

MYCENA NEWS

MAY 2018
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Submissions for the September newsletter are due by August 20th, see you next season!

TABLE OF CONTENTS

May Speaker	Enrique Sanchez	1	Mushrooms, Russia, My History...	Rivkah Khanin	7
President's Post	Tyler Taunton	2	Cultivation Quarters.....	Ken Litchfield	15
Hospitality.....	Eric Multhaup	2	Mushroom Sightings.....	Matthew Gonsalves	22
Culinary Corner.....	Morgan Evans	3	Gary Lincoff In Memoriam	Dianna Smith	23
Where Can I Hunt Mushrooms?..	Debra Shankland	5	Gary Lincoff Photos	Mike Wood	27
Librarian Solicitation.....	Brennan Wenck-Reilly	6	Mycena News Submissions.....		30



MAY GENERAL MEETING:

Tuesday, May 15th, 2018
7-10pm
Buckley Room/ Randall Museum

Cat Adams: Chemical Ecology of the Death Cap Mushroom

CAT ADAMS IS interested in how chemical ecology influences interactions between plants and fungi. For her PhD in Tom Bruns' lab, Cat is studying the invasive ectomycorrhizal fungus *Amanita phalloides*. The death cap mushroom kills more people than any other mushroom, but how the deadly amatoxins influence its invasion remains unexplored.

Cat Adams earned her BS at the University of Washington, in Biology, with emphasis on Ecology and Evolution. As an undergrad she

worked in Joshua Tewksbury's lab, studying why wild Bolivian chili peppers produce spice. Cat then earned her Master's degree at Harvard University in Anne Pringle's lab, researching the fungal pathogens of wild chili peppers, and how the fungi evolved tolerance to spice. Now earning her PhD at Berkeley, Cat is studying the invasion ecology of the poisonous death cap mushroom, *Amanita phalloides*. In addition to her research, Cat is passionate about communicating science to the public, and has written for Slate and BBC Earth.

She was the Communication Chair of the Mycological Society of America Student Section for two years, and is the President and Founder of the Unconscious Bias Project at Berkeley. •

President's Post

Tyler Taunton

HELLO MSSF MEMBERS,

Well, May sure came fast and this brings us to the end of MSSF meetings for this season. We will not be holding meetings June through August. These months are a good time to prepare for our next mushroom season, although looks like morels could be popping up clear into July. So good luck to all of you that can get out and collect this summer.

I would like to thank Alissa Allen for her excellent presentation on Dye Mushrooms. Mushrooms have so many uses and dying natural fibers is one more way to use them and appreciate them.

We will be meeting at the Randall Museum this May 15th @ 7pm in the Buckley Room for mushroom appetizers and social hour. We will then head to the theater to hear Cat Adams talk on the chemical ecology of the Death Cap (*Amanita phalloides*).

Reminder—We will not be meeting June-August. We will meet back at the Randall Museum starting next September. Continue to check the calendar on MSSF.org for any updates on events. Stay Fungal. •

Hospitality

Eric Multhaup

THE HOSPITALITY COMMITTEE gives its April shout-out to Stephanie Wright for her Asian-inspired mushroom appetizers. Stephanie made both stuffed mushrooms and mushroom potstickers. It was a real treat to have a different flavor profile than the Cal-Med flavors that most of us are used to. The ingredients are listed below. In addition, Stephanie provided a very colorful and healthy fruit plate, a first for the Hospitality hour, which was very well received based on the celerity of its consumption.

YOU TOO can be a guest chef, with an \$80 ingredient budget, and support from the Hospitality Committee. If you are interested in volunteering ~ AND WE NEED VOLUNTEERS ~ log on to the website, click on “Contacts”, and click on Hospitality ~ George and Eric to send us an e-mail.



STUFFED MUSHROOMS ASIAN STYLE

Agaricus, onion, garlic, ginger, soy sauce, sesame oil, cheese, ham, parsley, oyster sauce, water chestnuts or celery, and an egg binder

MUSHROOM POTSTICKERS

Shiitake, onion, cellophane noodles, scallion, carrot, oyster mushrooms, water chestnuts, and sesame seed garnish •

Understanding Umami

BEING AN UNAPOLOGETIC gourmand, I would have to rank my sense of taste on the top of the list of senses. I personally love to eat and experiment with new flavors. Living in the Bay Area, there area myriad of cuisines with amazing flavors to explore. It's part of what makes living here so great. Experiencing new foods ranks as one of the greatest pleasures in life. So when I recently went through a bout of "burning mouth syndrome", you could say it kind of had me down in the dumps. Aside from the fact that it was painful, it had the unbearable side effect of deadening my taste buds. I have known friends who for years had long since lost their sense of taste and, while I always had empathy for them, I never truly was able to understand their plight until this unfortunate experience. Well I do now! It's hard to get excited about eating when it all seems bland. That's why your taste buds should never be taken for granted.

We all know about the 4 main components of taste. Salty, Sweet, Bitter and Sour. Based on physiological studies, however, there are claims to be a quite a few more than these. Our ability to sense these taste categories comes from receptors on our taste buds. These tiny sensory organs appear mostly on the tongue, but also on the roof of the mouth as well as in the back of the throat. However, science has tuned us onto the 5th sense, the taste of Umami. The New York Times food section recently had an article on dulse, basically a form of MSG lurking in seaweed. In flake form, you can transform a dish with little evidence just by sprinkling on a few flakes to your dishes. It made me want to run out and buy it at my local natural foods store. The same magic seems to be

prevalent in mushrooms. No wonder they are so darned tasty!

But how does it work? Umami balances the total flavor of a dish and increases its intensity. It has a flavor-enhancing effect on the other tastes. Some examples of products chock full of umami are Parmesan cheese, olives, sundried tomatoes and seaweed. These are foods that contain high levels of L-Glutamate. Glutamates are one of the many components of proteins which are produced naturally by our bodies. Mushrooms, too, are rich in glutamates. Glutamates enhance the flavor of food by reacting in combination with other food substances. You can add mushrooms to a savory dish to enhance the overall flavor of the dish. The amount of glutamate in mushrooms varies depending on the species. It is estimated that mushrooms contain about 180 milligrams of free glutamate per 100-gram serving. Shiitake and Enokitake mushrooms are richest in glutamates. So next time you have a dish that is in need of a little help, add some shiitake, like in the recipe below.

So what does Umami taste like? You'll find out when you try these Umami Burgers!

THE ULTIMATE UMAMI BURGER

Don't be daunted by the fish sauce. Used in small quantities, fish sauce brings fabulous umami savoriness to the burgers. You may be a fish sauce marinade convert after all. Serves 6

- 2 lbs. Ground Beef
- 1½ Tablespoons Fish Sauce (for more daring, savory depth, use 2 tablespoons)
- ¼ cup finely minced shiitake mushrooms lightly sautéed in olive oil
- 2 cloves Garlic, crushed or fine mince

- 1 teaspoon Sugar
- ½ teaspoon fresh ground Black Pepper
- 4–6 Hamburger buns (or 8–12 slider buns)
- condiments of your choice and cheese makes it extra decadent and special

1. In a small bowl, combine fish sauce, mushrooms, garlic, sugar and black pepper. Add the marinade to the ground beef and combine until all the ingredients are mixed together well. Refrigerate the beef for at least 30 minutes. It's best to allow the beef to marinate overnight in the fridge for optimum flavor.
2. Gently form meat into patties for sliders or burgers. Form them to the size of your burger or slider buns.
3. Cook on a skillet or grill. If cooking on a grill, make sure to pre-heat the grill and to scrape the grill clean before grilling. It will help minimize the sticking. Cook to desired wellness.
4. Assemble your burger with your favorite condiments and enjoy!

April Culinary Dinner News

April's dinner, "Smokin' Hot Beef," was a searing success! The beef was perfectly cooked no matter what your preferred wellness. The wedge salad was a surprising treat. With plenty of yummy toppings, it was hearty and satisfying. Porcini gravy, well you can't go wrong here. Talk about umami!! Finally, the candy cap bread pudding rounded out the entire indulgence! Kudos to captains Carol Reed and Bill Hellums and the entire team.

MAY 7, 2018 MSSF CULINARY GROUP DINNER

Captains: Peggy & Dave Manuel

Theme: "Cucina Mycena: A Northern Italian Dinner"

Main Dish: *Contadina Misto, a Mixture of Grilled*

Meats, Roasted Potatoes, Mushrooms and Vegetables

Vegetarian Main Dish: *Vegetarian Contadina Misto*

Side Dish: *Onion Panada: A Blend of Sautéed Onions, Bread and Cheese in a Mushroom Broth*

Salad: *Mixed Greens with Arugula and Shaved Cheese*

Dessert: *Italian Fruit Dessert*

SF County Fair Building
9th & Lincoln, Golden Gate Park
Reservation REQUIRED. Members ONLY.

The MSSF Culinary Group, an all-volunteer committee of MSSF, is open to all MSSF members who are interested in the gastronomical aspects of mushrooming. It meets on the first Monday of each month (with a few exceptions for holidays) at 7 p.m. at the San Francisco County Fair Building (Hall of Flowers), Golden Gate Park, 9th and Lincoln, San Francisco, so that members may enjoy each other's company, learn about mushroom cookery, and have a delicious meal. Culinary Group dinners are open to current members of MSSF and the Culinary Group, and their guests ~ go to www.mssf.org for information, to join the Culinary Group, and to register for its dinners. •

Where Can I Hunt Mushrooms?

Debra Shankland

Editor's Note – This article was written by the Prez of the Ohio Mushroom Society for that org. Many of the local issues there are the same here, including the issues about picking on private property and misrepresenting yourself under the umbrella of the MSSF... Most of the parks in California now have liasons with the MSSF and numbers of our member representatives and know that we don't condone illegal activities, especially claims in our name...

This is the third most common question that we at the Ohio Mushroom Society receive, right after "What kind of mushroom is this?" and "Can I eat it?". These are all very good questions, but often the answers are not simple.

Regarding foraging places, OMS volunteers work very hard to establish good relationships with public and private landholding institutions, and private landowners. Some of these relationships take years to mature to the point where we are allowed to conduct a one-time, or even periodic forays, in exchange for the knowledge of species diversity that the landowners gain regarding their properties. This trust can be instantly broken by rogue individuals using these properties as their "own" mushroom spot.

Imagine a motorist with a flat tire stuck in front of your house. Decent human being that you are, you ask if you can help. They have a spare, but no jack and no tools in the trunk. Of course, you open your garage and allow them to borrow yours. Now, how would you feel the next time you are barbecuing in the back yard, hear clanging and rustling in your garage, and after investigating, see the same individual helping themselves to your tools to change their oil?!

So, Rule Number One of mushroom hunting is NO POACHING. Please forage ONLY on properties where you currently have permission.

If you decide to take a risk and poach anyway, you DO NOT have permission from the Ohio Mushroom Society. You DO NOT "know" any of

our board members, or previous foray hosts. Can you believe that a couple individuals, when confronted on private property, actually had the nerve to name-drop on an innocent gentleman who gave his personal time to provide an interesting and informative cultivation program to our members?! This type of behavior will get you banned from the OMS.

What's the harm? There's plenty for everyone!! I'm not cutting down the "tree", just harvesting some "fruit". If you are convinced that your actions are sustainable and that your activities do no harm, then do what we do and approach the landowner honestly and ask for permission. Provide your reasoning. Give them your name and contact information, and sign a waiver if asked.

So where can you hunt mushrooms without asking first? In Ohio, the answers are our State Forests ("State Forest" is part of the property name), the Wayne National Forest, and our State Wildlife Management Areas ("WMA" is part of the property name).

Where can you likely hunt, with advance permission? Our Ohio State Parks (many, but not all, allow hunting, foraging for mushrooms, berry picking, etc.); your local city park; and cemeteries (the older and more derelict the better!). Simply call first.

Collecting mushrooms and other living things is FORBIDDEN in the Cuyahoga Valley National Park; regional park districts (such as Cleveland Metroparks, Lake Metroparks, Summit Me-

troParks, Geauga Park District, etc.); Ohio State Nature Preserves (“Nature Preserve” is part of the property name); private residential camps and retreat centers (such as Camp Asbury and Boy Scout/Girl Scout camps), private Arboreta (Holden, Dawes, etc.); and University properties (such as Squire Valleevue and Valley Ridge Farms).

Why does it have to be this way? Ohio is 44th in the nation with just 4.2 percent of our land in the public domain; 95.8 percent is all private property. Public land includes highway right-of-ways! So our tiny public properties hosting millions of visitors each year can’t possibly sustain all of

our wants for free food, free landscaping rocks, free pets, or free flowers. And private landowners have a right to maintain the resources on their properties for themselves or their paying guests/clients/students. They have a right to protect themselves from lawsuits by people falling down their hillside, or drowning in their lakes.

So please, ask first. Help us keep OMS a respected organization. When we all act to keep our actions sustainable, we will continue to be welcomed. Thanks!!

Debra Shankland, OMS president

16 April 2018

Editor’s Note – All California State Parks in the California State Park System have the same mushroom picking policy of “five pounds of mushrooms per person, per park, per day.” However, if a particular state park has posted on the entrance or the ranger station that that park is an exception and doesn’t allow mushroom picking, then that is the policy for that state park. This is the situation for most state parks in Northern California.

Jackson State Demonstration Forest in Mendocino does allow picking with a permit for \$20 per year, but Mendocino Woodlands, which is surrounded by the Jackson State Forest, does not allow picking on its grounds.

Federal National Forests each have different mushroom picking policies and permitting processes and must be followed separately for each of them.

The Yosemite National Park allows picking of no more than a pint per person within the park. •

Librarian Solicitation

Brennan Wenck-Reilly

Since leaving the Randall Museum due to their renovation project, our Library has been kept in storage for the past 2+ years. We have finally found a new home for our amazing book collection, and now we are searching for a willing volunteer to step up to become the MSSF Librarian. The duties are pretty simple; Maintain the library, check out books to members who would like to borrow them, and then get the books back once they need to be returned.

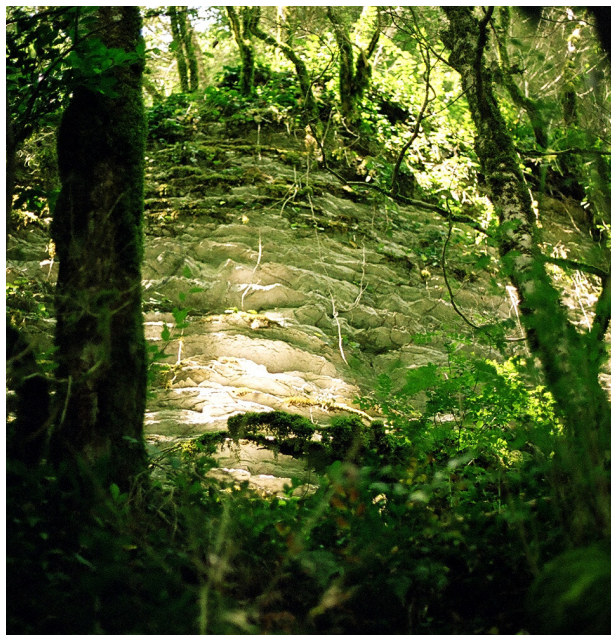
The library will be housed at Cal State East Bay, and you will be granted access to the collection. We are looking for someone who lives in

that vicinity who would like to undertake this task. There are a couple ways members could check out books, either via snail mail, or at General Meetings. It would be up to you to determine the best way to get the book to the borrower, and to get it back from that individual.

If you are interested, You can contact Brennan Wenck-Reilly at brennanwenck@gmail.com or by contacting any of the MSSF council members. We look forward to hearing from you. •

Mushrooms, Russia, My History

Rivkah Khanin



Cliff in boxwood forest near Sochi, Russia, 2015

I STARTED SUMMERING in Russia unexpectedly five years ago when my maternal grandmother Olga died. My mother and I got multi-year visas on our return from the first visit, quickly understanding the pace of paperwork after dipping our toes into the bureaucratic hell swamp that is post-communist Russia. Our goal was to try and sell my grandmother's property in Sochi: a tucked-away house with an outdoor kitchen and a yard with persimmon, apple, and pear trees in the middle of the city. Before she died, I learned her favorite mushroom was the Caesar's Amanita, for which she'd hike into the snow-peaked Caucasus Mountains.

My whole family is from the former Soviet Union: on my father's side, my grandmother is from a small town called Lodeynoye Pole in the St. Petersburg region, and my grandfather from Belarus. I grew up close with them, and my surviving grandmother Marina shares albums of photographs and stories of my predecessors. She particularly likes to tell me about her father, Alexei, as I remind her of him. My favorite story about him is how every autumn he would save cherry pits and apple seeds to throw in the woods while going mushroom hunting. As a family they'd go on berry-and-mushroom excursions and have big gatherings at home.

My whole family is from the former Soviet Union: on my father's side, my grandmother is from a small town called Lodeynoye Pole in the



My great-grandpa Alexei near Lodeynoye Pole with his cache



My grandmother (far left) and great-grandmother (far right) on their way to cross the Svir River to go mushroom hunting

Russians' love for mushrooms is no secret. I remember reading *Mushrooms Demystified* for the first time and seeing Arora call Russians "bananas for mushrooms." It's accurate. My step-grandpa would take the first train out of Moscow to the last stop, hunt honeys (*Armillaria* spp.) all day, take the last train back, fill the bathtub at home with his haul, and salt+oil preserve them.

There's an entire detailed pdf available called [Mushrooms Russia and History](#) which pretty thoroughly tries to explain why it is that Russians are particularly fond of fungus. My short answer is that Russia is a harsh environment both climatically and politically: it operated under the feudal system for a long time, and the majority of the population would survive on what it could harvest and preserve seasonally. Mushrooming is so infused into the culture to this day, that there are mushroom horoscope books, that assign a mushroom and consequent character description dependent on your date of birth. Shelves in the equivalent of a 7-11 are stocked with pickled and salted *Suillus*,



Left to right: preserved *Armillaria*, *Suillus*, *Lactarius* at a store. 89 rubles is about \$1.45



L-R: Potato and Porcini Mushroom Vareniki (dumplings) with fried onions and sour cream, Potato salad with cranberry, red onion, parsley, *Armillaria mellea*



"Mushroom Horoscope" from a mushroom store south of Moscow

Armillaria, and *Lactarius* species, ones that are commercially unavailable in the States and of interest to a fraction of an audience.

For anyone who hasn't been to Russia, people are generally quite cold to strangers. I had to practice what my stepdad calls my "Moscow face" before each trip, because Americans smile too much, especially happy sun-kissed Californians. So to save some money and dignity (there's basically a 50% price-hike if you smile: dead giveaway you're a foreigner) I would pretend every person who walked by me had done some unforgiveable evil. This got easier after every passing day of dehumanizing interactions in which people in various government roles would exercise their power in not helping us with my grandmother's property, even if the rules they were enforcing made zero sense. People look at you like you're psychotic if you ask for directions, and will often ignore you.

We found ourselves at a birthday celebration of a former KGB (current FSB) officer who was in charge of "making people disappear." I wasn't quite comfortable being there... despite being on a beautiful river with a proper sauna built on the edge, and I slipped away into the woods to find some solace and hoped for mushrooms.

Imagine my surprise when I popped out of

the woods by the river that day, clutching an armful of chanterelles and mysterious boletes that I wanted to ID, when multiple people voluntarily approached me, voluntarily SMILED, and shared STORIES. "I used to go hunt chanterelles with my grandmother! "Oh we still make mushroom soup together; porcini and barley is my favorite" "What will you do with the chanterelles? I love them with dill and sour cream" "I just took my son mushroom hunting for the first time and he found chanterelles!" I even had a couple grandmas eye and berate me for picking "paganki," the ubiquitous term for poisonous mushrooms (though most often used for *Amanita phalloides* which grows there too.)

I stood there shocked, feeling like I had uncovered the great secret to accessing the humanity of the Russian populace.

In a stupor I returned to meet my mother and her childhood friends who we were staying with, made a chanterelle-celeriac savory tart for dinner, and made small watercolor paintings of the velvety red and yellow boletes.

Since then I've tested my theory during successive summer trips by bringing baskets full of mushrooms I'd found onto busrides. Sure enough, people engaged in conversation with me and



Left to right: Red-capped, red-pored bolete, basket of chanterelle, black trumpet, porcini, chicken of the woods, Amanita rubescens, Amanita vaginata, chanterelle-celeriac tart.

More Photos from Sochi, Russia



Boletus edulis



Volodya looking up *Amanita vaginata*



Craterellus cornucopioides



River ravine lined with fig trees



Illustration from a folk tale with mushroom borders



Lactarius volemus

Lactarius quietus

offered comments on my basket. Questions were asked, surprise was expressed at the timing of species, sighs were exhaled about looking forward to autumn and their own hunting adventures.

I was lucky in that my mother's childhood friend Volodya was one of the few people that I met in the Sochi area who held onto a love and interest for being in the woods and cultivating a relationship with it. The Winter Olympics of 2014 and the ever-present secret desire to be more European spurred a lot of the locals into money-oriented city dwellers, commercializing the Black Sea on which the city sits.

Volodya's fingers were stained from harvesting and processing walnuts when we went hunting. He gifted me a jar of sugar-rubbed rose petal jam. He shared pickled "molochai" *Lactarius volemus* with me, and we went and found more.

Many of the species we found were already familiar to me, but I didn't expect to find them all at the same time and place. His son Denis had eyes that were well-attuned to the forest floor, and he found the majority of the mushrooms that day. We found porcini, chanterelles, black trumpet, chicken of the woods, reishi all on one mountain-side. The habitats were different from what I was

used to as well. The porcini were hiding in grass (still associated with oaks), the dominant tree was boxwood, and much of the area was scattered with hazelnut, fig, beech, sycamore, and a variety of conifers. Unexpectedly, when reaching a clearing we would find naturalized tea, *Camellia sinensis*, as there used to be large plantations of it in the Krasnodar region, its northernmost range.

During our outings together, I got more familiar with the Russian common names for mushrooms I already knew. An oyster mushroom is a "veshenka," from the verb "veshat" which means "to hang." "Rogatik" means "little antler" appropriately for coral mushrooms. One that always flustered me was calling *Boletus edulis* "beliy grib" or "white mushroom"—due to its white flesh inside—since to me, a white mushroom is *Agaricus bisporus*. I had many disappointing miscommunications with my grandma about that one. Luckily chanterelles have one that make sense to me; "lesichki" means "little foxes" because of their color. In Russia chanterelles were also colloquially called "Jew's mushroom" because they don't have bugs, which aren't kosher to eat. Species in the genus *Lactarius* are called "mlechniki" from "mlechniy" or "milky, lacteal." A member of the genus *Russula* is a "siroyeshka," or, "raw-eater."

Many mushrooms have names that describe what tree they're found under, such as "podosinovik" –"under aspen" (Aspen bolete/ *Leccinum aurantiacum* or "podberezovik" –"under birch" (Birch bolete/*Leccinum scabrum*)

On one of our visits, my mother and I engaged in subverting many, many laws. We were traveling to a remote village in the Kursk region near the Ukrainian border, where we were strictly forbidden as Americans, given that it was considered a war zone back in 2015. This was the village where my great-grandparents lived, where my grandmother grew up, where many of our relatives were buried. We were going to bring my grandmother's ashes to bury there with them.

When we tried to do the "correct" motions of receiving permission and stamps on our visas from the regional police, and the FSB, both parties kept diverting to the other, not wanting to be responsible for allowing Americans/spies/"vragi" (enemies) into a war-zone. So we slipped through anyway. There's a common saying in Russia that's a real testament to getting through bureaucracy: "Ne imey sto rublei, a imei sto druzey." Don't have a hundred rubles, have a hundred friends. My mom said we'd act "po-sovetski" "like Soviets" and we got a ride to the village Tyetkino from Kursk by a nephew of another childhood friend of my mother's.

We stayed with the husband of my grandmother's sister and his son who still lived there. This village felt like a time-machine. Common transportation was a horse and carriage. Neighbors would greet each other by asking how their strawberry harvest was that season. Every household had a garden with potatoes and 3 kinds of currants and cabbage and would trade various animal products with each other. People would walk their cows near the river. When my mom was little, she'd take her grandparents' goats across the river in a

canoe to graze in the meadows. People bathed and shaved in the river, did their laundry in the river, in the winters when it was frozen over, they'd fish in the river.



Top: Shaving on the river Bottom: Boarding the canoe

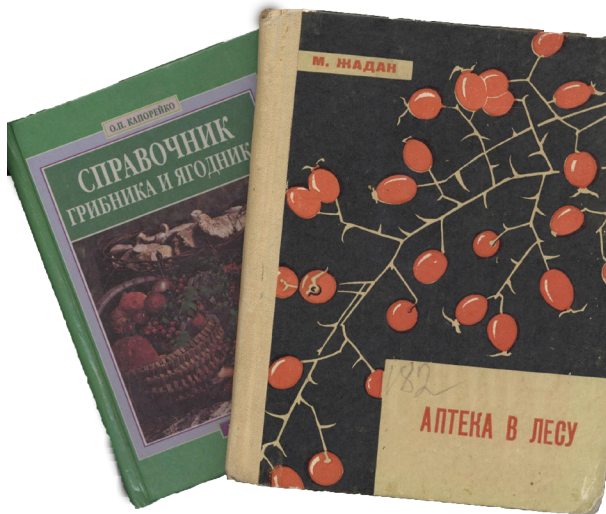
Back in Soviet times, Tyetkino, like many towns in the middle belt of Russia, was a sugar refinery town. Beets were one the most commonly grown crops and were the source of both sugar and rubbing alcohol. Many villagers bemoaned the collapse of the Soviet Union, as this ended their primary work once importing started replacing local industry.

Our relative Nikolay Stepanovich shared various salted and pickled mushrooms from his cellar. He told me about "the most unbelievable honey mushroom harvest" which he was still consuming years later. He lamented that I was there in the summer, not autumn, but gifted me his

field guide to mushrooms and berries regardless. He told me they had wonderful porcini and birch bolete harvests in the area, and shared his salted ryzhiks (*Lactarius deliciosus*) while chatting with me about changing weather patterns. His son spent the twilight hours harvesting stinging nettles bare-handed to feed their chickens and ducks, and teased the feral kittens that hid and played in some of their potato crop.

I was determined to pick wild strawberries (“zemlyanika”) from the forest while there, and had just started to collect a bunch when all the mosquitoes in the area descended upon me and made everything unbearable. I saw several *Suillus* species and stinkhorns from the corners of my eyes as I fled back to the car, defeated.

To compensate, we all took a canoe across the river and spent a whole day picking wild strawberries from the meadows where my mom used to bring goats. The grass was tall and it was easy to hide there for hours plucking ripe berries off their stems, enjoying the sun and the breeze. The meadow variety are different from the forest ones. Both are far more fragrant and flavorful than the cultivated ones; the forest ones are tiny and have a deeper musky note to them while the meadow ones are brighter and sweeter. We made vareniki, thin-doughed dumplings, with the berries and had healthy smotherings of sour cream all over them. We compared red currant, black currant, wild strawberries, but honestly it was hard to say much about them with our mouths so full.



Wild strawberry reprieve

Nikolay Stepanovich's field guides to berries and mushrooms

I wanted to can some jars of jam from the remaining berry harvest to take back to the States and had a fierce argument with Nikolay Stepanovich over the best methods to get a good set on the jam. The knowledge that winter was coming and the jams needed to be shelf-stable for months made him vouch for more sugar, while I wanted less sugar under the pretense of knowing it would all be consumed again in just a few weeks. I left contented with this pastoral experience.

Upon our return to Sochi and attempted exit from the country, I faced heavy interrogation at the airport. The person examining my American passport didn't know what to make of me, and I heard her describe me to an officer as a potential European or a gypsy. I had a large backpacking pack which was uncommon. My clothing and coloring were uncommon. I was asked what I had in my bag "uh... knitting materials, books?" I made the mistake of replying in Russian, which put me under further suspicion. During the terrifying questioning process, I understood with the prompt "do you have family members in the military?" that they thought I was a spy. I did fail to mention that I had checked in an entire suitcase full of homemade fruit and mushroom preserves, dried

mushrooms, fruit seeds, all sorts of contraband. I also failed to mention that I'd just spent a week illegally in a warzone. Ultimately once my entire family history was relayed and the purpose of my visit was clear enough, the officer relaxed and let me through.

Once back home, I had the pleasure of sharing all of my smuggled goods with friends, and got to relive my experiences by way of storytelling and eating.

I'm very grateful for the ways in which my mushrooming experiences in Russia have helped connect me to the land, the people, my family, a common language, heritage, and passion. I'm grateful for all the stories and the "in" I got socially because I was interested in mushrooms, the acceptance and sense of "one of us" expressed because of this shared activity.

I feel my ancestry running through me back in California every time I crouch under a pine or oak to investigate a hump, my hands becoming extensions of my great-grandpa Alexei and my grandmother Olga, and all my other relations that have both depended on this food source and have enjoyed this integrated part of their lives that pulled them to the forest every autumn. •



Denis and I with chanterelle-eyes in a chamomile field in Khosta

Cultivation Quarters

Ken Litchfield

Now that summer is here and we're finished with the rainy season in the Bay Area till next fall, locally we can look forward to irrigation mushrooms in the garden and lawn. Plus production from Far West Fungi farm mushroom blocks you may have made into a garden for yourself. And your own garden mushroom like Garden Giant growing in your mulch

This month's Cultivation Quarters is devoted to how to grow the Garden Giant mushroom in your own garden which spawn you may have picked up from the Far West Fungi Farm Field Trip Potluck BBQ last month or order it from the shop in the SF Embarcadero Ferry Building. You can also obtain the mycelium from Bay Area Applied Mycology at one of their seminars or at the Omni Commons BAAMlab. It is the perfect mulch mushroom for beginners and advanced gardeners to grow in their local back yards, parks, or school gardens for loads of huge edible mushrooms, soil building, and mycoremediation.

THE GARDENER'S GUIDE TO GROWING THE GARDEN GIANT MUSHROOM BY KEN LITCHFIELD — ©2018

Contents

- About the Garden Giant Mushroom
- Propagation
- Mycoremediation
- Getting Started With Your Garden Giant Spawn Bag from Far West Fungi Farm
- The Structural Food Substrate for the Garden Giant
- "Mother Bed in the Garden" Style of Ramping Up
- Worm Bin Style Ramping Up

- Maintaining Your Mycelial Garden Blob Live-stock Pet
- "Pizza Garden" Growing for Mushrooms
- Rejuvenating an Old Bed of Garden Giant Mushroom Mycelium

Addenda:

- The Anaerobic Sauerkraut Method of Sterilizing Substrate
- Neutralizing Chloramine in Municipal Tap Water
- Garden Giant Mushroom Images

ABOUT THE GARDEN GIANT MUSHROOM

The Garden Giant is the easiest, most satisfying mushroom for the average beginning or experienced mushroom gardener to grow. Its scientific name is *Stropharia rugoso-annulata* Farl. ex Murrill and its family is the Strophariaceae.

Its best known common name is Garden Giant because it can get quite huge, a foot or more across the cap, and hefty in poundage. It is also known as the King Stropharia because it is the largest of the Stropharias and quite regal in appearance, similar to a King Bolete, but with gills instead of pores under the cap. It is also called the Burgundy Cap or Wine Cap because when young and fresh, with the edges still turned down button mushroom style, it is a dark burgundy or maroon purple that suggests a dark wine. It fades to a lighter tan as the cap matures and flattens out, looking reminiscent of an Agaricus portobello mushroom. Rather than the dark chocolate brown spore bearing gills under the cap of the Agaricus portobello, under the Garden Giant cap are gills that have a dark blackish purple cast characteristic of the Strophariaceae family of mushrooms which also include the Psilocybe magic mushrooms. The

Garden Giant mushroom doesn't stain blue when you rub or bruise the stem like a *Psilocybe*, with which it has been classified in the past, but it does have a tan veil or skirt around the stem the same color as the stem that often falls away as the mushroom enlarges. The veil connects the edge of the cap to the stem protecting the gills when the cap is still young, similar to young *Agaricus* button mushrooms where the veil protects the young pink gills. In the Garden Giant this veil or ring often has ridges or wrinkles giving it a rugged appearance, hence the name *rugoso-annulata*.

The Garden Giant's favorite place to grow is in your wood chip or straw mulch. It produces regular looking capped mushrooms with gills underneath that look and taste like large tight store bought *Agaricus* button mushrooms when small, and big flat portobello mushrooms when fully mature. When you harvest this mushroom all you have to do is pull up the mushroom, cut off the base, and slice or dice the stem and cap and cook it any way you would button mushrooms in sautees, sauces, or soups. Or if it has matured it can be grilled like fully developed portobellos, which are *Agaricus* button mushrooms that have fully unfurled. The Garden Giant is similar in many respects to *Agaricus* button mushrooms with the one major difference being that Garden Giants like to grow on raw cellulose materials like straw and wood chips, whereas *Agaricus* button mushrooms are grown on compost or manure, basically cellulose broken down by digestion of a grazing animal or by composting, or by digestion of raw cellulose by the Garden Giant. You can grow both compost feeding mushrooms and mulch feeding mushrooms in the same garden bed; the Garden Giant grows in the raw cellulose mulch of your garden and *Agaricus* button mushrooms or Shaggy Manes or Shaggy Parasols grow in the composty soil under the mulch produced by the Garden Giant digesting the mulch into compost.

PROPAGATION

It is very easy to propagate the Garden Giant mushroom. Just plant that cut bulbous base of the harvested mushroom with the white fuzz and wood chips hanging off the bottom in fresh damp mulch like it is the bulb of a plant and it will grow into the fresh mulch. You can also lift up a matted layer of mycelium and transplant it to a freshly mulched bed of damp wood chips.

SOIL BUILDING AND MYCOREMEDIATION

Besides growing the mushrooms for food you can use the fuzzy white mycelial body to break down your wood chip or straw mulch into rich composty garden soil. And if you have heard of bioremediation, this is one of the main mushrooms that makes a mycelial mat in wood chips that can filter and eat bacteria in contaminated runoff from grazed pastures and restore or remediate the health of the land. Once you have it growing in your garden or on your farm, all you have to do is keep it fed regularly with properly applied fresh wood chips or straw mulch and it will continue breaking it down, building your soil, remediating the soil, and providing you with mushrooms like a pet livestock blob, especially if you already are familiar with organic gardening methods, and primarily mulch methods.

GETTING STARTED WITH YOUR GARDEN GIANT SPAWN BAG FROM FAR WEST FUNGI FARM

The bag of garden giant spawn is about 5 lbs of damp sawdust with some extra nutrients and the Garden Giant mycelium growing in it. The mycelium, also known as hyphae, is the white fuzz that makes up the body of the fungus that produces mushrooms. This fuzz or mycelium impregnated in its substrate food is called spawn and is not spores, which are dustlike unicellular "seeds" that are produced from the fruiting mushroom.

The spawn growing in the bag is isolated from

the outside world as a sterile culture and it breathes air through the filter patch on the side of the bag. It can stay in the bag for several days to several weeks before you plant it but it is best during that time to keep it cool or refrigerated to slow down the mycelial metabolism.

This is the material that you are going to add to more food substrate for the mushroom mycelium to eat and enlarge or “ramp up” into more mycelium. The mycelium is the part of the mushroom body that corresponds to the “apple tree” with plant gardening. When the mycelium fruits or produces a mushroom this is the “apple.” You could fruit the Garden Giant right out of the bag similarly to getting an Amaryllis bulb to bloom from the buds stored in the dormant bulb, but it is better to grow the bag of mycelium to a larger size by “ramping up” the mycelium. This is done by adding the bag of mycelium to more food substrate that the mycelium likes to eat. The mycelium will invade and incorporate the new food to be a part of its body by running its digestive tentacles through it like a tentacled blob, which is why we sometimes say that the Fungi are the Kingdom of the Blobs. They aren’t plants or animals but have characteristics similar and different to those kingdoms. Your plastic bag contains a mycelia tentacled blob waiting in the bag to be allowed out to start extending out its tentacles and eating into the raw cellulose of the mulch in your garden bed.

THE STRUCTURAL FOOD SUBSTRATE FOR THE GARDEN GIANT

Substrate is the word used by mushroom growers to refer to the material that the mycelium feeds on and that provides the structure to the mycelial body of the fungus. Primarily, this is compost or manure for humus or duff loving *Agaricus* button mushrooms and raw cellulose for tree trunk heartwood feeders like oysters, reishi, lion’s mane, and maitake. In the wild the Garden Giant tends to

feed on thatch and other raw cellulose so it isn’t usually found on trees. Raw cellulose substrate or compost/manure substrate for mushroom mycelium is similar to the soil being the substrate for the roots of plants to grow in. Soil provides oxygen, moisture, nutrition, and support for the roots of the plant similar to the rootlike mycelium of the fungus. The tops are different for plants in that they have leaves with chlorophyll for photosynthesis so they need to be in air and sunlight. The air and sunlight are the “substrate” for the plant’s tops.

The Garden Giant’s favorite food substrate is raw cellulose like landscaper wood chips, or aspen wood shavings from a pet store (already baked sterile), or straw from a straw bale, or sawdust from a carpentry shop, shredded unwaxed cardboard or egg cartons, layered or wadded burlap bags, or combinations of those. Wood shavings or straw used for stable bedding works if there isn’t so much manure in it or if you remove most of the manure and soak the straw to leach out the urine and manure fertilizer which can be poured into garden plants like manure tea. Then the leached shavings or straw can be used for the garden giant.

It is best to soak the substrate material in water to penetrate into the chips, shavings, dust, straw, cardboard, etc. This might be for a few minutes or an hour for dust, shavings, straw, cardboard, burlap, or overnight for chips. (See “Neutralizing Chloramine in Municipal Tap Water” below for the information about neutralizing the antibiological chloramine in your tap water if that is what you will be using to soak your substrate.) It is best to not leave the substrate submerged for longer than 24 hours at a time so it doesn’t become anaerobic. (For a sustainable anaerobic method of sterilizing your substrate see “The Anaerobic Sauerkraut Method of Sterilizing Substrate” below.) After soaking, the material should be well drained so it isn’t soggy, just damp. The material

is best if it is chips or shavings or straw by themselves or mixed in equal parts. With sawdust it is best to mix that with chips and/or straw to open up the texture so it has more air in it, as straight sawdust can become too compacted by itself. Generally, chips that range from the size of little finger joints to thumb or big toe joints mixed are good, and also if those are mixed with shavings and/or straw.

Many people worry that the wood chips need to be hardwood like oak or maple or sycamore etc and that supposedly you can't use conifer "softwoods" like Monterey cypress, Monterey pine, or Eucalyptus that are the main woodchips available from tree trimmers in the bay area. These are considered to have antibiological oils in them. However, Garden Giants and Oyster mushrooms are used in mycoremediation of oil spills and these oils are simply hydrocarbons like cellulose that they can break down and use for food. The wood chips begin volatilizing the oils into the air as soon as they get chipped and are leached of oils after a few waterings or rains on them in the garden anyway. You can also soak fresh woodchips a couple times overnight if you are worried about this.

More important is to use chippy wood chips of whatever species as this is from the internal sterile heartwood of the tree which is more pure raw cellulose and doesn't have as many organisms for the mushroom mycelium to compete with as there would be with leafy, twiggy, and barky materials that have all kinds of organisms living on the outside of the tree.

Once you have the substrate prepared you can then use it in a number of methods like mother beds or worm bins to "ramp up" the mycelium to larger quantities.

"MOTHER BED IN THE GARDEN" STYLE OF RAMPING UP

For this method you need a garden space of about

4' by 4'. It is best to situate it in the wind-blocking corner of a fenced garden under a shade tree where the mother bed is less likely to dry out quickly in the sun or wind. The space is ideal if it is too shady to grow most other garden plants anyway. Fungi don't photosynthesize and they only need a small amount of light for directional fruiting. If your space is sunnier that is OK. You can shade it and keep the wind out by tenting a layer or more of burlap over it on stakes or poles staked around the bed. You'll need enough substrate to make a layer of substrate 6" to a foot deep or more in the 4' x 4' space. You can dig up and turn the soil in the spot so it is fluffed with air and the weeds chopped in with the digging.

You could also just lay down several layers of unwaxed cardboard over the bed to smother weeds and provide more raw cellulose for the mushroom to eat. If the bed is sunny and you want to use it as a garden for growing plants, it is best to dig up the area and fluff it rather than lay down cardboard as the resulting soil will have a bottom zone of compacted soil, a transition zone of cardboard that will take time to break down, and then the rich soil built by the Garden Giant on top. If you go ahead and dig up and fluff the existing soil, and leave out the cardboard, the worms will be able to come up from below into the fluffed and oxygenated soil. They will continue rototilling it and mixing in the bottom of the mulch layer into the top of the soil layer in a continuous transition of soil, compost, organic matter, and mulch with a gradual transition zone without the cardboard layer, as is found in nature.

When you have your substrate mix prepared by combining raw cellulose mixes and soaking them, then you can pour the water and two thirds of the substrate from the container onto the soil of the space where you are making the mother bed. If you are using cardboard in the bed, pour the strained water into the soil of the bed then

put down the cardboard and then dump on two thirds of the soaked substrate and level and even it out. Open the bag of garden giant mycelium and break it up and scatter the pieces over the surface of the raw cellulose substrate. Press the pieces into the substrate to give the mycelium contact with the fresh food. Then you can add the rest of the substrate. When all of the bed of substrate is finished then smooth down the surface so it is flattened and the peaks are less likely to dry out. You can add a humidity later of tented burlap draped over staked poles inserted around the bed. Water the bed with a rain nozzle to settle it and then water periodically to keep the substrate damp.

If you would like to add an extra jump start to your mother bed then on top of the two thirds layer add a layer of soaked aspen shavings and mix the spawn into that layer and add the other third of substrate to the top of the aspen/spawn layer.

Periodically monitor the bed to observe the progress of the mycelium through the substrate. When it is fully infiltrated and making a bed of matted wood chips that can be lifted up as a layer then you have a successfully infiltrated mother bed that you can use to inoculate other areas. Next see below on Maintaining Your Mycelial Garden Blob Livestock Pet.

WORM BIN STYLE RAMPING UP

You can also use discarded or recycled worm bins as another method to ramp up your garden giant spawn. Fill three worm bins to the rims with prepared and wetted substrate and mix in one third of the bag of garden giant spawn into each bin. Then stack the bins so that each bin's bottom is in contact with the top of the substrate of the bin below. Set the stack of bins on a plank of plywood so it doesn't sit directly on the ground and cover the whole stack with a black plastic garbage bag to keep it damp. Check it periodically until it has

fully grown through each bin. When the mycelium is fully grown through the bins they will grow into each other through the mesh bottoms of the bins. Each bin can be used as a fruiting box or can be used as a mother bin to inoculate one or more 4' x 4' mother bed sections of a larger garden bed. If you don't have any used worm bins you can substitute with stacked wood-slatted bushel baskets, wooden wine boxes, plastic milk crates, or tack hardware cloth or bird wire to the bottoms of open boxes made with 1" x 6" boards.

FRUITING THE GARDEN GIANT MUSHROOM

The Garden Giant can begin fruiting at any time after it has fully infiltrated the substrate or has gotten concentrated in certain areas. The best way to initiate fruiting is to water the mulch substrate regularly so it soaks up the water like a sponge. You water enough so the mulch soaks up but not so much that it drains through to the soil beneath. This usually involves several short watering, or foggings with a Foggit nozzle, per day for a few days, so not much water is being used, but it is to soak the mycelium impregnated mulch and not the soil below. Soon the garden giant mycelium will begin making what looks like velvety chocolate marbles on the surface of the mulch substrate in humid areas of the burlap cover or under vegetation cover. Keep the bed sprinkled regularly after the little mushrooms develop and once they reach big button size you can stop watering the mulch and only spray the burlap tent to keep the air humid. You can harvest them at any stage from big button to fully unfurled portobello. Lift the mushroom up out of the mulch, cut off the base to transplant to other areas of fresh mulch and cook the stems and tops any way you would buttons or portobellos. Usually you will get so many mushrooms that you can't eat them in one meal so you can slice and dice and freeze them in ziplocks in the amount you would use in a mushroom dish.

Put the frozen block in the pan or soup pot so it thaws directly in the pan or pot as it is cooking. Garden Giants taste like “regular” mushrooms to most folks, but some consider them to have a flavor reminiscent of asparagus.

MAINTAINING YOUR MYCELIAL GARDEN BLOB LIVESTOCK PET

As you ramp up the mother beds into more mushroom beds and you have a fully myceliated mulch bed then you can fruit them any time after they are fully infiltrated. You can also maintain the mycelium in the beds by adding fresh raw cellulose substrate to the top of the garden mulch bed. The best way to do this is to add 1-3” of fresh soaked substrate to the whole bed and then use a spading fork to stab the mulch bed over the whole surface. Properly, you stab the surface to the depth of the spading fork’s tines and then twist the fork as you pull it out of the mulch bed. This opens up the mycelial mat in the mulch and allows the new substrate to fall down into the mycelially matted mulch to give it fresh food. Then smooth out the surface and water to settle. The broken mat of mycelium will leap up and invade the new substrate and heal over the mat within a week when it is vigorously growing. Perhaps the bed needs substrate refreshing every month or couple weeks or couple months, depending upon its vigor. What you have now created is your own pet blob of livestock mycelium that can be maintained at quite a large size. We have done this in mulch beds as large as 10’x20’, 20x20’, and 5’x60’ simultaneously. These size beds are each big enough to produce armloads of mushrooms every couple weeks. What you have is a bed of substrate these sizes and 6” to 24” deep with a mycelially matted blob hovering in the substrate. The life force of the mycelium hovers at the level it best likes so if the mulch is drying out it sinks lower into the mulch and if the mulch is wetter or there has been

rainy weather for several days the mycelium may actually come out of the mulch and carpet the surface of the mulch. It devours more substrate that you add to its dorsal surface, digests it, and poops off of its ventral surface the broken down cellulose as compost that builds the soil below. This pet blob will continue to fruit off its dorsal surface and build your soil below as long as you provide regular feedings of the substrate to its dorsal surface.

“PIZZA GARDEN” GROWING FOR MUSHROOMS

Some folks like to grow a Pizza Garden with all the ingredients for pizza, including mushrooms, in one garden bed. For this garden you plant your vegetables “audience” style with the tallest plants in the back and the shortest in the front, in relation to the east to west movement of the sun in the daily sky. The rows go east west so the tallest are on the north side of the garden bed and the shortest on the south side. The order of planting for height would be tomatoes in the back, then a band of eggplant and peppers, then a band of basil, then a band of onions and garlic, and then chives and the creeping herbs like oregano and marjoram at the front. When the plants have been planted out in the spring they will all be relatively small and with space between them. You mulch the garden with Garden Giant substrate with spawn mixed in from one of your ramping beds or bins. As the plants grow you can continue to add substrate to the mulch bed while leaving some stepping stones scattered around for future access. When the plants have grown through each other there will be a vegetation humidity chamber that breaks the wind and holds the humidity. You can dig around from the back side under the tomatoes to get to the mushrooms or from the front amongst the garlic and onions to get to the mushrooms under the basil, peppers, and eggplant. These will be veggie pizzas unless you add snail

ranch ed escargot to the mix.

REJUVENATING AN OLD BED OF GARDEN GIANT MUSHROOM MYCELIUM

Occasionally, you may have to leave your garden unattended for a period. The plants and fungi can usually take care of themselves for quite a while but they will tend to go feral and do things that may not be totally according to your plans as the garden manager symbiont. As the Garden Giant uses up most of its raw cellulose that is smaller, thinner, finer, and more quickly broken down it will be left with the larger chunks of wood chips or pockets of raw cellulose that didn't get digested as fast. You can dig through the broken down compost mulch and scrounge up the various patches and pieces of mycelium that you find. The Garden Giant has the fine unicellular fuzz of the regular mycelium but also makes ropey rootlike "rhizomorphs" that often look like tangled and branching kite strings. These are like multilane mycelial highways and have a better ability to withstand drying or other adversity than the unicellular fuzz. This makes it one of the fungi that can be recognized by its mycelium without mushrooms being present.

However, the Stinky Whiffleball or Lattice Stinkhorn, *Clathrus ruber*, also makes these rhizomorphs so it is a mycelia lookalike to the Garden Giant. You can add these Garden Giants rhizomorphs and mycelial pieces and undecayed patches to a new mother batch of damp aspen wood shavings in a plastic bag like you are using tinder to start a fire. As the mycelium grows you can observe its progress in the bag and then ramp it up by any of the other methods covered here already. Or you could rake up the old mulch bed and spread a layer of new mulch substrate over the whole bed and see what begins digesting it.

Addenda

THE ANAEROBIC SAUERKRAUT METHOD OF STERILIZING SUBSTRATE

If you would like to sterilize your substrate to give the mycelium less competition from other organisms it isn't necessary to boil it or use hydrogen peroxide. You can soak the substrate in a 55 gallon drum of water (see below for info about chloramine in tap water) for 10 days to two or more weeks or for as long as you like, the smellier the better. After a couple days the oxygen in the water will be used up by aerobic organisms which will then drown or die of asphyxiation. Then anaerobic organisms will take over and use the substrate for their own different methods of metabolism. As long as the substrate is submerged in the anaerobic water by weighing it down with cinder blocks on a plank or some such, it will all look pretty much as fresh as the day you put it in the water. If you use only straw from a straw bale it will remain tan colored very much like sauerkraut for weeks or months in submergence. When you are ready to use the substrate dump the barrel over and spread out the substrate so that it is exposed to the air and rinse it with water.

The oxygen in the air will kill off the anaerobic organisms and now your substrate is sterile. The only expense is water and time, no expensive dangerous chemicals, or heat from propane.

NEUTRALIZING CHLORAMINE IN MUNICIPAL TAP WATER

It used to be that most municipal water supplies were treated with chlorine to kill pathogens. It would also kill any other organisms so that if you wanted to use tap water in your aquarium you had to fill the empty aquarium and let it stand for 24 hours so the chlorine evaporated before you put the fish in the water. Now the chlorine has been replaced with chloramine which doesn't

evaporate from the water. So the aquarium water now has to be treated with a special neutralizer that comes in a dropper bottle available at the aquarium store. You can also neutralize it for free by using any garden clay that you bake in the oven to sterilize for a couple hours at 300 degrees. You can sift this powder and add a pinch to your glass of drinking water to neutralize the chloramine's antibiological activity for your health.

You can also stir in about a tablespoon or two of this clay powder to a 55 gallon drum, or a bathtub, or a wheelbarrow of tap water for soaking substrate. The antibiological activity of the chloramine in the water is instantly deactivated or neutralized by the clay particles that bind to the chloramine. When watering your mushroom mulch bed you can probably successfully remediate the sprinkling water by scattering a hand full of clay powder over the top of the mulch before watering. It is unclear how much effect the tap water may have in the garden and it is also leached and neutralized by rain water falling on the garden.

GARDEN GIANT MUSHROOM IMAGES

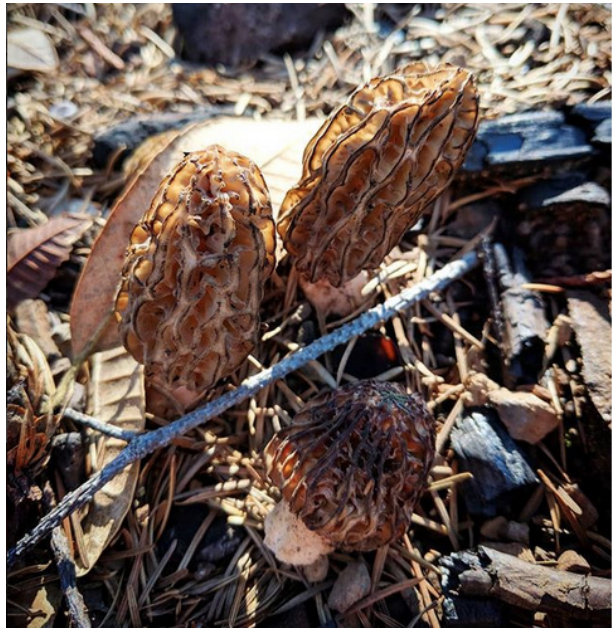
For images of the garden giant mushroom you can do a google images search for:

- Garden Giant Mushroom
- *Stropharia rugoso-annulata*
- King Stropharia
- Burgundy Mushroom
- Wine Cap Mushroom •

Verpa conica/El Dorado NP
Morchella sp./ Siskiyou NP
Gyromitra esculenta/ Stanislaus NP

Mushroom Sightings

Matthew Gonsalves



Gary Lincoff (October 3, 1942–March 16, 2018)
In Memoriam

Dianna Smith

Editor's Note – Last month we had an “In Memoriam” written by Britt Bunyard of Fungi Magazine and this month we have another In Memoriam written by Diana Smith for the Fungi Kingdom News of the Pioneer Valley Mycological Association in western Massachusetts. In addition we have photos of Gary by his long time friend and mycoassociate Mike Wood of MSSF and mykoweb.com.

Gary Lincoff was such a unique person with such a big sunny personality and influence on the growth of amateur mycology throughout North America, but especially here in the Northeast, that he will continue to live on vividly in our lives. Gary had many tens of thousands of fans of all ages and no detractors. Everyone loved him – even Martha Stewart! If you met Gary once, you were friends from then onward. If he saw you for the second time at a foray a year later, he would remember and acknowledge you with a huge grin, a wave and maybe even a warm hug. He listened attentively to questions, no matter how silly we thought he might consider them. He always responded thoughtfully, and usually was able to connect and amplify his answer with the addition of a funny experience or tale. Gary was especially gifted in storytelling. I often described him to others as the “Woody Allen of mycology” (except he never exhibited any of the psychological problems one may associate with the actor/director!). He was encouraging and contagiously inspiring. He could also be disciplined coach – letting you know there was always much more to learn. He was driven to challenge everyone, from the professional to the rankst newbie, to look deeper into the subject of fungi and their interactions with the ecosystem.

Gary was continuously learning more about plants and fungi, and taught roughly two thousand classes at the New York Botanical Garden on them (and was heralded as the “Instructor of the Year”

more times than anyone else in NYBG teaching history). He was inspired by his knowledge of philosophy, Shakespeare’s plays, and the writings of poets and naturalists of the past and present. His deepest devotion was to his family, especially his wife Irene and son Noah. So many of us were fortunate enough to have spent time and a snack or meal in their garden-level apartment on NYC’s Upper West Side, while working on a comedic play he wrote or a dance involving fungi characters to be performed at a meeting or foray.

Living in close proximity to Central Park, Gary spent years studying its fungal and plant life – alone, accompanied by, Irene, the New York Mycological Society members, world-renowned mycologists or occasional visitors like myself. He also knew every plant and tree at the NYBG and enjoyed photographing and posting seasonal expressions of nature’s cycles on Facebook. He knew and thought about the different fungi that appeared over the years in the wood-mulched landscaped gardens and woodland forests of NYBG. He was a founder of the annual Telluride Fungus Festival and was actively involved at the event since its inception. Last year, parade attendees at the festival all dressed up as Gary Lincoff!

Gary will be fondly and frequently remembered by everyone who has ever crossed paths with him. Everyone has a story about their relationship with Gary, even if they have met him just once. This is my story – in brief. Soon after joining the Connecticut-Westchester Mycological Association

(COMA) in Westchester County, NY, I met Gary Lincoff, Ursula Hoffman, Don Shernoff, Sandy and Jerry Sheine, Roz Lowen and many other wonderful members to whom I remain close to this day. This happened while attending my first annual late fall COMA potluck dinner in 2002. Gary had already seen and passed judgment on three videos I created for my NY-Connecticut weekly half-hour cable television show, SCAPES, about attending a COMA foray. The first was devoted to field guides, baskets, wax paper bags, knives, etc. – everything we need to attend a mushroom walk. The second and third shows were on the mushrooms the COMA group found that day and commentary on their characteristics. During the taping of these introduction to mycology videos narrated by COMA Treasurer and Foray Chair, Don Shernoff (father of Leon Shernoff, editor of the magazine *Mushroom: The Journal of Wild Mushrooming*), I fell in love with the beauty, colors, shapes and diversity of the mushrooms seen that late autumn afternoon in 2001 at Tallman State Park. At Gary's recommendation and the request of NAMA Education Chairperson and first COMA president, Sandy Sheine, I created a one-hour tape and DVD for the North American Mycological Association for beginners to borrow, rent or buy. So, when I met Gary at the COMA potluck dinner for the first time, we were officially introduced and became immediate associates. In subsequent years, I taped every presentation he gave at COMA meetings, annual COMA Forays and at various annual multi-day forays throughout the North and Southeast, and with his permission aired them regularly on my show. I must have 100 half-hour shows on mycology as a result of our friendship.

Gary was also a dear empathetic friend. I will always remember his taking time out of his busy life to trek across the city to give me a surprise visit at the Hospital for Special Surgery, while I

waited in an oversized blue gown to be rolled down the hall for my second hip-replacement surgery. We also shared a close friendship with Ursula Hoffmann, former President of the Northeast Mycological Federation (NEMF), and a long-time member of both COMA and the NYMS. She, the Sheines and other founders of COMA had known Gary since he first became enthused with fungi and before he was given the daunting task of writing the Audubon Field Guide to Mushrooms of North America. All of these people had been turned on to fungi after taking an adult course on the topic with mushroom guru Sam Ristich, to whom the NEMF Forays are now dedicated. Sam and all the students who took that course played a part in what would popularly referred to as the "Bible of fungi," the Audubon Field Guide. It was Ursula, in fact, who dreamed up the new and uncommon "common name" Gary used in the book for *Hypomyces lactifluorum* – the "Lobster Mushroom."

Together that small group of people with various educational backgrounds became long-time close and supportive friends, who individually and together helped found or greatly enhance the creation of mycological clubs in each of the states and Canadian provinces in northeast North America. Almost all of them have also made substantial contributions to the growth of the North American Mycological Association. Ursula worked with Gary on various projects, including the recording and publishing of the annual NEMF and COMA foray collection records on the NEMF website she created – while also tending her orchids and teaching at Lehman College in the Bronx. She came over from Germany as a teenager and went to Smith College in my current hometown of Northampton, MA. Given her thick accent, it was hard to imagine her teaching an undergraduate English literature course while there, but she did. All three of us worked on COMA forays to-

gether and on all the NEMF Forays as well. The two of them spent the better part of a year trying to convince me (unsuccessfully) to sign up for the annual NAMA foray in California near Christmas in southern California. Unknown to me, I was to be given the NAMA President's Award for taking over the Mycophile, and NAMA's Harry and Elsie Knighton Service Award. I was told it was the only time one person ever received two awards. Ursula had better luck convincing me to replace her as NEMF President. Well, actually she never convinced me. She just insisted I was the only one responsible enough to take it over. Good thing she can't see me now! I also recreated a modernized website for NEMF, which features among other treasures her writings on how to conduct forays, and Gary's lessons for beginners and intermediate students of mycology. Ursula passed a couple of years ago and has been dearly missed by many of us, including her ever-constant friend, Gary Lincoff.

I accompanied Gary on many mushroom walks and multi-day forays, drove him to the Mid-Hudson Mycological Association to give a presentation, participated in a NY Bio-Blitz with him, loaned him a book on polypores, filmed and edited his walks around fungi display tables while fans gathered around him to hear his insights about the rotting mushrooms spread out in morphological groups on a series of long paper-covered plastic tables. Unfortunately, I was always behind the camera and so I don't have any photos of us standing together, although I am sure others do. I didn't think to ask someone else to take a shot of the two of us, but I admit I was a closet Gary groupie. I spent the better part of one year scanning, digitizing and editing many hundreds of his slides for use in his book, *The Complete Mushroom Hunter*, and was honored to have so many of my own photos of fungi included, as well as my name on the front cover.

Our most important project together involved the creation of COMA's Mushroom University. I met with him following one of his classes at the New York Botanical Garden to discuss his possibly teaching an annual course each spring for members. I wanted us all to be more knowledgeable about fungi than we were. I was also concerned that if I ever left the organization, there would be no one to take over fungi identification beyond what the oldest and most committed members already knew. He excitedly accepted the challenge and took the Metro-North train from Manhattan to Croton-on-Hudson, where either I or someone else nearby picked him up and drove him to our "classroom" and back again at the end of each session. Four to five hours of his time were spent just traveling back and forth to expose us to his relaxed teaching style. He devoted five or six Saturdays each spring to teaching us (in addition to many weeks at his desk in preparation for each topic). The first year we consisted of about 8 or 9 people sitting tightly together around a member's dining room table at her home in White Plains. To accommodate expanding interest in joining the program, we moved the operation to my slightly more spacious open-concept dining-living room-foyer for a several years, placing one portable table after another in a long line, surrounded by about 30 or so folding chairs. The year or so before I left COMA to move to MA, we made a deal with Westchester County Parks to have our six sessions for free in their larger one-room building at Muscoot Farm in Katonah, NY, in return for leading two walks a year for them.

When Gary walked into the first Mushroom University session of 2018 he was not well. He felt badly that the class didn't go the way he hoped it would. He was exhausted, but carried on. It must have been difficult for him to feel he had to ask Carol McLeod to find other capable people to fill in for him for the remaining scheduled workshops.

He needed to preserve his strength for a foray to Chile he organized that was to take place in a month or so. Carol asked me and Bill Yule to take over some classes and I recommended getting Noah Siegel too, which she did. Bill was scheduled to give a lesson on Saturday, March 9, but a strong snow storm with high winds had come through his area knocking down trees onto the impassable roads. Roy Halling, the lead mycologist at the NYBG, readily offered to take over the class. When Gary found out, he insisted he was feeling good and up to filling in for Roy, who was filling in for Bill, who was filling in for Gary! The class went well. He was physically weak, but mentally and emotionally energetic and entertaining. He probably succeeded into continuing to fool many in the class into thinking he was getting better. Gary never complained about pain he felt, or even talked about his health to anyone, except for a close few. So, it was a shock to thousands of followers to learn of his death by emails, by Facebook posts, or by the news. I wasn't surprised, but I was stunned. I had been thinking he would be unlikely to survive the upcoming mushroom foray season, especially since he committed to leading more of them than in any previous year. That was Gary. He did as much as he could to fully live his life and be a positive force for amateur mycology until he literally dropped. Two days after giving his final workshop, he collapsed at home with Irene by his side due to a sudden heart attack. He remained unconscious until dying that Friday evening in the hospital.

I just returned from presenting a course to the current members of COMA's Mushroom University course on gilled mushrooms. The topic of the day's lesson was *Russula* and *Lactarius*. It was based on a course I originally took with Gary several years ago and have since continuously updated and expanded upon. As a "substitute teacher" for COMA's Mushroom University, I was

pleased to be able stand in for my mentor. It felt good to learn that COMA's Mushroom University will continue with his student-associates taking the reins. Next year I will be giving a talk for them on the topic of medicinal fungi. I am especially happy that so many of our PVMA members regularly participate in our own Fungi Kingdom University programs – and have the opportunity to learn from a devoted student and others who learned from the best, Gary.

When I told Gary that my husband Howard and I had found a home in Massachusetts where we could retire near my daughter, Gary tried to talk me out of leaving NY and COMA. That was five years ago. Since then we rekindled our relationship at various NEMF forays, and through email and Facebook. Ever since Michael Ostrowski and I started the PVMA, we talked about being able to have him and Irene take a train or bus up from New York City and stay a few days, so I could introduce the PVMA members to him, have him give us a talk and accompany us on walks. Unfortunately, our club really wasn't able in the first three years to pay him enough to make it worth the time and effort of spending three or four days with us. I wanted him to come in August or September when we have lots of mushrooms – provided it has rained within a week or so. These past two years he accepted virtually every invitation from clubs to serve as Chief Mycologist. He was booked everywhere at least a year in advance and no weekends were available. Fortunately, some of you have nevertheless had the distinctly warm pleasure of meeting Gary at a NEMF or COMA foray.

Gary will continue to live on through those who have known him. I will remember how easy it was to talk with him. I will remember his comedic sense of humor about human behavior, his funny stories about by-gone mycologists who influenced him, our laughter. I will continue to learn on my

own as he did and as he urged those who met him. As Sam Ristich's teaching on fungi inspired Gary and so many other founders of mycology groups in the Northeast, so Gary will continue to inspire all of us - through his books, and through those of us who learned from and with him. I am committed to continue in his footsteps and work toward advancing our appreciation for and an ever deeper understanding of fungi and their interactions through time with mutually dependent plants, insects, bacteria and animals like us. I imagine his final thoughts to us would be to live life to the fullest, make smart choices, love and support each other, and never stop learning. Fun, friends, and fungi!

Photos by Michael Wood







Mycena News Submissions

Please do send in your submissions for the May Mycena News pronto. The new monthly official deadline is now midnight the 20th of each month. (Any month that the 20th falls before or on the general meeting the deadline will be the Wednesday after the general meeting, ie Nov 22 2017, Feb 21 and Mar 21 2018)

This does not mean to wait until the 20th of each month to turn in your stuff; it means that is the deadline and you should shoot for getting it in starting by the first of the month.

If you have something that is dependent on the general meeting like photos of the mushroom ID table or the hospitality preparations, etc. you now can get that in before the deadline.

Please email your submissions to:

mycenanews@mssf.org

Please use this MN email address as, if you send it to newsletter individuals, it can get lost when we try to search down all the submissions if they aren't submitted to the official email address.

Best format is to "save as" a Microsoft Word Document, 97-2003, with a minimum of formatting in the doc. You may also use a "notepad" style document with only "plain text."

We ask that you please follow these conditions:

- Please DON'T use any ALL CAPS.
- Please DON'T use any indents, tabs, or bullets.
- Please DON'T use any bolding, underlining, or any other italics besides:
- Please DO include italics for scientific names or foreign words.
- Please DO use single spaces between words and ends of sentences.
- Please DO use ONLY left justification for all paragraphs, titles, signoffs, etc.
- Please DO use 11pt New Times Roman font if you have it, but NOT multiple fonts or unusual fonts or multiple sizes.

For bibliographies that often have special formatting included in your submitted doc, if you have lifted them from other docs, you may just leave all the original formatting, and we can see better what was intended and make modifications for the masterdoc, if needed.

Please follow these above conditions for your official submissions, however if you would like for us to see how you envision the formatting of your submission, you can also submit a second version formatted in that manner and we may be able to make use of that.

As we get submissions they are each incorporated into a MN masterdoc with certain in-house MN master formatting for the final design layout. The design layout software removes all previous formatting from the masterdoc, so any extra formatting you insert, beyond the above parameters, only complicates the prepping of the masterdoc, so please DON'T do that, and DO follow the above submission conditions. •



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

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MSSF OFFICERS 2017–2018

President: Tyler Taunton
President@mssf.org

Secretary: Eric Multhaup
Secretary@mssf.org

Vice-President: Stephanie Wright
VicePresident@mssf.org

Treasurer: Pascal Pelous
Treasurer@mssf.org

Contributors

Tyler Taunton
Enrique Sanchez
Eric Multhaup
Morgan Evans
Brennan Wenck-Reilly
Diana Smith
Michael Wood
Ken Litchfield
Rivkah Khanin

Editing and Layout

Ken Litchfield
Rivkah Khanin