2009, She published *Local Wild Life- Turtle Lake Refuge’s Recipes for Living Deep*, which examines the culinary and medicinal uses of local flora. She has a new book coming out this fall — *The Wild Wisdom of Weeds: 13 Plants for Human Survival* — published by Chelsea Green Publishing.



Lentinellus montanus, here photographed on the slopes of Mount Shasta

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PRESIDENT'S POST

Hello MSSF Members,

The first general meeting of the season had the feel of a reunion in September after our summer hiatus. People brought mushroom tales to share from the Rocky Mountains to the East Coast, and even overseas. If anything, our member base is an inspired group and even if we face continual dry times in California, people are always finding new ways to discover mushrooms during all seasons.

In local news, Professor Tom Bruns gave a great talk on forest fires and their relationship to fungi at our first annual meeting. A longstanding topic of interest among our members, this talk was especially timely and important given our western forest ecosystem as well as the ongoing politics around the closure of the Rim Fire burn zone in the Stanislaus National Forest. The MSSF was one of the first organizations to question the reasoning behind closing public lands as an organization of concerned citizen members. We are not "out of the woods" yet on this issue, so I'll be sure to inform membership on any future actions that we take towards reestablishing access to our open public spaces.

In other current news, the MSSF council had its first annual budget meeting on Sunday September 7th. During that meeting, the council decided unanimously to eliminate the print version of Mycena News after the December 2014 issue and publish it solely in digital form. This will be quite a change, as we've had a printed newsletter option for many years, but it felt necessary to finally change that. During his tenure as President, Curt Haney helped move the MSSF towards becoming a greener society by encouraging all to sign up as e-members. By eliminating the costs of printing and mailing, the MSSF can redirect financial resources towards other beneficial areas, such as bringing in high profile speakers from further afield and expanding educational offerings to our members. I'm excited about this change and, as with all changes, I'm open to receiving questions and feedback.

Mark your calendars for the weekend of December 6th and 7th, when we will be hosting the annual MSSF Fungus Fair. This year the fair will again take place at the Hall of Flowers in Golden Gate Park. We're building off of last year's format by including Saturday the 6th as an opportunity for the public to attend seminars, cooking demos, and our other educational offerings. The main Fair with display tables, talks, etc. will again occur on Sunday the 7th, but we felt it would be wonderful to expand the programming an extra day to include a broader variety of speakers and participants within great event. Remember, events like these cannot come to be without a great volunteer core. It's never too early to offer your help, so if you want to be part of a great event, please contact Fungus Fair Chair Stephanie Wright at fungusfair@mssf.org.

Thanks to all of you who continually contribute to make the Society a great organization. And to new members, I look forward to seeing you at a MSSF event sometime soon.

-- David Gardella

CULINARY CORNER

Patricia George

My mushroom season began high up in the Colorado Rockies at the quirky, irreverent Telluride Mushroom Festival. Serious mycology information was abundant, and so were frivolity and food. Collections were identified. A cook-off was held, which spectators could observe while enjoying beers brewed with local polypores. A luscious and luxuriant mushroom pizza was made for us the night we arrived with fungi collected and cooked earlier by fellow MSSF member Enrique Sanchez.

After the Festival we hunted for boletes at a high elevation pass, discovering a nice collection of boletes, a local *Agaricus* species, some chanterelles and some hawk's wings. The chanterelles were very small compared to what we find in the Bay Area, but their flavor was incredibly rich, excellent in a big pan of scrambled eggs. We cooked the boletes and *Agaricus* in a bit of butter and bagged them for later. (They traveled very well in a cooler sandwiched between a block of dry ice and regular ice on top. Just make sure to wrap the food well; you can also wrap the dry ice in layers of newspaper. The carbon dioxide emitted by the dry ice kills larvae in the mushrooms and keeps them cold. I even brought some home, transferred them into a Foodsaver vacuum storage bag, and stored them in the freezer.)

Our group visited several glorious national parks in Colorado, Utah and Nevada and then headed over to South Lake Tahoe to camp one more night before heading home. We found so many boletes at the Echo Pass that we decided to stay an extra night. So, back home with several pounds of boletes to process and keep. Freezing them appealed most to me. I cleaned them, cut



B. edulis, popularly known as porcini

them up and sautéed them in butter. Mushrooms should always be blanched or sautéed if they are to be frozen. (I've seen whole, uncooked boletes in freezers, but believe they would be slimy messes when thawed.)

With rain, I am optimistic that we will have boletes this year. On page seven I am including a recipe for porcini powder, a delicious yet simple seasoning for meat and fish.

The MSSF Culinary Group resumed its season with our traditional September pot-luck. Some of my favorites were Lisa Leonard's candy cap kombucha and sugar-cookies masquerading as *Amanita muscaria*. The Culinary Group is a volunteer effort and we encourage MSSF members who love to cook and share evenings with a convivial group to join us for great fun and great food. Check the website for details.

Now please go out there and do something to bring rain!

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MycoDigest continued

needed moisture in what is otherwise a very dry environment: direct sunlight during the day, and cold – even frost – during the nights. Some of these fungi even fruit in or under the snow, such as *Lentinellus montanus*, on page one photographed on the slopes of Mount Shasta. *Mycena nivicola* pokes its caps through the snow and creates warm little snow-free patches with its fruit body (see Mykoweb.com for photos). But most of these fungi fruit where the meltwater drains, and they can fruit by the hundreds. The soil can be black from *Donadinia nigrella*, one of the spring ascomycetes. On fir branches *Pholiota nubigena*, formerly known as *Nivatogastrium nubigenum*, is common. This so-called secotioid fungus – a fungus that does not have exposed gills, but keeps the spores enclosed in the cap – smells strongly of bubble gum with a chemical component. It grows on wood, and is widespread in the western American mountains. Cooke noticed that squirrels sought this fungus out, ate a bit of it, and left the rest on rocks to dry and serve as food when there was nothing better to eat. (That is my interpretation, as I find the smell of this mushroom utterly offensive.)



William Bridge Cooke

These fungi are still around; the Forest Service has encountered many of these snowbank fungi during the 2011-2013 spring surveys in the Shasta-Trinity National Forest, probably on some of the very same spots as Cooke had seen them 70 years earlier.

This year of extreme drought made me more aware of the uniqueness of the western montane mycoflora, which does not occur anywhere else in the world. Europe's mountains have their "Schneetälchen" (snow valleys), little depressions in which the snow melts late and where low-dwelling dwarf willows support a specific mycoflora, but not really a spring aspect of the fungal fruiting. I wonder how many more years these specialized fungal habitats will persist under the warming conditions, which impact the

snowpack in the mountains.

William Bridge Cooke also gave the giant fuzzy polypore of the Pacific Northwest its species name, *nobilissimus*. Very fittingly, later mycologists placed it in a genus of its own: *Bridgeoporus*, named after our protagonist. *Bridgeoporus nobilissimus* fruits at the base of very old *Abies procera* and *Tsuga heterophylla*, where it forms gigantic shelves that Cooke estimated were more than 300 pounds in weight. These form little ecosystems in themselves, harboring yeasts, algae, ferns, and other plants among the fuzzy hairs on the top. Very little is known about the ecology of this species that is now known from a few sites in Washington, Oregon and northern California. We do not know how long it lives in the tree before it forms fruit bodies, nor whether the fungus is harmful to the tree. Do the spores infect new trees or does the fungus spread belowground with its hyphae? The role of the commensals of the fruit bodies is also a big unknown. It would be great to know whether the fungus is in fact much more widespread than we now know based on the fruit bodies. We certainly can say that these reproductive parts of the species are indeed very rare, rendering the species endangered. We do not know how long the habitat in which these old trees grow will persist, and whether younger trees will ever grow old enough to harbor the fruit bodies.

In his 'real life,' Cooke worked as a mycologist for the Robert A. Taft Sanitary Engineering Center, part of the U.S. Public Health Service in Cincinnati, and

Mycena News



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OF MUSHROOMS AND MEAT CANDY

COME FOR A COCKTAIL... STAY FOR THE MUSHROOM JERKY

India Mandelkern

When he started Range, his popular Mission District restaurant, back in 2005, chef Phil West laid a couple of ground rules. No fries. No garlic mashed potatoes. No perfectly symmetrical trios of sorbets. His rejection of the safe and conventional soon paid off. The restaurant became an early champion of local, market-driven ingredients, earning a Michelin star in 2007.

This kind of thinking also motivated his latest venture, Third Rail, a cocktail and jerky bar nestled into a quiet corner on 22nd street at 3rd street, right in the heart of Dogpatch. Jerky, of course, is nothing new; we've been drying meat since the Stone Age. But only over the last decade or so has jerky-making joined the likes of jamming and pickling as part of a DIY renaissance that has swept the Bay Area. And although artisanal jerky is all the rage today, from Prather Ranch to Whole Foods to your local farmer's market, West's creations are one-of-a-kind. With offerings like the "Red Eye" (seasoned with coffee, Morita chile, mustard, and cumin) and the "Jerk" (scotch bonnet peppers, clove, allspice, and thyme) Third Rail is well positioned to become your favorite neighborhood meat candy store.

Still, I had never heard of, much less tasted, anything quite like the mushroom jerky set before me on my last visit: a handful of king trumpets (procured from Napa-based [Wine Forest](#), the organic wild foods company started by MSSF member Connie Green) dried to a chewy, toothsome perfection, anointed with the smoky-sweet complexity of Vadouvan spice.

Mushroom jerky, West assured me, wasn't invented in a day. Flavor-wise, it took a long time to get the recipe right. From the beginning, he wanted to get away from your typical "mock meats:" vegetables masquerading as something they are not. "We tried a teriyaki seasoning," he says. "It completely drowned the trumpet's natural savory character." Finally, he settled on Vadouvan — a lighter, rarer, more delicate curry powder from the former French colony of Pondicherry on the southeast coast of India — a slightly smoky masala tempered with the ordered Gallic subtlety of shallots and garlic.

Perfecting the jerky texture presented another challenge. Dried mushrooms are pantry staples, and vegetable "chips" are riding a recent surge in popularity, but transforming king trumpets into jerky form is an persnickety science that took more than just a few tries. Not only must the mushrooms be blanched in salted water before dehydrating — this collapses the mushroom's air pockets, turning it into a virtual "blank slate" for culinary preparation — but the drying process must also occur at far lower temperatures than beef or pork. Even if the finished product is deliciously unique, West is losing money on these unique fungal snacks. "The yield is terrible. It's around 20% if I'm lucky."

For millenia, jerky-making has survived as a tried-and-true preservation technique. But unlike your standard Slim Jims and Jack Links, West's jerkies don't last forever. "People have a hard time understanding that the jerkies I make are actually still alive," he says. "The shelf life is about three weeks, which also depends on the weather. It's even shorter if you refrigerate them."

Mushroom jerky is thus a labor of love, something that West learned at his restaurant Range, where he continues to experiment with inventive ways to make cultivated mushrooms taste "wild." Try his popular recipe for Portabella Confit (the recipe can be find on the following page). He has come remarkably close.



King trumpet jerky

Third Rail: 628 20th St, San Francisco: www.thirdrailbarsf.com
 Range: 842 Valencia St, San Francisco: www.rangesf.com

Mushroom Jerky continued

Portabella Mushroom Confit

Recipe from Phil West, Range Restaurant

- 8 Portobella mushrooms, stems removed, gills scraped out with a spoon
- 3 sprigs thyme
- 4 cloves garlic

- 1 arbol chili
- Zest from 1/2 a lemon
- High quality olive oil
- Salt and pepper

- Set the oven to 250F. Bring 4 quarts of water to a boil, and add a 1/4 cup of salt. Blanch the mushrooms for 2-3 minutes, until they are glossy and slightly shrunken. Next, remove the mushrooms from the water and dry them well with a lint-free dish towel. In an oven proof sauce pot or similar vessel that is small enough to fit the mushrooms snugly and layered, add a sprig of thyme, a clove of garlic, and a piece of lemon zest. Add a few mushrooms and sprinkle with salt and pepper. Repeat this process until all the mushrooms and aromatics are used up. Add the arbol chili (if you want it spicier, break the chili up, otherwise leave it whole).

- Cover the mushrooms and aromatics with the olive oil – don't be stingy - make sure they are submerged. Cover the pot with foil or a lid (if it has one) and place in the oven. Confit the mushrooms for 4 hours, checking every hour or so. Small bubbles should appear around the mushrooms, but the oil should not boil. Finally, remove the pot from the oven and let the contents cool to room temperature. Remove the mushrooms and discard the aromatics. Strain the oil through a fine mesh strainer.

- The mushrooms and oil can be refrigerated for up to month - use them as you see fit!

(Chef's tip: The most important part of this recipe is that the mushroom need to be in a snug pot; it's ok if they stack up 3 or 4 layers. If the pot is too large, you will need way too much oil to cover them and they will cook too quickly.)

HOSPITALITY COMMITTEE SHOUT-OUT TO ERIC MULTHAUP



Eric Multhaupt prepared mushroom tapas two ways

The Hospitality Committee would like to thank Eric Multhaupt for his outstanding “hospitality hour” appetizers served before the September 2014 meeting. Eric prepared two types of tapas served in crispy baked wonton skins.

– Spanish style: shiitake and crimini mushrooms from Mill Valley Market, garlic, parsley, lemon zest, and Amontillado sherry.

(Served with Manchego cheese and Rioja wine)

– Italian style: shiitake and crimini mushrooms from Mill Valley Market, shallots, olives, oregano, thyme, and grappa.

(Served with Gorgonzola cheese and Chianti.)

YOU TOO can be a guest chef at a hospitality function at some point of your choosing in the future! Just email one of your Hospitality co-chairs:

Eric: mullew@comcast.net

George: gwillis2@mac.com

to let us know of your interest.

CULTIVATION QUARTERS

Ken Litchfield

The rainy season might start any day now, but traditionally it begins at the end of October. The first sprinkles dampen the last of the warm weather Halloween celebrations, the earlier evenings darken with the end of daylight savings time, and the drop in temperature warns us to bundle up for the dark, dank, and cold, mushroomy winter.

But August through October — the hottest, driest part of the year in Northern California — is the height of Chicken of the Woods season, when most every eucalyptus stump and knot hole in the Bay Area pops forth with golden blobs of tender “egg yolk stage” colored cauliflowers oozing into picoteed shelves of sulfur-rimmed orange.

When you are out collecting *Laetiporus gilbertsonii* for the pan, you can also prep it for capture and cultivation. Unlike the tender yellow edible parts, the orange parts are usually too mature and tough to prepare for eating. Still, these orange parts, as well as



Chicken of the Woods: A Favorite Summertime Mushroom

the dense base of the mushroom that connects to the tree or stump, can dedifferentiate back to the mycelial fuzz, “leaping off” and devouring damp paper sack cellulose. Simply nest these tough pieces into several damp brown paper bags, wad them up, and put the whole package into an unsealed plastic bag into the fridge’s crisper until the weather has turned cool and wet outdoors. After a month or two, you will be able to see white mycelium devouring the paper bags through your clear plastic bag. Remove the plastic bag, and stuff the myceliated sacks into a crack of a eucalyptus log or a wood chip pile.

The “paper sack capture” method of cultivation can be used with any saprobic mushroom that feeds on raw wood in tree trunks or wood chips: oysters, turkey tails, maitake, reishi, lion’s mane. Make sure the paper is damp but not soggy, so the fungal tissues don’t drown, but can breathe. Also make sure that the culture remains refrigerated, slowing the metabolism of the mushroom tissue so it can grow without succumbing to competitive bacterial rot.

You could also “plant” the growing paper sack culture into a damp rolled up sheet of burlap, with or without added dampened wood chips or wood shavings, to make a “burrito.” This can be used to inoculate more organic matter, making it even bigger. Once the weather gets cold and damp and the culture has grown through the burlap, tie it up like a piñata, hang it from a branch or a shady humid deck, and it will fruit off the burlap. A second method for growing Chicken of the Woods can be done anytime during the year. If you are out wandering in the woods, and come across a eucalyptus stump or tree with gnarly outgrowths or knotholes that may be the home of the fungus, look around the area for the old decayed residues of the mature shelves. It may still be somewhat intact, but it can also be broken up into rough cubes of whitish to light grayish “charcoal.” These old pieces of the fruiting body or sporocarp are still usually loaded with spores and can be used to inoculate cracks in eucalyptus trunks or add to wood chip piles. You will also know where to go back to check for the fresh fruitings between August and October!

One more note on the edibility of Chicken of the Woods. Some sources still recommend not eating this mushroom if it is growing on eucalyptus. I have eaten it this way scores of times over the last 20 years, all over the Bay Area. The fungus itself contains a heat sensitive “puke principle,” and will cause nausea if it isn’t sufficiently cooked. In my experience, “sufficient” has meant slicing the harvested mushroom into 1/4 inch thick fillets and simmering them in a covered skillet submerged in liquid (such as water, broth, or wine) for at least fifteen minutes. This allows the heat to fully penetrate the tissue, deactivating the toxins. (If you would like to make the process more efficient, you can place a second layer of fillets on top of the first but straddling the gaps between the lower fillets so heat rises through the cracks; both layers are then submerged and simmered for 20 minutes.) Now, cook the fillets any way you would cook chicken — teriyaki, BBQ, pan or deep fried — or freeze them to recook later. If you use red wine when you’re precooking the fillets, the tissue will take on the hue of salmon. Add some shrimp, crab, or fish to your pan, along with butter, dill, salt and pepper, and you’ll have a very passable “Salmon of the Woods.” For your vegetarian and vegan friends, you can even substitute some sliced salsify root “scallops” to the pan to simulate the flavor of seafood. Better yet, add some seaweed too, and recreate the taste of the beach.

Mycology continued

studied fungi in polluted water and sewage until his retirement in 1969. But the impression I get from reading his obituary and viewing his collections today is that he lived to go out and collect mushrooms. Nowadays we would call him an environmentalist, as he did not like to drive, preferring to walk or take buses whenever he could. And one last thing about him: he went to every foray that was held and appeared “colorfully attired in one of his mushroom shirts, carefully crafted by his wife.”

For more information about snowbank fungi and William Bridge Cooke:

Cooke, W.B., 1944. Notes on the ecology of the fungi of Mount Shasta. *American Midland Naturalist* 31: 237-249.

Cooke, W.B., 1955. Subalpine fungi and snowbanks. *Ecology* 36: 124-130.

Cripps, C. 2009. Snowbank fungi revisited. *Fungi* 2 (1): 47-53.

Vincent, M.A., M.J. Powell & H.H. Burdsall, Jr. 1994. William Bridge Cooke 1908-1991. *Mycologia* 86: 704-711.

**About the Author:**

Else Vellinga works at San Francisco State University for the project to digitize the mushroom collections. She is interested in the history of California mycology, and is an avid knitter as well.

Porcini Powder (From Culinary Corner)

Make porcini powder from the tubes (pores) on the undersides of your Bolete caps! Don't use slimy, old ones; *always* field clean your mushrooms before bringing them home.

- Dice and lightly salt the tubes.
- Spread them on a cookie sheet on a glazing rack if you have one.
- Place the pan of tubes in a dehydrator or in a convection oven that is running at 180 degrees with the fan on and the door slightly ajar. Leave them in until almost hard and dry.
- Put the dry pieces in a blender or food processor and run until they become a fine powder.

You can use the powder to coat a piece of meat or fish prior to sauteeing or grilling. It's also good for seasoning a sauce or soup or a vegetable stock. I like to mix it with gray salt and pepper and put a generous amount on steak that I pan fry or grill.



Win this beautiful hand-made quilt, custom-made from vintage MSSF tee-shirts

Raffle! Raffle! Raffle!

The MSSF will be conducting a fundraising raffle for a custom-made, queen size, vintage mushroom themed quilt at the 44th annual MSSF Fungus Fair at the end of the 44th annual Fungus Fair on December 7, 2014 at the Hall of Flowers in Golden Gate Park. This quilt was made by 'Quilts on the Corner,' a family-run store in Sandy, Utah. The front displays 25 different mushroom themed vintage t-shirts, with a flannel back, and mushroom pattern stitching. The quilt will be on display at the September, October, and November general meetings and dinners, where raffle tickets can also be purchased. The quilt is valued at \$600. and tickets will go: 1 for \$5.00, 3 for \$10.00, or 7 for \$20.00. The raffle will occur at the end of the fungus fair on Sunday 7 December. Contact Curt Haney for tickets. (You do not need to be present to win!)

Mycological Society of San Francisco
c/o The Randall Museum
199 Museum Way
San Francisco, CA 94114



"A World of Wonder at Your Feet"

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MSSF Calendar October 2014

Monday, October 6, 7:00 p.m. - Culinary Group Dinner

Hall of Flowers, County Fair Building
Golden Gate Pk., 9th & Lincoln, S.F.
Pre-registration required for attendance. See calendar section at www.mssf.org. Email culinary@mssf.org to volunteer.

Tuesday, October 14 - MSSF Council Meeting

Tuesday, October 21, 7:00 p.m. - MSSF General Meeting

Randall Museum, 199 Museum Way, San Francisco.
7 p.m. - Mushroom identification and refreshments.
8 p.m. - Speaker: Katrina Blair

Monday, November 3, 7:00 p.m. - Culinary Group Dinner

Hall of Flowers, County Fair Building
Golden Gate Pk., 9th & Lincoln, S.F.

Friday-Sunday, November 14 - 16 - Mendocino Foray

See website for details

MSSF Volunteers Needed

Join the Council leadership, learn the inner workings of the MSSF and help make decisions that shape the future of the society. Do your part by contributing your time to this 100% volunteer organization!

To learn more about all council and committee positions, go to: www.mssf.org members-only area, file archives, council member position descriptions. Or email president@mssf.org.

Wanted: Mycena News Co-Chair: seeking a volunteer that has familiarity with Adobe InDesign to assist Mycena News editor with newsletter layout. Current editor is happy to coach and will work with layout person to create newsletter each month during MSSF season. Email: mycenanews@mssf.org

Check the MSSF online calendar at:
<http://www.mssf.org/calendar/index.php>
for full details, latest updates
and schedule changes.

Submit to *Mycena News*! The submission deadline
for the October 2014 issue is September 15th.
Send all articles, calendar items and other information
to: mycenanews@mssf.org