SOMA NEWS

From the Sonoma County Mycological Association

VOLUME 28: 5 JANUARY 2016

SOMA WILD MUSHROOM CAMP!
January 16 -18, 2016

NEED EMERGENCY MUSHROOM POISONING ID?

After seeking medical attention, contact Darvin DeShazer for identification at (707) 829-0596. Email photos to: muscaria@pacbell.net and be sure to photograph all sides, cap and of the mushroom. Please do not send photos taken with older cell phones – the resolution is simply too poor to allow accurate identification. NOTE: Always be **100% sure of the identification of any mushroom before you eat it!**

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www.somamushrooms.org

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Dispatch From the Duff

January 2016:

Greetings and best wishes for the New Year, and happy foraging in 2016!

To confirm a previous note, SOMA will continue to have access to Salt Point State Park for the foreseeable future. There are no plans to change any current rules and regulations. We are limited to 50 people, three pounds of wild mushrooms per person, and no alcohol at the pot luck.

Certainly, these do not seem to be very burdensome conditions for the opportunity to have another great day out in the woods. But, we have been asked to make this change to use the Woodside Campground parking lot: Those who attend the SOMA Foray will be asked to place a "SOMA" sign next to their parking fee packet stub. Those who have an annual pass will be asked to put the "SOMA" sign on the dashboard. We will hand out the signs to foragers as they complete the Liability Waiver sheet.

The Park Ranger Staff would like to have an idea how many cars are with our group and better identify anyone who has not paid for parking. I hope the change is not a concern, please let me know if you have any questions or comments.

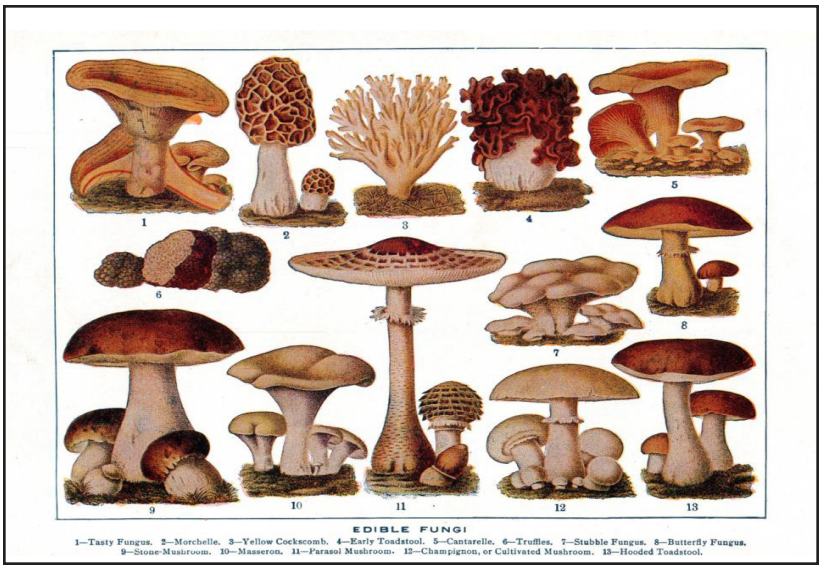
SOMA Camp is sold out and there are folks on the "stand-by list", waiting for a possible opening. That news is a bit of relief for all those who have planned Camp and the Staff that does all the work to make it a success during the three days. So, we are looking forward to a banner year, hopefully in the wet, of our SOMA Wild Mushroom Camp in 2016.

December Foray Finds:

- Serving spoon in the shape of a grape leaf
- Pogo, 32oz drinking bottle
- Spore prints and plastic carrying container
- Orange collection bucket with wax paper bags
- Clear plastic storage container (no lid)
- And a few mushrooms.

Best regards
Jim Wheeler

INSIDE THIS ISSUE :



Edible Mushrooms Credit: Toriavy.com

JOIN SOMA!

Your membership in the Sonoma County Mycological Association, or SOMA, is a great way to meet and interact with other mushroom enthusiasts. Head to http://somamushrooms.org/membership **and sign up; the season is just beginning!**

The Foragers Report: January 2016

Eating On The Edges — By The Old Mushroomer

With all the focus these days on "farm to table" and "locavoric sensible" and foraging one's own food and then with only our limited resources nearby I've taken to teaching young folks to eat at the edges, so to speak, to not just relish the middle of that PB & J or the all fat and juicy runny greasy cheeseburger center of bun, or leave the leaves and enjoy only the artichoke hearts sort of thing.

I'm proposing don't avoid porcini and chanterelles and such but do dine upon edgy mushrooms too.

At Eating On the Edges HQ we recommend oddball (to some) mushrooms to at least try for the first time and so we've been trying them for the first time too--even in my long life of tasting bits of tid many would rather avoid.

One of the questions often heard on a foray might be: "Have you eaten this mushroom?" And then: "Have you eaten it again?" It's not to be funny--it's to validate if the mushroom is worth (at least) trying twice.

Hygrophorus bakerensis **Credit: Mykoweb**

For many reasons to recommend eating a certain mushroom might not be a truly great idea (so have said some legal people)--especially if you are one who is in a teaching position where students could mis-hear something you said and then eat something not too good for them--but sometimes it's hard to not to do so so by asking folks to ask the above questions could circumvents this. Could.

What has been done on various hikes is to take a small amount off the margin of a *russula* and crunch it about the mouth and then spit it out (being careful to not hit anyone important or that you are particularly fond of nearby, duh. And, btw, never be the only one in a group doing the spitting). After a few seconds those who've taken part get to experience the "acrid" taste mushroom books talk about. Or not, and if not edibility then becomes more of a reality but only if done with *russulas*.

On my own I've been sampling *Hygrophorus bakerensis* which have come up seemingly everywhere in SPSP this season and they're fairly good. Others which have made it into my sauté pan this year for the first time (I don't truly remember everything so well anymore so maybe I did try some a long time ago but their names were different then (for what that's worth) include *Xerocomellus truncatus, X. dryophilus, and X. subtomentosus* --all okay and fun to play with.

Take home those grisettes, scaly chanterelles (*T. floccosus), suillus*, and non-acrid *russulas* and any other mushroom known to be "edible" and try them yourselves. Can be a hoot (if not life changing, doink).

Even cowboy's handkerchief (*H. eburneus)* are cookable but they do kind of look spit upon already.

Recipe of the Month:

Mushroom and Barley Risotto

From Bon Appétit Nov. 1997

Servings: 6

Ingredients:

- 4 1/2 cups chicken stock or canned low-salt chicken broth
- 2 teaspoons butter
- 1 cup finely chopped onion
- 1 cup pearl barley
- 2 teaspoons chopped fresh thyme or 3/4 teaspoon dried
- 1 bay leaf
- 2 teaspoons olive oil
- 1 pound assorted fresh mushrooms (such as oyster, stemmed portobello and stemmed shiitake), sliced
- 1 garlic clove, minced
- 2 tablespoons chopped fresh Italian parsley

Cooking Instructions:

Bring chicken stock to boil in heavy medium saucepan. Remove from heat, cover and set aside.

Melt 2 teaspoons butter in large nonstick skillet over low heat. Add onion and sauté until translucent, about 5 minutes.

Add barley, thyme, bay leaf and 2 cups warm chicken stock; bring mixture to boil. Reduce heat and simmer until most of stock is absorbed, stirring frequently, about 5 minutes. Add remaining stock 1/2 cup at a time, allowing stock to be absorbed before adding more and stirring frequently until barley is tender, about 50 minutes.

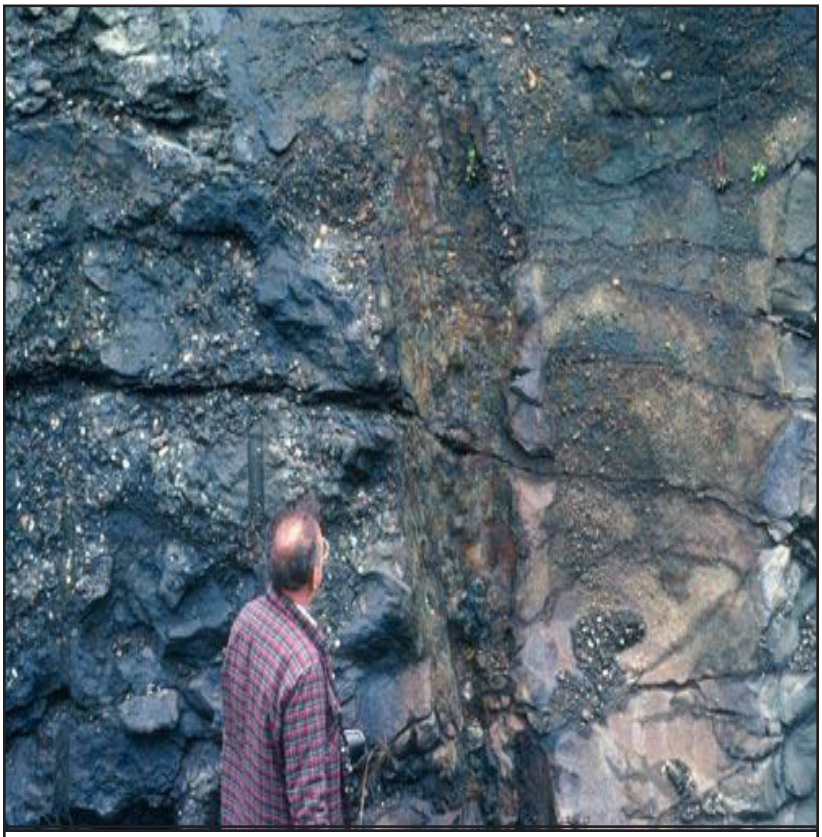
Meanwhile, heat oil in another large nonstick skillet over high heat. Add mushrooms; sauté until beginning to brown, about 3 minutes. Stir in garlic. Reduce heat to medium; cover and cook until mushrooms are tender, stirring occasionally, about 3 minutes. Mix in parsley and barley mixture. Season with salt and pepper. Spoon risotto into bowls and serve immediately.

Fossilized Fungi

By Meredith Sabini, PhD

Picture this landscape: flora that grows not more than three feet tall and fauna that consists only of small invertebrates, with the largest thing around being a fungus that towers over everything, reaching more than twenty feet. Science fiction scenario? Life on a new planet? Neither. This landscape existed right here, on earth, in the Silurian to Devonian periods, 420-370 million years ago.

Fossils of these fungal organisms, first collected in the mid-1800s, have now been found on four continents. They grew up to three feet in diameter and looked something like a leafless tree or Roman column. In 1859, a Canadian scientist, John Dawson, claimed they were early conifers, and they were given the classification, "Prototaxites," meaning proto-yew. But debate over whether they were a tree, a lichen, or an alga ensued for the next century and a half.



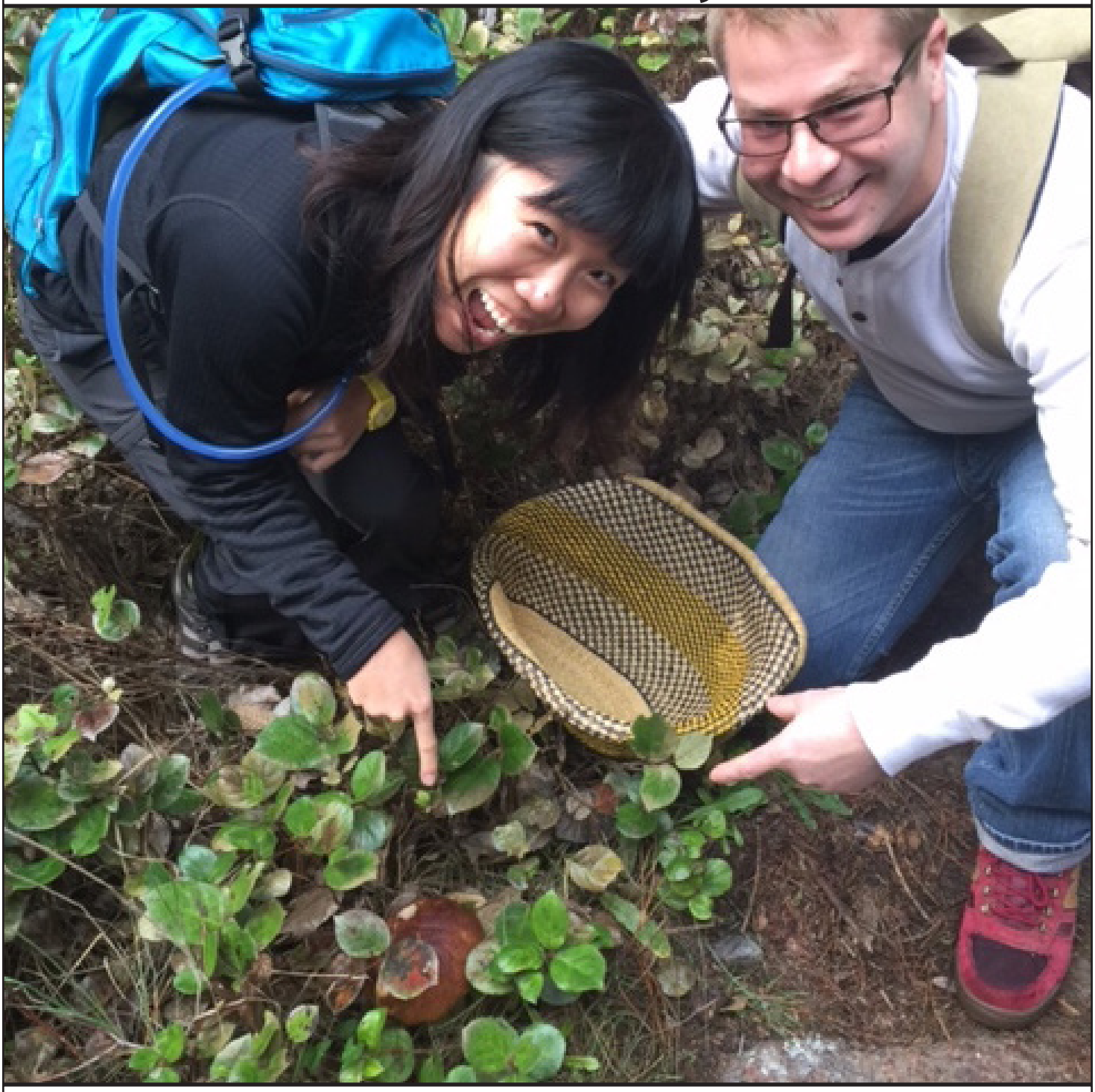
Prototaxites ***Credit: New Scientist***

Paleontologist Francis Hueber, of the National Museum of Natural History, focused his research on these fossils for two decades and, in 2001, published a seminal paper proposing that, based on their morphology, Prototaxites was a fungus. Confirmation of this came, in 2007, from isotopic analysis that he and paleontologists Kevin Boyce, of the University of Chicago, and Carol Hotton, of Smithsonian, performed by comparing carbon isotopes from Prototaxites fossils with those of other fossil specimens in the Smithsonian collection. The tall, trunk-like fungus may have an outer algal layer. As you might guess, attempts to reclassify and rename this proto-fungus are underway.

I'm an avid follower of paleoanthropology and paleoarchaeology, though more typically of Homo lineage discoveries (such as the newest branch, Homo nalendi, featured as National Geo's cover story in October 2015), and I often share my enthusiasm and news items with friends and colleagues. After listening to me describe this fossilized fungus, a neighbor, knowing my proclivity for culinary mushrooms, quipped, "Yes, but was it edible??" And we laughed. Since mammals weren't around for a few more million years, the issue probably didn't arise. Of current interest, however, is the issue of what the so-called Prototaxites ate in order to achieve and sustain such heights. You can read more about this whole topic on Wikipedia, under "Prototaxites," or listen to Paul Stamets' TED talk. Might anyone have a connection willing to lend a chunk of the giant fossils, so we could oogle it at Camp?

Image Of The Month

By SOMA Staff



That Bolete Moment

MUSHROOM RESEARCH:

Mushrooms Promote Downpours

BY Jennifer Viegas

Nature's cloud seeders are mushrooms, with spores that promote raindrops and may lead to downpours, new research finds.

The study, published in the journal PLOS ONE, documents a previously unknown feedback system whereby rain stimulates mushroom growth, and then the fully fruited mushrooms release spores that could result in later rain.

Raindrops do form to a lesser degree around many different types of particulate matter, such as pollen. In a similar process, people seed clouds with compounds like silver iodide and solid carbon dioxide (dry ice).

Credit: Wikipedia

Lead author Maribeth Hassett, Money and co-author Mark Fischer determined that spores from certain mushrooms and other fungi are probably even more potent rainmakers -- and they're not pollutants.

Prior research conducted by Reginald Buller, whom Money refers to as the "Einstein of Mycology," found that mushroom spores are discharged from their gills by the rapid displacement of fluid on cell surfaces and stimulation from the mushroom's production of sugars, such as mannitol. A catapult mechanism shoots the moisture-laden spores into the air, where the liquid evaporates.

Droplets reform on the water-attracting spores in humid air, the scientists discovered after watching the process under electron microscopy. Over time, the droplets may evolve into large water drops that may produce rain clouds.

The effect is likely dramatic over rainforests that support very large populations of mushrooms and other fungi. It also could be significant during warmer months of the year above vast northern hemisphere boreal forests.

Any fungi that release their spores via a catapult mechanism can attract moisture, resulting in possible rain clouds, according to the scientists.

"Wild porcini, for example, has spores of this kind; oyster mushrooms too," Money said. "Sixteen thousand species of mushrooms can do the same trick, so the most abundant species of fungi are likely to have the greatest effect upon cloud formation."

Money, who is the author of the book "Mushroom," does not advise growing a bunch of mushrooms to relieve drought conditions.

"Nature works very well when we leave her alone," he said. "The problems start when we cut down too many trees, burn fossil fuels, and keep multiplying as if there are no limits to human population."

Fungi appear to be here for the long haul, though, having emerged on earth at least 500 million years ago. In addition to the new discovery about their rainmaking potential, they play a key role in ecosystems by decomposing plant tissues and dominating the recycling of nutrients in forests and grasslands.

"Without mushrooms, there would be no forests," Money said, "and without forests, humans would never have evolved."

Lynne Boddy of the Cardiff School of Biosciences told Discovery News that "it is intriguing to think about" the newly discovered positive feedback system, holding "that fungal spores may be responsible for causing rain to fall on forests, supplying the water that the fungi need to fruit."

Boddy said fungi "are absolutely crucial to the functioning of forests and other terrestrial ecosystems," and they often supply plants with mineral nutrients and water. Edible mushrooms supply such beneficial components to human diners also.

-- From News.Discovery.Com, Oct. 28th, 2015

SOMA Volunteer Board: Open Positions

SOMA Camp 2016 Help Wanted

We are looking for someone who will be willing to take over the job of sourcing items for our very successful silent auction. Help with this year's silent auction and learn the ropes and then take over for camp 2017. Please contact Rachel. This is a fun job which takes a bit of time in fall to source and collect donations.

Last year we raised almost $4000. That money goes directly into scholarships here in Sonoma County and to graduate level students. The more money we have, the more we can award. Come and help with this worthwhile effort.

SOMA News Deputy Editor

We are seeking a deputy editor of the monthly newsletter to assist in all phases of material gathering, editing, layout and distribution. The position can be fulfilled from your home office, using your computer and phone, and our software, and would require approximately one day per month. The primary software is Word for documents, and In Design for layout. We currently use Excel and Mail Chimp for distribution, but are open to other methods/software. The website is currently being rebuilt, and hopefully incorporate more automation for the newsletter production and distribution in the near future.

The position would also be to contribute new ideas in coverage and/or channel distribution that will help spread our readership and drive new members for SOMA, wherever they may be located.

While the current goal is to create a backup editeor and ease the workload, the eventual desire is that the deputy editor would assume the position of editor sometime over the near to mid-term. If you are interested, please send an email to me, Chaz Thurston at chazwt@gmail.com stating your case and any skills that would ease your learning curve.

SOMA Director of Communications

We are also seeking candidates for a new position, director of communications, to work closely with the director of public relations and the board to enhance contact and information flow between club members, members of the board, prospective members, event participants, other clubs and the mycological world at large. The position requires someone comfortable with speaking to anyone or any group about almost anything, and the ability to electronically communicate through various channels.

The position will likely be incorporated into the board composition, sooner or later, and would require about one day per month, apart from monthly board meetings.

If you are interested, please send an email to Patrick Hamilton at mycochef@sbcglobal.net, describing your experience, skills and ability to donate time.

SOMA Director of New Membership

We also are seeking candidates for a new position, director of new membership, to help the club attract more, younger, enthusiastic members into the fold. The ideal candidate may be younger than the average board member, and should be familiar with multiple information channels that the club can utilize to offer new members all that SOMA does and can do. While the club now has a Facebook page, various affiliate Yahoo groups, we are seeking more and better ways to communicate with potential and new members. The candidate would help draft a campaign for new membership as well as new program elements for new members. The position likely will require one day per month in addition to attendance of monthly board meetings.

If you are interested, please email Jim Wheeler at SOMApresident@SOMAmushrooms.org.

Fungal Spore Bank Regenerates Forests

By Sydney Glassman

"Illuminating Data from Rim Fire"

-- From the Department of Plant & Microbial Biology | UC Berkeley 1/4/16

An extensive study by a UC Berkeley graduate student has found that a rich, fungal spore bank under the devastating Rim Fire two years ago remained intact and sparked the rebirth of new plants, trees and seedlings.

Spore bank fungi are adapted to disturbances to serve as partners for regenerating trees; there were even some fire- adapted fungi that increased in abundance following the blaze.

Sydney Glassman closely studied the Rim Fire of 2013, one of the most devastating blazes in California's history. It was the third largest fire in California history, burning 257,314 acres.

California Rim Fire **Credit: GFSC/NASA**

Glassman and her colleagues in Tom Bruns' lab in the Department of Plant & Microbial Biology had already been researching and observing long-term plant and fungal diversity in the area, and the symbiotic interplay between mycorrhizal fungi and trees. When the Rim Fire came along and destroyed their long-term study plots, Glassman took that opportunity to check the viability of the fungal spore bank just underneath the fire, and test the potential for rebirth.

She found that the forest floor was rich with nutrients which are now already rebuilding the forest environment. After severe fires, the intact layer of the ectomycorrhizal (ECM) fungal spores survived and served as a partner for regenerating forest trees. Glassman and her co-researchers also discovered that there were specific fire-adapted fungi such as *Rhizopogon olivaceotinctus* that increased in abundance after the fire. The results of Glassman's paper were just published in the October, 2015 issue of ISME Journal, a multidisciplinary journal of microbial ecology.

Additional authors included Carrie R. Levine, Angela M. DiRocco, John J. Battles and Bruns.

"It is important to know how our environment is responding to these catastrophic wildfires that are burning our landscape," Glassman said, especially following California's devastating spate of recent forest fires.

Even though a potentially disastrous El Niño is now on the horizon in California, the plants in the Rim Fire area are established enough that they will be able to thrive, said Bruns, a world-renowned expert on fungi. Erosion, however, could be a significant problem for the more recent fires of last sum-

Fungal Spore Bank

...Continued

mer if followed by the massive amounts of rainfall meteorologists are predicting.

Fungal Ecologist

Fungi and trees in forests enjoy a strong symbiotic relationship and are dependent upon each other for many things. It's a fascinating field for Glassman, who will graduate this year with a PhD from the Department of Environmental Science, Policy and Management in the College of Natural Resources.

"The fungi I study, ECM fungi, are necessary mutualists for many tree species and most forests would not exist without them," Glassman said. "Fungi are the least studied group of organisms and there is a lot of room for discovery. Due to recent advances in high throughput sequencing and bioinformatics techniques, we are finally able to answer fundamental questions about their biology and ecology that we have been able to ask with larger organisms such as plant and animals for decades. It is a very exciting time to be a fungal ecologist!"

Ectomycorrhizal Fungus Root Tip **Credit: Columbia.edu**

Scientific Approach

Glassman sampled the ECM spore bank using pine seedling bioassays and high-throughput sequencing before and after the Rim Fire. "We found that ECM spore bank fungi survived the fire and dominated the colonization of in situ and bioassay seedlings," said Glassman. The ECM spore bank are fungi that are specially adapted to persisting and surviving disturbances, like the Rim Fire.

"It is important that they stay intact so there are fungal partners for regenerating trees after wildfires or other catastrophic disturbances destroy the forest," Glassman said.

Glassman used an extensive, years-long approach of measuring the fungal spore bank by taking pre- and post-fire samples.

"We had been studying these plots for two years and had in-depth information from advanced high throughput sequencing techniques on the fungal communities in these plots prior to the fire," Glassman said. "It is incredibly rare and incredibly lucky to have pre-fire data on any given location, and even more rare to have microbial data."

"Fungi are fascinating," Glassman said. "They are important in nearly every aspect of our everyday lives yet we know almost nothing about them. They are responsible for making beer, cheese, bread, and many foods that people enjoy on a regular basis. They are primary decomposers, pathogens, and symbionts."

-- Sydney Glassman is also an amazing chef. Check out her blog here: fungifoodie.com Sydney Glassman video, the Fungi Forager: https://vimeo.com/89270562

SOMA CALENDAR, NOTICES & NOTEWORTHY EVENTS

SOMA Calendar for January 2016

SOMA Camp; Jan 16 - 17
Salt Point State Park Foray; Jan 23 at 10 AM

Soma Camp Auction/Raffle Donations Sought

SOMA is requesting donations for the coming mushroom camp January 16, for use in the silent auction and raffle. Proceeds support the many scholarships SOMA presents to grade school through graduate research students. Contact Rachel Zierdt, SOMA vice president at SOMAvicepresident@SOMAmushrooms.org.

Amazon Smile for SOMA Credits

AmazonSmile is a non-profit division of Amazon.com---same products, same prices, same policies!

Bookmark this link: http://smile.amazon.com/68/0486141. Every time you shop at AmazonSmile, Amazon.com donates 0.5% of the purchase price to Sonoma County Mycological Association. Support us by shopping at AmazonSmile!

Contribute to SOMA News!

The monthly SOMA News wants you to contribute to our pages with news about your life with mushrooms in Sonoma County and beyond. We need art images, photos, short or long stories, academic or other musings on mycology, recipes, notices, events and more.

The deadline for each issue is the weekend before the first of the month.

You needn't be a professional artist, photographer or writer to join in; just take an interest in sharing what you know and find with others!

Email me at chazwt@gmail.com or call 707-799-9766 with inquiries.

Thanks, Chaz Thurston

JOIN SOMA!

Your membership in the Sonoma County Mycological Association, or SOMA, is a great way to meet and interact with other mushroom enthusiasts, learn more about identifying fungi, and share interests such as cooking and cultivating mushrooms. Sure, most of what SOMA does is open to the public, but wouldn't you rather join SOMA and get all the goodies?

Head to http://somamushrooms.org/membership **and sign up!**

SOMA Monthly Meeting Directions & Map

SOMA usually meets on the third Thursday of the month throughout the year (September through May), at the Sonoma County Farm Bureau , 970 Piner Road, Santa Rosa, California, 94931. Fungi are displayed at 7 PM, and speakers begin around 7:30 PM. Bring in your baffling fungi to be identified!

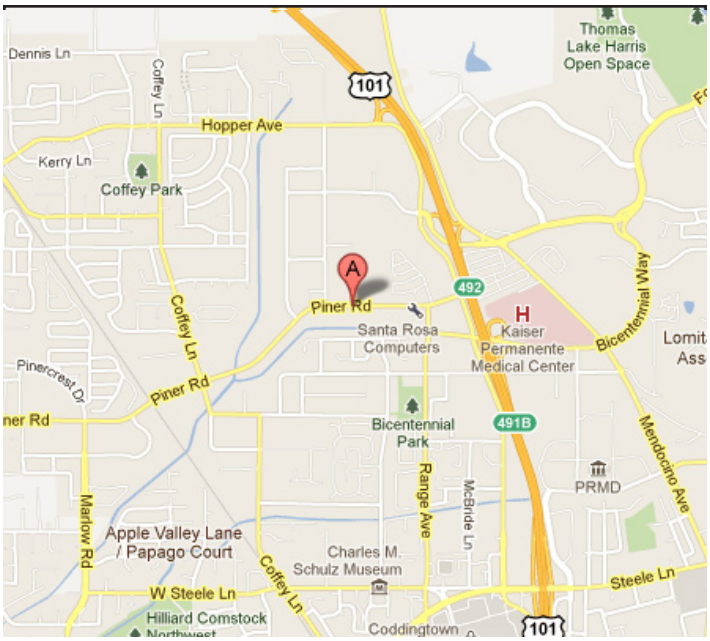
Directions to the Sonoma County Farm Bureau

From the south:

- Go north on Hwy 101
- Pass the Steel Lane exit then take the Bicentennial Way exit
- Go over Hwy 101 (heading west) and then right on Range Ave
- Turn left on Piner Rd. and go about 1/4 mile
- Turn left into Farm Bureau parking lot at 970 Piner Road

From the north:

- Go south on Hwy 101
- Take the first Santa Rosa exit for Hopper Ave/ Mendocino Ave
- Stay left on the frontage road (it becomes Cleveland Ave)
- Turn right on Piner Rd. and go about 1/4 mile
- Turn left into Farm Bureau parking lot at 970 Piner!



Myco Art of the Month:

Credit: houzz.com