



## The Mycological Society of San Francisco • Nov. 2016, vol. 68:03

### NOVEMBER 15

General Meeting Speakers

**Daniel Winkler, Larry Evans, Britt Brunyard**

Daniel Winkler's talk:  
*The best Mushrooming Photos from travels in Bolivia, Colombia, Japan & Tibet.*



Britt Bunyard's talk: *NAMA Foray in Wisconsin, September 2017*

Larry Evan's talk:  
*Multiple ecological roles that fungi play, as food for invertebrates, vertebrates, nutrient and pheromonal conduits, and phenology of mushroom fruitings.*



See [Bios on Page 13](#)

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### PRESIDENT'S POST

by Brennan Wenck

Hello MSSF Members,

As I write this the Bay Area is receiving the first deluge of rains for the 2016 Fall season. It is nice to be writing as the rain is gently falling outside my window. I hope that the drop in temperature and the influx of rain will jump start the mushrooming season. I've heard reports that the Santa Cruz mountains have received more than 3 inches of rain from this storm!

All this rain means forays! You can expect to see forays start to pop up on the calendar periodically. Keep an eye out as they will pop up from time to time as council members decide to head out to lead different forays in different parts of the Bay Area. If you would like to have a foray in your area, or would like to lead a foray in your area, let me know. I can help you arrange communication via the [mssf.org](http://mssf.org) calendar. There will also be a half dozen forays associated with the Fungus Fair. They typically go out one to two days before the fair. You can sign up for these forays through [mssf.ivolunteer.com](http://mssf.ivolunteer.com).

This is an exciting time of year, and I want to remind everyone that we're about to enter our busy season at the MSSF and with that a big call out for volunteers. Our biggest fundraising event of the year, the Annual MSSF Fungus Fair, will be a one-day event this year on December 4th and we'll

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need "all hands on deck" to create another great event for the public. There will be many different areas needed for volunteers so I encourage you to visit: [mssf.ivolunteer.com](http://mssf.ivolunteer.com) to check out the many ways to help. Jackie Shay and Madhu Kottalam have been doing a great job setting up the fair and Stephanie Wright is coordinating volunteers.

In end of the year celebratory news, our annual Holiday Dinner is being planned by MSSF member Eric Multhaupt. Mark your calendars for Monday, December 12th at the County Fair Building for what is bound to be a deliciously catered evening. More info on this event and reservations will be forthcoming.

Thanks again to all of you who continually contribute to make the Society a great organization. I look forward to seeing many of you at Mendocino Camp, the Fungus Fair, and many other MSSF events.

Brennan - [president@mssf.org](mailto:president@mssf.org)

## HOSPITALITY @ OCTOBER MEETING

BY GUEST CHEFS CINDY MCGEE AND ERIC SEITZ

### *Shiitake Turmeric Mushroom Tart*

Carmelize onions, set aside.

Slice shiitake mushrooms, sautee in butter, salt pepper, and fresh turmeric, then add onions once the mushrooms are cooked.

Thaw out prepared puff pastry cut sheets, cut out any size round using a cookie cutter or pastry cake rings, top with mushroom mix and top with fresh grated gruyere, bake at 400 for 15 minutes.

### *Maitake Tart*

Carmelize Onions, set aside.

Slice maitake, sautee in salt pepper and green onions.

Thaw out prepared puff pastry cut sheets, cut out any size round using a cookie cutter or pastry cake rings, top with mushroom mix and top with fresh grated gruyere, bake at 400 for 15 minutes.

### *Eric's Dish - Baby Bella Mini Tart*

Thaw frozen spinach, squeeze out liquid, set aside from remaining ingredients below.

Carmelize onions, set aside.

Slice crimini and dice portobello then sautee mushrooms together in butter, salt, pepper and set aside

Sautee red bell pepper, then combine all ingredients together add veggie stock and reduce.

Add spinach and gruyere to reduced mix, bring to room temperature

Using prepared frozen phyllo shells, fill with mushroom mix, top with parmesan, bake at 375 for 10 minutes.



## VOLUNTEERS NEEDED FOR MSSF FUNGUS FAIR DECEMBER 4, 2016

by Stephanie Wright

If you are interested in participating in this year's Fungus Fair, **please sign up!**

It's easy to do at our online signup website:

[http://mssf.ivolunteer.com/ff\\_048](http://mssf.ivolunteer.com/ff_048)

The fair displays from 300-400 species of fungi each year, and with the nice, early rain we've received, maybe there will be a bumper crop this year. To have that amazing display, it requires a lot of people going far and wide on forays; we have a number of scheduled forays that are led by experienced fungiphiles, in several locations around the bay area, and farther afield.

Then we need many people to help get the whole fair set up in just a few hours on Saturday. On Sunday, Fair day, there are logistics, crafts, various educational tables, tear down and clean up, and more... You don't have to be a mushroom expert to help, there are many jobs that need to be done. If you have friends and neighbors who would enjoy this event, they can volunteer too. It can be a great introduction to the fabulous world of fungi.

Volunteering is a great way to spend some quality time at the fair, and your entry to the fair is free! Not to mention, you get a bonus meal from our delicious volunteer buffet.

If you have questions, contact Volunteer Coordinator, **Stephanie Wright** [[FungusFairVC@mssf.org](mailto:FungusFairVC@mssf.org)]

YOU TOO can be a guest chef for a hospitality hour. Just e-mail George at [george\\_willis@sbcglobal.net](mailto:george_willis@sbcglobal.net), or Eric at [mullew@comcast.net](mailto:mullew@comcast.net). You will have an \$80 food budget from the MSSF, and Hospitality Committee members available for advice and support.

## FAIR ENOUGH? GET READY - IT'S TIME FOR FUNGUS FAIR 2016

*by Jackie Shay*

**10am-5pm, Sunday, December 4th, 2016, Hall of Flowers SF Golden Gate Park**

We are so excited for this upcoming Fungus Fair! In its 47th year, the fair has become the biggest event for mycophiles near and far in the Bay area. We offer a fabulous selection of activities, lectures, cooking demos, educational tables, mushroom dying, the best fungal holiday shopping of the year, and so much more! Please spread the word and mark your calendars for Sunday, December 4th from 10:00am–5:00pm. We love seeing new faces every year, so share the event with all your friends and family. Everyone is welcome!

<https://www.eventbrite.com/e/47th-annual-mssf-fungus-fair-december-4-2016-tickets-28596574123#tickets>

Enjoy your time with us by exploring fungi under the microscope, discovering the wonders of cultivation, learning the ecology of mushrooms and symbiotic relationships, discuss the mystery behind psychedelics, observe the incredible variety of local mycoflora at our identification table, and engage the experts in enlightening conversations that will broaden your perspectives.

This year's artwork features a young, local, artist by the name of Jesse Pringle. He applies engraving, burning, and stencil to wood and other media. This year's theme is mushroom ecology owing to the ancient relationship fungi have built with their neighboring plants. We have much to learn from our fungal friends as they continue to coexist in a dynamic community symbiotically.

We know you will love spending this day with us and your fungal family! We hope to see you all there!

Yours in spores,

Jackie Shay [jackie.shay@gmail.com](mailto:jackie.shay@gmail.com)



## HEYALL RUFF, TUFF, GRUFF, BUFF ENUFF, FLUFFY DUFF STUFFERS - HAUL ASH TO THE FUNGUS FAIR!

When you are out collecting mushrooms for the Fungus Fair between now and the Saturday December 3rd 4pm setup, be sure to bring in a bunch of bags of oak leaf and pine needle duff to form the back drop and cover for all the fair display acreage - at least 14 taxonomy tables and the big woodland exhibit. Maybe a bag or two of wood chips for Stropharia and urban mulch mushroom tables.

To make the display tables and woodland exhibit look nice and natural we also need turkey tail, polypore, oyster, and other mushroom logs, lichen logs, mossy logs and gnarly stumps, cool polypore specimens, pine cones and acorns, ferns, and other woodland curios like deer antlers or wildlife skeletal parts to enhance the display environment and help prop up the display mushrooms. All the living material can go into our mushroom gardens after cleanup at the end of the fair.

We'll also be making a portion of the woodland exhibit a burn zone. Please bring in plenty of charred snags, singed leafy branches, burned pine cones, lots of ashes, a few bags at least, and other burn zone materials to make the exhibit "striking". You can do some burning of materials with torches or fireplaces, camp fires, barbecue pits, or collect in the many burn zones around from last summer.

We will still need the good green tree sized pine, oak, redwood, manzanita braches, etc for the usual part of the exhibit.

Please check your collections to make donations of dried morels some of which would be reconstituted and some used dried in the exhibit. Other likely burn zone mushrooms and biota are also welcome to make it look biologically accurate.

If any of you have curios that can be mistaken for mushrooms, like odd pine cones (morels), magnolia seed pods (morels), golf balls (buttons of several species), red whiffle balls, (stinky whiffle balls), cow patties (plopped porcinis), or other creative oddities, we can add a little special section to the display.

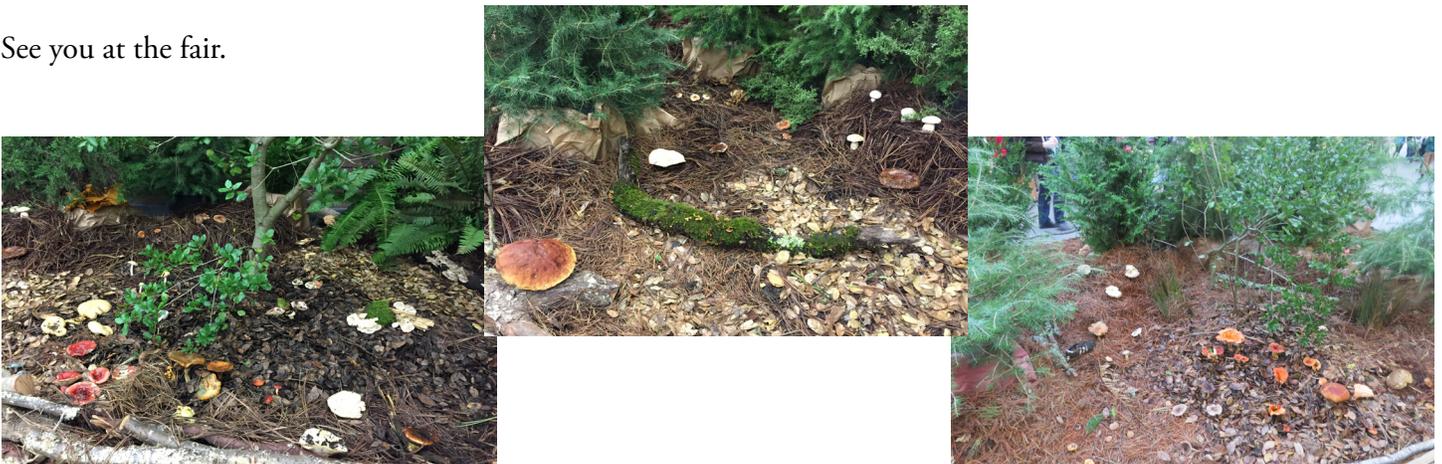
If needed please contact Ginny Garrett or Tyler Taunton as the prime coordinators of the woodland exhibit and duff collections this year, especially if you might be able to deliver ahead of time:

[ginnygarrett@hotmail.com](mailto:ginnygarrett@hotmail.com) ginnygarrett at hotmail dot com

[tyler\\_taubon@yahoo.com](mailto:tyler_taubon@yahoo.com) tyler space taunton at yahoo dot com

It's rainin so dance for mushmore.

See you at the fair.



## MYCOPIGMENTS AT THE FUNGUS FAIR

*with Alissa Allen*

### **Saturday Fair Setup Day: Exploring Regional Wild Mushroom and Lichen Dyes with Alissa Allen**

#### **In-depth Textile Dyeing Workshop**

**When:** Saturday, December 3rd 2016 – 10am to 4pm

**Where:** Hall of Flowers at Golden Gate Park – Garden Room

**Cost:** MSSF Members - \$130    General Public - \$150



#### *Regional Dye Palette*

<http://www.fibershed.com/2014/01/11/regional-palettes-a-closer-look-at-northern-california-dye-mushrooms/>

Every region has its own palette of mushroom and lichen dyes. This class takes an in-depth look at using local, wild fungi as sustainable, safe dye sources. Starting with 10-12 different species, with the addition of safe mordants and pH modifiers, we will end up with about 20 colors in all.

#### *Wild Harvest*

All of the dyes used are ethically harvested, dried, and weighed (using some fresh material if available). Students learn about mushroom safety, identification basics, habitats and ethical harvest. Participants receive a customized color guide to the best regional dye mushrooms and lichens and learn where to go for help with identification.

#### *Working with Fiber*

We will be working with wool and silk fiber. Yarn for class is pre-mordanted to allow ample time to focus on dyes, however we will discuss the steps for preparing the fibers for the dye bath. This includes scouring, mordanting, and techniques to avoid felting wool.

#### *Shibori demonstration*

Participants will be guided through the steps to create an intricate arashi shibori inspired design. Each participant receives a blank scarf for practice.

#### *Takeaways*

Students will take home a detailed recipe card showcasing the rainbow of samples dyed in class. The recipe card lists both the scientific and common names of the fungi and lichens used to make the dye, it also includes the ratios of fungus to fiber, any mordants used, and pH modifications required to achieve the colors. Participants receive a detailed procedural handout, a customized guide to local dye fungi and a beautiful hand dyed scarf. This workshop covers all aspects of getting started with mushroom and lichen dyes and leaves the student with the tools to carry on with their own exploration.

### **Fungus Fair- Casual drop in booth**

**When:** Sunday, December 4th During the Fungus Fair 10-5

**Where:** MSSF Fungus Fair Garden Hall

**Cost:** Free with admission to the Fungus Fair (silk scarves \$5-\$45)

Come learn about mushroom and lichen dyeing at this fun and free drop in booth.

Purchase blank silk scarves at the booth and dye them with local, wild mushrooms, while you browse the displays.

No limit to number of purchases – so stock up for the holidays.



### **Alissa Allen Bio**



Alissa Allen is an amateur mycologist and dye instructor and the founder of Mycopigments; she specializes in presenting regional mushroom and lichen dye palettes to communities all over the country. Her teaching style reaches out to novices, and her knowledge keeps experienced mushroom hunters and fiber artists engaged. Alissa has been sharing her passion for mushroom and lichen dyes and collaborating with other dyers for over 12 years. She has written articles for her website as well as Fibershed and Fungi Magazine. In addition to her educational programs with Mycopigments, she also created and moderates two active discussion groups: Mushroom and Lichen Dyers United and The Mushroom Dyers Trading Post. She is dedicated to encouraging the art and science of mushroom and lichen dyeing through engaging community participation.

To read more about her work, visit her website [mycopigments.com](http://mycopigments.com) and her Facebook discussions groups Mushroom Dyers Trading Post and Mushroom and Lichen Dyers United.

## ACADEMIC QUADRANT by Jackie Shay

Greetings Mycena News subscribers. This month I am restructuring the Academic Quadrant to be more of a review as opposed to lab spotlight articles which I have been implementing. I believe that through reviews I can give you insight into broad spectrum research that delves into a variety of fungal oriented topics and introduce you to a number of fascinating papers, labs, and people. Please enjoy!

### RADIATION RESISTANT FUNGI – RESEARCH AND IMPLICATION

It is amazing how often great scientific discoveries arise by accident and the story behind radiation resistant fungi is no different. About thirty years ago, a routine test led Chernobyl Atomic Energy Station in the Ukraine to explode radioactive material. Somehow amidst the debris, some fungi not only survived, they seemed to have adapted to the radiation and thrived, as noted by microbiologist Nelli Zhdanova at the Institute of Microbiology and Virology in Kiev. She and her team discovered these fungal oddities using robots to collect the material. Since then, these fungi have been preserved by Tamas Torok of the Lawrence Berkeley National Laboratory who observed that “once the fungus discovered the radiation source, they grew directionally toward it”.

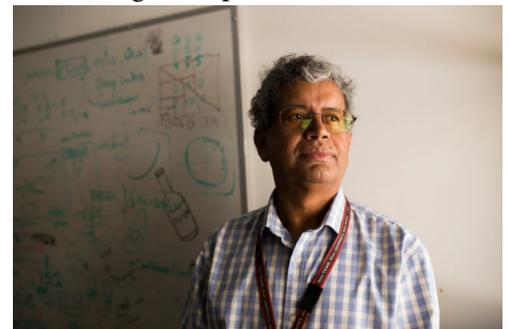


***Chernobyl fungi sent to ISS are grown in petri dishes in the lab at NASA's Jet Propulsion Laboratory***  
Photo: Jenna Schoenefeld

Upon closer look at the microscopy and morphology of these fungi, including *Wangiella dermatitidis*, *Cryptococcus neoformans*, and *Cladosporium sphaerospermum*, it was observed that the hyphae were particularly melanized, in other words they were black with melanin, suggesting that the presence of melanin could be a benefit to their adaptation to extreme environments (Dadachova et al 2007; Dadachova and Casadevall 2008).

Kasthuri Venkateswaran of NASA's Jet Propulsion Lab and Clay Wang of USC School of Pharmacy decided to test these readily adaptable organisms in space. Their goal is understand how these super fungi might help humans be more resistant to radiation – think radiation therapy for cancer patients.

Venkateswaran is responsible for preventing microbes from contaminating space and other planets. Through his research he knows that gene expression is dramatically altered after persistent time in space. Wang studies how natural organisms could be used in pharmaceuticals. In April, the two of them sent four strains of *Aspergillus nidulans*, and in July they sent some Chernobyl fungi, to the International Space Station (ISS) with a big question – will these fungi change? On August 26th the Dragon space capsule, loaded with space-grown fungi, dropped down in Baja California. The results have yet to be published, but Wang reported that they saw changes in their secondary metabolites (Love, 2016). This has huge implications for protecting people from radiation. This is a small step toward a much larger field of research. Little by little they intend on discovering how these compounds could be miracles amongst us.



***Kasthuri Venkateswaran at the Jet Propulsion Laboratory in Pasadena, Calif.***  
Photo: Jenna Schoenefeld

#### **References**

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- Dadachova E, Casadevall A (2008) *Ionizing radiation: how fungi cope, adapt, and exploit with the help of melanin*. Current opinion in microbiology, 11(6), 525-531.
- Love S (2016) *What radiation-resistant space fungus can do for drug discovery* Web accessed October 21, 2016: <https://www.statnews.com/2016/10/11/space-fungus-drug-discovery/>

## WHAT HAPPENED TO ALL THOSE NATURALISTS?

by Bob Sommer

We call ourselves mushroomers now; with training we may use a variant of mycologist. The term “naturalist” has largely disappeared from our literature when once it was very common. Its demise is an interesting story told in a book about the term’s heyday between 1820 and 1870 (Barber, 1980). During this period Victorian naturalists were out in the field getting exercise and fresh air, plus gaining knowledge they could package in articles, books, and pamphlets for social betterment. Such knowledge was well within the ability of enlightened amateurs in the mid-19th century. William Swainson in his *Cyclopedia of Natural History* declared that although a walk in the country can be boring, one never heard this complaint from a naturalist. When looking for mushrooms or any other natural item, a walk in the country is very different from someone “on a constitutional.”

In Victorian times, interest in natural history was considered morally uplifting in that it revealed the work of a higher power. Natural science belonged to natural theology; looking at nature led up to the creator, where one finds “Tongues in trees, books in running brooks, and sermons in stone,” quotes found in almost every natural history book published in the 19th century (Barber, 1980). While we no longer rely on higher authority to justify a passion for fungi (we are more likely to cite edibility) some of the older justifications remain, e.g. fresh air, exercise, sociability of the foray, learning genus characteristics and names, and discovery of new species.

Professionals now call themselves biologists or another term for a specific field of interest and a “naturalist” became some kind of amateur or hobbyist, a distinction we now make between professional (trained) and amateur (untrained) mycologists, no matter how experienced or published. In the 19th Century, being called a “naturalist” was no disgrace as there were so few jobs for professional biologists and almost all were poorly paid, a situation that remains true for amateur mycologists but no longer for professional mycologists, whose pay is equivalent to that of other trained natural scientists. Today the term naturalist retains a positive aspect in that anyone regardless of age or education can call herself a “naturalist,” and does not have to preface it with “amateur.”

In Victorian England, there was concern about the social betterment of the working class; with the assumption that it would be more advantageous for them learn natural history rather than spend their free time drinking, fighting or gambling. Natural history could also be done with minimal expense; The Society for the Dissemination of Useful Knowledge published a penny magazine presenting new developments in the natural sciences. Laypeople could write to other amateurs and expect a reply. The *Entomologists Annual* carried a list of people in the field open to correspondence (Barber, p.35). This still prevails in amateur mycology, where authors of field guides receive descriptions and images requesting identification. It takes a while to shape such requests so that they include photographs taken from the top and side, plus a spore print.

The split between field and lab researchers in Victorian times remains today. Barber (p.40) describes them as “two opposing camps that regarded each other with little short of hatred.” Lab researchers held all the top scientific posts and dominated the learned societies and journals.

Among the early major figures of Victorian natural science was Carl Von Linne who developed a binomial (genus plus species) system for classifying plants and animals and for naming species, systems that are still employed today in mycology. In his *Systema Naturae* of 1758. Von Linne even gave himself a scientific name, Carolus Linnaeus. This concept was linked to a natural theology in which species were seen as the product of the creator and placed on earth for man’s benefit. In this view, nothing on earth is truly injurious to humankind once we know its full range of benefits. People should not allow themselves to be bitten by poisonous snakes or to eat toxic mushrooms. Naturalist and best-selling author Charlotte M. Younge concluded “I do not think that humans have the right to call any of the works of the creator nasty or useless. I am sure we should not if we once looked well into them.” or as Durrell put it more recently “No creature is horrible. They are all part of nature.”

Attractive illustrations enhanced the appeal of Victorian natural history books. When they could afford it, people indulged in what we now call coffee table books, buying them in installments to collect the color plates. As late as the 16th and 17th Centuries, books on natural history consisted mainly in illustrated bestiaries and herbals (mushrooms belonged in the latter category). Durrell (1986) remarked that these early herbals were unreliable, dealing mainly with plants as medicine and sometimes as magic. Following the acclaimed 18th Century flower books, the 19th century was the era of great bird books. After the first edition of Audubon’s *Birds of America* was released, they were sold in a physically smaller edition at one-tenth the price of the first. Recent mushroom books in a coffee table format are Morgan, 1995 and Wil-

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liamson, 2002. Along with inexpensive color plates, the development of cheap microscopes contributed to the popularity of natural history among the public.

Women participated significantly in the natural history boom in illustration. Barber mentions young Beatrix Potter's mushroom water colors ("the equal of any man's illustrations") which are still in print. The only color illustration of fungi in the Barber book is a slug chomping away on a *Suillus* (p. 127) (originally, from Lydekker, 1896).

Charles Darwin was another major figure in early natural history. The author notes that botany was Darwin's weakest subject, and he relied on others such as Asa Gray and T. H. Huxley to champion evolution in public debates relative to botany. Darwin was interested both in natural selection and artificial selection. The latter stimulated his association with dog breeders, pigeon fanciers, and horticulturalists. He joined two London pigeon clubs to investigate the breeding practices they used. He became attuned to variation between and within species and individuals. By showing that species were always changing, that variation rather than stability was the rule, he blurred the sharp edges of species. His emphasis on natural variation shifted research from the lab to the field and laboratory research remained the province of professional scientists.

Following Darwin a new generation of natural scientists arose who wanted to study living rather than dead organisms. Early cameras required too long an exposure to photograph animals in motion or birds in flight. The invention of film and flash attachments, and sound recording devices made it possible to record animal behavior in natural settings and thereby make field research an objective area of science. All these technological advances reduced the importance of amateurs in natural history. – a little reading and a little dalliance at the microscope were no longer sufficient. This removed some of the popular appeal of natural history. According to Barber, by the end of the 19th Century, fewer people could actually name and describe the natural objects they collected as others had done with little effort fifty years earlier. So ended the naturalist's heyday.

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[rosommer@ucdavis.edu](mailto:rosommer@ucdavis.edu)

## ***OCTOBER 29th QUICK START FORAY IN GOLDEN GATE PARK*** *with Paul Koski*



## CULINARY CORNER

*by Nathan Zorndorf*

*“Oh, you’re a brave soul!”*

These were the first words I heard walking in through the double doors of the Hall of Flowers in Golden Gate Park, as Culinary Group member Kristin Jensen welcomed me to my first MSSF Culinary Group dinner (held on October 3, 2016). I was a bit nervous, mainly because I knew next to nothing about mushrooms, but Kristin’s warm welcome put my fears to rest, and before I could even say “Mycological Society of San Francisco,” we were headed into the kitchen. Once inside, I caught a glimpse of the real brave souls, who were busy preparing the evening’s meal. I was keeping busy as well, ogling the two mountains of pork shoulder in front of me.

“Hey you’re tall! Can you see if the cheese is melted on this fondue yet?” Thirty seconds into my first meeting, and I’m already sous chef! Momma would be proud. I poke my head into the industrial size oven and scan the contents of the pan. I stare into the mixture, sweat forming on my brow. I have no idea if the cheese is melted. “Yep! It’s melted!” I say.

Feeling accomplished, I stroll into the common room and sit down next to Kristin and her daughter Sierra, hoping that my offering of apple cider will appease the mycological gods (and pair well with pork). That’s when Culinary Group co-chair Paul Lufkin, a jovial and animated man, begins to recruit for the cooking and culinary dinner write up positions for the MSSF newsletter. Before I can decide which is less dis-tasteful, my prose or my polenta, I find myself signing up to write the “Culinary Corner” section of the newsletter. It’s out of the frying pan and into the double boiler, I suppose!

After Paul’s announcements, it was time to eat. First, the appetizers were brought out. For me the highlights were the home-made goat cheese and tomato crostini, the hummus with mushrooms, the fondue, and the mushroom and goat cheese on toast, but everyone’s creations were enjoyable.

After appetizers, the main menu for the night was served. For the meat eaters there was George Collier served up Pork Shoulder with Mixed Mushrooms, in which dried fruits made an appearance as well, complementing the savory flavors of the pork. For vegetarians, Karen Motley made the Winter Vegetable Cobbler with the thyme laden crust providing a tasty, earthy option. The Potatoes and Vegetables from Jenny Borkowsky were perfectly baked and served as a side. The cole slaw salad from Maryann Swazo helped to lighten and balance out the meal. Dessert was an Apple Spice Cake with Candy Cap Whipped Cream by Peggy Manuel. I had never heard of candy cap mushrooms, but they were delicious on top of the apple spice cake, with the slight hint of maple in them. Thirty-seven of us enjoyed the meal, brought to us by the hard work and creativity of the MSSF volunteers, including dinner captains Carol Reed and Karen Motlow.

Thankfully my knowledge on mushroom taxonomy wasn’t put to the test, and we all had a great time sampling everyone’s culinary creations. A big thank you to the MSSF for having me!

For this week’s recipe, we’ll be featuring the “*Winter Vegetable Cobbler*”.

### **WINTER VEGETABLE COBBLER**

serves 6

#### Ingredients:

1 turnip	1 potato	1 celery root	1 cup chicken or vegetable stock
3 carrots	6 shiitake mushrooms	2 tbsp. cornstarch	1 onion

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Instructions:

1. Peel and chop above. You should have about 6 cups.  
Place in 2 qt. baking dish.

2. Mix together the stock and cornstarch and pour over veggies. Add 1/2 cup chopped parsley, sprinkle with salt and pepper - mix again. Dot the top with 4 tbsp butter.

3. Lay dough on top. Bake 325' for 55-65 minutes. Test for veggie tenderness with knife tip.

**COBBLER DOUGH**

1 3/4 cup flour

1 tbsp baking powder

1/2 tsp. salt

6 tbsp. chilled butter, cut into small chunks

3/4 cup cream

1. Combine dry ingredients.

2. Add butter. Blend with fingers until mix resembles coarse crumbs.

3. Add cream, using a fork to mix. Turn out shaggy mixture and knead 5-6 times.

4. Roll dough 1/4 inch thick to shape of baking dish.

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## MSSF HOLIDAY DINNER 2016

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Come celebrate the holiday season at the **2016 MSSF Holiday Dinner** on **Monday, December 12**, at the Hall of Flowers. We will have all the great features of last year's dinner plus some additional ones, including some louder and more raucous holiday music after food service. Sign up on the [MSSF website](#) starting November 1, where you can also see the menu and additional details. The cost is \$45 for members and \$50 for non-members.

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## AROUND THE CAMPFIRE AT HOME OR IN THE WOODS

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*by Eric Multhaup*

**To all MSSF musicians and singers -**

We are looking for holiday themed songs for the December Mycena News. Send ideas, lyrics to **Eric** at [mullew@comcast.net](mailto:mullew@comcast.net).

Here is a song for November to the tune of the classic song from the musical "Oklahoma!", "**Oh, What A Beautiful Mornin'**".

*There's a bright golden haze on the morels,  
There's a bright golden haze on the morels.  
They're small, brown and wrinkled like dried-up dog shit,  
But if you saute them in butter they'll be a huge hit.*

*Oh, what beautiful morels! Oh, what beautiful 'rooms.  
We're so happy to eat them that we're singing this silly tune.*

## CULTIVATION QUARTERS

by Ken Litchfield

In the September Cultivation Quarters I discussed a method of making raw syrups from roots, fruits, leaves, and/or flowers and fresh fleshy mushrooms. The process basically involves adding roughly equal parts or more sugar to the chopped mushroom in a jar and then the sugar extracts the liquid from the cells of the mushroom by osmosis. If the cells are intact the syrup will have a different flavor than if the cells are frozen so the cell walls are broken by ice crystals and all the contents go into the syrup when it thaws.

The resulting syrup will have the flavors and essences of the original mushroom or other produce without having lost any of its constituents, like fragrance volatiles or nutrients, to heat. This syrup can be used as the flavored sugar component in liquid fermentations such as wines or kombuchas.

To make any wine, beer, or mead ferment that produces alcohol and carbon dioxide from sugar you need three (3) basic components, the yeast organism that is going to do the fermentation, the sugar that will be its food, and the liquid that makes it a liquid culture. The liquid is typically water or fruit juice, the organism is typically a fungal yeast, and the sugar could be fruit sugar in the fruit juice or commercial sugar for fruit wines, or malted grain that releases the sugars in the grain starch for grain beers, or honey for honey wine or mead. You also need two (2) physical things - a clear bottle to ferment the brew in and a bubbler air lock to observe the release of CO<sub>2</sub> during active fermentation. We'll look at each of these five (5) components in more detail and step by step complexity from simplest ferment to more involved ingredients and techniques.

The container that you select for brewing is important. Generally it should be inert stainless steel, ceramic, or glass, never plastic, which most brewers believe adds off flavors to the brew. Best is clear glass jugs so you can see what is going on with colors and bubbles and dregs. Many beginners start out too ambitious with a five gallon carboy. That is a lot of brew to go bad if you make a mistake as a beginner. Better to do several one gallons and then recombine them after, or age them separately, if each is successful. By this method you can also perform five different experiments or formulas for more upfront brewing experience. As far as having the brew sterile or pasteurized, the methods of killing off the organisms, by cooking or Camden tablets, destroys desirable components of the ingredients unnecessarily. Better and more sophisticated would be to learn to use the ecological metabolism of the blob of organisms in the jug to control the end product. By this process you don't wash the fruit so that the ambient yeasts in the environment that cling to the surface of the fruit are incorporated into the brew when the fruit is juiced as the native yeasts and part of the terroir. The best way to give the native yeasts a kickstarted head start is to press some of the ripe fruit into a bowl and keep it in a warm spot in the kitchen with a damp towel covering it for a day or two before you make the main brew. Then you add the start culture to the main brew of prepared juice. You can also just add your commercial or personal brewing yeast to the jug without washing the fruit which adds your brewing yeast to the ambient natural yeasts on the fruit. With the high sugar level and kicked up population of yeast the environment is already conducive to the brewing yeast over any contaminating organisms. As the sugar is converted to alcohol and CO<sub>2</sub> the alcohol level itself becomes another environmental factor that limits the growth of other organisms not adapted to alcohol.

The most basic of alcohol ferments only needs a clean 1 gallon jug, enough water to fill the jug to about 1/4" below the shoulder of the jug, ie where the bottom straight sides of the jug begin to curve inward to the neck, a pound or 2 of enough white sugar to sweeten the water, and a packet of yeast, plus the stopper to seal it and allow the CO<sub>2</sub> gas to pass through bubbler to indicate brewing activity. Using a funnel, add the water to the jug, add the sugar to the water stirring or shaking to dissolve the sugar, then pour a little of the sweetened water into a cup and add the yeast to dissolve it and mix it better, then add the liquid yeast to the jug of sweetened water. Then put the stopper with the bubbler into the mouth of the jug to seal it air tight. The bubbler looks like a clear S shaped (on its side) tube that is partially filled with water so that the air bubbles up thru the water in the tube and indicates by sight and sound that the brewing is active. Contamination from outside doesn't happen because of the one way gas pressure. Within a typical 30 minutes to an hour the first bubbles of fermented CO<sub>2</sub> will start to pass thru the bubbler if the temperature is around 65 to 85 degrees F. Within a couple hours the bubbler should be purring. When the bubbling slows to a stop within a couple days to a week or so, you know that all the sugar has been used up by the yeast and converted to alcohol in the liquid and CO<sub>2</sub> off gassed thru the bubbler. After the brew has quieted and settled out so the liquid in the jug is clear, but colored by the ingredients, and there is a layer of fermentation dregs settled out in the bottom of the jug, and perhaps some floaters or some clingers to the walls of the jug, you can pour off or decant the liquid into another clean jar or jug thru a strainer. You can sample or drink the ferment then or let it age or follow up with more sophistication as secondary, tertiary, quaternary, etc fermentations as you add more

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ingredients and nuances to the brew.

The aqueous and sugar component of the ferment is best as fruit juice and/or syrup for the flavor, color, and sugar content imparted to the brew. To the jug you can add between a pint and a quart of strained liquid syrup and add enough water or juice to bring the level of liquid in the jug to 1/4" of the shoulder. Fresh fruit juiced at home is best but you could get a quart of pasteurized cherry, blueberry, or pomegranate or other notorious antioxidant/anthocyanin rich juice as the base to add to the syrup. It could also be apple juice for a cider based wine or prickly pear juice for its rich magenta color and unique flavor.

The yeast component is best as high alcohol champagne yeast which can ferment the available sugar to make as high as 15 to 20% alcohol content before it kills itself in its own alcohol waste product, usually at a max of 22% alcohol. A product called Turbo Yeast comes in a large packet for 5 gallons of high octane brew for distillation, sometimes called vodka yeast. A smaller portion can be used to inoculate a one gallon jug. Because it can do all its fermenting in 48 hours it is perfect for a one day a week fermenting class or for weekend home brewers. In two days the ferment is finished and then it can settle out and age for 5 days for decanting and sampling the next weekend or class time. If the first ferment tastes good and is thoroughly dry, meaning it has no sweetness left because all the sugar was used up to make alcohol and CO<sub>2</sub>, then you can try a secondary ferment by adding more, but a lesser amount, of syrup/sugar and yeast to increase the level of alcohol at each step. Tertiary, quaternary, and further ferments can be performed, with diminishing amounts of sugar each time, to tweak the alcohol higher without the finished brew becoming sweeter than desired from residual sugar that didn't finally get digested to alcohol before the yeast finally killed itself in its alcohol waste.

The goal here is to use the ecological balance in the brew bottle to achieve the highest alcohol content possible while obtaining a dry wine as a final result of converting all the sugar to alcohol, or perhaps a nuanced slightly sweet wine according to the desired taste by retaining a little unconverted residual sugar for sweetness. This same process is also behind making a fizzy or sparkling wine by having just enough sugar left in the brew when it is bottled so that after the bottled brew is capped the remaining sugar is fermented to a little more alcohol content and enough CO<sub>2</sub> to sparkle or spew the brew when it is opened, but not enough to detonate the bottle in storage.

At any point in the fermentation flavorings and herbal ingredients can be added to the brew. For example, vanilla is a good ingredient to add both for its own flavor, depending upon the amount used, and as a carrier for other volatile ingredients like dried powdered candy caps, Vietnamese cinnamon, saffras, caraway, Buddha's hand or quince fruit syrup, and many others. The trick of adding these other ingredients is adding just enough to give a hint to the brain of the person sampling the brew of some not quite effable quality that they can't pin down as present but which definitely adds a desirability and complexity to the brew. If you add many, but not too many, complimentary ineffables that is how you end up with the most effable elixir.

Next time we'll get into kombucha alcohol/vinegar ferments.

## Mushroom Cultivation Seminar: At Home & Beyond

*with Ken Litchfield*

**Sunday, November 6th 1-4 pm @ Jewish Community Center**

On Sunday, November 6th from 1-4pm at JCCSF, 3200 California St in SF, I'll be teaching an introduction to the Gardener's Guide to Growing and Using Healthful Mushrooms, all about the Kingdom of the Blobs and how to grow them in your own backyard, community or school garden, or urban or rural farm.

We'll cover the basics of ID, ecology, and simple home cultivation techniques for common edible mulch and compost mushrooms, symbiotic mycorrhizal mushrooms and their trees, and parasitic mushrooms and their hosts - all of which you can grow in your own garden situation incorporated into the other plants you already grow.

You may sign up here:

<https://www.jccsf.org/adult/adult-classes/urban-gardening/>

Occasionally there are complications with automatic registration, so if that should happen to you please contact: David Gardella [dgardella@jccsf.org](mailto:dgardella@jccsf.org) dgardella at jccsf dot org 415.697.3422

Thanks Ken [litchfield.ken@gmail.com](mailto:litchfield.ken@gmail.com) litchfield dot ken at gmail dot com

## NOVEMBER MEETING SPEAKERS BIOS

### Larry Evan's Bio:

Larry Evans has done many, many things in his life. Early in his life he was taught by Dr. Paul Shildneck and Mycologist Orson K. Miller. He has formed groups, one of which is the Western Montana Mycological Association, "WMMA" He has worked for the US Forest Service, worked as a roofer, opened a restaurant, written books and hitch hiked a bit. The list goes on. He has lived in Japan, Seoul, South Korea and has spent a lot of time in South America. He has picked many a morel, taught many classes and has spoken to many groups. He has been referred to as the Indiana Jones of Mushrooms. He was also featured in a film by Ron Mann, "Know Your Mushrooms."

### Britt Bunyard's Bio:

Britt Bunyard is the founder, Publisher, and Editor-in-Chief of the mycology journal. Britt has worked academically (and played very amateurishly) as a mycologist his entire career, writing scientifically for many research journals, popular science magazines, and books, most recently *Mushrooms and Macrofungi of Ohio and Midwestern States* (2012) by The Ohio State University Press. He has served as an editor for mycological and entomological research journals, and mushroom guide books. A popular evangelizer on all things fungal, Britt has been featured on NPR's *All Things Considered*, *National Geographic Magazine*, PBS's *NOVA* television program, and in 2016 was made Executive Director of the Telluride Mushroom Festival. He is the co-editor of *MycoEpithalamia: Mushroom Wedding Poems* (The FUNGI Press, 2016).

### Daniel Winkler's Bio:

Daniel is the author of field guides to *Edible Mushrooms of the Pacific Northwest and California* (both Harbour Publishing, 2011 and 2012) and *Amazon Mushrooms with Larry Evans* (2014). He grew up collecting and eating wild mushrooms in the Alps and has been foraging since 20 years in the PNW and working as mushroom educator and guide. Daniel trained as a geographer and ecologist and works as researcher and NGO consultant on environmental issues of the Tibetan Plateau and Himalayas. Working in Tibet, Daniel realized that Tibet's diverse mushroom industry plays a crucial role in rural Tibet and thus has been researching Tibet's ethno-mycology for 20 years. With his travel agency *MushRoaming LLC* he is annually organizing and leading several mushroom focused eco-adventures to Tibet, China, the Amazon, Colombia, the Austrian Alps and the Pacific Northwest

## MUSHROOM SIGHTINGS IN OCTOBER 2016



*Formitopsis pinicola*



*Marasmiellus candidus*



*Agaricus campestris*  
Found on a lawn in  
Campbell, CA

*Photos by Larry Ankuda*



*Pluteus cervinus*

Salt Point SP, CA - *Photos by Pascal Pelous*



*Suillus ponderosus*



*Coprinopsis lagopus*

Watsonville, CA - *Photos by Rivkah Khanin*



*Lycoperdon perlatum*

Thanks Larry & Rivkah for sharing these findings! Send yours to [mycenanews@mssf.org](mailto:mycenanews@mssf.org) to be published in the next newsletter.

## MSSF Calendar November 2016

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

**Theme:** A Hungarian Feast - [details](#)  
Hall of Flowers, County Fair Building  
Golden Gate Pk., 9th & Lincoln, S.F.  
Email [culinary@mssf.org](mailto:culinary@mssf.org) to volunteer.

### Tuesday, November 15, 7:00pm - 10:00 pm - General Meeting

7pm - Mushroom Identification, mushroom appetizers...  
8pm - General Meeting

**Speakers:** Britt Brunyard, Daniel Winkler, Larry Evans  
Hall of Flowers, County Fair Building  
Golden Gate Pk., 9th & Lincoln, S.F.

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

## MSSF VOLUNTEER OPPORTUNITIES

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](http://www.mssf.org) members-only area, file archives, council member position descriptions. Or email [president@mssf.org](mailto:president@mssf.org).

## ANNOUNCEMENTS / EVENTS

### Herbal Mead Making

7pm-10:30ish Every Wednesday Night  
at Omni Commons Lab  
[4799 Shattuck Ave, Oakland](#)

Contact Ken Kitchfield  
([litchfield.ken@gmail.com](mailto:litchfield.ken@gmail.com)) for more info

Dear Members,

It has come to my attention that some people from our meetings have been helping themselves to the food next door at the Succulent Society Meetings. They have expressed that the food they bring is only for their members, so unless you sign up to be a Succulent Society Member, please refrain from eating their food. If you would like to become a member of the Succulent Society you can do so here:

<http://www.sfsucculent.org/membership.html>

Brennan - [president@mssf.org](mailto:president@mssf.org)

**Photo Credit:** on the first page, *Armillaria mellea* AKA Honey mushroom photographed by Rivkah Khanin



## Mycena News

November 2016, vol. 68:3

*Mycena News* is the members' newsletter of the Mycological Society of San Francisco, published monthly from September to May.

Please e-mail photos, comments, corrections, and correspondence to [mycenanews@mssf.org](mailto:mycenanews@mssf.org)

To subscribe, renew, or make address changes, please contact

**Stephanie Wright:**  
[membership@mssf.org](mailto:membership@mssf.org)

Past issues of *Mycena News* can be read online at <http://mssf.org/mycena-news/issues.html>

Mycological Society of San Francisco  
The Randall Museum - 199 Museum Way, SF, CA 94114

Submit to *Mycena News*! The submission deadline for the December 2016 issue is November 15th. Send all articles, calendar items and other information to: [mycenanews@mssf.org](mailto:mycenanews@mssf.org)

### Contributors:

Jackie Shay  
Eric Multhaup  
Ken Litchfield  
Brennan Wenck-Reilly  
Enrique Sanchez  
Bob Sommer  
Nathan Zorndorf

### Editing and Layout:

Ken Litchfield  
Pascal Pelous  
Rivkah Khanin

### MSSF Officers 2016-2017

President: Brennan Wenck  
[President@mssf.org](mailto:President@mssf.org)

Vice-President: Tyler Taunton  
[VicePresident@mssf.org](mailto:VicePresident@mssf.org)

Secretary: Eric Multhaup  
[Secretary@mssf.org](mailto:Secretary@mssf.org)

Treasurer: Henry Shaw  
[Treasurer@mssf.org](mailto:Treasurer@mssf.org)