

The submission deadline for the January 2017 issue is Thursday December 15

The Mycological Society of San Francisco • Dec. 2016, vol. 68:04

DECEMBER 4

Fungus Fair Speakers
**JR Blair, Britt Brunyard,
 Ken Litchfield, Christopher Hobbs**

11:00am-Noon

JR Blair:

What is a Mushroom Anyway



12:30-1:00pm

Britt Brunyard:

*Edible Mushrooms of California,
 and their lookalikes*

1:30pm-2:30pm

Ken Litchfield:

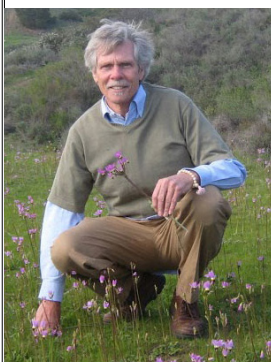
*The Gardener's Guide to
 Mushroom Cultivation*



3:30pm-4:45pm

Christopher Hobbs:

*Medicinal Mushrooms - Benefits,
 Practical Uses, Recent Research,
 Controversies*



See [Bios on Page 13](#)

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PRESIDENT'S POST

by *Brennan Wenck*

Hello MSSF Members,

What a great November. It wasn't the wettest, however there were quite a few mushrooms out there. Around Campus I'm really starting to see the fungus come to life, and I'm excited that the rains will continue to give us a fantastic winter. This was especially apparent up at the Mendocino Woodlands for Mendo Camp this year. In the past few years we have been bringing in around 150 different species for the display tables. This year the list went over 300 different species! There were plenty of edibles for everyone to come home with a basket or two. I cannot remember the last time I saw so many Coccora! Besides the forays, there were excellent talks given by Britt Brunyard, Larry Evans and Daniel Winkler. I want to thank the staff and volunteers for making this year's camp possible. Special thanks goes to Mendocino Camp Director Curt Haney for making this another wonderful and highly regarded event. "Forays, Food, and Fun" will be sure to describe Mendocino Camp for years to come. Curt has done an excellent job in building up Mendocino camp, and next year it will only take three people to replace him. Ken Litchfield, David Gardella, and Tyler Taunton. Be on the lookout for more information on next years event come early September of 2017.

In upcoming events the annual MSSF holiday dinner will take place on Monday, December 12th. Please go to [www.](#)

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mssf.org and sign in as a member to register for a spot. as MSSF member Eric Multhaup is preparing an amazing menu with Chef Pepe Sanchez of San Francisco. Bring a friend, some dishware, your dancing shoes, and a little holiday cheer as we share in some end of the year revelry.

The annual MSSF Fungus Fair is also upon us; it is scheduled for December 4th at the San Francisco County Fair Building, in Golden Gate Park. Jackie Shay and Madhu Kottalam have been doing a great job setting up this year's lineup, so please help out by either volunteering at the Fair or spreading the word via friends, fliers, and social media. This is one of the MSSF's biggest fundraisers, so all your help is needed and very appreciated. To register as a volunteer, go to mssf.org There will be much more in store after the Fungus Fair and holidays, so be sure to keep up to date with the MSSF's activities by coming to general meetings, following our Yahoo group, or joining in on a foray. The rain will be sure to bring multitudes of mushroom possibilities. Thanks again to all of you who continuously contribute to make the MSSF a great organization. I look forward to seeing many of you at the Fungus Fair, the holiday dinner, and many other MSSF events.

Brennan - president@mssf.org

HOSPITALITY @ OCTOBER MEETING

by Guest Chef Eric Multhaup

Hospitality appetizers for the November general meeting were provided by Eric Multhaup, and consisted of a sauteed melange of maitake, shi-take and crimini mushrooms on baguette slices, accompanied by a red pepper, walnut, and smoked paprika sauce. The recipe is derived from the excellent mushroom cookbook *Shroom* by Becky Selengut. It makes a major difference to use smoked paprika rather than regular paprika. Eric made the same recipe for a Thanksgiving group using regular paprika, and it was good but lacked a certain spicy edge.

The November hospitality hour was particularly lively due to the presence of Larry Evans, one of the Mendo Camp speakers, and the originator and godfather of that alt rock music genre known as Fungal Boogie. Larry performed a couple of entertaining and educational numbers from his CD. The MSSF Tabernacle Choir debuted a new song to the tune of Elvis Presley's "It's Now or Never":

*It's now or never.
The rains have come.
The mushrooms are fruiting.
We need to pick some.
Tomorrow will be too late.
It's now or never, the rooms won't wait.
When I first saw them,
I felt euphorically.
I got a h#%d-@n, speaking metaphorically.
Their stipes excite me,
and their veils entice me.
Let's make a date, and don't be late,
the rooms won't wait.*



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

To our Mycena News readers:

We received word that long time member Monique Carment recently died. We are printing the letter of notice from her niece in this issue. The Mycena News welcomes any reminiscences about Monique or any pictures or videos you may have of her interacting with members or mushrooms and we'll publish them in the January 2017 issue.

MONIQUE CARMENT OBITUARY

by Margaret Cush Grasso

My name is Margaret Cush Grasso and I am a niece of Monique "Nicky" Carment. It is with sad heart that I report to the three of you and your organization members that my aunt peacefully and unexpectedly passed away at her home. Last week, one of my siblings visited Aunt Nicky while vacationing in San Francisco. Over dinner Aunt Nicky mentioned her involvement with the upcoming Fungus Fair and in her true Aunt Nicky fashion was excited about the December event.

We know she highly valued her friendships, dinners, and travels with many MSSF groups/members and loved her time foraying with you all. I, too, have fond memories of mushroom forays with her and attending MSSF culinary dinners many years ago.

We already miss her and we are sure you will too. Please inform Monique's circle of friends that she is foraying for morels and other varieties on Angel Island in heaven.

Peace and love to all,
Margaret Cush Grasso

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



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 replicating a burn zone in a portion of the woodland exhibit. 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 ginnygarrett at hotmail dot com

tyler_taubon@yahoo.com tyler space taunton at yahoo dot com

It's rainin so dance for mush more.

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/2014/01/12/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 and her Facebook discussions groups Mushroom Dyers Trading Post and Mushroom and Lichen Dyers United.

ACADEMIC QUADRANT SOME CHEESY FINDINGS by Jackie Shay

Have you ever once thought about the fascinating world living on your cheese rinds? Dr. Benjamin Wolfe at the Department of Biology at Tufts University in Massachusetts is exploring the ecology and evolution of microbial communities in food systems, and his current fascination is cheese. Wolfe aims to understand patterns in these microbial communities with molecular mechanisms in two ways 1) his lab identifies the molecular mechanisms that control the assembly and function of microbial communities and 2) they determine how microbial species evolve within multi-species communities. His lab beautifully integrates evolution, metagenomics, comparative genomic/transcriptomics, genome engineering, and in situ (observed where the phenomena occurs, such as cheese rinds) community reconstructions.

In order to visualize how these interaction occur, the Wolfe lab prepares the communities in vitro (in the lab, usually in the form of plate cultures). They then analyze the community genetic and molecular mechanisms and use this data to measure and monitor the relative contributions of abiotic filters, such as light, temperature or atmospheric gases, and species interactions. They then can model these systems to predict a microbial community and how it will eventually develop.

Figure 1: Molecular mechanisms of Microbial Community Assembly (The Wolfe Lab at Tufts) In addition to molecular mechanisms, the Wolfe lab is keen on understanding the causes and consequences of evolution within these microbial communities. Through time it is known that microbial evolution occurs quickly and these communities are comprised of multi-species environments where rates of change vary from in situ to in vitro conditions. By using cheese rinds, the Wolfe lab can explore these interactions and how their evolution occurs over time. This work has major implications for management and manipulation of industrial and medically relevant microbial communities.

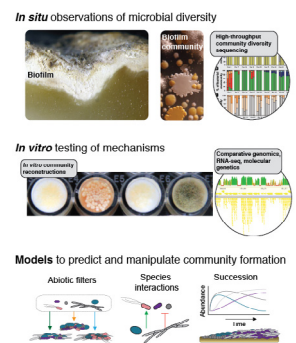
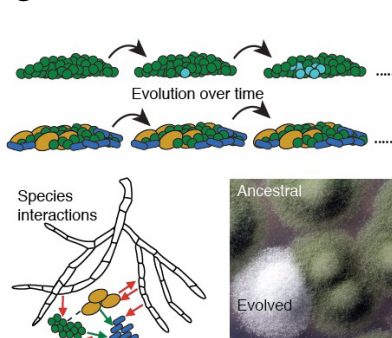


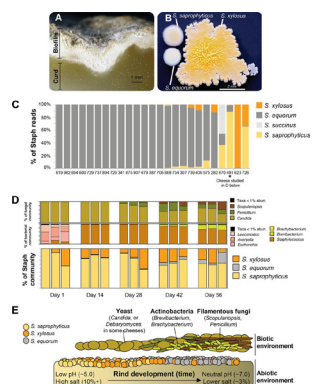
Figure 2: Observed evolution through time (The Wolfe Lab at Tufts)



In their most recent paper (Kastman et al 2016) the presence of the fungal genus *Scopulariopsis* lowered the expression of genes that regulate the uptake of iron and facilitate the metabolism in the bacteria *Staphylococcus quorum*. The fungi could be helping the bacteria acquire freely available nutrients from its environment for its growth and development. This symbiotic relationship might be saving the bacteria from the effort of processing these nutrients, and allowing it to grow in lieu of unfriendly fungi. These fungi could be facilitating the diversity and type of associations in these microbial communities on not only cheese, but salami, fermented tea, and even in the human microbiome. (Kastman et al. (2016); Microbiology, Nature).

In short, fungi might be determining who gets to stay and who needs to stay out their community by assisting the good bacteria and keeping the space full so bad bacteria can not move in. Very cool!

Figure 3: Ecological distributions of *Staphylococcus* species in cheese rind microbiomes. (A) A natural rind cheese showing the surface biofilm and curd. (B) Colonies of three of the most abundant CNS species found in cheese rinds were grown on plate count agar and photographed in natural light. Most strains of *S. saprophyticus* and *S. xylosus* are yellow or orange, while most strains of *S. equorum* are white. (C) Relative abundances of four CNS species in 25 cheese rind communities determined via metagenomic mapping of reads to reference genomes. Data are presented as relative abundances of reads that mapped to a *Staphylococcus* genome. Numbers at the bottom of the figure panel represent cheese sample identification numbers. (D) Relative abundances of four CNS species across a temporal sampling of 3 wheels of cheese aged over 56 days. Data for fungal and bacterial communities are from amplicon data presented in reference 26. Data for *Staphylococcus* communities were determined and are presented as described for panel C. (E) A model of *Staphylococcus* interactions with the biotic and abiotic environment during cheese rind development. E.K. Kastman et al./mBio (CC BY 4.0) Nature.



References

- Kastman EK, Kamelamela N, Norville JW, Cosetta CM, Dutton RJ, Wolfe BE (2016) Biotic interactions shape the ecological distributions of Staphylococcus species. mBIO 7(5):e01157–16. doi:10.1128/mBio.01157–16.
- Microbiology: Fungi Boost Bacterium. Research Highlights: selections from scientific literature. Nature 539 (8). doi:10.1038/539008a
- The Wolfe Lab at Tufts University (2016) Research. Department of Biology Tufts University. Web Accessed <https://sites.tufts.edu/wolfelab/research/>.

NOVEMBER 13th FORAY IN MARIN COUNTY
with Eric Multhaup

On Sunday, November 13, the first joint foray between the MSSF and the Mycological Society of Marin County (“MSOMC”) sallied forth from Bear Valley Visitors Center in Point Reyes National Seashore. There were 20+ foragers led by Kevin Sadlier as the identification point person, and followed by Eric Multhaup as sweeper. The group headed up the Mt. Wittenberg Trail and encountered a diverse array of species as shown on the post-foray identification table. Of particular note are the fine specimens of amanita novinupta, the mushroom formerly known as amanita rubescens, a/k/a the “blushing amanita”, a choice edible when cooked. Also, a major chanterelle patch was discovered by two diligent foragers, who generously shared this discovery with others, resulting in a hefty (but legal) chanterelle catch.

Speaking of edibles, many of the famished foragers gathered for a potluck picnic that included a pot of vegetarian chanterelle soup that Eric made, recipe below, and a pan of sauteed chanterelles from the patch mentioned above. Look for more Marin forays after a little more precipitation.

VEGAN CHANTERELLE SOUP

This recipe makes about three quarts of soup, which is twelve cups.

Ingredients:

- oil for sauteeing
- 6 shallots
- Sea salt
- 2+1 tsps fresh or dried thyme
- 4 cloves garlic
- 1 lb chanterelles
- Juice of ½ lemon
- 2 qts mushroom broth
- 1 can cannellini beans
- 2 tbsp light flour (optional)
- Freshly ground black pepper

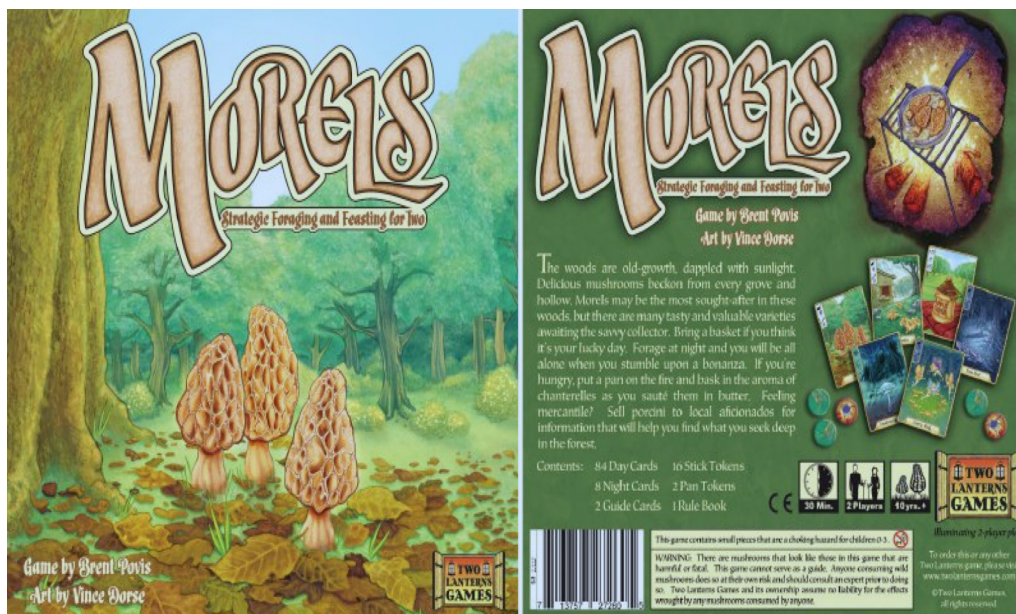
**Directions:**

1. Chop shallots and saute. Add the garlic and thyme and continue.
2. Clean and chop the chanterelles.
3. Remove shallots, and deglaze the pan with the juice of half a lemon. Add the clean chanterelles and stir, cooking on medium heat for about fifteen minutes. The chanterelles are better cooked close to dry.
4. Meanwhile, combine some mushroom broth and beans in a blender, and blend on high until creamy. Add flour (optional) and blend until the flour is completely incorporated.
5. When the mushrooms are cooked, remove a few from the pot for garnish. Put the chanterelles, shallots, pureed beans, and remainder of mushroom broth into a pot and simmer for 5 minutes.
6. Season to taste with plenty of freshly ground black pepper and sea salt if necessary. Ladle soup into bowls, garnish with the cooked chanterelles, a drizzle of good olive oil, and some fresh thyme sprigs.

MORELS: THE BOARD GAME

by Brennan Wenck-Reilly

About two years ago my wife and I stumbled into a game room in Queen Anne in the Seattle area. We were introduced to a game called Morels: Strategic Foraging and Feasting for Two. After playing for about a half an hour we decided to purchase the game. The game is intended for 2 players, and takes about 15 minutes to learn. The objective of the game is to collect as many mushrooms as you can and thus finish with the most points. There of course are constraints that keep the game interesting as well as strategic nuances that keep it interesting. I must admit, my wife and I are picky about what games we'll spend our time on, and Morels has certainly stood the test of time. In the game the mushrooms vary by points according to their choice edibility. Morels carry the most points while Honey Mushrooms have the least amount of points. If you find yourself holding a Destroying Angel, you could be set back for quite some time while you recover. While the game is luck based (you're drawing cards from a deck), there is enough strategy that my wife and I find each other vying in the finishing moments to see who will exit as victor. I recommend the game as an easy to learn card game, that finishes fast, and has just enough strategy that it remains interesting- even two years after our initial purchase.



CULINARY CORNER

by Toni Kiely

On Monday, November 7, 2016, at the Hall of Flowers in Golden Gate Park, fifty members of the MSSF Culinary Group (an all-volunteer committee of the MSSF) held their “Hungarian Feast,” captained by longtime members Carol and Bill Hellums.

Say Paprika five times fast! Paprika papika pprk pupip... Good thing it’s easier to cook with than to pronounce, and it’s great with lamb! Alvaro Carvajal did his usual outstanding job of preparing a Lamb Goulash, or “Paprikash”, with mushrooms for our November dinner. The recipe follows.

Mike Ahern provided a delicious mushroom/vegetable alternative for our non meat-eaters. It being a Central Europe-themed dinner, Kristin Jensen provided an enormous pot of buttered Spaetzle - a German, crumbly-ish pasta - over which to serve our Goulash. Michelle Liapes prepared a German-style purple cabbage with apples which was not only delicious, but also healthy. (Eat your purple veggies and fruits - they’re full of antioxidants :) Karen Rusiniak LOVES to make salad, and her tossed green with a large dollop of fresh beets on top was very refreshing. Not to be overlooked were her FIFTY, hand-carved, mini *Amanita muscaria*, made from red radishes - spots, stems and all. They were beautiful, and a real labor of love.

Carol Reed managed the coffee and tea service and Ann and Ramon Arancio topped the dinner off with one of the best and richest lemon tarts anyone has ever tasted. There was not an ounce of anything left. I think I even saw some plate-licking going on...

LAMB PAPRIKASH (GOULASH). WITH MUSHROOMS

This version of Lamb paprikash takes a few extra steps to ensure the best possible flavor. Searing the lamb produces a more complex sauce while adding gelatin to broth gives it a richer mouthfeel. The recipe is a little more complicated than your average goulash, but the results are well worth the effort. It is important to use fresh, high-quality paprika for this recipe. I recommend Penzey’s Half Sharp Paprika, or Spanish Pimienton de la Vera picante.

INGREDIENTS

- 1 cup Homemade or store-bought low-sodium mushroom or vegetable stock
- 1 (.25 ounce) packet powdered gelatin (about 2 1/2 teaspoons)
- 1 ½ lbs of Lamb meat cut into bite size chunks
- Kosher salt and freshly ground black pepper
- 1 tablespoon vegetable oil
- 1 large yellow onion, thinly sliced (about 1 1/2 cups)
- 3 cloves of garlic finely chopped
- 1 red bell pepper, thinly sliced (optinal)
- 1/4 cup (1 ounce) high quality Hungarian Sharp paprika
- 1 bay leaf
- 2 Oz dried Mushrooms preferably Porcini.
- 1/2 cup sour cream, plus more for garnish, or ¼ sour Cream and ¼ yogurt.
- 1/2 teaspoon Asian fish sauce
- 1 cup minced fresh parsley leaves or dill

DIRECTIONS

1. Placed the dried Mushroom in a container and add 1 cup of mushroom stock and let it rest until the mushrooms rehydrate.
2. Drain the mushrooms liquid into a measuring cup, add water to have 1 1/2 cup of liquid. and sprinkle gelatin over the top Set aside.

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3. Season Lamb pieces generously on all sides with salt and pepper. Heat vegetable oil in a large Dutch oven over medium-high heat until lightly smoking. Add lamb in a single layer and cook without moving until deep golden brown, about 8 minutes. As the Lamb pieces finish browning, flip them over and cook until the second side is light golden brown, about 2 minutes longer. Transfer Lamb to a large plate and set aside. Pour off all but 1 tablespoon of fat from pan.
4. Add onions and bell peppers (if using) to the pan and cook, stirring and scraping up any browned bits from the bottom, until the onions are tender and just starting to brown, about 5 minutes. Add the hydrated mushrooms and the paprika and cook, stirring, until fragrant and nutty, about 1 minute.
5. Add stock/gelatin mixture and scrape up anything stuck to the bottom of the pan, stirring constantly. Add bay leaf, and chopped garlic and Fish sauce. Nestle seared lamb pieces into the sauce. Cover the pan and place it in a preheated 300°F oven, and cook until the lamb is completely tender, about 60 minutes.
6. Just before serving, whisk sour cream/yogurt, and half of minced parsley into sauce. Season to taste with salt and more paprika if desired.
7. Serve immediately over noodles, boiled potatoes, or spaetzle, tossing the noodles or potatoes with the sauce and placing the Lamb on top. Garnish with more sour cream, paprika, and minced fresh parsley.

MSSF HOLIDAY DINNER 2016

Come Celebrate the Holiday Season at the *MSSF Holiday Dinner*
on **Monday, December 12** from 7:00 to 9:30 p.m

at the San Francisco County Fair Building, aka the Hall of Flowers, at 9th Avenue & Lincoln, .
\$45 for members; \$50 for guests; and \$20 for children under 14.

Register on the [MSSF website](#) by December 6.

Menu by Chef Pepe Sanchez of San Francisco

Appetizers - Please bring an appetizer for the appetizer buffet table. There will be prizes for the best mushroom appetizers.

Holiday Eggnog (alcoholic and non)

First Course - Thai-influenced soup ("Tom-Kha") with maitake mushrooms (vegetarian)

Main Course – Herb-crusted roast beef with chestnut and morel sauce; herbed potatoes; and seasonal vegetables.

Vegetarian option upon request that is compatible with the chestnut and morel sauce.

Dessert - Candy-cap bread pudding with pears and apples; coffee and tea.

Exciting raffle prizes!

You must bring your own dinner beverage and tableware. Dishes, eating utensils, glassware, napkins, etc. are not provided.

CULTIVATION QUARTERS

by Ken Litchfield

Starting with this season's September Mycena News, we have been talking about using mushroom syrups for making flavorings and liquid cultures, specifically wines and meads, by converting the sugar in the syrup ingredient to alcohol and CO₂. The next logical and practical step in the process is to convert the herbal wine or mead alcohol into herbal vinegar. Perhaps you have heard of wine "going bad" by turning to vinegar. This is due to "contamination" of the wine with a vinegar bacteria that converts the alcohol in the wine to acetic acid, the tartness in vinegar. This same principle is what is behind kombucha, except that the "contamination" is the intentional introduction of a kombucha "mother" to an original brew.

Scoby or Scobyah

The brew in this case is traditionally black or green tea and white sugar and the mother is a chunk of leathery SCOBY, a Symbiotic Culture Of Bacteria and Yeast, pronounced "SCOHB-ee". In reality this is a misnomer as it isn't fully descriptive of the culture. It should be called SCOBYAH, and I suppose pronounced "SCOHB-yah". Whether you pronounce it scobee or skohbyah, properly speaking, you can't have a kombucha without the third biological symbiont acting upon the other two, ie you the human symbiont that makes and manipulates the kombucha, hence a Symbiotic Culture Of Bacteria, Yeast, and Human - SCOBYAH.

Depending upon the shape of the glass container of sweetened tea it is growing in, the scobyah tends to look reminiscent of a mushroom composed of compacted layers of tan colored rubbery leather floating on the surface of the tea brew and conforming to the shape of the container. Usually a wide mouth one gallon jar suffices though it could be as small as a pint and as big as several gallons or even larger if you want to make non-food-grade kombucha leather for vegan leather clothes or building material. As the scobyah grows it tends to produce layers off the bottom that can be peeled or cut off the main mother to make babies for more mothers or for giveaways. Once you get going with kombucha brewing, you'll be making so many babies that you'll have that similar problem of what to do with all your summer squash when the friends of your friends dread the appearance on their doorsteps of your excess produce. Except that the appearance of a plastic bag of kombucha babies on your friends' friends doorsteps might provoke a call to homeland security as to what those gross things are doing on their thresholds.

Making Kombucha

In addition to the chunk of mother there is also some of the original liquid, maybe half a cup to a cup, from the mother culture which adds multitudes of loose bacteria and yeast cells in an acidic liquid that kicks off the proper environment for the new brew. The original mother culture is maintained in its container with periodic drainings of most the liquid as it reaches the ideal sweet tartness to the taste of the imbiber. The original culture gets more sweet tea added to it to continue the brewing mother culture and the drainings are drunk for their real or purported health benefits. Or the drainings are refermented by a secondary fermentation process with added ingredients. The original culture is maintained with the original scobyah mushroom in black or green tea and white sugar as that is what the culture has been adapted to over many eons since the misty beginnings of kombucha brewing in some not-quite-fully-determined far off oriental land. Since around maybe the 70s and 80s occidental lands have been trying this brew with varying enthusiasm and success. It's with the secondary ferments where you get to play around creatively.

To make your own kombucha you only need to make a strong brew of black and/or green oriental tea, extra-sweet like a potent Texas ice tea but without the ice and maybe a little extra sugar. To that you add a piece of scobyah and a cup or so of juice from your ongoing kombucha brew or get some from a friend's culture, or maybe the freshest commercial brew you can find on the shelf, nowadays at most markets. If you have to use a commercial mother you can buy it and place it, with the lid on, but loose, on the kitchen counter at room temperature for a few days. This is to confirm that it is still viable and growing well. If you like you can open the bottle and pour out about one third of the liquid and add a corresponding amount of sweetened tea to nutritionally kickstart the bottle, loosely capped. After a few days it should be growing well with perhaps some fizz and maybe the beginnings of a thin film of mother starting to grow on the surface. The whole bottle of liquid and scobyah baby can then be added to your new freshly brewed container of sweetened tea.

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The prepared kombucha brew now resides in your gallon jar with a lid loosely applied or with a tight knit cloth rubberbanded over the opening to keep out fruit flies and airborne organisms. There is no quickly dramatic change that happens with the brew like what happens with a wine or mead bubbling. Instead over time of a few days to weeks, you'll see that the surface of the kombucha develops a thickening layer of mother that becomes light tan on top and dark tan submerged, colored from the tannins in the tea. As this develops you simply taste the liquid below the mother to determine how sweet or tart it remains or becomes. Harvesting the liquid happens merely at the discretion of the human symbiont's organoleptic sensors, ie how the brew looks, smells, tastes, and feels. Perhaps most kombucha brewers drink the brew as is from this draining, but more sophisticated is to manipulate this draining for subsequent ferments that have added ingredients for flavor and health.

If you used a large glass jar with a side spigot it is relatively simple to drain off most of the liquid, leaving ten to twenty percent in the jar and then add fresh brewed and sweetened tea back to the original jar to compensate for the draining. Be sure to allow the sweetened tea to totally cool before adding it to the original kombucha mother to prevent any scalding of the organisms. If you have no spigot drain, the liquid can be gently poured out with as little disturbance of the scobyah as possible. You can also use a syringe style turkey baster to suck up the juice and transfer it.

Sequential Secondary Ferments

It is with the secondary, tertiary, quaternary, and subsequent ferments where you can produce your own unique compositions. The draining from the mother culture is loaded with multitudes of kombucha organisms that are floating microscopically in their special kombucha ecosystem but not attached to the main colony. You could consider that the original jar of kombucha is analogous to a little planet ecosystem rather perfectly conducive to the needs of the kombucha culture. The kombucha culture could be considered to be similar to the human biomass on the planet Earth. For most of our evolution we have been tribal foragers scattered nomadically across the planet and periodically congealing into citystate civilizations. At some point in the last two hundred years of industrialized civilization the nomadic tribal way of life has been nearly entirely eaten up by a planet wide colonial civilization "scobyah mother." If you separate any piece of fractal layer of the scobyah mother and transplant it to a new environment it can take off and start growing because it has all its constituent parts. Plus, it contains some of the soupy acidic juice teeming with the nomadic individuals to continue building another colony civilization in the new environment off of the preformed fractal piece of island colony. You can also take just some of the soupy acidic juice and it's nomadic microorganisms and they can rebuild a whole colony from scratch that conforms to the new container environment. It will just take a little longer than a piece of the original fractal kickstarter, and it won't retain any remnant shape of the previous mother.

So, to the draining of the original mother juice you can add some more sweetened tea and any particular ingredient you wish and the loose nomadic microorganisms will incorporate those constituents into the new kombucha and begin to work on the new sugar and food to create a new sweet tart flavor continuum. Instead of white sugar for sweetness, if you add a morel, or porcini pore, or chanterelle syrup you'll end up with a mushroom flavored kombucha drink. Or it could be cherry, peach, carrot, ginger, ginseng, or any other of a multitude of flavored herbal syrups you could add for the sugar nutritional component of the kombucha, depending upon the flavorful, nutritional, and herbal properties you are shooting for. In addition you could add dried powdered candycap mushrooms for a maple flavored kombucha. Or sassafras, wintergreen, vanilla, anise, ginseng, cordyceps, reishi, maitake, eleuthero flavored root beer kombucha. Or orange peel syrup and vanilla extract for Orange Julius kombucha. The combinations are limitless. And if you would like to make your own sports drinks you could use the root beer recipe and add a two hundred milligram tablet of "Stay Awake" caffeine from the dollar store and/or substitute ma huang tea or Mormon tea for some of the oriental tea for added ephedrine, plus a bunch more rejuvenative, recuperative, immortality herbs. After adding the ingredients you want to the brew you let it age to the desired sweet tartness you prefer and then drink. Or continue letting it age to higher and higher concentrations of vinegar with periodic supplements of sugar to get the highest concentration of vinegar possible. Then you have an herbal vinegar with the constituents preserved in the acidic environment which can then be added as a sour ingredient to other components.

FUNGUS FAIR SPEAKERS BIOS

JR Blair's Bio:

J.R. Blair is a lecturer in biology at San Francisco State University and the director of the SFSU Sierra Nevada Field Campus near Yuba Pass. He obtained his Masters degree in 1999 studying under the MSSF Science Advisor, Dr. Dennis Desjardin. His thesis was Fungi Associated with Arctostaphylos in Central California. He has been a member of the Mycological Society of San Francisco since 1983. He was the president of the MSSF 2007-2009 and was the Fungus Fair chairperson for five fairs at all three of the recent venues: Oakland Museum of California, Lawrence Hall of Science and San Francisco County Fair Building. He has been teaching mushroom identification workshops for MSSF for about five years.

Britt Bunyard's Bio:

Britt Bunyard is the founder, Publisher, and Editor-in-Chief of the mycology journal, *Fungi Magazine*. 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).

Ken Litchfield's Bio:

Ken Litchfield began his career as a botanist, biological illustrator, and instructor as a student in the art and biology departments at Texas State University. Ken is currently a naturalist with a professional background working and teaching in science, writing, technical illustration, computer graphics, photography, lapidary, and human health and fitness. He consults, instructs, and trains at various organizations, institutions, and homesteads. For over 15 years he has been the Cultivation Chair for the Mycological Society of San Francisco, and incorporates the fermentation arts into his activities and teachings at Counter Culture Labs on Wed eves. At community college level Ken has taught Mushroom Cultivation, Beneficial Beasts in the Garden and Landscape, and Growing and Using Healthful Herbs, basic "applied biology" utilizing the Mushroom, Animal, and Plant Kingdoms and their interrelationships in the garden and landscape.

Christopher Hobbs' Bio:

Dr. Christopher Hobbs is a fourth-generation, internationally renowned herbalist, licensed acupuncturist, author, clinician, botanist, mycologist, and research scientist with over 35 years of experience with herbal medicine.

Christopher has a doctorate from UC Berkeley in phylogenetics, evolutionary biology and phytochemistry. He is also a founding member of the American Herbalists Guild.

MENDO CAMP 2016



MUSHROOM SIGHTINGS IN NOVEMBER 2016



Boletus edulis
Photo by Isa Foulk



Boletus mirabilis
Mendocino, CA



Chlorophyllum rhacodes
Oakland, CA



Butyriboletus querciregius
Oakland, CA



Clavariadelphus truncatus
Mendocino, CA



Amanita vaginata
Mendocino, CA



Amanita calyptoderma
Mendocino, CA



Turbinellus floccosus
Mendocino, CA

Photos by Pascal Pelous



Amanita muscaria
Mendocino, CA

Thanks Isa for sharing your finding! Send yours to mycenanews@mssf.org to be published in the next newsletter.

MSSF Calendar December 2016

Sunday, December 4, 10:00 a.m. - 5:00 pm - MSSF 2016 Fungus Fair

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

Monday, December 12, 7:00pm - 9:30 pm - [MSSF Holiday Dinner](#) 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, forays
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 members-only area, file archives, council member position descriptions. Or email president@mssf.org.

Photo Credit: on the first page, *Agaricus augustus* AKA The Prince photographed in Oakland by **Pascal Pelous**

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) for more info

From Forage to Feast: Basic Mushroom Identification & Cooking (FORAGE)

Tuesday, December 6, 7pm-9 pm

@

Jewish Community Center, 3200 California St in SF

Discover the amazing features and uses of mushrooms in the modern world. Learn to identify mushrooms using basic visual cues, and how to cultivate and cook them. No previous mushroom experience needed....

Member fee: \$ 25.00
Non-member fee: \$ 30.00

Thanks, Ken (litchfield.ken@gmail.com)



Mycena News

December 2016, vol. 68:4

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Please e-mail photos, comments, corrections, and correspondence to mycenanews@mssf.org

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

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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 January 2017 issue is December 15th. Send all articles, calendar items and other information to: mycenanews@mssf.org

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