# Mycena News

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## September 20

General Meeting Speaker

**Noah Siegel**

***"Mushrooms of the Redwood Coast"***

**Mushrooms of the Redwood Coast**

Northern California is known for its seemingly endless wet winters which make the mushrooms flourish and its majestic forest. Not only do we have the biggest trees we also have the largest known Chanterelle and Porcini! Six years in the making, the newly published Mushrooms of the Redwood Coast is the definitive guide to mushrooms in the diverse ecological zones of this region. Gain a better understanding about the mushrooms of northern California, hear some of the stories behind the book, and enjoy a selection of breathtaking photographs; from common edibles to rare and remarkable species

**Noah Siegel's Bio:**

Noah's field mycology skills are extensive – he has spent over two decades seeking, photographing, identifying, and furthering his knowledge about all aspects of macrofungi. He has hunted for mushrooms throughout the United States and Canada, as well as on multiple expeditions to New Zealand and Australia. He is one of the premier mushroom photographers in the nation, having won numerous awards from the North American Mycological Association (NAMA) photography contest. His technique and attention to detail are unrivaled, arising from a philosophy of maximizing utility for identification purposes while maintaining a high degree of aesthetic appeal. His photographs have appeared on the covers and have been featured in articles of multiple issues of FUNGI Magazine and Mushroom the Journal, the primary mushroom enthusiast magazines in the United States, numerous mushroom books, as well as many club publications.

He just finished, along with Christian Schwarz, Mushrooms of the Redwood Coast, a comprehensive guide for the northern California coast.

Noah travels and lectures extensively across America, following the mushrooms from coast to coast, and everywhere in between.

**Table of Contents**



## Conservation of Fungi in California

***by Else C. Vellinga***

Everybody who looks at Google Maps for images of northern California will discover many checkerboard pieces of forest covering the hills and mountains. Where once old forests grew, now clear cuts or second generation young trees have come up. The mushroom species that depend on old trees for their livelihood and housing have disappeared. The wars for maintaining old growth forests and the importance of them for the spotted owl probably live on in a generation of tree huggers and lumbermen.

One of the mushroom species that depends on old giant true firs to make fruitbodies is *Bridgeoporus nobilissimus*, a gigantic conk that is covered with a fuzzy mat on top. This species is only known from one fruitbody at one site in northern California, and a dozen or so in Oregon and Washington. To make matters worse, the California specimen was destroyed and a new fruitbody has not been found yet. Such a rare species that needs old trees to grow and prosper, should have made it to the Endangered Species Act, but alas, that never happened. For the record, there are no mushroom species protected under that law, and only two lichen species are on the list, one from Florida and one from the Smoky Mountains (https://www.fws.gov/endangered/). *Bridgeoporus nobilissimus* has some protection as it is covered under the so-called "*Survey and Manage Standards and Guidelines of the Northwest Forest Plan*" (Castellano et al. 1999),which also has jurisdiction over parts of northern California. This means

Continued on Page 4

## President's Post

*by Brennan Wenck*

Welcome Back!!!

I hope you all had an amazing summer. Is it me, or has it really been a dry summer? Not even any rain in the Sierras like we had last year. Anyway, I have seen quite a bit popping up here and there around manicured landscapes, but nothing to get too excited about.

I have a few thank you messages from last year, and then I'd like to share some of what we have in store for the coming year. I would like to send a thank you to both Julia Cabral and Joe Soeller, both served two years as council members and helped make the organization run more smoothly. When you see either of them at future events, please be sure to thank them for their time and service to MSSF. Joe can also be seen working closely with Bay Area Applied Mycology. They are being replaced by Alan D'Souza and India Mandelkern. We are looking forward to the fresh ideas that these two new council members may bring.

Another person who deserves recognition is Wendy So. She has been a prominent member of the society for some years now and has been a wonderful fresh voice in the Mycena News. Wendy served as co-editor of the Mycena News and as the Archives Chair for the Society, unfortunately for the Society, Wendy has decided to step down in her roles in order to invest her energy into other pursuits. Wendy's cheerful spirit will certainly be missed.

Our Council Secretary, Eric Multhaup, deserves a standing ovation for his hard work in putting together the Spring Morel Foray. With the help of David Campbell, the current President of the Mycological Society of Marin County, the foray was a tremendous success. Despite heavy rains and even some snow flurries during the weekend, everybody went out and was able to find at least a handful or two of morels within the boundaries of the King Fire. Even the MSSF Tabernacle Choir made a showing around the rainy campfire. Thanks again to Eric and David for hosting an amazing weekend.

Coming up for this year, the ever popular Mendocino Camp will be happening in November 11th-13th; look for sign up in early September. This event sells out very fast, so be sure to act fast when the announcement is made. We also have the Fungus Fair scheduled for December 4th. This event will once again take place at the County Fair Building. You can look for information from Jackie Shay if you would like to become more involved with the planning of the Fair. And finally keep your eyes on the MSSF Calendar as we are scheduling more winter forays this year in and around the Bay Area. There will be ample opportunity to get out there, perhaps get wet, and definitely find some mushrooms.

Our first societal meeting is on September 20th. Noah Siegel will be speaking to us about his newly published book; Mushrooms of the Redwood Coast. I hope you all will come, and even bring a friend. Noah is a walking encyclopedia of mushroom knowledge and it is an honor to have him come speak to the society.

Forage sustainably,

Brennan - president@mssf.org

## Culinary Group Dinner
## September 12, 2016

Because of Labor Day, the September Culinary Group Dinner will be on the second Monday of the month instead of the first. There will be a brief business meeting at 7 p.m., to plan for the upcoming season, with dinner to follow.

It's a potluck -- just bring a dish to share, preferably involving mushrooms. Also, as always, bring your own table covering, dishes, flatware, and beverage. No registration is required this month. A fee of $5.00 per person will be collected to pay for the room rental.

Location is the County Fair Building (Hall of Flowers), at 9th Ave. & Lincoln Blvd. in Golden Gate Park, San Francisco.

Contact Dave & Peggy Manuel (phone: 415-453-0548) if you have any questions. We are looking forward to a great mushroom and Culinary Group season

- **See you there!** -

## 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

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

# Mycena News Contributions

Hope you've been having a great summer and are beginning to look forward to our new MSSF fall mushroom season and the contributions you can make to the Mycena News: mycenanews@mssf.org

In addition to our regular President's Post, Speaker announcement, Culinary Corner, Cultivation Quarter, Academic Quadrant, Announcements, Calendar, and Hospitality we would like to have, at least periodically, an author for a Mycodigest, and perhaps any other features someone would like to take it upon themselves to produce.

Coming up we would be interested in anyone who went to Telluride to include a review of the event and photos too, plus impressions of speakers and presentation subject matter. The same for other mushroom related fairs and events, local or around the country. Or perhaps a travelogue of your trips to other mushroom hunting lands close or far away. We are also interested in your opinions as expressed in book reviews for some of the new mycology texts that have been published lately.

Last season we had a Mushroom of the Month regular article that was often not announced with enough lead time to be conducive for other contributors to send in related articles, photos, collecting and processing techniques, recipes, and other content. This season we'll try something new by announcing a suggested monthly mushroom theme that is seasonally appropriate to the types of mushrooms likely to be encountered by mushrooms foragers locally and on their external travels.

For September and October we'll propose "Summertime Mushrooms" as the theme. This includes typical garden and mulch mushrooms that might be encountered due to irrigation or fogdrip such as Shaggy Parasols, Shaggy Manes, Agaricus, or Lattice Stinkhorns, and those other summer mushrooms like Dead Man's Foot that come up in the dry heat of summer for whatever reason, plus wild mushrooms springing up from summer rains or fogdrip in the Sierras or Rockies or East Bay hills,

For November we'll propose Porcinis and other pored Boletes and their relatives and lookalikes.

For December we'll propose Amanitas. This would include the Santa Mushroom, Amanita muscaria but others out at the same time like Panthers, Death Caps, and Cocorracolis, their relatives, and lookalikes.

For January we'll propose Chanterelles and their relatives and lookalikes.

For the new year and the season beyond we'll announce in the December issue. Your suggestions are welcome.

Of course, if you have any articles, photos, collecting and processing techniques, recipes, travelogues, reviews of books or mushroom events, jokes, cartoons, or other content we'll see about making room for it in each issue regardless of monthly themes or seasonal relevance.

Please note that the official deadline for submissions of content to each monthly issue of the MSSF Mycena News is the 15th of the month previous to the issue month.
Hence, the official deadline for our coming up:

October issue is Thursday, September 15th,
November issue is Saturday, October 15th.
December issue is Tuesday, November 15th.
January issue is Thursday, December 15th.

The more closely you can meet that deadline the easier it is to get that issue compiled, proofed, formatted, double checked, and sent out to the membership on time for the first of the month.

If possible, we prefer that your written contributions be in Word format, or plain text, without formatting but already edited by you for content and spelling errors.

Please always submit your contributions to: mycenanews@mssf.org

Never fear, we do plan to send out gentle reminders, foot warmers, panty knotters, pants lighters, and other tweakers as the last chance to submit gets closer each month. Look for the reminders on the MSSF social media sites and yahoogroup.

Thanks -
The MycenaNews Crew

that if anything destructive is planned for a forest on federal land, that piece of land has to be inventoried for this species, and if *Bridgeoporus* is present, the forest has to be managed to keep it happy and growing.

Old growth forests are only one example of rare habitats. Redwood forests, the groves of Gigantic sequoia in the Sierra Nevada, and the natural stands of Monterey cypress are unique for California and not found anywhere else.

These three tree species are actually all three included in the IUCN (International Union for the Conservation of Nature) Global Red List. That list gives an estimation of the extinction risk for a species, and the criteria for this assessment are the same whether a Saiga antelope or a blue Leptonia species is considered; the categories of extinction risk are also standardized. The IUCN Red List dates back to 1964 when a "*Preliminary list of rare mammals*" and a "*List of rare birds*" were published. In the first 50 years, lists of endangered mammals, plants, birds, and amphibians were produced. Mushrooms were very late on the scene, and now only 49 species in the world have been considered, with many more in the pipeline. But the goal is to have 14,500 species assessed by 2020.

This assessment process is not easy – it takes a lot of data and insight to give a good estimate of what has happened or might happen to a species. Knowing where a species is growing is essential. And who has that type of knowledge for any species in California? There is no central database where one can find such data; some European mycological clubs have been gathering data for their species, and one can find distribution maps on various web sites (e.g. http://www.svampeatlas.dk for Denmark, or the Dutch distribution atlas at http://www.verspreidingsatlas.nl). However, nothing comparable is in place for California observations. Mushroom Observer is spotty, and not really set up to maintain that type of knowledge. I started out by pointing out that forests have been cut here in California – that is habitat loss. Pollution and climate change are the other big threats for mushrooms, plants, and animals. The Coastal redwood forests are already getting much less summer fog than 50 years ago, a clear sign that the weather patterns are changing (Johnstone & Dawson, 2010). The fog is essential for the well-being of these tall trees, which absorb the fog through their needles.

For that reason several mushroom species, such as *Leptonia carnea* and *Hygrocybe virescens*, which occur in the redwood forests, are now on the Global Red List. That list does not provide legal protection, but it emphasizes the importance of the habitat. It is a way to tell politicians and forest managers alike that these forests are important for more organisms than the redwood trees themselves and the marbled murrelets who breed on the branches of old and revered trees; these two are listed as "Endangered".

The best known example of pollution with a clear negative effect on mushrooms is nitrogen deposition as the scientists call it. The sources for the nitrogen are manifold – cars, farming, factories. Many *Cortinarius* and *Tricholoma* species will stop fruiting or disappear altogether, but some *Russula* and *Tomentella* species don't care (e.g., Lilleskov et al., 2011), and even take advantage of the disappearance of others. Does that happen in the hills surrounding the Central Valley? Do we know? Do we care?

The last category of threats to any organism is that of non-native species which take over the habitat of the original species or turn out to be voracious predators. In the mushroom world we can think of *Amanita phalloides*, which came from Europe, and is now growing with the native Coastal live oak. If we had been keeping good records in the past, that invasion would be much easier detected and perhaps the spread of the species in California could have been halted.

Wouldn't it be time that we take much greater stock of what we have, and keep records of all our observations, so we can prevent the worst from happening?

**Literature used and recommended for further reading:**

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Continued on Page 5

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## Fungus fair 2016 *by Jackie Shay*

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

As summer subsides, the anticipation rises for the most attended event hosted by the Mycological Society of San Francisco. Yes, it is time to mark your calendars for the 2016 MSSF Fungus Fair! Every year we get together to share in our love of fungi from every corner of appreciation. We host exciting cooking demonstrations by well-respected local chefs, informative and updated talks on science and technological use of fungi, fun and interactive areas for kids and adults of all ages, and people coming together for the love of this glorious kingdom.

Please join us on Sunday, December 4th 2016 for the San Francisco fungal event of the year! Meet new mycophile friends, learn more about your local mushrooms, and taste our timeless and best-selling mushroom soup! We know you will have the time of your life!

Get ready, get excited, and get involved! We need your help making this wonderful event come alive! Join the fun at the Fungus Fair planning meeting on Tuesday, September 13th from 7:00pm at the Hall of Flowers (SF County Fair Building) Golden Gate Park (Lincoln Way at 9th Ave) San Francisco, CA. Please contact Jackie Shay at jackie.shay@gmail.com and she will be happy to include you in the planning process. **It will be magical!**

# Academic Quadrant – 3D imaging the architecture of fungi

*by Jackie Shay*

An overview of "Application of micro-computed tomography to microstructure studies of the medicinal fungus *Hericium coralloides*" by Johannes D. Pallua, Wolfgang Recheies, et al. from the Medical University of Innsbruck, Austria.

As technology advances so do the ways we can apply these advances to our understanding of the world around us. The best example of the use of these technologies is through imaging and observation of complex structures. Dr. Pallua and Dr. Recheies, along with their colleagues, used micro-computed tomography (micro-CT), similar to a CT scan in terms of technology, to observe details of the basidomat of *Hericium coralloides*. The 3D dataset is created by layering 2D projections at several angles from labeled tissue. The advantage of using micro-CT compared to clinical CT is the very high resolution of the images, which is superior for identified anatomical structures.

***Pallua left and Recheies right***

The reason they chose *Hericium* is due to the presence of the icicle-like spines that branch from the mushroom. This mushroom is used in traditional Chinese medicinal practices to treat disease (Lu et al. 2002) and has become an important subject of study due to this role in traditional medicinal practices (Wang et al. 2004, Mori et al. 2009).

The use of micro-CT in combination with light microscopy (LM) and scanning electron microscope (SEM) furthers our abilities to view and observe morphology of microscopic features of fungi. This architecture could hardly be modeled using conventional methods alone, and that is what makes this an integral method for data on microstructures. In the image below (Fig. 1) we can see a reconstruction of the intricate architecture of the icicle-like spines that grow from the *Hericium coralloides* basidiomat.

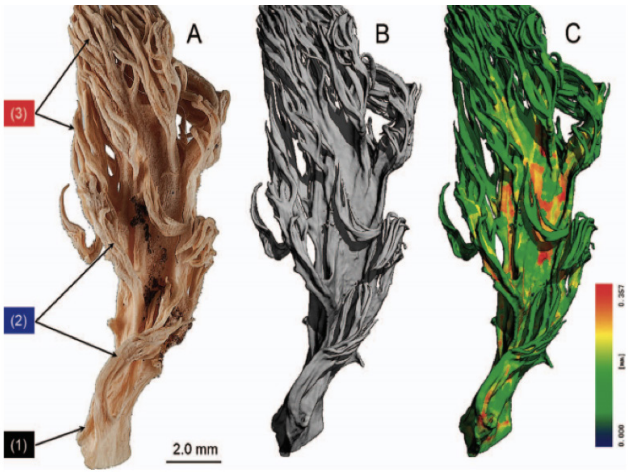


FIG. 1. 3-D reconstructions and visualizations based on micro-CT imagery of a Hericium coralloides basidioma sample. A. Fixed and critical-point dried sample. Three histo-anatomical features can be recognized on the optical image (Pallua et al. 2014): basal branch (1), side branches (2), and end branch structures (3). B. 3-D surface rendered image of the micro-CTdataset processed by a connected component algorithm to ignore irrelevant structures such as small pieces caused by the inherent image noise. C. 3-D surface rendered image of the spatial thickness distribution (0–357 mm).

These results indicate the capabilities of these technologies in the future understanding of fungal micro-morphology and microstructure. For more information of the use of micro-CT. Please read this article at your leisure.

http://www.mycologia.org/content/107/1/227.full.pdf+html

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# MSSF Mendocino Woodlands Camp Foray

***"Food - Forays - Fun"***

*November 11-13, 2016*

Deep in the Mendocino Woodlands, MSSF members, friends and family, gather once again for our annual north coast fungal rite of autumn. This weekend-long spectacular mycological event includes great mushroom themed dinners, guided forays, fun informative presentations, and of course plenty of mushrooms.

Four years ago we returned to our roots of the "3-F's", (Food-Forays-Fun). This year we will continue to improve upon that theme. We will continue to offer a diverse selection of eight or more different forays. We also plan to continue the very popular Saturday afternoon appetizer cooking demonstration with a multi-mushroom soup, grilled fresh bread, and a selection of grilled mushrooms. We have arranged to have "Deb Dawson" the chef who cooked the fabulous meals for us last year, return to repeat the experience for us. Last but not least, Curt will conduct his legendary raffle again, and it will be biggest ever! This year, there will also be a special door-prize raffle for all paid attendees.

We will have three speakers at camp this year. Our feature speakers on Saturday evening will be authors and exotic mushroom hunters and tour guides, Daniel Winkler and Larry Evans. Britt Bunyard, editor in chief of FUNGI magazine, will be the Friday evening presenter. Daniel, Larry, and Britt will also be participating on forays.

All on-site meals and lodging (Friday night through Sunday lunch) are included in the basic $230 dollar per person member rate. To become a MSSF member, go to: http://www.mssf.org/membership/join.html

***NOTE:*** Due to liability requirements, and to also allow as many MSSF members as possible an opportunity to attend camp, all attendees must be 13 or over in age.

***NOTE:*** There will be a $25.00 fee for any cancellations made after reservations have been closed and the camp is full. Event details and sign up are on the MSSF website in the member's only section under events. The link to register is: http://mms.mssf.org/members/evregview.php REGISTRATION FOR CAMP WILL ONLY BE AVAILABLE ON THE MSSF WEBSTE, AND ALL PAYMENTS WILL ONLY BE ACCEPTED USING PAYPAL. The schedule of events and all required information for camp will be sent to registered participants in early October.

For registration questions, please e-mail Stephanie Wright at: lioness.chef@gmail.com or call (510)-388-5009 or contact Curt Haney at: MendoDirector@mssf.org or call (415)-640-6233. The above e-mail addresses can also be used if you need help with the online reservation process.

Last year, Mendocino Camp sold out in less than 24 hours after I announced it, so don't wait to sign-up for camp, you might miss out! This year camp sign-up on the website will begin at 10:00am on Sunday, September 24th 2016. Foray sign-up choices will be available during the registration process. Foray selection choices will be first come first served during the registration process.

***IMPORTANT NOTES:***

We are at our usual location in Camp #1 this year. Anyone who would like to bring a camper or RV instead of utilizing a cabin is welcome to do so. (Please tell us if you would like to bring a camper or sleep in a vehicle instead of a cabin when you register for camp). Cabins have fireplaces and wood is available, but we suggest you bring a couple of presto logs if you plan to make a fire in your cabin, (much less smoke and much easier). You can also bring fire starters which help greatly in getting fires started. Another option is to enjoy the nice big fires we will have available in the dining rooms after dinner and then return to your cabin at bed time. If you would like an alcoholic beverage with your dinners on Friday or Saturday night it will be BYOB. Also please note that it is very important that every camper bring a flashlight to safely get back and forth to the cabins after dark. A complete list of what to bring, and directions to the camp will be sent to registered attendees in early October.

Additional information about the Mendocino Woodlands Camp can be found at:
www.MendocinoWoodlands.org (FAQS, MAPS & DIRECTIONS).

# Cultivation Corner

***by Ken Litchfield***

Herbal Sugar Extractions for Flavorings and Fermentations - Simple Raw Syrups by Osmosis from Fresh Fruits, Roots, Leaves, and Flowers to Extract Flavors, Fragrances, and Essences, with a Focus on Applications with Mushrooms.

For this month's Cultivation Quarters I'm going to describe a new food preservation technique, that can be used for several applications, including certain kinds of fungal cultivation, usually classified as fermentations.

Though I may have "invented" this process, I didn't realize this until I couldn't find much of any information about it except the relatively well known process of putting sugar on strawberries, even if they are sweet, to produce syrupy strawberries. It is also the same principle involved in salting or marinating the outside of unground muscle meats like hams for curing. I knew of the principle of osmosis from biology studies and had applied it to other fruits like cherries and goldenberries or Cape gooseberries years ago. Back maybe 5 years ago when we had about the last really good rains predrought, I had tried this method on an extra bountiful stash of fresh candy caps to see if a fresh candy cap syrup would have the same flavor as the dried mushroom. Over the years I tried these osmotic sugar extracts on various herbal candidates like rose petals, chocolate peppermint flowers, spearmint leaves, quince, ashwaganda berries, and others. More recently with the Counter Culture Labs space at Omni Commons we've been performing all kinds of experiments with some rather novel candidates. This process creates a simple syrup more simply than the regular method of making simple syrups by cooking. The advantages to this sugar osmosis process are that it is quicker and easier than cooking, none of the volatiles or heat sensitive constituents are destroyed with this raw process, and it is so safe even little kids can perform it quickly in a classroom setting without the complications of stovetop activities or dangers of heat burns.

To perform this process you need a clear glass jar with a sealable lid, canning or Mason jars are perfect, a bag of granulated white sugar or carton of powdered baker's sugar, and the fresh herbal produce that you want to extract a syrup from. Fresh fruits, roots, leaves and flowers are all possible with the juiciest candidates making the quickest syrups. Fruits and roots are best extracted with granulated white sugar due to their extra moisture content and leaves and flowers are best extracted by Baker's sugar, a finely powdered sugar that has no corn starch added to keep it from caking. Baker's sugar coats the leaves and petals more closely and works for extracting leaves and petals that aren't as fleshy as fruits and roots. Sometimes it helps to wet the leaves or petals with water and shake them out or spin with a salad spinner so the surfaces are more receptive to the sugar. Tossing the wetted leaves or petals and Bakers sugar in a bowl to coat them better before putting them in the jar sometimes helps to prevent caking or layering of unsugared leaves in the jar. Bulky mushrooms like morels, porcinis, and chanterelles fall under the category of fruits and roots and delicate mushrooms like candy caps or mahjeeks fall under the category of leaves and flowers.

As a starting example, you can get several fresh carrots from the store or garden, slice and dice them finely, and fill the glass jar with the pieces. Then pour on the granulated white sugar straight from the bag until all the interstitial spaces between the pieces are fully filled with sugar and the pieces are fully encased. You can tap the jar to settle the sugar or alternate layers of sugar with pieces of carrot. Once the jar is filled with the sugar and there is a thin layer of sugar completely submerging the top of the carrot pieces, you can seal the jar with the lid. Generally the amount of sugar recommended would be equal to the weight or volume of the thing being extracted or maybe two thirds sugar to one third thing. Within about 15 minutes the sugar is being liquified by the moisture being sucked out of the cut carrot roots. By 30 minutes the jar is already partly filled with the sugar extracted contents of the carrot cells. If you use orange carrots the syrup produced will be very carrot flavored but not all that orange colored compared to the roots. However if you use purple carrots, Berkeley Bowl and Trader Joes both have them, then the syrup will be very carrot flavored and almost as deep purple red as black cherry syrup. The strained, drained carrot pieces can be put in the dehydrator for candied carrots that can be eaten as is or ground into candied carrot powder for flavoring, say, carrot cake.

Black cherries make a wonderful raw syrup. Remove the stems, and pit them with a hand operated cherry pitter and fill the jar with them and pour on the sugar. After the juice syrup has been extracted in one to several days you can pour it off and drain the remaining pitted extracted cherries and put them in the dehydrator to dry into candied cherries. Any residual sugar left in the jar at the bottom of the syrup can be decanted, dehydrated, ground in the coffee grinder, and reused as an extraction sugar for the same kind of fruit or put in a sugar bowl as a flavored sugar. Same for sliced plum, peach, pear, apple, persimmon, or other big moist fruit with body integrity. If you are extracting berries like blueberries, strawberries, raspberries, blackberries, or mulberries, the fruit may be so disintegrated that it just becomes part of the syrup and not much solid remains can be strained out and dehydrated for candied berries. Goji berries have a little tougher skin and hold

Continued on page 9

their integrity more so could be dehydrated for goji berry candy after syrup extraction. For an even more interesting syrup putting chocolate peppermint leaves in the same jar with blueberries makes it easier to extract the peppermint flavor into the berried syrup than just the straight up leaves would. Chocolate peppermint, spearmint, and anise mint leaves are all primo fresh mints for spiking berry or fruit syrup extracts.

This method only works with fresh wet herbs, obviously, not dried ones, the juicier the better This method extracts the contents out of the cells by osmosis because the cell walls are surrounded on all sides by a more concentrated sugar solution than inside the cells. The solution on the inside of the cell walls is pulled thru the walls carrying some of the constituents of the cell that can pass thru the walls with it. A modification to this method is to put the jar of sugared herbs or fruit into the freezer right after composing it, leave it for a period from a day to a year, and then take it out and thaw it. By this method the cells walls will break from the production of ice crystals and the full contents of the cells will go into the syrup when it thaws. One day in the freezer is sufficient. You will find that the flavors of the two syrups, frozen/thawed and unfrozen, will be different from each other.

This osmosis process not only sucks the juices out of the herbal produce you want to extract, it also sucks the life contents out of the cells of living yeasts, molds, and bacteria and any other organisms that might ferment or otherwise decay the product. So this syrup extract inside the jar is sterile from this process. So long as it isn't diluted too much the syrup will remain too concentrated for living organisms to tolerate, but if it is diluted it could be used as a sugar source to ferment into alcohol in wines, and beers, or into alcohol and vinegar in kombuchas. If you like, once you compose the extract jar with or without freezing, you can place it in the fridge for one day to several weeks while the sugar extracts the syrup under chilly conditions.

There is one caveat about all these syrups and that has to do with the possible safety of some of them. Most are created from commonly used produce that is well known and well used in the culinary world by more traditional food preparation techniques. However, with raw mushroom extracts, theoretically at least, it could be possible that whatever raw constituents that might be toxic in some form or fashion in a particular mushroom could be extracted into a raw syrup. It is well known and commonly recommended that all mushrooms be cooked well to at least help break down the chiton in the cell walls for digestion. Otherwise, many folks, or some, find they have "gastrointestinal upset" which is so broad of a symptom it is difficult to attribute any particular manifestation of that to any particular constituent. It may well be that a sugar extract can or can't extract chiton and therefore have an effect on digestion. Perhaps if it can extract it, it is in such a form that it doesn't cause upset. Perhaps there are other constituents that are common to most or all raw mushrooms that are the actual upsetters instead of chiton and these might get extracted or not with these syrups. So care in using the syrups is recommended. Probably tasting them would be in such a small amount that no untoward effects would be noticed. Probably the same if they were used as flavorings drizzled over ice cream or cheesecake. But if you used a greater quantity to, say, ferment a mushroom wine from a mushroom syrup extract there may be some more careful experimenting called for in imbibing that wine. Under no circumstances would I recommend even making a syrup out of a known deadly or severely toxic mushroom such as a death cap.

The other aspect of toxicity that might be of concern is what organism might be able to contaminate the syrup if it becomes dilute enough for the organism to survive. Mostly molds are what could be germinating on these syrups, similarly to mold on jelly in the fridge, but not if they have a layer of granulated sugar that remains on the top of the syrup and fruit or other material mix. If the jar isn't opened then any spores that were in it when the sugar extract was first made would get sucked out at that time or whenever the spores tried to germinate. Theoretically, at least, there would be nothing able to survive in the concentrated syrup but possibly after all the internal liquids were extracted and some sort of equilibrium was reached then the concentration may be lower but if the jar didn't get opened to the air after the extraction process began then no new spores or organisms would have an opportunity to gain access to the contents. I do notice that some extracts like rose petals seem to keep their flavor and fragrance for long periods well after their first creation. Some others like carrots and fruits seem to have a very fresh and complex flavor and fragrance profile for several weeks but over time seem to "decay" perhaps by some sort of enzymatic process in the syrup that doesn't require a living organism. So if you make use of your carrot syrup in a carrot cake within two weeks of making the syrup the cake will have a really carroty flavor if you used carrot syrup for the sugar ingredient of the cake, and fresh carrots for the carrot ingredient, and a supplement of candied carrot powder in the flour ingredient.

We've made quite a few syrups and dehydrated candies as novelties just to see what they would be like. Obvious things like lemon, lime, orange, kumquat, or calamondin, make good candied citrus and excellent syrups but the aromatic citron and Buddha's hand both make great aromatic syrups as does the quince. We've made excellent savory Allium syrups from onions, garlic, and shallots and we're looking to do chives also. Ginger, turmeric, and galangal make zingiberific syrups

Continued on page 10

that blend well with the Alliums for making stimulating anti cold remedies. Bell pepper syrup is quick and very bell peppery but syrups from habaneros, Trinidad scorpions, and especially Carolina Reapers might be dangerous to evaluate. Rose petal syrup is one of the very best; use red Chrysler Imperial for the richest flavor and deep red color and Double Delight with the red parts cut off as a golden amber rose petal syrup that is from the second most fragrant rose. Juicy rose hips from wild roses make raw syrup rich in vitamin C because no heat was used to extract the juice and preserve it in syrup. Temperate rather than tropical strawberry or pineapple guavas from the Feijoa tree make the most amazing bubblegum flavored syrup from the thick flower petals. White alpine strawberries, which have their own unique flavor, impart that to their syrup. Herbs like horehound leaves or fresh marshmallow root make readymade cough syrup, and can be blended with the Alliums, Zingibers, and rosehips for even better cold and flu symptomsyrup. Avocado syrup is quite interesting. We've even made cheese syrups out of goat cheese and roquefort. Theoretically you could make enchilada, or lasagna, or pizza syrups. Maybe Mexican churros with enchilada syrup drizzled on them might be a hit.

Most mushrooms, being well loaded with water, make copious flavored syrups. Candy caps are easy to extract producing a syrup with a more complex flavor profile than the maple syrup of dried tradition. I went all last winter waiting for chanterelle season to begin so I could make chanterelle syrup but had to end up going to Berkeley Bowl for their chunkiest specimens. This past spring did produce lots of morels and porcinis at Mt Shasta and they make two of the most intense savory syrups you could sample. The morels were extracted from whole freshies and the porcinis were so ripe that we just peeled the pore layer off the bottom of the cap and sugared that. Shaggie parasols have a nice freshly hulled pecan flavor when they are dehydrated and perhaps something similar would extract into shaggy parasol syrup.

Those of you who sign up later this month for Mendo Camp in November, remember to bring a bag or so of granulated sugar and a carton or so of Baker's sugar for experimenting in the kitchen at MycoMendoMondo late night on Saturday with all the different wild mushrooms that show up at camp. And we'll have even more experiments to sample at the Fungus Fair in December and at MycoSOMAMondo at SOMACamp in January.

## Mushroom Sightings in Summer 2016

*Sarcodon imbricatus*
San Juan NF, CO

*Amanitas cochiseana* - Kaibab NF, AZ

*Boletus edulis*
San Juan NF, CO

*Boletus barrowsii*
Kaibab NF, AZ

*Hypomyces lactifluorum*
Kaibab NF, AZ

Send photos of your findings to mycenanews@mssf.org to be published in the next newsletter.

# MSSF Calendar September 2016

**Monday, September 12, 7:00 p.m. - Culinary Group Dinner**
**Theme:** Potluck - details
Hall of Flowers, County Fair Building
Golden Gate Pk., 9th & Lincoln, S.F.
**No advance registration is required this month**
Email culinary@mssf.org to volunteer.

**Tuesday, September 20, 7:00pm - 10:00 pm - General Meeting**
7pm - Mushroom Identification, mushroom appetizers...
8pm - General Meeting
**Speakers:** Noah Siegel
**Topic:** *Mushrooms of the Redwood Coast*
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 members-only area, file archives, council member position descriptions. Or email president@mssf.org.

## Hospitality

The Hospitality Committee gives its final shout-out for this season to Cortland Thomas for his excellent stuffed mushrooms. Cortland made a vegetarian version with goat cheese, garlic, onions and parsley, and an alternative with bacon, walnut, tomato paste and onion stuffing, following the Lucchese recipe on the MSSF website (Culinary section). Both were real crowd-pleasers. although the vegetarian version did sell out a few nano-seconds before the bacon version.


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.

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

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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 October 2016 issue is September 15th. Send all articles, calendar items and other information to: mycenanews@mssf.org

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